Appendix A6
Traffic Impact Analysis

Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Traffic Impact Analysis

Final

September 26, 2023

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Addendum to Oshawa to Bowmanville Rail Service Extension Environmental Project Report: Traffic Impact Analysis

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Executive Summary

Stantec Consulting Ltd. (Stantec) was retained by Metrolinx, an agency of the Province of Ontario, to complete a traffic impact analysis for the Oshawa to Bowmanville Rail Service Extension Project (the Project), formerly referred to as the Oshawa to Bowmanville Rail Service Expansion Project in the 2011 Environmental Project Report (EPR). The Project is located in the City of Oshawa and Municipality of Clarington, within the Region of Durham Ontario.

The current Project includes the extension of GO rail service from the Durham College Oshawa GO (DC Oshawa GO) Station[1] through to Bowmanville, with four new proposed GO stations. The following Project components are proposed to be located on or adjacent to the rail corridor between approximately the DC Oshawa GO and Bowmanville Avenue in the Municipality of Clarington (i.e., GO Subdivision Mile 11.67 in the west to CP Belleville Subdivision Mile 164.8 in the east):

- Tracking and supporting track infrastructure
- Proposed GO station locations in proximity to:
  - Fox Street (B1 Thornton's Corners East)
  - Ritson Road (B2 Ritson)
  - Courtice Road (B3 Courtice)
  - Bowmanville Avenue (B4 Bowmanville)
- New bridges (total of 7)
- New multi-use crossing (bridge or tunnel, to be determined)
- Bridge replacements (total of 3)
- Bridge expansions (total of 5)
- Widening of at-grade crossings (total of 10)
- Bridge removal at Albert Street

To provide a high-level and strategic assessment of the traffic within the focus areas, this study considers three scenarios:

- Existing Conditions
- Construction Staging Conditions

[1] In October 2022, Metrolinx announced that the Oshawa GO Station has been renamed Durham College Oshawa GO. Therefore, throughout the EPR Addendum and this Project, the Oshawa GO Station is referred to as Durham College Oshawa GO, or DC Oshawa GO.

- Future 2031 Conditions

This study assessed anticipated temporary and permanent impacts on the transportation network as part of the Lakeshore East GO Rail service extension to Bowmanville. Study area intersections include intersections in proximity to the rail alignment and the proposed GO station locations. The Project study area was divided into the following 'Focus Areas' around the proposed GO stations to understand the impacts on the adjacent area network:

- Focus Area B1: Thornton's Corners East GO Station

  The study area is bound by Gibb Street to the north, Thickson Road to the west, Stevenson Road to the east, and Highway 401 to the south. It consists of fifteen signalized intersections and the intersection of Laval Drive and Fox Street where the planned future extension of Stellar Drive from Thornton Road to Fox Street would connect.

- Focus Area B2: Ritson GO Station

  Focus Area B2 is generally bound by Gibb Street / Olive Avenue to the north, Park Road South to the west, Harmony Road South to the east, and Bloor Street East to the south. It consists of 25 signalized intersections and four stop-controlled intersections and interchange ramps.

- Focus Area B3: Courtice GO Station

  Focus Area B3 is generally bound by Bloor Street to the north, Prestonvale Road to the west, Courtice Road to the east, and Highway 401 to the south. Under existing conditions, the study area consists of five signalized intersections and two stop controlled intersections. Under the Future 2031 horizon, significant development growth is anticipated to occur within this area including the extension of a new east-west corridor from Townline Road South to Courtice Road with three future intersections intersecting with Prestonvale Road, Trulls Road, and Courtice Road.

- Focus Area B4: Bowmanville GO Station

  Focus Area B4 is generally bound by Regional Highway 2 to the north, Green Road to the west, Bowmanville Avenue to the east, and Baseline Road East 1 to the south. It consists of 10 signalized intersections, 3 stop controlled intersections and one roundabout.

The traffic evaluation was comprised of three scenarios for which AM and PM peak hour intersection level of service (LOS) analyses were performed.

Following table provides a summary of the assumptions used in each scenario.

Traffic Analysis Scenarios

Scenario	Roadway Conditions	Traffic Volumes	Focus Area
Existing Conditions (2020)	Existing Road Network	Existing traffic volumes based on historical TMCs	All Focus Areas
Construction Staging: Simcoe Street Closure (2024)	Existing Road Network	Projected Existing Conditions traffic volumes to 2024. Anticipated traffic redistribution due to closure estimated using the DRTPM model for Existing Conditions	Focus Area B2
Construction Staging: Ritson Road Closure (2024)	Existing Road Network	Projected Existing Conditions traffic volumes to 2024. Anticipated traffic redistribution due to closure estimated using the DRTPM model for Existing Conditions	Focus Area B2
Future 2031	Future 2031 Road Network	2031 DRTPM model volumes, City of Oshawa Two-Way Conversion traffic volumes distribution, redistribution of Albert Street closure volumes	All Focus Areas

A summary of the analysis results is provided below for each Focus Area:

Focus Area B1: Thornton's Corners East GO Station

Under Existing Conditions, a number of intersections along Stevenson Road South are currently operating at or close to capacity. Indicating that additional improvements, particularly around the Highway 401 Interchanges, may be required to support further development growth.

It is anticipated that under Future 2031 Conditions, a number of intersections will operate at or close to theoretical capacity (i.e. v/c > 1.00). These include intersections along Thickson Road South, and Stevenson Road South. This indicates that additional roadway capacity may be warranted on this corridor to support future development growth.

Construction activities such as site preparation, temporary laydown areas, and roadworks may result in full closure at Stevenson Road, and partial road and lane closures that may affect traffic and travel times. Construction activities may require temporary, non-peak period lane reductions where needed.

Focus Area B2: Ritson GO Station

Under Existing Conditions, all study area intersections are operating acceptably during the AM and PM peak periods.

Under Future 2031 Conditions, a number of roadway infrastructure improvements are anticipated to be in place. These include Highway 401 Interchange improvements, the realignment and widening of Olive Avenue to Gibb Street, the Bloor Street realignment and widening east of Farewell Street, and the two-way conversion of Albert Street and Celina Street north of Olive Avenue. In addition, the Albert Street Bridge over the CP Rail Corridor was assumed to be removed.

Under Future 2031 Conditions, a number of intersections are projected to operate at or close to theoretical capacity (i.e. v/c > 1.00). These include the intersections of Olive Avenue / Harmony Road, First Avenue / Simcoe Street, Tennyson Avenue / Harmony Road, Bloor Street / Harmony Road, and Bloor Street / Grandview Street. It is recommended that additional assessments be conducted to validate potential transportation infrastructure improvements required to support development growth.

Construction of the Lakeshore East GO Rail extension to Bowmanville is anticipated to require two temporary road closures within Focus Area B2. As part of the track works, the current bridge crossings of the CP Rail corridor will need to be replaced at Simcoe Street and Ritson Street. This will require temporary, full road closures to accommodate the bridge replacements. Ritson Road will facilitate detoured traffic from Simcoe Street during the replacement of the Simcoe Street Bridge. Similarly, Simcoe Street will facilitate detoured traffic from Ritson Road during the Ritson Road Bridge replacement. Construction activities such as site preparation, temporary laydown areas, and roadworks may also result in full closures at Park Road and Harmony Road.

The closures are anticipated to result in localized impacts with intersections operating at or close to theoretical capacity. These includes the intersection of Olive Avenue / Ritson Road, Highway 401 and Bloor Street interchange intersections, as well as the intersection of Bloor Street / Harmony Road.

The closures are also anticipated to impact local transit service routes 901B on Simcoe Street, and Route 407 on Ritson Road. Temporary bus route detours will be required during the bridge closures, it is recommended that detoured buses utilize First Avenue and Olive Avenue during the bridge closures.

Focus Area B3: Courtice GO Station

Under Existing Conditions, all study area intersections are currently operating with acceptable levels of service.

Under Future 2031 Conditions, a number of roadway improvements are assumed to be in place to support planned development growth in the vicinity of the future station near Courtice Road. These improvements include the assumed extension of Townline Road towards Prestonvale Road, Trulls Road, and Courtice Road. Other improvements include the implementation of traffic control signals and auxiliary turn lanes at study are intersections. It is assumed that the Townline Road extension and other localized intersection improvements will be in place to support development growth.

Under Future 2031 Conditions, study area intersections around Focus Area B3 are anticipated to operate acceptably.

Construction activities such as site preparation, temporary laydown areas, and roadworks may result in full closure at Courtice Road. Construction activities may require temporary, non-peak period lane reductions where needed.

Focus Area B4: Bowmanville GO Station

Under Existing Conditions, all study area intersections are currently operating with acceptable levels of service with the exception of the Bowmanville Avenue / Energy Drive intersection during the PM Peak period.

The intersection of Bowmanville Avenue / Energy Drive, which is currently operating as a Stop-Controlled intersection at the minor approach, is currently operating at or close to capacity during the PM Peak period. It is recommended that a traffic signal warrant be undertaken at this interchange to confirm the need for traffic control signals.

Under Future 2031 Conditions, a number of roadway improvements are assumed to be in place to support planned development growth in the vicinity of the future station near Bowmanville Avenue. These improvements include roadway widening of Bowmanville Avenue to a 4-lane cross section between Highway 2 and the north Highway 401 interchange (E-N/S), this assumes that the existing bridge over Highway 401 is in place.

Under Future 2031 Conditions, study area intersections around Focus Area B4 are anticipated to operate acceptably with the exception of the Highway 401 interchanges and the intersection of Highway 2 / Bowmanville Avenue. It is anticipated that the widening of Bowmanville Avenue to the Highway 401 interchanges is needed. In addition, the localized widening and addition of auxiliary turn lanes at the intersection of Highway 2 / Bowmanville Avenue is anticipated to be required by the Future 2031 horizon.

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Appendix A **Detailed Intersection LOS Results**

Appendix B **DRTPM Screenline Outputs**

Appendix C **TMC**

Appendix D **DRTPM Documents**

Abbreviations

CP Rail	Canadian Pacific Rail
EPR	Environmental Project Report
GGH	Greater Golden Horseshoe
GO	GO Transit
DRTPM	Durham Region Transportation Planning Model
MTO	Ministry of Transportation Ontario
OTM	Ontario Traffic Manual
TIA	Transportation Impact Assessment
TPAP	Transit Project Assessment Process
TOC	Transit Oriented Community(ies)
TMC	Turning Movement Count
TMP	Transportation Master Plan

1.0 Introduction

Stantec Consulting Ltd. (Stantec) was retained by Metrolinx, an agency of the Province of Ontario, to complete a traffic impact analysis for the Oshawa to Bowmanville Rail Service Extension Project (the Project) formerly referred to as the Oshawa to Bowmanville Rail Service Expansion Project in the 2011 Environmental Project Report (EPR). The Project is located in the City of Oshawa and Municipality of Clarington, within the Region of Durham Ontario.

All-day rail service currently operates on the Lakeshore East Rail Corridor between Union Station in Downtown Toronto and the Durham College Oshawa GO (DC Oshawa GO) Station[1]. The Lakeshore East Rail Corridor extension from Oshawa to Bowmanville was originally identified as one of 52 rapid transit improvements and expansion projects in the *MoveOntario* 2020 plan, Ontario's multi-year $17.5 billion rapid transit action plan for the Greater Toronto and Hamilton Area (GTHA). More recently, the expansion initiative was supported through the Initial Business Case Update (Metrolinx 2020) and a preferred alignment option was selected.

The Oshawa to Bowmanville Rail Service Expansion and Rail Maintenance Facility Environmental Project Report (EPR) was completed in 2011, in accordance with the Transit Project Assessment Process (TPAP) outlined in Ontario Regulation (O. Reg.) 231/08 – Transit Projects and Metrolinx Undertakings, to assess Metrolinx's plan to expand GO Transit (GO) rail services from Oshawa to Bowmanville utilizing the CP Rail corridor.

Since the completion of the 2011 EPR, Metrolinx has advanced the design of the rail extension project, including updates to the alignment and infrastructure needs of the project. As outlined in Section 15 (1) of O. Reg. 231/08, if a proponent wishes to make a change to a transit project that is inconsistent with a completed EPR, an addendum to the EPR must be prepared. In addition, as per Section 16 of O. Reg. 231/08, should a project not commence within 10 years of the Statement of Completion, a review of the project documentation is required. The Statement of Completion for the 2011 EPR is dated April 13, 2011 and more than 10 years has lapsed since the filing of this document.

[1] In October 2022, Metrolinx announced that the Oshawa GO Station has been renamed Durham College Oshawa GO. Therefore, throughout the EPR Addendum and this Project, the Oshawa GO Station is referred to as Durham College Oshawa GO, or DC Oshawa GO.

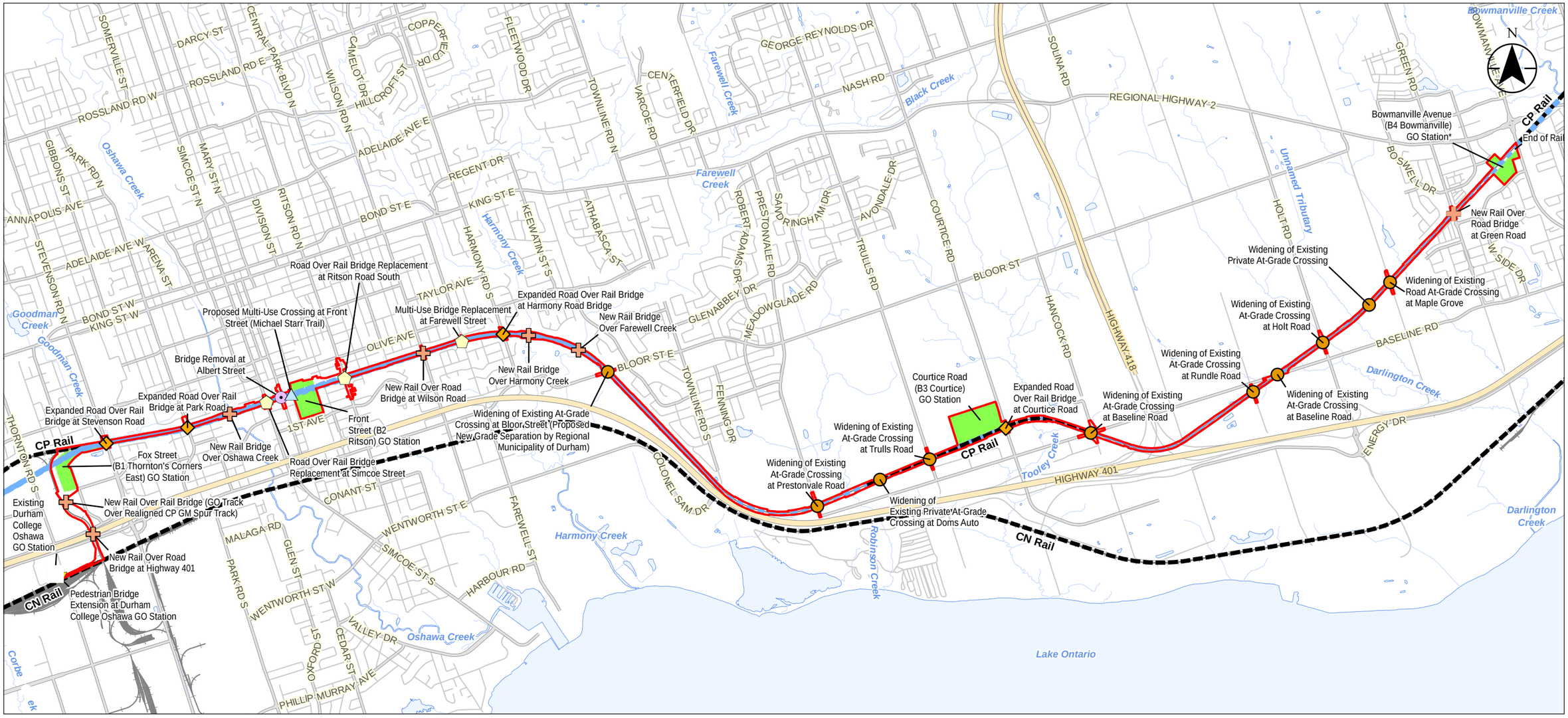
The current Project includes the extension of GO rail service from the DC Oshawa GO through to Bowmanville, with four new proposed GO stations. The following Project components (**Figure 1**) are proposed to be located on or adjacent to the rail corridor between approximately the DC Oshawa GO and Bowmanville Avenue in the Municipality of Clarington (i.e., GO Subdivision Mile 11.67 in the west to CP Belleville Subdivision Mile 164.8 in the east):

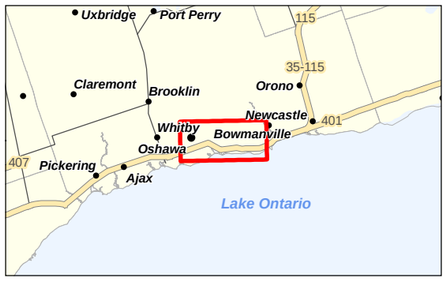
- Tracking and supporting track infrastructure:
  - Proposed new track within the existing GO Lakeshore East Rail Corridor at the western limit of the Project, crossing Highway 401 via the existing General Motors (GM) Spur bridge. A new bridge will be constructed adjacent to the existing GM Spur bridge for the proposed realigned CP Rail track. The new GO track will extend north to the existing CP Rail corridor, ending at Bowmanville Avenue.
  - Retaining walls and grading to support track infrastructure
- Proposed GO station locations in proximity to:
  - Fox Street (B1 Thornton's Corners East)
  - Ritson Road (B2 Ritson)
  - Courtice Road (B3 Courtice)
  - Bowmanville Avenue (B4 Bowmanville)
- New bridges at the following locations:
  - Highway 401
  - GM Spur
  - Oshawa Creek
  - Wilson Road
  - Farewell Creek
  - Harmony Creek
  - Green Road
- New multi-use crossing (bridge or tunnel, to be determined):
  - Front Street (Michael Starr Trail)

- Bridge replacements at the following locations:
  - Simcoe Street
  - Ritson Street
  - Farewell Street[2]
- Bridge removal at Albert Street
- Bridge expansions at the following locations:
  - DC Oshawa GO (pedestrian bridge)
  - Stevenson Road
  - Park Road
  - Harmony Road
  - Courtice Road
- Widening of at-grade crossings to accommodate GO track(s) at the following locations:
  - Bloor Street[3]
  - Prestonvale Road
  - Private crossing for Dom's Auto
  - Trulls Road
  - Baseline Road (two crossings)
  - Rundle Road
  - Holt Road
  - Private crossing west of Maple Grove Road
  - Maple Grove Road

An EPR Addendum Report is being undertaken to document the changes to the transit project based on refinements to the design approach identified in the EPR, and to consider relevant updates to environmental conditions since the completion of the EPR in 2011.

[2] Multi-use bridge only. Multi-use bridges can be used by pedestrians and cyclists crossing the rail corridor.
[3] This at-grade crossing is planned to be grade separated by the Region of Durham.





Legend

- Project Footprint
- Existing Durham College Oshawa GO Station
- Proposed Pedestrian Bridge Extension
- Proposed New Bridge
- Proposed Bridge Replacement
- Proposed Bridge Removal
- Proposed New Multi-Use Grade-Separated Crossing
- Proposed Upgrades to At-Grade Crossing
- Proposed Bridge Expansion
- Proposed GO Station Location
- Existing Railway
- Former Proposed GO Corridor (2011, 2018)
- Railway
- Highway
- Major Road
- Minor Road
- Watercourse
- Waterbody

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Notes

1. Coordinate System: NAD 1983 CSRS MTM 10
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Stantec

Project Location
Regioan Municipality
of Durham

165011019 REVA
Prepared by BCC on 2023-06-27
Technical Review by ## on 2021-##-##

Client/Project
METROLINX
OSHAWA TO BOWMANVILLE RAIL SERVICE EXTENSION PROJECT

Figure No.
1

Title
Project Overview

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2.0 Study Purpose

Metrolinx is conducting preliminary planning studies and developing conceptual design for the Project. Potential environmental effect.1ts of the Project are being assessed to meet the requirements of the *O. Reg. 231/08* and the Ontario *Environmental Assessment Act.* This Traffic Impact Analysis considers the potential effects resulting from construction and operations to the transportation network based on the proposed tracking and grading, GO stations, bridges and upgrades to at-grade crossings and will be used to support the EPR Addendum.

To provide a preliminary assessment of the traffic, this study considers and reviews three scenarios:

Existing Conditions:

An assessment of existing transportation conditions was conducted using historical traffic count data to develop a baseline understanding of existing operating conditions. This data will be used for the existing condition analysis which will serve as a base for the future scenarios.

Construction Staging Conditions:

It is anticipated that the construction of the GO Rail service extension will result in temporary roadway impacts. Focus is provided to key regional roadways that will be impacted by long-term closures, notably bridge replacements, which will result in the need for a temporary assigned detour. This scenario will help identify the transportation impacts associated with the proposed closures and identify the required mitigation measures to accommodate construction staging.

Future 2031 Conditions:

The extension of GO Rail service is anticipated to contribute and support economic development and growth in the Region of Durham, particularly around future GO Rail stations. An assessment of future conditions was conducted for the 2031 horizon. This scenario was developed using the Durham Regional Transportation Planning Model (DRTPM), the long-range transportation land-use and forecasting model, to assess anticipated transportation demands in the future horizon. The DRTPM also considers planned transportation and transit infrastructure improvements in the Region. This scenario will help estimate transportation demands and roadway capacity to identify additional infrastructure improvements that may be required to support regional growth, particularly around future GO Rail stations.

3.0 Study Area

This study will assess anticipated temporary and permanent impacts on the transportation network as part of the Lakeshore East GO Rail service extension to Bowmanville. Study area intersections include intersections in proximity to the rail alignment and the proposed GO station locations. Study area intersections were also selected based on the availability of traffic data.

Study area intersections and locations are outlined in **Figure 2**.

As the proposed rail extension corridor extends over approximately 19 km in length, it is difficult to assess all study area intersections for all construction staging scenarios. Construction staging scenarios are not anticipated to result in wide regional impacts affecting all study area intersections.

As a result, assessment of construction related impacts focuses on intersections that are near proposed construction works requiring temporary closures anticipated to impact mobility and access.

The Project study area was divided into the following ‘Focus Areas’ around the proposed GO stations to understand the impacts on the adjacent area network:

- Focus Area B1: Thornton’s Corners East GO Station
- Focus Area B2: Ritson GO Station
- Focus Area B3: Courtice GO Station
- Focus Area B4: Bowmanville GO Station

The following sections discuss the focus areas.

Figure 2: Overall Study Area Intersections

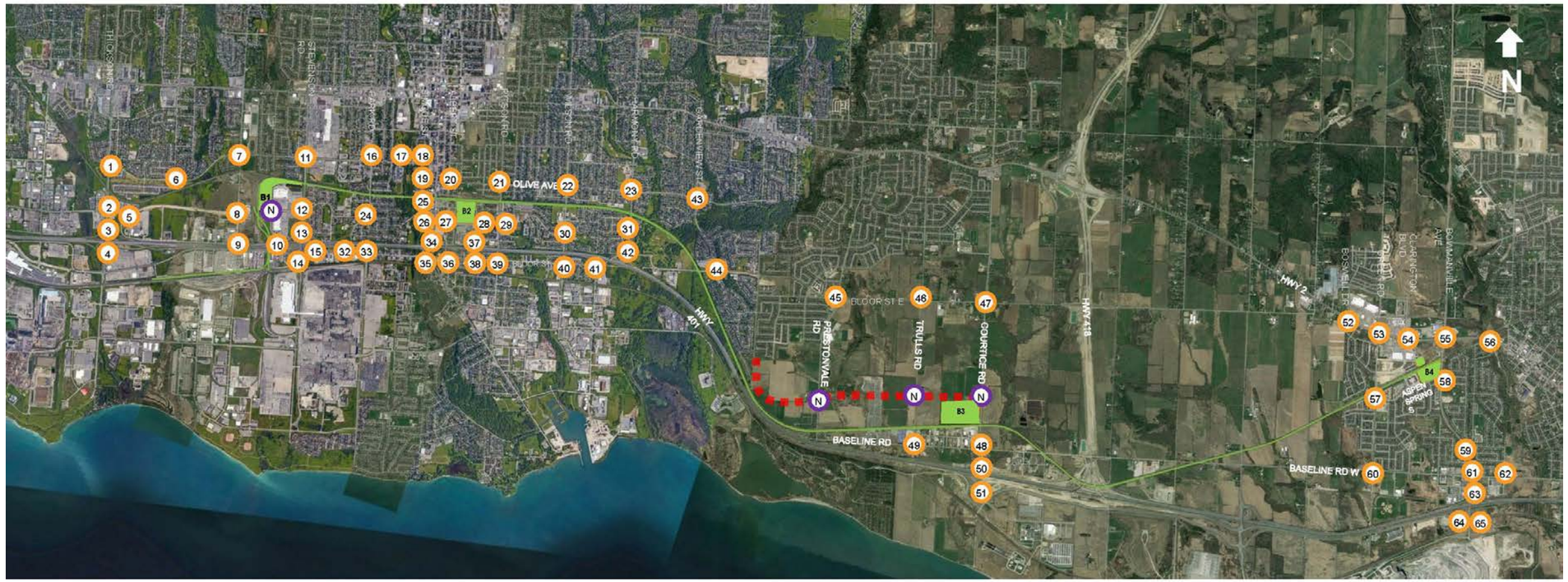


Figure 2: Project Area Intersections

Oshawa to Bowmanville Rail Service Extension

- Intersection
- Future Intersection
- GO Station / Transit Oriented Community (TOC)
- BMV Rail Extension Alignment
- Future Roads

Stantec

B1 Thornton's Corners East:

1. Thickson Road S / Burns St E
2. Thickson Road S / Stellar Dr / Consumers Dr
3. Thickson Road S / Hwy 401 (North Ramp)
4. Thickson Road S / Hwy 401 (South Ramp)
5. Stellar Dr / Champlain Ave
6. Burns St E / Kendalwood Rd / Mt Pleasant Ave
7. Gibb St / Thornton Rd S
8. Thornton Rd S / Stellar Dr
9. Thornton Rd S / Champlain Ave
10. Fox Street / Champlain Ave
11. Stevenson Rd S / Gibb St
12. Stevenson Rd S / Laval Dr
13. Stevenson Rd S / Hwy 401 (North Ramp)
14. Stevenson Rd S / Hwy 401 (South Ramp)
15. Bloor St W / Hwy 401 (South Ramp)

B2 Ritson:

16. Gibb St / Park Rd S
17. Gibb St / Centre St
18. Gibb St / Simcoe St
19. Olive Ave / Simcoe St
20. Olive Ave / Albert St

B2 Ritson – Continued:

21. Olive Ave / Ritson Rd S
22. Olive Ave / Wilson Rd S
23. Olive Ave / Harmony Rd S
24. Park Rd S / Hillside Ave S
25. Mill St / Simcoe St S
26. First Ave / Simcoe St
27. First Ave / Albert St
28. First Ave / Drew St
29. McNaughton Ave / Ritson Rd S
30. Dean Ave / Wilson Rd S
31. Tennyson Ave / Harmony Rd S
32. Bloor St W / Park Rd S
33. Bloor St E / Park Rd S
34. Simcoe St S / Hwy 401 (North Ramp)
35. Bloor St W / Hwy 401 (South Ramp)
36. Bloor St E / Simcoe St S
37. Drew St / Toronto St / Hwy 401 (North Ramp)
38. Bloor St E / Hwy 401 (South Ramp)
39. Bloor St E / Ritson Rd S
40. Bloor St E / Wilson Rd S
41. Bloor St E / Farewell St
42. Bloor St E / Harmony Rd S
43. Olive Ave / Grandview St S
44. Bloor St E / Grandview St S

B3 Courtice:

45. Bloor St / Prestonvale Rd
46. Bloor St / Trulls Rd
47. Bloor St / Courtice Rd
48. Baseline Rd W / Courtice Rd
49. Baseline Rd W / Trulls Rd
50. Hwy 401 / Courtice Rd (North Ramp)
51. Hwy 401 / Courtice Rd (South Ramp)

B4 Bowmanville:

52. Hwy 2 / Boswell Dr
53. Hwy 2 / Green Rd
54. Hwy 2 / Clarington Blvd
55. Hwy 2 / Bowmanville Ave (Regional Rd 57)
56. King St W / Roenigk Dr
57. Green Rd / Aspen Springs Dr
58. Bowmanville Ave (Regional Rd 57) / Aspen Springs Dr
59. Bowmanville Ave (Regional Rd 57) / Waverley Rd
60. Baseline Rd W / Green Rd
61. Bowmanville Ave (Regional Rd 57) / Baseline Rd W
62. Baseline Rd W / Spry Ave
63. Hwy 401 / Bowmanville Ave (North Ramp)
64. Hwy 401 / Energy Dr (South Ramp)
65. Bowmanville Ave / Energy Dr

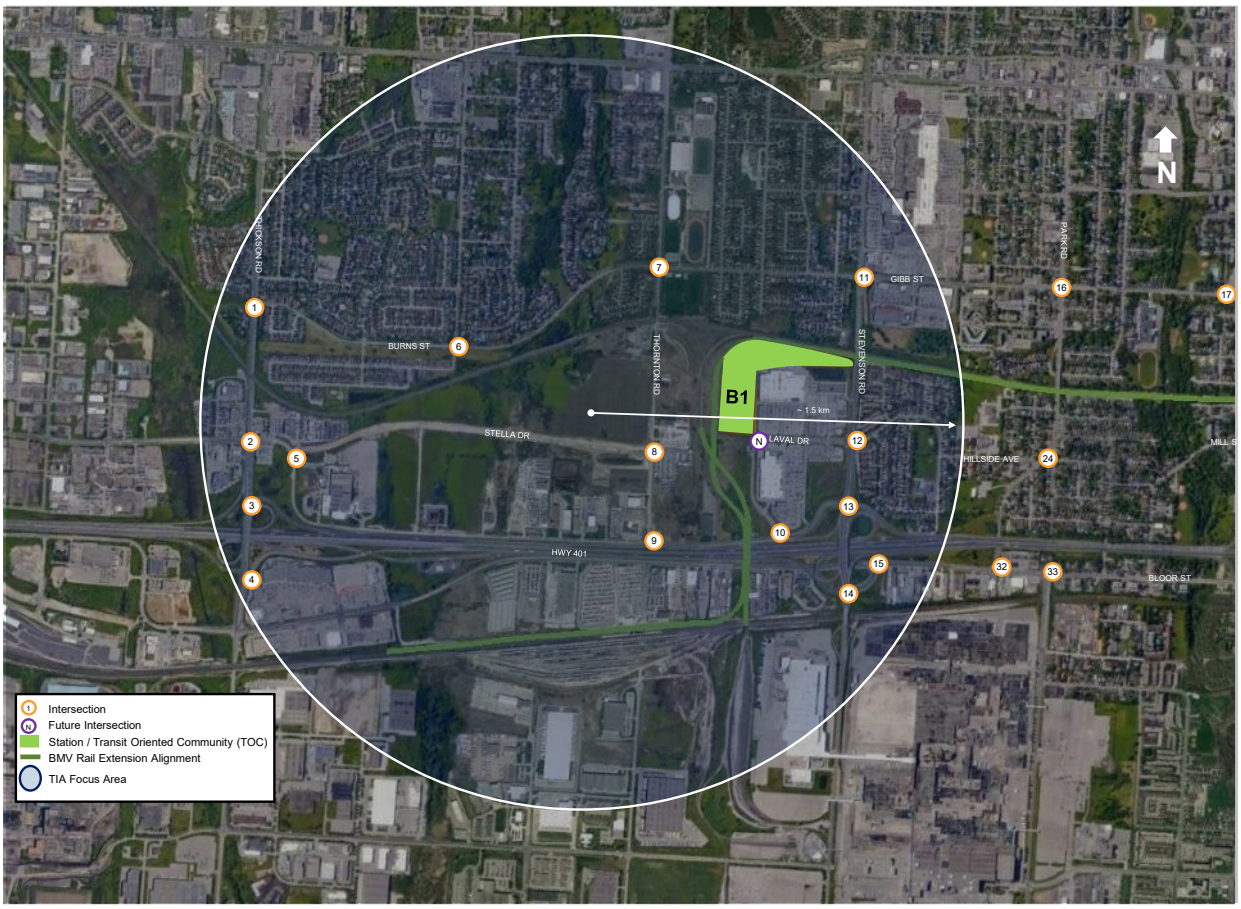
3.1 Focus Area B1: Thornton's Corners East GO Station

This focus area encompasses the roadway network and Project area intersections around the proposed GO Station B1 Thornton's Corners East located near the Whitby-Oshawa border. This GO station is proposed to be located just east of the CP Rail corridor, west of Fox Street and north of future Laval Drive extension.

The study area is bound by Gibb Street to the north, Thickson Road to the west, Stevenson Road to the east, and Highway 401 to the south. It consists of fifteen signalized intersections and the intersection of Laval Drive and Fox Street where the planned future extension of Stellar Drive from Thornton Road to Fox Street would connect.

Focus Area B1 study area is illustrated in **Figure 3**.

Figure 3: Focus Area B1: Thornton's Corner East GO Station



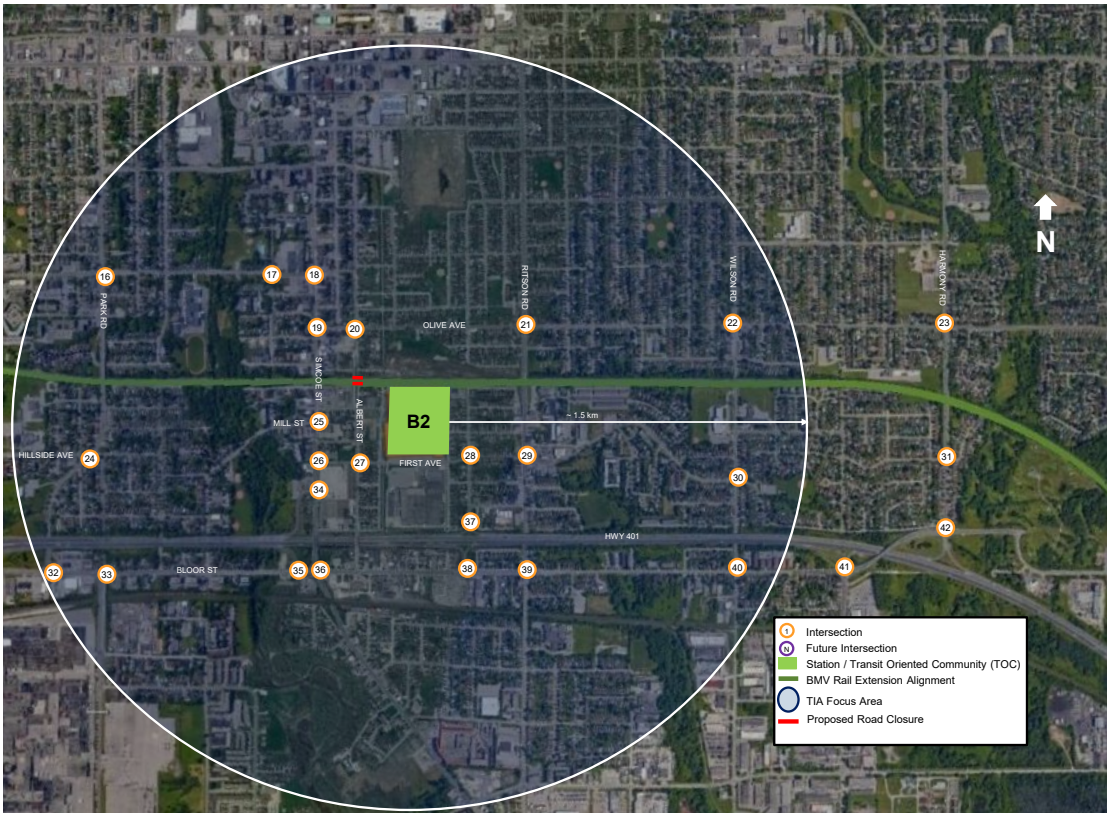
3.2 Focus Area B2: Ritson Road GO Station

Within the context of the Project, the future B2 Ritson GO Station is anticipated to be located south of downtown Oshawa and will provide convenient access to regional GO Rail service from downtown and the surrounding community. The proposed Station B2 is located within the City of Oshawa along the existing CP Rail corridor and between Simcoe Street South and Ritson Road South.

Focus Area B2 is generally bound by Gibb Street / Olive Avenue to the north, Park Road South to the west, Harmony Road South to the east, and Bloor Street East to the south. It consists of 25 signalized intersections and four stop-controlled intersections and interchange ramps.

Focus Area B2 study area is illustrated in **Figure 4**.

Figure 4: Focus Area B2: Ritson GO Station

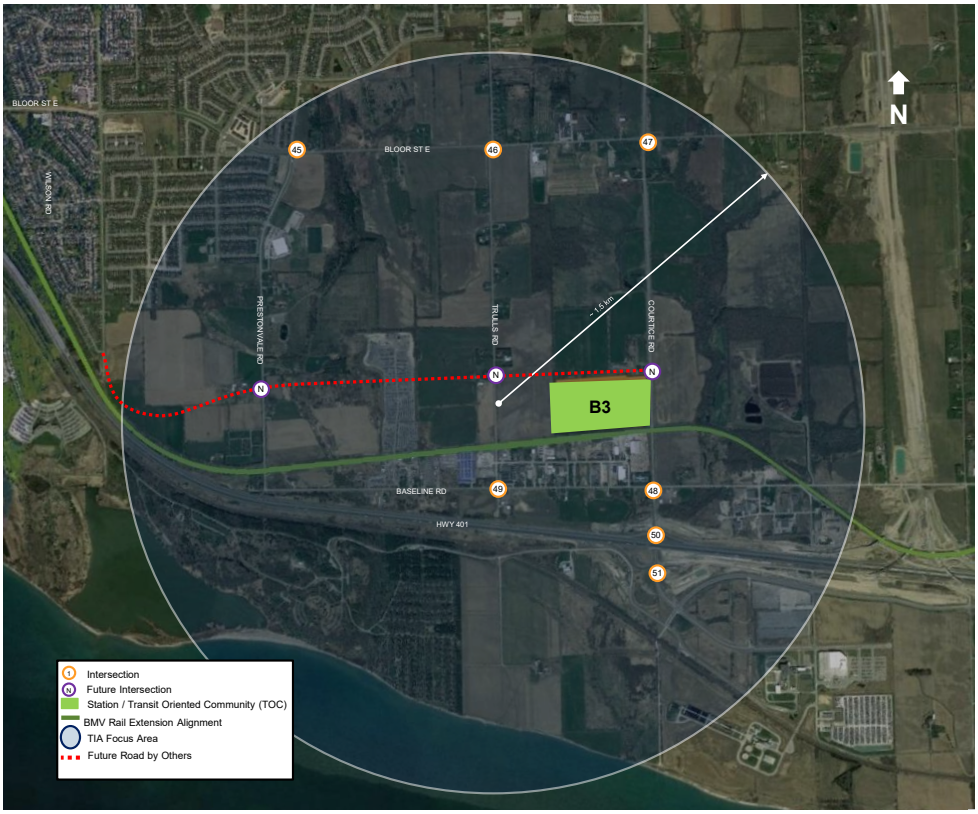


3.3 Focus Area B3: Courtice GO Station

Focus Area B3 is located north of the Highway 401 interchange with Courtice Road in the community of Courtice, within the Municipality of Clarington. GO Station B3 is expected to be located at the corner of Regional Road 34 (Courtice Road) and the existing CP Rail tracks situated to the north of Baseline Road West.

Focus Area B3 is generally bound by Bloor Street to the north, Prestonvale Road to the west, Courtice Road to the east, and Highway 401 to the south. Under existing conditions, the study area consists of five signalized intersections and two stop controlled intersections. Under the Future 2031 horizon, significant development growth is anticipated to occur within this area including the extension of a new east-west corridor from Townline Road South to Courtice Road with three future intersections intersecting with Prestonvale Road, Trulls Road, and Courtice Road. Focus Area B3 study area is illustrated in **Figure 5**.

Figure 5: Focus Area B3: Courtice GO Station

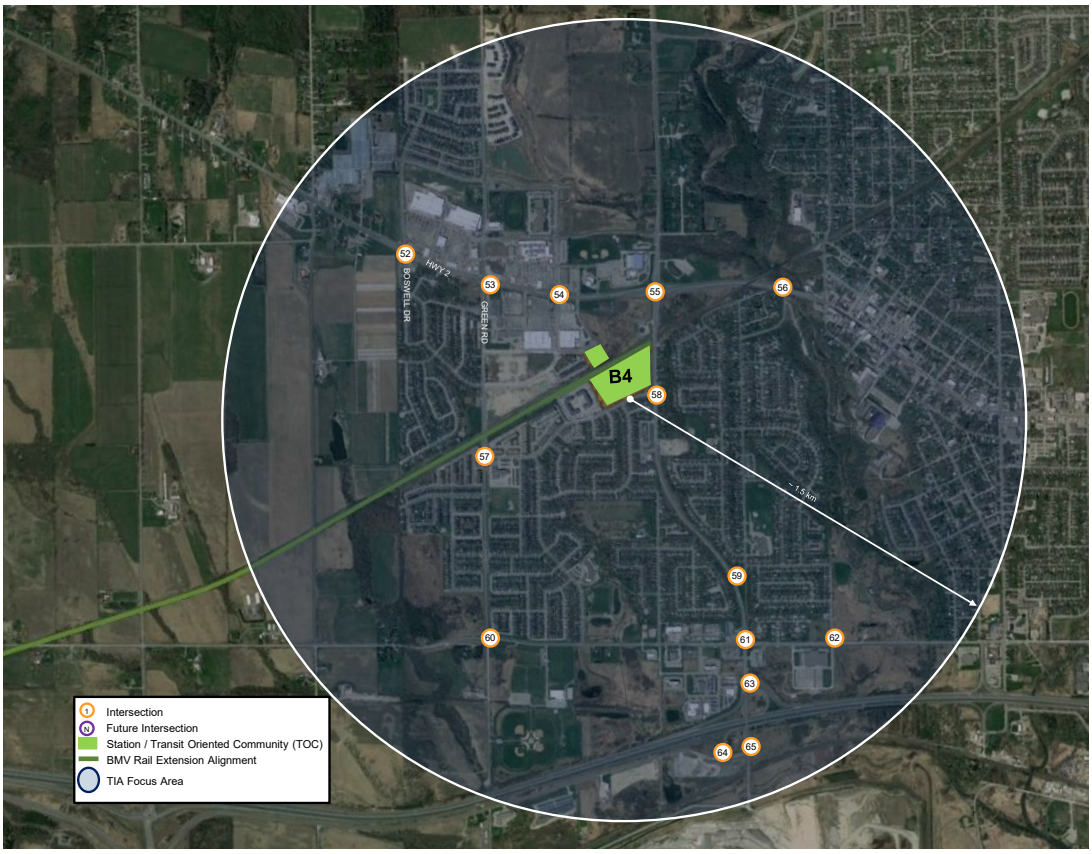


3.4 Focus Area B4: Bowmanville GO Station

Focus Area B4 is located south of Regional Highway 2 in the Town of Bowmanville, within the municipality of Clarington. GO Station B4 is expected to be located near the intersection of Bowmanville Avenue and Aspen Springs Drive.

Focus Area B4 is generally bound by Regional Highway 2 to the north, Green Road to the west, Bowmanville Avenue to the east, and Baseline Road East 1 to the south. It consists of 10 signalized intersections, three stop controlled intersections and one roundabout. Focus Area B2 study area is illustrated in **Figure 6**.

Figure 6: Focus Area B4: Bowmanville GO Station



4.0 Study Approach

4.1 Traffic Data

Traffic data was obtained from the Region of Durham and the Ministry of Transportation of Ontario (MTO). Data included historical turning movement counts (TMC), Synchro models with intersection signal timing plans for the AM and PM peak periods, and the Durham Region Transportation Planning Model (DRTPM) EMME model for the 2031 AM peak horizon.

Historical TMC data was collected between 2016 – 2020. These traffic volumes were used for the Existing Conditions analysis. Based on scoping discussions with the Region of Durham and Metrolinx, no generic/global background growth rate was applied to historical TMC data for the Existing Conditions traffic impact analysis. **Appendix C** includes a table summarizing the TMC collection dates and sources and also the TMC reports.

A nominal background growth rate of 1.5% was applied to study area intersections to assess the Construction Staging scenario anticipated to occur in the year 2024.

Future 2031 traffic projections relied on the DRTPM long-range EMME model, as well as other background studies, provided by the Region of Durham. The methodology for forecasting 2031 traffic demands is outlined in subsequent sections.

4.2 Background Studies

In addition to the traffic data received from the Region of Durham and the MTO, relevant background studies were reviewed to better inform the evaluation of the transportation network, particularly for the Future 2031 horizon.

The following background studies were reviewed and considered as part of this study:

- Durham Transportation Master Plan 2017 (December 2017).
- City of Oshawa One-Way Conversion Study (Draft – May 2021).
- The Region of Durham Regional Cycling Plan (2021).
- Durham Region Major Transit Station Areas Study (December 2021).
- City of Oshawa’s Integrated Transportation Master Plan and Active Transportation Master Plan (2015).
- Highway 401 from Brock Road to Courtice Road Class EA & Preliminary Design Study (2014).

- Durham Region and City of Oshawa Central Oshawa GO Station Transportation Review Study (Dillon Consulting, April 2020).

4.3 Analysis Scenarios

The traffic evaluation was comprised of three scenarios for which AM and PM peak hours intersection level of service (LOS) analyses were performed.

Table 1 provides a summary of the assumptions used in each scenario.

Table 1: Traffic Analysis Scenarios

Scenario	Roadway Conditions	Traffic Volumes	Focus Area
Existing Conditions	Existing Road Network	Existing traffic volumes based on historical TMCs	All Focus Areas
Construction Staging: Simcoe Street Closure (2024)	Existing Road Network	Projected Existing Conditions traffic volumes to 2024. Anticipated traffic redistribution due to closure estimated using the DRTPM model for Existing Conditions	Focus Area B2
Construction Staging: Ritson Road Closure (2024)	Existing Road Network	Projected Existing Conditions traffic volumes to 2024. Anticipated traffic redistribution due to closure estimated using the DRTPM model for Existing Conditions	Focus Area B2
Future 2031	Future 2031 Road Network	2031 DRTPM model volumes, City of Oshawa Two-Way Conversion traffic volumes distribution, redistribution of Albert Street closure volumes	All Focus Areas

4.4 Methodology

4.4.1 TIA Guidelines

The TIA process and assessment was prepared based on the following guidelines:

- *The Regional Municipality of Durham Traffic Impact Study Guidelines* (October 2011) will be adopted for assessing municipal roadways and intersections.
- *The Ministry of Transportation, Ontario (MTO) Traffic Impact Study Guideline* (September 2014) will be adopted for study area intersections and ramp terminals at provincially controlled highways (i.e., 400-series facilities)

4.4.2 Level of Service (LOS)

Level of Service (LOS) analyses of the traffic operations were performed at the study intersections utilizing the Synchro *10* software package, which utilizes the latest Highway Capacity Manual (HCM) methodologies.

The study area intersections were modeled with the existing geometry and signal timing operation based on the Synchro models provided by Region of Durham. Capacity analyses are evaluated based on a LOS based on “average vehicular delay” that ranges from an LOS rating of A (excellent) to and LOS rating of F (poor).

Table 2 outlines the LOS thresholds based on the HCM parameters.

Table 2: Intersection LOS Criteria

LOS	Control Delay Per Vehicle (seconds)	
	Signalized Intersection	**Stop-Controlled Intersection**
A	≤ 10	≤ 10
B	>10 and ≤20	>10 and ≤15
C	>20 and ≤35	>15 and ≤25
D	>35 and ≤55	>25 and ≤35
E	>55 and ≤80	>35 and ≤50
F	> 80	> 50

From a traffic operations perspective, LOS ratings ranging between an LOS of A through to an LOS of D are considered acceptable.

For stop-controlled intersections, the LOS for the worse approach was reported. Based on the Region of Durham's TIS guidelines, LOS "D" or better is considered acceptable since the study area is part of regional center.

Other parameters that are used to identify critical intersection movements that may require mitigation include:

- Intersection movements operating at v/c ratios of 0.90 or higher (LOS E).
- Intersection movements operating with average delays of 55s or more (LOS E).
- For ramp terminal intersections at 400-series highways, intersections operating at a v/c ratio of 0.85 or higher will be identified.

5.0 Existing Conditions

5.1 Focus Area B1: Thornton's Corners East GO Station

5.1.1 Existing Road Network

Study area roadways, functional class, and jurisdictional oversight within Focus Area B1 are summarized in **Table 3**.

Table 3: Focus Area B1 Roadways

Roadway Name	Functional Class	Number of Lanes	Posted Speed	Parking	Jurisdiction
Thickson Road	Arterial	4 Lanes (North South)	60 km/h	Not Permitted	Regional
Burns Street	Arterial	2 Lanes (East West)	50 km/h	Not Permitted	Municipal
Stellar Drive	Arterial	2-4 Lanes (East West)	60 km/h	Not Permitted	Regional
Champlain Avenue	Arterial	2 Lanes (East West)	60 km/h	Not Permitted	Regional
Kendalwood Road	Arterial	2 Lanes (North South)	50 km/h	Not Permitted	Municipal
Thornton Road	Arterial	2 Lanes (North South)	60 km/h	Not Permitted	Regional
Fox Street	Collector	2 Lanes (North South)	20 - 50 km/h	Not Permitted	Municipal
Stevenson Road	Arterial	4 Lanes (North South)	60 km/h	Not Permitted	Regional
Gibb Street	Arterial	2 Lanes (East West)	50 km/h	Not Permitted	Regional
Bloor Street	Arterial	2-4 Lanes (East West)	60 km/h	Not Permitted	Regional

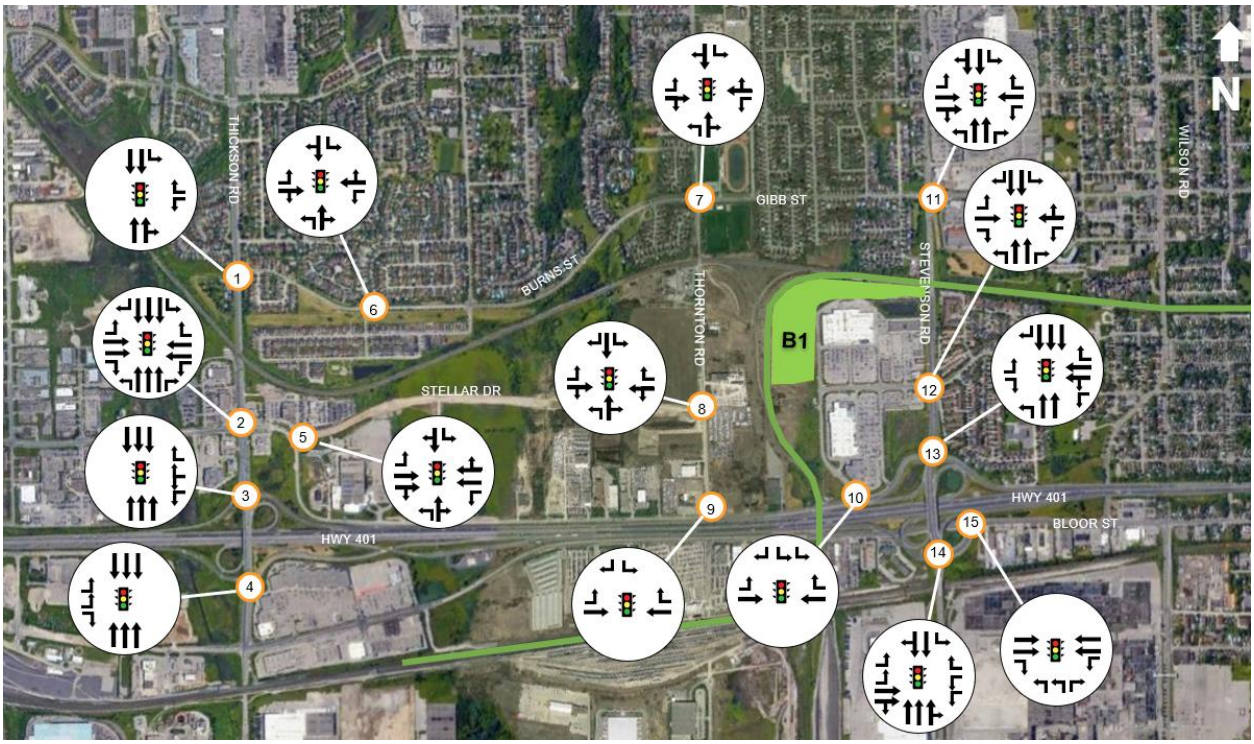
Study area intersections and existing traffic control is summarized in **Table 4** and **Figure 7**.

Table 4: Focus Area B1 Study Area Intersections

Number	Intersection Name	Traffic Control
1	Thickson Road S / Burns St E	Signalized
2	Thickson Road S / Stellar Drive / Consumers Dr	Signalized
3	Thickson Road S / Hwy 401 (North Ramp)	Signalized

Number	Intersection Name	Traffic Control
4	Thickson Road S / Hwy 401 (South Ramp)	Signalized
5	Stellar Dr / Champlain Ave	Signalized
6	Burns St E / Kendalwood Rd / Mt Pleasant Ave	Signalized
7	Gibb St / Thornton Rd S	Signalized
8	Thornton Rd S / Stellar Dr	Signalized
9	Thornton Rd S / Champlain Ave	Signalized
10	Fox Street / Champlain Ave	Signalized
11	Stevenson Rd S / Gibb St	Signalized
12	Stevenson Rd S / Laval Dr	Signalized
13	Stevenson Rd S / Hwy 401 (North Ramp)	Signalized
14	Stevenson Rd S / Hwy 401 (South Ramp)	Signalized
15	Bloor St W / Hwy 401 (South Ramp)	Signalized

Figure 7: Focus Area B1 Existing Intersection Lane Geometry



5.1.2 Transit

Local transit service is provided by Durham Region Transit (DRT) with regional transit service provided by GO.

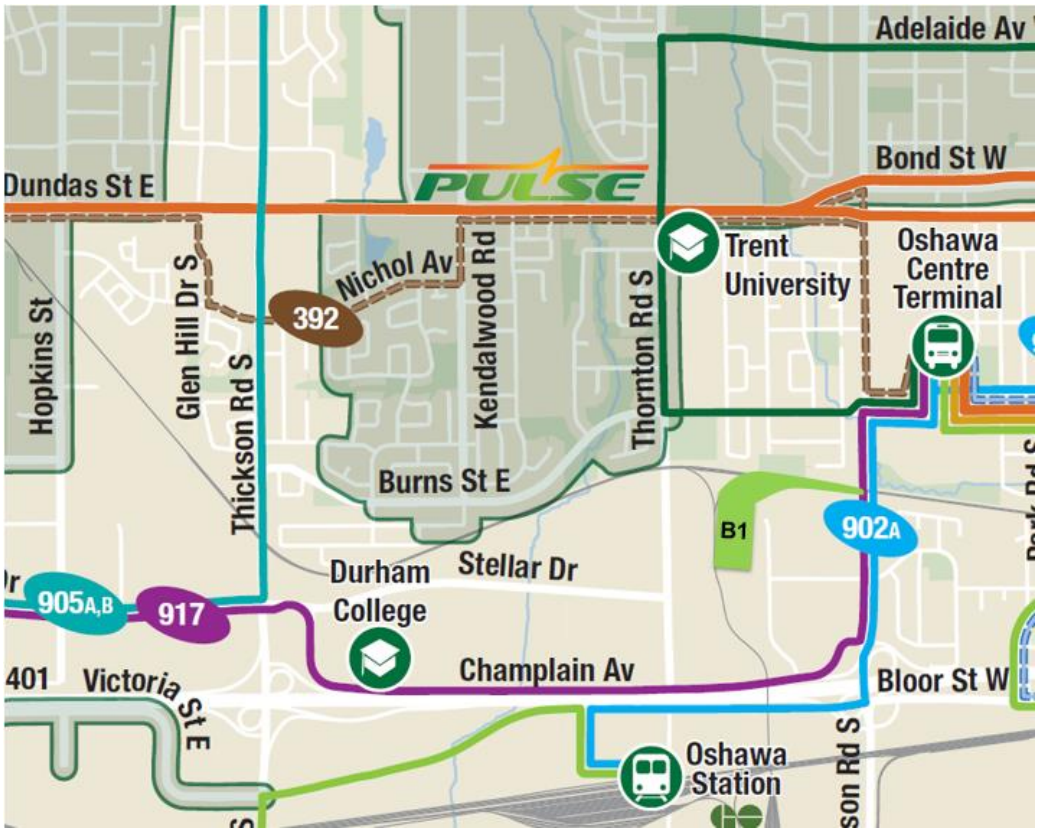
DRT transit routes generally are destined to the Oshawa Centre Terminal located off of Gibb Street, east of the proposed station. The existing VIA Rail Oshawa train station is located south of Highway 401, west of Stevenson Road. There is a GO bus route serving the VIA Rail Oshawa train station and surrounding Park & Ride locations and some major intersections.

Key DRT bus routes operating within Focus Area B1 include:

- Route 405C along Thornton Road South and Gibb Street
- Route 392 along Stevenson Road
- Route 917 along Champlain Avenue and Stevenson Road
- Routes 905A, 905B along Thickson Road
- Route 902A along Stevenson Road and Bloor Street

DRT routes within the vicinity of the study area are illustrated in **Figure 8**. DC Oshawa GO provides commuter rail, passenger rail and regional bus services as the terminal station for the Lakeshore East line. GO Bus service is provided at the First Avenue / Front Street Park & Ride facility.

Figure 8: Transit Service around Station (B1 Thornton's Corners East)



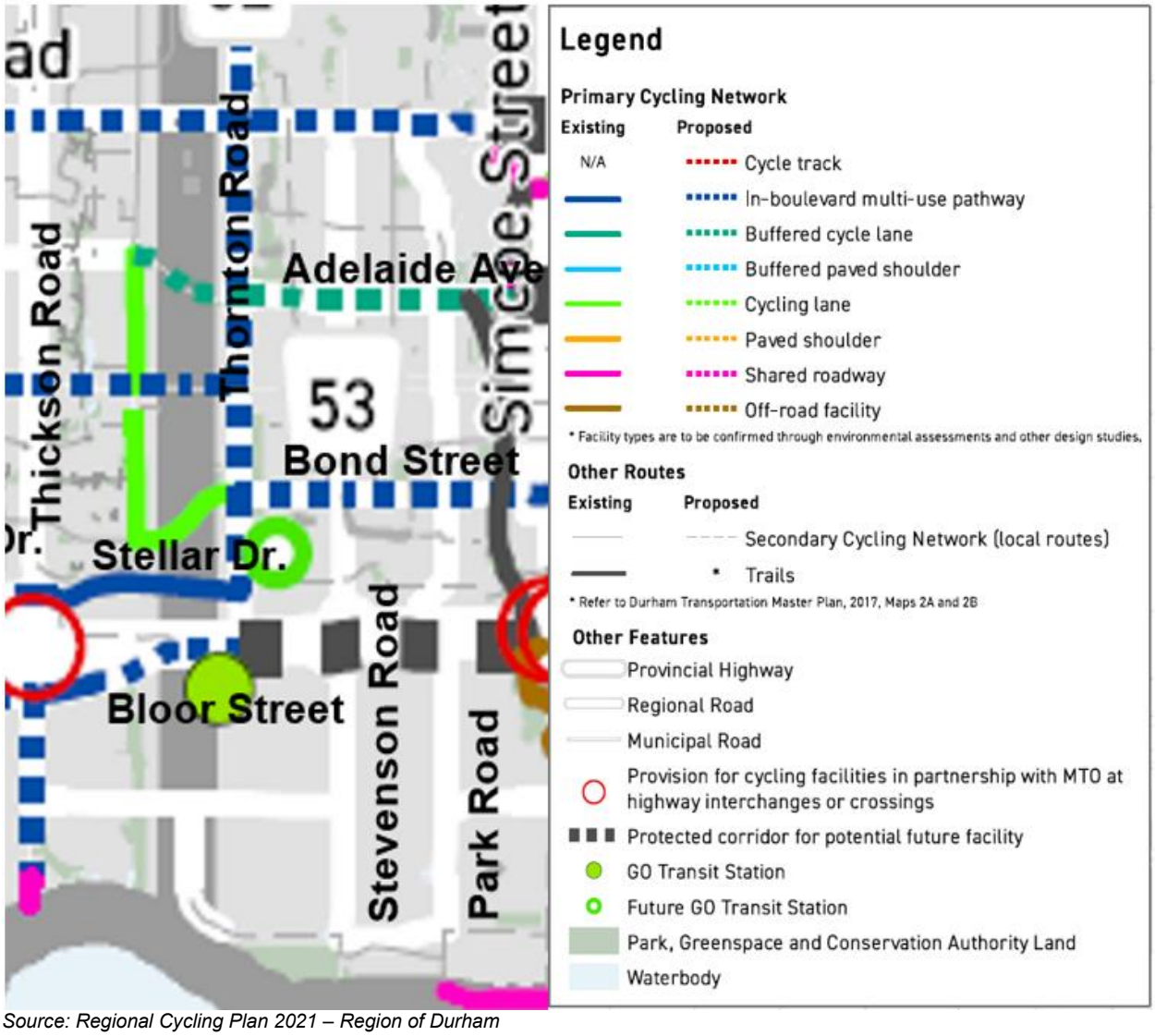
Source: Durham Region Transit System Map (April 2022)

5.1.3 Pedestrian and Cycling Network

Study area roadways generally accommodate pedestrians with most corridors providing sidewalks on one or both sides.

Regional Cycling Plan 2021 identifies existing and future Primary Cycling Network (PCN) focusing on 10 years horizon. The PCN provides varying facility types around the study area shown in **Figure 9**.

Figure 9: Cycling Network around Station (B1 Thornton's Corners East)



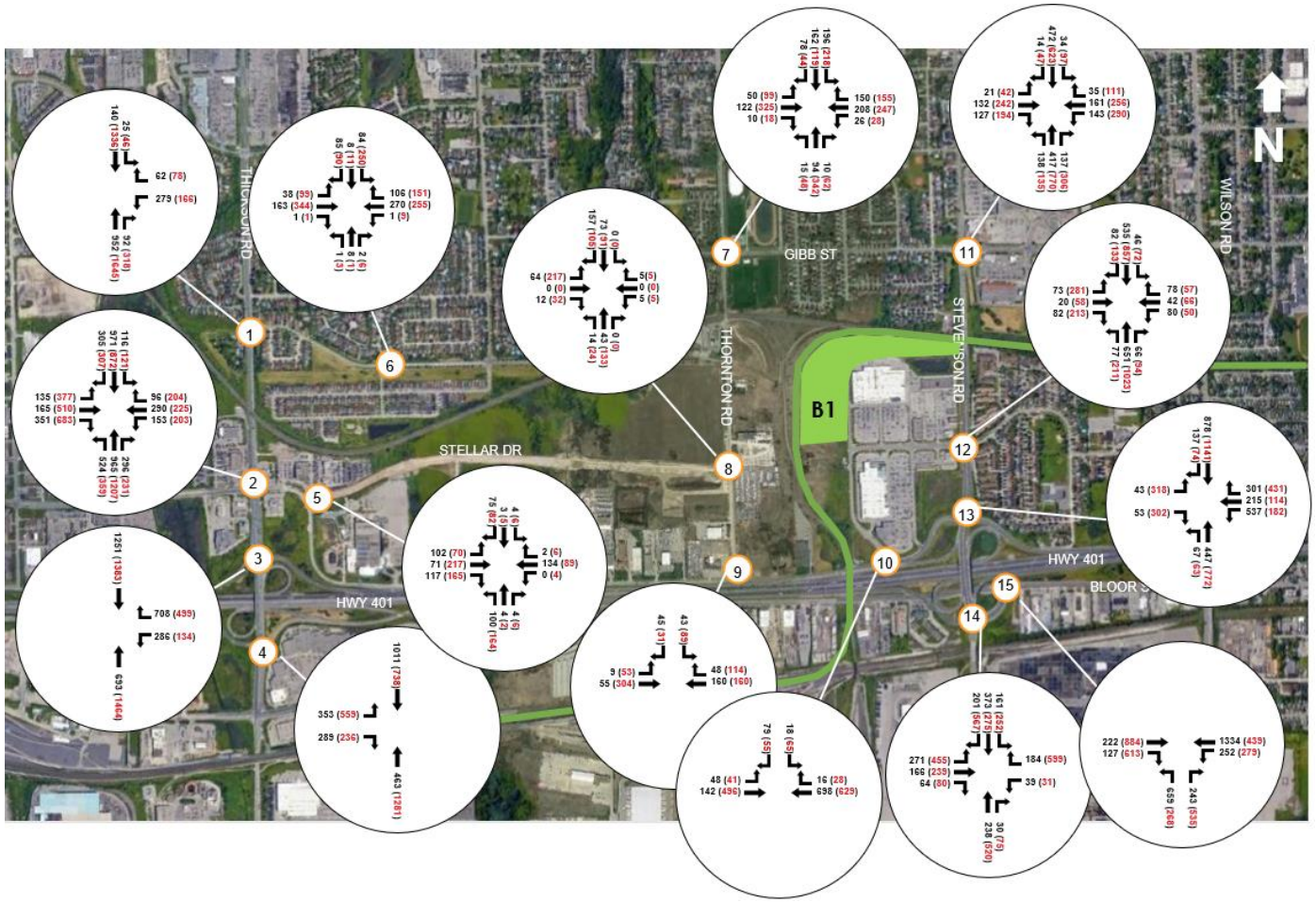
Source: Regional Cycling Plan 2021 – Region of Durham

Additionally, the City of Oshawa's Active Transportation Master Plan Technical Report (2015) identifies existing and proposed on-road and off-road trails in the study area including along Gibb Street, Thornton Street, and the Laval Drive and Stellar Drive.

5.1.4 Existing Traffic Volumes

Existing AM and PM peak period traffic volumes for Focus Area B1 are illustrated in **Figure 10**. AM and PM peak hours traffic volumes are printed in black and bracketed red fonts, respectively.

Figure 10: Focus Area B1 Existing Traffic Volumes



5.1.5 Level of Service Analysis

Existing intersection level of service analysis was conducted using the Synchro 10 software package. Existing signal timing parameters received from the Region of Durham was used to assess intersection operations under existing conditions and optimized as necessary.

Table 5 and **Figure 11** summarize intersection level of service performance under Existing Conditions for Focus Area B1.

The following intersections were identified as operating at or close to capacity with a LOS rating of E or higher:

Thickson Road S / Stellar Drive / Consumers Dr (Intersection #2) – In the AM peak period, the southbound approach operates with a v/c ratio of 0.93. And in the PM peak period, the eastbound left and right turn, westbound left-turn and southbound through movements operate with a v/c ratio of >0.96.

Stevenson Rd S / Gibb St (Intersection #11) – In the PM peak hour, the westbound left-turn and northbound through movement operate at a v/c ratio of 0.93 and 0.94, respectively.

Stevenson Rd S / Hwy 401 (North Ramp) (Intersection #13) – In the PM peak hour, the eastbound left, westbound right-turn and southbound through movements operate at a v/c ratio between 0.92 – 1.05.

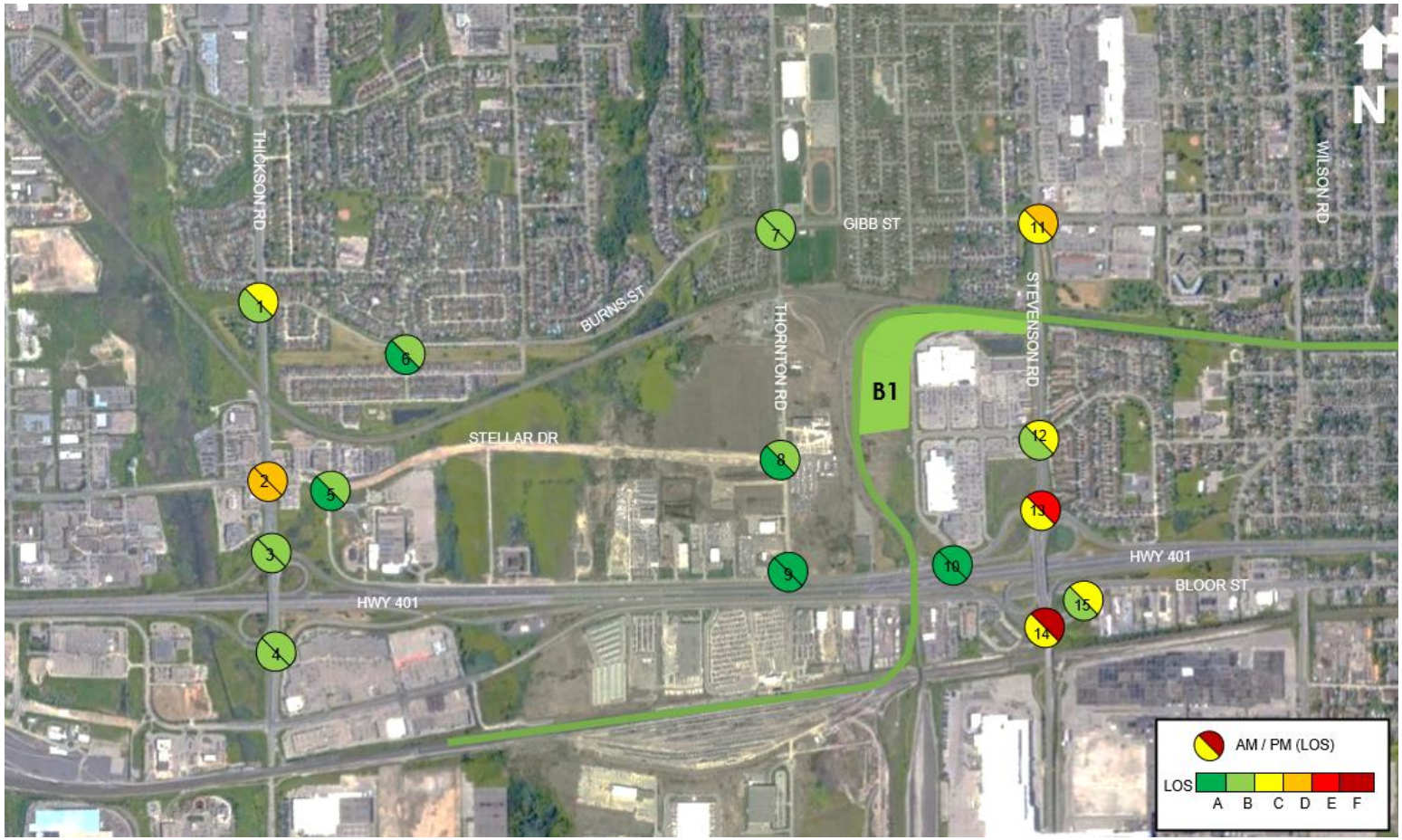
Stevenson Rd S / Hwy 401 (South Ramp) (Intersection #14) – In the PM peak hour, the eastbound right-turn, westbound right-turn and southbound left-turn movements operate at a v/c ratio of 0.92 – 1.11.

Detailed intersection performance outputs are provided in **Appendix A**.

Table 5: Existing Intersection LOS Summary (Focus Area B1)

Node #	Intersection	AM			PM		
		V/C	Delay	LOS	V/C	Delay	LOS
1	Thickson Rd S / Burns St E	0.77	13.9	B	0.89	21.0	C
2	Thickson Rd S / Stellar Dr / Consumers Dr	0.93	43.6	D	1.05	55.0	D
3	Thickson Rd S / Hwy 401 (North Ramp)	0.72	18.6	B	0.71	13.1	B
4	Thickson Rd S / Hwy 401 (South Ramp)	0.64	17.0	B	0.64	13.9	B
5	Stellar Dr / Champlain Ave	0.58	9.4	A	0.37	11.4	B
6	Burns St E / Kendalwood Rd / Mt Pleasant Ave	0.41	9.5	A	0.60	14.8	B
7	Gibb St / Thornton Rd S	0.54	10.6	B	0.71	14.4	B
8	Thornton Rd S / Stellar Dr	0.17	9.1	A	0.36	15.3	B
9	Thornton Rd S / Champlain Ave	0.16	8.6	A	0.37	9.8	A
10	Fox St / Champlain Ave	0.55	7.5	A	0.50	7.3	A
11	Stevenson Rd S / Gibb St	0.53	27.5	C	0.97	39.1	D
12	Stevenson Rd S / Laval Dr	0.38	14.2	B	0.84	27.4	C
13	Stevenson Rd S / Hwy 401 (North Ramp)	0.63	22.9	C	0.98	55.8	E
14	Stevenson Rd S / Hwy 401 (South Ramp)	0.42	27.4	C	1.07	83.1	F
15	Bloor St W / Hwy 401 (South Ramp)	0.84	17.3	B	0.80	25.3	C

Figure 11: Focus Area B1 Existing Intersection LOS Summary



5.2 Focus Area B2: Ritson GO Station

5.2.1 Existing Road Network

Study area roadways, functional class, and jurisdictional oversight within Focus Area B2 are summarized in **Table 6**.

Table 6: Focus Area B2 Roadways

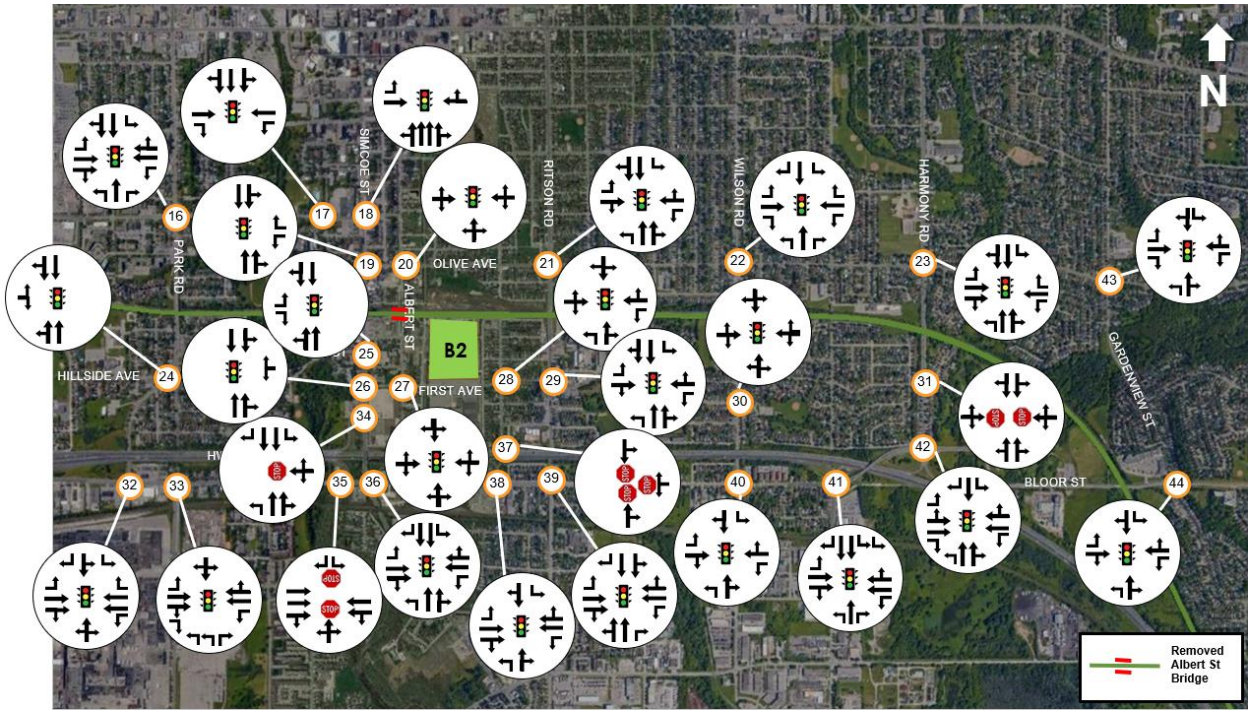
Roadway Name	Functional Class	Number of Lanes	Posted Speed	Parking	Jurisdiction
Gibb Street / Regional Road 59	Arterial	2 Lanes (East West)	50 km/h	Not Permitted	Regional
Park Road South / Regional Rd 54	Arterial	4 Lanes (North South)	50 km/h	Not Permitted	Regional
Bloor Street East / Regional Road 22	Arterial	2-4 Lanes (East West)	50 km/h	Not Permitted	Regional
Olive Avenue / Regional Road 59	Arterial	2 Lanes (East West)	50 km/h	Not Permitted	Regional
Simcoe Street South / Regional Road 2	Arterial	4 Lanes (North South)	50 km/h	Not Permitted	Regional
First Ave / McNaughton Ave	Collector	2 Lanes (East West)	50 km/h	Not Permitted	Municipal
Albert Street	Collector/Local	2 Lanes (North South)	50 km/h	Not Permitted	Municipal
Ritson Road South / Regional Road 16	Arterial	4 Lanes (North South)	50 km/h	Not Permitted	Regional
Wilson Road South / Regional Road 35	Arterial	2 Lanes (North South)	50 km/h	Not Permitted	Municipal/ Regional
Harmony Road / Regional Road 33	Arterial	4 Lanes (North South)	50 km/h	Not Permitted	Regional
Mill Street	Collector	2 Lanes (East West)	40-50 km/h	Not Permitted	Municipal
Dean Avenue	Collector	2 Lanes (East West)	50 km/h	Not Permitted	Municipal
Tennyson Avenue	Local	2 Lanes (East West)	20-50 km/h	Permitted	Municipal
Farewell Street	Arterial	4 Lanes (South of Hwy 401) 2 Lanes (North of Hwy 401)	60 km/h 50 km/h	Not Permitted	Regional/ Municipal

Study area intersections and existing traffic control is summarized in **Table 7** and **Figure 12**.

Table 7: Focus Area B2 Study Intersections

Number	Intersection Name	Traffic Control
16	Gibb Street / Park Road South	Signalized
17	Gibb Street / Centre Street	Signalized
18	Gibb Street / Simcoe Street	Signalized
19	Olive Avenue / Simcoe Street	Signalized
20	Olive Avenue / Albert Street	Signalized
21	Olive Avenue / Ritson Road South	Signalized
22	Olive Avenue / Wilson Road South	Signalized
23	Olive Avenue and Harmony Road	Signalized
24	Park Road South / Hillside Avenue South	Signalized
25	Mill Street / Simcoe Street	Signalized
26	First Avenue / Simcoe Street	Signalized
27	First Avenue / Albert Street	Signalized
28	First Avenue / McNaughton Avenue / Drew Street	Signalized
29	McNaughton Avenue / Ritson Road South	Signalized
30	Dean Avenue / Wilson Road South	Signalized
31	Tennyson Avenue and Harmony Road	Stop-Controlled
32	Bloor Street West / Park Road South	Signalized
33	Bloor Street East / Park Road South	Signalized
34	Simcoe Street / Hwy 401 WB Ramp	Stop-Controlled
35	Bloor St West / Hwy 401 EB Ramp (Simcoe)	Stop-Controlled
36	Bloor Street East / Simcoe Street South	Signalized
37	Drew Street / Toronto Avenue / Hwy 401 Ramp	Stop-Controlled
38	Bloor St East / Hwy 401 (South Ramp- Ritson Interchange)	Signalized
39	Ritson Road / Bloor Street	Signalized
40	Wilson Road / Bloor Street	Signalized
41	Bloor Street / Farewell St	Signalized
42	Bloor Street / Harmony Road	Signalized
43	Olive Avenue and Grandview Street	Signalized
44	Bloor Street and Grandview Street	Signalized

Figure 12: Focus Area B2 Existing Intersection Lane Geometry



5.2.2 Transit

Local transit service is provided by Durham Region Transit (DRT) with regional transit service provided by GO.

DRT transit routes generally are destined to the Oshawa Centre Terminal located off Gibb Street, west of the proposed station. The existing VIA Rail Oshawa train station is located south of Highway 401, west of Stevenson Road. There is a GO bus route serving the VIA Rail Oshawa train station and surrounding Park & Ride locations and some major intersections. GO Bus service is provided at the First Avenue / Front Street Park & Ride facility in close proximity of the proposed B2 Station.

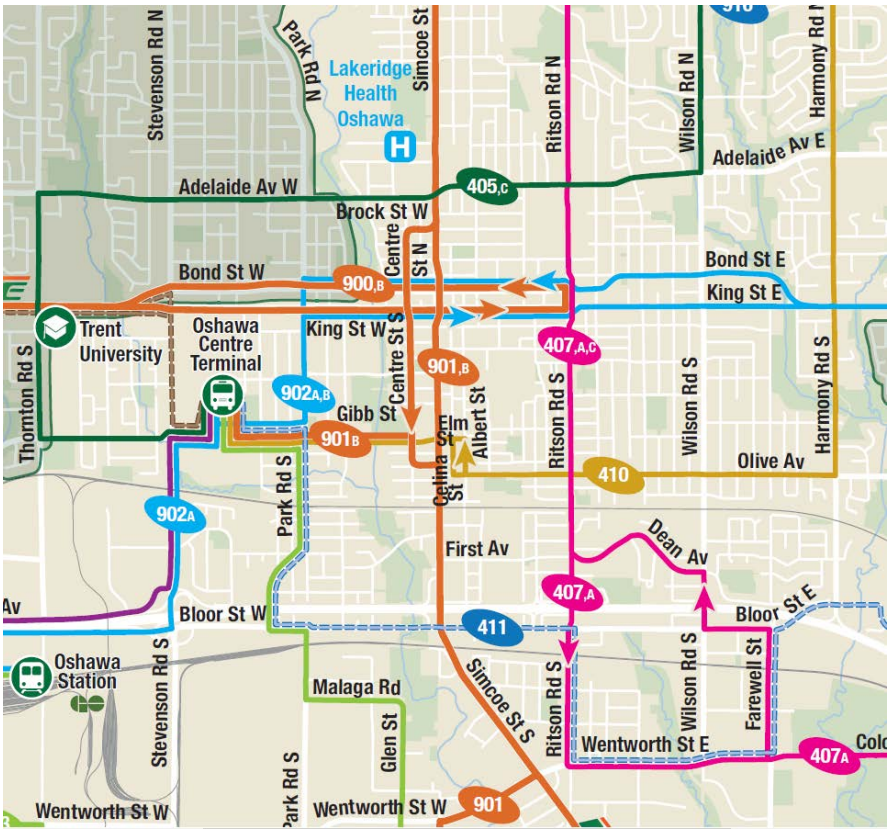
Key DRT bus routes operating in the study area include:

- Route 410 with service Gibb Street, Elm Avenue, and Olive Avenue
- Route 407A with service on Ritson Road South, Wilson Road South and Dean Avenue
- Route 403 and 411 with service on Park Road South

- Route 411 with service on Bloor Street East between Park Road South and Ritson Road South
- Route 901 and 901B with service on Gibb Street, Centre Street South, and Simcoe Street South

DRT routes within the vicinity of the study area are illustrated in **Figure 13**.

Figure 13: Transit Service around Station (B2 Ritson)



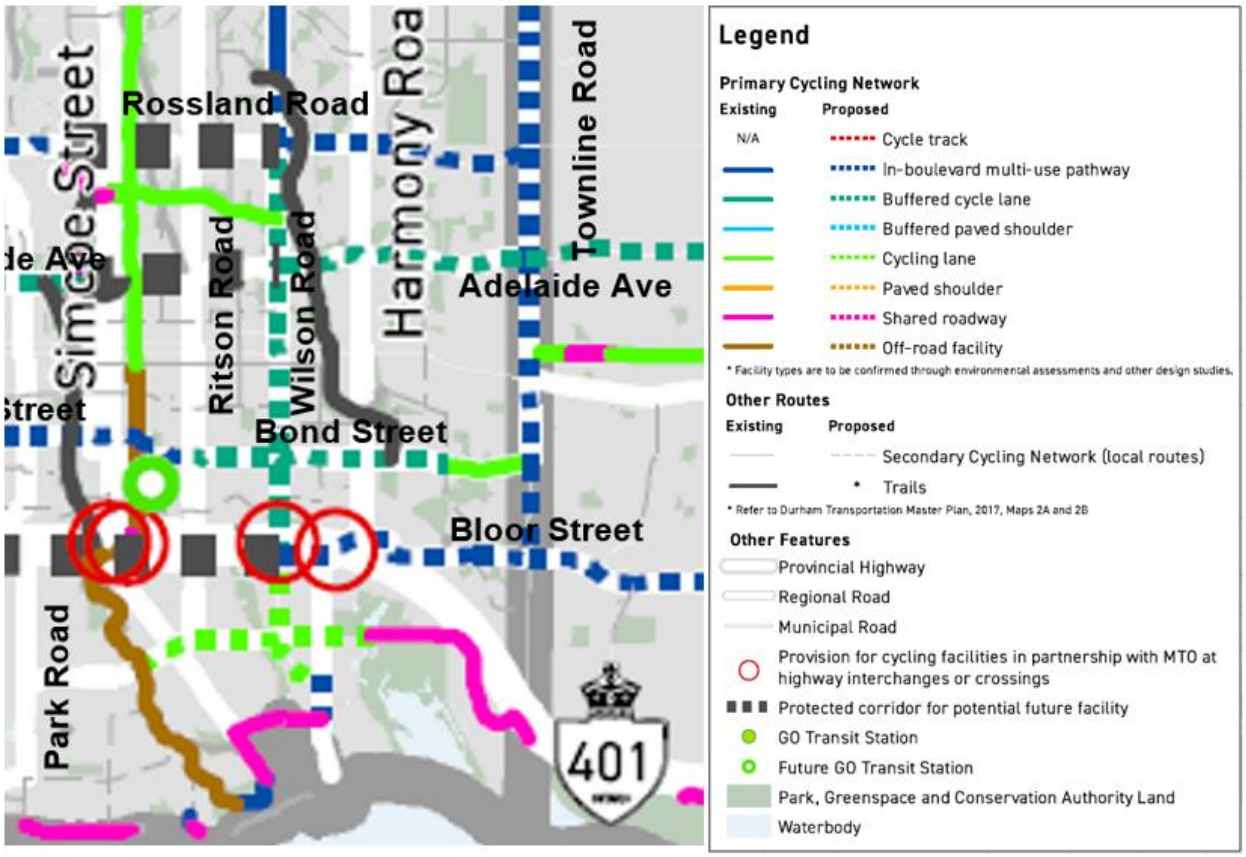
Source: Durham Region Transit System Map (April 2022)

5.2.3 Pedestrian and Cycling Network

Study area roadways generally accommodate pedestrians with most corridors providing sidewalks on one or both sides.

Regional Cycling Plan 2021 identifies the proposed cycling facilities as illustrated in **Figure 14**.

Figure 14: Cycling Network around Station (B2 Ritson)



Source: Regional Cycling Plan 2021 – Region of Durham

Within the vicinity of the study area, the Michael Starr Trail is east of Albert Street and provides a north-south connection between Bruce Street in the north and Lviv Blvd in the south. The Michael Starr Trail currently accommodates pedestrian and cycling movements across the CP Rail corridor through an at-grade crossing.

Additionally, the City of Oshawa's Active Transportation Master Plan Technical Report (2015) identifies some existing and proposed on-road and off-road trails in the study area along Athol Street, John Street/Elmgrove Avenue, First Avenue/Dean Avenue, Front Street, Mill Street, Gibb Street and Olive Avenue.

5.2.4 Existing Traffic Volumes

Existing AM and PM peak period traffic volumes for Focus Area B2 are illustrated in **Figure 15** and **Figure 16**. AM and PM peak hours traffic volumes are printed in black and bracketed red fonts, respectively.

Figure 15: Focus Area B2 Existing Traffic Volumes (Boundary Road Network)

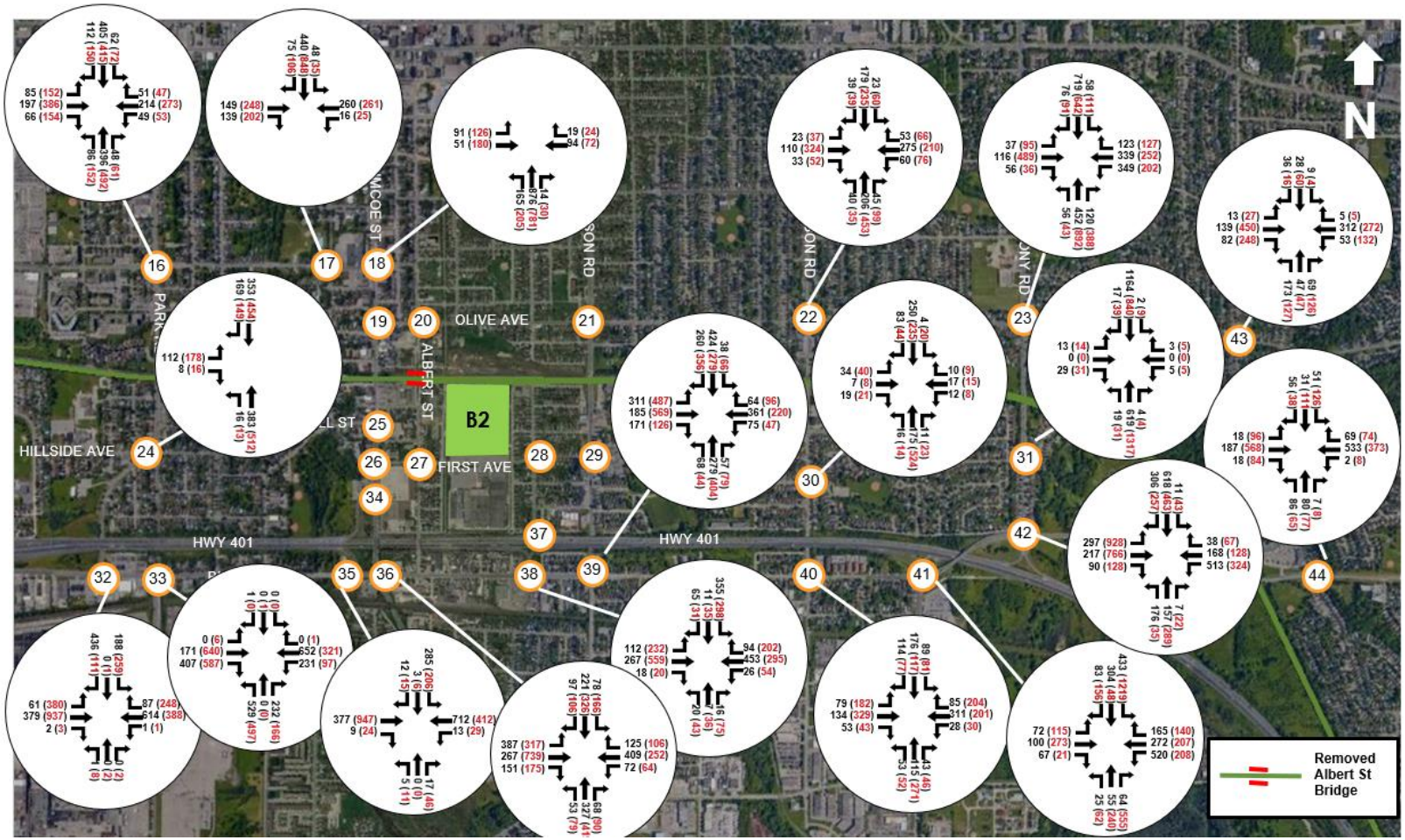
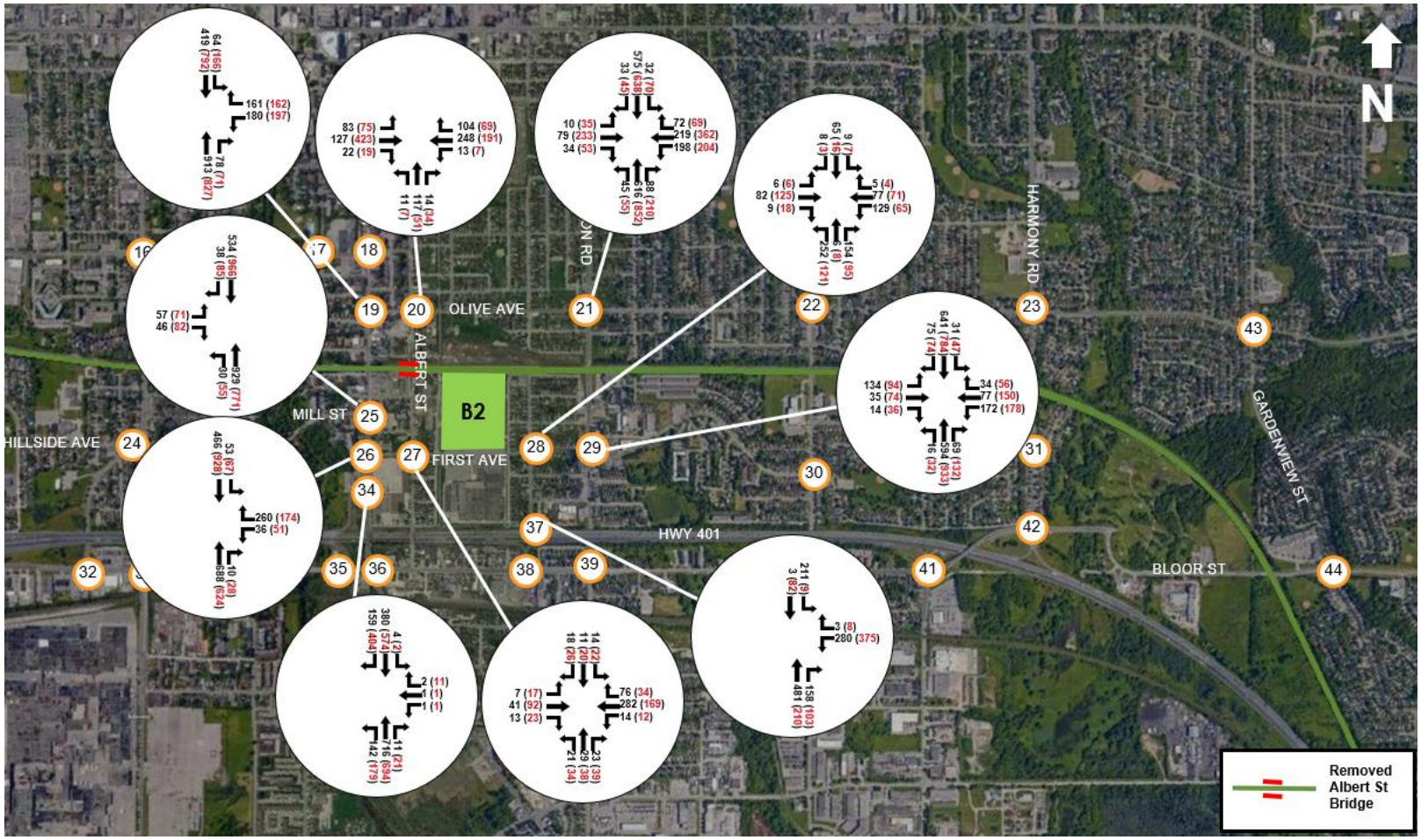


Figure 16: Focus Area B2 Existing Traffic Volumes (Around B2 Ritson)



5.2.5 Level of Service Analysis

Most of the study area intersections in Focus Area B2 are currently operating with acceptable levels of service. **Table 8** and **Figure 17** summarize intersection level of service performance under Existing Conditions for Focus Area B2.

The following intersections were identified as operating at or close to capacity:

Tennyson Avenue and Harmony Road (Intersection #31) – In the PM peak, eastbound and westbound approaches, both stop-controlled, operate at LOS E and F, respectively, with high delays, however, the v/c ratio is below 0.35 for both.

Bloor Street West / Hwy 401 EB Ramp (Simcoe) (Intersection #35) – At this stop-controlled intersection, in the AM peak, the southbound left-turn operates with a v/c ratio of 1.09 and at 0.95 in the PM peak.

Drew Street / Toronto Avenue / Hwy 401 Ramp (Intersection #37) – The stop-controlled westbound approach operates at LOS F with a v/c ratio of 1.79.

Bloor Street / Farewell St/ Hwy 401 Ramp (Intersection #41) – The westbound left-turn, northbound right-turn and southbound left-turn movements currently operate with v/c ratio of higher than 1.00 which attributes to the overall intersection LOS F and 90.6 seconds delay.

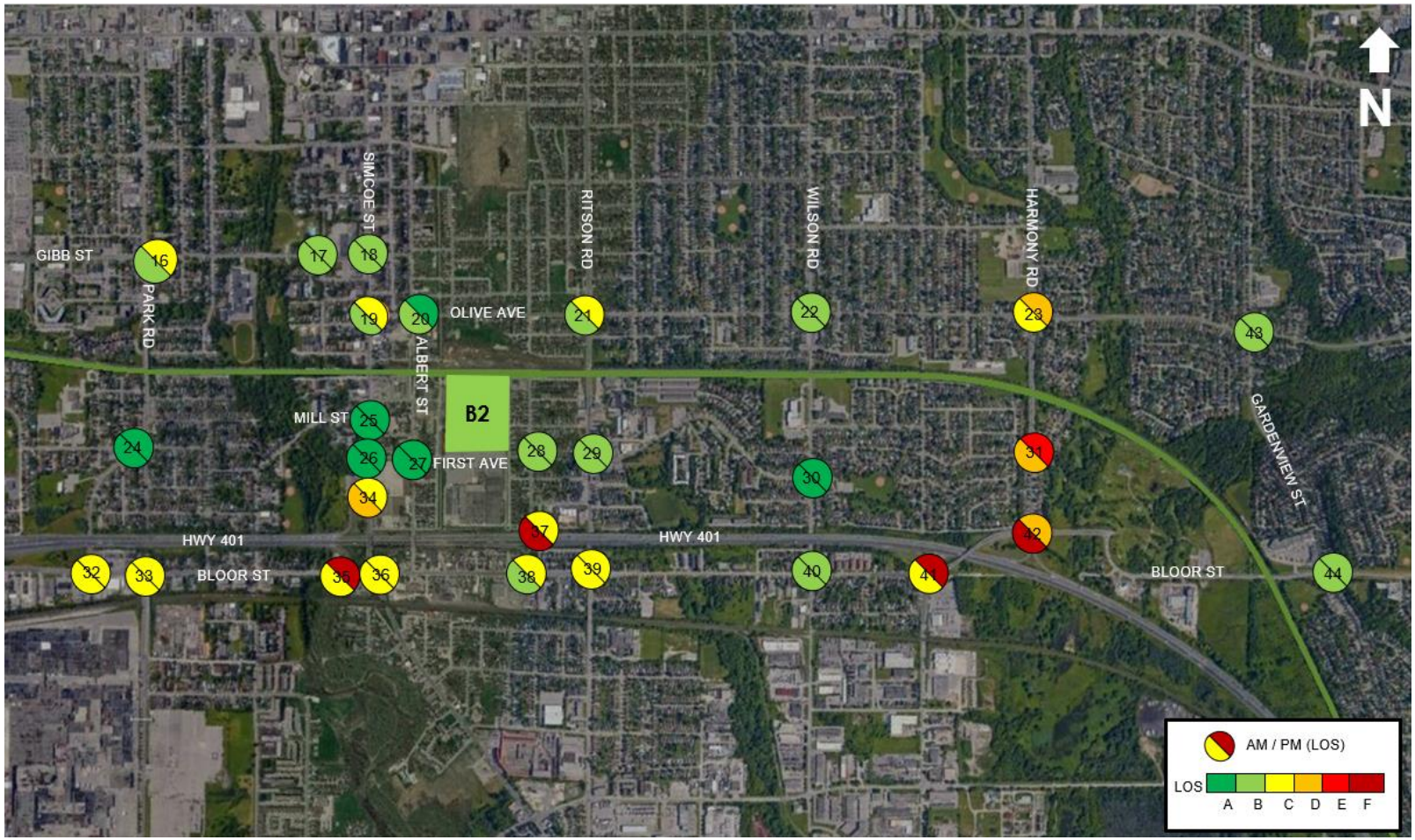
Bloor Street / Harmony Road (Intersection #42) – In the AM peak, eastbound left and through, westbound left, northbound left and southbound through movements operate with a v/c ratio of 0.94, and the overall intersection operates at LOS F with 123.3 seconds delay. In the PM peak,

Detailed intersection performance outputs are provided in **Appendix A**.

Table 8: Existing Intersection LOS Summary (Focus Area B2)

Node #	Intersection	AM			PM		
		V/C	Delay	LOS	V/C	Delay	LOS
16	Gibb Street / Park Road South	0.32	16.9	B	0.51	21.0	C
17	Gibb Street / Centre Street	0.38	12.7	B	0.50	14.5	B
18	Gibb Street / Simcoe Street	0.43	12.6	B	0.46	12.7	B
19	Olive Avenue / Simcoe Street	0.64	17.7	B	0.73	22.7	C
20	Olive Avenue / Albert Street	0.40	10.8	B	0.46	9.8	A
21	Olive Avenue / Ritson Road South	0.61	16.5	B	0.87	30.0	C
22	Olive Avenue / Wilson Road South	0.46	14.6	B	0.64	15.7	B
23	Olive Avenue and Harmony Road	0.72	25.9	C	0.85	35.3	D
24	Park Road South / Hillside Avenue South	0.28	6.3	A	0.37	8.4	A
25	Mill Street / Simcoe Street	0.47	5.0	A	0.51	6.4	A
26	First Avenue / Simcoe Street	0.46	9.7	A	0.56	7.9	A
27	First Avenue / Albert Street	0.32	8.3	A	0.22	9.9	A
28	First Avenue / McNaughton Avenue / Drew Street	0.43	13.5	B	0.24	12.2	B
29	McNaughton Avenue / Ritson Road South	0.61	14.8	B	0.80	17.1	B
30	Dean Avenue / Wilson Road South	0.33	7.3	A	0.54	6.9	A
31	Tennyson Avenue and Harmony Road	0.38	33.3	D	0.42	43.9	E
32	Bloor Street West / Park Road South	0.44	21.3	C	0.63	34.8	C
33	Bloor Street East / Park Road South	0.63	26.6	C	0.64	31.5	C
34	Simcoe Street / Hwy 401 WB Ramp	0.31	28.9	D	0.68	22.8	C
35	Bloor Street West / Hwy 401 EB Ramp (Simcoe)	1.09	24.3	C	0. 95	84.8	F
36	Bloor Street East / Simcoe Street South	0.68	21.8	C	0.71	24.3	C
37	Drew Street / Bloor Steet / Hwy 401 Ramp	1.79	107.4	F	0.68	22.8	C
38	Bloor St East / Hwy 401 (South Ramp- Ritson Interchange)	0.58	15.8	B	0.64	23.1	C
39	Ritson Road / Bloor Street	0.60	21.7	C	0.72	20.6	C
40	Wilson Road / Bloor Street	0.55	16.5	B	0.60	19.4	B
41	Bloor Street / Farewell St/ Hwy 401 Ramp	0.76	25.4	C	1.14	90.6	F
42	Bloor Street / Harmony Road	1.29	123.3	F	1.05	52.9	D
43	Olive Avenue and Grandview Street	0.50	12.1	B	0.55	10.8	B
44	Bloor Street and Grandview Street	0.63	13.6	B	0.62	17.4	B

Figure 17: Focus Area B2 Existing Intersection LOS Summary



5.3 Focus Area B3: Courtice GO Station

5.3.1 Existing Road Network

Study area roadways, functional class, and jurisdictional oversight within Focus Area B3 are summarized in **Table 9**.

Table 9: Focus Area B3 Study Area Roadways

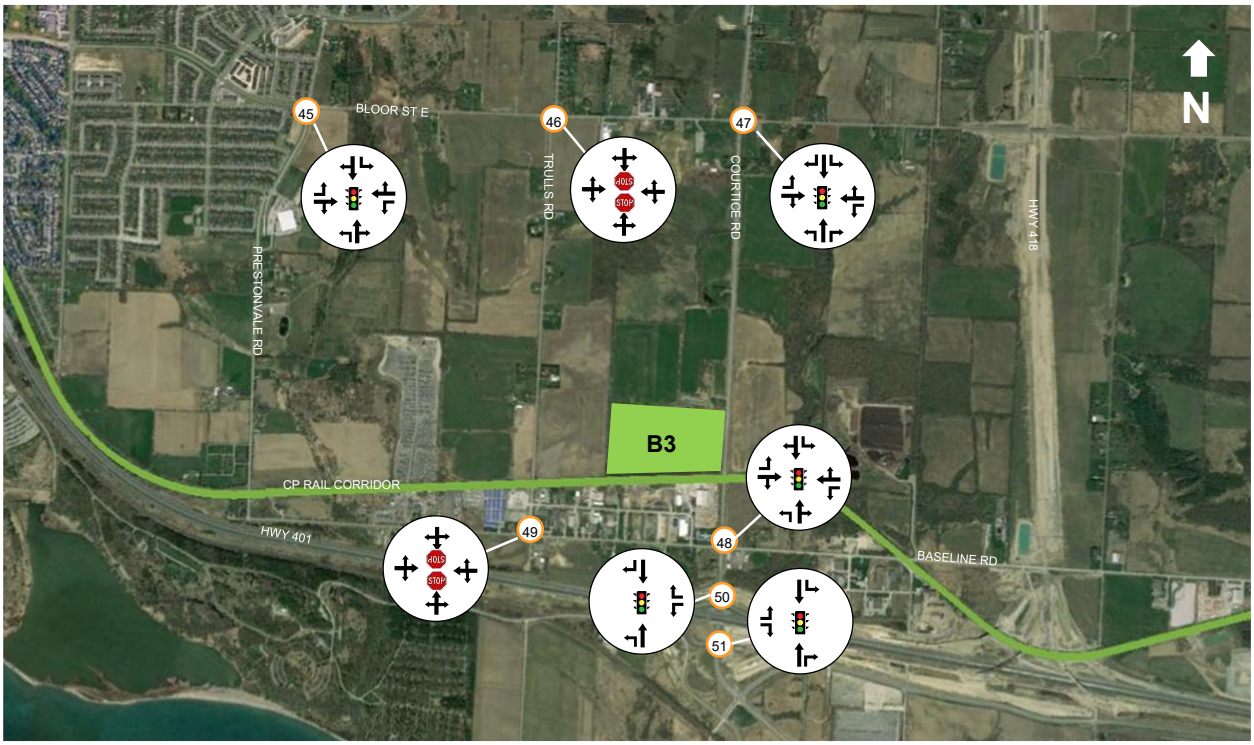
Roadway Name	Functional Class	Number of Lanes	Posted Speed	Parking	Jurisdiction
Bloor Street	Arterial	2 Lanes (East West)	50-70 km/h	Not Permitted	Municipal/ Regional
Grandview Street	Collector/ Local	2 Lanes (North South)	20-50 km/h	Not Permitted	Municipal
Prestonvale Road	Arterial	2 Lanes (North South)	50 km/h	Not Permitted	Municipal
Trulls Road	Arterial	2 Lanes (North South)	50 km/h	Not Permitted	Municipal
Courtice Road	Arterial	2 Lanes (North South)	50-80 km/h	Not Permitted	Regional
Baseline Road	Arterial	2 Lanes (East West)	60 km/h	Not Permitted	Municipal

Study area intersections and existing traffic control are summarized in **Table 10** and **Figure 18**.

Table 10: Focus Area B3 Study Intersections

Number	Intersection Name	Traffic Control
45	Bloor Street and Prestonvale Rd	Signalized
46	Bloor Street and Trulls Rd	Stop-controlled
47	Bloor Street and Courtice Rd	Signalized
48	Baseline Rd and Courtice Rd	Signalized
49	Baseline Rd and Trulls Rd	Stop-controlled
50	Hwy 401 and Courtice Rd (North Ramp)	Signalized
51	Hwy 401 and Courtice Rd (South Ramp)	Signalized
66	Prestonvale Rd / New Roadway (future intersection)	Proposed Signalized
67	Trulls Rd / New Roadway (future intersection)	Proposed Signalized
68	Courtice Rd / New Roadway (future intersection)	Proposed Signalized

Figure 18: Focus Area B3 Existing Intersection Lane Geometry

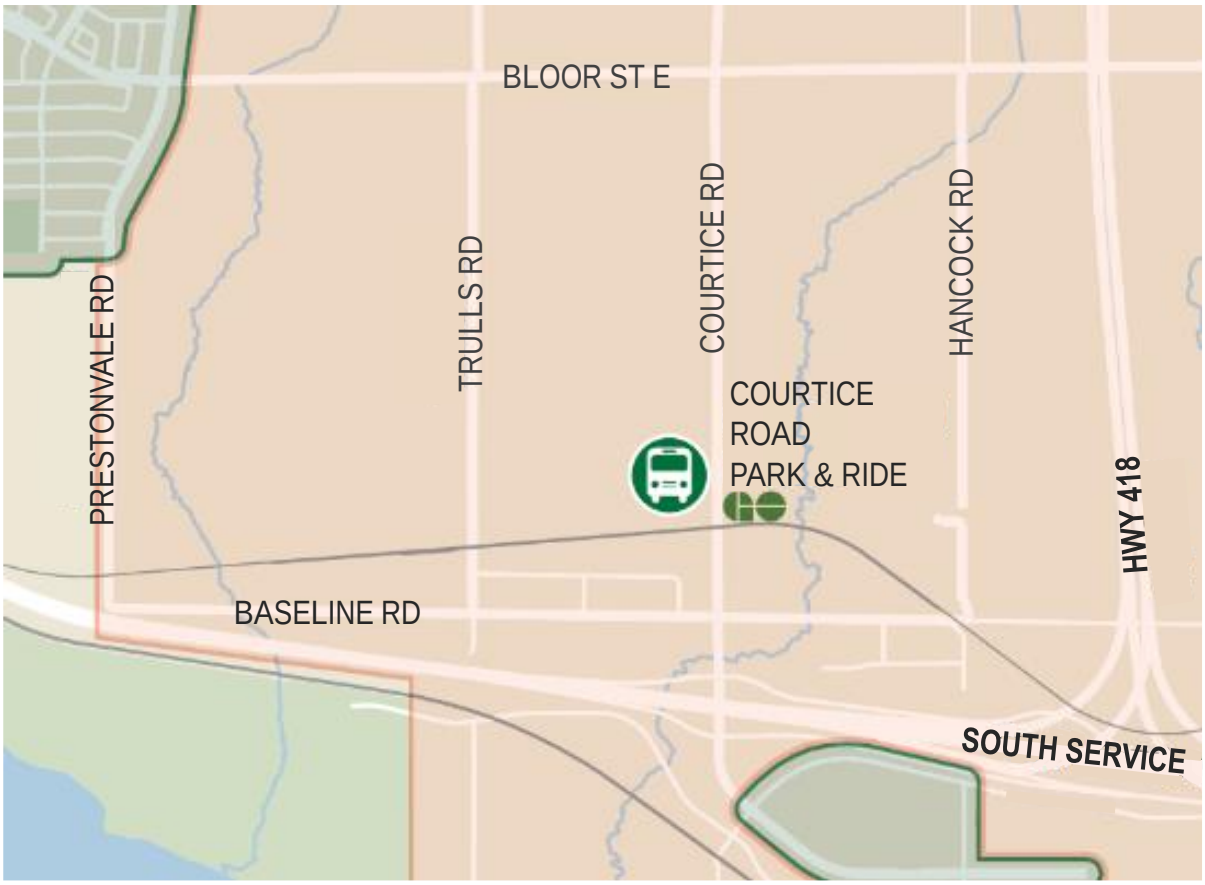


5.3.2 Transit

On-demand transit service is provided by Durham Region Transit (DRT) with regional transit service provided by GO.

There is a GO bus route serving the VIA Rail Oshawa train station and surrounding Park & Ride locations and some major intersections as shown in **Figure 19**. GO Bus service is provided at the Courtice Road Park & Ride facility located at the proposed B3 Station location.

Figure 19: Transit Service around Station (B3 Courtice)



Source: Durham Region Transit System Map (April 2022)

5.3.3 Pedestrian and Cycling Network

Study area roadways, located in a rural area, generally do not accommodate pedestrians with several corridors providing sidewalks on one or both sides.

Regional Cycling Plan 2021 identifies existing and future Primary Cycling Network (PCN) focusing on 10 years implementation horizon. The PCN provides varying facility types of routes and facility types around the study area shown in **Figure 20.** Within the vicinity of the study area, the Waterfront Trail is just south of Highway 401 and provides a trail connection along Clarington's waterfront.

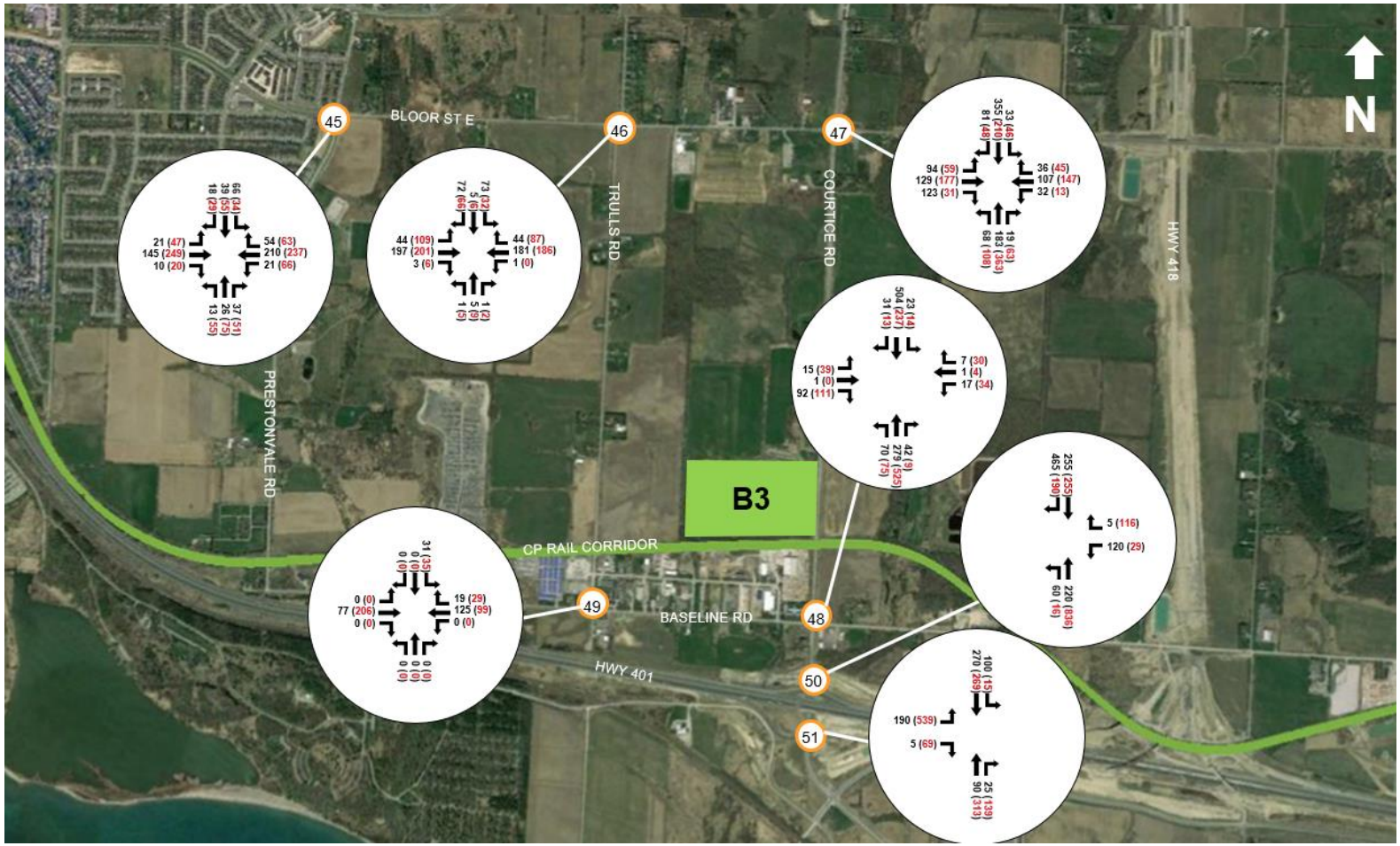
Figure 20: Cycling Network around Station (B3 Courtice)

Source: Regional Cycling Plan 2021 – Region of Durham

5.3.4 Existing Traffic Volumes

Existing AM and PM peak period traffic volumes for Focus Area B3 are illustrated in **Figure 21**. AM and PM peak hours traffic volumes are printed in black and bracketed red fonts, respectively.

Figure 21: Focus Area B3 Existing Traffic Volumes



5.3.5 Level of Service Analysis

All study area intersections in Focus Area B3 are currently operating with acceptable levels of service.

Table 11 and **Figure 22** summarize intersection level of service performance under Existing Conditions for Focus Area B3.

Table 11: Existing Intersection LOS Summary (Focus Area B3)

Node #	Intersection	AM			PM		
		V/C	Delay	LOS	V/C	Delay	LOS
45	Bloor Street and Prestonvale Rd	0.47	10.0	A	0.34	11.1	B
46	Bloor Street and Trulls Rd	0.29	13.3	B	0.22	14.1	B
47	Bloor Street and Courtice Rd	0.44	16.4	B	0.41	15.1	B
48	Baseline Rd and Courtice Rd	0.50	9.5	A	0.52	8.5	A
49	Baseline Rd and Trulls Rd	0.05	10.2	B	0.06	11.3	B
50	Hwy 401 and Courtice Rd (North Ramp)	0.35	9.0	A	0.68	9.2	A
51	Hwy 401 and Courtice Rd (South Ramp)	0.36	11.9	B	0.64	19.3	B

Detailed intersection performance outputs are provided in **Appendix A**.

Figure 22: Focus Area B3 Existing Intersection LOS Summary

5.4 Focus Area B4: Bowmanville GO Station

5.4.1 Existing Road Network

The study area for Station B4 is shown in **Figure 23** and the roadways within the study area are summarized in Table 12 based on functional class, posted speeds, number of lanes and parking.

Study area roadways, functional class, and jurisdictional oversight within Focus Area B4 are summarized in **Table 12**.

Figure 23: Focus Area B4 Existing Intersection Lane Geometry

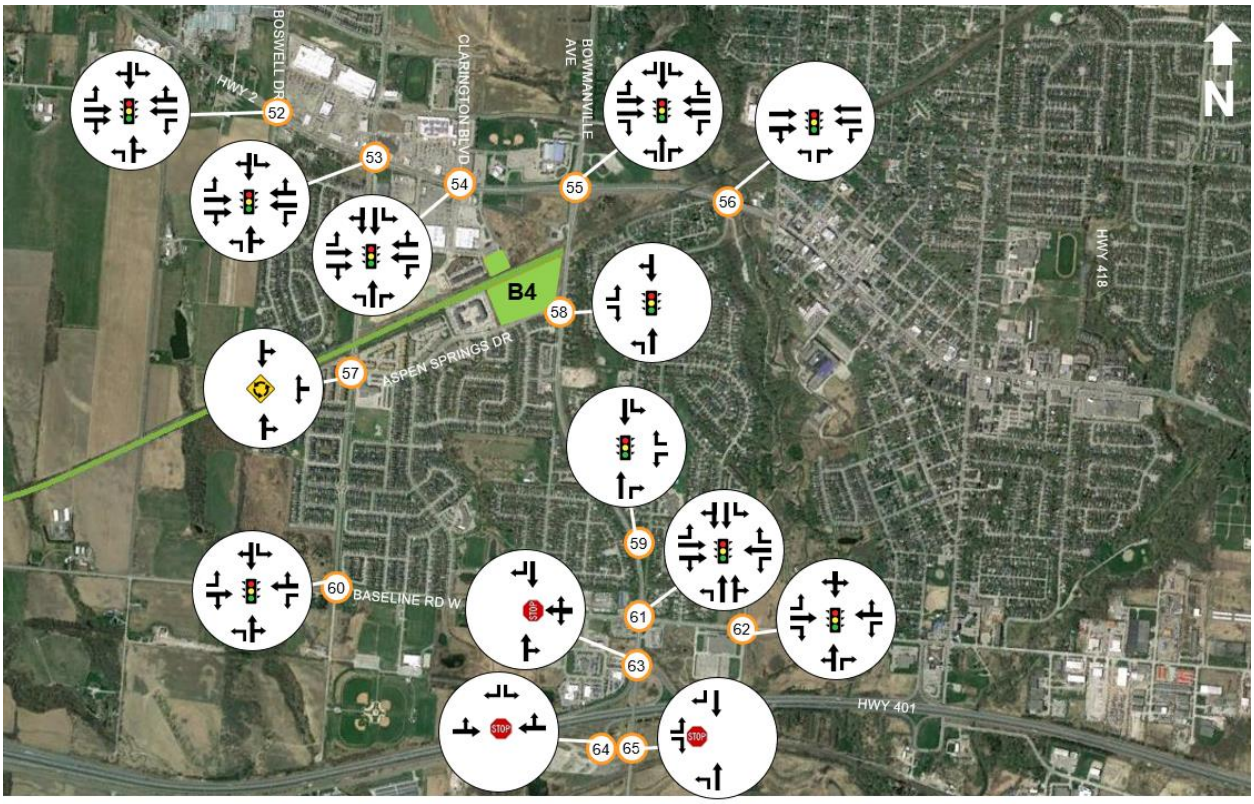


Table 12: Focus Area B4 Study Area Roadways

Roadway Name	Functional Class	Number of Lanes	Posted Speed	Parking	Jurisdiction
Boswell Drive	Collector	2 Lanes (North South)	50 km/h	Not Permitted	Municipal
Green Road	Arterial	2 Lanes (North South)	50 km/h	Not Permitted	Municipal
Clarington Boulevard	Collector	2 Lanes (North South)	50 km/h	Not Permitted	Municipal
Bowmanville Avenue	Arterial	2 Lanes (North South)	60 km/h	Not Permitted	Municipal/ Regional
King Street	Arterial	4 Lanes (East West)	50-60 km/h	Not Permitted	Municipal/ Regional
Roenigk Drive	Collector	2 Lanes (North South)	50 km/h	Not Permitted	Municipal
Aspen Springs Drive	Collector	2 Lanes (East West)	50 km/h	Not Permitted	Municipal
Waverley Road	Collector	2 Lanes (North South)	20-50 km/h	Not Permitted	Municipal
Baseline Road	Arterial	2 Lanes (East West)	50 km/h	Not Permitted	Municipal
Spry Avenue	Local	2 Lanes (North South)	20 km/h	Not Permitted	Municipal
Energy Drive	Arterial	2 Lanes (East West)	50 km/h	Not Permitted	Municipal

Study area intersections and existing traffic control are summarized in **Table 13** and **Figure 23**.

Table 13: Focus Area B4 Study Intersections

Number	Intersection Name	Traffic Control
52	Hwy 2 / Boswell Dr	Signalized
53	Hwy 2 / Green Rd	Signalized
54	Hwy 2 / Clarington Blvd	Signalized
55	Hwy 2 / Bowmanville Ave	Signalized
56	King St W / Roenigk Dr	Signalized
57	Green Rd / Aspen Springs Dr	Roundabout
58	Bowmanville Ave / Aspen Springs Dr	Signalized
59	Bowmanville Ave / Waverley Rd	Signalized
60	Baseline Rd / Green Rd	Signalized
61	Bowmanville Ave / Baseline Rd W	Signalized
62	Baseline Rd W / Spry Ave	Signalized
63	Bowmanville Ave / Hwy 401 WB Ramp	Stop-controlled
64	Hwy 401 / Energy Dr (EB Ramp)	Stop-controlled
65	Bowmanville Avenue / Energy Dr	Stop-controlled

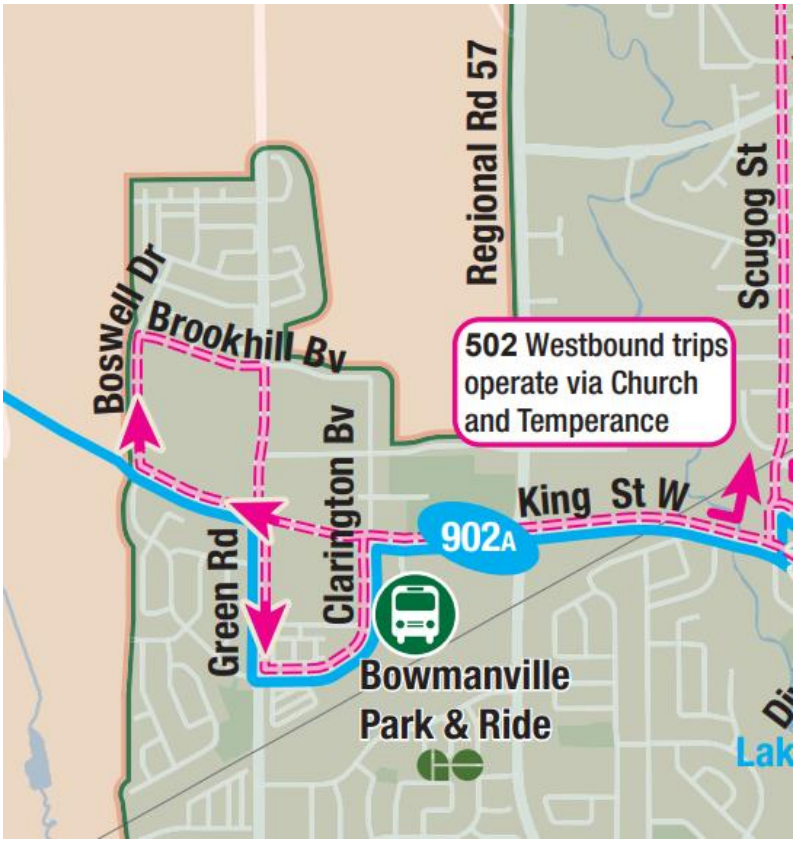
5.4.2 Transit

Local and on-demand transit service is provided by Durham Region Transit (DRT) with regional transit service provided by GO.

DRT operates Route 902A along Highway 2, Green Road and Clarington Boulevard. Route 502 in Bowmanville operates on weekdays with a 30-minute headway and connects to Route 902 in the vicinity of the future planned station. DRT also provides on-demand service in Focus Area B4.

DRT routes within the vicinity of the study area are illustrated in **Figure 24**.

Figure 24: Transit Service around Station (B4 Bowmanville)



Source: Durham Region Transit System Map (April 2022)

5.4.3 Pedestrian and Cycling Network

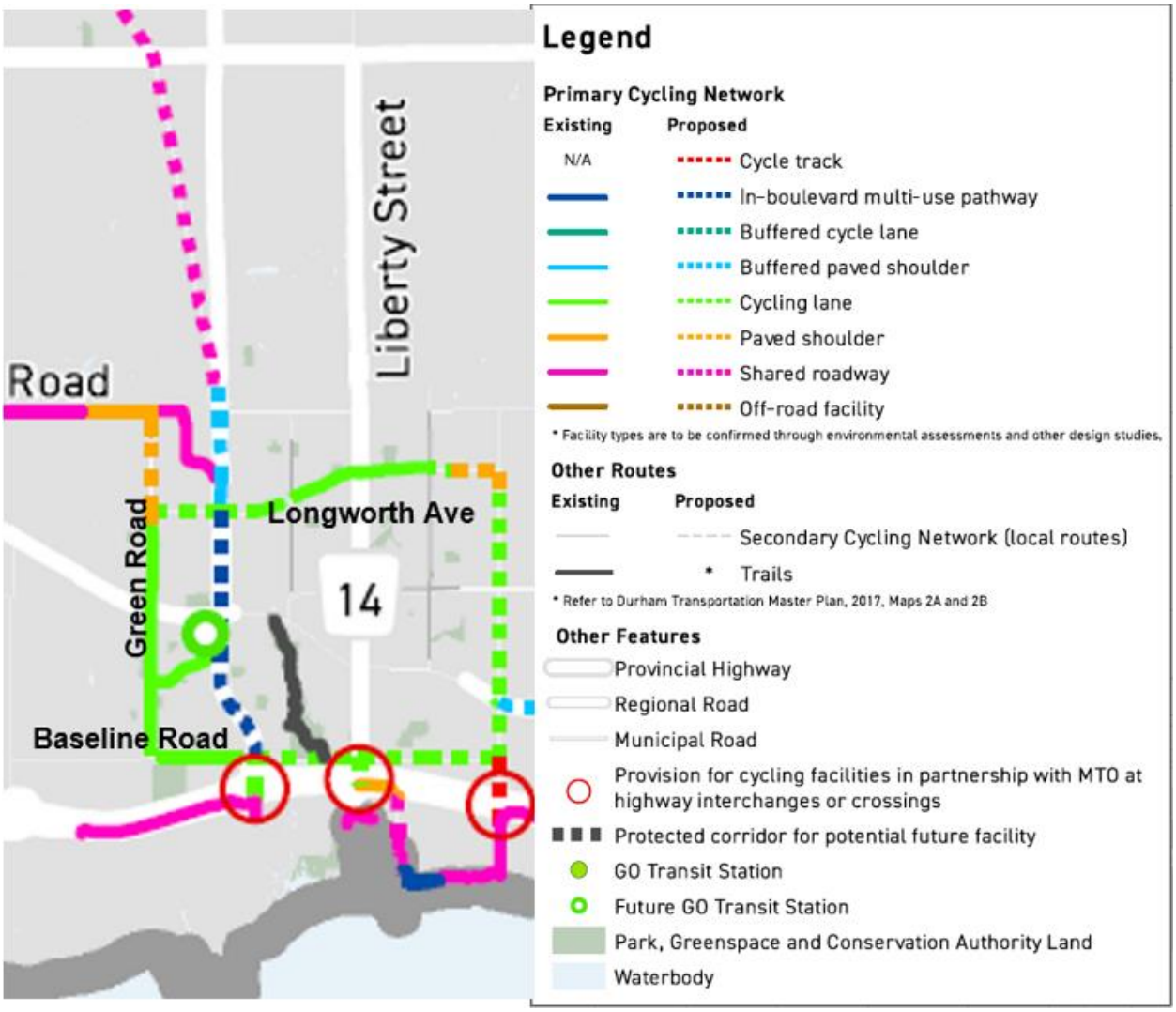
Study area roadways generally accommodate pedestrians with most corridors providing sidewalks on one or both sides.

Regional Cycling Plan 2021 identifies existing and future Primary Cycling Network (PCN) focusing on 10 years implementation horizon. The PCN provides varying facility types of routes and facility types around the study area shown in **Figure 25.**

Within the vicinity of the study area, the Waterfront Trail is just south of Highway 401 and provides a trail connection along Clarington's waterfront.

Additionally, the Municipality of Clarington identifies some cycling routes starting from Bowmanville Indoor Soccer location along Baseline Road in the vicinity of the study area.

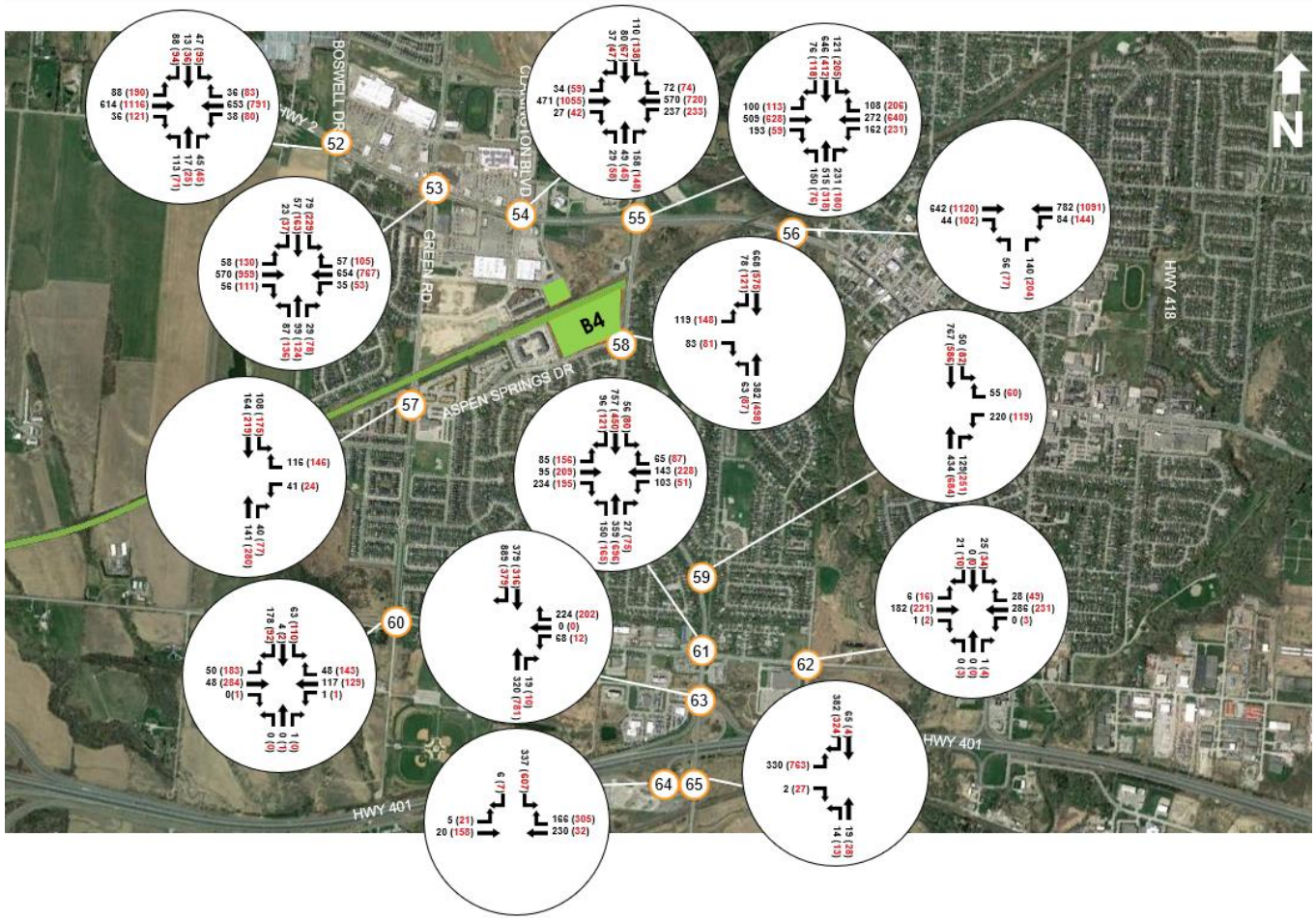
Figure 25: Cycling Network around Station (B4 Bowmanville)



5.4.4 Existing Traffic Volumes

Existing AM and PM peak period traffic volumes for Focus Area B4 are illustrated in **Figure 26**. AM and PM peak hours traffic volumes are printed in black and bracketed red fonts, respectively.

Figure 26: GO Station B4 Existing Traffic Volumes



5.4.5 Level of Service Analysis

Existing intersection level of service analysis was conducted using the Synchro 10 software package. Existing signal timing parameters received from the Region of Durham was used to assess intersection operations under existing conditions and optimized as necessary.

Table 14 and **Figure 27** summarize intersection level of service performance under Existing Conditions for Focus Area B4.

The following intersections were identified operating at LOS E or higher that were considered unacceptable.

Hwy 2 / Bowmanville Ave (Intersection #55) – In the AM peak, the southbound through movement operates at v/c ratio of higher than 0.93.

Hwy 401 / Energy Dr (EB Ramp) (Intersection #64) – At the stop-controlled intersection, the southbound approach operates at LOS F with a v/c ratio of 1.14 and excessive delays in the PM peak hour.

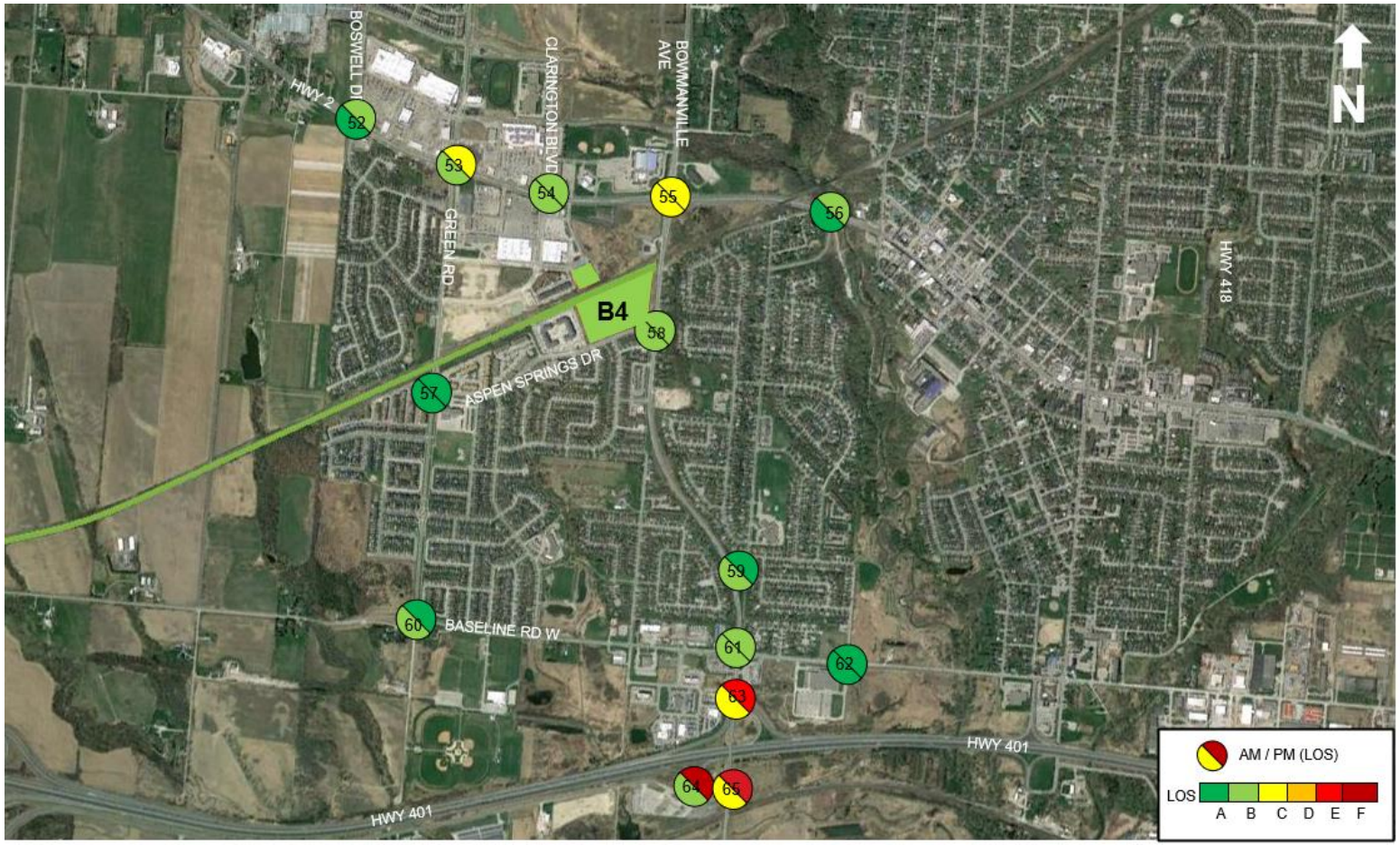
Bowmanville Avenue / Energy Dr (Intersection #65) – In the PM peak hour, the intersection operates at LOS F with a v/c ratio of 1.14.

Table 14: Existing Intersection LOS for Station B4 Study area

Node #	Intersection	AM			PM		
		V/C	Delay	LOS	V/C	Delay	LOS
52	Hwy 2 / Boswell Dr	0.41	8.7	A	0.61	16.7	B
53	Hwy 2 / Green Rd	0.39	10.3	B	0.72	21.7	C
54	Hwy 2 / Clarington Blvd	0.51	17.5	B	0.77	19.8	B
55	Hwy 2 / Bowmanville Ave	0.94	34.5	C	0.81	30.6	C
56	King St W / Roenigk Dr	0.36	7.0	A	0.57	15.0	B
57	Green Rd / Aspen Springs Dr (Roundabout)	0.22	-	A	0.32	-	A
58	Bowmanville Ave / Aspen Springs Dr	0.69	10.4	B	0.66	10.3	B
59	Bowmanville Ave / Waverley Rd	0.73	13.7	B	0.560	9.0	A
60	Baseline Rd / Green Rd	0.22	11.3	B	0.39	9.5	A
61	Bowmanville Ave / Baseline Rd W	0.63	18.0	B	0.60	19.7	B
62	Baseline Rd W / Spry Ave	0.22	4.1	A	0.22	4.9	A
63	Bowmanville Ave / Hwy 401 WB Ramp	0.59	20.7	C	0.69	36.8	E
64	Hwy 401 / Energy Dr (EB Ramp)	0.58	10.2	B	1.14	105.9	F
65	Bowmanville Avenue / Energy Dr	0.55	16.9	C	1.14	100.3	F

Detailed intersection performance outputs are provided in **Appendix A**.

Figure 27: Focus Area B4 Existing Intersection LOS Summary



6.0 Future 2031 Conditions

The Future 2031 horizon was assessed to better understand the future roadway needs in and around future GO stations.

The 2031 Build scenario was based on the 2031 DRTPM model. Population and employment within the study area is projected to increase significantly by the 2031 horizon. The DRTPM model accounts for the population and employment growth forecasts, including TOC development in and around proposed GO stations as part of the GO Rail Lakeshore East extension, as well as future transportation transit projects. Appendix D includes DRTPM population and employment estimates for 2017 Transit Development Charges (DC) and Hybrid 2031 forecast scenarios.

The DRTPM forecasts the future scenario for 2031 also includes the infrastructure improvements identified by the Region of Durham including long term plans and projects that have been identified in previous reports, Metrolinx 2041 Regional Transportation Plan (2018) and the Durham Transportation Master Plan (2017).

Metrolinx is planning to implement Durham Bus Rapid Transit (BRT) service that will connect downtown Oshawa with the downtown Scarborough via Highway 2. The Durham BRT project is part of a larger expansion of transit service identified in the Region of Durham Transportation Master Plan (2017).

As part of the Region of Durham Transportation Master Plan (2017), expanded transit service within Bowmanville and Courtice is envisioned. In response to this strategy, Durham Region Transit (DRT) in those areas is currently being expanded. New routes are being implemented and the frequency of service on existing routes has been increased.

The DRTPM 2031 model reflects the roadway and transit recommendations made under the Preferred Scenario identified in the Durham Transportation Master Plan (December 2017). The Durham Region and City of Oshawa Central Oshawa GO Station Transportation Review Study (April 2020) was also referenced to identify anticipated roadway and intersection improvements. These improvements include the following key transportation infrastructure assumptions within the vicinity of the study area:

1. Realignment and widening of Olive Avenue and Gibb Street from 2-lanes to 4-lanes between Ritson Road and Stevenson Road

2. Conversion of Albert Street and Celina Street to two-way traffic north of Olive Avenue as per the City of Oshawa Two-Way Conversion Study
3. Rapid transit service in exclusive lanes planned to be implemented on Simcoe Street by 2031
4. Implementation of traffic control signals at the intersection of First Avenue / Albert Street, in addition to left-turn auxiliary lanes at intersections along First Avenue
5. Extension of Stellar Drive to Laval Drive:

   For the purposes of this traffic impact analysis, the future condition scenario has been selected as 2031 to include potential infrastructure improvements to better anticipate roadway needs in focus areas. However, some of these are anticipated project timelines, and the timing for the Stellar Drive to Laval Drive Extension will likely be beyond the 2031 horizon and will need to be further assessed beyond the scope of this study.
6. Highway 401 interchange modifications and associated roadway improvements throughout the Region of Durham, the following interchange modifications are assumed to be in place by the 2031 horizon:
   - Existing WB on-ramp at Simcoe will be removed and a new WB off-ramp and on-ramp will be constructed slightly to the north at Simcoe Street with a connection to First Avenue
   - New EB off and on-ramps will be constructed at Bloor Street east of Albert Street
   - A new bridge structure will be built over Highway 401 to provide a connection between Bloor Street and Albert Street. The intersection will be restricted to a right-in/right-out configuration and would allow for access to/from WB traffic on Bloor Street only
   - Removal of the existing WB on and off ramps at Drew Street
   - Removal of the existing stop controlled EB off-ramp at Bloor Street
   - Construction of a new WB off-ramp at Ritson Road and Jackson Avenue
   - Construction of a new EB on-ramp at Ritson Road north of Bloor Street
   - Realignment and widening of Bloor Street east of Harmony Road to Grandview Street
   - Removal of the existing EB ramps at Farwell Street

- Construction of new EB ramps as part of a reconfiguration of the intersection of Harmony Road and Bloor Street
- Construction of new WB ramps at Bloor Street, east of Harmony Road

The anticipated 2031 road expansion projects in the vicinity of the study area are illustrated in **Figure 28**.

The proposed Highway 401 improvement changes are illustrated in **Figure 29**.

The DRTPM model was used to estimate screenline level growth for the various Focus Areas. As the DRTPM model is only provided for the AM Peak Period, a similar growth rate was applied to existing PM Peak turning movement count data to derive Future 2031 PM Peak traffic projections.

Future 2031 traffic volumes were balanced and rationalized as required based on anticipated land-use growth and planned roadway improvement projects.

Existing and Future 2031 DRTPM model outputs are provided in **Appendix B**.

Figure 28: 2031 Road Expansion Projects (Durham Transportation Masterplan)

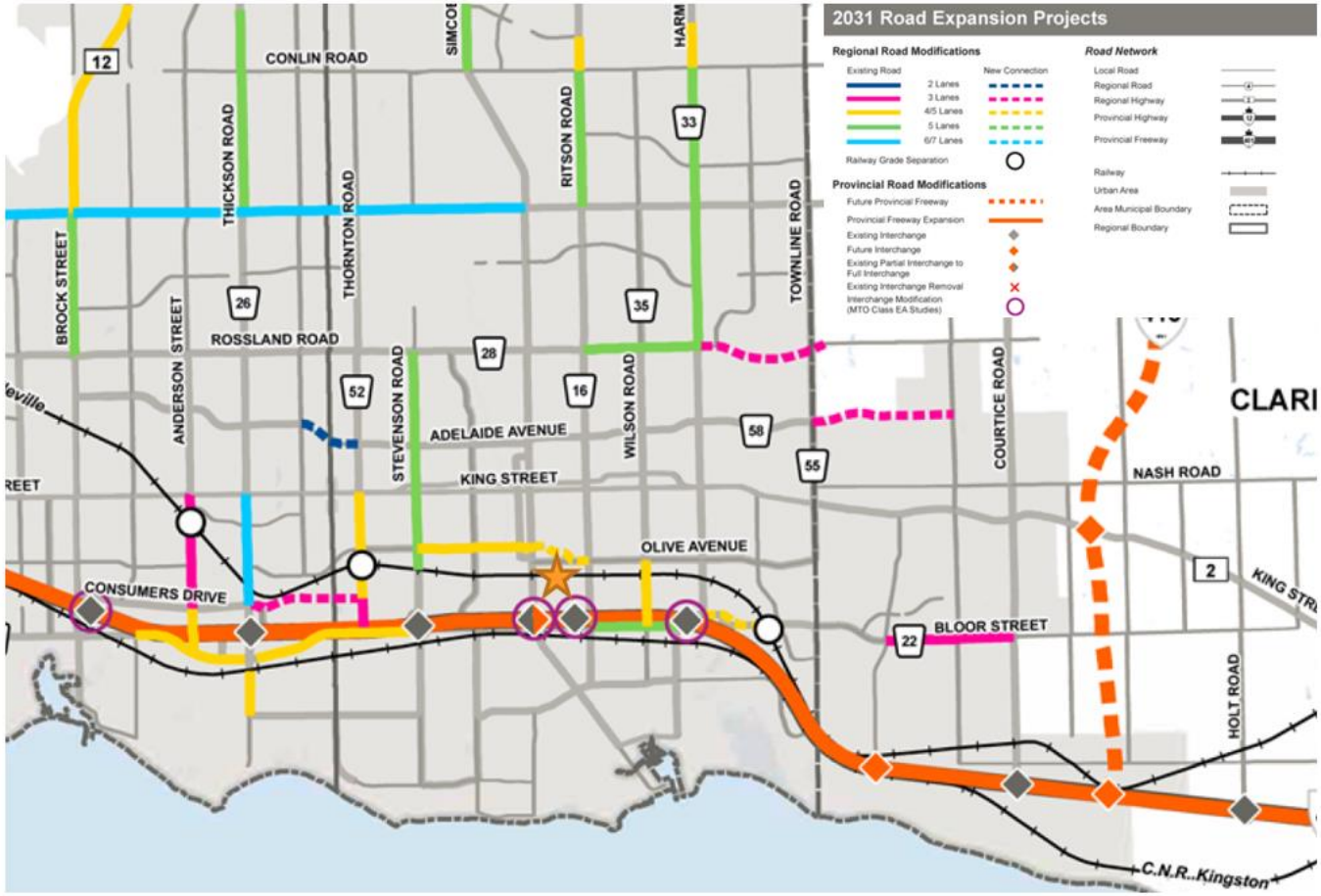
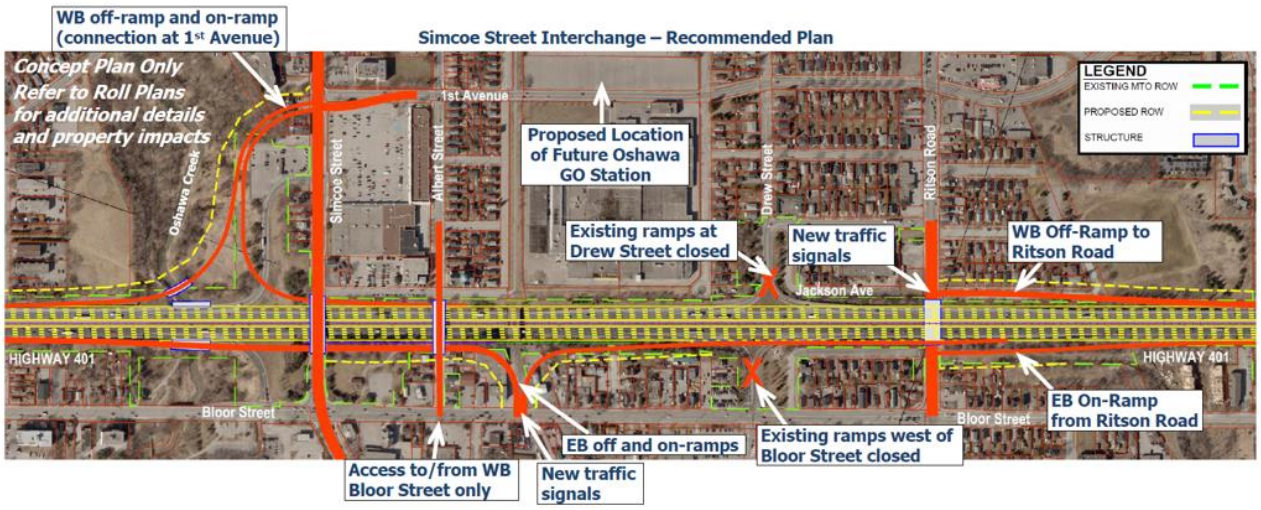


Figure 29: 2031 Highway 401 Interchange Improvements (MTO)



Source: Highway 401 from Brock Road to Courtice Road Class EA & Preliminary Design Study (MTO)

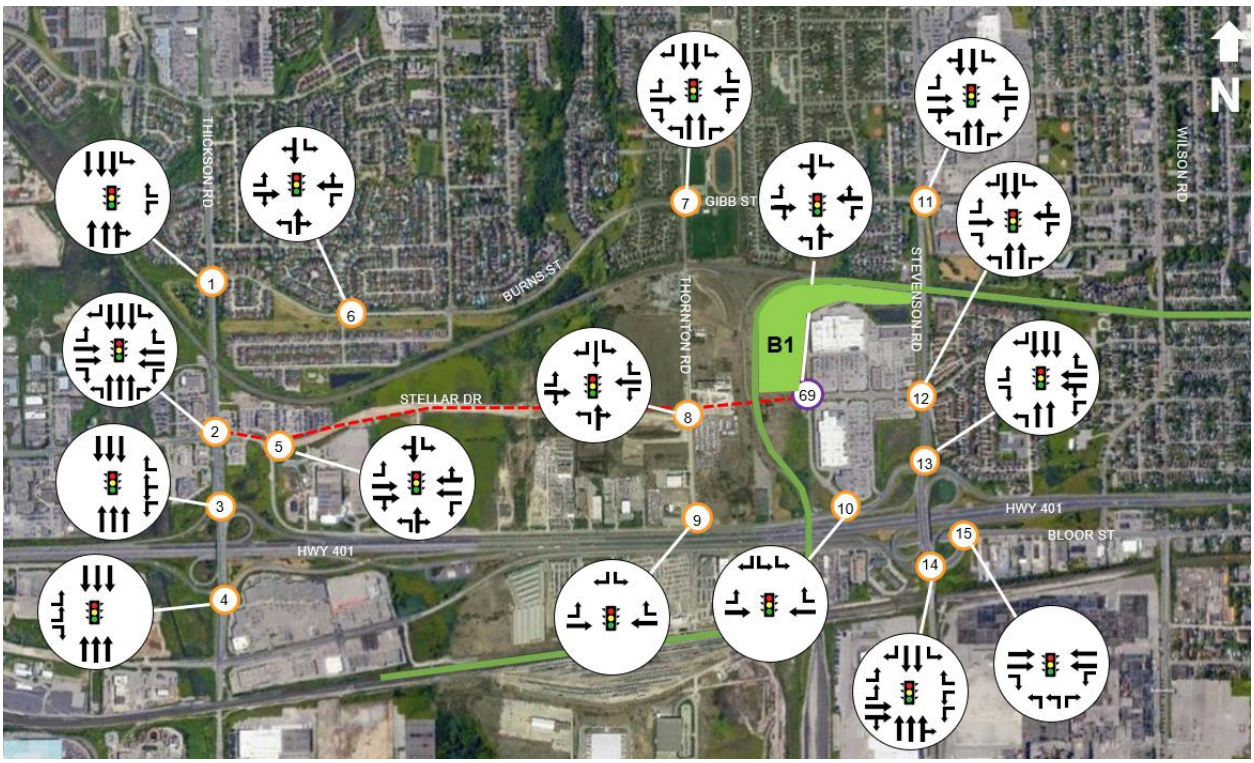
Source: Highway 401 Rehabilitation and Long-Term Widening Needs from Brock Road to Courtice Road, Public Information Centre Material, MTO, 2015.

6.1 Focus Area B1: Thornton's Corners East GO Station

6.1.1 Future Road Network

Study area intersections and anticipated 2031 traffic control is summarized in **Figure 30**.

Figure 30: Focus Area B1 Future 2031 Intersection Lane Geometry



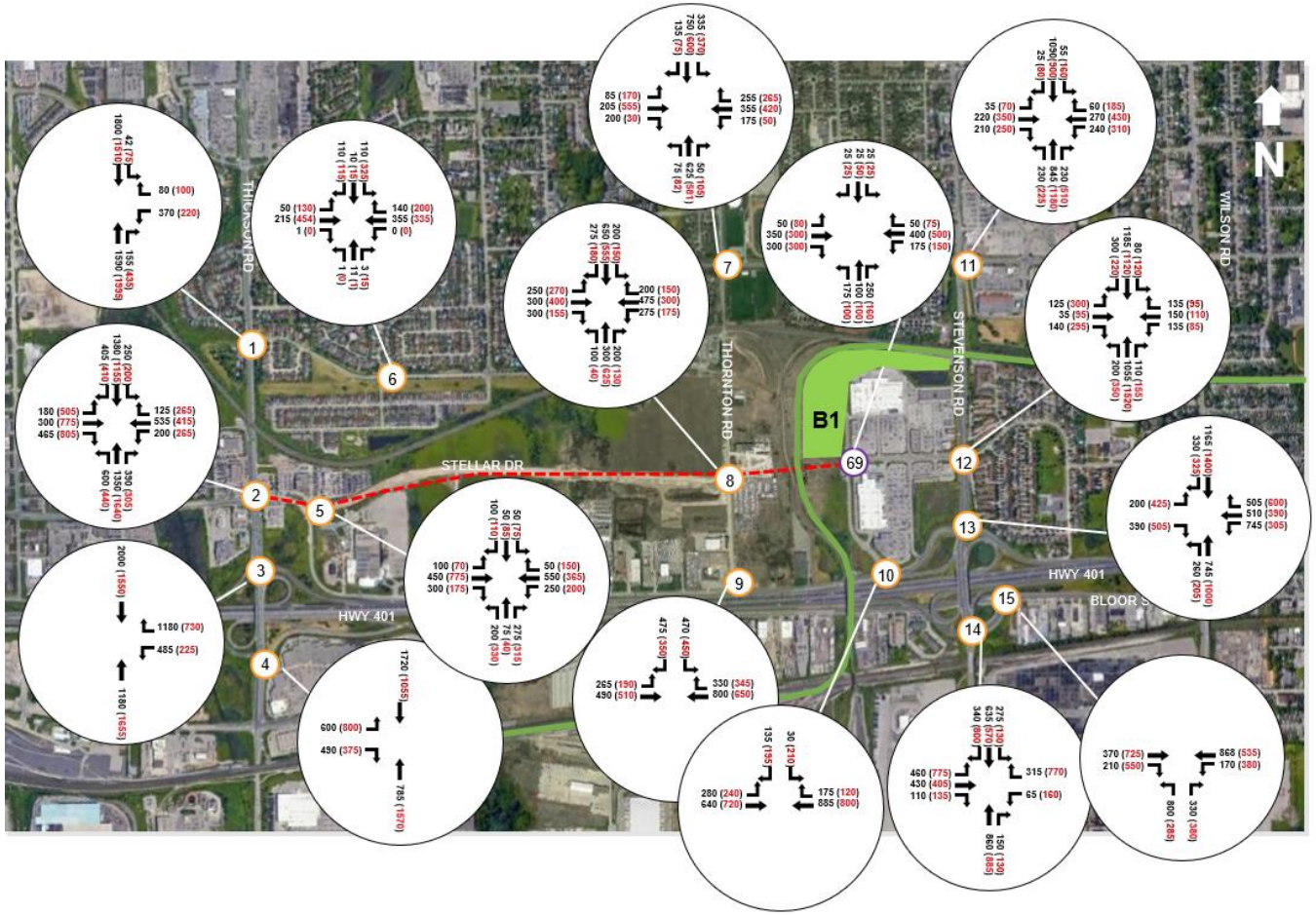
6.1.2 Traffic Volumes

Future 2031 AM and PM peak period traffic volumes were derived using the Region's DRTPM model outputs for the Future 2031 horizon. An annual growth rate was applied based on screenline level growth estimates. Future traffic volumes were rationalized and balanced as required based on anticipated land-use growth and roadway capacity improvements.

DRTPM link level volumes used to estimate Future 2031 traffic volumes are included in **Appendix B**.

Future 2031 AM and PM peak period traffic volumes for Focus Area B1 are illustrated in **Figure 31**. AM and PM peak hours traffic volumes are printed in black and bracketed red fonts, respectively.

Figure 31: Focus Area B1 Future 2031 Traffic Volumes



6.1.3 Level of Service Analysis

Table 15 and **Figure 32** summarize intersection level of service performance under Future 2031 Conditions for Focus Area B1.

The following intersections were identified operating at LOS E or higher:

Thickson Road S / Stellar Drive / Consumers Dr (Intersection #2) – This intersection is projected to operate at or above theoretical capacity (i.e., v/c > 1.00) during the AM and PM peak periods.

Thickson Road S / Hwy 401 (North Ramp) (Intersection #3) – This intersection is projected to operate at theoretical capacity during the AM peak period.

Thickson Road S / Hwy 401 (South Ramp) (Intersection #4) –This intersection is projected to operate at or above theoretical capacity (i.e., v/c > 1.00) during the AM peak period.

Gibb Street / Thornton Road S (Intersection #7) – This intersection is projected to operate slightly above the critical threshold of v/c 0.90 during the PM peak period.

Thornton Road S / Stellar Drive (Intersection #8) – This intersection is projected to operate at or above theoretical capacity (i.e., v/c > 1.00) during the AM and PM peak periods.

Thornton Road S / Champlain Avenue (Intersection #9) – This intersection is projected to operate at or above theoretical capacity (i.e., v/c > 1.00) during the AM and PM peak period.

Stevenson Road S / Gibb Street (Intersection #11**)** – This intersection is projected to operate at or above theoretical capacity (i.e., v/c > 1.00) during the AM and PM peak periods.

Stevenson Road S / Laval Dr (Intersection #12) – This intersection is projected to operate at or above theoretical capacity (i.e., v/c > 1.00) during the PM peak period.

Stevenson Road S / Hwy 401 (North Ramp) (Intersection #13) – This intersection is projected to operate at or above theoretical capacity (i.e., v/c > 1.00) during the AM and PM peak periods.

Stevenson Road S / Hwy 401 (South Ramp) (Intersection #14**)** – This intersection is projected to operate at or above theoretical capacity (i.e., v/c > 1.00) during the PM peak period.

Bloor Street W / Hwy 401 (South Ramp) (Intersection #15) – This intersection is projected to operate with average delays in excess of 55s (LOS E) during the PM peak period.

Laval Drive / Fox Street (Intersection #69) – This intersection is projected to operate slightly above the critical threshold of v/c 0.90 during the AM peak period.

Detailed intersection performance outputs are provided in **Appendix A**.

As stated in Section 6.0 - Future 2031 Conditions, the scenario studied for Focus Area B1 in 2031 includes the extension of Stellar Drive to Laval Drive. As the anticipated timeline of this improvement is currently expected to be beyond 2031, a high-level review was conducted to see if the transportation network in the area provides spare capacity for alternative route(s) that can provide alternative access between Stellar Drive and Laval Drive. The results shown in **Table 15** and **Appendix A** show that sufficient spare capacity is provided through Champlain Avenue south of this extension and through Gibb Street north of it and through their intersections with Thornton Road South and Stevenson Road South[5].

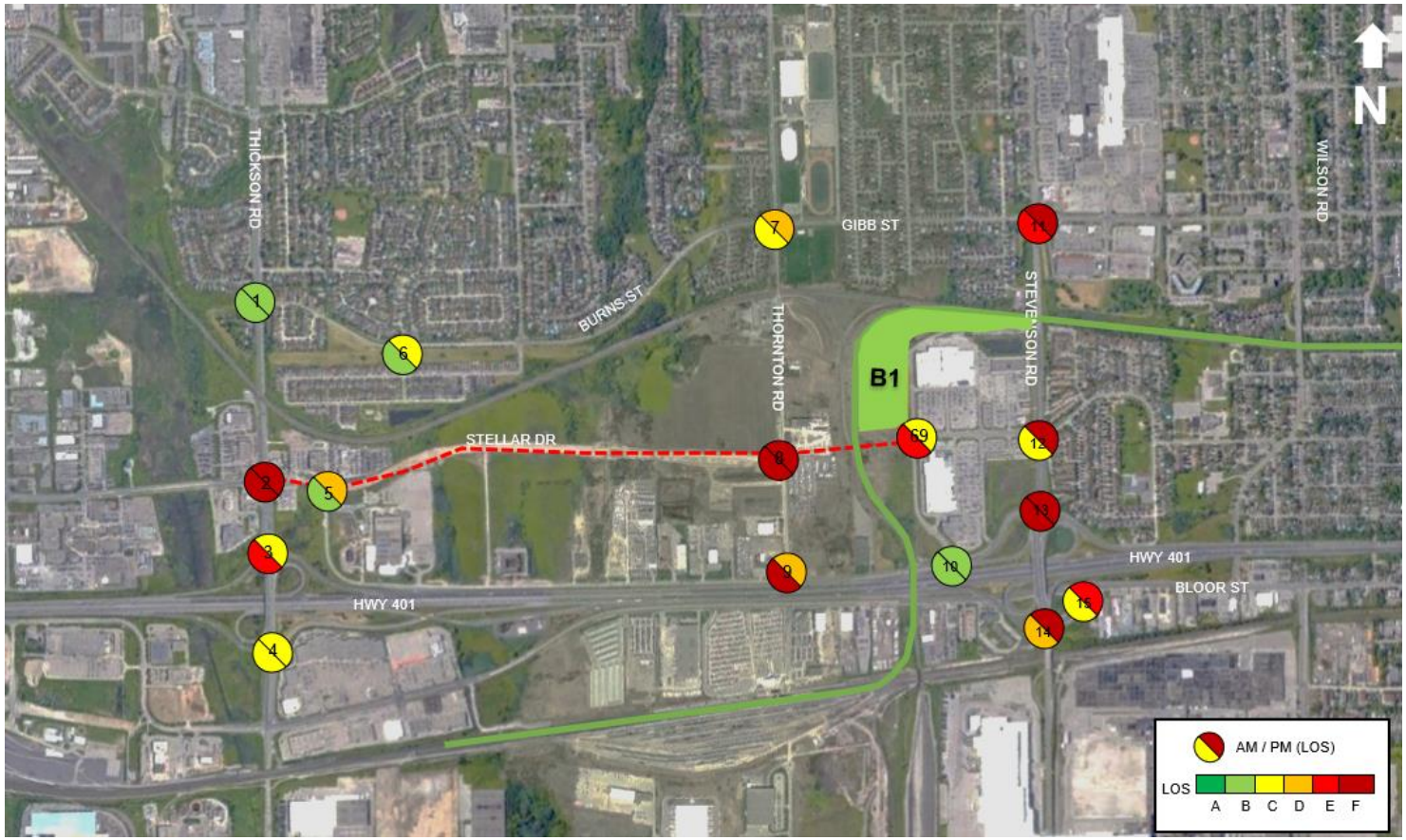
Table 15: Future 2031 Intersection LOS Summary (Focus Area B1)

Node #	Intersection	AM			PM		
		V/C	Delay	LOS	V/C	Delay	LOS
1	Thickson Road S / Burns St E	0.74	16.0	B	0.79	11.1	B
2	Thickson Road S / Stellar Drive / Consumers Dr	1.41	85.8	F	1.43	117.7	F
3	Thickson Road S / Hwy 401 (North Ramp)	1.13	55.4	E	0.80	24.2	C
4	Thickson Road S / Hwy 401 (South Ramp)	1.03	43.2	D	0.82	23.4	C
5	Stellar Dr / Champlain Ave	0.81	15.9	B	0.95	39.2	D
6	Burns St E / Kendalwood Rd / Mt Pleasant Ave	0.57	10.7	B	0.79	21.4	C
7	Gibb St / Thornton Rd S	0.73	24.1	C	1.00	43.9	D
8	Thornton Rd S / Stellar Dr	1.55	114.4	F	1.39	93.4	F
9	Thornton Rd S / Champlain Ave	1.29	80.7	F	1.11	46.5	D

[5] A review at the intersection movement level was conducted (data is available in Appendix A) and spare capacity was observed for the two corridors as listed below:
1) For the eastbound movement through Thornton Road S, Gibb Street, and Stevenson Road S (through northbound right at Intersection #7 and eastbound right at Intersection #11).
2) For the westbound movement through Stevenson Road S, Champlain Avenue, and Thornton Road S (through southbound right at Intersection #13, westbound through at Intersection #10, and westbound right at Intersection #9).

Node #	Intersection	AM			PM		
		V/C	Delay	LOS	V/C	Delay	LOS
10	Fox Street / Champlain Ave	0.87	15.2	B	0.80	15.2	B
11	Stevenson Rd S / Gibb St	1.21	71.8	E	1.32	96.0	F
12	Stevenson Rd S / Laval Dr	0.92	29.8	C	1.20	85.4	F
13	Stevenson Rd S / Hwy 401 (North Ramp)	1.21	101.60	F	1.43	152.2	F
14	Stevenson Rd S / Hwy 401 (South Ramp)	0.87	45.9	D	1.48	216.8	F
15	Bloor St W / Hwy 401 (South Ramp)	0.60	26.7	C	0.73	58.8	E
69	Laval Drive / Fox Street	1.00	78.1	E	0.67	20	C

Figure 32: Focus Area B1 Future 2031 Intersection LOS Summary

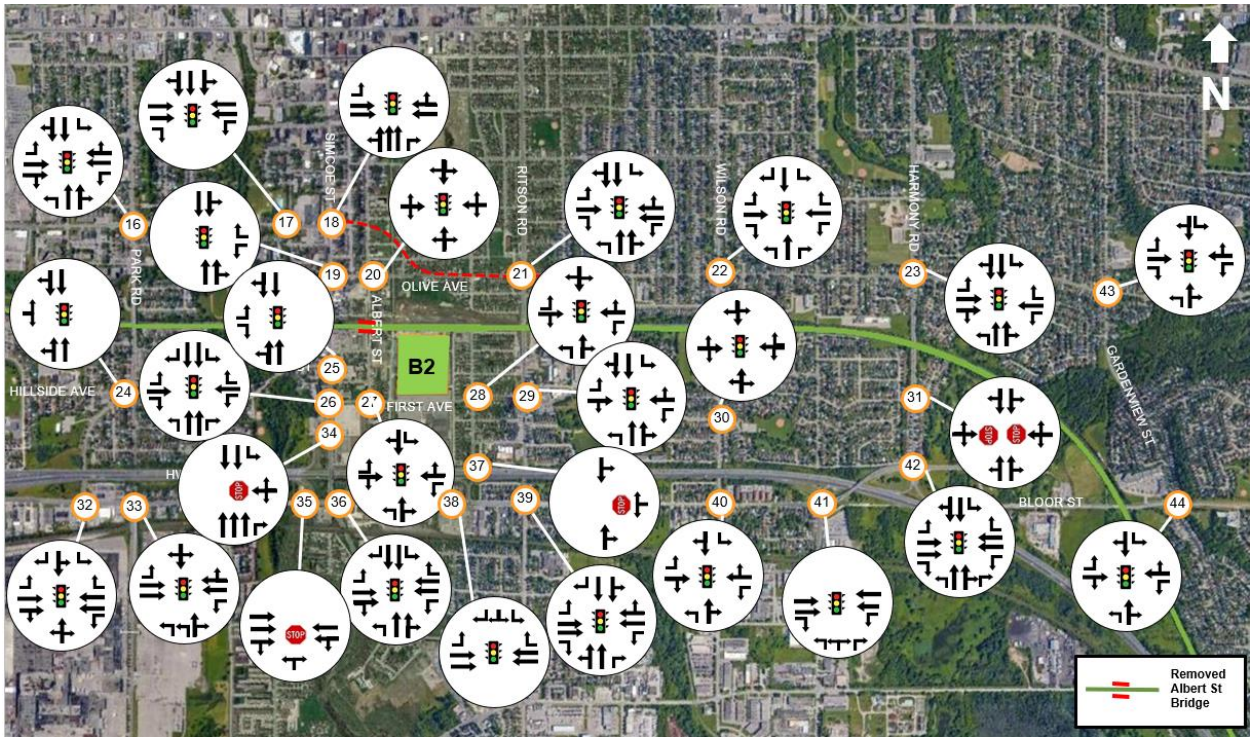


6.2 Focus Area B2: Ritson Go Station

6.2.1 Future Road Network

Study area intersections and anticipated 2031 traffic control is summarized in **Figure 33**.

Figure 33: Focus Area B2 Future 2031 Intersection Lane Geometry



6.2.2 Traffic Volumes

Future 2031 AM and PM peak period traffic volumes were derived using the Region's DRTPM model outputs for the Future 2031 horizon. An annual growth rate was applied based on screenline level growth estimates. Future traffic volumes were rationalized and balanced as required based on anticipated land-use growth and roadway capacity improvements.

DRTPM link level volumes used to estimate Future 2031 traffic volumes are included in **Appendix B**.

Future 2031 AM and PM peak period traffic volumes for Focus Area B2 are illustrated in **Figure 34** and **Figure 35**.

AM and PM peak hours traffic volumes are printed in black and bracketed red fonts, respectively.

Figure 34: Focus Area B2 Future 2031 Traffic Volumes (Boundary Road Network)

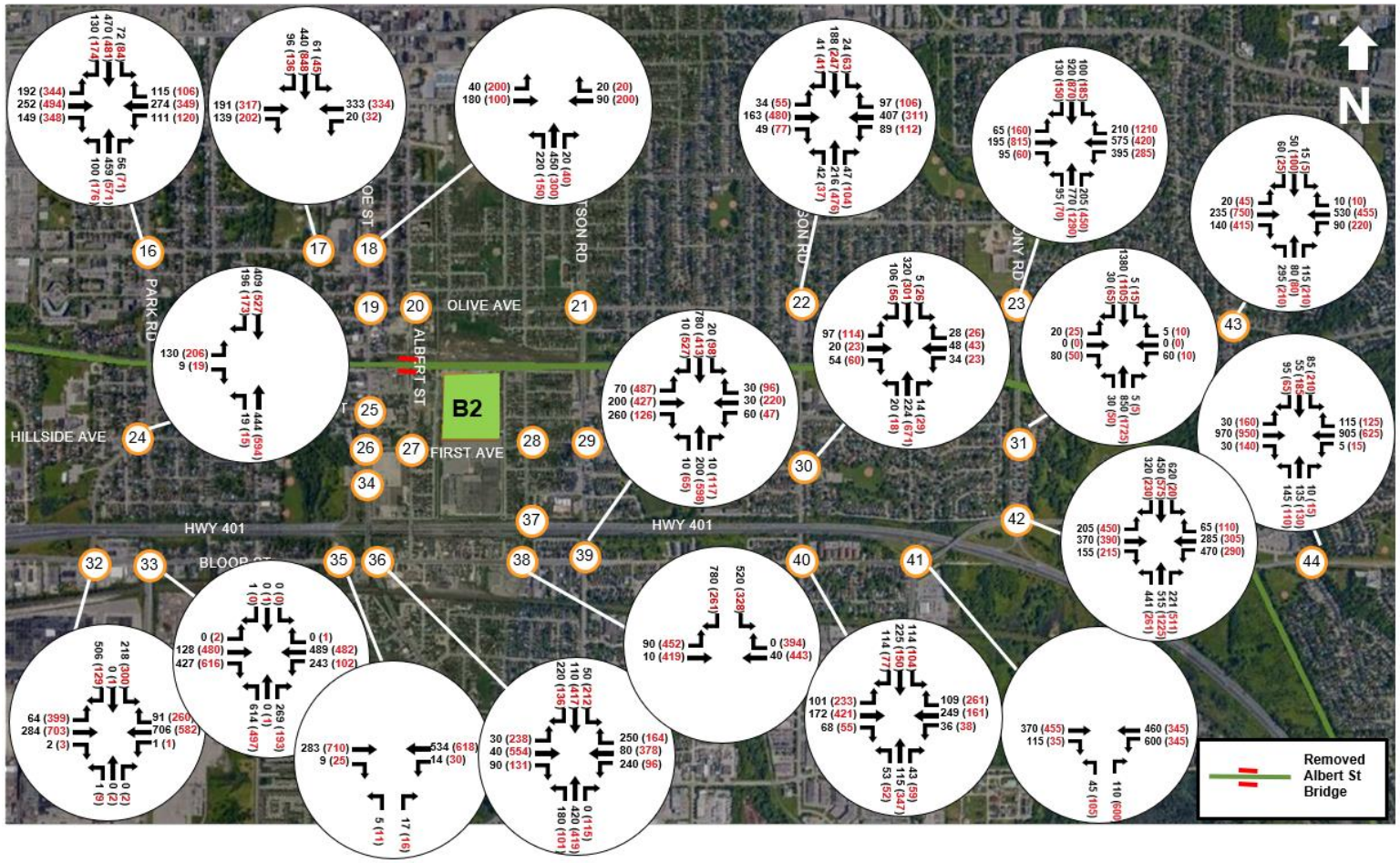
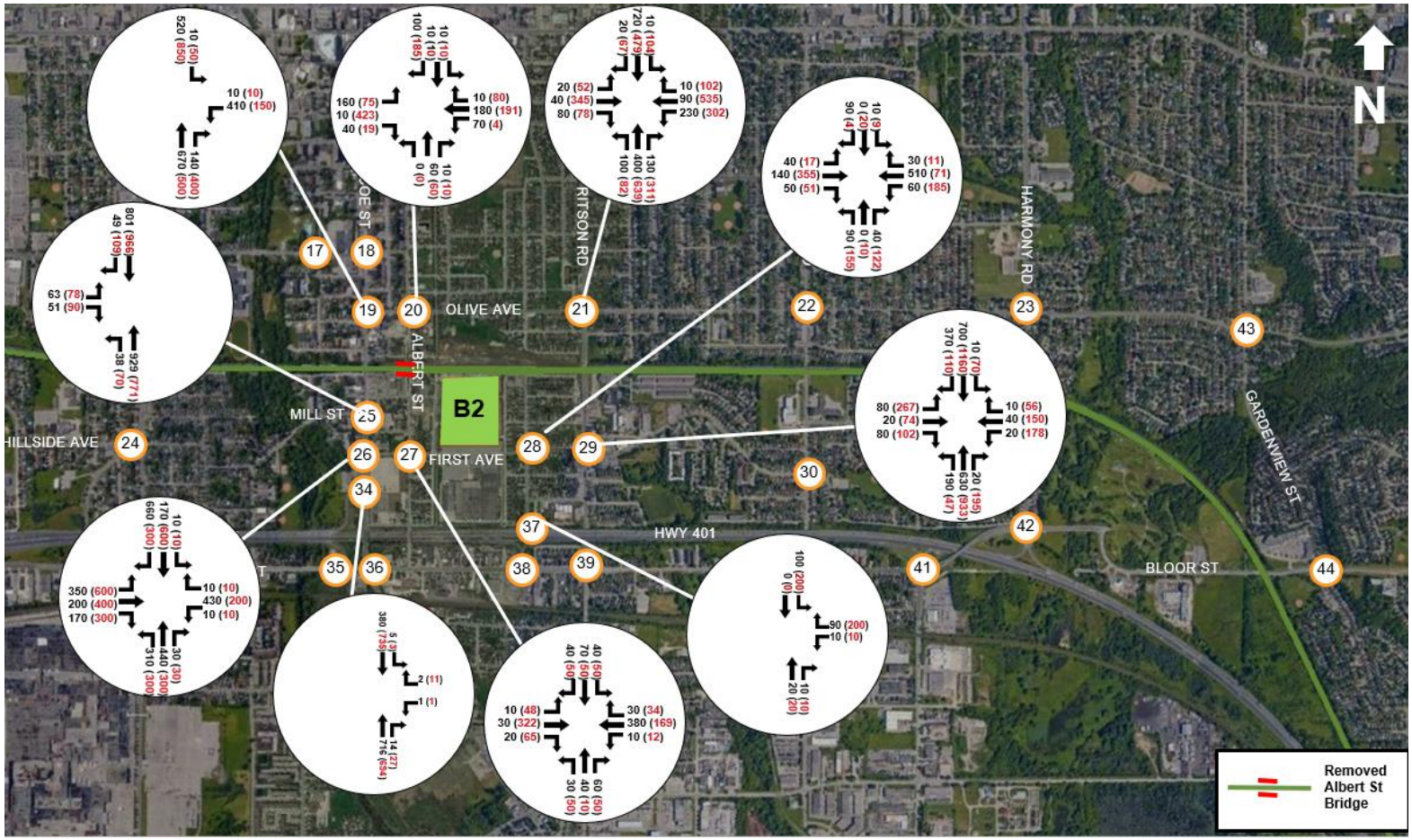


Figure 35: Focus Area B2 Future 2031 Traffic Volumes (Around Station)



6.2.3 Level of Service Analysis

Table 16 and **Figure 36** summarize intersection level of service performance under Future 2031 Conditions for Focus Area B2.

The following intersections were identified operating at LOS E or higher:

Olive Avenue / Ritson Road South (Intersection #21) – This intersection is projected to operate at or above theoretical capacity (i.e., v/c > 1.00) during the AM peak period.

Olive Avenue / Harmony Road (Intersection #23) – This intersection is projected to operate at or above theoretical capacity (i.e., v/c > 1.00) during the PM peak period.

First Avenue / Simcoe Street (Intersection #26) – This intersection is projected to operate at or above theoretical capacity (i.e., v/c > 1.00) during the PM peak period.

Tennyson Avenue / Harmony Road (Intersection #31) – This intersection is projected to operate at or above theoretical capacity (i.e., v/c > 1.00) during the AM and PM peak period. The intersection, which is currently operating as a two-way stop-controlled intersection at the minor approach, is projected to operate with excessive delays in both the AM and PM peak periods.

Bloor Street / Harmony Road (Intersection #42) – This intersection is projected to operate at or above theoretical capacity (i.e., v/c > 1.00) during the AM and PM peak period with excessive delays.

Bloor Street / Grandview Street (Intersection #44) – this intersection is projected to operate at or above theoretical capacity (i.e., v/c > 1.00) during the AM and PM peak periods.

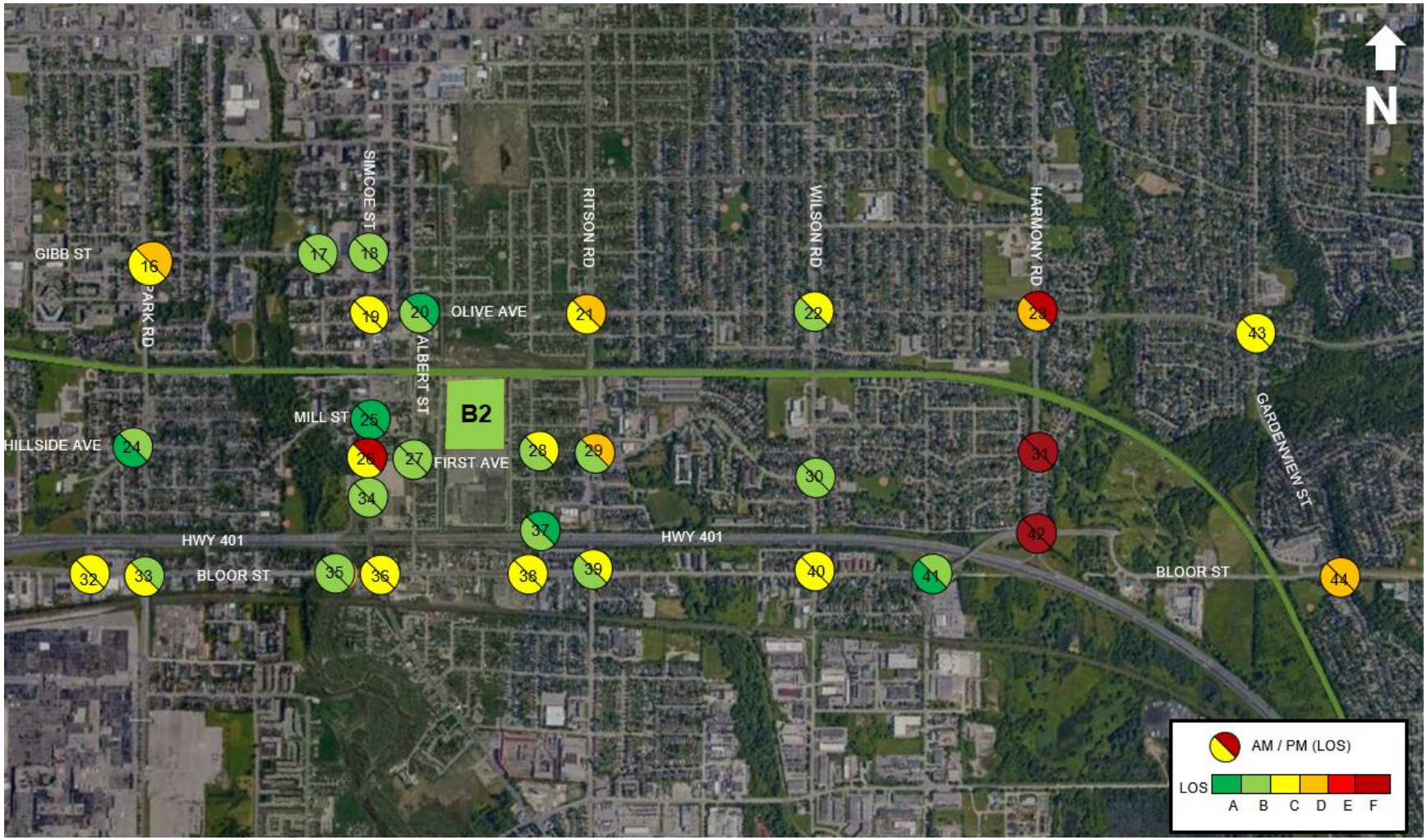
Detailed intersection performance outputs are provided in **Appendix A**.

Table 16: Future 2031 Intersection LOS Summary (Focus Area B2)

Node #	Intersection	AM			PM		
		V/C	Delay	LOS	V/C	Delay	LOS
16	Gibb Street / Park Road South	0.59	32.7	C	0.88	40.5	D
17	Gibb Street / Centre Street	0.32	15.0	B	0.46	14.3	B
18	Gibb Street / Simcoe Street	0.28	12.8	B	0.42	15.3	B
19	Olive Avenue / Simcoe Street	0.80	27.2	C	0.62	27.6	C
20	Olive Avenue / Albert Street	0.31	10.1	B	0.52	9.1	A
21	Olive Avenue / Ritson Road South	0.78	27.8	C	1.18	46.2	D
22	Olive Avenue / Wilson Road South	0.56	17.8	B	0.84	24.9	C
23	Olive Avenue and Harmony Road	0.98	38	D	1.29	102.70	F
24	Park Road South / Hillside Avenue South	0.31	8.1	A	0.42	12.3	B
25	Mill Street / Simcoe Street	0.52	5.8	A	0.53	7.9	A
26	First Avenue / Simcoe Street	0.99	31.3	C	1.17	83.1	F
27	First Avenue / Albert Street	0.36	15.7	B	0.33	12.3	B
28	First Avenue / McNaughton Avenue / Drew Street	0.57	11.7	B	0.53	21	C
29	McNaughton Avenue / Ritson Road South	0.88	13.6	B	0.97	35.2	D
30	Dean Avenue / Wilson Road South	0.52	17	B	0.77	19.4	B
31*	Tennyson Avenue and Harmony Road	1.74	571.70	F	1.47	766.80	F
32	Bloor Street West / Park Road South	0.56	26.6	C	0.79	32.3	C
33	Bloor Street East / Park Road South	0.68	23.8	C	0.51	19.8	B
34*	Simcoe Street / Hwy 401 WB Ramp	0.01	12.9	B	0.02	10.6	B
35*	Bloor Street West / Hwy 401 EB Ramp (Simcoe Interchange)	0.03	10.1	B	0.13	13.4	B
36	Bloor Street East / Simcoe Street South	0.46	23.3	C	0.71	26.5	C
37*	Drew Street / Bloor Steet / Hwy 401 Ramp	0.12	0.52	B	0.23	9.7	A
38	Bloor Street East / Hwy 401 (South Ramp- Ritson Interchange)	0.34	26	C	0.86	26.8	C
39	Ritson Road / Bloor Street	0.52	15.3	B	0.86	26.1	C
40	Wilson Road / Bloor Street	0.52	22.7	C	0.65	26.0	C
41	Bloor Street / Farewell St/ Hwy 401 Ramp	0.74	9.7	A	0.57	17.9	B
42	Bloor Street / Harmony Road	1.44	138.20	F	1.48	183.80	F

Node #	Intersection	AM			PM		
		V/C	Delay	LOS	V/C	Delay	LOS
43	Olive Avenue and Grandview Street	0.77	23.3	C	0.92	28.5	C
44	Bloor Street and Grandview Street	1.00	42.8	D	1.04	49.9	D

Figure 36: Focus Area B2 Future 2031 Intersection LOS Summary

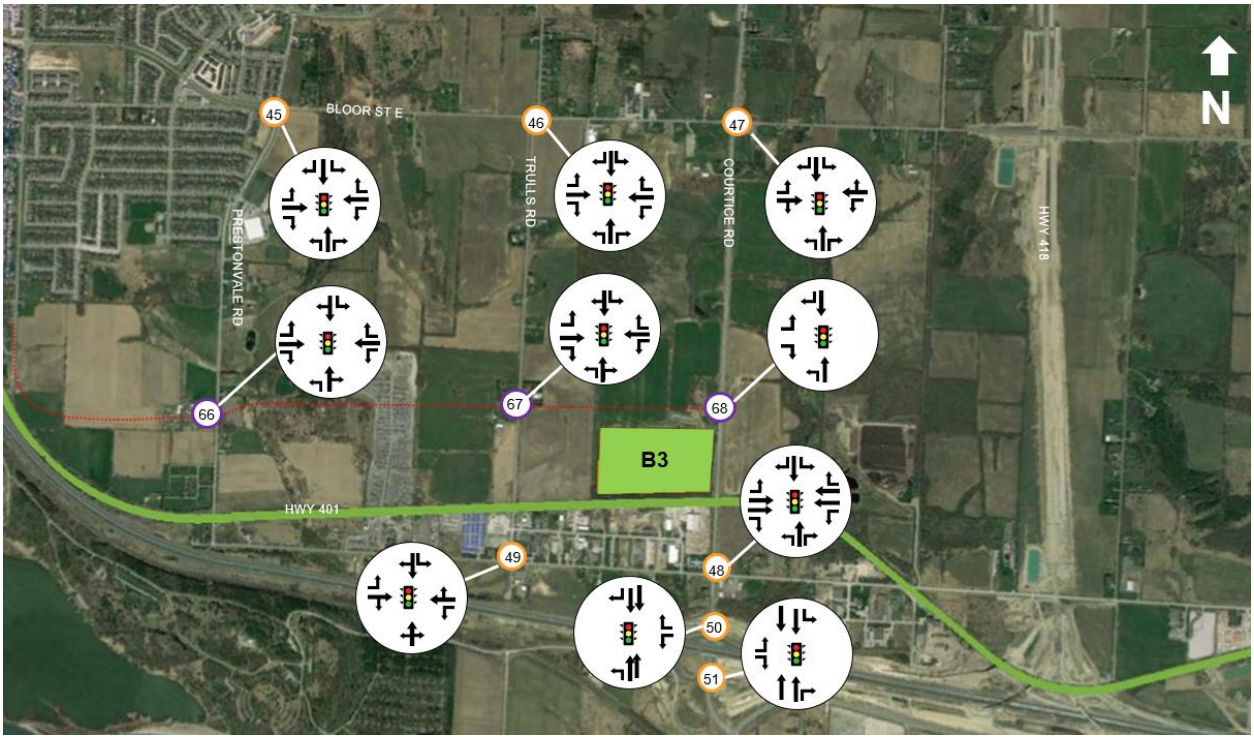


6.3 Focus Area B3: Courtice GO Station

6.3.1 Future Road Network

Study area intersections and anticipated 2031 traffic control is summarized in **Figure 37**.

Figure 37: Focus Area B3 Future 2031 Intersection Lane Geometry



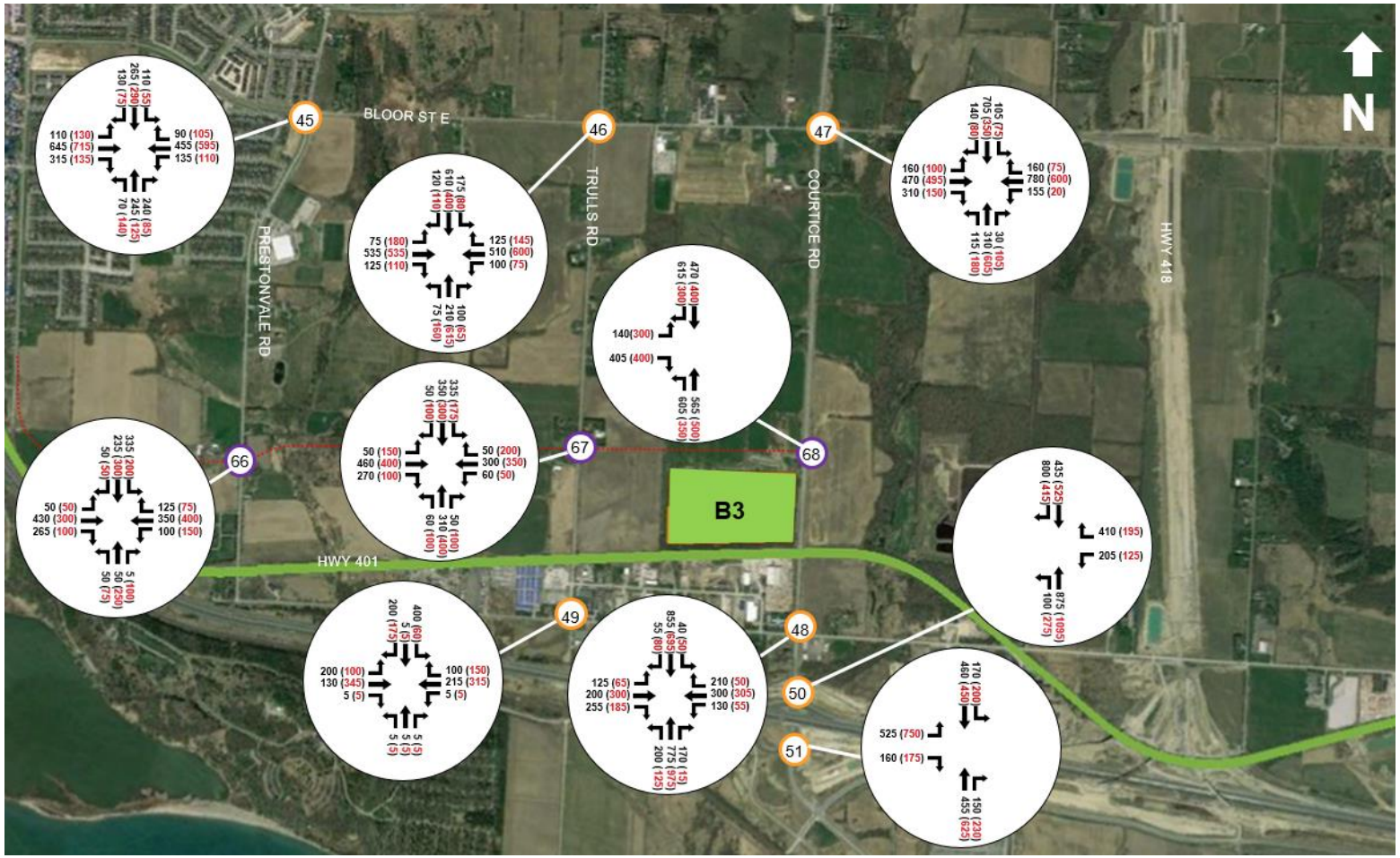
6.3.2 Traffic Volumes

Future 2031 AM and PM peak period traffic volumes were derived using the Region's DRTPM model outputs for the Future 2031 horizon. An annual growth rate was applied based on screenline level growth estimates. Future traffic volumes were rationalized and balanced as required based on anticipated land-use growth and roadway capacity improvements.

DRTPM link level volumes used to estimate Future 2031 traffic volumes are included in **Appendix B**.

Future 2031 AM and PM peak period traffic volumes for Focus Area B3 are illustrated in **Figure 38**.

Figure 38: Focus Area B3 Future 2031 Traffic Volumes



6.3.3 Level of Service Analysis

Table 17 and **Figure 39** summarize intersection level of service performance under Future 2031 Conditions for Focus Area B3.

The following intersections were identified operating at LOS E or higher:

Bloor Street and Trulls Road (Intersection #46) – This intersection is projected to operate slightly above the critical threshold of v/c 0.90 during the AM peak period. It would operate at or above theoretical capacity (i.e., v/c > 1.00) during the PM peak period.

Bloor Street and Courtice Road (Intersection #47) – This intersection is projected to operate at or above theoretical capacity (i.e., v/c > 1.00) during the AM and PM peak period.

Baseline Rd and Courtice Road (Intersection #48) – This intersection is projected to operate at or above theoretical capacity (i.e., v/c > 1.00) during the AM peak period. It would operate slightly above the critical threshold of v/c 0.90 during the PM peak period.

Hwy 401 and Courtice Rd (South Ramp) (Intersection #51) – This intersection is projected to operate slightly above the critical threshold of v/c 0.90 during the PM peak period.

Detailed intersection performance outputs are provided in **Appendix A**.

Table 17: Future 2031 Intersection LOS Summary (Focus Area B3)

Node #	Intersection	AM			PM		
		V/C	Delay	LOS	V/C	Delay	LOS
45	Bloor Street and Prestonvale Rd	0.72	27	C	0.89	27.8	C
46	Bloor Street and Trulls Rd	0.93	44.6	D	1.03	38.9	D
47	Bloor Street and Courtice Rd	1.41	197.7	F	1.02	38.4	D
48	Baseline Rd and Courtice Rd	1.43	91.9	F	0.96	34.4	C
49	Baseline Rd and Trulls Rd	0.71	15.6	B	0.42	18	B
50	Hwy 401 and Courtice Rd (North Ramp)	0.64	41.8	D	0.54	10.3	B
51	Hwy 401 and Courtice Rd (South Ramp)	0.60	28.4	C	0.94	37.7	D
66	Prestonvale Road and Townline Rd Extension	0.63	23.2	C	0.55	26.9	C

Node #	Intersection	AM			PM		
		V/C	Delay	LOS	V/C	Delay	LOS
67	Trulls Road and Townline Rd Extension	0.79	24.5	C	0.67	22.6	C
68	Courtice Road and Townline Rd Extension	0.88	31.0	C	0.7	20.9	C

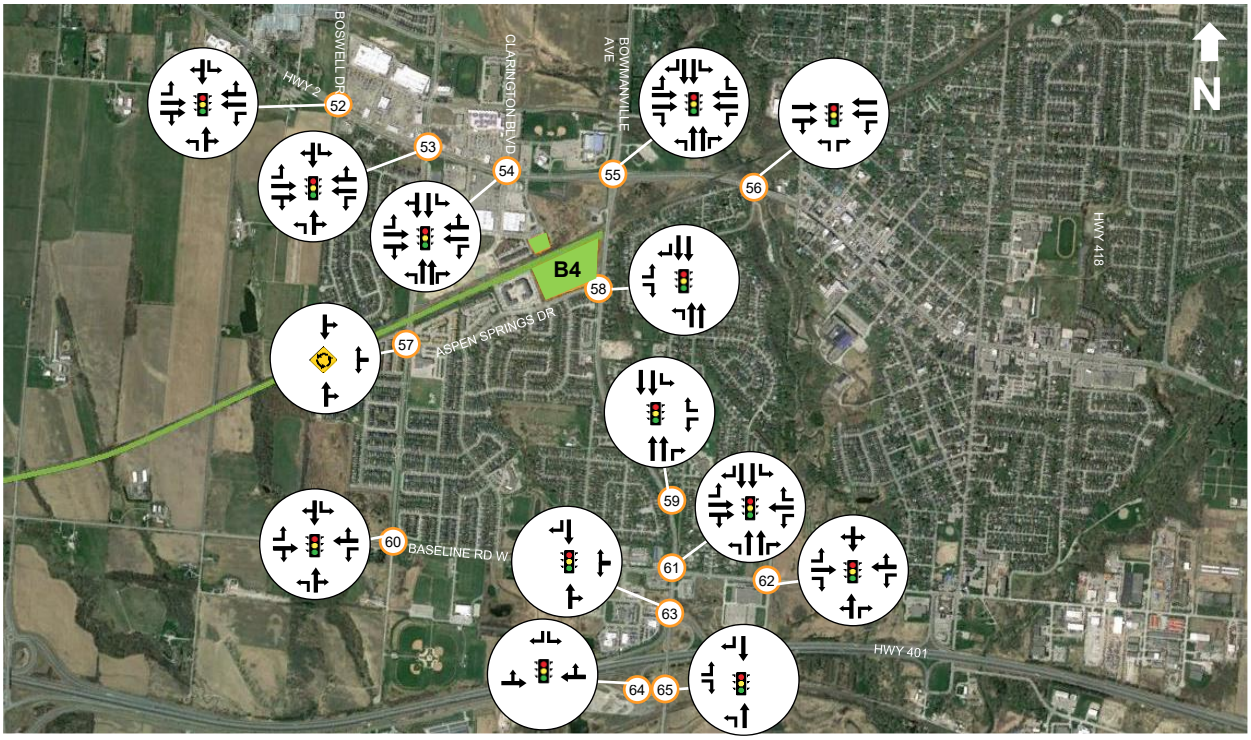
Figure 39: Focus Area B3 Future 2031 Intersection LOS Summary

6.4 Focus Area B4: Bowmanville GO Station

6.4.1 Future Road Network

The LOS results of Intersection #63, #64 and #65 under existing condition are presented as LOS E or F. A review of their result in 2031 horizon showed these intersections will operate with high delays if they remain as unsignalized intersections, thus these intersections were analyzed as signalized intersections. Study area intersections and anticipated 2031 traffic control is summarized in **Figure 40**.

Figure 40: Focus Area B4 Future 2031 Intersection Lane Geometry



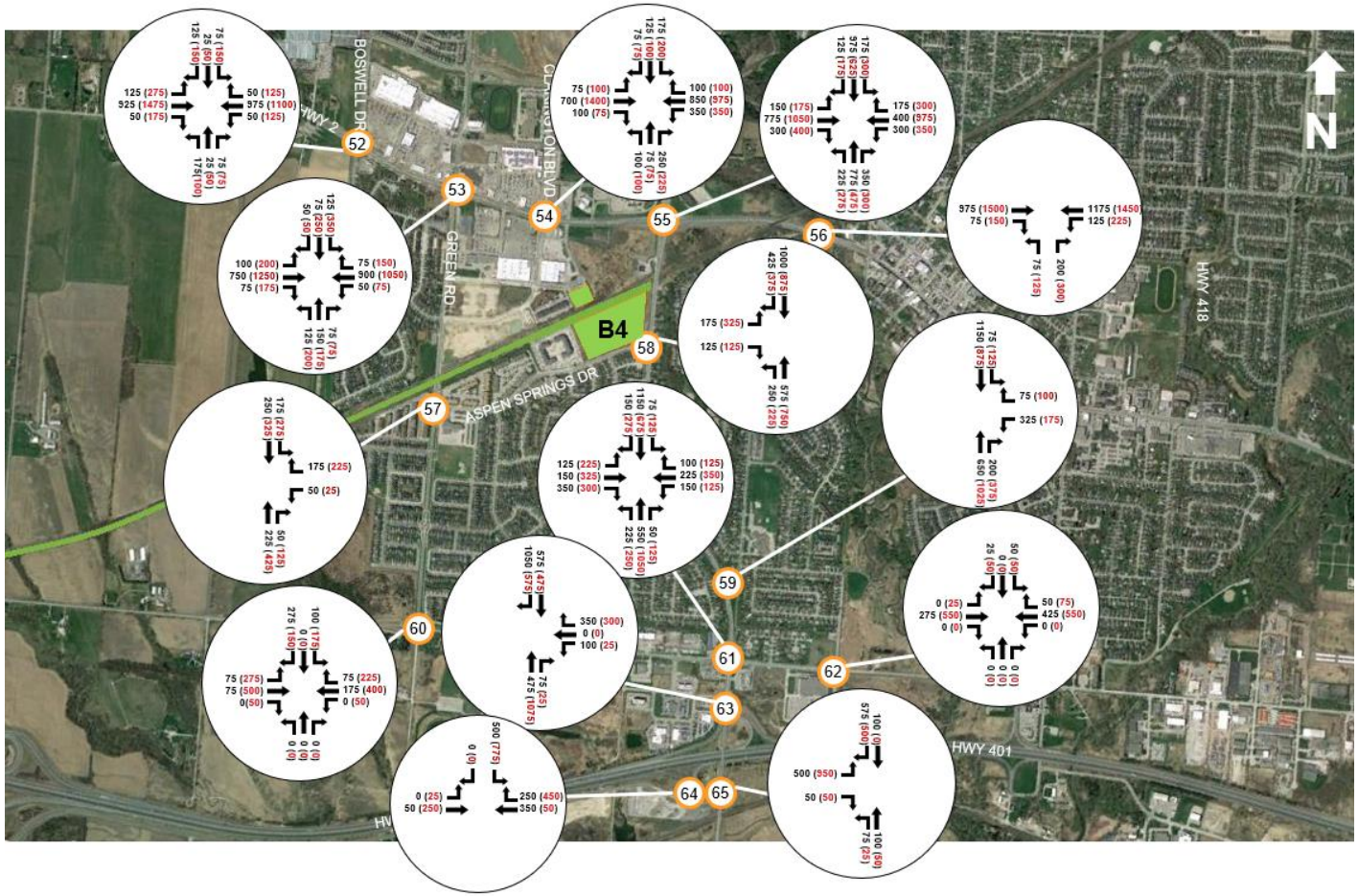
6.4.2 Traffic Volumes

Future 2031 AM and PM peak period traffic volumes were derived using the Region's DRTPM model outputs for the Future 2031 horizon. An annual growth rate was applied based on Screenline level growth estimates. Future traffic volumes were rationalized and balanced as required based on anticipated land-use growth and roadway capacity improvements.

DRTPM link level volumes used to estimate Future 2031 traffic volumes are included in **Appendix B**.

Future 2031 AM and PM peak period traffic volumes for Focus Area B4 are illustrated in **Figure 41**.

Figure 41: Focus Area B4 Future 2031 Traffic Volumes



6.4.3 Level of Service Analysis

Table 18 and **Figure 42** summarize intersection level of service performance under Future 2031 Conditions for Focus Area B4.

The following intersections were identified operating at LOS E or higher:

Hwy 2 / Green Road (Intersection #53) – This intersection is projected to operate at capacity (v/c 1.00) during the PM peak period.

Hwy 2 / Clarington Blvd (Intersection #54) – This intersection is projected to operate at or above theoretical capacity (v/c > 1.00) during the PM peak period.

Hwy 2 / Bowmanville Avenue (Intersection #55) – This intersection is projected to operate at or above theoretical capacity (v/c > 1.00) during the AM and PM peak periods.

Bowmanville Avenue / Baseline Road W (Intersection #61) – This intersection is projected to operate at or above theoretical capacity (v/c > 1.00) during the AM and PM peak periods.

Bowmanville Avenue / Hwy 401 (WB Ramp) (Intersection #63) – This intersection is projected to operate with excessive average intersection delays (LOS E) during the AM peak period.

Energy Drive / Hwy 401 (EB Ramp) (Intersection #64) – This intersection is projected to operate at or above theoretical capacity (v/c > 1.00) during the PM peak period.

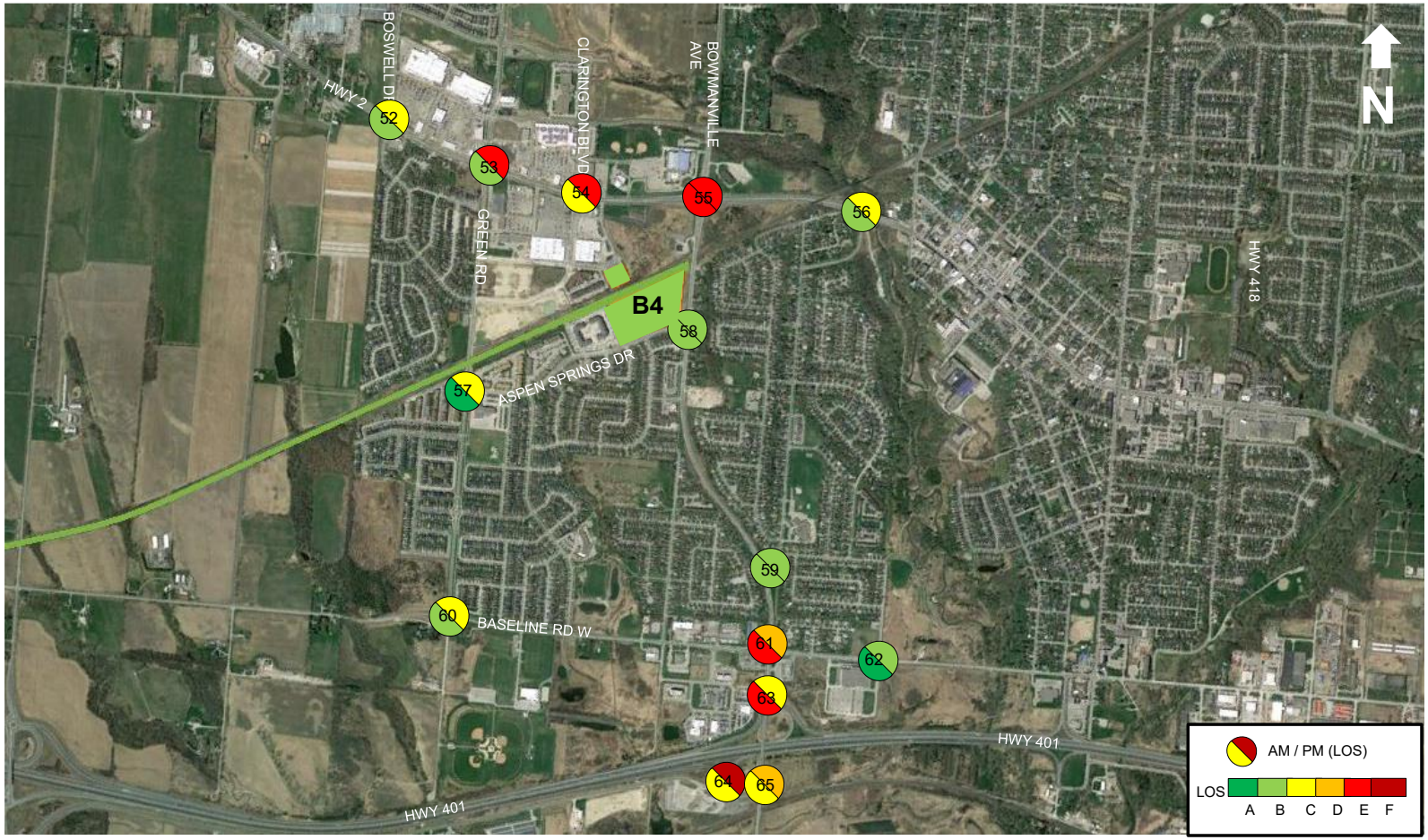
Bowmanville Avenue / Energy Drive (Intersection #65) – This intersection is projected to operate above the critical threshold of v/c 0.90 during the PM peak period.

Detailed intersection performance outputs are provided in **Appendix A**.

Table 18: Future 2031 Intersection LOS Summary (Focus Area B4)

Node #	Intersection	AM			PM		
		V/C	Delay	LOS	V/C	Delay	LOS
52	Hwy 2 / Boswell Dr	0.66	13.4	B	0.85	26.9	C
53	Hwy 2 / Green Rd	0.56	12.6	B	1.12	62.8	E
54	Hwy 2 / Clarington Blvd	0.94	28.9	C	1.22	67.4	E
55	Hwy 2 / Bowmanville Ave	1.23	58.4	E	1.10	74.7	E
56	King St W / Roenigk Dr	0.58	10.4	B	0.87	33.3	C
57	Green Rd / Aspen Springs Dr (Roundabout)	0.44	8.3	A	0.73	19.1	C
58	Bowmanville Ave / Aspen Springs Dr	0.88	13.4	B	0.91	16.2	B
59	Bowmanville Ave / Waverley Rd	0.72	12.9	B	0.59	14.3	B
60	Baseline Rd / Green Rd	0.36	10.4	B	0.89	21.1	C
61	Bowmanville Ave / Baseline Rd W	1.07	62.4	E	1.20	51.3	D
62	Baseline Rd W / Spry Ave	0.36	5.5	A	0.53	15.7	B
63	Bowmanville Ave / Hwy 401 WB Ramp	0.75	75.8	E	0.90	23.3	C
64	Energy Drive / Hwy 401 (EB Ramp)	0.82	26.2	C	1.49	138.2	F
65	Bowmanville Avenue / Energy Dr	0.73	20.8	C	1.00	37.8	D

Figure 42: Focus Area B4 Future 2031 Intersection LOS Summary



7.0 Construction Staging Scenario

This section of the report identifies the roadways that will have significant impact during the construction of the rail extension. There will be some roadways that may experience short-term delays due to the construction, however, this scenario focuses on those roadways that will require long-term detours to facilitate construction staging.

As part of the extension of GO rail service from the DC Oshawa GO through to Bowmanville, two locations were identified that will require closure to facilitate the replacement of bridge structures over the existing CP Rail corridor.

The identified locations are the Simcoe Street and Ritson Road bridges over the existing CP Rail corridor. The construction staging at the two locations are not expected to be implemented simultaneously.

The two locations are listed below and shown in **Figure 43**:

- Simcoe Street across CP Rail corridor
- Ritson Road across CP Rail corridor

As part of this traffic study, the transportation impacts associated with the temporary closures of the two bridge crossings are assessed.

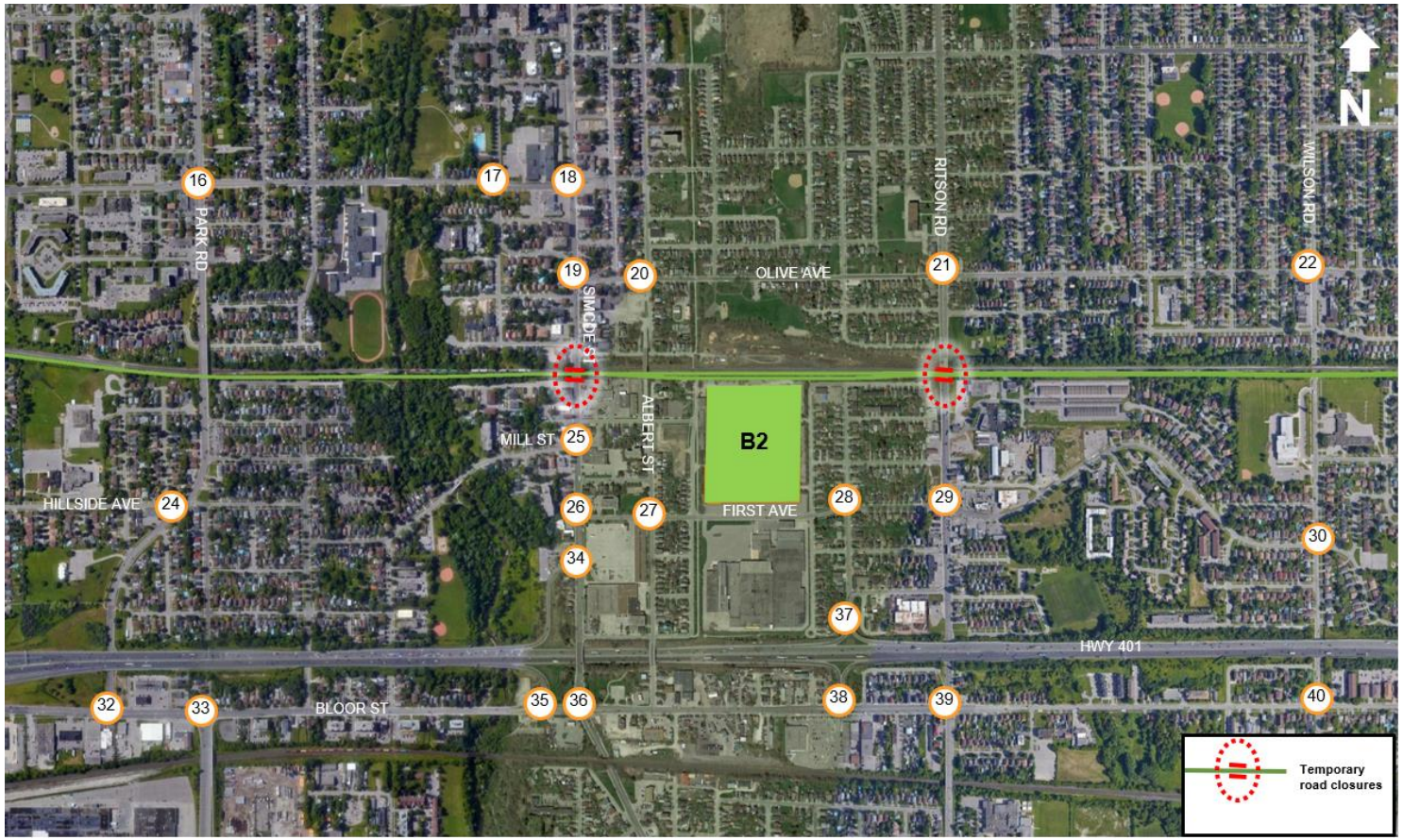
Prior to construction activities on Simcoe Street, Ritson Road, and other roads impacted by structural work, Traffic Control and Management Plan(s) will be developed, as applicable, to maintain reasonable access through work zones, to the extent possible.

Road closures at Simcoe Street and Ritson Road were identified during preliminary design development in order to facilitate construction staging. Additional road closures at Stevenson Road, Park Road, Harmony Road, and Courtice Road were identified as design development progressed and will be analyzed, as required, as part of the development of Traffic Control and Management Plans prior to construction.

Additional road closures are not currently planned at any other bridge crossings, although this will be confirmed through detailed design.

Construction staging scenarios provided herein are considered conceptual and are subject to refinement as planning progresses and further consultation is undertaken with applicable municipalities and agencies. Should final construction staging and sequencing deviate from the scenarios presented in Sections 7.1 and 7.2 to the extent where findings and recommendations are no longer accurate, additional traffic assessment(s) will be undertaken in accordance with applicable guidelines (refer to Section 4.4.1).

Figure 43: Temporary Road Closure Locations



7.1 Simcoe Street Closure

One of the roadways that will be affected by the construction staging for the Lakeshore East GO rail extension will be Simcoe Street bridge over the existing CP Rail corridor. The bridge structure is located between Fisher Street and Hall Street.

The roadways that will be affected by the Simcoe Street bridge closure are located in vicinity of the Focus Area B2: Ritson GO Station.

7.1.1 Roadway Network

Simcoe Street is classified as an Arterial roadway under the jurisdiction of the Region of Durham. Simcoe Street travels north-south in the vicinity of the proposed closure and connects to Olive Avenue (Regional Road 59) in the north and provides access to westbound on-ramp onto Hwy 401 to the south. There are two travel lanes in each direction at the proposed bridge closure location with no on-street parking permitted.

North of Olive Avenue, Simcoe Street transitions to a northbound only two-lane roadway widening to four-lane roadway near Maple Street. Simcoe Street continues southward providing access across Hwy 401. The Simcoe Street bridge provides pedestrian access with approximately 3m wide sidewalks on both sides.

There are residential as well as commercial properties located in the immediate vicinity of the bridge on either side. Local access will be allowed for those locations, however, through access across the bridge will be restricted for the duration of the construction.

Figure 44 illustrates the northbound approach of the Simcoe Street bridge closure location.

Figure 45 illustrates the southbound approach of the Simcoe Street bridge closure location.

Figure 44: Existing Simcoe Street Northbound Approach

Figure 45: Existing Simcoe Street Southbound Approach

7.1.2 Simcoe Street Closure Traffic Diversion

Under the Simcoe Street closure scenario, traffic currently using the roadway will need to be redirected. Based on the traffic count data collected, there are approximately a total of 900 – 990 veh/hr traveling in the north-south direction during the AM and PM peak hour.

These vehicle trips were redistributed based on the most likely adjacent area roadways. The DRTPM regional model, was reviewed to estimate anticipated traffic redistribution.

The 2017 DRTPM model was modified to reflect the Simcoe Street closure at the CP Rail corridor. Model outputs were generated with this network adjustment and results were obtained. The DRTPM estimated net change in traffic distribution due to the Simcoe Street closure is illustrated in **Figure 46**.

Figure 46: Simcoe Street Closure Traffic Diversion (2017 DRTPM)

Based on the 2017 DRTPM model outputs and a review of surplus roadway capacity, the following traffic diversion assumptions were made for impacted traffic on Simcoe Street:

- 25% of impacted Simcoe Street traffic is diverted to Park Road
- 25% of impacted Simcoe Street traffic is diverted to Ritson Road
- 20% of impacted Simcoe Street traffic is diverted to Albert Street[6]
- 15% of impacted Simcoe Street traffic is diverted to Stevenson Road
- 15% of traffic is assumed to seek other alternate roads, shift travel time or mode

[6] The existing bridge over the rail corridor will be removed at Albert Street, resulting in a permanent impact to the road network. The impact of Albert Street Bridge closure on Simcoe Street closure and its detours will be further studied through development of the Traffic Control and Management Plans.

7.1.3 Simcoe Street Closure Traffic Volumes

Simcoe Street closure AM and PM peak period traffic volumes for the boundary road network and around the future GO station are illustrated in **Figure 47** and **Figure 48** respectively. AM and PM peak hours traffic volumes are printed in black and bracketed red fonts, respectively.

Figure 47: Simcoe Street Closure Traffic Volumes (Boundary Road Network)

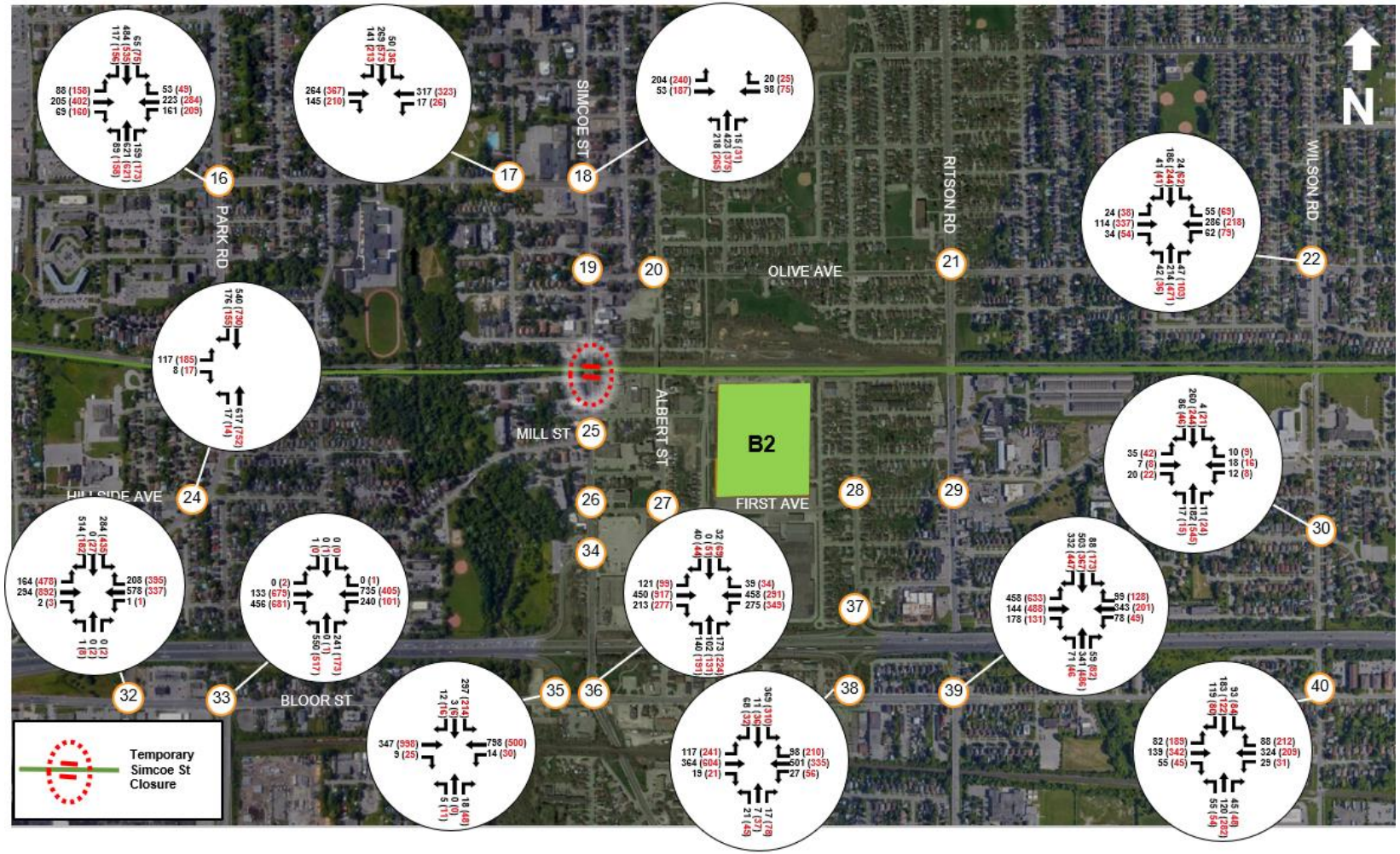
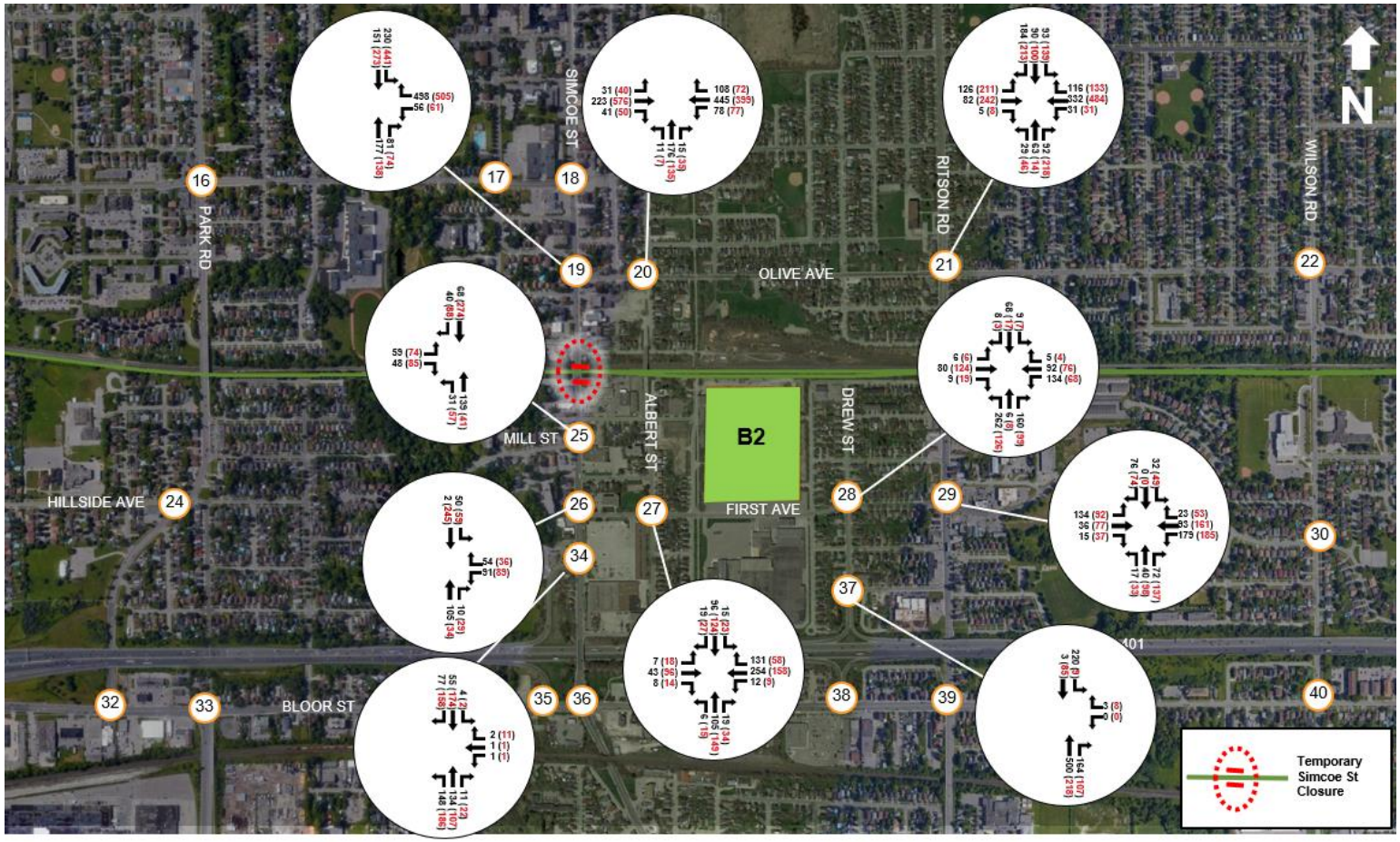


Figure 48: Simcoe Street Closure Traffic Volumes (Around B2 Ritson)



7.1.4 Simcoe Street Closure Level of Service Analysis

The intersection level of service analysis was conducted using the Synchro 10 software package. The existing signal timing parameters received from the Region of Durham were used and further optimized or modified as necessary.

The following intersections were identified with critical intersection movements operating at v/c ratios of 0.90 or higher, and LOS E or more.

Olive Avenue / Ritson Road South (Intersection #21) – In the PM peak hour, the v/c ratio exceeds 1.0 with the LOS changing to F comparing to LOS D in the future 2031 background horizon.

Bloor Street West / Hwy 401 EB Ramp (Simcoe Interchange) (Intersection #35) – This stop-controlled intersection operates at LOS F and v/c ratio >1.0. It is recommended that this intersection to be subject to traffic monitoring as it may need temporary or permanent mitigations.

Bloor Street East / Simcoe Street South (Intersection #36) – In the PM peak hour, this stop-controlled intersection operates at a v/c ratio of 0.92 and LOS D.

Drew Street / Toronto Avenue / Hwy 401 Ramp (Intersection #37) – In the AM peak hour, this intersection operates at v/c ratio of 2.03 and LOS F.

Ritson Road / Bloor Street (Intersection #39) – In the PM peak hour, this intersection operates at a v/c ratio of 0.96 and LOS C.

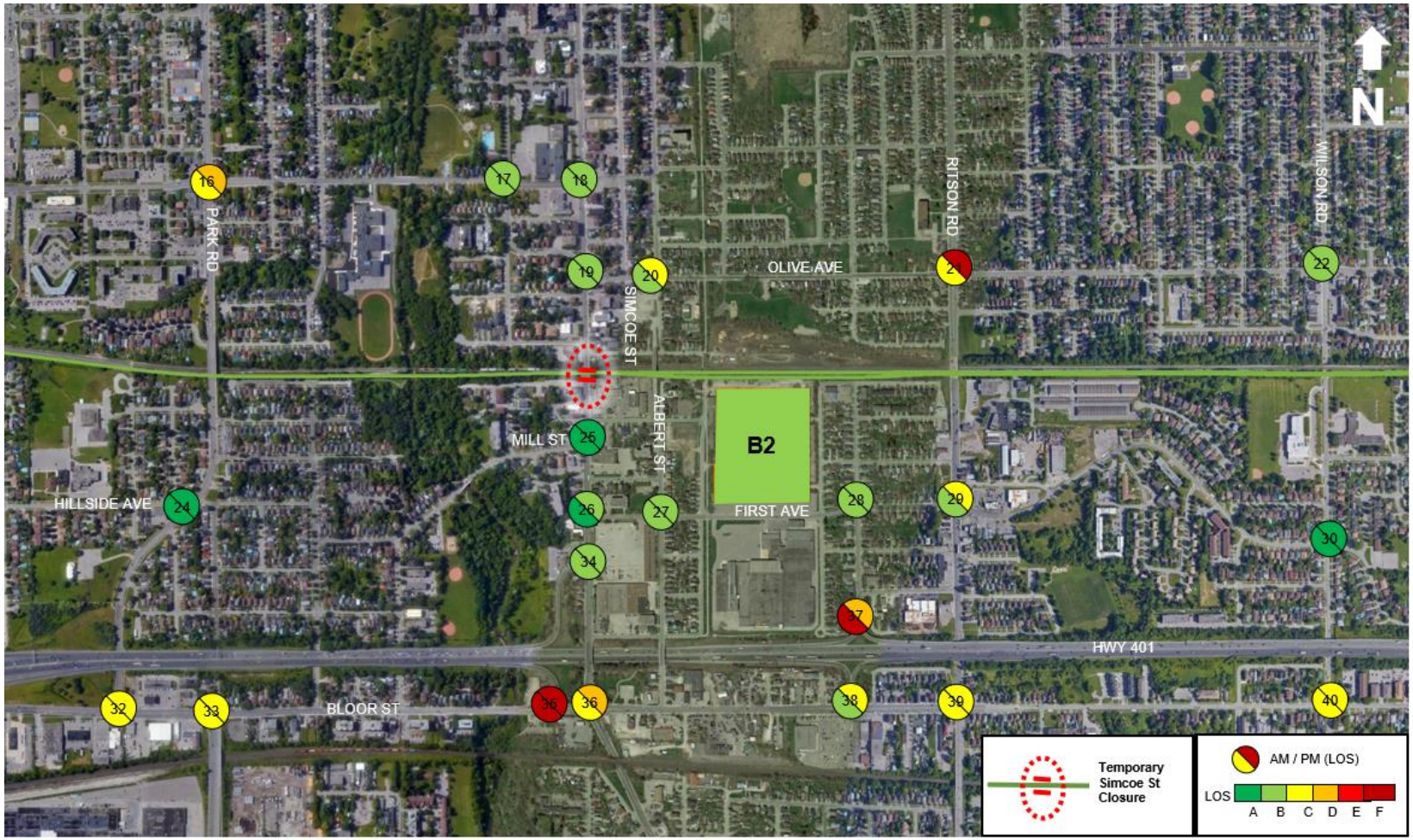
Table 19 provides the level of service analysis for the study area intersections that will be affected by the Simcoe Street closure traffic volume redistribution. The LOS results are illustrated in **Figure 49**.

Detailed intersection performance outputs are provided in **Appendix A**.

Table 19: Simcoe Street Closure Study Area Level of Service

Node #	Intersection	AM			PM		
		V/C	Delay	LOS	V/C	Delay	LOS
16	Gibb Street / Park Road South	0.86	25.9	C	0.74	37.7	D
17	Gibb Street / Centre Street	0.41	13.5	B	0.56	15.1	B
18	Gibb Street / Simcoe Street	0.41	12.7	B	0.60	12.8	B
19	Olive Avenue / Simcoe Street	0.48	17.6	B	0.69	16.0	B
20	Olive Avenue / Albert Street	0.78	17.1	B	0.87	27.9	C
21	Olive Avenue / Ritson Road South	0.85	31.1	C	1.24	118.2	F
22	Olive Avenue / Wilson Road South	0.53	14.9	B	0.76	17.6	B
24	Park Road South / Hillside Avenue South	0.53	6.1	A	0.59	8.8	A
25	Mill Street / Simcoe Street	0.34	9.2	A	0.40	9.3	A
26	First Avenue / Simcoe Street	0.51	9.7	A	0.49	10.7	B
27	First Avenue / Albert Street	0.54	12.0	B	0.46	13.0	B
28	First Avenue / McNaughton Avenue / Drew Street	0.57	14.2	B	0.29	12.9	B
29	McNaughton Avenue / Ritson Road South	0.75	15.9	B	0.88	23.1	C
30	Dean Avenue / Wilson Road South	0.49	7.6	A	0.56	8.1	A
32	Bloor Street West / Park Road South	0.59	26.7	C	0.73	31.2	C
33	Bloor Street East / Park Road South	0.84	23.9	C	0.81	23.2	C
34	Simcoe Street / Hwy 401 WB Ramp	0.11	11.7	B	0.17	10.2	B
35	Bloor Street West / Hwy 401 EB Ramp (Simcoe)	1.42	242.6	F	1.27	191.2	F
36	Bloor Street East / Simcoe Street South	0.73	22.7	C	0.92	41.4	D
37	Drew Street / Bloor Steet / Hwy 401 Ramp	2.03	134.9	F	0.72	25.2	D
38	Bloor Street East / Hwy 401 (Ritson South Ramp)	0.84	16.0	B	0.86	21.9	C
39	Ritson Road / Bloor Street	0.84	25.9	C	0.96	32.8	C
40	Wilson Road / Bloor Street	0.52	21.5	C	0.64	23.6	C

Figure 49: Simcoe Street Closure Level of Service



7.1.5 Transit Service

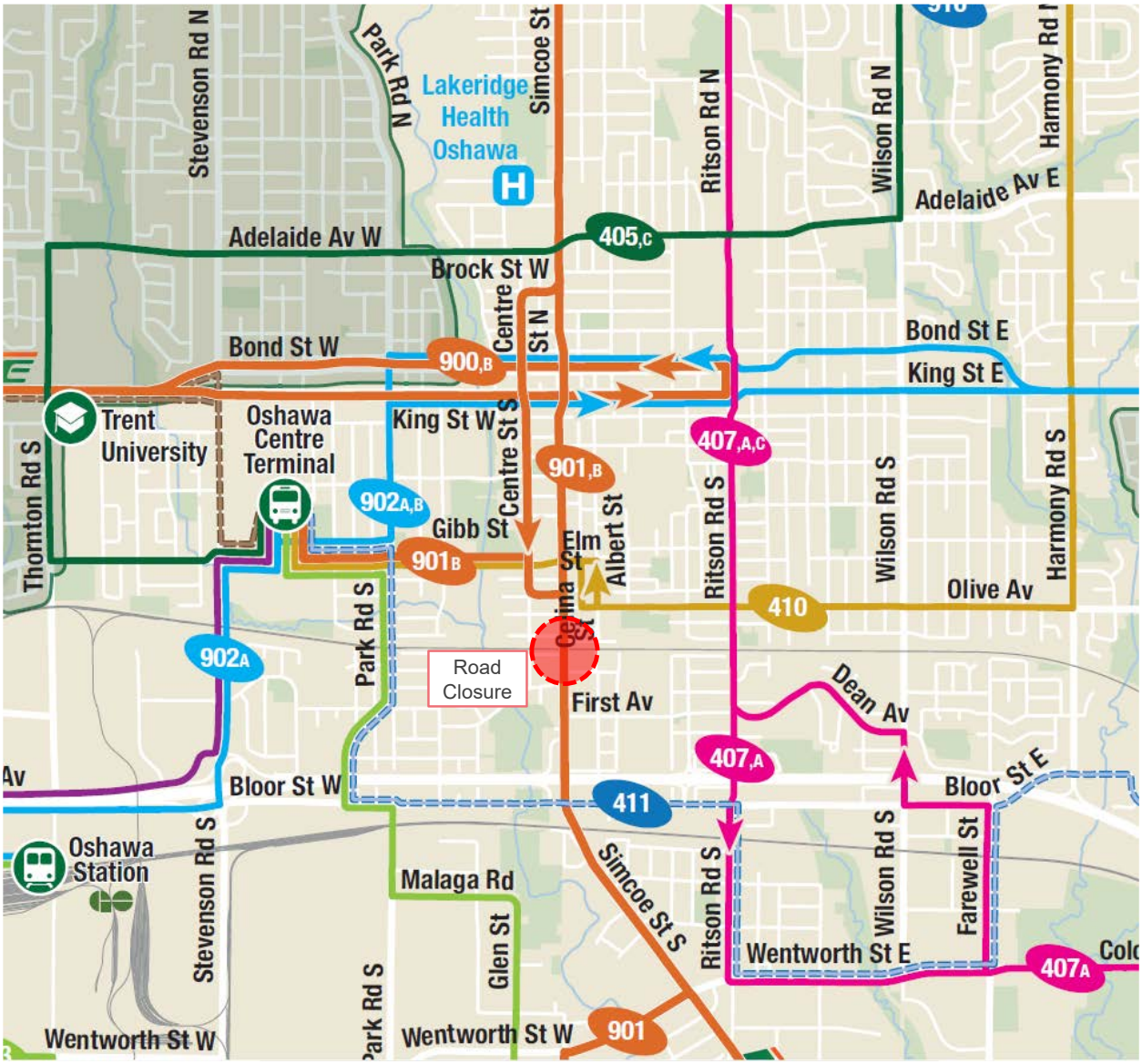
In addition to the redistribution of the traffic to the surrounding area network, the existing transit network, as illustrated in **Figure 50**, will also be affected with the proposed Simcoe Street bridge closure.

Local transit service provided by Durham Region Transit operates Pulse Simcoe 901 and 901B along Simcoe Street to Ontario Tech / Durham College North Campus in the north and Lakeview Park in the south via Oshawa Centre Terminal. This north-south route operates every 30 minutes on weekdays as well as weekends. There is additional overnight service N2 operating along Simcoe Street in the proposed closure vicinity.

There are bus stop locations near Royal Street and Albany Street along Simcoe Street that serve both the DRT routes located north and south of the proposed road closure, respectively. With the proposed road closure along Simcoe Street, these services will be affected and will require a temporary bus route detour and relocation of bus stop locations.

As part of the temporary Simcoe Street bridge closure, it is recommended that DRT Route 901 and 901B be detoured to First Avenue and Olive Avenue via Ritson Road. This routing will maintain transit service as close as possible to existing routing and will minimize transit access impacts.

Figure 50: Existing DRT Transit Service in the Simcoe Street Vicinity



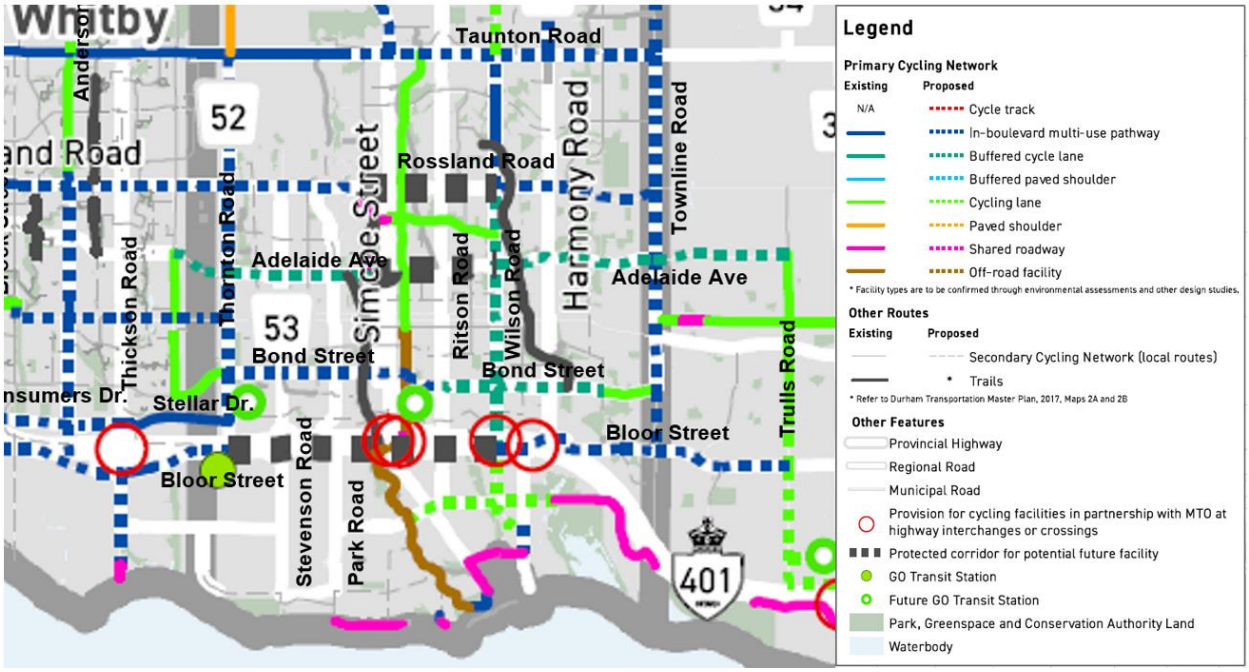
Source: Durham Region Transit System Map (April 2022)

7.1.6 Pedestrian and Cycling Network

Simcoe Street has sidewalks on either side of the roadway in the vicinity of the proposed closure.

Based on Regional Cycling Plan 2021, there is no cycling facility proposed in the vicinity of Simcoe Street Closure. It is illustrated in **Figure 51**.

Figure 51: Cycling Network along Simcoe Street



The Michael Starr Trail, located just east of the closure, provides a north-south connection between Bruce Street in the north and Lviv Blvd in the south and accommodates pedestrian and cycling movements across the CP Rail corridor through an at-grade crossing.

The pedestrian and cycling will need to be rerouted east via Michael Starr Trail to cross the CP rail corridor to divert back onto Simcoe Street. Another option is to use the Joseph Kolodzie Oshawa Creek Bike Path on the west via Mill Street further north to Gibb Street to return to Simcoe Street.

Additionally, the City of Oshawa's Active Transportation Master Plan Technical Report (2015) identifies proposed on-road bicycle lanes in the study area including along Mill Street and First Avenue. No pedestrian facilities proposed along in the vicinity of Simcoe Street Closure.

7.2 Ritson Road Closure

As part of the construction staging for the proposed rail expansion, Ritson Road bridge over the existing CP rail corridor will be affected. A temporary closure of the bridge located between Mitchell Avenue and Viola Avenue will be needed.

The focus area around the proposed B2 GO Station and the roadway network in the vicinity will be affected by the Ritson Road bridge closure. The proposed temporary road closure for this section of Ritson Road was analyzed by redistributing the link volumes at the closure location to the remaining network area roadways. The existing traffic volume data was used to analyze this scenario. The 2017 DRTPM model was used to estimate anticipated traffic redistribution as a result of the closure.

7.2.1 Roadway Network

Ritson Road is classified as an arterial and under Durham Region jurisdiction. Ritson Road travels north-south in the vicinity of the proposed closure and connects to Olive Avenue (Regional Road 59) in the north and Toronto Avenue, in the south, that provides access to westbound on and off ramp for Hwy 401. There are two travel lanes in each direction at the proposed bridge closure location with no on-street parking permitted.

The Ritson Road bridge provides pedestrian access with approximately 3m wide sidewalks on either side. There are mostly commercial properties immediately adjacent to Ritson Road on the southside of the bridge and residential and park on the northside. Local access will be allowed for those locations, however, through access across the bridge will be restricted for the duration of the construction.

Figure 52 illustrates the northbound approach of the Ritson Road bridge closure location.

Figure 53 illustrates the southbound approach of the Ritson Road bridge closure location.

Figure 52: Ritson Road Closure Northbound Approach

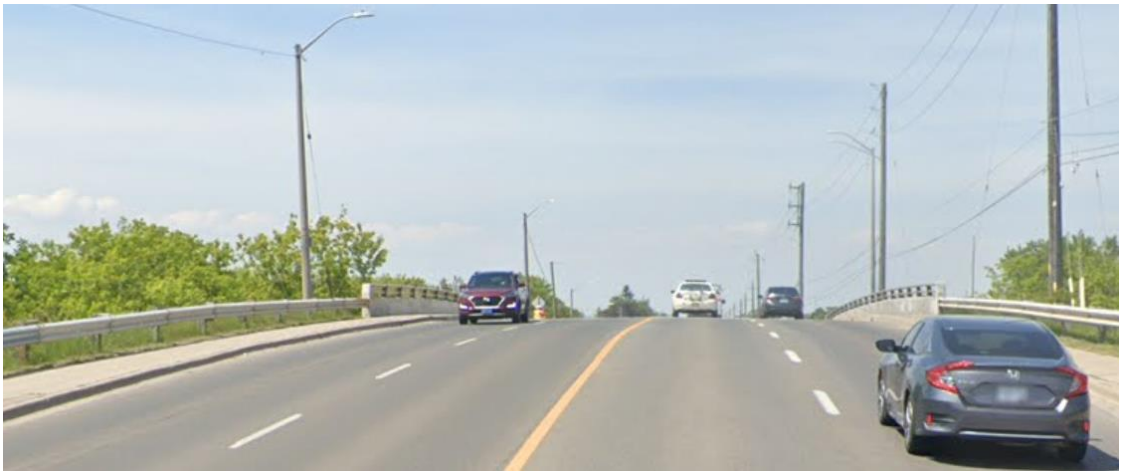


Figure 53: Ritson Road Closure Southbound Approach

7.2.2 Ritson Road Closure Traffic Diversion

Under the Ritson Road closure scenario, traffic currently using the roadway will need to be redirected. Based on the traffic count data collected, there are approximately a total of 2,000 veh/hr traveling in the north-south direction during the AM and PM peak hour.

These vehicle trips were redistributed based on the most likely adjacent area roadways. The DRTPM regional model, was reviewed to estimate anticipated traffic redistribution.

The 2017 DRTPM model was modified to reflect the Ritson Road closure at the CP Rail corridor. Model outputs were generated with this network adjustment and results were obtained. The DRTPM estimated net change in traffic distribution due to the Ritson Road closure is illustrated in **Figure 54**.

Figure 54: Ritson Road Closure Traffic Diversion (2017 DRTPM)

Based on the 2017 DRTPM model outputs and a review of surplus roadway capacity, the following traffic diversion assumptions were made for impacted traffic on Ritson Road:

- 40% of impacted Ritson Road traffic is diverted to Simcoe Street
- 15% of impacted Ritson Road traffic is diverted to Wilson Street
- 10% of impacted Ritson Road traffic is diverted to Park Road
- 10% of impacted Ritson Road traffic is diverted to Albert Street[7]
- 10% of impacted Ritson Road traffic is diverted to Harmony Road
- 15% of traffic is assumed to seek other alternate roads, shift travel time or mode

As per the information received from the Region of Durham, the intersection of Harmony Road and Tennyson Avenue / Court experiences a high number of reported collisions that can be related to its poor sightlines and speeding issues. Construction Traffic Control and Management Plan(s) will be developed with consideration to mitigate this issue by reducing detoured traffic volume to this intersection.

[7] The existing bridge over the rail corridor will be removed at Albert Street, resulting in a permanent impact to the road network. The impact of Albert Street Bridge closure on Ritson Street closure and its detours will be further studied through development of the Traffic Control and Management Plans.

7.2.3 Ritson Road Closure Traffic Volumes

Ritson Road closure AM and PM peak period traffic volumes for the boundary road network and around the future GO station are illustrated in **Figure 55** and **Figure 56**, respectively.

Figure 55: Station B2 Ritson Road Closure Traffic Volumes (Boundary Road Network)

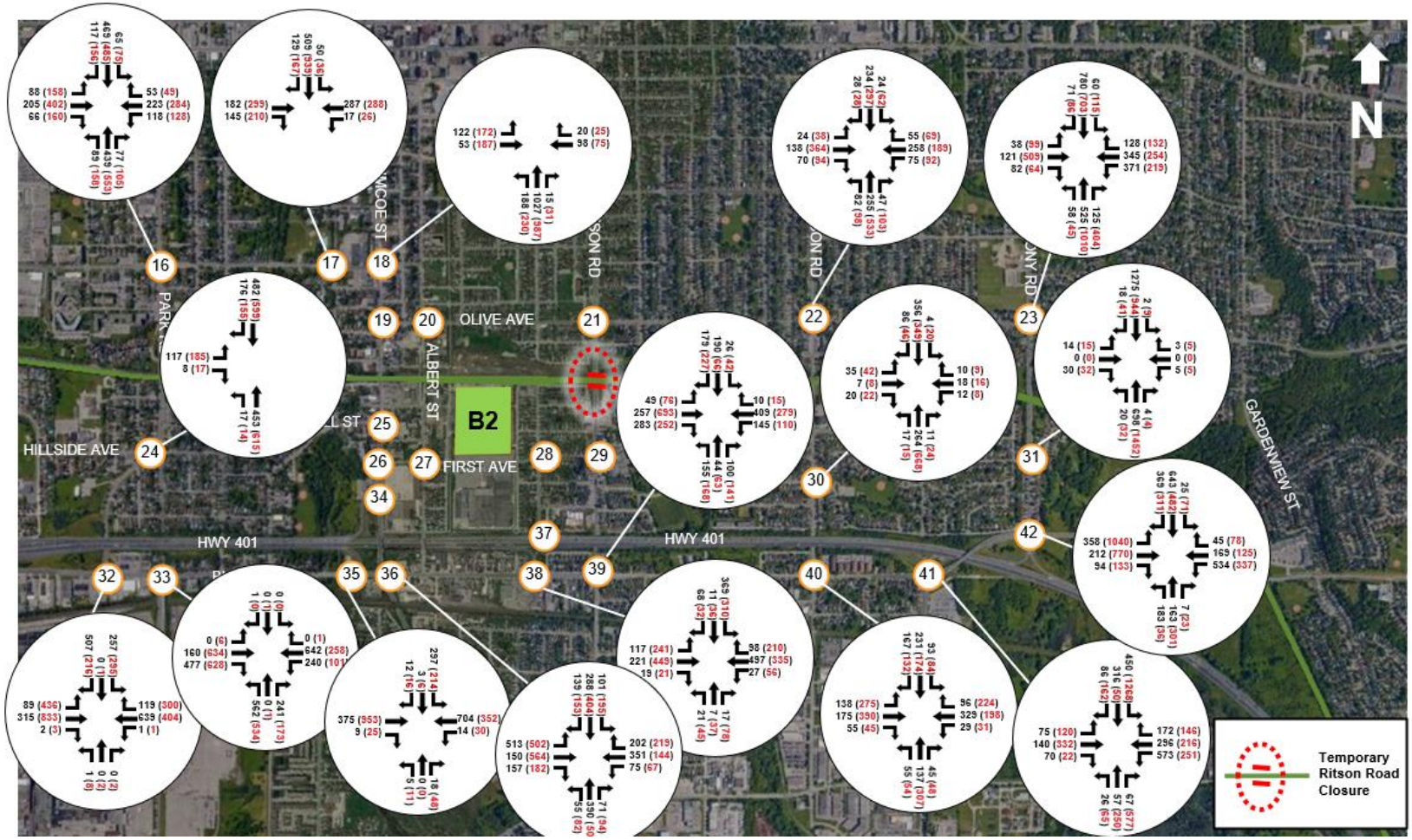
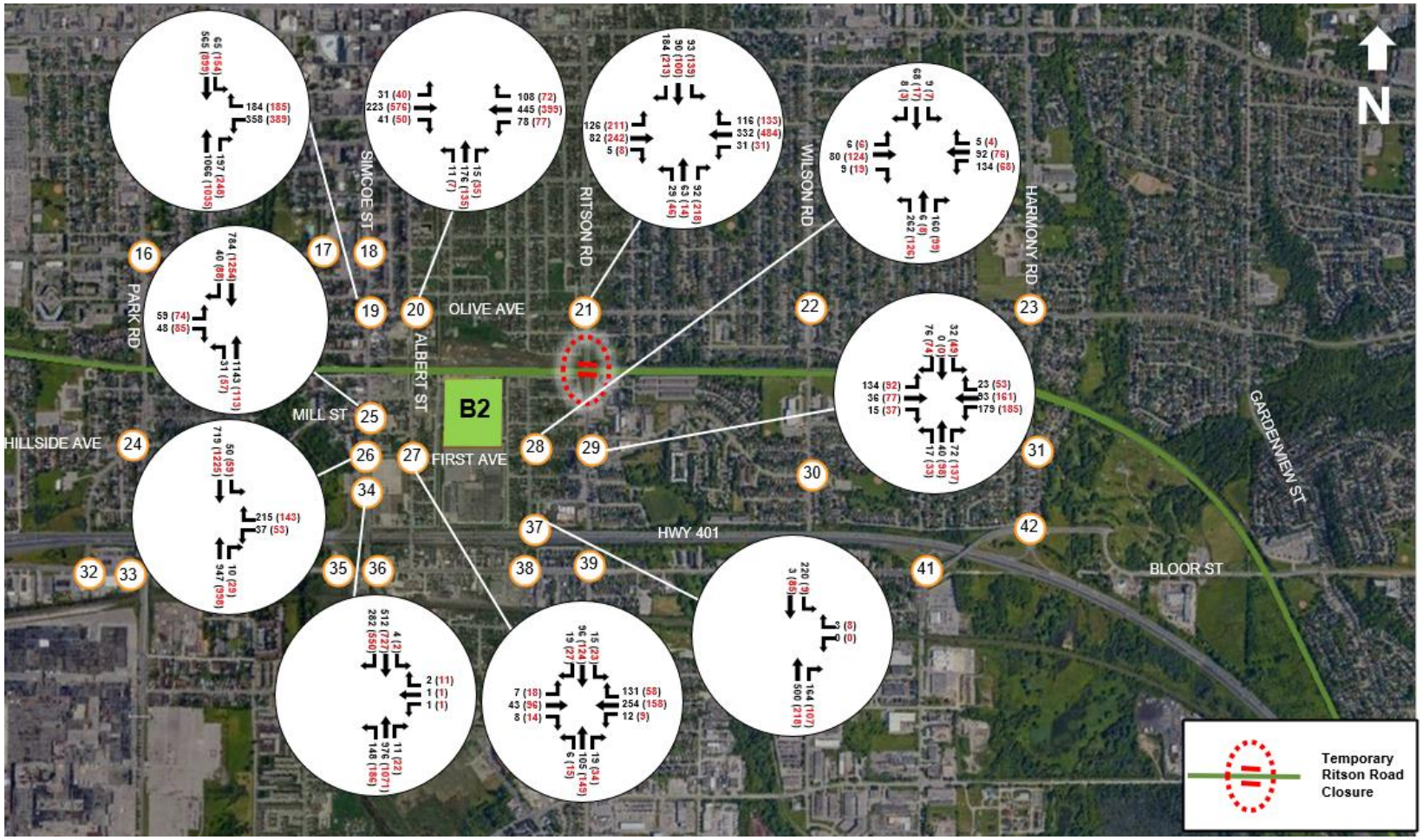


Figure 56: Station B2 Ritson Road Closure Traffic Volumes (Around Station)



7.2.4 Ritson Road Closure Level of Service Analysis

The intersection level of service analysis was conducted using the Synchro 10 software package. The existing signal timing parameters received from the Region of Durham were used and further optimized or modified, as necessary.

The following intersections were identified with critical intersection movements operating at v/c ratios of 0.90 or higher, and LOS E or more.

Olive Avenue / Simcoe Street (Intersection #19) – This intersection is projected to operate at capacity during the PM peak period. The overall LOS is D that is increased from LOS C in the future background 2031.

Olive Avenue / Ritson Road South (Intersection #21) – This intersection is projected to operate at capacity during the PM peak period. The overall LOS is D with a v/c of 0.95.

Tennyson Avenue and Harmony Road (Intersection #31) – This two-way stop-controlled intersection is projected to operate with excessive delays at a LOS rating of F during the AM and PM peak periods. However, v/c ratios are projected to operate below the critical threshold of v/c 0.90. The traffic monitoring at this intersection is recommended for the duration of the construction.

Simcoe Street / Hwy 401 WB Ramp (Intersection #34) – This stop-controlled intersection is projected to operate with excessive delays at a LOS rating of F during the AM and PM peak periods. However, v/c ratios are projected to operate below the critical threshold of v/c 0.90. The delays are low and the traffic monitoring at this intersection is recommended for the duration of the construction.

Bloor Street West / Hwy 401 EB Ramp (Simcoe Interchange) (Intersection #35) – This intersection is projected to operate at or above theoretical capacity (v/c > 1.00) during the AM and PM peak periods. The traffic monitoring at this intersection is recommended for the duration of the construction.

Bloor Street East / Simcoe Street South (Intersection #36) – This intersection is projected to operate above the critical threshold of v/c 0.90 during the PM peak period. The LOS and delay measures are acceptable, and no action is required.

Bloor Street / Farewell St/ Hwy 401 Ramp (Intersection #41) – This intersection is projected to operate at or above theorical capacity (v/c > 1.00) during the PM peak period. The delay during PM peak hour is low and the traffic monitoring at this intersection is recommended for the duration of the construction.

Bloor Street / Harmony Road (Intersection #42) - This intersection is projected to operate at or above theorical capacity (v/c > 1.00) during the AM and PM peak period.

Table 20 provides the level of service analysis for the study area intersections that will be affected by the Ritson Road closure traffic volume redistribution. The intersections' LOS results are illustrated in **Figure 57.**

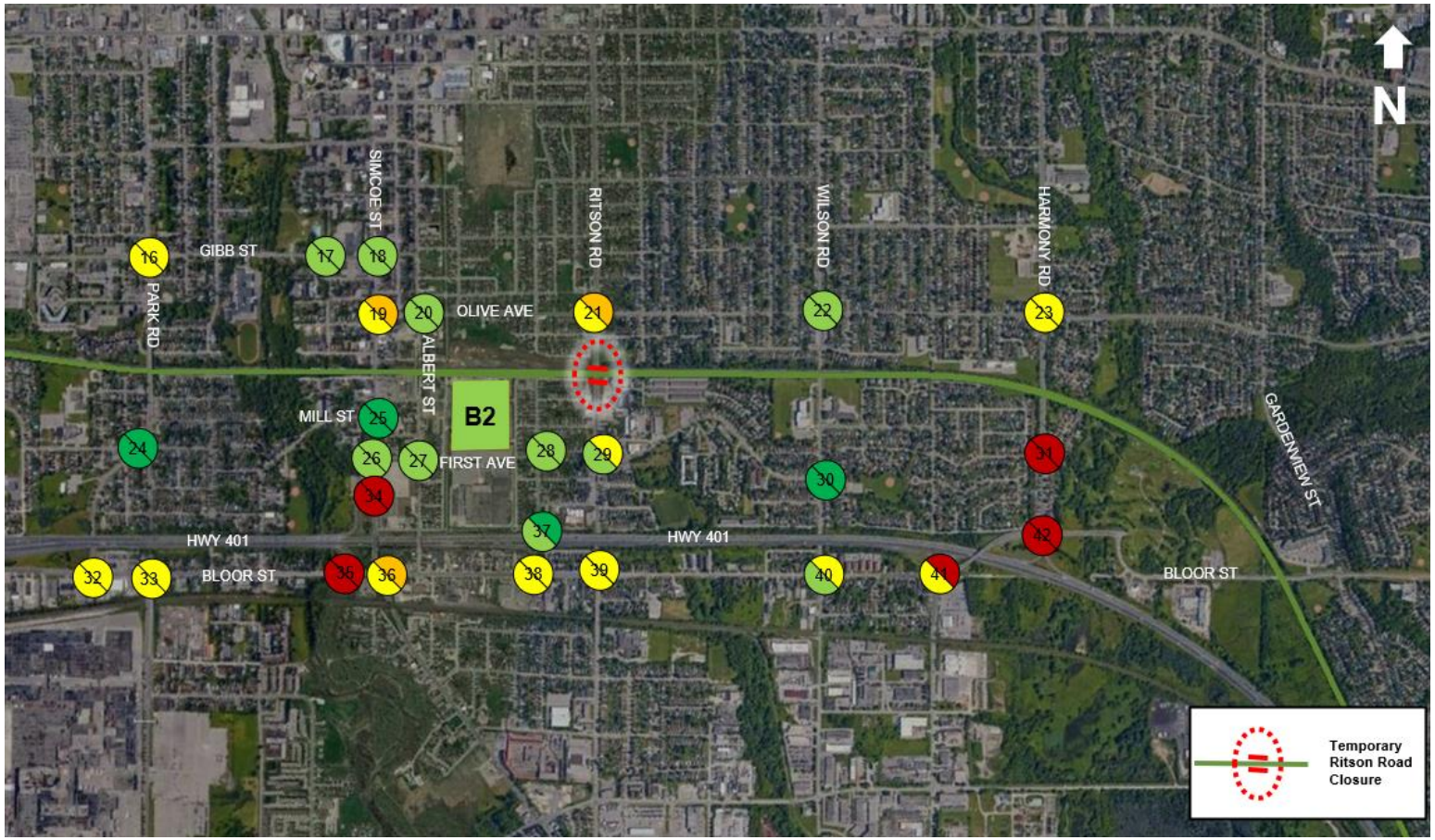
Detailed intersection performance outputs are provided in **Appendix A**.

Table 20: Ritson Road Closure Study Area Level of Service

Node #	Intersection	AM			PM		
		V/C	Delay	LOS	V/C	Delay	LOS
16	Gibb Street / Park Road South	0.63	25.9	C	0.65	27.2	C
17	Gibb Street / Centre Street	0.47	13.0	B	0. 60	15.3	B
18	Gibb Street / Simcoe Street	0.63	13.0	B	0.65	14.2	B
19	Olive Avenue / Simcoe Street	0.89	29.5	C	1.00	50.0	D
20	Olive Avenue / Albert Street	0.76	15.2	B	0.78	15.8	B
21	Olive Avenue / Ritson Road South	0.66	34.5	C	0.95	41.4	D
22	Olive Avenue / Wilson Road South	0.50	14.5	B	0.74	17.6	B
23	Olive Avenue and Harmony Road	0.81	27.0	C	0.93	31.8	C
24	Park Road South / Hillside Avenue South	0.53	6.2	A	0.59	8.6	A
25	Mill Street / Simcoe Street	0.65	6.0	A	0.74	8.4	A
26	First Avenue / Simcoe Street	0.69	11.3	B	0.90	13.6	B
27	First Avenue / Albert Street	0.46	10.2	B	0.31	11.8	B
28	First Avenue / McNaughton Avenue / Drew Street	0.57	13.7	B	0.29	12.9	B
29	McNaughton Avenue / Ritson Road South	0.70	16.8	B	0.74	22.0	C
30	Dean Avenue / Wilson Road South	0.45	7.7	A	0.69	8.2	A
31	Tennyson Avenue and Harmony Road	0.42	56.4	F	0.48	119.7	F
32	Bloor Street West / Park Road South	0.63	26.8	C	0.93	27.4	C
33	Bloor Street East / Park Road South	0.85	24.9	C	0.82	24.2	C
34	Simcoe Street / Hwy 401 WB Ramp	0.22	55.3	F	0.46	66.3	F
35	Bloor Street West / Hwy 401 EB Ramp (Simcoe Interchange)	1.19	147.3	F	1.03	105.9	F

Node #	Intersection	AM			PM		
		V/C	Delay	LOS	V/C	Delay	LOS
36	Bloor Street East / Simcoe Street South	0.89	33.7	C	0.92	35.5	D
37	Drew Street / Bloor Steet / Hwy 401 Ramp	0.42	13.5	B	0.21	9.9	A
38	Bloor Street East / Hwy 401 (South Ramp- Ritson Interchange)	0.85	22.7	C	0.83	20.5	C
39	Ritson Road / Bloor Street	0.38	20.9	C	0.49	25.5	C
40	Wilson Road / Bloor Street	0.72	17.6	B	0.81	20.9	C
41	Bloor Street / Farewell St/ Hwy 401 Ramp	0.83	26.3	C	1.11	78.0	F
42	Bloor Street / Harmony Road	1.44	113.0	F	1.50	98.2	F

Figure 57: Ritson Road Closure Level of Service



7.2.5 Transit Service

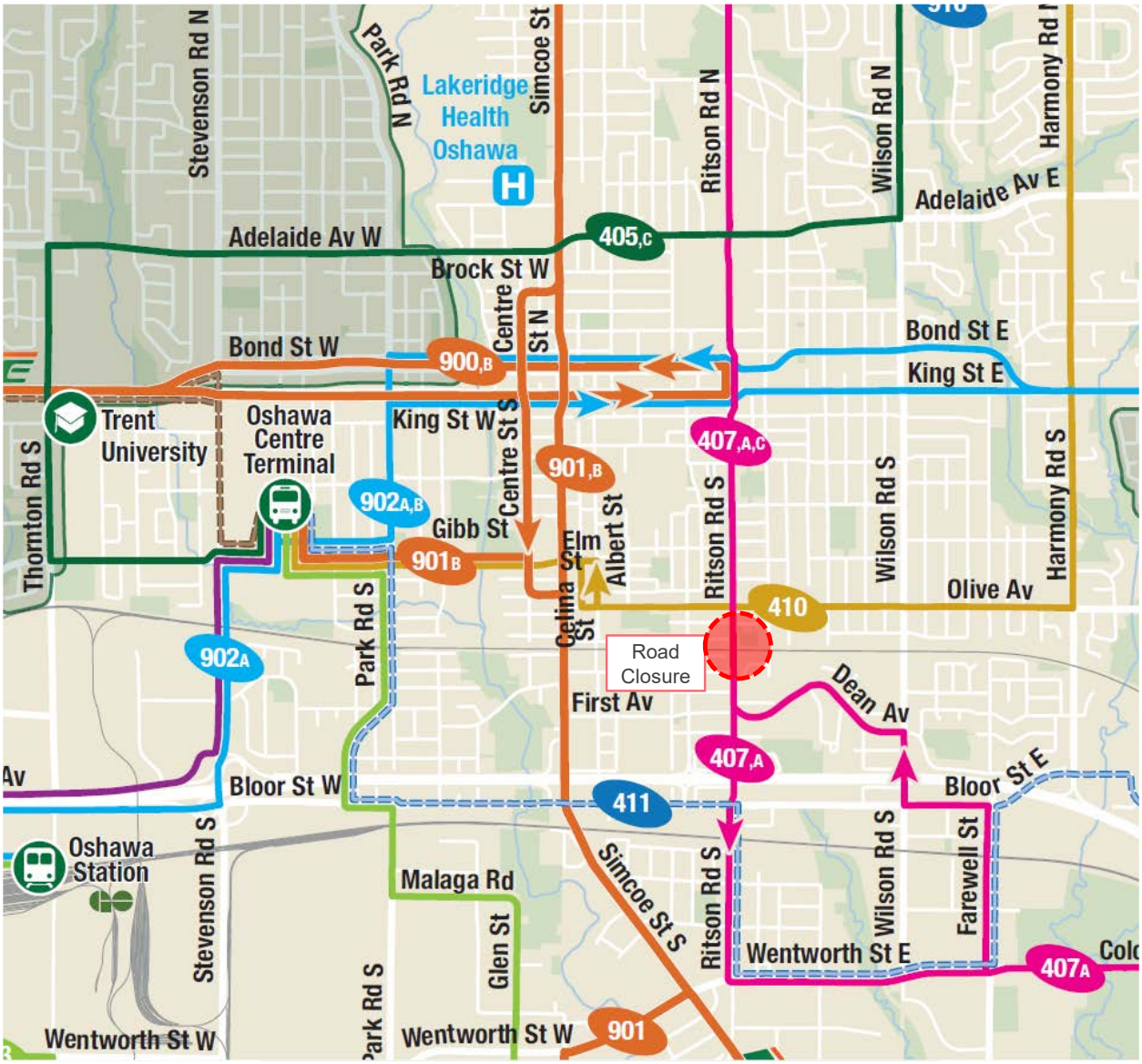
In addition to the redistribution of the traffic to the surrounding area network, the existing transit network will also be affected with the proposed Ritson Road bridge closure.

Local transit service provided by Durham region Transit operates 407 Ritson Route along Ritson Road to Harmony Terminal to the north and Colonel Sam Drive to the south. This north-south route operates every 30 minutes on weekdays as well as weekends.

There are bus stop locations near Olive Avenue and Dean Avenue along Ritson Road that serve both the DRT routes located north and south of the proposed road closure, respectively. With the proposed road closure along Simcoe Street, these services will be affected and will require a temporary bus route detour and relocation of bus stop locations.

As part of the temporary Ritson Road bridge closure, it is recommended that DRT Route 407 be detoured to First Avenue and Olive Avenue via Simcoe Street. This routing will maintain transit service as close as possible to existing routing and will minimize transit access impacts.

Figure 58: Existing DRT Transit Service in the Ritson Road Vicinity



Source: Durham Region Transit System Map (April 2022)

7.2.6 Pedestrian and Cycling Network

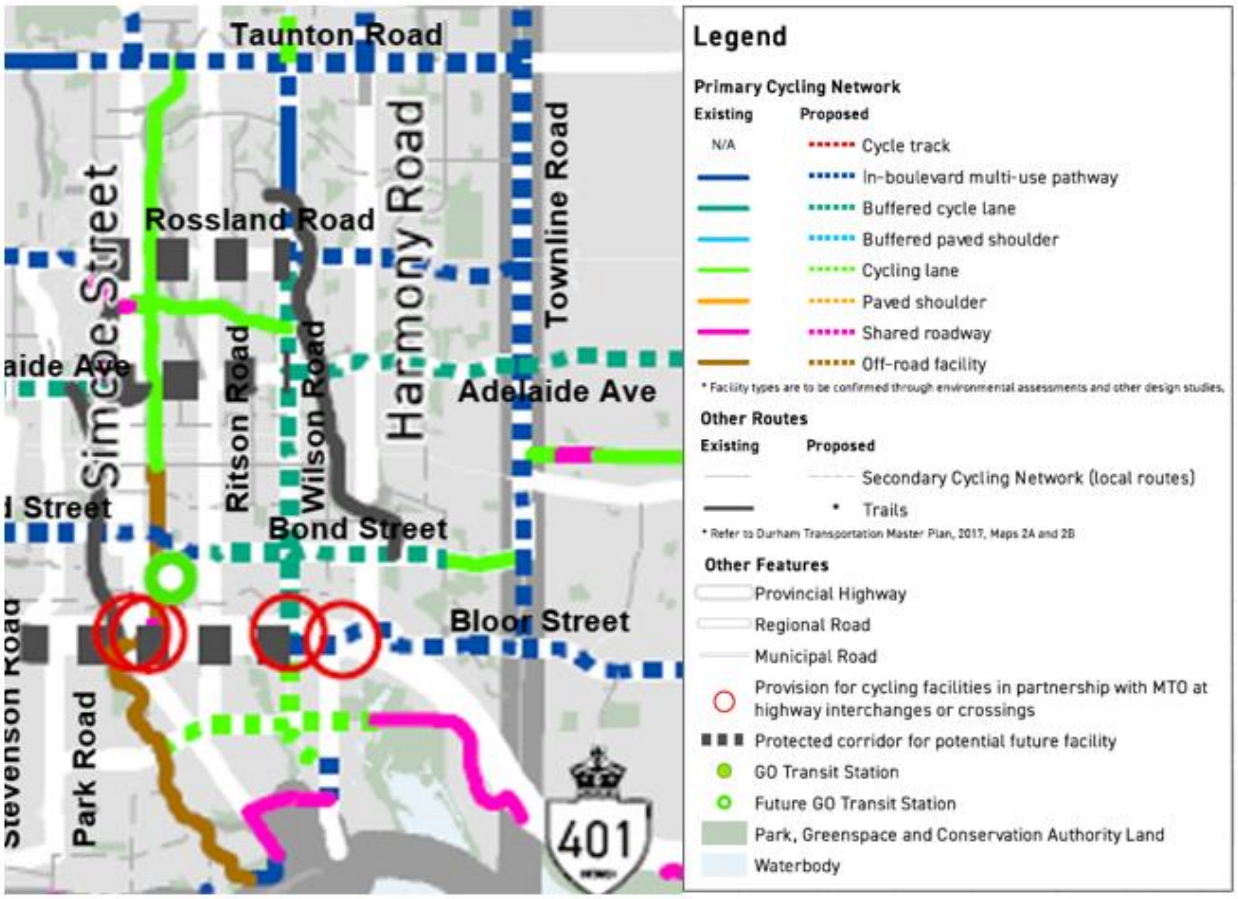
Ritson Road has sidewalks on either side of the roadway in the vicinity of the proposed closure. Active transportation users will experience temporary (i.e., during construction) inconvenience and additional travel time and distance to cross the rail corridor during the Ritson Road closure as there are no other crossings in proximity to Ritson Road.

There are no cycling facilities along Ritson Road currently. The Michael Starr Trail is located west of Ritson Road. The Michael Starr Trail currently accommodates pedestrian and cycling movements across the CP Rail corridor through an at-grade crossing.

As shown in the figure, there are proposed east-west cycling facilities that cross Ritson Road, however, with lack of any existing facility in close proximity to the proposed road closure, no significant impact on cycling is expected.

Based on 2021 Regional Cycling Plan, there is no cycling facility proposed in vicinity of Ritson Road Closure. It is illustrated in **Figure 59.**

Figure 59: Cycling Network around Ritson Road



According to the City of Oshawa's Active Transportation Master Plan (ATMP) Technical Report (2015) there is no plan to provide cycling and trail network along Ritson Road in the vicinity of the proposed road closure. The ATMP identifies cycling improvements in the adjacent road network. These improvements include:

- cycling facilities along Olive Avenue where bicycle lanes are proposed east of Ritson Road
- a multi-use trail proposed west of Ritson Road
- bicycle lanes along Wilson Road and Dean Avenue

The proposed closure of Ritson Road will not impact these future facilities. No pedestrian facilities are proposed in the vicinity of Ritson Road and the rail corridor.

8.0 Summary & Conclusions

In February 2011, the Oshawa to Bowmanville Rail Service Expansion and Rail Maintenance Facility Environmental Project Report (EPR) was prepared. The EPR consisted of installing additional track along the existing CP Rail corridor to accommodate extended train service, a new connection from the GO Lakeshore East Rail Corridor to the CP Rail corridor and the construction of new stations, a new maintenance facility and a new layover facility.

Since the completion of the EPR in 2011, Metrolinx has advanced the design of the project and engaged Stantec to complete an EPR Addendum to the 2011 EPR. As part of the EPR Addendum, a Traffic Impact Analysis study was completed to document the transportation assessments for the proposed extension of the Lakeshore East GO Rail service from the DC Oshawa GO to Bowmanville.

The Traffic Impact Analysis focused on study area intersection in and around the four proposed GO stations, namely:

- Focus Area B1: Thornton's Corners East GO Station
- Focus Area B2: Ritson GO Station
- Focus Area B3: Courtice GO Station
- Focus Area B4: Bowmanville GO Station

The traffic assessment considered three scenarios: *Existing Conditions, Future 2031 Conditions,* and Construction Staging scenarios to support the extension of GO Rail to Bowmanville. This study is a high-level and strategic assessment and provides an understanding of the existing and future network operations within the study areas. Multi-modal planning and analysis for each proposed station site will be provided at later stages of the Project when further details of the proposed GO stations and their adjacent TOC plans become available in accordance with the municipal planning process and subject to delivery through Metrolinx's TOC Program.

A summary of the analysis results is provided below for each Focus Area:

Focus Area B1: Thornton's Corners East Station

Under Existing Conditions, a number of intersections along Stevenson Road South are currently operating at or close to capacity. Indicating that additional improvements, particularly around the Highway 401 Interchanges, may be required to support further development growth.

It is anticipated that under Future 2031 Conditions, a number of intersections will operate at or close to theoretical capacity (i.e., v/c > 1.00). These include intersections along Thickson Road South, and Stevenson Road South. This indicates that additional roadway capacity may be warranted on this corridor to support future development growth.

Construction activities such as site preparation, temporary laydown areas, and roadworks may result in full closure at Stevenson Road, and partial road and lane closures that may affect traffic and travel times. Construction activities may require temporary, non-peak period lane reductions where needed.

Focus Area B2: Ritson Road

Under Existing Conditions, all study area intersections are operating acceptably during the AM and PM peak periods.

Under Future 2031 Conditions, a number of roadway infrastructure improvements are anticipated to be in place. These include Highway 401 Interchange improvements, the realignment and widening of Olive Avenue to Gibb Street, the Bloor Street realignment and widening east of Farewell Street, and the two-way conversion of Albert Street and Court Street north of Olive Avenue. In addition, the Albert Street Bridge over the CP Rail Corridor was assumed to be removed.

Under Future 2031 Conditions, a number of intersections are projected to operate at or close to theoretical capacity (i.e., v/c > 1.00). These include the intersections of Olive Avenue / Harmony Road, First Avenue / Simcoe Street, Tennyson Avenue / Harmony Road, Bloor Street / Harmony Road, and Bloor Street / Grandview Street. It is recommended that additional assessments be conducted to validate potential transportation infrastructure improvements required to support development growth.

Construction of the Lakeshore East GO Rail extension to Bowmanville is anticipated to require two temporary road closures within Focus Area B2. As part of the track works, the current bridge crossings of the CP Rail corridor will need to be replaced at Simcoe Street and Ritson Street. This will require temporary, full road closures to accommodate the bridge replacements. Ritson Road will facilitate detoured traffic from Simcoe Street during the replacement of the Simcoe Street Bridge. Similarly, Simcoe Street will facilitate detoured traffic from Ritson Road during the Ritson Road Bridge replacement. Construction activities such as site preparation, temporary laydown areas, and roadworks may also result in full closures at Park Road and Harmony Road.

The closures are anticipated to result in localized impacts with intersections operating at or close to theoretical capacity. These includes the intersection of Olive Avenue / Ritson Road, Highway 401 and Bloor Street interchange intersections, as well as the intersection of Bloor Street / Harmony Road.

The closures are also anticipated to impact local transit service routes 901B on Simcoe Street, and Route 407 on Ritson Road. Temporary bus route detours will be required during the bridge closures, it is recommended that detoured buses utilize First Avenue and Olive Avenue during the bridge closures.

Focus Area B3: Courtice

Under Existing Conditions, all study area intersections are currently operating with acceptable levels of service.

Under Future 2031 Conditions, a number of roadway improvements are assumed to be in place to support planned development growth in the vicinity of the future station near Courtice Road. These improvements include the assumed extension of Townline Road towards Prestonvale Road, Trulls Road, and Courtice Road. Other improvements include the implementation of traffic control signals and auxiliary turn lanes at study are intersections. It is assumed that the Townline Road extension and other localized intersection improvements will be in place to support development growth.

Under Future 2031 Conditions, study area intersections around Focus Area B3 are anticipated to operate acceptably.

Construction activities such as site preparation, temporary laydown areas, and roadworks may result in full closure at Courtice Road. Construction activities may require temporary, non-peak period lane reductions where needed.

Focus Area B4: Bowmanville

Under Existing Conditions, all study area intersections are currently operating with acceptable levels of service with the exception of the Bowmanville Avenue / Energy Drive intersection during the PM Peak period.

The intersections of Bowmanville Avenue with Energy Drive and Highway 401 westbound ramp and intersection of Highway 401 eastbound ramp and Energy Drive which are currently operating as Stop-Controlled intersections at or close to capacity during the PM Peak period. It is recommended that a traffic signal warrant be undertaken at these intersections to confirm the need for traffic control signals.

Under Future 2031 Conditions, a number of roadway improvements are assumed to be in place to support planned development growth in the vicinity of the future station near Bowmanville Avenue. These improvements include roadway widening of Bowmanville Avenue to a 4-lane cross section between Highway 2 and the north Highway 401 interchange (E-N/S), this assumes that the existing bridge over Highway 401 is in place.

Under Future 2031 Conditions, study area intersections around Focus Area B4 are anticipated to operate acceptably with the exception of the Highway 401 interchanges and the intersection of Highway 2 / Bowmanville Avenue. It is anticipated that the widening of Bowmanville Avenue to the Highway 401 interchanges is needed. In addition, the localized widening and addition of auxiliary turn lanes at the intersection of Highway 2 / Bowmanville Avenue is anticipated to be required by the Future 2031 horizon.

Construction Staging Scenario

This report evaluated the impacts anticipated for the temporary closures of the Simcoe Street and Ritson Road bridges to facilitate replacement of the bridge structures over the existing CP Rail corridor. Road closure is not currently planned at any other bridge crossings, although this will be confirmed through detailed design.

Under both the Simcoe Street and Ritson Road closure scenarios, traffic currently using these roadways will need to be redirected. For Simcoe Street, five intersections were identified with critical intersection movements operating at v/c ratios of 0.90 or higher, and LOS E. For Ritson Road, eight intersections were identified with critical intersection movements operating at v/c ratios of 0.90 or higher, and LOS E or more.

Due to the closure of the Simcoe Street and Ritson Road bridges for construction, DRT routes may be impacted due to rerouting or traffic delays. Pedestrians and cyclists may experience similar temporary rerouting during construction activities.

Prior to construction activities on Simcoe Street, Ritson Road, and other impacted roads, Traffic Control and Management Plan(s) will be developed, as applicable, to maintain reasonable access through work zones, to the extent possible.

Construction staging scenarios assessed are considered conceptual and subject to refinement as planning progresses and further consultation is undertaken with applicable municipalities and agencies. If required, additional traffic assessment(s) will be undertaken in accordance with applicable guidelines.

9.0 References

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Appendix A
Detailed Intersection LOS Results

HCM Signalized Intersection Capacity Analysis
1: RR 26 (THICKSON RD) & BURNS ST

Existing
Timing Plan: Default

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	279	62	952	92	25	1408
Future Volume (vph)	279	62	952	92	25	1408
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	6.1		6.1	6.1
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	0.98	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1747	1527	3270		1394	3433
Flt Permitted	0.95	1.00	1.00		0.19	1.00
Satd. Flow (perm)	1747	1527	3270		282	3433
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	303	67	1035	100	27	1530
RTOR Reduction (vph)	0	28	10	0	0	0
Lane Group Flow (vph)	303	39	1125	0	27	1530
Confl. Peds. (#/hr)	2	4				
Heavy Vehicles (%)	2%	3%	8%	5%	28%	4%
Turn Type	Perm	Perm	NA		Perm	NA
Protected Phases			2			6
Permitted Phases	8	8			6	
Actuated Green, G (s)	15.8	15.8	32.5		32.5	32.5
Effective Green, g (s)	15.8	15.8	32.5		32.5	32.5
Actuated g/C Ratio	0.26	0.26	0.54		0.54	0.54
Clearance Time (s)	5.6	5.6	6.1		6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	460	402	1771		152	1859
v/s Ratio Prot			0.34			c0.45
v/s Ratio Perm	c0.17	0.03			0.10	
v/c Ratio	0.66	0.10	0.64		0.18	0.82
Uniform Delay, d1	19.7	16.7	9.6		7.0	11.4
Progression Factor	1.00	1.00	0.76		1.00	1.00
Incremental Delay, d2	3.4	0.1	1.6		2.5	4.3
Delay (s)	23.1	16.8	8.9		9.5	15.6
Level of Service	C	B	A		A	B
Approach Delay (s)	22.0		8.9			15.5
Approach LOS	C		A			B

Intersection Summary			
HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: RR 26 (THICKSON RD) & RR 25 (CONSUMERS DR)/RR 25 (STELLAR DR)

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	165	351	153	290	96	524	965	296	119	971	305
Future Volume (vph)	135	165	351	153	290	96	524	965	296	119	971	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.6	6.6	3.0	6.6	6.6	6.4	6.4	6.4	3.0	6.4	6.4
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1578	3187	1309	1431	3187	1377	1526	4422	1321	1606	4460	1454
Flt Permitted	0.44	1.00	1.00	0.64	1.00	1.00	0.11	1.00	1.00	0.26	1.00	1.00
Satd. Flow (perm)	731	3187	1309	962	3187	1377	174	4422	1321	441	4460	1454
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)	147	179	382	166	315	104	570	1049	322	129	1055	332
RTOR Reduction (vph)	0	0	326	0	0	89	0	0	134	0	0	159
Lane Group Flow (vph)	147	179	56	166	315	15	570	1049	188	129	1055	173
Confl. Peds. (#/hr)	4		10	10		4	3		17	17		3
Heavy Vehicles (%)	13%	12%	19%	24%	12%	14%	17%	16%	16%	11%	15%	8%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	22.6	17.6	17.6	22.6	17.6	17.6	81.4	70.2	70.2	38.8	30.6	30.6
Effective Green, g (s)	22.6	17.6	17.6	22.6	17.6	17.6	81.4	70.2	70.2	38.8	30.6	30.6
Actuated g/C Ratio	0.19	0.15	0.15	0.19	0.15	0.15	0.68	0.59	0.59	0.32	0.26	0.26
Clearance Time (s)	3.0	6.6	6.6	3.0	6.6	6.6	6.4	6.4	6.4	3.0	6.4	6.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	172	467	191	200	467	201	618	2586	772	222	1137	370
v/s Ratio Prot	c0.04	0.06		0.03	0.10		c0.34	0.24		0.04	0.24	
v/s Ratio Perm	c0.12		0.04	0.12		0.01	c0.28		0.14	0.15		0.12
v/c Ratio	0.85	0.38	0.29	0.83	0.67	0.08	0.92	0.41	0.24	0.58	0.93	0.47
Uniform Delay, d1	46.3	46.3	45.7	45.8	48.5	44.2	29.9	13.5	12.1	38.0	43.6	37.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.99	1.57	1.29	1.13	1.53
Incremental Delay, d2	31.5	0.5	0.9	23.9	3.8	0.2	18.4	0.4	0.7	2.4	9.8	2.7
Delay (s)	77.9	46.8	46.5	69.7	52.3	44.3	47.4	13.9	19.6	51.4	59.2	60.5
Level of Service	E	D	D	E	D	D	D	B	B	D	E	E
Approach Delay (s)		53.1			55.8			24.7			58.8	
Approach LOS		D			E			C			E	

Intersection Summary			
HCM 2000 Control Delay	43.6	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.4
Intersection Capacity Utilization	87.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: RR 26 (THICKSON RD) & HWY 401 WB RAMP

Existing
Timing Plan: Default

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	286	708	693	0	0	1251
Future Volume (vph)	286	708	693	0	0	1251
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%			3%
Total Lost time (s)	6.2	6.2	5.7			5.7
Lane Util. Factor	0.97	0.91	0.91			0.91
Frt	0.92	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	2760	1232	4347			4282
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	2760	1232	4347			4282
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	311	770	753	0	0	1360
RTOR Reduction (vph)	60	60	0	0	0	0
Lane Group Flow (vph)	636	325	753	0	0	1360
Heavy Vehicles (%)	19%	18%	18%	0%	0%	18%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	20.6	20.6	27.5			27.5
Effective Green, g (s)	20.6	20.6	27.5			27.5
Actuated g/C Ratio	0.34	0.34	0.46			0.46
Clearance Time (s)	6.2	6.2	5.7			5.7
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	947	422	1992			1962
v/s Ratio Prot	0.23		0.17			c0.32
v/s Ratio Perm		c0.26				
v/c Ratio	0.67	0.77	0.38			0.69
Uniform Delay, d1	16.8	17.6	10.6			12.9
Progression Factor	1.00	1.00	0.83			1.60
Incremental Delay, d2	1.9	8.2	0.5			1.1
Delay (s)	18.7	25.8	9.3			21.7
Level of Service	B	C	A			C
Approach Delay (s)	21.2		9.3			21.7
Approach LOS	C		A			C

Intersection Summary			
HCM 2000 Control Delay	18.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: RR 26 (THICKSON RD) & HWY 401 EB RAMP

Existing
Timing Plan: Default

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	353	289	0	463	1011	0
Future Volume (vph)	353	289	0	463	1011	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%			3%	0%	
Total Lost time (s)	5.6	5.6		5.8	5.8	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3022	1135		3770	4310	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3022	1135		3770	4310	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	384	314	0	503	1099	0
RTOR Reduction (vph)	0	10	0	0	0	0
Lane Group Flow (vph)	384	304	0	503	1099	0
Heavy Vehicles (%)	14%	40%	0%	34%	19%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	20.8	20.8		27.8	27.8	
Effective Green, g (s)	20.8	20.8		27.8	27.8	
Actuated g/C Ratio	0.35	0.35		0.46	0.46	
Clearance Time (s)	5.6	5.6		5.8	5.8	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1047	393		1746	1996	
v/s Ratio Prot	0.13			0.13	c0.25	
v/s Ratio Perm		c0.27				
v/c Ratio	0.37	0.77		0.29	0.55	
Uniform Delay, d1	14.7	17.5		10.0	11.6	
Progression Factor	1.00	1.00		1.00	1.49	
Incremental Delay, d2	0.2	9.1		0.4	0.8	
Delay (s)	14.9	26.6		10.4	18.1	
Level of Service	B	C		B	B	
Approach Delay (s)	20.2			10.4	18.1	
Approach LOS	C			B	B	

Intersection Summary			
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
5: RR 25A (CHAMPLAIN AV) & RR 25 (STELLAR DR)

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	71	117	0	134	2	100	4	4	4	3	75
Future Volume (vph)	102	71	117	0	134	2	100	4	4	4	3	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.7	6.7			6.7		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95			0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.91			1.00		1.00	0.93		1.00	0.86	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1716	3044			3528		1684	1738		1785	1489	
Flt Permitted	0.66	1.00			1.00		0.70	1.00		0.75	1.00	
Satd. Flow (perm)	1189	3044			3528		1244	1738		1414	1489	
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)	111	77	127	0	146	2	109	4	4	4	3	82
RTOR Reduction (vph)	0	55	0	0	1	0	0	3	0	0	69	0
Lane Group Flow (vph)	111	149	0	0	147	0	109	5	0	4	16	0
Confl. Peds. (#/hr)			3	3								
Heavy Vehicles (%)	4%	1%	7%	0%	1%	0%	6%	0%	0%	0%	33%	7%
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)	26.8	26.8			26.8		7.5	7.5		7.5	7.5	
Effective Green, g (s)	26.8	26.8			26.8		7.5	7.5		7.5	7.5	
Actuated g/C Ratio	0.57	0.57			0.57		0.16	0.16		0.16	0.16	
Clearance Time (s)	6.7	6.7			6.7		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	672	1721			1994		196	275		223	235	
v/s Ratio Prot		0.05			0.04			0.00			0.01	
v/s Ratio Perm	c0.09						c0.09			0.00		
v/c Ratio	0.17	0.09			0.07		0.56	0.02		0.02	0.07	
Uniform Delay, d1	4.9	4.7			4.7		18.4	16.8		16.8	17.0	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.1			0.1		3.4	0.0		0.0	0.1	
Delay (s)	5.5	4.8			4.7		21.8	16.9		16.9	17.1	
Level of Service	A	A			A		C	B		B	B	
Approach Delay (s)		5.0			4.7			21.5			17.1	
Approach LOS		A			A			C			B	

Intersection Summary				
HCM 2000 Control Delay	9.4	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.25			
Actuated Cycle Length (s)	47.4	Sum of lost time (s)	13.1	
Intersection Capacity Utilization	62.0%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: KENDALWOOD RD & BURNS ST E

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	163	1	1	270	106	1	8	2	84	8	85
Future Volume (vph)	38	163	1	1	270	106	1	8	2	84	8	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.97	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.96		1.00	0.97		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1503	1699		1785	1599		883	1828		1608	1432	
Flt Permitted	0.52	1.00		0.64	1.00		0.69	1.00		0.75	1.00	
Satd. Flow (perm)	827	1699		1212	1599		643	1828		1270	1432	
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)	41	177	1	1	293	115	1	9	2	91	9	92
RTOR Reduction (vph)	0	0	0	0	17	0	0	2	0	0	78	0
Lane Group Flow (vph)	41	178	0	1	391	0	1	9	0	91	23	0
Confl. Peds. (#/hr)	6					6	7					7
Heavy Vehicles (%)	18%	10%	100%	0%	11%	13%	100%	0%	0%	11%	0%	11%
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)	33.7	33.7		33.7	33.7		8.0	8.0		8.0	8.0	
Effective Green, g (s)	33.7	33.7		33.7	33.7		8.0	8.0		8.0	8.0	
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.15	0.15		0.15	0.15	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	515	1058		754	996		95	270		187	211	
v/s Ratio Prot		0.10			c0.24			0.01			0.02	
v/s Ratio Perm	0.05			0.00			0.00			c0.07		
v/c Ratio	0.08	0.17		0.00	0.39		0.01	0.03		0.49	0.11	
Uniform Delay, d1	4.0	4.3		3.8	5.1		19.7	19.7		21.2	20.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.3		0.0	1.2		0.0	0.1		2.0	0.2	
Delay (s)	4.3	4.6		3.9	6.3		19.7	19.8		23.2	20.2	
Level of Service	A	A		A	A		B	B		C	C	
Approach Delay (s)		4.6			6.2			19.8			21.6	
Approach LOS		A			A			B			C	

Intersection Summary				
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.41			
Actuated Cycle Length (s)	54.1	Sum of lost time (s)	12.4	
Intersection Capacity Utilization	53.7%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: RR 52 (THORNTON RD) & RR 59 (GIBB ST)

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	122	10	26	208	150	15	94	10	196	162	78
Future Volume (vph)	50	122	10	26	208	150	15	94	10	196	162	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.94		1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1647	1824		1785	1677		1783	1803		1716	1746	
Flt Permitted	0.49	1.00		0.67	1.00		0.60	1.00		0.68	1.00	
Satd. Flow (perm)	856	1824		1250	1677		1123	1803		1236	1746	
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)	54	133	11	28	226	163	16	102	11	213	176	85
RTOR Reduction (vph)	0	6	0	0	49	0	0	7	0	0	30	0
Lane Group Flow (vph)	54	138	0	28	340	0	16	106	0	213	231	0
Confl. Peds. (#/hr)	5					5	1					1
Heavy Vehicles (%)	8%	2%	0%	0%	3%	5%	0%	3%	0%	4%	1%	3%
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)	14.0	14.0		14.0	14.0		13.3	13.3		13.3	13.3	
Effective Green, g (s)	14.0	14.0		14.0	14.0		13.3	13.3		13.3	13.3	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.34	0.34		0.34	0.34	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	304	648		444	595		379	608		417	589	
v/s Ratio Prot		0.08			c0.20			0.06			0.13	
v/s Ratio Perm	0.06			0.02			0.01			c0.17		
v/c Ratio	0.18	0.21		0.06	0.57		0.04	0.17		0.51	0.39	
Uniform Delay, d1	8.7	8.9		8.4	10.3		8.8	9.2		10.4	10.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.2		0.1	1.3		0.0	0.1		1.1	0.4	
Delay (s)	9.0	9.0		8.4	11.6		8.8	9.3		11.5	10.4	
Level of Service	A	A		A	B		A	A		B	B	
Approach Delay (s)		9.0			11.4			9.3			10.9	
Approach LOS		A			B			A			B	

Intersection Summary				
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.54			
Actuated Cycle Length (s)	39.4	Sum of lost time (s)	12.1	
Intersection Capacity Utilization	61.3%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
8: RR 52 (THORNTON RD) & RR 25 (STELLAR DR)

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	0	12	5	0	5	14	43	0	0	73	157
Future Volume (vph)	64	0	12	5	0	5	14	43	0	0	73	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6		6.0	6.0		6.5	6.5			6.5	6.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.85		1.00	0.85		1.00	1.00			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	1638	1125		1750	1566		1472	1528			1579	1432
Flt Permitted	0.75	1.00		0.75	1.00		0.71	1.00			1.00	1.00
Satd. Flow (perm)	1301	1125		1380	1566		1093	1528			1579	1432
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)	70	0	13	5	0	5	15	47	0	0	79	171
RTOR Reduction (vph)	0	12	0	0	5	0	0	0	0	0	0	51
Lane Group Flow (vph)	70	1	0	5	0	0	15	47	0	0	79	120
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	9%	2%	42%	2%	2%	2%	21%	23%	2%	2%	19%	9%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	5.9	5.9		5.5	5.5		42.0	42.0			42.0	42.0
Effective Green, g (s)	5.9	5.9		5.5	5.5		42.0	42.0			42.0	42.0
Actuated g/C Ratio	0.10	0.10		0.09	0.09		0.70	0.70			0.70	0.70
Clearance Time (s)	5.6	5.6		6.0	6.0		6.5	6.5			6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	127	110		126	143		765	1069			1105	1002
v/s Ratio Prot		0.00			0.00			0.03			0.05	
v/s Ratio Perm	c0.05			0.00			0.01					c0.08
v/c Ratio	0.55	0.01		0.04	0.00		0.02	0.04			0.07	0.12
Uniform Delay, d1	25.8	24.4		24.8	24.8		2.7	2.8			2.8	2.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	5.1	0.0		0.1	0.0		0.0	0.1			0.1	0.2
Delay (s)	30.9	24.5		25.0	24.8		2.8	2.9			3.0	3.2
Level of Service	C	C		C	C		A	A			A	A
Approach Delay (s)		29.9			24.9			2.8			3.1	
Approach LOS		C			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.17			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.5	
Intersection Capacity Utilization	54.2%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
9: RR 25 (CHAMPLAIN AVE) & RR 52 (THORNTON RD)

Existing
Timing Plan: Default

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	9	55	160	48	43	45
Future Volume (vph)	9	55	160	48	43	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	5.9	5.9	5.9	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1608	1540	1807	1413	1451	1413
Flt Permitted	0.65	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1096	1540	1807	1413	1451	1413
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	60	174	52	47	49
RTOR Reduction (vph)	0	0	0	15	0	45
Lane Group Flow (vph)	10	60	174	37	47	4
Heavy Vehicles (%)	11%	22%	4%	13%	23%	13%
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	42.1	42.1	42.1	42.1	4.8	4.8
Effective Green, g (s)	42.1	42.1	42.1	42.1	4.8	4.8
Actuated g/C Ratio	0.71	0.71	0.71	0.71	0.08	0.08
Clearance Time (s)	5.9	5.9	5.9	5.9	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	782	1098	1289	1008	118	114
v/s Ratio Prot		0.04	c0.10		c0.03	
v/s Ratio Perm	0.01			0.03		0.00
v/c Ratio	0.01	0.05	0.13	0.04	0.40	0.03
Uniform Delay, d1	2.4	2.5	2.7	2.5	25.7	25.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.1	0.2	0.1	2.2	0.1
Delay (s)	2.5	2.6	2.9	2.6	27.9	25.1
Level of Service	A	A	A	A	C	C
Approach Delay (s)		2.6	2.8		26.5	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	59.0	Sum of lost time (s)	12.1
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
10: RR 25 (CHAMPLAIN AVE) & FOX ST

Existing
Timing Plan: Default

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	48	142	698	16	18	79
Future Volume (vph)	48	142	698	16	18	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	5.9	5.9	5.9	5.9	5.9
Lane Util. Factor	1.00	1.00	1.00	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1716	1663	1789	1507	3267	1551
Flt Permitted	0.32	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	573	1663	1789	1507	3267	1551
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	52	154	759	17	20	86
RTOR Reduction (vph)	0	0	0	5	0	78
Lane Group Flow (vph)	52	154	759	12	20	8
Heavy Vehicles (%)	4%	13%	5%	6%	6%	3%
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	39.1	39.1	39.1	39.1	4.9	4.9
Effective Green, g (s)	39.1	39.1	39.1	39.1	4.9	4.9
Actuated g/C Ratio	0.70	0.70	0.70	0.70	0.09	0.09
Clearance Time (s)	5.9	5.9	5.9	5.9	5.9	5.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	401	1165	1253	1055	286	136
v/s Ratio Prot		0.09	c0.42		c0.01	
v/s Ratio Perm	0.09			0.01		0.00
v/c Ratio	0.13	0.13	0.61	0.01	0.07	0.06
Uniform Delay, d1	2.7	2.8	4.3	2.5	23.4	23.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.2	2.2	0.0	0.1	0.2
Delay (s)	3.4	3.0	6.5	2.5	23.5	23.5
Level of Service	A	A	A	A	C	C
Approach Delay (s)		3.1	6.4		23.5	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	55.8	Sum of lost time (s)	11.8
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
11: RR 53 (STEVENSON RD) & RR 59 (GIBB ST)

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	132	127	143	161	35	138	417	137	34	472	14
Future Volume (vph)	21	132	127	143	161	35	138	417	137	34	472	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3		3.0	6.3	6.3	3.0	6.2	6.2	3.0	6.2	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1399	2499		1336	1470	1090	1383	2869	1222	1324	2711	
Flt Permitted	0.65	1.00		0.53	1.00	1.00	0.36	1.00	1.00	0.48	1.00	
Satd. Flow (perm)	952	2499		744	1470	1090	522	2869	1222	668	2711	
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)	23	143	138	155	175	38	150	453	149	37	513	15
RTOR Reduction (vph)	0	89	0	0	0	21	0	0	96	0	2	0
Lane Group Flow (vph)	23	192	0	155	175	17	150	453	53	37	526	0
Confl. Peds. (#/hr)	11		7	7		11	7		11	11		7
Heavy Vehicles (%)	14%	20%	16%	20%	15%	29%	16%	12%	15%	21%	18%	14%
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	31.7	31.7		39.7	39.7	39.7	36.8	31.8	31.8	32.8	29.8	
Effective Green, g (s)	31.7	31.7		39.7	39.7	39.7	36.8	31.8	31.8	32.8	29.8	
Actuated g/C Ratio	0.35	0.35		0.44	0.44	0.44	0.41	0.35	0.35	0.36	0.33	
Clearance Time (s)	6.3	6.3		3.0	6.3	6.3	3.0	6.2	6.2	3.0	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	335	880		361	648	480	261	1013	431	265	897	
v/s Ratio Prot		0.08		c0.02	0.12		c0.03	0.16		0.00	0.19	
v/s Ratio Perm	0.02			c0.17		0.02	c0.20		0.04	0.05		
v/c Ratio	0.07	0.22		0.43	0.27	0.03	0.57	0.45	0.12	0.14	0.59	
Uniform Delay, d1	19.4	20.5		16.6	16.0	14.3	19.3	22.3	19.7	18.7	25.0	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.47	1.27	2.87	1.00	1.00	
Incremental Delay, d2	0.4	0.6		0.8	1.0	0.1	2.9	1.4	0.6	0.2	2.8	
Delay (s)	19.7	21.0		17.4	17.0	14.4	31.3	29.8	57.0	18.9	27.8	
Level of Service	B	C		B	B	B	C	C	E	B	C	
Approach Delay (s)		20.9			16.9			35.5			27.2	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
12: RR 53 (STEVENSON RD) & LAVAL DRIVE

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	20	82	80	42	78	77	651	66	46	535	82
Future Volume (vph)	73	20	82	80	42	78	77	651	66	46	535	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	6.3	6.3		3.0	6.3	6.3	3.0	6.3	6.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	1.00	0.97	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.90		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1551	1634	1302	1550	1343		1512	3000	1426	1283	3051	1418
Flt Permitted	0.67	1.00	1.00	0.74	1.00		0.42	1.00	1.00	0.38	1.00	1.00
Satd. Flow (perm)	1099	1634	1302	1212	1343		668	3000	1426	511	3051	1418
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	22	89	87	46	85	84	708	72	50	582	89
RTOR Reduction (vph)	0	0	77	0	73	0	0	0	25	0	0	32
Lane Group Flow (vph)	79	22	12	87	58	0	84	708	47	50	582	57
Confl. Peds. (#/hr)	1		1	1		1	2		3	3		2
Heavy Vehicles (%)	15%	15%	21%	15%	31%	22%	18%	19%	9%	39%	17%	11%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)	12.3	12.3	12.3	12.3	12.3		63.4	58.5	58.5	60.8	57.2	57.2
Effective Green, g (s)	12.3	12.3	12.3	12.3	12.3		63.4	58.5	58.5	60.8	57.2	57.2
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.14		0.70	0.65	0.65	0.68	0.64	0.64
Clearance Time (s)	6.3	6.3	6.3	6.3	6.3		3.0	6.3	6.3	3.0	6.3	6.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	150	223	177	165	183		516	1950	926	376	1939	901
v/s Ratio Prot		0.01			0.04		c0.01	c0.24		0.01	0.19	
v/s Ratio Perm	c0.07		0.01	0.07			0.11		0.03	0.08		0.04
v/c Ratio	0.53	0.10	0.07	0.53	0.31		0.16	0.36	0.05	0.13	0.30	0.06
Uniform Delay, d1	36.1	34.0	33.9	36.1	35.0		4.2	7.2	5.7	4.9	7.4	6.2
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.56	0.54	0.27	1.72	1.65	3.69
Incremental Delay, d2	3.3	0.2	0.2	3.0	1.0		0.1	0.5	0.1	0.1	0.3	0.1
Delay (s)	39.5	34.2	34.0	39.2	36.0		2.5	4.4	1.6	8.6	12.5	23.1
Level of Service	D	C	C	D	D		A	A	A	A	B	C
Approach Delay (s)		36.3			37.3			4.0			13.5	
Approach LOS		D			D			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
13: RR 53 (STEVENSON RD) & RR 25 (CHAMPLAIN AVE)/HWY 401 WB EXIT RAMP

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	0	53	537	215	301	67	447	0	0	878	137
Future Volume (vph)	43	0	53	537	215	301	67	447	0	0	878	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9		5.9	5.9	5.9	5.9	3.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.91	0.91	1.00	1.00	0.95			0.91	1.00
Frt	1.00		0.85	1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.97	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1417		1320	1400	2913	1401	1580	3216			4499	1389
Flt Permitted	0.95		1.00	0.95	0.97	1.00	0.21	1.00			1.00	1.00
Satd. Flow (perm)	1417		1320	1400	2913	1401	346	3216			4499	1389
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	0	58	584	234	327	73	486	0	0	954	149
RTOR Reduction (vph)	0	0	54	0	0	200	0	0	0	0	0	96
Lane Group Flow (vph)	47	0	4	292	526	127	73	486	0	0	954	53
Heavy Vehicles (%)	26%	0%	21%	16%	12%	14%	13%	11%	0%	0%	14%	15%
Turn Type	Prot		Perm	Split	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases	4			8	8		5	2			6	
Permitted Phases			4			8	2					6
Actuated Green, G (s)	6.5		6.5	24.4	24.4	24.4	40.2	40.2			32.3	32.3
Effective Green, g (s)	6.5		6.5	24.4	24.4	24.4	40.2	40.2			32.3	32.3
Actuated g/C Ratio	0.07		0.07	0.27	0.27	0.27	0.45	0.45			0.36	0.36
Clearance Time (s)	5.9		5.9	5.9	5.9	5.9	3.0	7.1			7.1	7.1
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)	102		95	379	789	379	221	1436			1614	498
v/s Ratio Prot	c0.03			c0.21	0.18		0.02	c0.15			c0.21	
v/s Ratio Perm			0.00			0.09	0.13					0.04
v/c Ratio	0.46		0.04	0.77	0.67	0.33	0.33	0.34			0.59	0.11
Uniform Delay, d1	40.1		38.9	30.2	29.2	26.3	15.1	16.2			23.5	19.2
Progression Factor	1.00		1.00	1.00	1.00	1.00	0.91	0.92			0.64	0.40
Incremental Delay, d2	3.3		0.2	9.3	2.1	0.5	0.8	0.6			1.6	0.4
Delay (s)	43.3		39.1	39.5	31.3	26.8	14.6	15.6			16.5	8.1
Level of Service	D		D	D	C	C	B	B			B	A
Approach Delay (s)		41.0			32.1			15.5			15.4	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	21.9
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
14: RR 53 (STEVENSON RD) & 401 EB RAMP/BLOOR ST CONNECTOR

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	271	166	64	39	0	184	0	238	30	161	373	201
Future Volume (vph)	271	166	64	39	0	184	0	238	30	161	373	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3		6.3		6.3		6.6		3.0	6.6	
Lane Util. Factor	0.97	0.95		0.97		1.00		0.91		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00		1.00		1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00		1.00		1.00		1.00	1.00	
Frt	1.00	0.96		1.00		0.85		0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	3092	2902		2748		1331		4246		1439	2728	
Flt Permitted	0.95	1.00		0.95		1.00		1.00		0.52	1.00	
Satd. Flow (perm)	3092	2902		2748		1331		4246		788	2728	
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)	295	180	70	42	0	200	0	259	33	175	405	218
RTOR Reduction (vph)	0	50	0	0	0	179	0	14	0	0	62	0
Lane Group Flow (vph)	295	200	0	42	0	21	0	278	0	175	561	0
Confl. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	12%	17%	20%	26%	0%	20%	0%	18%	23%	24%	31%	11%
Turn Type	Perm	NA		Prot		Perm		NA		pm+pt	NA	
Protected Phases		4		3				2		1	6	
Permitted Phases	4					3				6		
Actuated Green, G (s)	14.2	14.2		9.5		9.5		34.2		47.1	47.1	
Effective Green, g (s)	14.2	14.2		9.5		9.5		34.2		47.1	47.1	
Actuated g/C Ratio	0.16	0.16		0.11		0.11		0.38		0.52	0.52	
Clearance Time (s)	6.3	6.3		6.3		6.3		6.6		3.0	6.6	
Vehicle Extension (s)	3.0	3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	487	457		290		140		1613		483	1427	
v/s Ratio Prot		0.07		0.02				0.07		0.04	c0.21	
v/s Ratio Perm	c0.10					c0.02				0.15		
v/c Ratio	0.61	0.44		0.14		0.15		0.17		0.36	0.39	
Uniform Delay, d1	35.3	34.3		36.6		36.6		18.5		11.7	12.9	
Progression Factor	1.00	1.00		1.00		1.00		1.00		1.73	1.65	
Incremental Delay, d2	2.1	0.7		0.2		0.5		0.2		0.4	0.7	
Delay (s)	37.4	35.0		36.8		37.1		18.7		20.7	21.9	
Level of Service	D	C		D		D		B		C	C	
Approach Delay (s)		36.3			37.0			18.7			21.6	
Approach LOS		D			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	27.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	22.2
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
15: RR 53 (STEVENSON RD) & RR 22 (BLOOR ST)

Existing
Timing Plan: Default

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	222	127	252	1334	659	243
Future Volume (vph)	222	127	252	1334	659	243
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4	3.0	6.4	5.9	5.9
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3275	1443	1682	3500	3395	1500
Flt Permitted	1.00	1.00	0.53	1.00	0.95	1.00
Satd. Flow (perm)	3275	1443	936	3500	3395	1500
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	241	138	274	1450	716	264
RTOR Reduction (vph)	0	88	0	0	0	186
Lane Group Flow (vph)	241	50	274	1450	716	78
Confl. Peds. (#/hr)		3	3			2
Heavy Vehicles (%)	9%	9%	6%	2%	2%	5%
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Actuated Green, G (s)	21.7	21.7	29.9	29.9	17.8	17.8
Effective Green, g (s)	21.7	21.7	29.9	29.9	17.8	17.8
Actuated g/C Ratio	0.36	0.36	0.50	0.50	0.30	0.30
Clearance Time (s)	6.4	6.4	3.0	6.4	5.9	5.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	5.0	5.0
Lane Grp Cap (vph)	1184	521	531	1744	1007	445
v/s Ratio Prot	0.07		0.04	c0.41	c0.21	
v/s Ratio Perm		0.03	0.21			0.05
v/c Ratio	0.20	0.10	0.52	0.83	0.71	0.18
Uniform Delay, d1	13.2	12.7	9.4	12.9	18.8	15.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.4	0.8	4.8	3.0	0.4
Delay (s)	13.6	13.0	10.2	17.7	21.8	16.1
Level of Service	B	B	B	B	C	B
Approach Delay (s)	13.4			16.5	20.2	
Approach LOS	B			B	C	

Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
16: RR 54 (PARK)/RR 54 (PARK RD) & RR 59 (GIBB ST)

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	197	66	49	214	51	86	396	48	62	405	112
Future Volume (vph)	85	197	66	49	214	51	86	396	48	62	405	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.97		1.00	0.98		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)	1494	2941		1533	3054		1565	3099		1600	3014	
Flt Permitted	0.58	1.00		0.58	1.00		0.41	1.00		0.46	1.00	
Satd. Flow (perm)	905	2941		930	3054		675	3099		774	3014	
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)	92	214	72	53	233	55	93	430	52	67	440	122
RTOR Reduction (vph)	0	37	0	0	23	0	0	10	0	0	28	0
Lane Group Flow (vph)	92	249	0	53	265	0	93	472	0	67	534	0
Confl. Peds. (#/hr)	20		11	11		20	15		8	8		15
Heavy Vehicles (%)	6%	4%	6%	4%	1%	4%	2%	2%	0%	0%	3%	1%
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)	34.9	34.9		34.9	34.9		42.8	42.8		42.8	42.8	
Effective Green, g (s)	34.9	34.9		34.9	34.9		42.8	42.8		42.8	42.8	
Actuated g/C Ratio	0.39	0.39		0.39	0.39		0.48	0.48		0.48	0.48	
Clearance Time (s)	6.1	6.1		6.1	6.1		6.2	6.2		6.2	6.2	
Lane Grp Cap (vph)	350	1140		360	1184		321	1473		368	1433	
v/s Ratio Prot		0.08			0.09			0.15			c0.18	
v/s Ratio Perm	c0.10			0.06			0.14			0.09		
v/c Ratio	0.26	0.22		0.15	0.22		0.29	0.32		0.18	0.37	
Uniform Delay, d1	18.8	18.4		17.9	18.5		14.4	14.6		13.6	15.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.8	0.4		0.9	0.4		2.3	0.6		1.1	0.7	
Delay (s)	20.6	18.9		18.7	18.9		16.6	15.2		14.6	15.8	
Level of Service	C	B		B	B		B	B		B	B	
Approach Delay (s)		19.3			18.9			15.4			15.7	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	89.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
17: RR 2A (CENTRE ST) & RR 59 (GIBB ST)

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	149	139	16	260	0	0	0	0	48	440	75
Future Volume (vph)	0	149	139	16	260	0	0	0	0	48	440	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8	5.8	5.8	5.8						5.7	
Lane Util. Factor		1.00	1.00	1.00	1.00						0.91	
Frpb, ped/bikes		1.00	0.94	1.00	1.00						0.99	
Flpb, ped/bikes		1.00	1.00	0.96	1.00						0.99	
Frt		1.00	0.85	1.00	1.00						0.98	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		1674	1335	1542	1642						4193	
Flt Permitted		1.00	1.00	0.65	1.00						1.00	
Satd. Flow (perm)		1674	1335	1062	1642						4193	
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)	0	162	151	17	283	0	0	0	0	52	478	82
RTOR Reduction (vph)	0	0	93	0	0	0	0	0	0	0	35	0
Lane Group Flow (vph)	0	162	58	17	283	0	0	0	0	0	577	0
Confl. Peds. (#/hr)			45	45						40		18
Heavy Vehicles (%)	0%	1%	1%	0%	3%	0%	0%	0%	0%	2%	7%	4%
Turn Type		NA	Perm	Perm	NA					Perm	NA	
Protected Phases		4			8						6	
Permitted Phases			4	8						6		
Actuated Green, G (s)		23.2	23.2	23.2	23.2						25.3	
Effective Green, g (s)		23.2	23.2	23.2	23.2						25.3	
Actuated g/C Ratio		0.39	0.39	0.39	0.39						0.42	
Clearance Time (s)		5.8	5.8	5.8	5.8						5.7	
Lane Grp Cap (vph)		647	516	410	634						1768	
v/s Ratio Prot		0.10			c0.17							
v/s Ratio Perm			0.04	0.02							0.14	
v/c Ratio		0.25	0.11	0.04	0.45						0.33	
Uniform Delay, d1		12.5	11.8	11.5	13.6						11.6	
Progression Factor		1.00	1.00	0.80	0.85						1.00	
Incremental Delay, d2		0.9	0.4	0.2	2.1						0.5	
Delay (s)		13.4	12.2	9.3	13.8						12.1	
Level of Service		B	B	A	B						B	
Approach Delay (s)		12.9			13.5			0.0			12.1	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
18: RR 2 (SIMCOE ST) & RR 59 (GIBB ST)

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	51	0	0	94	19	165	876	14	0	0	0
Future Volume (vph)	91	51	0	0	94	19	165	876	14	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8			5.8			5.5	5.5			
Lane Util. Factor	1.00	1.00			1.00			0.91	1.00			
Frpb, ped/bikes	1.00	1.00			0.99			1.00	0.93			
Flpb, ped/bikes	0.95	1.00			1.00			0.99	1.00			
Frt	1.00	1.00			0.98			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.99	1.00			
Satd. Flow (prot)	1505	1691			1631			4434	1339			
Flt Permitted	0.68	1.00			1.00			0.99	1.00			
Satd. Flow (perm)	1074	1691			1631			4434	1339			
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)	99	55	0	0	102	21	179	952	15	0	0	0
RTOR Reduction (vph)	0	0	0	0	12	0	0	0	8	0	0	0
Lane Group Flow (vph)	99	55	0	0	111	0	0	1131	7	0	0	0
Confl. Peds. (#/hr)	64					64	31		33			
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4			8			2				
Permitted Phases	4						2		2			
Actuated Green, G (s)	21.2	21.2			21.2			27.5	27.5			
Effective Green, g (s)	21.2	21.2			21.2			27.5	27.5			
Actuated g/C Ratio	0.35	0.35			0.35			0.46	0.46			
Clearance Time (s)	5.8	5.8			5.8			5.5	5.5			
Lane Grp Cap (vph)	379	597			576			2032	613			
v/s Ratio Prot		0.03			0.07							
v/s Ratio Perm	c0.09							0.26	0.01			
v/c Ratio	0.26	0.09			0.19			0.56	0.01			
Uniform Delay, d1	13.8	13.0			13.5			11.8	8.8			
Progression Factor	0.61	0.64			1.00			1.00	1.00			
Incremental Delay, d2	1.6	0.3			0.7			1.1	0.0			
Delay (s)	10.1	8.6			14.2			12.9	8.9			
Level of Service	B	A			B			B	A			
Approach Delay (s)		9.6			14.2			12.9			0.0	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
19: RR 2 (SIMCOE ST) & RR 59 (OLIVE AVE)

Existing
Timing Plan: Default

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	180	161	913	78	64	419
Future Volume (vph)	180	161	913	78	64	419
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.6			4.0
Lane Util. Factor	1.00	1.00	0.95			0.95
Frpb, ped/bikes	1.00	0.97	0.99			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	1.00	0.85	0.99			1.00
Flt Protected	0.95	1.00	1.00			0.99
Satd. Flow (prot)	1560	1396	3051			3192
Flt Permitted	0.95	1.00	1.00			0.73
Satd. Flow (perm)	1560	1396	3051			2342
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	196	175	992	85	70	455
RTOR Reduction (vph)	0	131	9	0	0	0
Lane Group Flow (vph)	196	44	1068	0	0	525
Confl. Peds. (#/hr)		14		44		
Heavy Vehicles (%)	3%	0%	3%	3%	0%	0%
Turn Type	Prot	Perm	NA		D.P+P	NA
Protected Phases	4		2		1	1 2
Permitted Phases		4			2	
Actuated Green, G (s)	17.5	17.5	32.4			37.4
Effective Green, g (s)	17.5	17.5	32.4			37.4
Actuated g/C Ratio	0.25	0.25	0.46			0.53
Clearance Time (s)	5.5	5.5	5.6			
Vehicle Extension (s)	3.0	3.0	3.0			
Lane Grp Cap (vph)	390	349	1412			1312
v/s Ratio Prot	c0.13		c0.35			c0.03
v/s Ratio Perm		0.03				0.19
v/c Ratio	0.50	0.13	0.76			0.40
Uniform Delay, d1	22.5	20.3	15.5			9.7
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	4.6	0.7	3.8			0.2
Delay (s)	27.1	21.1	19.4			9.9
Level of Service	C	C	B			A
Approach Delay (s)	24.2		19.4			9.9
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	72.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
20: ALBERT ST & RR 59 (OLIVE AVE)

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	127	27	13	248	104	11	117	14	0	0	0
Future Volume (vph)	30	127	27	13	248	104	11	117	14	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.6			5.6			5.2				
Lane Util. Factor		1.00			1.00			1.00				
Frpb, ped/bikes		1.00			0.99			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		0.98			0.96			0.99				
Flt Protected		0.99			1.00			1.00				
Satd. Flow (prot)		1616			1595			1631				
Flt Permitted		0.91			0.99			1.00				
Satd. Flow (perm)		1477			1580			1631				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	138	29	14	270	113	12	127	15	0	0	0
RTOR Reduction (vph)	0	10	0	0	24	0	0	6	0	0	0	0
Lane Group Flow (vph)	0	190	0	0	373	0	0	148	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	6		3			
Heavy Vehicles (%)	3%	1%	0%	0%	0%	3%	9%	1%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA				
Protected Phases		2			2			4				
Permitted Phases	2			2			4					
Actuated Green, G (s)		31.4			31.4			17.8				
Effective Green, g (s)		31.4			31.4			17.8				
Actuated g/C Ratio		0.52			0.52			0.30				
Clearance Time (s)		5.6			5.6			5.2				
Lane Grp Cap (vph)		772			826			483				
v/s Ratio Prot												
v/s Ratio Perm		0.13			c0.24			0.09				
v/c Ratio		0.25			0.45			0.31				
Uniform Delay, d1		7.8			8.9			16.3				
Progression Factor		1.00			0.75			1.12				
Incremental Delay, d2		0.8			1.7			1.6				
Delay (s)		8.6			8.3			19.8				
Level of Service		A			A			B				
Approach Delay (s)		8.6			8.3			19.8			0.0	
Approach LOS		A			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.8
Intersection Capacity Utilization	44.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
21: RR 16 (RITSON RD) & RR 59 (OLIVE AVE)

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	79	34	196	221	72	28	616	88	32	575	33
Future Volume (vph)	10	79	34	196	221	72	28	616	88	32	575	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
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	0.99	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.96		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)	1141	1410		1359	1397		1408	2768		1418	2834	
Flt Permitted	0.53	1.00		0.68	1.00		0.36	1.00		0.29	1.00	
Satd. Flow (perm)	633	1410		970	1397		527	2768		439	2834	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	86	37	213	240	78	30	670	96	35	625	36
RTOR Reduction (vph)	0	22	0	0	19	0	0	19	0	0	7	0
Lane Group Flow (vph)	11	101	0	213	299	0	30	747	0	35	654	0
Confl. Peds. (#/hr)	9		2	2		9	1		5	5		1
Heavy Vehicles (%)	40%	11%	21%	18%	17%	13%	14%	13%	17%	13%	12%	18%
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)	24.0	24.0		24.0	24.0		24.1	24.1		24.1	24.1	
Effective Green, g (s)	24.0	24.0		24.0	24.0		24.1	24.1		24.1	24.1	
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.40	0.40		0.40	0.40	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Lane Grp Cap (vph)	253	564		388	558		211	1111		176	1138	
v/s Ratio Prot		0.07			0.21			c0.27			0.23	
v/s Ratio Perm	0.02			c0.22			0.06			0.08		
v/c Ratio	0.04	0.18		0.55	0.54		0.14	0.67		0.20	0.57	
Uniform Delay, d1	11.0	11.6		13.8	13.7		11.4	14.7		11.7	14.0	
Progression Factor	0.99	0.90		0.61	0.55		1.13	1.24		1.00	1.00	
Incremental Delay, d2	0.3	0.7		5.3	3.5		1.2	2.9		2.5	2.1	
Delay (s)	11.2	11.1		13.8	11.1		14.1	21.1		14.2	16.1	
Level of Service	B	B		B	B		B	C		B	B	
Approach Delay (s)		11.1			12.2			20.8			16.0	
Approach LOS		B			B			C			B	

Intersection Summary				
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.61			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.9	
Intersection Capacity Utilization	58.2%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
22: RR 35 (WILSON RD) & RR 59 (OLIVE AVE)

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	110	33	60	275	53	40	206	45	23	179	39
Future Volume (vph)	23	110	33	60	275	53	40	206	45	23	179	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
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
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.97	1.00	1.00	0.95	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1184	1458	1100	1271	1386	1195	1354	1398	1143	1250	1470	1155
Flt Permitted	0.55	1.00	1.00	0.68	1.00	1.00	0.64	1.00	1.00	0.62	1.00	1.00
Satd. Flow (perm)	683	1458	1100	909	1386	1195	905	1398	1143	814	1470	1155
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)	25	120	36	65	299	58	43	224	49	25	195	42
RTOR Reduction (vph)	0	0	21	0	0	33	0	0	30	0	0	26
Lane Group Flow (vph)	25	120	15	65	299	25	43	224	19	25	195	16
Confl. Peds. (#/hr)	4		17	17		4	4		14	14		4
Heavy Vehicles (%)	35%	16%	24%	23%	22%	17%	18%	21%	20%	26%	15%	21%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	25.4	25.4	25.4	25.4	25.4	25.4	23.4	23.4	23.4	23.4	23.4	23.4
Effective Green, g (s)	25.4	25.4	25.4	25.4	25.4	25.4	23.4	23.4	23.4	23.4	23.4	23.4
Actuated g/C Ratio	0.42	0.42	0.42	0.42	0.42	0.42	0.39	0.39	0.39	0.39	0.39	0.39
Clearance Time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Lane Grp Cap (vph)	289	617	465	384	586	505	352	545	445	317	573	450
v/s Ratio Prot		0.08			c0.22			c0.16			0.13	
v/s Ratio Perm	0.04		0.01	0.07		0.02	0.05		0.02	0.03		0.01
v/c Ratio	0.09	0.19	0.03	0.17	0.51	0.05	0.12	0.41	0.04	0.08	0.34	0.04
Uniform Delay, d1	10.4	10.9	10.1	10.7	12.7	10.2	11.7	13.3	11.4	11.5	12.9	11.3
Progression Factor	1.30	1.33	2.25	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.7	0.1	1.0	3.2	0.2	0.7	2.3	0.2	0.5	1.6	0.2
Delay (s)	14.0	15.1	22.8	11.7	15.9	10.4	12.4	15.6	11.5	12.0	14.5	11.5
Level of Service	B	B	C	B	B	B	B	B	B	B	B	B
Approach Delay (s)		16.5			14.5			14.5			13.8	
Approach LOS		B			B			B			B	

Intersection Summary				
HCM 2000 Control Delay	14.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.46			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.2	
Intersection Capacity Utilization	67.5%	ICU Level of Service	C	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
23: RR 33 (HARMONY) & RR 59 (OLIVE AVE)

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	116	56	349	339	123	56	452	120	58	719	76
Future Volume (vph)	37	116	56	349	339	123	56	452	120	58	719	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		3.0	6.5	6.5	3.0	6.3		3.0	6.3	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.95		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)	1699	3238		1763	1842	1545	1716	3302		1637	3392	
Flt Permitted	0.54	1.00		0.57	1.00	1.00	0.17	1.00		0.31	1.00	
Satd. Flow (perm)	970	3238		1054	1842	1545	299	3302		539	3392	
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)	40	126	61	379	368	134	61	491	130	63	782	83
RTOR Reduction (vph)	0	44	0	0	0	74	0	26	0	0	9	0
Lane Group Flow (vph)	40	143	0	379	368	60	61	595	0	63	856	0
Confl. Peds. (#/hr)	1		5	5		1	2		3	3		2
Heavy Vehicles (%)	5%	0%	13%	1%	2%	2%	4%	5%	2%	9%	3%	8%
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	25.7	25.7		40.5	40.5	40.5	33.7	29.0		33.7	29.0	
Effective Green, g (s)	25.7	25.7		40.5	40.5	40.5	33.7	29.0		33.7	29.0	
Actuated g/C Ratio	0.29	0.29		0.45	0.45	0.45	0.37	0.32		0.37	0.32	
Clearance Time (s)	6.5	6.5		3.0	6.5	6.5	3.0	6.3		3.0	6.3	
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)	276	924		567	828	695	185	1063		259	1092	
v/s Ratio Prot		0.04		c0.09	0.20		c0.02	0.18		0.01	c0.25	
v/s Ratio Perm	0.04			c0.21		0.04	0.11			0.08		
v/c Ratio	0.14	0.16		0.67	0.44	0.09	0.33	0.56		0.24	0.78	
Uniform Delay, d1	24.0	24.0		17.8	17.0	14.2	19.5	25.2		18.6	27.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	0.4		3.0	1.7	0.2	1.0	2.1		0.5	5.7	
Delay (s)	25.1	24.4		20.8	18.7	14.4	20.6	27.4		19.1	33.3	
Level of Service	C	C		C	B	B	C	C		B	C	
Approach Delay (s)		24.5			19.0			26.7			32.4	
Approach LOS		C			B			C			C	

Intersection Summary				
HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.72			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.8	
Intersection Capacity Utilization	83.2%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
24: RR 54 (PARK) & HILLSIDE

Existing
Timing Plan: Default

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	112	8	16	383	353	169
Future Volume (vph)	112	8	16	383	353	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2			5.3	5.3	
Lane Util. Factor	1.00			0.95	0.95	
Frpb, ped/bikes	1.00			1.00	0.99	
Flpb, ped/bikes	0.99			1.00	1.00	
Frt	0.99			1.00	0.95	
Flt Protected	0.96			1.00	1.00	
Satd. Flow (prot)	1698			3478	3265	
Flt Permitted	0.96			0.93	1.00	
Satd. Flow (perm)	1698			3241	3265	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	122	9	17	416	384	184
RTOR Reduction (vph)	6	0	0	0	58	0
Lane Group Flow (vph)	125	0	0	433	510	0
Confl. Peds. (#/hr)	10	18	7			7
Heavy Vehicles (%)	2%	25%	13%	2%	1%	7%
Turn Type	Perm		Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4		2			
Actuated Green, G (s)	8.5			41.0	41.0	
Effective Green, g (s)	8.5			41.0	41.0	
Actuated g/C Ratio	0.14			0.68	0.68	
Clearance Time (s)	5.2			5.3	5.3	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	240			2214	2231	
v/s Ratio Prot					c0.16	
v/s Ratio Perm	c0.07			0.13		
v/c Ratio	0.52			0.20	0.23	
Uniform Delay, d1	23.9			3.5	3.6	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	2.0			0.2	0.2	
Delay (s)	25.9			3.7	3.8	
Level of Service	C			A	A	
Approach Delay (s)	25.9			3.7	3.8	
Approach LOS	C			A	A	

Intersection Summary				
HCM 2000 Control Delay	6.3	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.28			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.5	
Intersection Capacity Utilization	41.6%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
25: RR 2 (SIMCOE ST) & MILL ST

Existing
Timing Plan: Default

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	57	46	30	876	529	38
Future Volume (vph)	57	46	30	876	529	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7		5.6	5.6	
Lane Util. Factor	1.00	1.00		0.95	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	0.99	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	1606	1318		3079	2984	
Flt Permitted	0.95	1.00		0.92	1.00	
Satd. Flow (perm)	1606	1318		2844	2984	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	50	33	952	575	41
RTOR Reduction (vph)	0	44	0	0	6	0
Lane Group Flow (vph)	62	6	0	985	610	0
Confl. Peds. (#/hr)	18	7	25			25
Heavy Vehicles (%)	0%	7%	7%	4%	6%	8%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4	2			
Actuated Green, G (s)	7.1	7.1		41.6	41.6	
Effective Green, g (s)	7.1	7.1		41.6	41.6	
Actuated g/C Ratio	0.12	0.12		0.69	0.69	
Clearance Time (s)	5.7	5.7		5.6	5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	190	155		1971	2068	
v/s Ratio Prot	c0.04				0.20	
v/s Ratio Perm		0.00		c0.35		
v/c Ratio	0.33	0.04		0.50	0.30	
Uniform Delay, d1	24.3	23.4		4.3	3.5	
Progression Factor	1.00	1.00		0.61	1.00	
Incremental Delay, d2	1.0	0.1		0.8	0.4	
Delay (s)	25.3	23.5		3.5	3.9	
Level of Service	C	C		A	A	
Approach Delay (s)	24.5			3.5	3.9	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	5.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
26: RR 2 (SIMCOE ST) & 1ST AVE

Existing
Timing Plan: Default

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	36	207	688	10	48	466
Future Volume (vph)	36	207	688	10	48	466
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9		5.8			5.8
Lane Util. Factor	1.00		0.95			0.95
Frpb, ped/bikes	0.99		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.88		1.00			1.00
Flt Protected	0.99		1.00			1.00
Satd. Flow (prot)	1374		3078			2951
Flt Permitted	0.99		1.00			0.84
Satd. Flow (perm)	1374		3078			2481
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	225	748	11	52	507
RTOR Reduction (vph)	90	0	1	0	0	0
Lane Group Flow (vph)	174	0	758	0	0	559
Confl. Peds. (#/hr)	3	3		11	11	
Heavy Vehicles (%)	11%	6%	4%	10%	21%	7%
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	12.9		35.4			35.4
Effective Green, g (s)	12.9		35.4			35.4
Actuated g/C Ratio	0.22		0.59			0.59
Clearance Time (s)	5.9		5.8			5.8
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	295		1816			1463
v/s Ratio Prot	c0.13		c0.25			
v/s Ratio Perm						0.23
v/c Ratio	0.59		0.42			0.38
Uniform Delay, d1	21.2		6.7			6.5
Progression Factor	1.08		1.00			0.70
Incremental Delay, d2	2.8		0.7			0.7
Delay (s)	25.7		7.4			5.3
Level of Service	C		A			A
Approach Delay (s)	25.7		7.4			5.3
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
27: ALBERT ST & 1ST AVE

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	41	8	12	244	126	6	49	18	14	18	18
Future Volume (vph)	7	41	8	12	244	126	6	49	18	14	18	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3			5.1			5.1	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			0.99			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.96			0.97			0.95	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		1678			1724			1797			1708	
Flt Permitted		0.95			0.99			0.98			0.93	
Satd. Flow (perm)		1606			1715			1772			1613	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	45	9	13	265	137	7	53	20	15	20	20
RTOR Reduction (vph)	0	4	0	0	30	0	0	14	0	0	14	0
Lane Group Flow (vph)	0	58	0	0	385	0	0	66	0	0	41	0
Confl. Peds. (#/hr)	1		2	2		1	3		1	1		3
Heavy Vehicles (%)	0%	12%	0%	0%	4%	2%	0%	0%	0%	0%	0%	6%
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)		30.7			30.7			18.9			18.9	
Effective Green, g (s)		30.7			30.7			18.9			18.9	
Actuated g/C Ratio		0.51			0.51			0.31			0.31	
Clearance Time (s)		5.3			5.3			5.1			5.1	
Lane Grp Cap (vph)		821			877			558			508	
v/s Ratio Prot												
v/s Ratio Perm		0.04			c0.22			c0.04			0.03	
v/c Ratio		0.07			0.44			0.12			0.08	
Uniform Delay, d1		7.4			9.2			14.6			14.4	
Progression Factor		0.39			0.63			1.00			0.80	
Incremental Delay, d2		0.2			1.5			0.4			0.3	
Delay (s)		3.1			7.3			15.1			11.8	
Level of Service		A			A			B			B	
Approach Delay (s)		3.1			7.3			15.1			11.8	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.4
Intersection Capacity Utilization	44.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
28: Drew Street/DREW ST & 1ST AVE/MCNAUGHTON AVE/MCNAUGHTON AVE/DEAN AVE

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	77	9	129	88	5	252	6	154	9	65	8
Future Volume (vph)	6	77	9	129	88	5	252	6	154	9	65	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4		5.4	5.4		5.4	5.4			5.4	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00			1.00	
Frpb, ped/bikes		1.00		1.00	1.00		1.00	0.98			1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00			1.00	
Frt		0.99		1.00	0.99		1.00	0.86			0.99	
Flt Protected		1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)		1486		1588	1531		1588	1404			1635	
Flt Permitted		0.98		0.69	1.00		0.70	1.00			0.97	
Satd. Flow (perm)		1468		1156	1531		1168	1404			1594	
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)	7	84	10	140	96	5	274	7	167	10	71	9
RTOR Reduction (vph)	0	6	0	0	3	0	0	96	0	0	5	0
Lane Group Flow (vph)	0	95	0	140	98	0	274	78	0	0	85	0
Confl. Peds. (#/hr)	3		1	1		3	1		1	1		1
Heavy Vehicles (%)	0%	14%	0%	1%	10%	0%	1%	0%	1%	11%	0%	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)		23.6		23.6	23.6		25.6	25.6			25.6	
Effective Green, g (s)		23.6		23.6	23.6		25.6	25.6			25.6	
Actuated g/C Ratio		0.39		0.39	0.39		0.43	0.43			0.43	
Clearance Time (s)		5.4		5.4	5.4		5.4	5.4			5.4	
Lane Grp Cap (vph)		577		454	602		498	599			680	
v/s Ratio Prot					0.06			0.06				
v/s Ratio Perm		0.06		c0.12			c0.23				0.05	
v/c Ratio		0.16		0.31	0.16		0.55	0.13			0.12	
Uniform Delay, d1		11.8		12.6	11.8		12.9	10.4			10.4	
Progression Factor		0.86		0.99	1.00		1.00	1.00			1.00	
Incremental Delay, d2		0.6		1.7	0.6		4.3	0.5			0.4	
Delay (s)		10.7		14.2	12.3		17.2	10.9			10.8	
Level of Service		B		B	B		B	B			B	
Approach Delay (s)		10.7			13.4			14.8			10.8	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.8
Intersection Capacity Utilization	47.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
29: RR 16 (RITSON RD) & MCNAUGHTON AVE/DEAN AVE/DEAN AVE

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	35	14	172	89	22	16	594	69	31	641	73
Future Volume (vph)	129	35	14	172	89	22	16	594	69	31	641	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.96		1.00	0.97		1.00	0.98		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)	1294	1163		1298	1235		1515	2568		1210	2563	
Flt Permitted	0.68	1.00		0.72	1.00		0.34	1.00		0.36	1.00	
Satd. Flow (perm)	926	1163		987	1235		537	2568		464	2563	
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)	140	38	15	187	97	24	17	646	75	34	697	79
RTOR Reduction (vph)	0	11	0	0	17	0	0	13	0	0	12	0
Lane Group Flow (vph)	140	42	0	187	104	0	17	708	0	34	764	0
Confl. Peds. (#/hr)	1		7	7		1	1		9	9		1
Heavy Vehicles (%)	24%	34%	50%	23%	27%	55%	6%	22%	29%	32%	24%	16%
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)	15.8	15.8		15.8	15.8		31.8	31.8		31.8	31.8	
Effective Green, g (s)	15.8	15.8		15.8	15.8		31.8	31.8		31.8	31.8	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.53	0.53		0.53	0.53	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	243	306		259	325		284	1361		245	1358	
v/s Ratio Prot		0.04			0.08			0.28			c0.30	
v/s Ratio Perm	0.15			c0.19			0.03			0.07		
v/c Ratio	0.58	0.14		0.72	0.32		0.06	0.52		0.14	0.56	
Uniform Delay, d1	19.2	16.9		20.1	17.8		6.8	9.2		7.2	9.4	
Progression Factor	0.90	0.87		1.05	1.07		1.00	1.00		1.24	1.28	
Incremental Delay, d2	3.2	0.2		9.5	0.6		0.4	1.4		1.0	1.4	
Delay (s)	20.5	14.9		30.6	19.6		7.2	10.6		9.8	13.5	
Level of Service	C	B		C	B		A	B		A	B	
Approach Delay (s)		19.0			26.3			10.5			13.3	
Approach LOS		B			C			B			B	

Intersection Summary				
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.61			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.4	
Intersection Capacity Utilization	56.2%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
30: RR 35 (WILSON RD) & DEAN AVE

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	7	19	12	17	10	16	175	11	4	250	83
Future Volume (vph)	34	7	19	12	17	10	16	175	11	4	250	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4			5.4			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			0.99	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.96			0.96			0.99			0.97	
Flt Protected		0.97			0.98			1.00			1.00	
Satd. Flow (prot)		1341			1463			1540			1541	
Flt Permitted		0.80			0.87			0.97			1.00	
Satd. Flow (perm)		1106			1295			1495			1539	
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)	37	8	21	13	18	11	17	190	12	4	272	90
RTOR Reduction (vph)	0	19	0	0	10	0	0	2	0	0	11	0
Lane Group Flow (vph)	0	47	0	0	32	0	0	217	0	0	355	0
Confl. Peds. (#/hr)	6		3	3		6	20		9	9		20
Heavy Vehicles (%)	18%	29%	47%	25%	12%	30%	38%	17%	45%	0%	17%	14%
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)		5.8			5.8			43.2			43.2	
Effective Green, g (s)		5.8			5.8			43.2			43.2	
Actuated g/C Ratio		0.10			0.10			0.72			0.72	
Clearance Time (s)		5.4			5.4			5.6			5.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		106			125			1076			1108	
v/s Ratio Prot												
v/s Ratio Perm		c0.04			0.02			0.15			c0.23	
v/c Ratio		0.44			0.26			0.20			0.32	
Uniform Delay, d1		25.6			25.1			2.8			3.1	
Progression Factor		0.92			1.00			1.18			1.00	
Incremental Delay, d2		2.8			1.1			0.4			0.8	
Delay (s)		26.5			26.2			3.6			3.8	
Level of Service		C			C			A			A	
Approach Delay (s)		26.5			26.2			3.6			3.8	
Approach LOS		C			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	7.3	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.33			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.0	
Intersection Capacity Utilization	36.9%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
32: RR 22 (BLOOR ST) & RR 54 (PARK)

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	379	2	1	614	87	1	0	0	188	0	436
Future Volume (vph)	61	379	2	1	614	87	1	0	0	188	0	436
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.4		6.4	6.4	6.4		6.0		6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85		1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95		0.95	0.95	1.00
Satd. Flow (prot)	1750	3431		1785	3466	1479		1785		1679	1679	1597
Flt Permitted	0.26	1.00		0.51	1.00	1.00		0.69		0.95	0.95	1.00
Satd. Flow (perm)	481	3431		957	3466	1479		1292		1679	1679	1597
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)	66	412	2	1	667	95	1	0	0	204	0	474
RTOR Reduction (vph)	0	1	0	0	0	64	0	0	0	0	0	271
Lane Group Flow (vph)	66	413	0	1	667	31	0	1	0	102	102	203
Heavy Vehicles (%)	2%	4%	0%	0%	3%	8%	0%	0%	0%	1%	0%	0%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Split	NA	Perm
Protected Phases	5	2			6			8		4	4	
Permitted Phases	2			6		6	8					4
Actuated Green, G (s)	37.6	37.6		29.6	29.6	29.6		8.0		26.0	26.0	26.0
Effective Green, g (s)	37.6	37.6		29.6	29.6	29.6		8.0		26.0	26.0	26.0
Actuated g/C Ratio	0.42	0.42		0.33	0.33	0.33		0.09		0.29	0.29	0.29
Clearance Time (s)	3.0	6.4		6.4	6.4	6.4		6.0		6.0	6.0	6.0
Lane Grp Cap (vph)	271	1433		314	1139	486		114		485	485	461
v/s Ratio Prot	0.01	c0.12			c0.19					0.06	0.06	
v/s Ratio Perm	0.09			0.00		0.02		c0.00				c0.13
v/c Ratio	0.24	0.29		0.00	0.59	0.06		0.01		0.21	0.21	0.44
Uniform Delay, d1	16.6	17.3		20.3	25.1	20.7		37.4		24.2	24.2	26.1
Progression Factor	1.00	1.00		0.59	0.55	1.47		1.00		1.00	1.00	1.00
Incremental Delay, d2	2.1	0.5		0.0	1.8	0.2		0.1		1.0	1.0	3.0
Delay (s)	18.7	17.9		11.9	15.6	30.7		37.5		25.2	25.2	29.1
Level of Service	B	B		B	B	C		D		C	C	C
Approach Delay (s)		18.0			17.4			37.5			27.9	
Approach LOS		B			B			D			C	

Intersection Summary				
HCM 2000 Control Delay	21.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.44			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	21.4	
Intersection Capacity Utilization	66.0%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
33: PARK ROAD S & RR 22 (BLOOR ST)

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	171	407	231	652	0	529	0	232	0	0	1
Future Volume (vph)	0	171	407	231	652	0	529	0	232	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2	6.2	6.2	6.2		6.3	6.3	6.3		6.3	
Lane Util. Factor		0.91	0.91	1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes		0.99	0.98	1.00	1.00		1.00	1.00	0.97		1.00	
Flpb, ped/bikes		1.00	1.00	0.99	1.00		1.00	1.00	1.00		1.00	
Frt		0.92	0.85	1.00	1.00		1.00	1.00	0.85		0.86	
Flt Protected		1.00	1.00	0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (prot)		2950	1405	1756	3535		1679	1679	1493		1625	
Flt Permitted		1.00	1.00	0.49	1.00		0.76	0.76	1.00		1.00	
Satd. Flow (perm)		2950	1405	898	3535		1338	1338	1493		1625	
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)	0	186	442	251	709	0	575	0	252	0	0	1
RTOR Reduction (vph)	0	131	131	0	0	0	0	0	180	0	1	0
Lane Group Flow (vph)	0	276	90	251	709	0	287	288	72	0	0	0
Confl. Peds. (#/hr)	7		7	7		7			10	10		
Heavy Vehicles (%)	0%	10%	1%	1%	1%	0%	1%	0%	4%	0%	0%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm		NA	
Protected Phases		2			6			8		7	7	
Permitted Phases	2		2	6			8		8			
Actuated Green, G (s)		36.8	36.8	36.8	36.8		25.7	25.7	25.7		8.7	
Effective Green, g (s)		36.8	36.8	36.8	36.8		25.7	25.7	25.7		8.7	
Actuated g/C Ratio		0.41	0.41	0.41	0.41		0.29	0.29	0.29		0.10	
Clearance Time (s)		6.2	6.2	6.2	6.2		6.3	6.3	6.3		6.3	
Lane Grp Cap (vph)		1206	574	367	1445		382	382	426		157	
v/s Ratio Prot		0.09			0.20						c0.00	
v/s Ratio Perm			0.06	c0.28			0.21	c0.22	0.05			
v/c Ratio		0.23	0.16	0.68	0.49		0.75	0.75	0.17		0.00	
Uniform Delay, d1		17.3	16.8	21.8	19.7		29.2	29.3	24.1		36.7	
Progression Factor		0.80	1.34	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2		0.4	0.6	9.9	1.2		12.8	12.9	0.9		0.0	
Delay (s)		14.2	23.0	31.7	20.9		42.0	42.2	25.0		36.7	
Level of Service		B	C	C	C		D	D	C		D	
Approach Delay (s)		17.3			23.7			36.9			36.7	
Approach LOS		B			C			D			D	

Intersection Summary				
HCM 2000 Control Delay	26.6	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.63			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.8	
Intersection Capacity Utilization	71.6%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
36: RR 2 (SIMCOE ST) & RR 22 (BLOOR ST)

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	387	267	151	72	409	125	53	327	68	78	221	97
Future Volume (vph)	387	267	151	72	409	125	53	327	68	78	221	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2		6.2	6.2		6.2	6.2		6.2	6.2	6.2
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	1.00
Frt	1.00	0.95		1.00	0.96		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1731	3151		1776	3343		1773	3356		1711	3466	1435
Flt Permitted	0.32	1.00		0.49	1.00		0.60	1.00		0.46	1.00	1.00
Satd. Flow (perm)	576	3151		916	3343		1125	3356		823	3466	1435
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)	421	290	164	78	445	136	58	355	74	85	240	105
RTOR Reduction (vph)	0	75	0	0	31	0	0	20	0	0	0	71
Lane Group Flow (vph)	421	379	0	78	550	0	58	409	0	85	240	34
Confl. Peds. (#/hr)	9		9	9		9	9		6	6		9
Heavy Vehicles (%)	3%	6%	7%	0%	3%	1%	0%	4%	0%	4%	3%	9%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	48.8	48.8		30.3	30.3		28.8	28.8		28.8	28.8	28.8
Effective Green, g (s)	48.8	48.8		30.3	30.3		28.8	28.8		28.8	28.8	28.8
Actuated g/C Ratio	0.54	0.54		0.34	0.34		0.32	0.32		0.32	0.32	0.32
Clearance Time (s)	3.0	6.2		6.2	6.2		6.2	6.2		6.2	6.2	6.2
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)	511	1708		308	1125		360	1073		263	1109	459
v/s Ratio Prot	c0.14	0.12			0.16			c0.12			0.07	
v/s Ratio Perm	c0.30			0.09			0.05			0.10		0.02
v/c Ratio	0.82	0.22		0.25	0.49		0.16	0.38		0.32	0.22	0.07
Uniform Delay, d1	13.4	10.7		21.6	23.7		21.9	23.7		23.2	22.4	21.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	10.4	0.3		2.0	1.5		1.0	1.0		3.2	0.4	0.3
Delay (s)	23.8	11.0		23.6	25.2		22.9	24.7		26.4	22.8	21.6
Level of Service	C	B		C	C		C	C		C	C	C
Approach Delay (s)		17.2			25.0			24.5			23.2	
Approach LOS		B			C			C			C	

Intersection Summary				
HCM 2000 Control Delay	21.8	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.4	
Intersection Capacity Utilization	91.9%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
38: DREW ST/HWY 401 EB RAMP (RITSON) & RR 22 (BLOOR ST)

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	112	267	18	26	453	94	20	7	16	355	11	65
Future Volume (vph)	112	267	18	26	453	94	20	7	16	355	11	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2		6.2	6.2		6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.90		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1706	3432		1641	3341		1697	1488		1716	1558	
Flt Permitted	0.41	1.00		0.56	1.00		0.70	1.00		0.74	1.00	
Satd. Flow (perm)	742	3432		973	3341		1256	1488		1339	1558	
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)	122	290	20	28	492	102	22	8	17	386	12	71
RTOR Reduction (vph)	0	7	0	0	26	0	0	11	0	0	46	0
Lane Group Flow (vph)	122	303	0	28	568	0	22	14	0	386	37	0
Confl. Peds. (#/hr)	9		7	7		9	2					2
Heavy Vehicles (%)	4%	3%	0%	8%	3%	6%	5%	29%	6%	4%	9%	3%
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)	26.2	26.2		26.2	26.2		21.4	21.4		21.4	21.4	
Effective Green, g (s)	26.2	26.2		26.2	26.2		21.4	21.4		21.4	21.4	
Actuated g/C Ratio	0.44	0.44		0.44	0.44		0.36	0.36		0.36	0.36	
Clearance Time (s)	6.2	6.2		6.2	6.2		6.2	6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	324	1498		424	1458		447	530		477	555	
v/s Ratio Prot		0.09			c0.17			0.01			0.02	
v/s Ratio Perm	0.16			0.03			0.02			c0.29		
v/c Ratio	0.38	0.20		0.07	0.39		0.05	0.03		0.81	0.07	
Uniform Delay, d1	11.4	10.4		9.8	11.5		12.6	12.5		17.5	12.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.3	0.3		0.3	0.8		0.0	0.0		9.8	0.1	
Delay (s)	14.7	10.7		10.1	12.3		12.7	12.6		27.2	12.8	
Level of Service	B	B		B	B		B	B		C	B	
Approach Delay (s)		11.9			12.2			12.6			24.7	
Approach LOS		B			B			B			C	

Intersection Summary				
HCM 2000 Control Delay	15.8	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.58			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.4	
Intersection Capacity Utilization	75.2%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
39: RR 16 (RITSON RD) & RR 22 (BLOOR ST)

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	311	185	171	75	361	64	68	279	57	38	424	260
Future Volume (vph)	311	185	171	75	361	64	68	279	57	38	424	260
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5		6.5	6.5			6.4	6.4		6.4	6.4
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95	1.00		0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00			1.00	0.95		1.00	1.00
Flpb, ped/bikes	1.00	1.00		0.99	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.93		1.00	0.98			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		1.00	1.00
Satd. Flow (prot)	1715	3082		1758	3370			3354	1522		3365	1597
Flt Permitted	0.41	1.00		0.52	1.00			0.70	1.00		0.88	1.00
Satd. Flow (perm)	746	3082		968	3370			2354	1522		2984	1597
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)	338	201	186	82	392	70	74	303	62	41	461	283
RTOR Reduction (vph)	0	61	0	0	15	0	0	0	44	0	0	199
Lane Group Flow (vph)	338	326	0	82	447	0	0	377	18	0	502	84
Confl. Peds. (#/hr)	2		6	6		2			25	25		
Heavy Vehicles (%)	4%	4%	9%	1%	3%	5%	3%	6%	0%	11%	5%	0%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	50.5	50.5		33.0	33.0			26.6	26.6		26.6	26.6
Effective Green, g (s)	50.5	50.5		33.0	33.0			26.6	26.6		26.6	26.6
Actuated g/C Ratio	0.56	0.56		0.37	0.37			0.30	0.30		0.30	0.30
Clearance Time (s)	3.0	6.5		6.5	6.5			6.4	6.4		6.4	6.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	574	1729		354	1235			695	449		881	472
v/s Ratio Prot	c0.09	0.11			0.13							
v/s Ratio Perm	c0.24			0.08				0.16	0.01		c0.17	0.05
v/c Ratio	0.59	0.19		0.23	0.36			0.54	0.04		0.57	0.18
Uniform Delay, d1	11.1	9.7		19.7	20.8			26.6	22.6		26.9	23.6
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	1.5	0.2		1.5	0.8			3.0	0.2		2.7	0.8
Delay (s)	12.6	9.9		21.3	21.6			29.6	22.8		29.5	24.4
Level of Service	B	A		C	C			C	C		C	C
Approach Delay (s)		11.2			21.6			28.7			27.7	
Approach LOS		B			C			C			C	

Intersection Summary				
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.60			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.9	
Intersection Capacity Utilization	83.5%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
40: RR 35 (WILSON RD) & RR 22 (BLOOR ST)

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	134	53	28	311	85	53	115	43	89	176	114
Future Volume (vph)	79	134	53	28	311	85	53	115	43	89	176	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.97	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.96		1.00	0.97		1.00	0.96		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1716	1672		1622	1733		1639	1726		1703	1697	
Flt Permitted	0.33	1.00		0.63	1.00		0.48	1.00		0.65	1.00	
Satd. Flow (perm)	595	1672		1076	1733		833	1726		1163	1697	
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)	86	146	58	30	338	92	58	125	47	97	191	124
RTOR Reduction (vph)	0	24	0	0	16	0	0	22	0	0	39	0
Lane Group Flow (vph)	86	180	0	30	414	0	58	150	0	97	276	0
Confl. Peds. (#/hr)	1		22	22		1	9		6	6		9
Heavy Vehicles (%)	4%	5%	8%	7%	4%	6%	8%	3%	5%	4%	2%	4%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	29.0	29.0		22.0	22.0		19.3	19.3		19.3	19.3	
Effective Green, g (s)	29.0	29.0		22.0	22.0		19.3	19.3		19.3	19.3	
Actuated g/C Ratio	0.48	0.48		0.37	0.37		0.32	0.32		0.32	0.32	
Clearance Time (s)	3.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	362	808		394	635		267	555		374	545	
v/s Ratio Prot	0.02	c0.11			c0.24			0.09			c0.16	
v/s Ratio Perm	0.10			0.03			0.07			0.08		
v/c Ratio	0.24	0.22		0.08	0.65		0.22	0.27		0.26	0.51	
Uniform Delay, d1	9.2	9.0		12.4	15.8		14.8	15.1		15.1	16.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.86	0.87	
Incremental Delay, d2	0.3	0.6		0.4	5.1		1.9	1.2		1.7	3.3	
Delay (s)	9.5	9.6		12.8	21.0		16.7	16.3		14.6	17.7	
Level of Service	A	A		B	C		B	B		B	B	
Approach Delay (s)		9.6			20.4			16.4			17.0	
Approach LOS		A			C			B			B	

Intersection Summary				
HCM 2000 Control Delay	16.5	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.55			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.7	
Intersection Capacity Utilization	76.1%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Existing
41: RR 56 (FAREWELL ST)/401 EB RAMP / RR 56 FAREWELL & RR 22 (BLOOR ST)
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	100	67	520	272	165	25	55	64	433	304	83
Future Volume (vph)	72	100	67	520	272	165	25	55	64	433	304	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2		3.0	6.2		6.3	6.3	6.3	5.5	6.3	6.3
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1621	3137		1766	3304		1537	1663	1401	3298	3368	1560
Flt Permitted	0.48	1.00		0.56	1.00		0.59	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	819	3137		1046	3304		952	1663	1401	3298	3368	1560
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)	78	109	73	565	296	179	27	60	70	471	330	90
RTOR Reduction (vph)	0	55	0	0	92	0	0	0	65	0	0	61
Lane Group Flow (vph)	78	127	0	565	383	0	27	60	5	471	330	29
Confl. Peds. (#/hr)	2		1	1		2	1					1
Heavy Vehicles (%)	10%	8%	4%	1%	1%	1%	16%	13%	14%	5%	6%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases	2			6			8		8			4
Actuated Green, G (s)	27.5	22.7		48.4	40.6		6.8	6.8	6.8	16.8	29.1	29.1
Effective Green, g (s)	27.5	22.7		48.4	40.6		6.8	6.8	6.8	16.8	29.1	29.1
Actuated g/C Ratio	0.31	0.25		0.54	0.45		0.08	0.08	0.08	0.19	0.32	0.32
Clearance Time (s)	3.0	6.2		3.0	6.2		6.3	6.3	6.3	5.5	6.3	6.3
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	293	791		744	1490		71	125	105	615	1088	504
v/s Ratio Prot	0.01	0.04		c0.19	0.12			c0.04		c0.14	0.10	
v/s Ratio Perm	0.07			c0.22			0.03		0.00			0.02
v/c Ratio	0.27	0.16		0.76	0.26		0.38	0.48	0.05	0.77	0.30	0.06
Uniform Delay, d1	22.8	26.2		14.2	15.3		39.6	39.9	38.6	34.7	22.8	21.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	0.4		4.5	0.4		3.4	2.9	0.2	5.7	0.2	0.0
Delay (s)	23.3	26.7		18.7	15.8		43.0	42.8	38.8	40.4	23.0	21.0
Level of Service	C	C		B	B		D	D	D	D	C	C
Approach Delay (s)		25.7			17.4			41.0			32.0	
Approach LOS		C			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	25.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Existing
42: RR 33 (HARMONY) & RR 22 (BLOOR ST)
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	297	217	90	513	168	38	176	157	7	11	618	306
Future Volume (vph)	297	217	90	513	168	38	176	157	7	11	618	306
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	6.3	6.3		3.0	6.5		6.5	6.5	6.5
Lane Util. Factor	0.91	0.91	1.00	1.00	0.95		1.00	0.95		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1310	2680	1109	1539	2893		1363	3101		1405	1648	1365
Flt Permitted	0.95	0.46	1.00	0.95	1.00		0.10	1.00		0.64	1.00	1.00
Satd. Flow (perm)	1310	1242	1109	1539	2893		142	3101		945	1648	1365
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)	323	236	98	558	183	41	191	171	8	12	672	333
RTOR Reduction (vph)	0	0	84	0	16	0	0	3	0	0	0	164
Lane Group Flow (vph)	184	375	14	558	208	0	191	176	0	12	672	169
Heavy Vehicles (%)	24%	26%	44%	16%	18%	29%	31%	13%	43%	27%	14%	17%
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	6	2		5	1		3	8			4	
Permitted Phases			2				8			4		4
Actuated Green, G (s)	17.7	17.7	17.7	34.7	34.7		48.5	48.5		37.5	37.5	37.5
Effective Green, g (s)	17.7	17.7	17.7	34.7	34.7		48.5	48.5		37.5	37.5	37.5
Actuated g/C Ratio	0.15	0.15	0.15	0.29	0.29		0.40	0.40		0.31	0.31	0.31
Clearance Time (s)	6.3	6.3	6.3	6.3	6.3		3.0	6.5		6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	193	395	163	445	836		138	1253		295	515	426
v/s Ratio Prot	c0.14	0.14		c0.36	0.07		c0.09	0.06			0.41	
v/s Ratio Perm			0.01				c0.47			0.01		0.12
v/c Ratio	0.95	0.95	0.09	1.25	0.25		1.38	0.14		0.04	1.30	0.40
Uniform Delay, d1	50.7	50.7	44.2	42.6	32.7		30.0	22.6		28.7	41.2	32.4
Progression Factor	1.00	1.00	1.00	0.97	0.93		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	53.6	34.2	1.1	130.0	0.1		211.3	0.1		0.1	150.8	0.6
Delay (s)	104.4	84.9	45.3	171.2	30.7		241.3	22.6		28.8	192.0	33.0
Level of Service	F	F	D	F	C		F	C		C	F	C
Approach Delay (s)		84.4			131.0			135.5			138.0	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	123.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.1
Intersection Capacity Utilization	99.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Existing
43: GRANDVIEW ST & RR 59 (OLIVE AVE)
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	139	82	53	312	5	173	47	69	9	28	36
Future Volume (vph)	13	139	82	53	312	5	173	47	69	9	28	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	6.2	6.2		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00		1.00	0.95		1.00	0.98	
Flpb, ped/bikes	0.98	1.00	1.00	0.98	1.00		0.98	1.00		0.94	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.91		1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1417	1678	1268	1518	1591		1512	1396		1686	1398	
Flt Permitted	0.55	1.00	1.00	0.66	1.00		0.71	1.00		0.68	1.00	
Satd. Flow (perm)	827	1678	1268	1056	1591		1133	1396		1200	1398	
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)	14	151	89	58	339	5	188	51	75	10	30	39
RTOR Reduction (vph)	0	0	44	0	0	0	0	55	0	0	29	0
Lane Group Flow (vph)	14	151	45	58	344	0	188	71	0	10	40	0
Confl. Peds. (#/hr)	29		21	21		29	17		58	58		17
Heavy Vehicles (%)	23%	12%	20%	15%	18%	0%	16%	17%	16%	0%	18%	22%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	26.7	26.7	26.7	26.7	26.7		13.7	13.7		13.7	13.7	
Effective Green, g (s)	26.7	26.7	26.7	26.7	26.7		13.7	13.7		13.7	13.7	
Actuated g/C Ratio	0.51	0.51	0.51	0.51	0.51		0.26	0.26		0.26	0.26	
Clearance Time (s)	6.2	6.2	6.2	6.2	6.2		5.8	5.8		5.8	5.8	
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)	421	855	646	538	810		296	364		313	365	
v/s Ratio Prot		0.09			c0.22			0.05			0.03	
v/s Ratio Perm	0.02		0.04	0.05			c0.17			0.01		
v/c Ratio	0.03	0.18	0.07	0.11	0.42		0.64	0.19		0.03	0.11	
Uniform Delay, d1	6.4	6.9	6.5	6.7	8.0		17.1	15.1		14.4	14.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.5	0.2	0.4	1.6		4.4	0.3		0.0	0.1	
Delay (s)	6.6	7.4	6.7	7.1	9.7		21.5	15.3		14.5	14.8	
Level of Service	A	A	A	A	A		C	B		B	B	
Approach Delay (s)		7.1			9.3			19.0			14.8	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	52.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Existing
44: GRANDVIEW ST & RR 22 (BLOOR ST)
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	187	18	2	533	69	86	80	7	51	31	56
Future Volume (vph)	18	187	18	2	533	69	86	80	7	51	31	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6		3.6	3.6		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.99		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1340	1577		1187	1537		1552	1537		1455	1395	
Flt Permitted	0.34	1.00		0.62	1.00		0.70	1.00		0.70	1.00	
Satd. Flow (perm)	481	1577		773	1537		1136	1537		1065	1395	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	203	20	2	579	75	93	87	8	55	34	61
RTOR Reduction (vph)	0	4	0	0	4	0	0	7	0	0	52	0
Lane Group Flow (vph)	20	219	0	2	650	0	93	88	0	55	43	0
Confl. Peds. (#/hr)	3		2	2		3	8		5	5		8
Heavy Vehicles (%)	33%	19%	0%	50%	19%	26%	14%	21%	14%	22%	13%	23%
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)	38.5	38.5		41.5	41.5		9.2	9.2		9.2	9.2	
Effective Green, g (s)	38.5	38.5		41.5	41.5		9.2	9.2		9.2	9.2	
Actuated g/C Ratio	0.64	0.64		0.69	0.69		0.15	0.15		0.15	0.15	
Clearance Time (s)	6.6	6.6		3.6	3.6		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	308	1011		534	1063		174	235		163	213	
v/s Ratio Prot		0.14			c0.42			0.06			0.03	
v/s Ratio Perm	0.04			0.00			c0.08			0.05		
v/c Ratio	0.06	0.22		0.00	0.61		0.53	0.38		0.34	0.20	
Uniform Delay, d1	4.0	4.5		2.9	4.9		23.4	22.8		22.7	22.2	
Progression Factor	2.70	3.40		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.2		0.0	2.6		3.1	1.0		1.2	0.5	
Delay (s)	11.0	15.4		2.9	7.6		26.6	23.8		23.9	22.7	
Level of Service	B	B		A	A		C	C		C	C	
Approach Delay (s)		15.1			7.5			25.2			23.1	
Approach LOS		B			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
45: PRESTONVALE RD & RR 22 (BLOOR ST)

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	145	10	21	210	54	13	26	37	66	39	18
Future Volume (vph)	21	145	10	21	210	54	13	26	37	66	39	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.91		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1384	1571		1566	1618		1552	1420		1439	1437	
Flt Permitted	0.58	1.00		0.65	1.00		0.72	1.00		0.71	1.00	
Satd. Flow (perm)	851	1571		1072	1618		1171	1420		1080	1437	
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)	23	158	11	23	228	59	14	28	40	72	42	20
RTOR Reduction (vph)	0	3	0	0	10	0	0	34	0	0	17	0
Lane Group Flow (vph)	23	166	0	23	277	0	14	34	0	72	45	0
Heavy Vehicles (%)	29%	19%	10%	14%	14%	7%	15%	23%	19%	24%	28%	17%
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)	38.9	38.9		38.9	38.9		8.5	8.5		8.5	8.5	
Effective Green, g (s)	38.9	38.9		38.9	38.9		8.5	8.5		8.5	8.5	
Actuated g/C Ratio	0.65	0.65		0.65	0.65		0.14	0.14		0.14	0.14	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	551	1018		695	1049		165	201		153	203	
v/s Ratio Prot		0.11			c0.17			0.02			0.03	
v/s Ratio Perm	0.03			0.02			0.01			c0.07		
v/c Ratio	0.04	0.16		0.03	0.26		0.08	0.17		0.47	0.22	
Uniform Delay, d1	3.8	4.1		3.8	4.5		22.4	22.6		23.7	22.8	
Progression Factor	0.46	0.45		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3		0.1	0.6		0.2	0.4		2.3	0.6	
Delay (s)	1.9	2.2		3.9	5.1		22.6	23.0		26.0	23.4	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		2.2			5.0			23.0			24.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
47: RR 34 (COURTICE RD) & RR 22 (BLOOR ST)

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	129	123	32	107	36	68	183	19	33	355	81
Future Volume (vph)	94	129	123	32	107	36	68	183	19	33	355	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.1	7.1		7.1	7.1		7.4	7.4	7.4	7.4	7.4	7.4
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.93		1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1733	1705		1682	1755		1636	1789	1377	1733	1740	1502
Flt Permitted	0.66	1.00		0.47	1.00		0.52	1.00	1.00	0.63	1.00	1.00
Satd. Flow (perm)	1201	1705		830	1755		888	1789	1377	1154	1740	1502
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)	102	140	134	35	116	39	74	199	21	36	386	88
RTOR Reduction (vph)	0	44	0	0	15	0	0	0	9	0	0	21
Lane Group Flow (vph)	102	230	0	35	140	0	74	199	12	36	386	67
Confl. Peds. (#/hr)			1	1			1					1
Heavy Vehicles (%)	3%	2%	0%	6%	4%	0%	9%	5%	16%	3%	8%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	18.1	18.1		18.1	18.1		45.9	45.9	45.9	45.9	45.9	45.9
Effective Green, g (s)	18.1	18.1		18.1	18.1		45.9	45.9	45.9	45.9	45.9	45.9
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.58	0.58	0.58	0.58	0.58	0.58
Clearance Time (s)	7.1	7.1		7.1	7.1		7.4	7.4	7.4	7.4	7.4	7.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.2	6.2	6.2	6.2	6.2	6.2
Lane Grp Cap (vph)	276	393		191	404		519	1046	805	674	1017	878
v/s Ratio Prot		c0.13			0.08			0.11			c0.22	
v/s Ratio Perm	0.08			0.04			0.08		0.01	0.03		0.04
v/c Ratio	0.37	0.59		0.18	0.35		0.14	0.19	0.02	0.05	0.38	0.08
Uniform Delay, d1	25.4	26.9		24.3	25.2		7.4	7.6	6.8	7.0	8.7	7.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	2.2		0.5	0.5		0.6	0.4	0.0	0.2	1.1	0.2
Delay (s)	26.2	29.1		24.7	25.8		8.0	8.0	6.9	7.1	9.8	7.3
Level of Service	C	C		C	C		A	A	A	A	A	A
Approach Delay (s)		28.3			25.6			7.9			9.2	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	16.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	78.5	Sum of lost time (s)	14.5
Intersection Capacity Utilization	90.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
48: RR 34 (COURTICE RD) & BASELINE RD

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	1	92	17	1	7	70	279	42	23	504	31
Future Volume (vph)	15	1	92	17	1	7	70	279	42	23	504	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			-2%			-5%			-5%	
Total Lost time (s)	7.3	7.3		7.3	7.3		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	1.00	
Frt	1.00	0.85		1.00	0.87		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)	1127	1218		1093	1101		1298	1518		1316	1622	
Flt Permitted	0.75	1.00		0.69	1.00		0.39	1.00		0.55	1.00	
Satd. Flow (perm)	892	1218		796	1101		537	1518		764	1622	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	1	100	18	1	8	76	303	46	25	548	34
RTOR Reduction (vph)	0	84	0	0	7	0	0	8	0	0	3	0
Lane Group Flow (vph)	16	17	0	18	2	0	76	341	0	25	579	0
Heavy Vehicles (%)	60%	0%	33%	65%	100%	43%	41%	22%	40%	39%	17%	29%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	9.6	9.6		9.6	9.6		35.6	35.6		35.6	35.6	
Effective Green, g (s)	9.6	9.6		9.6	9.6		35.6	35.6		35.6	35.6	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.59	0.59		0.59	0.59	
Clearance Time (s)	7.3	7.3		7.3	7.3		7.5	7.5		7.5	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	142	194		127	176		318	900		453	962	
v/s Ratio Prot		0.01			0.00			0.22			c0.36	
v/s Ratio Perm	0.02			c0.02			0.14			0.03		
v/c Ratio	0.11	0.09		0.14	0.01		0.24	0.38		0.06	0.60	
Uniform Delay, d1	21.6	21.5		21.7	21.2		5.8	6.4		5.1	7.7	
Progression Factor	1.00	1.00		1.00	1.00		0.46	0.46		1.00	1.00	
Incremental Delay, d2	0.4	0.2		0.5	0.0		1.8	1.2		0.2	2.8	
Delay (s)	21.9	21.7		22.2	21.2		4.4	4.2		5.4	10.5	
Level of Service	C	C		C	C		A	A		A	B	
Approach Delay (s)		21.7			21.9			4.2			10.3	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.8
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
50: COURTICE RD (RR34)/RR 34 (COURTICE RD) & 401 WB RAMP

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	120	0	5	60	220	0	0	255	465
Future Volume (vph)	0	0	0	120	0	5	60	220	0	0	255	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.5		6.5	3.0	5.1			5.1	5.1
Lane Util. Factor				1.00		1.00	1.00	1.00			1.00	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1750		1566	1750	1842			1842	1566
Flt Permitted				0.95		1.00	0.54	1.00			1.00	1.00
Satd. Flow (perm)				1750		1566	994	1842			1842	1566
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)	0	0	0	130	0	5	65	239	0	0	277	505
RTOR Reduction (vph)	0	0	0	0	0	4	0	0	0	0	0	231
Lane Group Flow (vph)	0	0	0	130	0	1	65	239	0	0	277	274
Turn Type				Perm		Perm	pm+pt	NA			NA	Perm
Protected Phases							5	2			6	
Permitted Phases				8		8	2					6
Actuated Green, G (s)				9.7		9.7	38.7	38.7			32.5	32.5
Effective Green, g (s)				9.7		9.7	38.7	38.7			32.5	32.5
Actuated g/C Ratio				0.16		0.16	0.65	0.65			0.54	0.54
Clearance Time (s)				6.5		6.5	3.0	5.1			5.1	5.1
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				282		253	681	1188			997	848
v/s Ratio Prot							0.01	c0.13			0.15	
v/s Ratio Perm				c0.07		0.00	0.06					c0.17
v/c Ratio				0.46		0.00	0.10	0.20			0.28	0.32
Uniform Delay, d1				22.8		21.1	4.0	4.3			7.4	7.6
Progression Factor				1.00		1.00	1.08	1.16			0.88	0.97
Incremental Delay, d2				1.2		0.0	0.1	0.4			0.6	0.9
Delay (s)				24.0		21.1	4.4	5.4			7.1	8.4
Level of Service				C		C	A	A			A	A
Approach Delay (s)		0.0			23.9			5.2			7.9	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
51: COURTICE RD (RR34) & 401 W-N/S RAMP/401 EB RAMP

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	0	5	0	0	0	0	90	25	100	270	0
Future Volume (vph)	190	0	5	0	0	0	0	90	25	100	270	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2		6.2					5.0	5.0	3.0	5.0	
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00	1.00	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1750		1566					1842	1566	1750	1842	
Flt Permitted	0.95		1.00					1.00	1.00	0.63	1.00	
Satd. Flow (perm)	1750		1566					1842	1566	1154	1842	
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)	207	0	5	0	0	0	0	98	27	109	293	0
RTOR Reduction (vph)	0	0	4	0	0	0	0	0	14	0	0	0
Lane Group Flow (vph)	207	0	1	0	0	0	0	98	13	109	293	0
Turn Type	Perm		Perm					NA	Perm	pm+pt	NA	
Protected Phases								2		1	6	
Permitted Phases	4		4						2	6		
Actuated Green, G (s)	13.0		13.0					28.0	28.0	35.8	35.8	
Effective Green, g (s)	13.0		13.0					28.0	28.0	35.8	35.8	
Actuated g/C Ratio	0.22		0.22					0.47	0.47	0.60	0.60	
Clearance Time (s)	6.2		6.2					5.0	5.0	3.0	5.0	
Vehicle Extension (s)	3.0		3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	379		339					859	730	736	1099	
v/s Ratio Prot								0.05		0.01	c0.16	
v/s Ratio Perm	c0.12		0.00						0.01	0.08		
v/c Ratio	0.55		0.00					0.11	0.02	0.15	0.27	
Uniform Delay, d1	20.9		18.4					9.0	8.6	5.3	5.8	
Progression Factor	1.00		1.00					1.00	1.00	1.17	1.20	
Incremental Delay, d2	1.6		0.0					0.3	0.0	0.1	0.6	
Delay (s)	22.5		18.4					9.3	8.6	6.3	7.5	
Level of Service	C		B					A	A	A	A	
Approach Delay (s)		22.4			0.0			9.1			7.2	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
52: BOSWELL DRIVE & HWY 2

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	614	36	38	653	36	113	17	45	47	13	88
Future Volume (vph)	88	614	36	38	653	36	113	17	45	47	13	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4		6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.89		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1698	3376		1730	3359		1714	1462		1547	1531	
Flt Permitted	0.37	1.00		0.38	1.00		0.69	1.00		0.71	1.00	
Satd. Flow (perm)	657	3376		698	3359		1238	1462		1162	1531	
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)	96	667	39	41	710	39	123	18	49	51	14	96
RTOR Reduction (vph)	0	5	0	0	4	0	0	41	0	0	80	0
Lane Group Flow (vph)	96	701	0	41	745	0	123	26	0	51	30	0
Confl. Peds. (#/hr)	2		3	3		2	2		4	4		2
Heavy Vehicles (%)	5%	4%	17%	3%	5%	11%	4%	0%	18%	15%	8%	5%
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)	37.2	37.2		37.2	37.2		10.2	10.2		10.2	10.2	
Effective Green, g (s)	37.2	37.2		37.2	37.2		10.2	10.2		10.2	10.2	
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.17	0.17		0.17	0.17	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.2	6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	407	2093		432	2082		210	248		197	260	
v/s Ratio Prot		0.21			c0.22			0.02			0.02	
v/s Ratio Perm	0.15			0.06			c0.10			0.04		
v/c Ratio	0.24	0.34		0.09	0.36		0.59	0.11		0.26	0.12	
Uniform Delay, d1	5.1	5.5		4.6	5.6		23.0	21.0		21.6	21.1	
Progression Factor	1.00	1.00		0.90	0.81		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.4	0.4		0.4	0.5		4.1	0.2		0.7	0.2	
Delay (s)	6.4	5.9		4.6	5.0		27.1	21.2		22.3	21.3	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		6.0			5.0			25.0			21.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
53: GREEN RD/GREEN ROAD & HWY 2

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	570	56	35	654	57	87	99	29	79	57	23
Future Volume (vph)	58	570	56	35	654	57	87	99	29	79	57	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		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)	1716	3383		1677	3439		1674	1754		1762	1620	
Flt Permitted	0.36	1.00		0.39	1.00		0.70	1.00		0.67	1.00	
Satd. Flow (perm)	648	3383		693	3439		1235	1754		1238	1620	
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)	63	620	61	38	711	62	95	108	32	86	62	25
RTOR Reduction (vph)	0	7	0	0	6	0	0	26	0	0	21	0
Lane Group Flow (vph)	63	674	0	38	767	0	95	114	0	86	66	0
Confl. Peds. (#/hr)	19		7	7		19	9		5	5		9
Heavy Vehicles (%)	3%	4%	2%	6%	2%	4%	6%	4%	0%	1%	11%	9%
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)	37.7	37.7		37.7	37.7		8.9	8.9		8.9	8.9	
Effective Green, g (s)	37.7	37.7		37.7	37.7		8.9	8.9		8.9	8.9	
Actuated g/C Ratio	0.63	0.63		0.63	0.63		0.15	0.15		0.15	0.15	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	407	2125		435	2160		183	260		183	240	
v/s Ratio Prot		0.20			c0.22			0.06			0.04	
v/s Ratio Perm	0.10			0.05			c0.08			0.07		
v/c Ratio	0.15	0.32		0.09	0.35		0.52	0.44		0.47	0.27	
Uniform Delay, d1	4.6	5.2		4.4	5.3		23.6	23.3		23.4	22.7	
Progression Factor	1.46	1.33		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.4		0.4	0.5		2.5	1.2		1.9	0.6	
Delay (s)	7.5	7.3		4.8	5.8		26.1	24.4		25.3	23.3	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		7.3			5.7			25.1			24.3	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
54: HWY 2 & CLARINGTON BLVD

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	471	27	237	570	72	29	49	158	110	80	37
Future Volume (vph)	34	471	27	237	570	72	29	49	158	110	80	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Total Lost time (s)	6.3	6.3		3.0	6.3		6.5	6.5	6.3	6.5	6.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1412	3157		1599	3030		1346	1575	1384	1372	2927	
Flt Permitted	0.39	1.00		0.41	1.00		0.67	1.00	1.00	0.72	1.00	
Satd. Flow (perm)	574	3157		693	3030		951	1575	1384	1044	2927	
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)	37	512	29	258	620	78	32	53	172	120	87	40
RTOR Reduction (vph)	0	3	0	0	7	0	0	0	142	0	33	0
Lane Group Flow (vph)	37	538	0	258	691	0	32	53	30	120	94	0
Confl. Peds. (#/hr)	2		5	5		2	13					13
Heavy Vehicles (%)	29%	15%	7%	14%	16%	35%	34%	22%	18%	33%	15%	24%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	48.8	48.8		61.7	61.7		15.7	15.7	15.7	15.7	15.7	
Effective Green, g (s)	48.8	48.8		61.7	61.7		15.5	15.5	15.7	15.5	15.5	
Actuated g/C Ratio	0.54	0.54		0.69	0.69		0.17	0.17	0.17	0.17	0.17	
Clearance Time (s)	6.3	6.3		3.0	6.3		6.3	6.3	6.3	6.3	6.3	
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)	311	1711		574	2077		163	271	241	179	504	
v/s Ratio Prot		0.17		c0.05	0.23			0.03			0.03	
v/s Ratio Perm	0.06			c0.26			0.03		0.02	c0.11		
v/c Ratio	0.12	0.31		0.45	0.33		0.20	0.20	0.12	0.67	0.19	
Uniform Delay, d1	10.1	11.4		5.5	5.8		31.9	31.9	31.4	34.9	31.9	
Progression Factor	1.00	1.00		2.02	2.01		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	0.5		0.6	0.4		0.6	0.4	0.2	9.5	0.2	
Delay (s)	10.9	11.8		11.6	12.0		32.5	32.3	31.6	44.3	32.0	
Level of Service	B	B		B	B		C	C	C	D	C	
Approach Delay (s)		11.8			11.9			31.8			38.0	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.8
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
55: REG RD 57 & HWY 2

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	509	193	162	272	108	150	515	231	121	646	76
Future Volume (vph)	100	509	193	162	272	108	150	515	231	121	646	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		-1%			-1%			-3%			-3%	
Total Lost time (s)	3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.2	6.2	6.2	6.2	6.2
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1777	3428	1587	1528	3397	1415	1852	1773	1487	1441	1560	1410
Flt Permitted	0.57	1.00	1.00	0.26	1.00	1.00	0.15	1.00	1.00	0.39	1.00	1.00
Satd. Flow (perm)	1068	3428	1587	421	3397	1415	290	1773	1487	598	1560	1410
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)	109	553	210	176	296	117	163	560	251	132	702	83
RTOR Reduction (vph)	0	0	164	0	0	89	0	0	115	0	0	45
Lane Group Flow (vph)	109	553	46	176	296	28	163	560	136	132	702	38
Confl. Peds. (#/hr)	3		1	1		3	1		7	7		1
Heavy Vehicles (%)	3%	7%	2%	20%	8%	14%	0%	10%	9%	28%	25%	16%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	24.6	19.8	19.8	27.4	21.2	21.2	48.3	48.3	48.3	41.3	41.3	41.3
Effective Green, g (s)	24.6	19.8	19.8	27.4	21.2	21.2	48.3	48.6	48.6	41.6	41.6	41.6
Actuated g/C Ratio	0.27	0.22	0.22	0.30	0.24	0.24	0.54	0.54	0.54	0.46	0.46	0.46
Clearance Time (s)	3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	329	754	349	204	800	333	225	957	802	276	721	651
v/s Ratio Prot	0.02	0.16		c0.06	0.09		c0.03	0.32			c0.45	
v/s Ratio Perm	0.07		0.03	c0.20		0.02	0.36		0.09	0.22		0.03
v/c Ratio	0.33	0.73	0.13	0.86	0.37	0.08	0.72	0.59	0.17	0.48	0.97	0.06
Uniform Delay, d1	25.3	32.6	28.2	27.3	28.8	26.8	16.1	13.9	10.5	16.7	23.7	13.4
Progression Factor	1.13	1.06	2.28	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	6.1	0.8	29.2	1.3	0.5	11.0	0.9	0.1	1.3	26.9	0.0
Delay (s)	29.3	40.7	64.9	56.6	30.1	27.3	27.1	14.8	10.6	18.0	50.5	13.4
Level of Service	C	D	E	E	C	C	C	B	B	B	D	B
Approach Delay (s)		45.1			37.5			15.8			42.5	
Approach LOS		D			D			B			D	

Intersection Summary			
HCM 2000 Control Delay	34.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.4
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
56: ROENIGK DR & KING ST/HWY 2

Existing
Timing Plan: Default

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	642	44	84	782	56	140
Future Volume (vph)	642	44	84	782	56	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			-1%	0%	
Total Lost time (s)	6.3		6.3	6.3	6.5	6.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3466		1759	3517	1750	1566
Flt Permitted	1.00		0.37	1.00	0.95	1.00
Satd. Flow (perm)	3466		682	3517	1750	1566
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	698	48	91	850	61	152
RTOR Reduction (vph)	4	0	0	0	0	83
Lane Group Flow (vph)	742	0	91	850	61	69
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Actuated Green, G (s)	40.0		40.0	40.0	7.2	7.2
Effective Green, g (s)	40.0		40.0	40.0	7.2	7.2
Actuated g/C Ratio	0.67		0.67	0.67	0.12	0.12
Clearance Time (s)	6.3		6.3	6.3	6.5	6.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2310		454	2344	210	187
v/s Ratio Prot	0.21			c0.24	0.03	
v/s Ratio Perm			0.13			c0.04
v/c Ratio	0.32		0.20	0.36	0.29	0.37
Uniform Delay, d1	4.2		3.8	4.4	24.1	24.3
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4		1.0	0.4	0.8	1.2
Delay (s)	4.6		4.8	4.8	24.8	25.6
Level of Service	A		A	A	C	C
Approach Delay (s)	4.6			4.8	25.3	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.8
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
58: RR 67 (BOWMANVILLE AVE)/RR 57 (BOWMANVILLE AVE) & ASPEN SPRINGS DR

Existing
Timing Plan: Default

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	119	83	63	382	668	78
Future Volume (vph)	119	83	63	382	668	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	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)	1684	1479	1602	1528	1545	
Flt Permitted	0.95	1.00	0.27	1.00	1.00	
Satd. Flow (perm)	1684	1479	450	1528	1545	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	129	90	68	415	726	85
RTOR Reduction (vph)	0	75	0	0	5	0
Lane Group Flow (vph)	129	15	68	415	806	0
Confl. Peds. (#/hr)			9			9
Heavy Vehicles (%)	6%	8%	11%	23%	19%	23%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	8.3	8.3	39.7	39.7	39.7	
Effective Green, g (s)	10.1	10.1	41.9	41.9	41.9	
Actuated g/C Ratio	0.17	0.17	0.70	0.70	0.70	
Clearance Time (s)	5.8	5.8	6.2	6.2	6.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	283	248	314	1067	1078	
v/s Ratio Prot	c0.08			0.27	c0.52	
v/s Ratio Perm		0.01	0.15			
v/c Ratio	0.46	0.06	0.22	0.39	0.75	
Uniform Delay, d1	22.5	21.0	3.2	3.7	5.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.2	0.1	1.6	1.1	4.8	
Delay (s)	23.6	21.1	4.8	4.8	10.5	
Level of Service	C	C	A	A	B	
Approach Delay (s)	22.6			4.8	10.5	
Approach LOS	C			A	B	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
59: RR 57 (BOWMANVILLE AVE) & WAVERLY RD

Existing
Timing Plan: Default

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	220	55	434	129	50	767
Future Volume (vph)	220	55	434	129	50	767
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.3	3.3	3.5
Grade (%)	4%		3%			-3%
Total Lost time (s)	6.2	6.2	5.9	5.9	5.9	5.9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1715	1534	1814	1508	1736	1870
Flt Permitted	0.95	1.00	1.00	1.00	0.45	1.00
Satd. Flow (perm)	1715	1534	1814	1508	821	1870
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	60	472	140	54	834
RTOR Reduction (vph)	0	47	0	59	0	0
Lane Group Flow (vph)	239	13	472	81	54	834
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Actuated Green, G (s)	13.4	13.4	34.5	34.5	34.5	34.5
Effective Green, g (s)	13.1	13.1	34.8	34.8	34.8	34.8
Actuated g/C Ratio	0.22	0.22	0.58	0.58	0.58	0.58
Clearance Time (s)	5.9	5.9	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	374	334	1052	874	476	1084
v/s Ratio Prot	c0.14		0.26			c0.45
v/s Ratio Perm		0.01		0.05	0.07	
v/c Ratio	0.64	0.04	0.45	0.09	0.11	0.77
Uniform Delay, d1	21.3	18.5	7.2	5.6	5.7	9.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.6	0.0	1.4	0.2	0.5	5.3
Delay (s)	24.9	18.5	8.5	5.8	6.1	14.8
Level of Service	C	B	A	A	A	B
Approach Delay (s)	23.6		7.9			14.3
Approach LOS	C		A			B

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.1
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
60: GREEN RD & BASELINE RD

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	48	0	1	117	48	0	0	1	63	4	178
Future Volume (vph)	50	48	0	1	117	48	0	0	1	63	4	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1			5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.96			0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1417	1708		1785	1449			1597		1475	1374	
Flt Permitted	0.64	1.00		0.72	1.00			1.00		0.76	1.00	
Satd. Flow (perm)	961	1708		1359	1449			1597		1176	1374	
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)	54	52	0	1	127	52	0	0	1	68	4	193
RTOR Reduction (vph)	0	0	0	0	17	0	0	1	0	0	163	0
Lane Group Flow (vph)	54	52	0	1	162	0	0	0	0	68	34	0
Heavy Vehicles (%)	26%	10%	0%	0%	22%	29%	0%	0%	0%	21%	50%	16%
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)	29.0	29.0		29.0	29.0			7.4		7.4	7.4	
Effective Green, g (s)	29.0	29.0		29.0	29.0			7.4		7.4	7.4	
Actuated g/C Ratio	0.60	0.60		0.60	0.60			0.15		0.15	0.15	
Clearance Time (s)	6.1	6.1		6.1	6.1			5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	578	1027		817	871			245		180	210	
v/s Ratio Prot		0.03			c0.11			0.00			0.02	
v/s Ratio Perm	0.06			0.00						c0.06		
v/c Ratio	0.09	0.05		0.00	0.19			0.00		0.38	0.16	
Uniform Delay, d1	4.1	3.9		3.8	4.3			17.3		18.3	17.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.1		0.0	0.5			0.0		1.3	0.4	
Delay (s)	4.4	4.0		3.8	4.8			17.3		19.7	18.1	
Level of Service	A	A		A	A			B		B	B	
Approach Delay (s)		4.2			4.8			17.3			18.5	
Approach LOS		A			A			B			B	

Intersection Summary				
HCM 2000 Control Delay	11.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.22			
Actuated Cycle Length (s)	48.2	Sum of lost time (s)	11.8	
Intersection Capacity Utilization	59.5%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
61: RR 57 (BOWMANVILLE AVE) & BASELINE RD

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	95	234	103	143	65	150	359	27	56	757	96
Future Volume (vph)	85	95	234	103	143	65	150	359	27	56	757	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Total Lost time (s)	6.4	6.4		6.4	6.4	6.4	6.7	6.7		6.7	6.7	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.89		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)	1310	2721		1449	1491	1101	1427	2873		1404	3033	
Flt Permitted	0.64	1.00		0.48	1.00	1.00	0.28	1.00		0.51	1.00	
Satd. Flow (perm)	888	2721		729	1491	1101	425	2873		749	3033	
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)	92	103	254	112	155	71	163	390	29	61	823	104
RTOR Reduction (vph)	0	100	0	0	0	57	0	4	0	0	8	0
Lane Group Flow (vph)	92	257	0	112	155	14	163	415	0	61	919	0
Confl. Peds. (#/hr)	3		3	3		3	1		2	2		1
Heavy Vehicles (%)	36%	16%	16%	23%	26%	43%	25%	21%	48%	27%	14%	27%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	18.0	18.0		18.0	18.0	18.0	59.0	59.0		59.0	59.0	
Effective Green, g (s)	17.9	17.9		17.9	17.9	17.9	59.0	59.0		59.0	59.0	
Actuated g/C Ratio	0.20	0.20		0.20	0.20	0.20	0.66	0.66		0.66	0.66	
Clearance Time (s)	6.3	6.3		6.3	6.3	6.3	6.7	6.7		6.7	6.7	
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)	176	541		144	296	218	278	1883		491	1988	
v/s Ratio Prot		0.09			0.10			0.14			0.30	
v/s Ratio Perm	0.10			c0.15		0.01	c0.38			0.08		
v/c Ratio	0.52	0.47		0.78	0.52	0.06	0.59	0.22		0.12	0.46	
Uniform Delay, d1	32.2	31.9		34.2	32.2	29.3	8.7	6.2		5.8	7.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.8	0.7		22.7	1.7	0.1	8.8	0.3		0.5	0.8	
Delay (s)	35.0	32.6		56.9	33.9	29.4	17.4	6.5		6.3	8.4	
Level of Service	D	C		E	C	C	B	A		A	A	
Approach Delay (s)		33.1			40.6			9.6			8.3	
Approach LOS		C			D			A			A	

Intersection Summary				
HCM 2000 Control Delay	18.0	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.63			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.1	
Intersection Capacity Utilization	81.0%	ICU Level of Service	D	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
62: SPRY AVE & BASELINE RD

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	182	1	0	286	28	0	0	1	25	0	21
Future Volume (vph)	6	182	1	0	286	28	0	0	1	25	0	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2		4.2				4.6		4.6	
Lane Util. Factor	1.00	1.00	1.00		1.00				1.00		1.00	
Frpb, ped/bikes	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	
Frt	1.00	1.00	0.85		0.99				0.85		0.94	
Flt Protected	0.95	1.00	1.00		1.00				1.00		0.97	
Satd. Flow (prot)	1748	1842	1566		1814				1566		1682	
Flt Permitted	0.56	1.00	1.00		1.00				1.00		0.83	
Satd. Flow (perm)	1023	1842	1566		1814				1566		1436	
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)	7	198	1	0	311	30	0	0	1	27	0	23
RTOR Reduction (vph)	0	0	0	0	3	0	0	0	1	0	46	0
Lane Group Flow (vph)	7	198	1	0	338	0	0	0	0	0	4	0
Confl. Peds. (#/hr)	1					1						
Turn Type	Perm	NA	Perm	Perm	NA				Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	42.1	42.1	42.1		42.1				2.9		2.9	
Effective Green, g (s)	44.3	44.3	44.3		44.3				4.6		4.6	
Actuated g/C Ratio	0.77	0.77	0.77		0.77				0.08		0.08	
Clearance Time (s)	6.4	6.4	6.4		6.4				6.3		6.3	
Vehicle Extension (s)	3.0	3.0	3.0		3.0				3.0		3.0	
Lane Grp Cap (vph)	785	1414	1202		1392				124		114	
v/s Ratio Prot		0.11			c0.19							
v/s Ratio Perm	0.01		0.00						0.00		c0.00	
v/c Ratio	0.01	0.14	0.00		0.24				0.00		0.03	
Uniform Delay, d1	1.6	1.7	1.6		1.9				24.4		24.5	
Progression Factor	1.00	1.00	1.00		1.00				1.00		1.00	
Incremental Delay, d2	0.0	0.2	0.0		0.4				0.0		0.1	
Delay (s)	1.6	2.0	1.6		2.3				24.4		24.6	
Level of Service	A	A	A		A				C		C	
Approach Delay (s)		1.9			2.3			24.4			24.6	
Approach LOS		A			A			C			C	

Intersection Summary				
HCM 2000 Control Delay	4.1	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.22			
Actuated Cycle Length (s)	57.7	Sum of lost time (s)	8.8	
Intersection Capacity Utilization	41.2%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
66: PRESTONVALE RD

Existing
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
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)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary				
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.00			
Actuated Cycle Length (s)	44.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	0.0%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
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)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases								2			6	
Permitted Phases												
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	22.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			-5%	
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
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)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases								2			6	
Permitted Phases												
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	22.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
1: RR 26 (THICKSON RD) & BURNS ST

Existing
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	166	78	1645	318	46	1336
Future Volume (vph)	166	78	1645	318	46	1336
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	6.1		3.0	6.1
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	0.99	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.98		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1767	1560	3441		1750	3500
Flt Permitted	0.95	1.00	1.00		0.07	1.00
Satd. Flow (perm)	1767	1560	3441		122	3500
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	180	85	1788	346	50	1452
RTOR Reduction (vph)	0	71	13	0	0	0
Lane Group Flow (vph)	180	14	2121	0	50	1452
Confl. Peds. (#/hr)		1		2	2	
Heavy Vehicles (%)	1%	1%	1%	0%	2%	2%
Turn Type	Perm	Perm	NA		pm+pt	NA
Protected Phases			2		1	6
Permitted Phases	8	8			6	
Actuated Green, G (s)	14.4	14.4	57.4		63.9	63.9
Effective Green, g (s)	14.4	14.4	57.4		63.9	63.9
Actuated g/C Ratio	0.16	0.16	0.64		0.71	0.71
Clearance Time (s)	5.6	5.6	6.1		3.0	6.1
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	282	249	2194		149	2485
v/s Ratio Prot			c0.62		0.01	c0.41
v/s Ratio Perm	c0.10	0.01			0.22	
v/c Ratio	0.64	0.05	0.97		0.34	0.58
Uniform Delay, d1	35.4	32.0	15.4		19.3	6.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.7	0.1	12.8		1.3	1.0
Delay (s)	40.0	32.1	28.2		20.7	7.5
Level of Service	D	C	C		C	A
Approach Delay (s)	37.5		28.2			7.9
Approach LOS	D		C			A

Intersection Summary				
HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.7	
Intersection Capacity Utilization	74.9%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: RR 26 (THICKSON RD) & RR 25 (CONSUMERS DR)/RR 25 (STELLAR DR)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	377	510	683	203	225	204	359	1207	231	121	872	307
Future Volume (vph)	377	510	683	203	225	204	359	1207	231	121	872	307
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.6	6.4	3.0	6.6	6.6	6.4	6.4	6.4	3.0	6.4	6.4
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1607	3104	1388	1486	3187	1420	1513	4460	1326	1579	4460	1402
Flt Permitted	0.56	1.00	1.00	0.26	1.00	1.00	0.12	1.00	1.00	0.20	1.00	1.00
Satd. Flow (perm)	946	3104	1388	400	3187	1420	199	4460	1326	329	4460	1402
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)	410	554	742	221	245	222	390	1312	251	132	948	334
RTOR Reduction (vph)	0	0	33	0	0	176	0	0	139	0	0	263
Lane Group Flow (vph)	410	554	709	221	245	46	390	1312	112	132	948	71
Confl. Peds. (#/hr)	1		7	7		1	3		10	10		3
Heavy Vehicles (%)	11%	15%	14%	20%	12%	11%	18%	15%	17%	13%	15%	12%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	38.9	25.9	60.0	36.9	24.9	24.9	66.1	53.6	53.6	35.1	25.6	25.6
Effective Green, g (s)	38.9	25.9	60.0	36.9	24.9	24.9	66.1	53.6	53.6	35.1	25.6	25.6
Actuated g/C Ratio	0.32	0.22	0.50	0.31	0.21	0.21	0.55	0.45	0.45	0.29	0.21	0.21
Clearance Time (s)	3.0	6.6	6.4	3.0	6.6	6.6	6.4	6.4	6.4	3.0	6.4	6.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	378	669	694	231	661	294	483	1992	592	195	951	299
v/s Ratio Prot	c0.12	0.18	c0.29	0.10	0.08		0.23	0.29		0.05	c0.21	
v/s Ratio Perm	c0.23		0.22	0.20		0.03	0.22		0.08	0.14		0.05
v/c Ratio	1.08	0.83	1.02	0.96	0.37	0.16	0.81	0.66	0.19	0.68	1.00	0.24
Uniform Delay, d1	38.5	44.9	30.0	36.6	40.8	38.9	29.8	26.0	20.1	32.8	47.2	39.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.02	1.51	1.00	1.00	1.00
Incremental Delay, d2	70.9	8.3	39.7	46.7	0.4	0.3	7.4	1.3	0.5	9.0	28.4	1.9
Delay (s)	109.4	53.3	69.7	83.3	41.2	39.2	37.1	27.9	30.9	41.7	75.6	41.0
Level of Service	F	D	E	F	D	D	D	C	C	D	E	D
Approach Delay (s)		73.9			54.1			30.1			64.3	
Approach LOS		E			D			C			E	

Intersection Summary				
HCM 2000 Control Delay	54.3	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	1.05			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.4	
Intersection Capacity Utilization	85.8%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: RR 26 (THICKSON RD) & HWY 401 WB RAMP

Existing
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	134	499	1464	0	0	1383
Future Volume (vph)	134	499	1464	0	0	1383
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%			3%
Total Lost time (s)	6.2	6.2	5.7			5.7
Lane Util. Factor	0.97	0.91	0.91			0.91
Frt	0.90	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	2589	1211	4539			4282
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	2589	1211	4539			4282
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	146	542	1591	0	0	1503
RTOR Reduction (vph)	8	8	0	0	0	0
Lane Group Flow (vph)	409	263	1591	0	0	1503
Heavy Vehicles (%)	34%	20%	13%	0%	0%	18%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	16.8	16.8	31.3			31.3
Effective Green, g (s)	16.8	16.8	31.3			31.3
Actuated g/C Ratio	0.28	0.28	0.52			0.52
Clearance Time (s)	6.2	6.2	5.7			5.7
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	724	339	2367			2233
v/s Ratio Prot	0.16		0.35			c0.35
v/s Ratio Perm		c0.22				
v/c Ratio	0.57	0.78	0.67			0.67
Uniform Delay, d1	18.5	19.9	10.6			10.6
Progression Factor	1.00	1.00	0.89			0.98
Incremental Delay, d2	1.0	10.6	1.2			0.4
Delay (s)	19.5	30.5	10.6			10.7
Level of Service	B	C	B			B
Approach Delay (s)	23.8		10.6			10.7
Approach LOS	C		B			B

Intersection Summary				
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.71			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.9	
Intersection Capacity Utilization	58.8%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: RR 26 (THICKSON RD) & HWY 401 EB RAMP

Existing
Timing Plan: PM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	559	236	0	1281	738	0
Future Volume (vph)	559	236	0	1281	738	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%			3%	0%	
Total Lost time (s)	5.6	5.6		5.8	5.8	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3049	1195		4318	4347	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3049	1195		4318	4347	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	608	257	0	1392	802	0
RTOR Reduction (vph)	0	89	0	0	0	0
Lane Group Flow (vph)	608	168	0	1392	802	0
Heavy Vehicles (%)	13%	33%	0%	17%	18%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	16.9	16.9		31.7	31.7	
Effective Green, g (s)	16.9	16.9		31.7	31.7	
Actuated g/C Ratio	0.28	0.28		0.53	0.53	
Clearance Time (s)	5.6	5.6		5.8	5.8	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	858	336		2281	2296	
v/s Ratio Prot	c0.20			c0.32	0.18	
v/s Ratio Perm		0.14				
v/c Ratio	0.71	0.50		0.61	0.35	
Uniform Delay, d1	19.3	18.0		9.8	8.2	
Progression Factor	1.00	1.00		1.00	1.29	
Incremental Delay, d2	2.7	1.2		1.2	0.3	
Delay (s)	22.0	19.2		11.1	10.9	
Level of Service	C	B		B	B	
Approach Delay (s)	21.2			11.1	10.9	
Approach LOS	C			B	B	

Intersection Summary				
HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.64			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.4	
Intersection Capacity Utilization	58.8%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
5: RR 25A (CHAMPLAIN AVE) & RR 25 (STELLAR DR)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	217	165	4	89	6	164	2	6	6	5	82
Future Volume (vph)	70	217	165	4	89	6	164	2	6	6	5	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.7	6.7		6.7	6.7		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.99		1.00	0.88		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1767	2599		1785	3469		1750	1660		1785	1582	
Flt Permitted	0.69	1.00		0.51	1.00		0.70	1.00		0.75	1.00	
Satd. Flow (perm)	1277	2599		956	3469		1282	1660		1412	1582	
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)	76	236	179	4	97	7	178	2	7	7	5	89
RTOR Reduction (vph)	0	85	0	0	3	0	0	6	0	0	72	0
Lane Group Flow (vph)	76	330	0	4	101	0	178	3	0	7	22	0
Heavy Vehicles (%)	1%	0%	66%	0%	2%	0%	2%	0%	0%	0%	0%	2%
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)	24.6	24.6		24.6	24.6		9.2	9.2		9.2	9.2	
Effective Green, g (s)	24.6	24.6		24.6	24.6		9.2	9.2		9.2	9.2	
Actuated g/C Ratio	0.52	0.52		0.52	0.52		0.20	0.20		0.20	0.20	
Clearance Time (s)	6.7	6.7		6.7	6.7		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	669	1363		501	1819		251	325		276	310	
v/s Ratio Prot		c0.13			0.03			0.00			0.01	
v/s Ratio Perm	0.06			0.00			c0.14			0.00		
v/c Ratio	0.11	0.24		0.01	0.06		0.71	0.01		0.03	0.07	
Uniform Delay, d1	5.6	6.1		5.3	5.5		17.6	15.2		15.2	15.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.4		0.0	0.1		8.8	0.0		0.0	0.1	
Delay (s)	6.0	6.5		5.4	5.5		26.4	15.2		15.3	15.5	
Level of Service	A	A		A	A		C	B		B	B	
Approach Delay (s)		6.4			5.5			25.9			15.5	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	46.9	Sum of lost time (s)	13.1
Intersection Capacity Utilization	43.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: KENDALWOOD RD & BURNS ST E

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	344	1	9	255	151	3	1	6	250	11	90
Future Volume (vph)	99	344	1	9	255	151	3	1	6	250	11	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.94		1.00	0.87		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1575	1739		1785	1606		1334	1632		1594	1409	
Flt Permitted	0.45	1.00		0.51	1.00		0.69	1.00		0.75	1.00	
Satd. Flow (perm)	740	1739		955	1606		963	1632		1262	1409	
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)	108	374	1	10	277	164	3	1	7	272	12	98
RTOR Reduction (vph)	0	0	0	0	32	0	0	5	0	0	70	0
Lane Group Flow (vph)	108	375	0	10	409	0	3	3	0	272	40	0
Confl. Peds. (#/hr)	3					3	4					4
Heavy Vehicles (%)	13%	8%	0%	0%	9%	10%	33%	0%	0%	12%	27%	11%
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)	27.6	27.6		27.6	27.6		16.3	16.3		16.3	16.3	
Effective Green, g (s)	27.6	27.6		27.6	27.6		16.3	16.3		16.3	16.3	
Actuated g/C Ratio	0.49	0.49		0.49	0.49		0.29	0.29		0.29	0.29	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	362	852		468	787		278	472		365	407	
v/s Ratio Prot		0.22			c0.25			0.00			0.03	
v/s Ratio Perm	0.15			0.01			0.00			c0.22		
v/c Ratio	0.30	0.44		0.02	0.52		0.01	0.01		0.75	0.10	
Uniform Delay, d1	8.6	9.3		7.4	9.8		14.3	14.2		18.1	14.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.1	1.7		0.1	2.4		0.0	0.0		8.0	0.1	
Delay (s)	10.7	11.0		7.5	12.3		14.3	14.2		26.2	14.7	
Level of Service	B	B		A	B		B	B		C	B	
Approach Delay (s)		10.9			12.2			14.2			22.9	
Approach LOS		B			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	56.3	Sum of lost time (s)	12.4
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: RR 52 (THORNTON RD) & RR 59 (GIBB ST)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	325	18	28	247	155	48	342	62	218	119	44
Future Volume (vph)	99	325	18	28	247	155	48	342	62	218	119	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.94		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1765	1844		1781	1724		1748	1829		1746	1757	
Flt Permitted	0.38	1.00		0.46	1.00		0.65	1.00		0.43	1.00	
Satd. Flow (perm)	704	1844		869	1724		1188	1829		793	1757	
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)	108	353	20	30	268	168	52	372	67	237	129	48
RTOR Reduction (vph)	0	3	0	0	39	0	0	12	0	0	24	0
Lane Group Flow (vph)	108	370	0	30	397	0	52	427	0	237	153	0
Confl. Peds. (#/hr)	2		3	3		2	1		3	3		1
Heavy Vehicles (%)	1%	1%	0%	0%	1%	3%	2%	0%	0%	2%	2%	2%
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)	15.9	15.9		15.9	15.9		19.4	19.4		19.4	19.4	
Effective Green, g (s)	15.9	15.9		15.9	15.9		19.4	19.4		19.4	19.4	
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.41	0.41		0.41	0.41	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	236	618		291	578		486	748		324	719	
v/s Ratio Prot		0.20			c0.23			0.23			0.09	
v/s Ratio Perm	0.15			0.03			0.04			c0.30		
v/c Ratio	0.46	0.60		0.10	0.69		0.11	0.57		0.73	0.21	
Uniform Delay, d1	12.4	13.1		10.8	13.6		8.6	10.8		11.8	9.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.4	1.6		0.2	3.4		0.1	1.1		8.2	0.1	
Delay (s)	13.8	14.7		11.0	17.0		8.7	11.9		20.0	9.2	
Level of Service	B	B		B	B		A	B		C	A	
Approach Delay (s)		14.5			16.6			11.5			15.4	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	47.4	Sum of lost time (s)	12.1
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
8: RR 52 (THORNTON RD) & RR 25 (STELLAR DR)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	217	0	32	5	0	5	24	133	0	0	91	105
Future Volume (vph)	217	0	32	5	0	5	24	133	0	0	91	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6		6.0	6.0		6.5	6.5			6.5	6.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.85		1.00	0.85		1.00	1.00			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	1513	1465		1750	1566		1580	1648			1592	1377
Flt Permitted	0.75	1.00		0.73	1.00		0.69	1.00			1.00	1.00
Satd. Flow (perm)	1201	1465		1353	1566		1152	1648			1592	1377
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)	236	0	35	5	0	5	26	145	0	0	99	114
RTOR Reduction (vph)	0	26	0	0	4	0	0	0	0	0	0	54
Lane Group Flow (vph)	236	9	0	5	1	0	26	145	0	0	99	60
Heavy Vehicles (%)	18%	2%	9%	2%	2%	2%	13%	14%	2%	2%	18%	16%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	16.2	16.2		15.8	15.8		31.7	31.7			31.7	31.7
Effective Green, g (s)	16.2	16.2		15.8	15.8		31.7	31.7			31.7	31.7
Actuated g/C Ratio	0.27	0.27		0.26	0.26		0.53	0.53			0.53	0.53
Clearance Time (s)	5.6	5.6		6.0	6.0		6.5	6.5			6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	324	395		356	412		608	870			841	727
v/s Ratio Prot		0.01			0.00			c0.09			0.06	
v/s Ratio Perm	c0.20			0.00			0.02					0.04
v/c Ratio	0.73	0.02		0.01	0.00		0.04	0.17			0.12	0.08
Uniform Delay, d1	19.9	16.1		16.3	16.3		6.8	7.3			7.1	7.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	7.9	0.0		0.0	0.0		0.1	0.4			0.3	0.2
Delay (s)	27.8	16.1		16.4	16.3		7.0	7.7			7.4	7.2
Level of Service	C	B		B	B		A	A			A	A
Approach Delay (s)		26.3			16.3			7.6			7.3	
Approach LOS		C			B			A			A	

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
9: RR 25 (CHAMPLAIN AVE) & RR 52 (THORNTON RD)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	53	304	209	114	89	31
Future Volume (vph)	53	304	209	114	89	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	5.9	5.9	5.9	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1638	1579	1773	1353	1487	1452
Flt Permitted	0.62	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1063	1579	1773	1353	1487	1452
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	330	227	124	97	34
RTOR Reduction (vph)	0	0	0	71	0	23
Lane Group Flow (vph)	58	330	227	53	97	11
Heavy Vehicles (%)	9%	19%	6%	18%	20%	10%
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4			8		6
Actuated Green, G (s)	20.0	20.0	20.0	20.0	14.8	14.8
Effective Green, g (s)	20.0	20.0	20.0	20.0	14.8	14.8
Actuated g/C Ratio	0.43	0.43	0.43	0.43	0.32	0.32
Clearance Time (s)	5.9	5.9	5.9	5.9	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	453	673	756	576	469	458
v/s Ratio Prot		c0.21	0.13		c0.07	
v/s Ratio Perm	0.05			0.04		0.01
v/c Ratio	0.13	0.49	0.30	0.09	0.21	0.02
Uniform Delay, d1	8.2	9.8	8.8	8.0	11.8	11.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.6	0.2	0.1	1.0	0.1
Delay (s)	8.3	10.3	9.1	8.1	12.8	11.2
Level of Service	A	B	A	A	B	B
Approach Delay (s)		10.0	8.7		12.3	
Approach LOS		B	A		B	

Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	46.9	Sum of lost time (s)	12.1
Intersection Capacity Utilization	55.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
10: RR 25 (CHAMPLAIN AVE) & FOX ST

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	41	496	629	28	65	55
Future Volume (vph)	41	496	629	28	65	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	5.9	5.9	5.9	5.9	5.9
Lane Util. Factor	1.00	1.00	1.00	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1700	1824	1842	1493	3206	1465
Flt Permitted	0.35	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	625	1824	1842	1493	3206	1465
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	45	539	684	30	71	60
RTOR Reduction (vph)	0	0	0	10	0	53
Lane Group Flow (vph)	45	539	684	20	71	7
Heavy Vehicles (%)	5%	3%	2%	7%	8%	9%
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	38.1	38.1	38.1	38.1	6.4	6.4
Effective Green, g (s)	38.1	38.1	38.1	38.1	6.4	6.4
Actuated g/C Ratio	0.68	0.68	0.68	0.68	0.11	0.11
Clearance Time (s)	5.9	5.9	5.9	5.9	5.9	5.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	422	1234	1246	1010	364	166
v/s Ratio Prot		0.30	c0.37		c0.02	
v/s Ratio Perm	0.07			0.01		0.00
v/c Ratio	0.11	0.44	0.55	0.02	0.20	0.04
Uniform Delay, d1	3.2	4.2	4.7	3.0	22.6	22.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	1.1	1.7	0.0	0.3	0.1
Delay (s)	3.7	5.3	6.4	3.0	22.9	22.3
Level of Service	A	A	A	A	C	C
Approach Delay (s)		5.2	6.3		22.6	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	7.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	56.3	Sum of lost time (s)	11.8
Intersection Capacity Utilization	50.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
11: RR 53 (STEVENSON RD) & RR 59 (GIBB ST)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	242	194	290	256	111	135	770	306	97	623	47
Future Volume (vph)	42	242	194	290	256	111	135	770	306	97	623	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.3		3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.2	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1489	2605		1431	1580	1198	1396	2818	1253	1421	2871	
Flt Permitted	0.58	1.00		0.40	1.00	1.00	0.22	1.00	1.00	0.18	1.00	
Satd. Flow (perm)	904	2605		606	1580	1198	326	2818	1253	272	2871	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	263	211	315	278	121	147	837	333	105	677	51
RTOR Reduction (vph)	0	133	0	0	0	73	0	0	169	0	6	0
Lane Group Flow (vph)	46	341	0	315	278	48	147	837	164	105	722	0
Confl. Peds. (#/hr)	25		14	14		25	8		12	12		8
Heavy Vehicles (%)	7%	13%	15%	12%	7%	16%	15%	14%	12%	13%	10%	17%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	35.9	32.9		42.0	36.0	36.0	33.6	28.6	28.6	31.6	27.6	
Effective Green, g (s)	35.9	32.9		42.0	36.0	36.0	33.6	28.6	28.6	31.6	27.6	
Actuated g/C Ratio	0.40	0.37		0.47	0.40	0.40	0.37	0.32	0.32	0.35	0.31	
Clearance Time (s)	3.0	6.3		3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	380	952		337	632	479	181	895	398	146	880	
v/s Ratio Prot	0.00	0.13		c0.06	0.18		c0.05	c0.30		0.03	0.25	
v/s Ratio Perm	0.04			c0.37		0.04	0.26		0.13	0.22		
v/c Ratio	0.12	0.36		0.93	0.44	0.10	0.81	0.94	0.41	0.72	0.82	
Uniform Delay, d1	16.8	20.8		21.8	19.7	16.9	23.5	29.8	24.1	23.1	28.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.32	1.15	2.17	1.00	1.00	
Incremental Delay, d2	0.1	1.1		32.3	2.2	0.4	16.2	13.0	2.0	15.6	8.4	
Delay (s)	16.9	21.9		54.1	21.9	17.3	47.2	47.4	54.3	38.7	37.3	
Level of Service	B	C		D	C	B	D	D	D	D	D	
Approach Delay (s)		21.5			35.3			49.1			37.5	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	39.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
12: RR 53 (STEVENSON RD) & LAVAL DRIVE

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	281	58	213	50	66	57	211	1023	94	72	857	133
Future Volume (vph)	281	58	213	50	66	57	211	1023	94	72	857	133
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	6.3	6.3		3.0	6.3	6.3	3.0	6.3	6.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99		1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	0.98	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1598	1708	1377	1676	1595		1525	3077	1339	1652	3104	1455
Flt Permitted	0.67	1.00	1.00	0.72	1.00		0.18	1.00	1.00	0.18	1.00	1.00
Satd. Flow (perm)	1129	1708	1377	1263	1595		285	3077	1339	316	3104	1455
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)	305	63	232	54	72	62	229	1112	102	78	932	145
RTOR Reduction (vph)	0	0	162	0	36	0	0	0	54	0	0	86
Lane Group Flow (vph)	305	63	70	54	98	0	229	1112	48	78	932	59
Confl. Peds. (#/hr)	15		4	4		15	3		11	11		3
Heavy Vehicles (%)	10%	10%	14%	6%	9%	7%	17%	16%	14%	8%	15%	8%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)	27.2	27.2	27.2	27.2	27.2		50.2	42.5	42.5	41.3	36.6	36.6
Effective Green, g (s)	27.2	27.2	27.2	27.2	27.2		50.2	42.5	42.5	41.3	36.6	36.6
Actuated g/C Ratio	0.30	0.30	0.30	0.30	0.30		0.56	0.47	0.47	0.46	0.41	0.41
Clearance Time (s)	6.3	6.3	6.3	6.3	6.3		3.0	6.3	6.3	3.0	6.3	6.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	341	516	416	381	482		305	1453	632	214	1262	591
v/s Ratio Prot		0.04			0.06		c0.09	c0.36		0.02	0.30	
v/s Ratio Perm	c0.27		0.05	0.04			0.33		0.04	0.15		0.04
v/c Ratio	0.89	0.12	0.17	0.14	0.20		0.75	0.77	0.08	0.36	0.74	0.10
Uniform Delay, d1	30.0	22.7	23.1	22.9	23.4		13.3	19.6	13.0	14.6	22.6	16.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	0.98	1.09	2.33
Incremental Delay, d2	24.4	0.1	0.2	0.2	0.2		10.0	3.9	0.2	0.7	2.5	0.2
Delay (s)	54.4	22.9	23.3	23.1	23.6		23.2	23.5	13.2	14.9	27.2	38.7
Level of Service	D	C	C	C	C		C	C	B	B	C	D
Approach Delay (s)		39.0			23.4			22.7			27.8	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis — Existing
13: RR 53 (STEVENSON RD) & RR 25 (CHAMPLAIN AVE)/HWY 401 WB EXIT RAMP — Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	318	0	302	182	114	431	63	772	0	0	1141	74
Future Volume (vph)	318	0	302	182	114	431	63	772	0	0	1141	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9		5.9	5.9	5.9	5.9	3.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.91	0.91	1.00	1.00	0.95			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.99	1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.98	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1566		1401	1299	2741	1358	1608	3131			4621	1389
Flt Permitted	0.95		1.00	0.95	0.98	1.00	0.11	1.00			1.00	1.00
Satd. Flow (perm)	1566		1401	1299	2741	1358	179	3131			4621	1389
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)	346	0	328	198	124	468	68	839	0	0	1240	80
RTOR Reduction (vph)	0	0	207	0	0	86	0	0	0	0	0	57
Lane Group Flow (vph)	346	0	121	105	217	382	68	839	0	0	1240	23
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	14%	0%	14%	25%	20%	16%	11%	14%	0%	0%	11%	15%
Turn Type	Prot		Perm	Split	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases	4			8	8		5	2			6	
Permitted Phases			4			8	2					6
Actuated Green, G (s)	27.1		27.1	32.1	32.1	32.1	41.9	41.9			34.9	34.9
Effective Green, g (s)	27.1		27.1	32.1	32.1	32.1	41.9	41.9			34.9	34.9
Actuated g/C Ratio	0.23		0.23	0.27	0.27	0.27	0.35	0.35			0.29	0.29
Clearance Time (s)	5.9		5.9	5.9	5.9	5.9	3.0	7.1			7.1	7.1
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)	353		316	347	733	363	110	1093			1343	403
v/s Ratio Prot	c0.22			0.08	0.08		0.02	c0.27			c0.27	
v/s Ratio Perm			0.09			c0.28	0.20					0.02
v/c Ratio	0.98		0.38	0.30	0.30	1.05	0.62	0.77			0.92	0.06
Uniform Delay, d1	46.2		39.3	35.0	35.0	44.0	29.5	34.7			41.3	30.7
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.02	1.01			1.00	1.00
Incremental Delay, d2	42.4		0.8	0.5	0.2	61.3	3.3	1.7			12.0	0.3
Delay (s)	88.6		40.1	35.5	35.2	105.2	33.4	36.7			53.2	31.0
Level of Service	F		D	D	D	F	C	D			D	C
Approach Delay (s)		65.0			76.7			36.5			51.9	
Approach LOS		E			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	55.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.9
Intersection Capacity Utilization	79.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Existing
14: RR 53 (STEVENSON RD) & 401 EB RAMP/BLOOR ST CONNECTOR — Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	455	239	80	31	0	599	0	520	75	252	275	567
Future Volume (vph)	455	239	80	31	0	599	0	520	75	252	275	567
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3		6.3		6.3		6.6		3.0	6.6	
Lane Util. Factor	0.97	0.95		0.97		1.00		0.91		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00		1.00		1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00		1.00		1.00		1.00	1.00	
Frt	1.00	0.96		1.00		0.85		0.98		1.00	0.90	
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	3177	3030		2684		1210		4162		1594	2753	
Flt Permitted	0.95	1.00		0.95		1.00		1.00		0.21	1.00	
Satd. Flow (perm)	3177	3030		2684		1210		4162		354	2753	
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)	495	260	87	34	0	651	0	565	82	274	299	616
RTOR Reduction (vph)	0	27	0	0	0	187	0	16	0	0	312	0
Lane Group Flow (vph)	495	320	0	34	0	464	0	631	0	274	603	0
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	9%	12%	16%	29%	0%	32%	0%	20%	27%	12%	24%	13%
Turn Type	Perm	NA		Prot		Perm		NA		pm+pt	NA	
Protected Phases		4		3				2		1	6	
Permitted Phases	4					3				6		
Actuated Green, G (s)	20.4	20.4		41.7		41.7		21.4		38.7	38.7	
Effective Green, g (s)	20.4	20.4		41.7		41.7		21.4		38.7	38.7	
Actuated g/C Ratio	0.17	0.17		0.35		0.35		0.18		0.32	0.32	
Clearance Time (s)	6.3	6.3		6.3		6.3		6.6		3.0	6.6	
Vehicle Extension (s)	3.0	3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	540	515		932		420		742		261	887	
v/s Ratio Prot		0.11		0.01				0.15		c0.12	0.22	
v/s Ratio Perm	c0.16					c0.38				c0.21		
v/c Ratio	0.92	0.62		0.04		1.11		0.85		1.05	0.68	
Uniform Delay, d1	49.0	46.2		25.9		39.1		47.8		35.2	35.3	
Progression Factor	1.00	1.00		1.00		1.00		1.00		1.89	2.42	
Incremental Delay, d2	20.3	2.3		0.0		75.7		11.8		56.5	2.5	
Delay (s)	69.3	48.5		25.9		114.9		59.5		123.3	87.8	
Level of Service	E	D		C		F		E		F	F	
Approach Delay (s)		60.7			110.5			59.5			96.0	
Approach LOS		E			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	83.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.2
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Existing
15: RR 53 (STEVENSON RD) & RR 22 (BLOOR ST) — Timing Plan: PM Peak

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	884	613	279	439	268	535
Future Volume (vph)	884	613	279	439	268	535
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4	3.0	6.4	5.9	5.9
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3535	1554	1733	3500	3330	1542
Flt Permitted	1.00	1.00	0.18	1.00	0.95	1.00
Satd. Flow (perm)	3535	1554	334	3500	3330	1542
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	961	666	303	477	291	582
RTOR Reduction (vph)	0	245	0	0	0	271
Lane Group Flow (vph)	961	421	303	477	291	311
Confl. Peds. (#/hr)		3	3			2
Heavy Vehicles (%)	1%	1%	3%	2%	4%	2%
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Actuated Green, G (s)	39.4	39.4	54.7	54.7	23.0	23.0
Effective Green, g (s)	39.4	39.4	54.7	54.7	23.0	23.0
Actuated g/C Ratio	0.44	0.44	0.61	0.61	0.26	0.26
Clearance Time (s)	6.4	6.4	3.0	6.4	5.9	5.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	5.0	5.0
Lane Grp Cap (vph)	1547	680	394	2127	851	394
v/s Ratio Prot	0.27		c0.11	0.14	0.09	
v/s Ratio Perm		0.27	c0.36			c0.20
v/c Ratio	0.62	0.62	0.77	0.22	0.34	0.79
Uniform Delay, d1	19.5	19.5	11.8	8.0	27.3	31.2
Progression Factor	1.00	1.00	1.43	1.52	1.00	1.00
Incremental Delay, d2	1.9	4.2	8.6	0.2	0.5	11.6
Delay (s)	21.4	23.7	25.5	12.4	27.8	42.8
Level of Service	C	C	C	B	C	D
Approach Delay (s)	22.4			17.5	37.8	
Approach LOS	C			B	D	

Intersection Summary			
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Existing
16: RR 54 (PARK RD W) & RR 59 (GIBB ST) — Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	386	154	53	273	47	152	492	61	72	415	150
Future Volume (vph)	152	386	154	53	273	47	152	492	61	72	415	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		3.0	6.2		6.2	6.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.98		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1593	3012		1586	3078		1543	3148		1604	3035	
Flt Permitted	0.53	1.00		0.34	1.00		0.32	1.00		0.42	1.00	
Satd. Flow (perm)	893	3012		576	3078		519	3148		717	3035	
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)	165	420	167	58	297	51	165	535	66	78	451	163
RTOR Reduction (vph)	0	47	0	0	16	0	0	11	0	0	40	0
Lane Group Flow (vph)	165	540	0	58	332	0	165	590	0	78	574	0
Confl. Peds. (#/hr)	13		7	7		13	13		4	4		13
Heavy Vehicles (%)	0%	1%	3%	1%	2%	0%	4%	0%	2%	0%	1%	1%
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	30.9	30.9		30.9	30.9		46.8	46.8		34.6	34.6	
Effective Green, g (s)	30.9	30.9		30.9	30.9		46.8	46.8		34.6	34.6	
Actuated g/C Ratio	0.34	0.34		0.34	0.34		0.52	0.52		0.38	0.38	
Clearance Time (s)	6.1	6.1		6.1	6.1		3.0	6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	306	1034		197	1056		374	1636		275	1166	
v/s Ratio Prot		0.18			0.11		c0.05	0.19			c0.19	
v/s Ratio Perm	c0.18			0.10			0.18			0.11		
v/c Ratio	0.54	0.52		0.29	0.31		0.44	0.36		0.28	0.49	
Uniform Delay, d1	23.8	23.6		21.6	21.8		12.2	12.8		19.1	21.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.7	1.9		3.8	0.8		0.8	0.6		2.6	1.5	
Delay (s)	30.5	25.5		25.4	22.5		13.0	13.4		21.7	22.5	
Level of Service	C	C		C	C		B	B		C	C	
Approach Delay (s)		26.6			22.9			13.3			22.4	
Approach LOS		C			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
17: RR 2A (CENTRE ST) & RR 59 (GIBB ST)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	248	202	25	261	0	0	0	0	35	848	106
Future Volume (vph)	0	248	202	25	261	0	0	0	0	35	848	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8	5.8	5.8	5.8						5.7	
Lane Util. Factor		1.00	1.00	1.00	1.00						0.91	
Frpb, ped/bikes		1.00	0.96	1.00	1.00						0.99	
Flpb, ped/bikes		1.00	1.00	0.98	1.00						1.00	
Frt		1.00	0.85	1.00	1.00						0.98	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		1691	1385	1580	1691						4421	
Flt Permitted		1.00	1.00	0.57	1.00						1.00	
Satd. Flow (perm)		1691	1385	948	1691						4421	
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)	0	270	220	27	284	0	0	0	0	38	922	115
RTOR Reduction (vph)	0	0	36	0	0	0	0	0	0	0	25	0
Lane Group Flow (vph)	0	270	184	27	284	0	0	0	0	0	1050	0
Confl. Peds. (#/hr)			22	22						11		21
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	2%	1%
Turn Type		NA	Perm	Perm	NA					Perm	NA	
Protected Phases		4			8						6	
Permitted Phases			4	8						6		
Actuated Green, G (s)		22.2	22.2	22.2	22.2						26.3	
Effective Green, g (s)		22.2	22.2	22.2	22.2						26.3	
Actuated g/C Ratio		0.37	0.37	0.37	0.37						0.44	
Clearance Time (s)		5.8	5.8	5.8	5.8						5.7	
Lane Grp Cap (vph)		625	512	350	625						1937	
v/s Ratio Prot		0.16			c0.17							
v/s Ratio Perm			0.13	0.03							0.24	
v/c Ratio		0.43	0.36	0.08	0.45						0.54	
Uniform Delay, d1		14.2	13.7	12.3	14.3						12.4	
Progression Factor		1.00	1.00	0.89	0.96						1.00	
Incremental Delay, d2		2.2	2.0	0.4	2.2						1.1	
Delay (s)		16.3	15.7	11.2	15.9						13.5	
Level of Service		B	B	B	B						B	
Approach Delay (s)		16.1			15.5			0.0			13.5	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.50		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
18: RR 2 (SIMCOE ST) & RR 59 (GIBB ST)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	180	0	0	72	24	205	781	30	0	0	0
Future Volume (vph)	126	180	0	0	72	24	205	781	30	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8			5.8			5.5	5.5			
Lane Util. Factor	1.00	1.00			1.00			0.91	1.00			
Frpb, ped/bikes	1.00	1.00			0.97			1.00	0.86			
Flpb, ped/bikes	0.92	1.00			1.00			0.98	1.00			
Frt	1.00	1.00			0.97			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.99	1.00			
Satd. Flow (prot)	1444	1674			1575			4397	1242			
Flt Permitted	0.69	1.00			1.00			0.99	1.00			
Satd. Flow (perm)	1049	1674			1575			4397	1242			
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)	137	196	0	0	78	26	223	849	33	0	0	0
RTOR Reduction (vph)	0	0	0	0	16	0	0	0	18	0	0	0
Lane Group Flow (vph)	137	196	0	0	88	0	0	1072	15	0	0	0
Confl. Peds. (#/hr)	96					96	59		79			
Heavy Vehicles (%)	2%	1%	0%	0%	0%	4%	2%	2%	0%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4			8			2				
Permitted Phases	4						2		2			
Actuated Green, G (s)	22.2	22.2			22.2			26.5	26.5			
Effective Green, g (s)	22.2	22.2			22.2			26.5	26.5			
Actuated g/C Ratio	0.37	0.37			0.37			0.44	0.44			
Clearance Time (s)	5.8	5.8			5.8			5.5	5.5			
Lane Grp Cap (vph)	388	619			582			1942	548			
v/s Ratio Prot		0.12			0.06							
v/s Ratio Perm	c0.13							0.24	0.01			
v/c Ratio	0.35	0.32			0.15			0.55	0.03			
Uniform Delay, d1	13.7	13.5			12.6			12.4	9.5			
Progression Factor	0.64	0.65			1.00			1.00	1.00			
Incremental Delay, d2	2.3	1.2			0.5			1.1	0.1			
Delay (s)	11.1	10.0			13.2			13.5	9.6			
Level of Service	B	B			B			B	A			
Approach Delay (s)		10.5			13.2			13.4			0.0	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
19: RR 2 (SIMCOE ST) & RR 59 (OLIVE AVE)

Existing
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	197	162	827	71	166	792
Future Volume (vph)	197	162	827	71	166	792
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.6			4.0
Lane Util. Factor	1.00	1.00	0.95			0.95
Frpb, ped/bikes	1.00	0.94	0.98			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	1.00	0.85	0.99			1.00
Flt Protected	0.95	1.00	1.00			0.99
Satd. Flow (prot)	1591	1344	3041			3185
Flt Permitted	0.95	1.00	1.00			0.55
Satd. Flow (perm)	1591	1344	3041			1765
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	214	176	899	77	180	861
RTOR Reduction (vph)	0	140	7	0	0	0
Lane Group Flow (vph)	214	36	969	0	0	1041
Confl. Peds. (#/hr)		28		83		
Heavy Vehicles (%)	1%	1%	2%	3%	0%	0%
Turn Type	Prot	Perm	NA		D.P+P	NA
Protected Phases	4		2		1	1 2
Permitted Phases		4			2	
Actuated Green, G (s)	18.5	18.5	37.9			56.4
Effective Green, g (s)	18.5	18.5	37.9			56.4
Actuated g/C Ratio	0.21	0.21	0.42			0.63
Clearance Time (s)	5.5	5.5	5.6			
Vehicle Extension (s)	3.0	3.0	3.0			
Lane Grp Cap (vph)	327	276	1280			1397
v/s Ratio Prot	c0.13		c0.32			c0.15
v/s Ratio Perm		0.03				0.31
v/c Ratio	0.65	0.13	0.76			0.75
Uniform Delay, d1	32.8	29.2	22.1			11.8
Progression Factor	1.00	1.00	1.00			1.00
Incremental Delay, d2	9.8	1.0	4.2			2.2
Delay (s)	42.6	30.2	26.4			14.0
Level of Service	D	C	C			B
Approach Delay (s)	37.0		26.4			14.0
Approach LOS	D		C			B

Intersection Summary			
HCM 2000 Control Delay	22.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	84.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
20: ALBERT ST & RR 59 (OLIVE AVE)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	423	29	7	191	69	7	51	34	0	0	0
Future Volume (vph)	38	423	29	7	191	69	7	51	34	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.6			5.6			5.2				
Lane Util. Factor		1.00			1.00			1.00				
Frpb, ped/bikes		1.00			0.99			0.99				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		0.99			0.97			0.95				
Flt Protected		1.00			1.00			1.00				
Satd. Flow (prot)		1653			1591			1585				
Flt Permitted		0.96			0.99			1.00				
Satd. Flow (perm)		1593			1572			1585				
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)	41	460	32	8	208	75	8	55	37	0	0	0
RTOR Reduction (vph)	0	4	0	0	21	0	0	28	0	0	0	0
Lane Group Flow (vph)	0	529	0	0	270	0	0	72	0	0	0	0
Confl. Peds. (#/hr)	3		3	3		3	2		2			
Heavy Vehicles (%)	0%	1%	0%	0%	1%	4%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA				
Protected Phases		2			2			4				
Permitted Phases	2			2			4					
Actuated Green, G (s)		35.4			35.4			13.8				
Effective Green, g (s)		35.4			35.4			13.8				
Actuated g/C Ratio		0.59			0.59			0.23				
Clearance Time (s)		5.6			5.6			5.2				
Lane Grp Cap (vph)		939			927			364				
v/s Ratio Prot												
v/s Ratio Perm		c0.33			0.17			0.05				
v/c Ratio		0.56			0.29			0.20				
Uniform Delay, d1		7.6			6.1			18.6				
Progression Factor		1.00			1.00			0.87				
Incremental Delay, d2		2.4			0.8			1.2				
Delay (s)		10.0			6.9			17.4				
Level of Service		B			A			B				
Approach Delay (s)		10.0			6.9			17.4			0.0	
Approach LOS		B			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.8
Intersection Capacity Utilization	66.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
21: RR 16 (RITSON RD) & RR 59 (OLIVE AVE)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	233	53	201	365	69	44	852	210	70	638	45
Future Volume (vph)	35	233	53	201	365	69	44	852	210	70	638	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1336	1446		1293	1427		1463	2694		1422	2790	
Flt Permitted	0.30	1.00		0.48	1.00		0.31	1.00		0.14	1.00	
Satd. Flow (perm)	425	1446		655	1427		476	2694		214	2790	
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)	38	253	58	218	397	75	48	926	228	76	693	49
RTOR Reduction (vph)	0	9	0	0	7	0	0	24	0	0	6	0
Lane Group Flow (vph)	38	302	0	218	465	0	48	1130	0	76	736	0
Confl. Peds. (#/hr)	4		13	13		4	10		8	8		10
Heavy Vehicles (%)	20%	13%	13%	23%	16%	12%	9%	13%	22%	13%	14%	9%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	35.0	35.0		35.0	35.0		43.1	43.1		43.1	43.1	
Effective Green, g (s)	35.0	35.0		35.0	35.0		43.1	43.1		43.1	43.1	
Actuated g/C Ratio	0.39	0.39		0.39	0.39		0.48	0.48		0.48	0.48	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.9	5.9		5.9	5.9	
Lane Grp Cap (vph)	165	562		254	554		227	1290		102	1336	
v/s Ratio Prot		0.21			0.33			c0.42			0.26	
v/s Ratio Perm	0.09			c0.33			0.10			0.35		
v/c Ratio	0.23	0.54		0.86	0.84		0.21	0.88		0.75	0.55	
Uniform Delay, d1	18.5	21.2		25.2	24.9		13.6	21.1		19.0	16.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.2	3.7		29.4	14.1		2.1	8.5		38.6	1.6	
Delay (s)	21.7	24.9		54.6	39.1		15.7	29.6		57.6	18.2	
Level of Service	C	C		D	D		B	C		E	B	
Approach Delay (s)		24.5			44.0			29.0			21.9	
Approach LOS		C			D			C			C	

Intersection Summary				
HCM 2000 Control Delay	30.0	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.87			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.9	
Intersection Capacity Utilization	103.0%	ICU Level of Service	G	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
22: RR 35 (WILSON RD) & RR 59 (OLIVE AVE)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	324	52	76	210	66	35	453	99	60	235	39
Future Volume (vph)	37	324	52	76	210	66	35	453	99	60	235	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
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
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1557	1663	1333	1424	1693	1387	1514	1606	1261	1657	1528	1369
Flt Permitted	0.61	1.00	1.00	0.44	1.00	1.00	0.60	1.00	1.00	0.38	1.00	1.00
Satd. Flow (perm)	1003	1663	1333	662	1693	1387	958	1606	1261	657	1528	1369
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	40	352	57	83	228	72	38	492	108	65	255	42
RTOR Reduction (vph)	0	0	38	0	0	48	0	0	57	0	0	22
Lane Group Flow (vph)	40	352	19	83	228	24	38	492	51	65	255	20
Confl. Peds. (#/hr)	4		11	11		4	6		9	9		6
Heavy Vehicles (%)	14%	13%	15%	24%	11%	12%	17%	17%	22%	7%	23%	13%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	20.4	20.4	20.4	20.4	20.4	20.4	28.4	28.4	28.4	28.4	28.4	28.4
Effective Green, g (s)	20.4	20.4	20.4	20.4	20.4	20.4	28.4	28.4	28.4	28.4	28.4	28.4
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34	0.34	0.47	0.47	0.47	0.47	0.47	0.47
Clearance Time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Lane Grp Cap (vph)	341	565	453	225	575	471	453	760	596	310	723	647
v/s Ratio Prot		c0.21			0.13			c0.31			0.17	
v/s Ratio Perm	0.04		0.01	0.13		0.02	0.04		0.04	0.10		0.01
v/c Ratio	0.12	0.62	0.04	0.37	0.40	0.05	0.08	0.65	0.09	0.21	0.35	0.03
Uniform Delay, d1	13.6	16.6	13.3	14.9	15.1	13.3	8.7	12.0	8.7	9.2	10.0	8.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	5.1	0.2	4.6	2.0	0.2	0.4	4.2	0.3	1.5	1.4	0.1
Delay (s)	14.3	21.7	13.4	19.5	17.1	13.5	9.0	16.2	9.0	10.8	11.3	8.5
Level of Service	B	C	B	B	B	B	A	B	A	B	B	A
Approach Delay (s)		20.0			17.0			14.6			10.9	
Approach LOS		B			B			B			B	

Intersection Summary				
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.64			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.2	
Intersection Capacity Utilization	82.9%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
23: RR 33 (HARMONY) & RR 59 (OLIVE AVE)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	489	36	202	252	127	43	892	388	111	642	91
Future Volume (vph)	95	489	36	202	252	127	43	892	388	111	642	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		3.0	6.5	6.5	3.0	6.3		3.0	6.3	
Lane Util. Factor	1.00	0.95		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	0.98	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.95		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)	1743	3529		1784	1879	1553	1749	3366		1716	3390	
Flt Permitted	0.59	1.00		0.21	1.00	1.00	0.29	1.00		0.07	1.00	
Satd. Flow (perm)	1084	3529		387	1879	1553	532	3366		125	3390	
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)	103	532	39	220	274	138	47	970	422	121	698	99
RTOR Reduction (vph)	0	5	0	0	0	90	0	41	0	0	9	0
Lane Group Flow (vph)	103	566	0	220	274	48	47	1351	0	121	788	0
Confl. Peds. (#/hr)	4		4	4		4	3		4	4		3
Heavy Vehicles (%)	2%	0%	0%	0%	0%	1%	2%	1%	0%	4%	3%	3%
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	26.0	26.0		41.5	41.5	41.5	59.8	55.1		65.6	58.0	
Effective Green, g (s)	26.0	26.0		41.5	41.5	41.5	59.8	55.1		65.6	58.0	
Actuated g/C Ratio	0.22	0.22		0.35	0.35	0.35	0.50	0.46		0.55	0.48	
Clearance Time (s)	6.5	6.5		3.0	6.5	6.5	3.0	6.3		3.0	6.3	
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)	234	764		279	649	537	312	1545		169	1638	
v/s Ratio Prot		0.16		c0.08	0.15		0.01	c0.40		c0.05	0.23	
v/s Ratio Perm	0.10			c0.19		0.03	0.07			0.35		
v/c Ratio	0.44	0.74		0.79	0.42	0.09	0.15	0.87		0.72	0.48	
Uniform Delay, d1	40.7	43.9		30.6	30.1	26.5	15.9	29.3		23.1	20.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.9	6.4		13.7	2.0	0.3	0.2	7.2		13.5	1.0	
Delay (s)	46.6	50.3		44.3	32.1	26.8	16.2	36.5		36.6	21.9	
Level of Service	D	D		D	C	C	B	D		D	C	
Approach Delay (s)		49.7			35.2			35.9			23.8	
Approach LOS		D			D			D			C	

Intersection Summary				
HCM 2000 Control Delay	35.3	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.85			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.8	
Intersection Capacity Utilization	91.9%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
24: RR 54 (PARK RD W) & HILLSIDE

Existing
Timing Plan: PM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	178	16	13	512	454	149
Future Volume (vph)	178	16	13	512	454	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2			5.3	5.3	
Lane Util. Factor	1.00			0.95	0.95	
Frpb, ped/bikes	1.00			1.00	0.99	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.96	
Flt Protected	0.96			1.00	1.00	
Satd. Flow (prot)	1659			3523	3328	
Flt Permitted	0.96			0.94	1.00	
Satd. Flow (perm)	1659			3307	3328	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	193	17	14	557	493	162
RTOR Reduction (vph)	6	0	0	0	38	0
Lane Group Flow (vph)	204	0	0	571	617	0
Confl. Peds. (#/hr)	4	18	12			12
Heavy Vehicles (%)	7%	0%	8%	1%	2%	3%
Turn Type	Perm		Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4		2			
Actuated Green, G (s)	12.7			36.8	36.8	
Effective Green, g (s)	12.7			36.8	36.8	
Actuated g/C Ratio	0.21			0.61	0.61	
Clearance Time (s)	5.2			5.3	5.3	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	351			2028	2041	
v/s Ratio Prot					c0.19	
v/s Ratio Perm	c0.12			0.17		
v/c Ratio	0.58			0.28	0.30	
Uniform Delay, d1	21.3			5.4	5.5	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	2.4			0.3	0.4	
Delay (s)	23.7			5.8	5.9	
Level of Service	C			A	A	
Approach Delay (s)	23.7			5.8	5.9	
Approach LOS	C			A	A	

Intersection Summary				
HCM 2000 Control Delay	8.4	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.37			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.5	
Intersection Capacity Utilization	45.0%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
25: RR 2 (SIMCOE ST) & MILL ST

Existing
Timing Plan: PM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	71	82	55	734	956	85
Future Volume (vph)	71	82	55	734	956	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7		5.6	5.6	
Lane Util. Factor	1.00	1.00		0.95	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	0.99	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	1606	1407		3142	3076	
Flt Permitted	0.95	1.00		0.81	1.00	
Satd. Flow (perm)	1606	1407		2546	3076	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	77	89	60	798	1039	92
RTOR Reduction (vph)	0	56	0	0	7	0
Lane Group Flow (vph)	77	33	0	858	1124	0
Confl. Peds. (#/hr)	21	9	18			18
Heavy Vehicles (%)	0%	0%	0%	2%	3%	0%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4	2			
Actuated Green, G (s)	7.4	7.4		41.3	41.3	
Effective Green, g (s)	7.4	7.4		41.3	41.3	
Actuated g/C Ratio	0.12	0.12		0.69	0.69	
Clearance Time (s)	5.7	5.7		5.6	5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	198	173		1752	2117	
v/s Ratio Prot	c0.05				c0.37	
v/s Ratio Perm		0.02		0.34		
v/c Ratio	0.39	0.19		0.49	0.53	
Uniform Delay, d1	24.2	23.6		4.4	4.6	
Progression Factor	1.00	1.00		0.67	1.00	
Incremental Delay, d2	1.3	0.5		0.9	1.0	
Delay (s)	25.5	24.1		3.9	5.6	
Level of Service	C	C		A	A	
Approach Delay (s)	24.8			3.9	5.6	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
26: RR 2 (SIMCOE ST) & 1ST AVE

Existing
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	51	137	624	28	57	928
Future Volume (vph)	51	137	624	28	57	928
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9		5.8			5.8
Lane Util. Factor	1.00		0.95			0.95
Frpb, ped/bikes	0.99		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.90		0.99			1.00
Flt Protected	0.99		1.00			1.00
Satd. Flow (prot)	1410		3151			3127
Flt Permitted	0.99		1.00			0.87
Satd. Flow (perm)	1410		3151			2731
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	55	149	678	30	62	1009
RTOR Reduction (vph)	124	0	4	0	0	0
Lane Group Flow (vph)	80	0	704	0	0	1071
Confl. Peds. (#/hr)	11	7		16	16	
Heavy Vehicles (%)	6%	5%	1%	4%	9%	2%
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	9.9		38.4			38.4
Effective Green, g (s)	9.9		38.4			38.4
Actuated g/C Ratio	0.17		0.64			0.64
Clearance Time (s)	5.9		5.8			5.8
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	232		2016			1747
v/s Ratio Prot	c0.06		0.22			
v/s Ratio Perm						c0.39
v/c Ratio	0.34		0.35			0.61
Uniform Delay, d1	22.2		5.0			6.4
Progression Factor	1.31		1.00			0.62
Incremental Delay, d2	0.9		0.5			1.4
Delay (s)	29.8		5.5			5.4
Level of Service	C		A			A
Approach Delay (s)	29.8		5.5			5.4
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	7.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	79.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
27: ALBERT ST & 1ST AVE

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	92	13	9	152	56	14	64	33	22	33	26
Future Volume (vph)	17	92	13	9	152	56	14	64	33	22	33	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3			5.1			5.1	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			0.99			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.97			0.96			0.96	
Flt Protected		0.99			1.00			0.99			0.99	
Satd. Flow (prot)		1804			1772			1774			1750	
Flt Permitted		0.95			0.99			0.97			0.92	
Satd. Flow (perm)		1728			1757			1727			1626	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	100	14	10	165	61	15	70	36	24	36	28
RTOR Reduction (vph)	0	7	0	0	21	0	0	23	0	0	18	0
Lane Group Flow (vph)	0	125	0	0	215	0	0	98	0	0	70	0
Confl. Peds. (#/hr)	3		9	9		3	9		4	4		9
Heavy Vehicles (%)	0%	2%	0%	0%	2%	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		
Actuated Green, G (s)		28.7			28.7			20.9			20.9	
Effective Green, g (s)		28.7			28.7			20.9			20.9	
Actuated g/C Ratio		0.48			0.48			0.35			0.35	
Clearance Time (s)		5.3			5.3			5.1			5.1	
Lane Grp Cap (vph)		826			840			601			566	
v/s Ratio Prot												
v/s Ratio Perm		0.07			c0.12			c0.06			0.04	
v/c Ratio		0.15			0.26			0.16			0.12	
Uniform Delay, d1		8.8			9.3			13.5			13.3	
Progression Factor		0.73			0.86			1.00			0.88	
Incremental Delay, d2		0.4			0.7			0.6			0.4	
Delay (s)		6.8			8.7			14.1			12.2	
Level of Service		A			A			B			B	
Approach Delay (s)		6.8			8.7			14.1			12.2	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.4
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
28: 1ST AVE/MCNAUGHTON AVE/MCNAUGHTON AVE & DREW ST

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	119	18	65	73	4	121	8	95	7	16	3
Future Volume (vph)	6	119	18	65	73	4	121	8	95	7	16	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4		5.4	5.4		5.4	5.4			5.4	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00			1.00	
Frpb, ped/bikes		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	
Frt		0.98		1.00	0.99		1.00	0.86			0.99	
Flt Protected		1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)		1601		1570	1572		1591	1444			1643	
Flt Permitted		0.99		0.73	1.00		0.74	1.00			0.94	
Satd. Flow (perm)		1590		1205	1572		1237	1444			1564	
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)	7	129	20	71	79	4	132	9	103	8	17	3
RTOR Reduction (vph)	0	9	0	0	2	0	0	64	0	0	2	0
Lane Group Flow (vph)	0	147	0	71	81	0	132	48	0	0	26	0
Confl. Peds. (#/hr)	4		2	2		4						
Heavy Vehicles (%)	0%	3%	6%	2%	7%	0%	1%	0%	1%	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		
Actuated Green, G (s)		26.6		26.6	26.6		22.6	22.6			22.6	
Effective Green, g (s)		26.6		26.6	26.6		22.6	22.6			22.6	
Actuated g/C Ratio		0.44		0.44	0.44		0.38	0.38			0.38	
Clearance Time (s)		5.4		5.4	5.4		5.4	5.4			5.4	
Lane Grp Cap (vph)		704		534	696		465	543			589	
v/s Ratio Prot					0.05			0.03				
v/s Ratio Perm		c0.09		0.06			c0.11				0.02	
v/c Ratio		0.21		0.13	0.12		0.28	0.09			0.04	
Uniform Delay, d1		10.2		9.9	9.8		13.1	12.1			11.9	
Progression Factor		1.26		0.84	0.82		1.00	1.00			1.00	
Incremental Delay, d2		0.7		0.5	0.3		1.5	0.3			0.1	
Delay (s)		13.5		8.7	8.4		14.6	12.4			12.0	
Level of Service		B		A	A		B	B			B	
Approach Delay (s)		13.5			8.5			13.6			12.0	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.8
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
29: RR 16 (RITSON RD) & MCNAUGHTON AVE/DEAN AVE

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	74	36	178	155	51	32	933	132	47	784	71
Future Volume (vph)	88	74	36	178	155	51	32	933	132	47	784	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.96		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)	1309	1283		1372	1345		1417	2600		1269	2617	
Flt Permitted	0.61	1.00		0.68	1.00		0.27	1.00		0.18	1.00	
Satd. Flow (perm)	840	1283		982	1345		399	2600		245	2617	
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)	96	80	39	193	168	55	35	1014	143	51	852	77
RTOR Reduction (vph)	0	29	0	0	21	0	0	16	0	0	10	0
Lane Group Flow (vph)	96	90	0	193	202	0	35	1141	0	51	919	0
Confl. Peds. (#/hr)	8		12	12		8	7		18	18		7
Heavy Vehicles (%)	22%	24%	25%	16%	19%	25%	13%	21%	17%	26%	21%	20%
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)	15.8	15.8		15.8	15.8		31.8	31.8		31.8	31.8	
Effective Green, g (s)	15.8	15.8		15.8	15.8		31.8	31.8		31.8	31.8	
Actuated g/C Ratio	0.26	0.26		0.26	0.26		0.53	0.53		0.53	0.53	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	221	337		258	354		211	1378		129	1387	
v/s Ratio Prot		0.07			0.15			c0.44			0.35	
v/s Ratio Perm	0.11			c0.20			0.09			0.21		
v/c Ratio	0.43	0.27		0.75	0.57		0.17	0.83		0.40	0.66	
Uniform Delay, d1	18.4	17.5		20.3	19.2		7.3	11.8		8.4	10.2	
Progression Factor	0.93	0.90		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.4	0.4		11.2	2.1		1.7	5.8		8.8	2.5	
Delay (s)	18.5	16.2		31.6	21.3		9.0	17.7		17.2	12.7	
Level of Service	B	B		C	C		A	B		B	B	
Approach Delay (s)		17.3			26.1			17.4			13.0	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.4
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
30: RR 35 (WILSON RD) & DEAN AVE

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	8	21	8	15	9	14	524	23	20	235	44
Future Volume (vph)	40	8	21	8	15	9	14	524	23	20	235	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4			5.4			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			0.99	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.96			0.96			0.99			0.98	
Flt Protected		0.97			0.99			1.00			1.00	
Satd. Flow (prot)		1465			1567			1557			1500	
Flt Permitted		0.80			0.89			0.99			0.95	
Satd. Flow (perm)		1210			1409			1544			1434	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	9	23	9	16	10	15	570	25	22	255	48
RTOR Reduction (vph)	0	21	0	0	9	0	0	2	0	0	6	0
Lane Group Flow (vph)	0	54	0	0	26	0	0	608	0	0	319	0
Confl. Peds. (#/hr)	7		2	2		7	14		3	3		14
Heavy Vehicles (%)	18%	13%	19%	0%	7%	33%	29%	19%	30%	20%	23%	14%
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)		5.9			5.9			43.1			43.1	
Effective Green, g (s)		5.9			5.9			43.1			43.1	
Actuated g/C Ratio		0.10			0.10			0.72			0.72	
Clearance Time (s)		5.4			5.4			5.6			5.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		118			138			1109			1030	
v/s Ratio Prot												
v/s Ratio Perm		c0.04			0.02			c0.39			0.22	
v/c Ratio		0.46			0.19			0.55			0.31	
Uniform Delay, d1		25.5			24.9			3.9			3.1	
Progression Factor		0.78			1.00			1.01			1.00	
Incremental Delay, d2		2.3			0.7			1.6			0.8	
Delay (s)		22.2			25.5			5.6			3.8	
Level of Service		C			C			A			A	
Approach Delay (s)		22.2			25.5			5.6			3.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	50.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
32: RR 22 (BLOOR ST) & RR 54 (PARK RD W)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	380	937	3	1	388	248	8	2	2	259	1	111
Future Volume (vph)	380	937	3	1	388	248	8	2	2	259	1	111
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.4		6.4	6.4	6.4		6.0		6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99		1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97		0.95	0.95	1.00
Satd. Flow (prot)	1784	3464		1780	3535	1498		1773		1662	1667	1597
Flt Permitted	0.42	1.00		0.28	1.00	1.00		0.97		0.95	0.95	1.00
Satd. Flow (perm)	792	3464		526	3535	1498		1773		1662	1667	1597
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)	413	1018	3	1	422	270	9	2	2	282	1	121
RTOR Reduction (vph)	0	0	0	0	0	184	0	2	0	0	0	94
Lane Group Flow (vph)	413	1021	0	1	422	86	0	11	0	141	142	27
Confl. Peds. (#/hr)	3		7	7		3			2	2		
Heavy Vehicles (%)	3%	3%	0%	0%	1%	5%	0%	0%	0%	2%	0%	0%
Turn Type	pm+pt	NA		Perm	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2			6		8	8		4	4	
Permitted Phases	2			6		6						4
Actuated Green, G (s)	43.6	43.6		28.6	28.6	28.6		8.0		20.0	20.0	20.0
Effective Green, g (s)	43.6	43.6		28.6	28.6	28.6		8.0		20.0	20.0	20.0
Actuated g/C Ratio	0.48	0.48		0.32	0.32	0.32		0.09		0.22	0.22	0.22
Clearance Time (s)	3.0	6.4		6.4	6.4	6.4		6.0		6.0	6.0	6.0
Lane Grp Cap (vph)	515	1678		167	1123	476		157		369	370	354
v/s Ratio Prot	c0.11	0.29			0.12			c0.01		0.08	c0.09	
v/s Ratio Perm	c0.28			0.00		0.06						0.02
v/c Ratio	0.80	0.61		0.01	0.38	0.18		0.07		0.38	0.38	0.08
Uniform Delay, d1	16.6	17.0		21.0	23.8	22.2		37.6		29.7	29.8	27.7
Progression Factor	1.52	1.29		1.01	1.03	4.46		1.00		1.00	1.00	1.00
Incremental Delay, d2	9.1	1.2		0.1	0.8	0.7		0.9		3.0	3.0	0.4
Delay (s)	34.3	23.0		21.2	25.3	99.9		38.5		32.7	32.7	28.1
Level of Service	C	C		C	C	F		D		C	C	C
Approach Delay (s)		26.2			54.4			38.5			31.3	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	34.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
33: RR 54 (PARK RD E) & RR 22 (BLOOR ST)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	640	587	97	321	1	497	0	166	0	1	0
Future Volume (vph)	2	640	587	97	321	1	497	0	166	0	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	3.0	6.2		6.3		6.3		6.3	
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95		0.97		1.00		1.00	
Frpb, ped/bikes	1.00	0.99	0.98	1.00	1.00		1.00		0.97		1.00	
Flpb, ped/bikes	0.96	1.00	1.00	1.00	1.00		1.00		1.00		1.00	
Frt	1.00	0.96	0.85	1.00	1.00		1.00		0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95		1.00		1.00	
Satd. Flow (prot)	1720	3180	1382	1487	3498		3395		1523		1879	
Flt Permitted	0.54	1.00	1.00	0.13	1.00		0.95		1.00		1.00	
Satd. Flow (perm)	981	3180	1382	201	3498		3395		1523		1879	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	696	638	105	349	1	540	0	180	0	1	0
RTOR Reduction (vph)	0	33	264	0	0	0	0	0	141	0	0	0
Lane Group Flow (vph)	2	893	144	105	350	0	540	0	39	0	1	0
Confl. Peds. (#/hr)	21		5	5		21			10	10		
Heavy Vehicles (%)	0%	3%	3%	20%	2%	0%	2%	0%	2%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Prot		Perm		NA	
Protected Phases		2		1	6		8			7	7	
Permitted Phases	2		2	6					8			
Actuated Green, G (s)	31.8	31.8	31.8	42.8	42.8		19.7		19.7		8.7	
Effective Green, g (s)	31.8	31.8	31.8	42.8	42.8		19.7		19.7		8.7	
Actuated g/C Ratio	0.35	0.35	0.35	0.48	0.48		0.22		0.22		0.10	
Clearance Time (s)	6.2	6.2	6.2	3.0	6.2		6.3		6.3		6.3	
Lane Grp Cap (vph)	346	1123	488	209	1663		743		333		181	
v/s Ratio Prot		c0.28		c0.04	0.10		c0.16				c0.00	
v/s Ratio Perm	0.00		0.10	0.19					0.03			
v/c Ratio	0.01	0.80	0.30	0.50	0.21		0.73		0.12		0.01	
Uniform Delay, d1	18.9	26.2	21.0	16.1	13.8		32.7		28.2		36.7	
Progression Factor	1.25	0.95	1.99	1.00	1.00		1.00		1.00		1.00	
Incremental Delay, d2	0.0	5.0	1.3	8.4	0.3		6.1		0.7		0.1	
Delay (s)	23.7	30.0	43.0	24.5	14.0		38.8		28.9		36.8	
Level of Service	C	C	D	C	B		D		C		D	
Approach Delay (s)		34.0			16.5			36.3			36.8	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	31.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	21.8
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
36: RR 2 (SIMCOE ST) & RR 22 (BLOOR ST)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	317	739	175	64	252	109	79	419	90	166	326	106
Future Volume (vph)	317	739	175	64	252	109	79	419	90	166	326	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2		6.2	6.2		6.2	6.2		3.0	6.2	6.2
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	1.00
Frt	1.00	0.97		1.00	0.95		1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1747	3439		1780	3365		1764	3430		1782	3466	1433
Flt Permitted	0.44	1.00		0.26	1.00		0.54	1.00		0.32	1.00	1.00
Satd. Flow (perm)	815	3439		478	3365		1003	3430		609	3466	1433
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)	345	803	190	70	274	118	86	455	98	180	354	115
RTOR Reduction (vph)	0	23	0	0	54	0	0	20	0	0	0	67
Lane Group Flow (vph)	345	970	0	70	338	0	86	533	0	180	354	48
Confl. Peds. (#/hr)	8		11	11		8	19		15	15		19
Heavy Vehicles (%)	2%	0%	2%	0%	1%	0%	0%	1%	0%	0%	3%	8%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	Perm
Protected Phases	5	2			6			8		7	4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	39.8	39.8		28.8	28.8		28.8	28.8		37.8	37.8	37.8
Effective Green, g (s)	39.8	39.8		28.8	28.8		28.8	28.8		37.8	37.8	37.8
Actuated g/C Ratio	0.44	0.44		0.32	0.32		0.32	0.32		0.42	0.42	0.42
Clearance Time (s)	3.0	6.2		6.2	6.2		6.2	6.2		3.0	6.2	6.2
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)	443	1520		152	1076		320	1097		333	1455	601
v/s Ratio Prot	c0.07	0.28			0.10			0.16		c0.04	0.10	
v/s Ratio Perm	c0.28			0.15			0.09			c0.19		0.03
v/c Ratio	0.78	0.64		0.46	0.31		0.27	0.49		0.54	0.24	0.08
Uniform Delay, d1	19.6	19.5		24.4	23.1		22.8	24.6		17.4	16.9	15.7
Progression Factor	1.00	1.00		1.38	1.40		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	8.4	2.1		9.5	0.7		2.1	1.5		1.8	0.4	0.3
Delay (s)	28.1	21.6		43.2	33.2		24.8	26.2		19.2	17.3	15.9
Level of Service	C	C		D	C		C	C		B	B	B
Approach Delay (s)		23.2			34.7			26.0			17.5	
Approach LOS		C			C			C			B	

Intersection Summary				
HCM 2000 Control Delay	24.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.71			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.4	
Intersection Capacity Utilization	93.4%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
38: DREW ST/HWY 401 EB RAMP (RITSON) & RR 22 (BLOOR ST)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	232	559	20	54	295	202	43	36	75	298	35	31
Future Volume (vph)	232	559	20	54	295	202	43	36	75	298	35	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2		6.2	6.2		6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.94		1.00	0.90		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1761	3474		1775	3231		1734	1670		1762	1728	
Flt Permitted	0.37	1.00		0.41	1.00		0.71	1.00		0.68	1.00	
Satd. Flow (perm)	684	3474		771	3231		1296	1670		1260	1728	
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)	252	608	22	59	321	220	47	39	82	324	38	34
RTOR Reduction (vph)	0	2	0	0	111	0	0	56	0	0	23	0
Lane Group Flow (vph)	252	628	0	59	430	0	47	65	0	324	49	0
Confl. Peds. (#/hr)	12		6	6		12	8		3	3		8
Heavy Vehicles (%)	1%	2%	5%	0%	3%	0%	2%	0%	0%	1%	0%	0%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	49.6	49.6		35.8	35.8		28.0	28.0		28.0	28.0	
Effective Green, g (s)	49.6	49.6		35.8	35.8		28.0	28.0		28.0	28.0	
Actuated g/C Ratio	0.55	0.55		0.40	0.40		0.31	0.31		0.31	0.31	
Clearance Time (s)	3.0	6.2		6.2	6.2		6.2	6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	506	1914		306	1285		403	519		392	537	
v/s Ratio Prot	c0.06	0.18			0.13			0.04			0.03	
v/s Ratio Perm	c0.21			0.08			0.04			c0.26		
v/c Ratio	0.50	0.33		0.19	0.33		0.12	0.12		0.83	0.09	
Uniform Delay, d1	11.0	11.1		17.7	18.8		22.2	22.2		28.7	22.0	
Progression Factor	1.84	1.64		1.01	0.97		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.4		1.2	0.6		0.1	0.1		13.3	0.1	
Delay (s)	20.8	18.5		19.2	18.9		22.3	22.3		42.1	22.0	
Level of Service	C	B		B	B		C	C		D	C	
Approach Delay (s)		19.1			19.0			22.3			38.4	
Approach LOS		B			B			C			D	

Intersection Summary				
HCM 2000 Control Delay	23.1	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.64			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.4	
Intersection Capacity Utilization	72.0%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
39: RR 16 (RITSON RD) & RR 22 (BLOOR ST)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	487	569	126	47	220	96	44	404	79	66	279	356
Future Volume (vph)	487	569	126	47	220	96	44	404	79	66	279	356
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5		6.5	6.5			6.4	6.4		6.4	6.4
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95	1.00		0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99			1.00	0.97		1.00	0.97
Flpb, ped/bikes	0.99	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.97		1.00	0.95			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00		0.99	1.00
Satd. Flow (prot)	1758	3320		1746	3173			3456	1504		3245	1496
Flt Permitted	0.50	1.00		0.37	1.00			0.86	1.00		0.69	1.00
Satd. Flow (perm)	917	3320		671	3173			2999	1504		2247	1496
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)	529	618	137	51	239	104	48	439	86	72	303	387
RTOR Reduction (vph)	0	21	0	0	49	0	0	0	63	0	0	286
Lane Group Flow (vph)	529	734	0	51	294	0	0	487	23	0	375	101
Confl. Peds. (#/hr)	13		4	4		13	10		13	13		10
Heavy Vehicles (%)	1%	1%	19%	2%	7%	5%	0%	3%	3%	8%	9%	4%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	53.5	53.5		30.8	30.8			23.6	23.6		23.6	23.6
Effective Green, g (s)	53.5	53.5		30.8	30.8			23.6	23.6		23.6	23.6
Actuated g/C Ratio	0.59	0.59		0.34	0.34			0.26	0.26		0.26	0.26
Clearance Time (s)	3.0	6.5		6.5	6.5			6.4	6.4		6.4	6.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	729	1973		229	1085			786	394		589	392
v/s Ratio Prot	c0.16	0.22			0.09							
v/s Ratio Perm	c0.27			0.08				0.16	0.01		c0.17	0.07
v/c Ratio	0.73	0.37		0.22	0.27			0.62	0.06		0.64	0.26
Uniform Delay, d1	10.7	9.5		21.1	21.5			29.2	24.9		29.4	26.3
Progression Factor	1.00	0.49		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	3.5	0.5		2.2	0.6			3.7	0.3		5.2	1.6
Delay (s)	14.1	5.2		23.3	22.1			32.9	25.1		34.6	27.9
Level of Service	B	A		C	C			C	C		C	C
Approach Delay (s)		8.9			22.2			31.7			31.2	
Approach LOS		A			C			C			C	

Intersection Summary				
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.72			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.9	
Intersection Capacity Utilization	94.7%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
40: RR 35 (WILSON RD) & RR 22 (BLOOR ST)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	182	329	43	30	201	204	52	271	46	81	117	77
Future Volume (vph)	182	329	43	30	201	204	52	271	46	81	117	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.98		1.00	0.92		1.00	0.98		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1783	1805		1780	1679		1712	1815		1776	1740	
Flt Permitted	0.30	1.00		0.52	1.00		0.63	1.00		0.44	1.00	
Satd. Flow (perm)	571	1805		982	1679		1128	1815		823	1740	
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)	198	358	47	33	218	222	57	295	50	88	127	84
RTOR Reduction (vph)	0	8	0	0	61	0	0	10	0	0	40	0
Lane Group Flow (vph)	198	397	0	33	379	0	57	335	0	88	171	0
Confl. Peds. (#/hr)	5		3	3		5	2		6	6		2
Heavy Vehicles (%)	0%	2%	2%	0%	3%	1%	4%	1%	0%	0%	1%	0%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	29.0	29.0		21.0	21.0		19.3	19.3		19.3	19.3	
Effective Green, g (s)	29.0	29.0		21.0	21.0		19.3	19.3		19.3	19.3	
Actuated g/C Ratio	0.48	0.48		0.35	0.35		0.32	0.32		0.32	0.32	
Clearance Time (s)	3.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	376	872		343	587		362	583		264	559	
v/s Ratio Prot	c0.04	0.22			c0.23			c0.18			0.10	
v/s Ratio Perm	0.21			0.03			0.05			0.11		
v/c Ratio	0.53	0.46		0.10	0.65		0.16	0.57		0.33	0.31	
Uniform Delay, d1	10.0	10.3		13.1	16.4		14.5	16.9		15.5	15.3	
Progression Factor	1.00	1.00		1.51	1.68		1.00	1.00		0.81	0.76	
Incremental Delay, d2	1.3	1.7		0.5	5.1		0.9	4.1		3.3	1.4	
Delay (s)	11.3	12.0		20.4	32.6		15.5	21.0		15.8	12.9	
Level of Service	B	B		C	C		B	C		B	B	
Approach Delay (s)		11.8			31.8			20.2			13.8	
Approach LOS		B			C			C			B	

Intersection Summary				
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.60			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.7	
Intersection Capacity Utilization	79.9%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
41: RR 56 (FAREWELL ST)/401 EB RAMP / RR 56 FAREWELL & RR 22 (BLOOR ST)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	273	21	208	207	140	62	240	555	1219	48	156
Future Volume (vph)	115	273	21	208	207	140	62	240	555	1219	48	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2		3.0	6.2		6.3	6.3	6.3	5.5	6.3	6.3
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00	0.99	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	1.00	1.00
Frt	1.00	0.99		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1766	3474		1580	3239		1684	1807	1514	3429	2950	1597
Flt Permitted	0.53	1.00		0.30	1.00		0.72	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	981	3474		499	3239		1279	1807	1514	3429	2950	1597
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)	125	297	23	226	225	152	67	261	603	1325	52	170
RTOR Reduction (vph)	0	4	0	0	99	0	0	0	120	0	0	59
Lane Group Flow (vph)	125	316	0	226	278	0	67	261	483	1325	52	111
Confl. Peds. (#/hr)	1					1			2	2		
Heavy Vehicles (%)	1%	1%	10%	13%	3%	2%	6%	4%	4%	1%	21%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases	2			6			8		8			4
Actuated Green, G (s)	18.8	13.8		28.8	20.8		31.7	31.7	31.7	41.5	78.7	78.7
Effective Green, g (s)	18.8	13.8		28.8	20.8		31.7	31.7	31.7	41.5	78.7	78.7
Actuated g/C Ratio	0.16	0.12		0.24	0.17		0.26	0.26	0.26	0.35	0.66	0.66
Clearance Time (s)	3.0	6.2		3.0	6.2		6.3	6.3	6.3	5.5	6.3	6.3
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	186	399		227	561		337	477	399	1185	1934	1047
v/s Ratio Prot	0.03	0.09		c0.10	0.09			0.14		c0.39	0.02	
v/s Ratio Perm	0.08			c0.14			0.05		c0.32			0.07
v/c Ratio	0.67	0.79		1.00	0.50		0.20	0.55	1.21	1.12	0.03	0.11
Uniform Delay, d1	46.3	51.7		42.7	44.9		34.3	38.0	44.1	39.2	7.2	7.6
Progression Factor	1.14	1.07		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	8.4	13.6		58.1	3.1		0.3	1.3	116.0	64.9	0.0	0.0
Delay (s)	61.1	69.1		100.8	48.0		34.6	39.3	160.1	104.2	7.2	7.7
Level of Service	E	E		F	D		C	D	F	F	A	A
Approach Delay (s)		66.8			67.8			117.2			90.3	
Approach LOS		E			E			F			F	

Intersection Summary				
HCM 2000 Control Delay	90.6	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.14			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	92.6%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
42: RR 33 (HARMONY) & RR 22 (BLOOR ST)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	928	766	128	324	128	67	35	289	22	43	463	257
Future Volume (vph)	928	766	128	324	128	67	35	289	22	43	463	257
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	6.3	6.3		6.5	6.5		6.5	6.5	6.5
Lane Util. Factor	0.91	0.91	1.00	1.00	0.95		1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99		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	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1397	2879	1320	1580	2855		1095	3033		1668	1606	1353
Flt Permitted	0.62	0.77	1.00	0.21	1.00		0.17	1.00		0.54	1.00	1.00
Satd. Flow (perm)	911	2252	1320	345	2855		196	3033		950	1606	1353
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)	1009	833	139	352	139	73	38	314	24	47	503	279
RTOR Reduction (vph)	0	0	101	0	53	0	0	6	0	0	0	194
Lane Group Flow (vph)	575	1267	38	352	159	0	38	332	0	47	503	85
Confl. Peds. (#/hr)	3					3						
Heavy Vehicles (%)	16%	17%	21%	13%	21%	12%	63%	17%	9%	7%	17%	18%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	6	2		5	1			8			4	
Permitted Phases	2		2	1			8			4		4
Actuated Green, G (s)	43.4	43.4	24.7	43.4	24.7		27.5	27.5		27.5	27.5	27.5
Effective Green, g (s)	43.4	43.4	24.7	43.4	24.7		27.5	27.5		27.5	27.5	27.5
Actuated g/C Ratio	0.48	0.48	0.27	0.48	0.27		0.31	0.31		0.31	0.31	0.31
Clearance Time (s)	6.3	6.3	6.3	6.3	6.3		6.5	6.5		6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	540	1216	362	422	783		59	926		290	490	413
v/s Ratio Prot	c0.22	0.22		0.17	0.06			0.11			c0.31	
v/s Ratio Perm	c0.29	0.29	0.03	0.23			0.19			0.05		0.06
v/c Ratio	1.06	1.04	0.11	0.83	0.20		0.64	0.36		0.16	1.03	0.21
Uniform Delay, d1	21.0	23.3	24.4	15.9	25.1		27.0	24.4		22.8	31.2	23.2
Progression Factor	1.00	1.00	1.00	1.25	0.77		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	57.1	37.4	0.6	12.6	0.1		21.6	0.2		0.3	47.6	0.2
Delay (s)	78.1	60.7	25.0	32.4	19.4		48.6	24.6		23.1	78.8	23.4
Level of Service	E	E	C	C	B		D	C		C	E	C
Approach Delay (s)		63.3			27.5			27.0			57.0	
Approach LOS		E			C			C			E	

Intersection Summary				
HCM 2000 Control Delay	52.9	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	1.05			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	19.1	
Intersection Capacity Utilization	101.7%	ICU Level of Service	G	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
43: GRANDVIEW ST & RR 59 (OLIVE AV)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	450	248	132	272	5	127	47	126	4	60	16
Future Volume (vph)	27	450	248	132	272	5	127	47	126	4	60	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	6.2	6.2		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.89		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1495	1648	1371	1579	1642		1567	1486		1780	1682	
Flt Permitted	0.58	1.00	1.00	0.44	1.00		0.70	1.00		0.64	1.00	
Satd. Flow (perm)	907	1648	1371	729	1642		1161	1486		1198	1682	
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)	29	489	270	143	296	5	138	51	137	4	65	17
RTOR Reduction (vph)	0	0	126	0	1	0	0	106	0	0	13	0
Lane Group Flow (vph)	29	489	144	143	300	0	138	82	0	4	69	0
Confl. Peds. (#/hr)	4		1	1		4	8		3	3		8
Heavy Vehicles (%)	19%	14%	14%	13%	14%	20%	13%	2%	14%	0%	8%	6%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	26.6	26.6	26.6	26.6	26.6		11.4	11.4		11.4	11.4	
Effective Green, g (s)	26.6	26.6	26.6	26.6	26.6		11.4	11.4		11.4	11.4	
Actuated g/C Ratio	0.53	0.53	0.53	0.53	0.53		0.23	0.23		0.23	0.23	
Clearance Time (s)	6.2	6.2	6.2	6.2	6.2		5.8	5.8		5.8	5.8	
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)	482	876	729	387	873		264	338		273	383	
v/s Ratio Prot		c0.30			0.18			0.06			0.04	
v/s Ratio Perm	0.03		0.10	0.20			c0.12			0.00		
v/c Ratio	0.06	0.56	0.20	0.37	0.34		0.52	0.24		0.01	0.18	
Uniform Delay, d1	5.7	7.8	6.1	6.8	6.7		16.9	15.8		14.9	15.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	2.6	0.6	2.7	1.1		1.9	0.4		0.0	0.2	
Delay (s)	5.9	10.4	6.7	9.5	7.8		18.8	16.2		15.0	15.8	
Level of Service	A	B	A	A	A		B	B		B	B	
Approach Delay (s)		8.9			8.3			17.3			15.7	
Approach LOS		A			A			B			B	

Intersection Summary				
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.55			
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	69.7%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
44: GRANDVIEW ST & RR 22 (BLOOR ST)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	568	84	8	373	74	65	77	8	126	111	38
Future Volume (vph)	96	568	84	8	373	74	65	77	8	126	111	38
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		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1564	1682		1427	1558		1578	1675		1620	1576	
Flt Permitted	0.46	1.00		0.32	1.00		0.58	1.00		0.70	1.00	
Satd. Flow (perm)	754	1682		485	1558		971	1675		1188	1576	
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)	104	617	91	9	405	80	71	84	9	137	121	41
RTOR Reduction (vph)	0	5	0	0	6	0	0	5	0	0	16	0
Lane Group Flow (vph)	104	703	0	9	479	0	71	88	0	137	146	0
Confl. Peds. (#/hr)	1		1	1		1	7		1	1		7
Heavy Vehicles (%)	14%	10%	4%	25%	17%	18%	12%	10%	13%	10%	14%	13%
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)	62.1	62.1		62.1	62.1		15.6	15.6		15.6	15.6	
Effective Green, g (s)	62.1	62.1		62.1	62.1		15.6	15.6		15.6	15.6	
Actuated g/C Ratio	0.69	0.69		0.69	0.69		0.17	0.17		0.17	0.17	
Clearance Time (s)	6.6	6.6		6.6	6.6		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	520	1160		334	1075		168	290		205	273	
v/s Ratio Prot		c0.42			0.31			0.05			0.09	
v/s Ratio Perm	0.14			0.02			0.07			c0.12		
v/c Ratio	0.20	0.61		0.03	0.45		0.42	0.30		0.67	0.54	
Uniform Delay, d1	5.0	7.4		4.4	6.2		33.2	32.5		34.8	33.9	
Progression Factor	1.24	1.64		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.6		0.1	1.3		1.7	0.6		8.0	2.0	
Delay (s)	6.5	12.9		4.6	7.6		34.9	33.1		42.8	35.9	
Level of Service	A	B		A	A		C	C		D	D	
Approach Delay (s)		12.0			7.5			33.9			39.1	
Approach LOS		B			A			C			D	

Intersection Summary				
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.62			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.3	
Intersection Capacity Utilization	89.6%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
45: PRESTONVALE RD & RR 22 (BLOOR ST)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	47	249	20	66	237	63	55	75	51	34	55	29
Future Volume (vph)	47	249	20	66	237	63	55	75	51	34	55	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.94		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1500	1585		1439	1534		1439	1512		1594	1560	
Flt Permitted	0.56	1.00		0.58	1.00		0.70	1.00		0.67	1.00	
Satd. Flow (perm)	890	1585		880	1534		1057	1512		1123	1560	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	51	271	22	72	258	68	60	82	55	37	60	32
RTOR Reduction (vph)	0	3	0	0	10	0	0	47	0	0	28	0
Lane Group Flow (vph)	51	290	0	72	316	0	60	90	0	37	64	0
Heavy Vehicles (%)	19%	17%	20%	24%	18%	21%	24%	16%	18%	12%	18%	7%
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)	39.2	39.2		39.2	39.2		8.2	8.2		8.2	8.2	
Effective Green, g (s)	39.2	39.2		39.2	39.2		8.2	8.2		8.2	8.2	
Actuated g/C Ratio	0.65	0.65		0.65	0.65		0.14	0.14		0.14	0.14	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	581	1035		574	1002		144	206		153	213	
v/s Ratio Prot		0.18			c0.21			c0.06			0.04	
v/s Ratio Perm	0.06			0.08			0.06			0.03		
v/c Ratio	0.09	0.28		0.13	0.32		0.42	0.43		0.24	0.30	
Uniform Delay, d1	3.8	4.4		3.9	4.5		23.7	23.8		23.1	23.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.7		0.4	0.8		1.9	1.5		0.8	0.8	
Delay (s)	4.1	5.1		4.4	5.4		25.7	25.2		23.9	24.1	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		4.9			5.2			25.4			24.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
47: RR 34 (COURTICE RD) & RR 22 (BLOOR ST)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	177	31	13	147	45	108	363	63	46	210	48
Future Volume (vph)	59	177	31	13	147	45	108	363	63	46	210	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.1	7.1		7.1	7.1		7.4	7.4	7.4	7.4	7.4	7.4
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1785	1836		1653	1791		1767	1842	1566	1750	1789	1536
Flt Permitted	0.60	1.00		0.56	1.00		0.62	1.00	1.00	0.52	1.00	1.00
Satd. Flow (perm)	1118	1836		970	1791		1146	1842	1566	950	1789	1536
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)	64	192	34	14	160	49	117	395	68	50	228	52
RTOR Reduction (vph)	0	9	0	0	14	0	0	0	27	0	0	20
Lane Group Flow (vph)	64	217	0	14	195	0	117	395	41	50	228	32
Heavy Vehicles (%)	0%	0%	0%	8%	1%	2%	1%	2%	2%	2%	5%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	15.9	15.9		15.9	15.9		45.7	45.7	45.7	45.7	45.7	45.7
Effective Green, g (s)	15.9	15.9		15.9	15.9		45.7	45.7	45.7	45.7	45.7	45.7
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.60	0.60	0.60	0.60	0.60	0.60
Clearance Time (s)	7.1	7.1		7.1	7.1		7.4	7.4	7.4	7.4	7.4	7.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.2	6.2	6.2	6.2	6.2	6.2
Lane Grp Cap (vph)	233	383		202	374		688	1106	940	570	1074	922
v/s Ratio Prot		c0.12			0.11			c0.21			0.13	
v/s Ratio Perm	0.06			0.01			0.10		0.03	0.05		0.02
v/c Ratio	0.27	0.57		0.07	0.52		0.17	0.36	0.04	0.09	0.21	0.03
Uniform Delay, d1	25.3	27.0		24.2	26.7		6.8	7.7	6.2	6.4	7.0	6.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	1.9		0.1	1.3		0.5	0.9	0.1	0.3	0.5	0.1
Delay (s)	25.9	28.9		24.3	28.0		7.3	8.6	6.3	6.7	7.4	6.3
Level of Service	C	C		C	C		A	A	A	A	A	A
Approach Delay (s)		28.3			27.8			8.1			7.1	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	15.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	76.1	Sum of lost time (s)	14.5
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
48: RR 34 (COURTICE RD) & BASELINE RD

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	0	111	34	4	30	75	525	9	14	237	13
Future Volume (vph)	39	0	111	34	4	30	75	525	9	14	237	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			-2%			-5%			-5%	
Total Lost time (s)	7.3	7.3		7.3	7.3		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	1.00	
Frt	1.00	0.85		1.00	0.87		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)	1490	1427		1398	1244		1429	1638		1165	1642	
Flt Permitted	0.73	1.00		0.68	1.00		0.59	1.00		0.39	1.00	
Satd. Flow (perm)	1150	1427		999	1244		891	1638		482	1642	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	42	0	121	37	4	33	82	571	10	15	258	14
RTOR Reduction (vph)	0	101	0	0	28	0	0	1	0	0	3	0
Lane Group Flow (vph)	42	20	0	37	9	0	82	580	0	15	269	0
Heavy Vehicles (%)	21%	0%	13%	29%	25%	33%	28%	17%	33%	57%	16%	23%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	9.7	9.7		9.7	9.7		35.5	35.5		35.5	35.5	
Effective Green, g (s)	9.7	9.7		9.7	9.7		35.5	35.5		35.5	35.5	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.59	0.59		0.59	0.59	
Clearance Time (s)	7.3	7.3		7.3	7.3		7.5	7.5		7.5	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	185	230		161	201		527	969		285	971	
v/s Ratio Prot		0.01			0.01			c0.35			0.16	
v/s Ratio Perm	0.04			c0.04			0.09			0.03		
v/c Ratio	0.23	0.09		0.23	0.05		0.16	0.60		0.05	0.28	
Uniform Delay, d1	21.9	21.4		21.9	21.2		5.5	7.7		5.2	6.0	
Progression Factor	1.00	1.00		1.00	1.00		0.48	0.35		1.00	1.00	
Incremental Delay, d2	0.6	0.2		0.7	0.1		0.5	2.0		0.4	0.7	
Delay (s)	22.5	21.5		22.6	21.3		3.1	4.8		5.5	6.7	
Level of Service	C	C		C	C		A	A		A	A	
Approach Delay (s)		21.8			22.0			4.6			6.6	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.8
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
50: COURTICE RD (RR34)/RR 34 (COURTICE RD) & 401 WB RAMP

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	29	0	116	16	836	0	0	255	190
Future Volume (vph)	0	0	0	29	0	116	16	836	0	0	255	190
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.5		6.5	3.0	5.1			5.1	5.1
Lane Util. Factor				1.00		1.00	1.00	1.00			1.00	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1750		1566	1750	1842			1842	1566
Flt Permitted				0.95		1.00	0.54	1.00			1.00	1.00
Satd. Flow (perm)				1750		1566	999	1842			1842	1566
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)	0	0	0	32	0	126	17	909	0	0	277	207
RTOR Reduction (vph)	0	0	0	0	0	106	0	0	0	0	0	87
Lane Group Flow (vph)	0	0	0	32	0	20	17	909	0	0	277	120
Turn Type				Perm		Perm	pm+pt	NA			NA	Perm
Protected Phases							5	2			6	
Permitted Phases				8		8	2					6
Actuated Green, G (s)				9.6		9.6	38.8	38.8			34.8	34.8
Effective Green, g (s)				9.6		9.6	38.8	38.8			34.8	34.8
Actuated g/C Ratio				0.16		0.16	0.65	0.65			0.58	0.58
Clearance Time (s)				6.5		6.5	3.0	5.1			5.1	5.1
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				280		250	658	1191			1068	908
v/s Ratio Prot							0.00	c0.49			0.15	
v/s Ratio Perm				c0.02		0.01	0.02					0.08
v/c Ratio				0.11		0.08	0.03	0.76			0.26	0.13
Uniform Delay, d1				21.6		21.4	3.9	7.4			6.2	5.7
Progression Factor				1.00		1.00	0.56	0.85			0.80	0.53
Incremental Delay, d2				0.2		0.1	0.0	3.4			0.6	0.3
Delay (s)				21.7		21.6	2.2	9.6			5.6	3.3
Level of Service				C		C	A	A			A	A
Approach Delay (s)		0.0			21.6			9.5			4.6	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	85.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
51: COURTICE RD (RR34) & 401 W-N/S RAMP/401 EB RAMP

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	539	0	69	0	0	0	0	313	139	15	269	0
Future Volume (vph)	539	0	69	0	0	0	0	313	139	15	269	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2		6.2					5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00	1.00	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1750		1566					1842	1566	1750	1842	
Flt Permitted	0.95		1.00					1.00	1.00	0.50	1.00	
Satd. Flow (perm)	1750		1566					1842	1566	912	1842	
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)	586	0	75	0	0	0	0	340	151	16	292	0
RTOR Reduction (vph)	0	0	42	0	0	0	0	0	85	0	0	0
Lane Group Flow (vph)	586	0	33	0	0	0	0	340	66	16	292	0
Turn Type	Perm		Perm					NA	Perm	Perm	NA	
Protected Phases								2			6	
Permitted Phases	4		4						2	6		
Actuated Green, G (s)	22.6		22.6					26.2	26.2	26.2	26.2	
Effective Green, g (s)	22.6		22.6					26.2	26.2	26.2	26.2	
Actuated g/C Ratio	0.38		0.38					0.44	0.44	0.44	0.44	
Clearance Time (s)	6.2		6.2					5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0		3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	659		589					804	683	398	804	
v/s Ratio Prot								c0.18			0.16	
v/s Ratio Perm	c0.33		0.02						0.04	0.02		
v/c Ratio	0.89		0.06					0.42	0.10	0.04	0.36	
Uniform Delay, d1	17.5		11.9					11.7	9.9	9.7	11.3	
Progression Factor	1.00		1.00					1.00	1.00	0.82	0.72	
Incremental Delay, d2	13.9		0.0					1.6	0.3	0.2	1.3	
Delay (s)	31.4		11.9					13.3	10.2	8.2	9.4	
Level of Service	C		B					B	B	A	A	
Approach Delay (s)		29.2			0.0			12.4			9.4	
Approach LOS		C			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	19.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	85.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
52: BOSWELL DRIVE & HWY 2

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	1116	121	80	791	83	71	25	45	95	36	94
Future Volume (vph)	190	1116	121	80	791	83	71	25	45	95	36	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.4		3.0	6.4		6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		0.98	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.90		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1767	3462		1699	3381		1706	1536		1738	1582	
Flt Permitted	0.25	1.00		0.16	1.00		0.65	1.00		0.71	1.00	
Satd. Flow (perm)	459	3462		278	3381		1163	1536		1294	1582	
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)	207	1213	132	87	860	90	77	27	49	103	39	102
RTOR Reduction (vph)	0	7	0	0	6	0	0	42	0	0	88	0
Lane Group Flow (vph)	207	1338	0	87	944	0	77	34	0	103	53	0
Confl. Peds. (#/hr)	3		12	12		3	6		15	15		6
Heavy Vehicles (%)	1%	1%	2%	5%	4%	2%	4%	0%	13%	1%	8%	3%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	64.4	56.6		59.0	53.9		12.7	12.7		12.7	12.7	
Effective Green, g (s)	64.4	56.6		59.0	53.9		12.7	12.7		12.7	12.7	
Actuated g/C Ratio	0.72	0.63		0.66	0.60		0.14	0.14		0.14	0.14	
Clearance Time (s)	3.0	6.4		3.0	6.4		6.2	6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	441	2177		262	2024		164	216		182	223	
v/s Ratio Prot	c0.04	c0.39		0.02	0.28			0.02			0.03	
v/s Ratio Perm	0.29			0.20			0.07			c0.08		
v/c Ratio	0.47	0.61		0.33	0.47		0.47	0.16		0.57	0.24	
Uniform Delay, d1	5.0	10.1		6.8	10.0		35.6	33.9		36.1	34.4	
Progression Factor	1.37	1.51		1.91	1.04		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	1.1		0.6	0.7		2.1	0.3		4.0	0.6	
Delay (s)	7.6	16.4		13.6	11.1		37.7	34.3		40.1	34.9	
Level of Service	A	B		B	B		D	C		D	C	
Approach Delay (s)		15.2			11.3			36.0			37.1	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	76.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
53: GREEN ROAD & HWY 2

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	959	111	53	767	105	136	124	48	229	163	37
Future Volume (vph)	130	959	111	53	767	105	136	124	48	229	163	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0		3.0	7.0		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1749	3429		1749	3452		1728	1777		1756	1773	
Flt Permitted	0.21	1.00		0.17	1.00		0.55	1.00		0.60	1.00	
Satd. Flow (perm)	382	3429		315	3452		1001	1777		1116	1773	
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)	141	1042	121	58	834	114	148	135	52	249	177	40
RTOR Reduction (vph)	0	8	0	0	10	0	0	17	0	0	10	0
Lane Group Flow (vph)	141	1155	0	58	938	0	148	170	0	249	207	0
Confl. Peds. (#/hr)	11		16	16		11	4		8	8		4
Heavy Vehicles (%)	2%	2%	1%	2%	1%	1%	3%	1%	0%	1%	2%	6%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	53.1	45.7		46.9	42.5		23.5	23.5		23.5	23.5	
Effective Green, g (s)	53.1	45.7		46.9	42.5		23.5	23.5		23.5	23.5	
Actuated g/C Ratio	0.59	0.51		0.52	0.47		0.26	0.26		0.26	0.26	
Clearance Time (s)	3.0	7.0		3.0	7.0		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	340	1741		234	1630		261	463		291	462	
v/s Ratio Prot	c0.03	c0.34		0.01	0.27			0.10			0.12	
v/s Ratio Perm	0.21			0.12			0.15			c0.22		
v/c Ratio	0.41	0.66		0.25	0.58		0.57	0.37		0.86	0.45	
Uniform Delay, d1	9.7	16.4		11.7	17.2		28.8	27.2		31.6	27.8	
Progression Factor	1.14	0.72		1.37	1.15		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	1.7		0.5	1.4		2.8	0.5		21.0	0.7	
Delay (s)	11.8	13.5		16.6	21.2		31.7	27.7		52.7	28.5	
Level of Service	B	B		B	C		C	C		D	C	
Approach Delay (s)		13.4			20.9			29.4			41.4	
Approach LOS		B			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
54: HWY 2 & CLARINGTON BLVD

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	1055	42	233	720	74	58	45	148	138	67	47
Future Volume (vph)	59	1055	42	233	720	74	58	45	148	138	67	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3		3.0	6.3		6.3	6.3	6.3	6.3	6.3	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	1.00	0.85	1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1495	3080		1580	3054		1458	1756	1331	1463	2890	
Flt Permitted	0.33	1.00		0.12	1.00		0.67	1.00	1.00	0.73	1.00	
Satd. Flow (perm)	517	3080		201	3054		1033	1756	1331	1117	2890	
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)	64	1147	46	253	783	80	63	49	161	150	73	51
RTOR Reduction (vph)	0	3	0	0	7	0	0	0	130	0	41	0
Lane Group Flow (vph)	64	1190	0	253	856	0	63	49	31	150	83	0
Confl. Peds. (#/hr)	5					5	4					4
Heavy Vehicles (%)	19%	15%	21%	13%	14%	24%	22%	7%	20%	22%	18%	11%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	42.4	42.4		60.1	60.1		17.3	17.3	17.3	17.3	17.3	
Effective Green, g (s)	42.4	42.4		60.1	60.1		17.3	17.3	17.3	17.3	17.3	
Actuated g/C Ratio	0.47	0.47		0.67	0.67		0.19	0.19	0.19	0.19	0.19	
Clearance Time (s)	6.3	6.3		3.0	6.3		6.3	6.3	6.3	6.3	6.3	
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)	243	1451		359	2039		198	337	255	214	555	
v/s Ratio Prot		c0.39		c0.11	0.28			0.03			0.03	
v/s Ratio Perm	0.12			0.36			0.06		0.02	c0.13		
v/c Ratio	0.26	0.82		0.70	0.42		0.32	0.15	0.12	0.70	0.15	
Uniform Delay, d1	14.4	20.5		16.5	6.9		31.3	30.2	30.1	33.9	30.2	
Progression Factor	0.80	0.74		2.08	0.75		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.0	4.1		5.8	0.6		0.9	0.2	0.2	9.9	0.1	
Delay (s)	13.5	19.3		40.1	5.8		32.2	30.4	30.3	43.8	30.4	
Level of Service	B	B		D	A		C	C	C	D	C	
Approach Delay (s)		19.0			13.5			30.7			37.7	
Approach LOS		B			B			C			D	

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	72.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
55: RR 57 (BOWMANVILLE AVE)/RR 57 & HWY 2

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	113	628	59	231	640	206	76	318	180	205	412	118
Future Volume (vph)	113	628	59	231	640	206	76	318	180	205	412	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			-1%			-3%			-3%	
Total Lost time (s)	3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.5	6.5	6.5	6.5	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1724	3292	1537	1546	3322	1421	1759	1703	1515	1647	1750	1538
Flt Permitted	0.34	1.00	1.00	0.24	1.00	1.00	0.21	1.00	1.00	0.55	1.00	1.00
Satd. Flow (perm)	618	3292	1537	391	3322	1421	387	1703	1515	959	1750	1538
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)	123	683	64	251	696	224	83	346	196	223	448	128
RTOR Reduction (vph)	0	0	44	0	0	141	0	0	121	0	0	90
Lane Group Flow (vph)	123	683	20	251	696	83	83	346	75	223	448	38
Confl. Peds. (#/hr)	3		1	1		3	1					1
Heavy Vehicles (%)	4%	9%	3%	16%	8%	11%	3%	12%	7%	10%	9%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	34.8	28.4	28.4	42.7	33.3	33.3	34.6	34.6	34.6	26.8	26.8	26.8
Effective Green, g (s)	34.8	28.4	28.4	42.7	33.3	33.3	34.6	34.6	34.6	26.8	26.8	26.8
Actuated g/C Ratio	0.39	0.32	0.32	0.47	0.37	0.37	0.38	0.38	0.38	0.30	0.30	0.30
Clearance Time (s)	3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	317	1038	485	330	1229	525	221	654	582	285	521	457
v/s Ratio Prot	0.03	0.21		c0.10	0.21		0.02	c0.20			c0.26	
v/s Ratio Perm	0.12		0.01	c0.27		0.06	0.12		0.05	0.23		0.02
v/c Ratio	0.39	0.66	0.04	0.76	0.57	0.16	0.38	0.53	0.13	0.78	0.86	0.08
Uniform Delay, d1	18.3	26.6	21.4	16.2	22.6	19.0	19.8	21.4	17.9	28.9	29.8	22.8
Progression Factor	1.55	1.35	1.00	1.52	0.95	1.34	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	2.2	0.1	9.2	1.7	0.6	1.1	0.8	0.1	13.1	13.3	0.1
Delay (s)	28.8	38.2	21.5	33.9	23.3	26.0	20.8	22.2	18.0	42.0	43.1	22.8
Level of Service	C	D	C	C	C	C	C	C	B	D	D	C
Approach Delay (s)		35.6			26.1			20.7			39.6	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.7
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
56: ROENIGK DR & HWY 2

Existing
Timing Plan: PM Peak

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1120	102	144	1091	77	204
Future Volume (vph)	1120	102	144	1091	77	204
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			-1%	0%	
Total Lost time (s)	6.3		3.0	6.3	6.5	6.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3456		1759	3517	1750	1566
Flt Permitted	1.00		0.14	1.00	0.95	1.00
Satd. Flow (perm)	3456		267	3517	1750	1566
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1217	111	157	1186	84	222
RTOR Reduction (vph)	5	0	0	0	0	182
Lane Group Flow (vph)	1323	0	157	1186	84	40
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases			6			8
Actuated Green, G (s)	56.5		67.5	67.5	9.7	9.7
Effective Green, g (s)	56.5		67.5	67.5	9.7	9.7
Actuated g/C Ratio	0.63		0.75	0.75	0.11	0.11
Clearance Time (s)	6.3		3.0	6.3	6.5	6.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2169		332	2637	188	168
v/s Ratio Prot	c0.38		0.04	c0.34	c0.05	
v/s Ratio Perm			0.31			0.03
v/c Ratio	0.61		0.47	0.45	0.45	0.24
Uniform Delay, d1	10.1		6.1	4.2	37.6	36.8
Progression Factor	1.83		1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1		1.1	0.6	1.7	0.7
Delay (s)	19.7		7.2	4.8	39.3	37.5
Level of Service	B		A	A	D	D
Approach Delay (s)	19.7			5.1	38.0	
Approach LOS	B			A	D	

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.8
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
58: RR 67 (BOWMANVILLE AVE)/RR 57 (BOWMANVILLE AVE) & ASPEN SPRINGS DR

Existing
Timing Plan: PM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	148	81	87	498	575	121
Future Volume (vph)	148	81	87	498	575	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.98	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1566	1403	1607	1606	1601	
Flt Permitted	0.95	1.00	0.28	1.00	1.00	
Satd. Flow (perm)	1566	1403	481	1606	1601	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	161	88	95	541	625	132
RTOR Reduction (vph)	0	71	0	0	9	0
Lane Group Flow (vph)	161	17	95	541	748	0
Confl. Peds. (#/hr)		3	1			1
Heavy Vehicles (%)	14%	11%	11%	17%	15%	10%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	9.6	9.6	38.4	38.4	38.4	
Effective Green, g (s)	11.4	11.4	40.6	40.6	40.6	
Actuated g/C Ratio	0.19	0.19	0.68	0.68	0.68	
Clearance Time (s)	5.8	5.8	6.2	6.2	6.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	297	266	325	1086	1083	
v/s Ratio Prot	c0.10			0.34	c0.47	
v/s Ratio Perm		0.01	0.20			
v/c Ratio	0.54	0.06	0.29	0.50	0.69	
Uniform Delay, d1	21.9	19.9	3.9	4.7	5.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	2.0	0.1	2.3	1.6	3.6	
Delay (s)	24.0	20.0	6.2	6.4	9.5	
Level of Service	C	C	A	A	A	
Approach Delay (s)	22.6			6.3	9.5	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
59: RR 57 (BOWMANVILLE AVE) & WAVERLEY RD

Existing
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	119	60	684	251	82	586
Future Volume (vph)	119	60	684	251	82	586
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	4%		3%			-3%
Total Lost time (s)	5.9	5.9	6.2	6.2	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1732	1565	1832	1524	1692	1782
Flt Permitted	0.95	1.00	1.00	1.00	0.30	1.00
Satd. Flow (perm)	1732	1565	1832	1524	538	1782
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	129	65	743	273	89	637
RTOR Reduction (vph)	0	56	0	94	0	0
Lane Group Flow (vph)	129	9	743	179	89	637
Confl. Peds. (#/hr)				1	1	
Heavy Vehicles (%)	1%	0%	1%	1%	7%	7%
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Actuated Green, G (s)	8.6	8.6	39.3	39.3	39.3	39.3
Effective Green, g (s)	8.6	8.6	39.3	39.3	39.3	39.3
Actuated g/C Ratio	0.14	0.14	0.65	0.65	0.65	0.65
Clearance Time (s)	5.9	5.9	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	248	224	1199	998	352	1167
v/s Ratio Prot	c0.07		c0.41			0.36
v/s Ratio Perm		0.01		0.12	0.17	
v/c Ratio	0.52	0.04	0.62	0.18	0.25	0.55
Uniform Delay, d1	23.8	22.1	6.0	4.0	4.3	5.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0	0.1	2.4	0.4	1.7	1.8
Delay (s)	25.8	22.2	8.4	4.4	6.0	7.4
Level of Service	C	C	A	A	A	A
Approach Delay (s)	24.6		7.4			7.2
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.1
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
60: GREEN RD/GREEN ROAD & BASELINE RD

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	183	284	1	1	129	143	0	1	0	110	2	92
Future Volume (vph)	183	284	1	1	129	143	0	1	0	110	2	92
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1			5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.92			1.00		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1580	1579		892	1467			1879		1500	1434	
Flt Permitted	0.58	1.00		0.57	1.00			1.00		0.76	1.00	
Satd. Flow (perm)	964	1579		537	1467			1879		1196	1434	
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)	199	309	1	1	140	155	0	1	0	120	2	100
RTOR Reduction (vph)	0	0	0	0	50	0	0	0	0	0	83	0
Lane Group Flow (vph)	199	310	0	1	245	0	0	1	0	120	19	0
Heavy Vehicles (%)	13%	19%	0%	100%	18%	18%	0%	0%	0%	19%	50%	11%
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)	33.0	33.0		33.0	33.0			9.4		9.4	9.4	
Effective Green, g (s)	33.0	33.0		33.0	33.0			9.4		9.4	9.4	
Actuated g/C Ratio	0.61	0.61		0.61	0.61			0.17		0.17	0.17	
Clearance Time (s)	6.1	6.1		6.1	6.1			5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	586	961		326	893			325		207	248	
v/s Ratio Prot		0.20			0.17			0.00			0.01	
v/s Ratio Perm	c0.21			0.00						c0.10		
v/c Ratio	0.34	0.32		0.00	0.27			0.00		0.58	0.08	
Uniform Delay, d1	5.2	5.2		4.2	5.0			18.5		20.6	18.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	1.6	0.9		0.0	0.8			0.0		3.9	0.1	
Delay (s)	6.8	6.0		4.2	5.7			18.5		24.5	18.9	
Level of Service	A	A		A	A			B		C	B	
Approach Delay (s)		6.3			5.7			18.5			21.9	
Approach LOS		A			A			B			C	

Intersection Summary			
HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	54.2	Sum of lost time (s)	11.8
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
61: RR 57 (BOWMANVILLE AVE) & BASELINE RD

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	156	209	195	51	228	87	165	696	75	80	450	121
Future Volume (vph)	156	209	195	51	228	87	165	696	75	80	450	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3		6.3	6.3	6.3	6.7	6.7		6.7	6.7	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1415	2713		1534	1592	1358	1537	2911		1487	2925	
Flt Permitted	0.50	1.00		0.43	1.00	1.00	0.41	1.00		0.30	1.00	
Satd. Flow (perm)	739	2713		687	1592	1358	655	2911		474	2925	
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)	170	227	212	55	248	95	179	757	82	87	489	132
RTOR Reduction (vph)	0	156	0	0	0	70	0	7	0	0	22	0
Lane Group Flow (vph)	170	283	0	55	248	25	179	832	0	87	599	0
Confl. Peds. (#/hr)	2		7	7		2	2		1	1		2
Heavy Vehicles (%)	26%	21%	21%	16%	18%	16%	16%	20%	27%	20%	18%	16%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	23.8	23.8		23.8	23.8	23.8	53.2	53.2		53.2	53.2	
Effective Green, g (s)	23.8	23.8		23.8	23.8	23.8	53.2	53.2		53.2	53.2	
Actuated g/C Ratio	0.26	0.26		0.26	0.26	0.26	0.59	0.59		0.59	0.59	
Clearance Time (s)	6.3	6.3		6.3	6.3	6.3	6.7	6.7		6.7	6.7	
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)	195	717		181	420	359	387	1720		280	1729	
v/s Ratio Prot		0.10			0.16			c0.29			0.20	
v/s Ratio Perm	c0.23			0.08		0.02	0.27			0.18		
v/c Ratio	0.87	0.39		0.30	0.59	0.07	0.46	0.48		0.31	0.35	
Uniform Delay, d1	31.6	27.2		26.5	28.9	24.8	10.4	10.5		9.2	9.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	32.0	0.4		1.0	2.2	0.1	3.9	1.0		2.9	0.6	
Delay (s)	63.6	27.5		27.4	31.1	24.9	14.3	11.5		12.1	10.0	
Level of Service	E	C		C	C	C	B	B		B	B	
Approach Delay (s)		37.6			29.1			12.0			10.3	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	19.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
62: SPRAY AVE & BASELINE RD

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	221	2	3	231	49	3	0	4	34	0	10
Future Volume (vph)	16	221	2	3	231	49	3	0	4	34	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4	6.4	6.4	6.4			6.3	6.3		6.3	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	0.97			1.00	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.96	
Satd. Flow (prot)	1750	1842	1566	1750	1794			1750	1566		1719	
Flt Permitted	0.57	1.00	1.00	0.61	1.00			1.00	1.00		1.00	
Satd. Flow (perm)	1059	1842	1566	1123	1794			1842	1566		1785	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	240	2	3	251	53	3	0	4	37	0	11
RTOR Reduction (vph)	0	0	1	0	7	0	0	0	4	0	45	0
Lane Group Flow (vph)	17	240	1	3	297	0	0	3	0	0	3	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	39.7	39.7	39.7	39.7	39.7			3.0	3.0		3.0	
Effective Green, g (s)	39.7	39.7	39.7	39.7	39.7			3.0	3.0		3.0	
Actuated g/C Ratio	0.72	0.72	0.72	0.72	0.72			0.05	0.05		0.05	
Clearance Time (s)	6.4	6.4	6.4	6.4	6.4			6.3	6.3		6.3	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	758	1319	1122	804	1285			99	84		96	
v/s Ratio Prot		0.13			c0.17							
v/s Ratio Perm	0.02		0.00	0.00				c0.00	0.00		0.00	
v/c Ratio	0.02	0.18	0.00	0.00	0.23			0.03	0.00		0.03	
Uniform Delay, d1	2.3	2.6	2.2	2.2	2.7			24.8	24.8		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	0.3	0.0	0.0	0.4			0.1	0.0		0.1	
Delay (s)	2.3	2.9	2.2	2.2	3.1			24.9	24.8		24.9	
Level of Service	A	A	A	A	A			C	C		C	
Approach Delay (s)		2.8			3.1			24.9			24.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	4.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	55.4	Sum of lost time (s)	12.7
Intersection Capacity Utilization	55.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
65: RR 57 (BOWMANVILLE AVE) & ENERGY DR

Existing
Timing Plan: PM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	763	27	13	28	4	324
Future Volume (vph)	763	27	13	28	4	324
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.87	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1750	1566	1750	1842	1596	
Flt Permitted	0.95	1.00	0.38	1.00	1.00	
Satd. Flow (perm)	1750	1566	707	1842	1596	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	829	29	14	30	4	352
RTOR Reduction (vph)	0	14	0	0	248	0
Lane Group Flow (vph)	829	15	14	30	108	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	37.4	37.4	20.6	20.6	20.6	
Effective Green, g (s)	37.4	37.4	20.6	20.6	20.6	
Actuated g/C Ratio	0.53	0.53	0.29	0.29	0.29	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	935	836	208	542	469	
v/s Ratio Prot	c0.47			0.02	c0.07	
v/s Ratio Perm		0.01	0.02			
v/c Ratio	0.89	0.02	0.07	0.06	0.23	
Uniform Delay, d1	14.4	7.7	17.8	17.7	18.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	10.1	0.0	0.6	0.2	1.1	
Delay (s)	24.6	7.7	18.4	17.9	19.8	
Level of Service	C	A	B	B	B	
Approach Delay (s)	24.0			18.1	19.8	
Approach LOS	C			B	B	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
66: PRESTONVALE RD

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
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)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	44.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
67: TRULLS RD

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
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)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases								2			6	
Permitted Phases												
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	22.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
68: RR 34 (COURTICE RD)

Existing
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			-5%	
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
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)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases								2			6	
Permitted Phases												
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	22.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
1: RR 26 (THICKSON RD) & BURNS ST

11/02/2022

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	370	80	1590	155	40	1800
Future Volume (vph)	370	80	1590	155	40	1800
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	6.1	6.1	6.1	6.1
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1746	1526	4749	1521	1394	4932
Flt Permitted	0.95	1.00	1.00	1.00	0.09	1.00
Satd. Flow (perm)	1746	1526	4749	1521	139	4932
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	402	87	1728	168	43	1957
RTOR Reduction (vph)	0	12	0	70	0	0
Lane Group Flow (vph)	402	75	1728	98	43	1957
Confl. Peds. (#/hr)	2	4				
Heavy Vehicles (%)	2%	3%	8%	5%	28%	4%
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Actuated Green, G (s)	21.5	21.5	46.8	46.8	46.8	46.8
Effective Green, g (s)	21.5	21.5	46.8	46.8	46.8	46.8
Actuated g/C Ratio	0.27	0.27	0.58	0.58	0.58	0.58
Clearance Time (s)	5.6	5.6	6.1	6.1	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	469	410	2778	889	81	2885
v/s Ratio Prot			0.36			c0.40
v/s Ratio Perm	c0.23	0.05		0.06	0.31	
v/c Ratio	0.86	0.18	0.62	0.11	0.53	0.68
Uniform Delay, d1	27.8	22.5	10.8	7.4	10.0	11.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	14.3	0.2	1.1	0.3	22.7	1.3
Delay (s)	42.1	22.7	11.9	7.6	32.7	12.7
Level of Service	D	C	B	A	C	B
Approach Delay (s)	38.7		11.5			13.2
Approach LOS	D		B			B

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	65.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: RR 26 (THICKSON RD) & RR 25 (CONSUMERS DR)/RR 25 (STELLAR DR)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	300	465	200	535	125	600	1350	390	250	1380	405
Future Volume (vph)	180	300	465	200	535	125	600	1350	390	250	1380	405
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.6	6.6	3.0	6.6	6.6	6.4	6.4	6.4	3.0	6.4	6.4
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1579	3187	1309	1434	3187	1377	1526	4422	1321	1607	4460	1454
Flt Permitted	0.22	1.00	1.00	0.48	1.00	1.00	0.10	1.00	1.00	0.16	1.00	1.00
Satd. Flow (perm)	367	3187	1309	730	3187	1377	161	4422	1321	262	4460	1454
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)	196	326	505	217	582	136	652	1467	424	272	1500	440
RTOR Reduction (vph)	0	0	370	0	0	107	0	0	142	0	0	104
Lane Group Flow (vph)	196	326	135	217	582	29	652	1467	282	272	1500	336
Confl. Peds. (#/hr)	4		10	10		4	3		17	17		3
Heavy Vehicles (%)	13%	12%	19%	24%	12%	14%	17%	16%	16%	11%	15%	8%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	30.9	25.9	25.9	30.9	25.9	25.9	73.1	53.1	53.1	50.6	33.6	33.6
Effective Green, g (s)	30.9	25.9	25.9	30.9	25.9	25.9	73.1	53.1	53.1	50.6	33.6	33.6
Actuated g/C Ratio	0.26	0.22	0.22	0.26	0.22	0.22	0.61	0.44	0.44	0.42	0.28	0.28
Clearance Time (s)	3.0	6.6	6.6	3.0	6.6	6.6	6.4	6.4	6.4	3.0	6.4	6.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	145	687	282	217	687	297	474	1956	584	301	1248	407
v/s Ratio Prot	c0.06	0.10		0.04	0.18		c0.38	0.33		0.13	0.34	
v/s Ratio Perm	c0.29		0.10	0.22		0.02	c0.46		0.21	0.25		0.23
v/c Ratio	1.35	0.47	0.48	1.00	0.85	0.10	1.38	0.75	0.48	0.90	1.20	0.82
Uniform Delay, d1	43.5	41.1	41.1	44.0	45.2	37.7	36.0	27.9	23.7	25.5	43.2	40.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.01	0.81	0.71	1.00	1.00	1.00
Incremental Delay, d2	196.7	0.5	1.3	61.1	9.5	0.1	175.7	1.4	1.4	28.4	98.8	17.1
Delay (s)	240.2	41.6	42.4	105.1	54.6	37.8	212.2	24.1	18.1	53.9	142.0	57.5
Level of Service	F	D	D	F	D	D	F	C	B	D	F	E
Approach Delay (s)		79.9			63.9			71.3			114.3	
Approach LOS		E			E			E			F	

Intersection Summary			
HCM 2000 Control Delay	85.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.41		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.4
Intersection Capacity Utilization	105.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: RR 26 (THICKSON RD) & HWY 401 WB RAMP

11/02/2022

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	485	1180	1180	0	0	2000
Future Volume (vph)	485	1180	1180	0	0	2000
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%			3%
Total Lost time (s)	6.2	6.2	5.7			5.7
Lane Util. Factor	0.97	0.91	0.91			0.91
Frt	0.92	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	2762	1232	4347			4282
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	2762	1232	4347			4282
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	527	1283	1283	0	0	2174
RTOR Reduction (vph)	15	15	0	0	0	0
Lane Group Flow (vph)	1154	626	1283	0	0	2174
Heavy Vehicles (%)	19%	18%	18%	0%	0%	18%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	51.8	51.8	56.3			56.3
Effective Green, g (s)	51.8	51.8	56.3			56.3
Actuated g/C Ratio	0.43	0.43	0.47			0.47
Clearance Time (s)	6.2	6.2	5.7			5.7
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	1192	531	2039			2008
v/s Ratio Prot	0.42		0.30			c0.51
v/s Ratio Perm		c0.51				
v/c Ratio	1.07dr	1.18	0.63			1.08
Uniform Delay, d1	33.3	34.1	24.0			31.9
Progression Factor	1.00	1.00	1.00			0.44
Incremental Delay, d2	18.6	98.5	1.5			38.2
Delay (s)	51.9	132.6	25.5			52.1
Level of Service	D	F	C			D
Approach Delay (s)	80.5		25.5			52.1
Approach LOS	F		C			D

Intersection Summary			
HCM 2000 Control Delay	55.4	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		

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

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: RR 26 (THICKSON RD) & HWY 401 EB RAMP

11/02/2022

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	600	490	0	785	1720	0
Future Volume (vph)	600	490	0	785	1720	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%			3%	0%	
Total Lost time (s)	5.6	5.6		5.8	5.8	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3022	1135		3770	4310	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3022	1135		3770	4310	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	652	533	0	853	1870	0
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	652	532	0	853	1870	0
Heavy Vehicles (%)	14%	40%	0%	34%	19%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	40.4	40.4		38.2	38.2	
Effective Green, g (s)	40.4	40.4		38.2	38.2	
Actuated g/C Ratio	0.45	0.45		0.42	0.42	
Clearance Time (s)	5.6	5.6		5.8	5.8	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1356	509		1600	1829	
v/s Ratio Prot	0.22			0.23	c0.43	
v/s Ratio Perm		c0.47				
v/c Ratio	0.48	1.04		0.53	1.02	
Uniform Delay, d1	17.4	24.8		19.3	25.9	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	52.1		1.3	26.9	
Delay (s)	17.7	76.9		20.5	52.8	
Level of Service	B	E		C	D	
Approach Delay (s)	44.3			20.5	52.8	
Approach LOS	D			C	D	

Intersection Summary			
HCM 2000 Control Delay	43.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
5: RR 25A (CHAMPLAIN AV) & RR 25 (STELLAR DR)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	450	300	250	550	50	200	75	275	50	50	100
Future Volume (vph)	100	450	300	250	550	50	200	75	275	50	50	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.7	6.7		6.7	6.7		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		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	0.94		1.00	0.99		1.00	0.88		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1716	3213		1782	3493		1684	1658		1785	1462	
Flt Permitted	0.40	1.00		0.32	1.00		0.65	1.00		0.33	1.00	
Satd. Flow (perm)	729	3213		601	3493		1159	1658		628	1462	
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)	109	489	326	272	598	54	217	82	299	54	54	109
RTOR Reduction (vph)	0	141	0	0	8	0	0	201	0	0	81	0
Lane Group Flow (vph)	109	674	0	272	644	0	217	180	0	54	82	0
Confl. Peds. (#/hr)			3	3								
Heavy Vehicles (%)	4%	1%	7%	0%	1%	0%	6%	0%	0%	0%	33%	7%
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)	32.6	32.6		32.6	32.6		15.6	15.6		15.6	15.6	
Effective Green, g (s)	32.6	32.6		32.6	32.6		15.6	15.6		15.6	15.6	
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.25	0.25		0.25	0.25	
Clearance Time (s)	6.7	6.7		6.7	6.7		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	387	1708		319	1857		294	421		159	372	
v/s Ratio Prot		0.21			0.18			0.11			0.06	
v/s Ratio Perm	0.15			c0.45			c0.19			0.09		
v/c Ratio	0.28	0.39		0.85	0.35		0.74	0.43		0.34	0.22	
Uniform Delay, d1	7.9	8.5		12.3	8.2		21.0	19.1		18.6	18.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.8	0.7		24.0	0.5		9.3	0.7		1.3	0.3	
Delay (s)	9.7	9.2		36.3	8.7		30.3	19.8		19.9	18.3	
Level of Service	A	A		D	A		C	B		B	B	
Approach Delay (s)		9.2			16.9			23.6			18.7	
Approach LOS		A			B			C			B	

Intersection Summary				
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.81			
Actuated Cycle Length (s)	61.3	Sum of lost time (s)	13.1	
Intersection Capacity Utilization	88.2%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: KENDALWOOD RD & BURNS ST E

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	215	0	0	355	140	0	10	5	110	10	110
Future Volume (vph)	50	215	0	0	355	140	0	10	5	110	10	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0			6.4		6.4	6.4	
Lane Util. Factor	1.00	1.00			1.00			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00			0.99			1.00		1.00	0.97	
Flpb, ped/bikes	1.00	1.00			1.00			1.00		1.00	1.00	
Frt	1.00	1.00			0.96			0.95		1.00	0.86	
Flt Protected	0.95	1.00			1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1506	1708			1599			1791		1608	1432	
Flt Permitted	0.41	1.00			1.00			1.00		0.75	1.00	
Satd. Flow (perm)	651	1708			1599			1791		1264	1432	
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)	54	234	0	0	386	152	0	11	5	120	11	120
RTOR Reduction (vph)	0	0	0	0	22	0	0	4	0	0	98	0
Lane Group Flow (vph)	54	234	0	0	516	0	0	12	0	120	33	0
Confl. Peds. (#/hr)	6					6	7					7
Heavy Vehicles (%)	18%	10%	100%	0%	11%	13%	100%	0%	0%	11%	0%	11%
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)	24.6	24.6			24.6			8.3		8.3	8.3	
Effective Green, g (s)	24.6	24.6			24.6			8.3		8.3	8.3	
Actuated g/C Ratio	0.54	0.54			0.54			0.18		0.18	0.18	
Clearance Time (s)	6.0	6.0			6.0			6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0			3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	353	927			868			328		231	262	
v/s Ratio Prot		0.14			c0.32			0.01			0.02	
v/s Ratio Perm	0.08									c0.09		
v/c Ratio	0.15	0.25			0.59			0.04		0.52	0.13	
Uniform Delay, d1	5.2	5.5			7.0			15.2		16.7	15.5	
Progression Factor	1.00	1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.7			3.0			0.0		2.0	0.2	
Delay (s)	6.1	6.1			10.0			15.3		18.7	15.7	
Level of Service	A	A			A			B		B	B	
Approach Delay (s)		6.1			10.0			15.3			17.1	
Approach LOS		A			A			B			B	

Intersection Summary				
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.57			
Actuated Cycle Length (s)	45.3	Sum of lost time (s)	12.4	
Intersection Capacity Utilization	64.8%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: KENDALWOOD RD & BURNS ST E

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	205	200	175	355	255	75	625	50	335	750	135
Future Volume (vph)	85	205	200	175	355	255	75	625	50	335	750	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.0	6.1	6.1
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1648	1842	1597	1785	1824	1490	1783	3466	1597	1716	3535	1515
Flt Permitted	0.29	1.00	1.00	0.54	1.00	1.00	0.34	1.00	1.00	0.18	1.00	1.00
Satd. Flow (perm)	504	1842	1597	1022	1824	1490	646	3466	1597	322	3535	1515
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)	92	223	217	190	386	277	82	679	54	364	815	147
RTOR Reduction (vph)	0	0	114	0	0	107	0	0	40	0	0	61
Lane Group Flow (vph)	92	223	103	190	386	170	82	679	14	364	815	86
Confl. Peds. (#/hr)	5					5	1					1
Heavy Vehicles (%)	8%	2%	0%	0%	3%	5%	0%	3%	0%	4%	1%	3%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases		2			6			8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	25.4	25.4	25.4	25.4	25.4	25.4	23.7	23.7	23.7	52.2	52.2	52.2
Effective Green, g (s)	25.4	25.4	25.4	25.4	25.4	25.4	23.7	23.7	23.7	52.2	52.2	52.2
Actuated g/C Ratio	0.28	0.28	0.28	0.28	0.28	0.28	0.26	0.26	0.26	0.58	0.58	0.58
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	142	521	452	289	516	421	170	915	421	537	2057	881
v/s Ratio Prot		0.12			c0.21			0.20		c0.17	0.23	
v/s Ratio Perm	0.18		0.06	0.19		0.11	0.13		0.01	c0.22		0.06
v/c Ratio	0.65	0.43	0.23	0.66	0.75	0.40	0.48	0.74	0.03	0.68	0.40	0.10
Uniform Delay, d1	28.2	26.2	24.6	28.3	29.2	26.0	27.8	30.2	24.5	14.7	10.2	8.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.8	0.6	0.3	5.3	5.9	0.6	2.2	3.3	0.0	3.4	0.1	0.0
Delay (s)	38.0	26.8	24.9	33.6	35.1	26.7	30.0	33.5	24.5	18.1	10.3	8.4
Level of Service	D	C	C	C	D	C	C	C	C	B	B	A
Approach Delay (s)		28.0			32.0			32.5			12.2	
Approach LOS		C			C			C			B	

Intersection Summary				
HCM 2000 Control Delay	24.1	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	89.7	Sum of lost time (s)	18.1	
Intersection Capacity Utilization	82.9%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
8: RR 52 (THORNTON RD) & RR 25 (STELLAR DR)/Laval Drive

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	250	300	300	275	475	200	100	300	200	200	650	275
Future Volume (vph)	250	300	300	275	475	200	100	300	200	200	650	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.6		6.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1638	1425		1750	1842	1566	1475	1528	1566	1750	1579	1428
Flt Permitted	0.21	1.00		0.24	1.00	1.00	0.09	1.00	1.00	0.56	1.00	1.00
Satd. Flow (perm)	368	1425		442	1842	1566	134	1528	1566	1038	1579	1428
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)	272	326	326	299	516	217	109	326	217	217	707	299
RTOR Reduction (vph)	0	30	0	0	0	103	0	0	126	0	0	169
Lane Group Flow (vph)	272	622	0	299	516	114	109	326	91	217	707	130
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	9%	2%	42%	2%	2%	2%	21%	23%	2%	2%	19%	9%
Turn Type	pm+pt	NA		Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8		5	2			6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	57.4	57.4		47.0	47.0	47.0	50.5	50.5	50.5	40.5	40.5	40.5
Effective Green, g (s)	57.4	57.4		47.0	47.0	47.0	50.5	50.5	50.5	40.5	40.5	40.5
Actuated g/C Ratio	0.48	0.48		0.39	0.39	0.39	0.42	0.42	0.42	0.34	0.34	0.34
Clearance Time (s)	6.0	5.6		6.0	6.0	6.0	6.0	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	218	681		173	721	613	101	643	659	350	532	481
v/s Ratio Prot	0.04	c0.44			0.28		c0.04	0.21			c0.45	
v/s Ratio Perm	0.56			c0.68		0.07	0.42		0.06	0.21		0.09
v/c Ratio	1.25	0.91		1.73	0.72	0.19	1.08	0.51	0.14	0.62	1.33	0.27
Uniform Delay, d1	37.1	29.0		36.5	30.9	24.0	35.4	25.6	21.4	33.3	39.8	29.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	143.7	16.7		350.8	3.4	0.1	112.5	2.8	0.4	8.0	160.6	1.4
Delay (s)	180.8	45.6		387.3	34.2	24.1	147.9	28.4	21.8	41.3	200.4	30.4
Level of Service	F	D		F	C	C	F	C	C	D	F	C
Approach Delay (s)		85.4			134.4			46.2			130.6	
Approach LOS		F			F			D			F	

Intersection Summary				
HCM 2000 Control Delay	106.4	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.53			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.5	
Intersection Capacity Utilization	109.2%	ICU Level of Service	H	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
9: RR 25 (CHAMPLAIN AVE) & RR 52 (THORNTON RD)

11/02/2022

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	265	490	800	330	470	475
Future Volume (vph)	265	490	800	330	470	475
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1608	2926	3433	1413	1451	1413
Flt Permitted	0.18	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	308	2926	3433	1413	1451	1413
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	288	533	870	359	511	516
RTOR Reduction (vph)	0	0	0	263	0	175
Lane Group Flow (vph)	288	533	870	96	511	341
Heavy Vehicles (%)	11%	22%	4%	13%	23%	13%
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	27.0	27.0	16.0	16.0	21.0	21.0
Effective Green, g (s)	27.0	27.0	16.0	16.0	21.0	21.0
Actuated g/C Ratio	0.45	0.45	0.27	0.27	0.35	0.35
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	246	1316	915	376	507	494
v/s Ratio Prot	c0.10	0.18	0.25		c0.35	
v/s Ratio Perm	c0.43			0.07		0.24
v/c Ratio	1.17	0.41	0.95	0.25	1.01	0.69
Uniform Delay, d1	15.1	11.1	21.6	17.3	19.5	16.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	111.4	0.2	18.9	0.4	41.9	4.1
Delay (s)	126.5	11.3	40.5	17.7	61.4	20.9
Level of Service	F	B	D	B	E	C
Approach Delay (s)		51.7	33.8		41.0	
Approach LOS		D	C		D	

Intersection Summary			
HCM 2000 Control Delay	41.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
10: RR 25 (CHAMPLAIN AVE) & FOX ST

11/02/2022

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	280	640	885	175	30	135
Future Volume (vph)	280	640	885	175	30	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	5.9	5.9	5.9	5.9	5.9
Lane Util. Factor	1.00	1.00	1.00	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1716	1663	1789	1507	3267	1551
Flt Permitted	0.23	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	412	1663	1789	1507	3267	1551
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	304	696	962	190	33	147
RTOR Reduction (vph)	0	0	0	45	0	132
Lane Group Flow (vph)	304	696	962	145	33	15
Heavy Vehicles (%)	4%	13%	5%	6%	6%	3%
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	65.4	65.4	65.4	65.4	8.7	8.7
Effective Green, g (s)	65.4	65.4	65.4	65.4	8.7	8.7
Actuated g/C Ratio	0.76	0.76	0.76	0.76	0.10	0.10
Clearance Time (s)	5.9	5.9	5.9	5.9	5.9	5.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	313	1266	1362	1147	330	157
v/s Ratio Prot		0.42	0.54		c0.01	
v/s Ratio Perm	c0.74			0.10		0.01
v/c Ratio	0.97	0.55	0.71	0.13	0.10	0.09
Uniform Delay, d1	9.4	4.2	5.3	2.7	35.0	35.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	44.1	1.7	3.1	0.2	0.1	0.3
Delay (s)	53.5	5.9	8.4	2.9	35.2	35.3
Level of Service	D	A	A	A	D	D
Approach Delay (s)		20.4	7.5		35.3	
Approach LOS		C	A		D	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	85.9	Sum of lost time (s)	11.8
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
11: RR 53 (STEVENSON RD) & RR 59 (GIBB ST)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	220	210	240	270	60	230	845	230	55	1090	25
Future Volume (vph)	35	220	210	240	270	60	230	845	230	55	1090	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3		3.0	6.3	6.3	3.0	6.2	6.2	3.0	6.2	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1397	2498		1337	1470	1087	1385	2869	1218	1327	2714	
Flt Permitted	0.58	1.00		0.34	1.00	1.00	0.08	1.00	1.00	0.26	1.00	
Satd. Flow (perm)	854	2498		472	1470	1087	117	2869	1218	359	2714	
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)	38	239	228	261	293	65	250	918	250	60	1185	27
RTOR Reduction (vph)	0	146	0	0	0	41	0	0	85	0	1	0
Lane Group Flow (vph)	38	321	0	261	293	24	250	918	165	60	1211	0
Confl. Peds. (#/hr)	11		7	7		11	7		11	11		7
Heavy Vehicles (%)	14%	20%	16%	20%	15%	29%	16%	12%	15%	21%	18%	14%
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	31.7	31.7		43.7	43.7	43.7	63.8	56.0	56.0	51.6	46.8	
Effective Green, g (s)	31.7	31.7		43.7	43.7	43.7	63.8	56.0	56.0	51.6	46.8	
Actuated g/C Ratio	0.26	0.26		0.36	0.36	0.36	0.53	0.47	0.47	0.43	0.39	
Clearance Time (s)	6.3	6.3		3.0	6.3	6.3	3.0	6.2	6.2	3.0	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	225	659		236	535	395	210	1338	568	193	1058	
v/s Ratio Prot		0.13		c0.08	0.20		c0.14	0.32		0.01	0.45	
v/s Ratio Perm	0.04			c0.32		0.02	c0.49		0.14	0.12		
v/c Ratio	0.17	0.49		1.11	0.55	0.06	1.19	0.69	0.29	0.31	1.14	
Uniform Delay, d1	34.0	37.3		36.4	30.3	24.8	36.9	25.1	19.7	20.7	36.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.6	2.6		89.9	4.0	0.3	123.0	2.9	1.3	0.9	76.4	
Delay (s)	35.6	39.9		126.3	34.3	25.1	159.9	28.0	21.0	21.7	113.0	
Level of Service	D	D		F	C	C	F	C	C	C	F	
Approach Delay (s)		39.5			72.1			50.0			108.7	
Approach LOS		D			E			D			F	

Intersection Summary			
HCM 2000 Control Delay	71.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	106.2%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
12: RR 53 (STEVENSON RD) & LAVAL DRIVE

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	35	140	135	150	135	200	1055	110	80	1185	300
Future Volume (vph)	125	35	140	135	150	135	200	1055	110	80	1185	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	6.3	6.3		3.0	6.3	6.3	3.0	6.3	6.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	1.00	0.97	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1551	1634	1303	1551	1369		1513	3000	1427	1284	3051	1418
Flt Permitted	0.39	1.00	1.00	0.73	1.00		0.10	1.00	1.00	0.19	1.00	1.00
Satd. Flow (perm)	630	1634	1303	1195	1369		167	3000	1427	251	3051	1418
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)	136	38	152	147	163	147	217	1147	120	87	1288	326
RTOR Reduction (vph)	0	0	115	0	44	0	0	0	60	0	0	183
Lane Group Flow (vph)	136	38	37	147	266	0	217	1147	60	87	1288	143
Confl. Peds. (#/hr)	1		1	1		1	2		3	3		2
Heavy Vehicles (%)	15%	15%	21%	15%	31%	22%	18%	19%	9%	39%	17%	11%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)	19.4	19.4	19.4	19.4	19.4		48.0	40.2	40.2	40.0	35.2	35.2
Effective Green, g (s)	19.4	19.4	19.4	19.4	19.4		48.0	40.2	40.2	40.0	35.2	35.2
Actuated g/C Ratio	0.24	0.24	0.24	0.24	0.24		0.60	0.50	0.50	0.50	0.44	0.44
Clearance Time (s)	6.3	6.3	6.3	6.3	6.3		3.0	6.3	6.3	3.0	6.3	6.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	152	396	315	289	331		265	1507	717	187	1342	623
v/s Ratio Prot		0.02			0.19		c0.10	0.38		0.03	c0.42	
v/s Ratio Perm	c0.22		0.03	0.12			0.39		0.04	0.20		0.10
v/c Ratio	0.89	0.10	0.12	0.51	0.80		0.82	0.76	0.08	0.47	0.96	0.23
Uniform Delay, d1	29.3	23.5	23.6	26.2	28.5		18.2	16.0	10.3	11.4	21.7	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	43.3	0.1	0.2	1.4	13.2		17.6	3.7	0.2	1.8	16.7	0.9
Delay (s)	72.6	23.6	23.8	27.6	41.7		35.7	19.7	10.6	13.2	38.4	14.8
Level of Service	E	C	C	C	D		D	B	B	B	D	B
Approach Delay (s)		44.1			37.2			21.3			32.6	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	86.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
13: RR 53 (STEVENSON RD) & RR 25 (CHAMPLAIN AVE)/HWY 401 WB EXIT RAMP

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	0	390	745	510	505	260	745	0	0	1165	330
Future Volume (vph)	200	0	390	745	510	505	260	745	0	0	1165	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9		5.9	5.9	5.9	5.9	3.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.91	0.91	1.00	1.00	0.95			0.91	1.00
Frt	1.00		0.85	1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.98	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1417		1320	1400	2952	1401	1580	3216			4499	1389
Flt Permitted	0.95		1.00	0.95	0.98	1.00	0.11	1.00			1.00	1.00
Satd. Flow (perm)	1417		1320	1400	2952	1401	180	3216			4499	1389
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)	217	0	424	810	554	549	283	810	0	0	1266	359
RTOR Reduction (vph)	0	0	167	0	0	81	0	0	0	0	0	205
Lane Group Flow (vph)	217	0	257	445	919	468	283	810	0	0	1266	154
Heavy Vehicles (%)	26%	0%	21%	16%	12%	14%	13%	11%	0%	0%	14%	15%
Turn Type	Prot		Perm	Split	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases	4			8	8		5	2			6	
Permitted Phases			4			8	2					6
Actuated Green, G (s)	22.1		22.1	37.1	37.1	37.1	51.9	51.9			33.9	33.9
Effective Green, g (s)	22.1		22.1	37.1	37.1	37.1	51.9	51.9			33.9	33.9
Actuated g/C Ratio	0.17		0.17	0.29	0.29	0.29	0.40	0.40			0.26	0.26
Clearance Time (s)	5.9		5.9	5.9	5.9	5.9	3.0	7.1			7.1	7.1
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)	240		224	399	842	399	233	1283			1173	362
v/s Ratio Prot	0.15			0.32	0.31		c0.14	0.25			0.28	
v/s Ratio Perm			c0.19			c0.33	c0.34					0.11
v/c Ratio	0.90		1.15	1.12	1.09	1.17	1.21	0.63			1.08	0.43
Uniform Delay, d1	52.9		54.0	46.5	46.5	46.5	37.9	31.4			48.1	40.0
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2	33.5		105.9	80.1	59.0	100.9	129.2	2.4			50.5	3.6
Delay (s)	86.4		159.8	126.6	105.4	147.3	167.1	33.7			98.5	43.6
Level of Service	F		F	F	F	F	F	C			F	D
Approach Delay (s)		134.9			122.4			68.3			86.4	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	101.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	21.9
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
14: RR 53 (STEVENSON RD) & 401 EB RAMP/BLOOR ST CONNECTOR

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	460	430	110	65	0	315	0	860	150	275	635	340
Future Volume (vph)	460	430	110	65	0	315	0	860	150	275	635	340
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3		6.3		6.3		6.6		3.0	6.6	6.6
Lane Util. Factor	0.97	0.95		0.97		1.00		0.91		1.00	0.95	1.00
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		0.85		0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	1.00
Satd. Flow (prot)	3092	2942		2748		1331		4215		1439	2725	1439
Flt Permitted	0.95	1.00		0.95		1.00		1.00		0.13	1.00	1.00
Satd. Flow (perm)	3092	2942		2748		1331		4215		189	2725	1439
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)	500	467	120	71	0	342	0	935	163	299	690	370
RTOR Reduction (vph)	0	18	0	0	0	296	0	19	0	0	0	179
Lane Group Flow (vph)	500	569	0	71	0	46	0	1079	0	299	690	191
Confl. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	12%	17%	20%	26%	0%	20%	0%	18%	23%	24%	31%	11%
Turn Type	Perm	NA		Prot		Perm		NA		pm+pt	NA	Perm
Protected Phases		4		3				2		1	6	
Permitted Phases	4					3				6		6
Actuated Green, G (s)	27.8	27.8		11.0		11.0		37.6		62.0	62.0	62.0
Effective Green, g (s)	27.8	27.8		11.0		11.0		37.6		62.0	62.0	62.0
Actuated g/C Ratio	0.23	0.23		0.09		0.09		0.31		0.52	0.52	0.52
Clearance Time (s)	6.3	6.3		6.3		6.3		6.6		3.0	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)	716	681		251		122		1320		320	1407	743
v/s Ratio Prot		c0.19		0.03				0.26		c0.17	0.25	
v/s Ratio Perm	0.16					c0.03				c0.31		0.13
v/c Ratio	0.70	0.83		0.28		0.38		0.82		0.93	0.49	0.26
Uniform Delay, d1	42.3	43.9		50.8		51.3		38.0		31.7	18.8	16.2
Progression Factor	1.00	1.00		0.83		2.10		1.00		1.00	1.00	1.00
Incremental Delay, d2	3.0	8.7		0.6		1.9		5.7		33.4	1.2	0.8
Delay (s)	45.2	52.6		42.8		109.8		43.7		65.1	20.0	17.0
Level of Service	D	D		D		F		D		E	B	B
Approach Delay (s)		49.2			98.3			43.7			29.1	
Approach LOS		D			F			D			C	

Intersection Summary			
HCM 2000 Control Delay	45.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.2
Intersection Capacity Utilization	71.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
15: RR 53 (STEVENSON RD) & RR 22 (BLOOR ST)

11/02/2022

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	370	210	170	868	800	330
Future Volume (vph)	370	210	170	868	800	330
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4	3.0	6.4	5.9	5.9
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3275	1438	1682	3500	3395	1497
Flt Permitted	1.00	1.00	0.45	1.00	0.95	1.00
Satd. Flow (perm)	3275	1438	804	3500	3395	1497
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	402	228	185	943	870	359
RTOR Reduction (vph)	0	136	0	0	0	225
Lane Group Flow (vph)	402	92	185	943	870	134
Confl. Peds. (#/hr)		3	3			2
Heavy Vehicles (%)	9%	9%	6%	2%	2%	5%
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Actuated Green, G (s)	48.5	48.5	62.8	62.8	44.9	44.9
Effective Green, g (s)	48.5	48.5	62.8	62.8	44.9	44.9
Actuated g/C Ratio	0.40	0.40	0.52	0.52	0.37	0.37
Clearance Time (s)	6.4	6.4	3.0	6.4	5.9	5.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	5.0	5.0
Lane Grp Cap (vph)	1323	581	503	1831	1270	560
v/s Ratio Prot	0.12		0.03	c0.27	c0.26	
v/s Ratio Perm		0.06	0.16			0.09
v/c Ratio	0.30	0.16	0.37	0.52	0.69	0.24
Uniform Delay, d1	24.3	22.8	15.5	18.7	31.6	25.8
Progression Factor	1.00	1.00	1.00	1.00	0.95	1.68
Incremental Delay, d2	0.6	0.6	0.5	1.0	1.5	0.4
Delay (s)	24.9	23.3	16.0	19.7	31.4	43.6
Level of Service	C	C	B	B	C	D
Approach Delay (s)	24.3			19.1	35.0	
Approach LOS	C			B	D	

Intersection Summary			
HCM 2000 Control Delay	26.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
16: RR 54 (PARK)/RR 54 (PARK RD) & RR 59 (GIBB ST)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	192	252	149	111	274	115	100	459	56	72	470	130
Future Volume (vph)	192	252	149	111	274	115	100	459	56	72	470	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.1		6.0	6.1		6.0	6.2		6.0	6.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.96		1.00	0.98		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)	1512	2867		1539	2979		1573	3098		1604	3011	
Flt Permitted	0.24	1.00		0.50	1.00		0.30	1.00		0.40	1.00	
Satd. Flow (perm)	381	2867		808	2979		498	3098		673	3011	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	209	274	162	121	298	125	109	499	61	78	511	141
RTOR Reduction (vph)	0	82	0	0	41	0	0	7	0	0	18	0
Lane Group Flow (vph)	209	354	0	121	382	0	109	553	0	78	634	0
Confl. Peds. (#/hr)	20		11	11		20	15		8	8		15
Heavy Vehicles (%)	6%	4%	6%	4%	1%	4%	2%	2%	0%	0%	3%	1%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	43.7	29.7		28.5	20.5		60.5	51.2		55.5	48.7	
Effective Green, g (s)	43.7	29.7		28.5	20.5		60.5	51.2		55.5	48.7	
Actuated g/C Ratio	0.36	0.25		0.24	0.17		0.50	0.43		0.46	0.41	
Clearance Time (s)	6.0	6.1		6.0	6.1		6.0	6.2		6.0	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	300	709		240	508		334	1321		364	1221	
v/s Ratio Prot	c0.10	0.12		0.03	0.13		c0.03	0.18		0.01	c0.21	
v/s Ratio Perm	c0.15			0.09			0.14			0.09		
v/c Ratio	0.70	0.50		0.50	0.75		0.33	0.42		0.21	0.52	
Uniform Delay, d1	29.2	38.8		37.9	47.3		16.7	24.0		18.3	26.8	
Progression Factor	1.00	1.00		0.82	0.87		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.9	0.6		1.6	6.0		0.6	1.0		0.3	1.6	
Delay (s)	36.1	39.3		32.6	47.4		17.3	25.0		18.6	28.4	
Level of Service	D	D		C	D		B	C		B	C	
Approach Delay (s)		38.3			44.1			23.7			27.4	
Approach LOS		D			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	32.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.3
Intersection Capacity Utilization	79.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
17: RR 2A (CENTRE ST) & RR 59 (GIBB ST)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	191	139	20	333	0	0	0	0	61	440	96
Future Volume (vph)	0	191	139	20	333	0	0	0	0	61	440	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8	5.8	5.8	5.8						5.7	
Lane Util. Factor		0.95	1.00	1.00	0.95						0.91	
Frpb, ped/bikes		1.00	0.94	1.00	1.00						1.00	
Flpb, ped/bikes		1.00	1.00	0.96	1.00						1.00	
Frt		1.00	0.85	1.00	1.00						0.98	
Flt Protected		1.00	1.00	0.95	1.00						0.99	
Satd. Flow (prot)		3181	1335	1546	3119						4193	
Flt Permitted		1.00	1.00	0.62	1.00						0.99	
Satd. Flow (perm)		3181	1335	1011	3119						4193	
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)	0	208	151	22	362	0	0	0	0	66	478	104
RTOR Reduction (vph)	0	0	95	0	0	0	0	0	0	0	47	0
Lane Group Flow (vph)	0	208	56	22	362	0	0	0	0	0	601	0
Confl. Peds. (#/hr)			45	45						40		18
Heavy Vehicles (%)	0%	1%	1%	0%	3%	0%	0%	0%	0%	2%	7%	4%
Turn Type		NA	Perm	Perm	NA					Perm	NA	
Protected Phases		4			8						6	
Permitted Phases			4	8						6		
Actuated Green, G (s)		22.2	22.2	22.2	22.2						26.3	
Effective Green, g (s)		22.2	22.2	22.2	22.2						26.3	
Actuated g/C Ratio		0.37	0.37	0.37	0.37						0.44	
Clearance Time (s)		5.8	5.8	5.8	5.8						5.7	
Lane Grp Cap (vph)		1176	493	374	1154						1837	
v/s Ratio Prot		0.07			c0.12							
v/s Ratio Perm			0.04	0.02							0.14	
v/c Ratio		0.18	0.11	0.06	0.31						0.33	
Uniform Delay, d1		12.7	12.4	12.2	13.5						11.0	
Progression Factor		1.25	3.16	0.72	0.73						1.00	
Incremental Delay, d2		0.3	0.4	0.3	0.7						0.5	
Delay (s)		16.3	39.7	9.0	10.5						11.5	
Level of Service		B	D	A	B						B	
Approach Delay (s)		26.1			10.4			0.0			11.5	
Approach LOS		C			B			A			B	

Intersection Summary				
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.32			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.5	
Intersection Capacity Utilization	52.6%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
18: RR 2 (SIMCOE ST) & RR 59 (GIBB ST)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	180	0	0	90	20	220	450	20	0	0	0
Future Volume (vph)	40	180	0	0	90	20	220	450	20	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8			5.8			5.5	5.5			
Lane Util. Factor	1.00	0.95			0.95			0.91	1.00			
Frpb, ped/bikes	1.00	1.00			0.99			1.00	0.96			
Flpb, ped/bikes	0.95	1.00			1.00			0.99	1.00			
Frt	1.00	1.00			0.97			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.98	1.00			
Satd. Flow (prot)	1504	3213			3082			4411	1378			
Flt Permitted	0.68	1.00			1.00			0.98	1.00			
Satd. Flow (perm)	1070	3213			3082			4411	1378			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	196	0	0	98	22	239	489	22	0	0	0
RTOR Reduction (vph)	0	0	0	0	14	0	0	0	12	0	0	0
Lane Group Flow (vph)	43	196	0	0	106	0	0	728	10	0	0	0
Confl. Peds. (#/hr)	64					64	31		33			
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4			8			2				
Permitted Phases	4						2		2			
Actuated Green, G (s)	21.2	21.2			21.2			27.5	27.5			
Effective Green, g (s)	21.2	21.2			21.2			27.5	27.5			
Actuated g/C Ratio	0.35	0.35			0.35			0.46	0.46			
Clearance Time (s)	5.8	5.8			5.8			5.5	5.5			
Lane Grp Cap (vph)	378	1135			1088			2021	631			
v/s Ratio Prot		c0.06			0.03							
v/s Ratio Perm	0.04							0.17	0.01			
v/c Ratio	0.11	0.17			0.10			0.36	0.02			
Uniform Delay, d1	13.1	13.4			13.0			10.5	8.9			
Progression Factor	0.76	0.79			1.00			1.06	8.83			
Incremental Delay, d2	0.6	0.3			0.2			0.3	0.0			
Delay (s)	10.6	10.9			13.2			11.5	78.3			
Level of Service	B	B			B			B	E			
Approach Delay (s)		10.8			13.2			13.4			0.0	
Approach LOS		B			B			B			A	

Intersection Summary				
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.28			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.3	
Intersection Capacity Utilization	52.6%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
19: RR 2 (SIMCOE ST) & RR 59 (OLIVE AVE)

11/02/2022

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	410	10	670	140	10	520
Future Volume (vph)	410	10	670	140	10	520
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.6			4.0
Lane Util. Factor	1.00	1.00	0.95			0.95
Frpb, ped/bikes	1.00	1.00	0.98			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	1.00	0.85	0.97			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	1560	1437	2980			3210
Flt Permitted	0.95	1.00	1.00			0.94
Satd. Flow (perm)	1560	1437	2980			3030
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	446	11	728	152	11	565
RTOR Reduction (vph)	0	7	29	0	0	0
Lane Group Flow (vph)	446	4	851	0	0	576
Confl. Peds. (#/hr)		14		44		
Heavy Vehicles (%)	3%	0%	3%	3%	0%	0%
Turn Type	Prot	Prot	NA		D.P+P	NA
Protected Phases	4	4	2		1	1 2
Permitted Phases					2	
Actuated Green, G (s)	20.5	20.5	20.4			24.4
Effective Green, g (s)	20.5	20.5	20.4			24.4
Actuated g/C Ratio	0.34	0.34	0.34			0.41
Clearance Time (s)	5.5	5.5	5.6			
Vehicle Extension (s)	3.0	3.0	3.0			
Lane Grp Cap (vph)	533	490	1013			1244
v/s Ratio Prot	c0.29	0.00	c0.29			c0.03
v/s Ratio Perm						0.16
v/c Ratio	0.84	0.01	0.84			0.46
Uniform Delay, d1	18.2	13.0	18.3			13.0
Progression Factor	0.95	0.97	1.46			1.00
Incremental Delay, d2	14.3	0.0	7.4			0.3
Delay (s)	31.6	12.7	34.2			13.3
Level of Service	C	B	C			B
Approach Delay (s)	31.2		34.2			13.3
Approach LOS	C		C			B

Intersection Summary				
HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.80			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	15.1	
Intersection Capacity Utilization	60.7%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
20: ALBERT ST & RR 59 (OLIVE AVE)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	10	40	70	180	10	0	60	10	10	10	100
Future Volume (vph)	160	10	40	70	180	10	0	60	10	10	10	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.6			6.0			5.2			5.2	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.98			0.89	
Flt Protected		0.96			0.99			1.00			1.00	
Satd. Flow (prot)		1534			1627			1639			1492	
Flt Permitted		0.64			0.86			1.00			0.98	
Satd. Flow (perm)		1019			1422			1639			1466	
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)	174	11	43	76	196	11	0	65	11	11	11	109
RTOR Reduction (vph)	0	14	0	0	2	0	0	8	0	0	77	0
Lane Group Flow (vph)	0	214	0	0	281	0	0	68	0	0	54	0
Confl. Peds. (#/hr)	5		5				6					
Heavy Vehicles (%)	3%	2%	0%	2%	2%	2%	9%	1%	2%	2%	0%	0%
Turn Type	Perm	NA		Perm	NA			NA		Perm	NA	
Protected Phases		2			6			4			4	
Permitted Phases	2			6			4			4		
Actuated Green, G (s)		31.4			31.0			17.8			17.8	
Effective Green, g (s)		31.4			31.0			17.8			17.8	
Actuated g/C Ratio		0.52			0.52			0.30			0.30	
Clearance Time (s)		5.6			6.0			5.2			5.2	
Lane Grp Cap (vph)		533			734			486			434	
v/s Ratio Prot								c0.04				
v/s Ratio Perm		c0.21			0.20						0.04	
v/c Ratio		0.40			0.38			0.14			0.13	
Uniform Delay, d1		8.6			8.7			15.5			15.4	
Progression Factor		0.29			1.00			1.03			1.00	
Incremental Delay, d2		1.8			1.5			0.6			0.6	
Delay (s)		4.3			10.2			16.5			16.0	
Level of Service		A			B			B			B	
Approach Delay (s)		4.3			10.2			16.5			16.0	
Approach LOS		A			B			B			B	

Intersection Summary				
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.31			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.2	
Intersection Capacity Utilization	55.5%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
21: RR 16 (RITSON RD) & RR 59 (OLIVE AVE)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	40	80	230	90	10	100	400	130	10	720	20
Future Volume (vph)	20	40	80	230	90	10	100	400	130	10	720	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		6.0	5.9		5.9	5.9	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.99	1.00	1.00	1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.96		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1135	1523	1170	1360	2707		1409	2693		1413	2852	
Flt Permitted	0.68	1.00	1.00	0.56	1.00		0.17	1.00		0.44	1.00	
Satd. Flow (perm)	816	1523	1170	803	2707		251	2693		647	2852	
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)	22	43	87	250	98	11	109	435	141	11	783	22
RTOR Reduction (vph)	0	0	68	0	6	0	0	35	0	0	2	0
Lane Group Flow (vph)	22	43	19	250	103	0	109	541	0	11	803	0
Confl. Peds. (#/hr)	9		2	2		9	1		5	5		1
Heavy Vehicles (%)	40%	11%	21%	18%	17%	13%	14%	13%	17%	13%	12%	18%
Turn Type	Perm	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	20.0	20.0	20.0	37.0	37.0		41.1	41.1		30.1	30.1	
Effective Green, g (s)	20.0	20.0	20.0	37.0	37.0		41.1	41.1		30.1	30.1	
Actuated g/C Ratio	0.22	0.22	0.22	0.41	0.41		0.46	0.46		0.33	0.33	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		6.0	5.9		5.9	5.9	
Lane Grp Cap (vph)	181	338	260	398	1112		178	1229		216	953	
v/s Ratio Prot		0.03		c0.08	0.04		0.03	c0.20			c0.28	
v/s Ratio Perm	0.03		0.02	c0.18			0.24			0.02		
v/c Ratio	0.12	0.13	0.07	0.63	0.09		0.61	0.44		0.05	0.84	
Uniform Delay, d1	28.0	28.0	27.7	19.8	16.2		16.8	16.6		20.3	27.8	
Progression Factor	1.00	1.00	1.00	0.99	0.86		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.4	0.8	0.6	6.4	0.1		14.7	1.1		0.4	9.0	
Delay (s)	29.3	28.8	28.2	26.0	14.0		31.6	17.8		20.7	36.7	
Level of Service	C	C	C	C	B		C	B		C	D	
Approach Delay (s)		28.6			22.4			20.0			36.5	
Approach LOS		C			C			B			D	

Intersection Summary				
HCM 2000 Control Delay	27.8	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.78			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	23.9	
Intersection Capacity Utilization	69.4%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
22: RR 35 (WILSON RD) & RR 59 (OLIVE AVE)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	163	49	89	407	97	42	216	47	24	188	41
Future Volume (vph)	34	163	49	89	407	97	42	216	47	24	188	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
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
Frpb, ped/bikes	1.00	1.00	0.93	1.00	1.00	0.97	1.00	1.00	0.94	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	0.96	1.00	1.00	0.99	1.00	1.00	0.97	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1185	1458	1082	1257	1386	1190	1351	1398	1128	1243	1470	1151
Flt Permitted	0.42	1.00	1.00	0.65	1.00	1.00	0.59	1.00	1.00	0.54	1.00	1.00
Satd. Flow (perm)	528	1458	1082	854	1386	1190	836	1398	1128	713	1470	1151
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)	37	177	53	97	442	105	46	235	51	26	204	45
RTOR Reduction (vph)	0	0	24	0	0	49	0	0	34	0	0	30
Lane Group Flow (vph)	37	177	29	97	442	56	46	235	17	26	204	15
Confl. Peds. (#/hr)	4		17	17		4	4		14	14		4
Heavy Vehicles (%)	35%	16%	24%	23%	22%	17%	18%	21%	20%	26%	15%	21%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	48.4	48.4	48.4	48.4	48.4	48.4	30.4	30.4	30.4	30.4	30.4	30.4
Effective Green, g (s)	48.4	48.4	48.4	48.4	48.4	48.4	30.4	30.4	30.4	30.4	30.4	30.4
Actuated g/C Ratio	0.54	0.54	0.54	0.54	0.54	0.54	0.34	0.34	0.34	0.34	0.34	0.34
Clearance Time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Lane Grp Cap (vph)	283	784	581	459	745	639	282	472	381	240	496	388
v/s Ratio Prot		0.12			c0.32			c0.17			0.14	
v/s Ratio Perm	0.07		0.03	0.11		0.05	0.06		0.02	0.04		0.01
v/c Ratio	0.13	0.23	0.05	0.21	0.59	0.09	0.16	0.50	0.05	0.11	0.41	0.04
Uniform Delay, d1	10.3	10.9	9.9	10.8	14.1	10.1	20.9	23.7	20.0	20.5	22.9	20.0
Progression Factor	0.61	0.61	0.43	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	0.7	0.2	1.0	3.5	0.3	1.2	3.7	0.2	0.9	2.5	0.2
Delay (s)	7.2	7.3	4.4	11.9	17.6	10.4	22.1	27.4	20.3	21.4	25.4	20.2
Level of Service	A	A	A	B	B	B	C	C	C	C	C	C
Approach Delay (s)		6.7			15.5			25.6			24.2	
Approach LOS		A			B			C			C	

Intersection Summary				
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.56			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.2	
Intersection Capacity Utilization	82.5%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
23: RR 33 (HARMONY) & RR 59 (OLIVE AVE)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	195	95	395	575	210	95	770	205	100	920	130
Future Volume (vph)	65	195	95	395	575	210	95	770	205	100	920	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		3.0	6.5	6.5	3.0	6.3		3.0	6.3	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	1.00	0.85	1.00	0.97		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)	1699	3238		1765	1842	1545	1716	3302		1637	3372	
Flt Permitted	0.24	1.00		0.50	1.00	1.00	0.13	1.00		0.13	1.00	
Satd. Flow (perm)	424	3238		932	1842	1545	242	3302		231	3372	
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)	71	212	103	429	625	228	103	837	223	109	1000	141
RTOR Reduction (vph)	0	69	0	0	0	131	0	28	0	0	13	0
Lane Group Flow (vph)	71	246	0	429	625	97	103	1032	0	109	1128	0
Confl. Peds. (#/hr)	1		5	5		1	2		3	3		2
Heavy Vehicles (%)	5%	0%	13%	1%	2%	2%	4%	5%	2%	9%	3%	8%
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	25.5	25.5		34.5	34.5	34.5	34.7	29.9		34.7	29.9	
Effective Green, g (s)	25.5	25.5		34.5	34.5	34.5	34.7	29.9		34.7	29.9	
Actuated g/C Ratio	0.30	0.30		0.41	0.41	0.41	0.41	0.35		0.41	0.35	
Clearance Time (s)	6.5	6.5		3.0	6.5	6.5	3.0	6.3		3.0	6.3	
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)	127	971		437	747	627	182	1161		173	1186	
v/s Ratio Prot		0.08		c0.07	0.34		0.03	0.31		c0.04	c0.33	
v/s Ratio Perm	0.17			c0.33		0.06	0.20			0.22		
v/c Ratio	0.56	0.25		0.98	0.84	0.16	0.57	0.89		0.63	0.95	
Uniform Delay, d1	25.0	22.5		24.1	22.7	16.0	18.9	26.0		18.4	26.8	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	16.6	0.6		38.1	10.8	0.5	4.0	10.3		7.3	16.8	
Delay (s)	41.6	23.2		62.1	33.5	16.5	22.9	36.3		25.7	43.6	
Level of Service	D	C		E	C	B	C	D		C	D	
Approach Delay (s)		26.6			40.1			35.1			42.0	
Approach LOS		C			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	38.0	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.98			
Actuated Cycle Length (s)	85.0	Sum of lost time (s)	18.8	
Intersection Capacity Utilization	94.1%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
24: RR 54 (PARK) & HILLSIDE

11/02/2022

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	130	9	19	444	409	196
Future Volume (vph)	130	9	19	444	409	196
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2			5.3	5.3	
Lane Util. Factor	1.00			0.95	0.95	
Frpb, ped/bikes	1.00			1.00	0.99	
Flpb, ped/bikes	0.99			1.00	1.00	
Frt	0.99			1.00	0.95	
Flt Protected	0.96			1.00	1.00	
Satd. Flow (prot)	1690			3476	3259	
Flt Permitted	0.96			0.92	1.00	
Satd. Flow (perm)	1690			3196	3259	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	10	21	483	445	213
RTOR Reduction (vph)	3	0	0	0	36	0
Lane Group Flow (vph)	148	0	0	504	622	0
Confl. Peds. (#/hr)	10	18	7			7
Heavy Vehicles (%)	2%	25%	13%	2%	1%	7%
Turn Type	Perm		Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4		2			
Actuated Green, G (s)	13.2			66.3	66.3	
Effective Green, g (s)	13.2			66.3	66.3	
Actuated g/C Ratio	0.15			0.74	0.74	
Clearance Time (s)	5.2			5.3	5.3	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	247			2354	2400	
v/s Ratio Prot					c0.19	
v/s Ratio Perm	c0.09			0.16		
v/c Ratio	0.60			0.21	0.26	
Uniform Delay, d1	35.9			3.7	3.9	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	3.9			0.2	0.3	
Delay (s)	39.8			3.9	4.1	
Level of Service	D			A	A	
Approach Delay (s)	39.8			3.9	4.1	
Approach LOS	D			A	A	

Intersection Summary				
HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.31			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5	
Intersection Capacity Utilization	46.1%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
25: RR 2 (SIMCOE ST) & MILL ST

11/02/2022

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	63	51	38	929	801	49
Future Volume (vph)	63	51	38	929	801	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7		5.6	5.6	
Lane Util. Factor	1.00	1.00		0.95	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	0.99	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	1606	1318		3078	2991	
Flt Permitted	0.95	1.00		0.89	1.00	
Satd. Flow (perm)	1606	1318		2746	2991	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	68	55	41	1010	871	53
RTOR Reduction (vph)	0	48	0	0	5	0
Lane Group Flow (vph)	68	7	0	1051	919	0
Confl. Peds. (#/hr)	18	7	25			25
Heavy Vehicles (%)	0%	7%	7%	4%	6%	8%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4	2			
Actuated Green, G (s)	7.2	7.2		41.5	41.5	
Effective Green, g (s)	7.2	7.2		41.5	41.5	
Actuated g/C Ratio	0.12	0.12		0.69	0.69	
Clearance Time (s)	5.7	5.7		5.6	5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	192	158		1899	2068	
v/s Ratio Prot	c0.04				0.31	
v/s Ratio Perm		0.01		c0.38		
v/c Ratio	0.35	0.04		0.55	0.44	
Uniform Delay, d1	24.3	23.3		4.6	4.1	
Progression Factor	1.00	1.00		1.03	0.68	
Incremental Delay, d2	1.1	0.1		1.0	0.6	
Delay (s)	25.4	23.5		5.8	3.4	
Level of Service	C	C		A	A	
Approach Delay (s)	24.5			5.8	3.4	
Approach LOS	C			A	A	

Intersection Summary				
HCM 2000 Control Delay	5.8	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.52			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.3	
Intersection Capacity Utilization	77.3%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
26: RR 2 (SIMCOE ST) & 1ST AVE

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	350	20	170	10	430	10	310	440	30	10	170	660
Future Volume (vph)	350	20	170	10	430	10	310	440	30	10	170	660
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	5.9	5.9	5.9	6.0	5.8	5.8	6.0	5.8	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.95	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	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1575	1658	1409	1440	1658	1333	1575	3089	1238	1317	3003	1409
Flt Permitted	0.21	1.00	1.00	0.74	1.00	1.00	0.47	1.00	1.00	0.48	1.00	1.00
Satd. Flow (perm)	341	1658	1409	1126	1658	1333	774	3089	1238	664	3003	1409
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)	380	22	185	11	467	11	337	478	33	11	185	717
RTOR Reduction (vph)	0	0	91	0	0	7	0	0	24	0	0	0
Lane Group Flow (vph)	380	22	94	11	467	4	337	478	9	11	185	717
Confl. Peds. (#/hr)				3		3			11	11		
Heavy Vehicles (%)	2%	2%	2%	11%	2%	6%	2%	4%	10%	21%	7%	2%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		Free
Actuated Green, G (s)	68.3	60.8	60.8	43.0	41.4	41.4	39.9	33.1	33.1	17.8	17.0	120.0
Effective Green, g (s)	68.3	60.8	60.8	43.0	41.4	41.4	39.9	33.1	33.1	17.8	17.0	120.0
Actuated g/C Ratio	0.57	0.51	0.51	0.36	0.34	0.34	0.33	0.28	0.28	0.15	0.14	1.00
Clearance Time (s)	6.0	6.0	6.0	5.9	5.9	5.9	6.0	5.8	5.8	6.0	5.8	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	410	840	713	407	572	459	370	852	341	102	425	1409
v/s Ratio Prot	c0.16	0.01		0.00	0.28		c0.13	0.15		0.00	0.06	
v/s Ratio Perm	c0.37		0.07	0.01		0.00	c0.17		0.01	0.02		0.51
v/c Ratio	0.93	0.03	0.13	0.03	0.82	0.01	0.91	0.56	0.03	0.11	0.44	0.51
Uniform Delay, d1	23.3	14.8	15.6	24.9	35.8	25.8	35.9	37.2	31.7	43.9	47.1	0.0
Progression Factor	1.00	1.00	1.00	0.48	0.68	1.00	1.00	1.00	1.00	0.88	0.91	1.00
Incremental Delay, d2	26.8	0.0	0.1	0.0	8.1	0.0	25.9	2.7	0.1	0.4	3.0	1.2
Delay (s)	50.1	14.8	15.7	12.1	32.6	25.8	61.7	39.9	31.8	39.1	46.1	1.2
Level of Service	D	B	B	B	C	C	E	D	C	D	D	A
Approach Delay (s)		37.9			32.0			48.2			10.8	
Approach LOS		D			C			D			B	

Intersection Summary				
HCM 2000 Control Delay	31.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.99			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.7	
Intersection Capacity Utilization	102.0%	ICU Level of Service	G	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
27: ALBERT ST & 1ST AVE

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	30	20	10	380	30	30	40	60	40	70	40
Future Volume (vph)	10	30	20	10	380	30	30	40	60	40	70	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.1	5.1		5.1	5.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.99		1.00	0.91		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1783	1632		1779	1786		1780	1687		1782	1730	
Flt Permitted	0.43	1.00		0.72	1.00		0.68	1.00		0.69	1.00	
Satd. Flow (perm)	813	1632		1350	1786		1275	1687		1289	1730	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	33	22	11	413	33	33	43	65	43	76	43
RTOR Reduction (vph)	0	11	0	0	5	0	0	45	0	0	29	0
Lane Group Flow (vph)	11	44	0	11	441	0	33	63	0	43	90	0
Confl. Peds. (#/hr)	1		2	2		1	3		1	1		3
Heavy Vehicles (%)	0%	12%	0%	0%	4%	2%	0%	0%	0%	0%	0%	6%
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)	30.7	30.7		30.7	30.7		18.9	18.9		18.9	18.9	
Effective Green, g (s)	30.7	30.7		30.7	30.7		18.9	18.9		18.9	18.9	
Actuated g/C Ratio	0.51	0.51		0.51	0.51		0.31	0.31		0.31	0.31	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.1	5.1		5.1	5.1	
Lane Grp Cap (vph)	415	835		690	913		401	531		406	544	
v/s Ratio Prot		0.03			c0.25			0.04			c0.05	
v/s Ratio Perm	0.01			0.01			0.03			0.03		
v/c Ratio	0.03	0.05		0.02	0.48		0.08	0.12		0.11	0.16	
Uniform Delay, d1	7.3	7.4		7.2	9.5		14.5	14.6		14.6	14.8	
Progression Factor	1.19	1.31		1.49	1.72		1.00	1.00		0.89	0.83	
Incremental Delay, d2	0.1	0.1		0.0	1.5		0.4	0.5		0.5	0.6	
Delay (s)	8.7	9.8		10.8	17.8		14.9	15.1		13.4	13.0	
Level of Service	A	A		B	B		B	B		B	B	
Approach Delay (s)		9.6			17.7			15.0			13.1	
Approach LOS		A			B			B			B	

Intersection Summary				
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.36			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.4	
Intersection Capacity Utilization	43.8%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
28: Drew Street/DREW ST & 1ST AVE/MCNAUGHTON AVE/MCNAUGHTON AVE/DEAN AVE

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	140	50	60	510	30	90	0	40	10	0	90
Future Volume (vph)	40	140	50	60	510	30	90	0	40	10	0	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4		5.4	5.4		5.4	5.4			5.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.98			0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.96		1.00	0.99		1.00	0.85			0.88	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1604	1464		1588	1530		1588	1392			1433	
Flt Permitted	0.33	1.00		0.63	1.00		0.69	1.00			0.98	
Satd. Flow (perm)	550	1464		1051	1530		1148	1392			1406	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	152	54	65	554	33	98	0	43	11	0	98
RTOR Reduction (vph)	0	21	0	0	4	0	0	30	0	0	69	0
Lane Group Flow (vph)	43	185	0	65	583	0	98	13	0	0	40	0
Confl. Peds. (#/hr)	3		1	1		3	1		1	1		1
Heavy Vehicles (%)	0%	14%	0%	1%	10%	0%	1%	0%	1%	11%	0%	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)	31.6	31.6		31.6	31.6		17.6	17.6			17.6	
Effective Green, g (s)	31.6	31.6		31.6	31.6		17.6	17.6			17.6	
Actuated g/C Ratio	0.53	0.53		0.53	0.53		0.29	0.29			0.29	
Clearance Time (s)	5.4	5.4		5.4	5.4		5.4	5.4			5.4	
Lane Grp Cap (vph)	289	771		553	805		336	408			412	
v/s Ratio Prot		0.13			c0.38			0.01				
v/s Ratio Perm	0.08			0.06			c0.09				0.03	
v/c Ratio	0.15	0.24		0.12	0.72		0.29	0.03			0.10	
Uniform Delay, d1	7.3	7.7		7.2	10.9		16.4	15.1			15.4	
Progression Factor	0.87	0.84		0.97	0.72		1.00	1.00			1.00	
Incremental Delay, d2	1.1	0.7		0.3	4.0		2.2	0.1			0.5	
Delay (s)	7.4	7.2		7.3	11.8		18.6	15.3			15.9	
Level of Service	A	A		A	B		B	B			B	
Approach Delay (s)		7.2			11.4			17.6			15.9	
Approach LOS		A			B			B			B	

Intersection Summary				
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.57			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.8	
Intersection Capacity Utilization	75.6%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
29: RR 16 (RITSON RD) & MCNAUGHTON AVE/DEAN AVE/DEAN AVE

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	20	80	20	40	10	190	630	20	10	700	370
Future Volume (vph)	80	20	80	20	40	10	190	630	20	10	700	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.88		1.00	0.97		1.00	1.00		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1294	999		1299	1232		1515	2614		1210	2494	
Flt Permitted	0.72	1.00		0.69	1.00		0.21	1.00		0.38	1.00	
Satd. Flow (perm)	983	999		939	1232		338	2614		488	2494	
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)	87	22	87	22	43	11	207	685	22	11	761	402
RTOR Reduction (vph)	0	73	0	0	9	0	0	3	0	0	78	0
Lane Group Flow (vph)	87	36	0	22	45	0	207	704	0	11	1085	0
Confl. Peds. (#/hr)	1		7	7		1	1		9	9		1
Heavy Vehicles (%)	24%	34%	50%	23%	27%	55%	6%	22%	29%	32%	24%	16%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	9.6	9.6		9.6	9.6		38.0	38.0		38.0	38.0	
Effective Green, g (s)	9.6	9.6		9.6	9.6		38.0	38.0		38.0	38.0	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.63	0.63		0.63	0.63	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	157	159		150	197		214	1655		309	1579	
v/s Ratio Prot		0.04			0.04			0.27			0.44	
v/s Ratio Perm	c0.09			0.02			c0.61			0.02		
v/c Ratio	0.55	0.23		0.15	0.23		0.97	0.43		0.04	0.69	
Uniform Delay, d1	23.2	22.0		21.7	22.0		10.4	5.5		4.1	7.1	
Progression Factor	0.82	0.93		1.00	1.00		0.80	0.75		1.00	1.00	
Incremental Delay, d2	4.1	0.7		0.5	0.6		47.7	0.7		0.2	2.5	
Delay (s)	23.1	21.1		22.1	22.6		56.0	4.8		4.3	9.6	
Level of Service	C	C		C	C		E	A		A	A	
Approach Delay (s)		22.0			22.4			16.4			9.6	
Approach LOS		C			C			B			A	

Intersection Summary				
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.88			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.4	
Intersection Capacity Utilization	79.5%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
30: RR 35 (WILSON RD) & DEAN AVE

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	20	54	34	48	28	20	224	14	5	320	106
Future Volume (vph)	97	20	54	34	48	28	20	224	14	5	320	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4			5.4			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			0.98	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.96			0.97			0.99			0.97	
Flt Protected		0.97			0.98			1.00			1.00	
Satd. Flow (prot)		1338			1466			1539			1533	
Flt Permitted		0.76			0.86			0.95			1.00	
Satd. Flow (perm)		1048			1286			1472			1530	
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)	105	22	59	37	52	30	22	243	15	5	348	115
RTOR Reduction (vph)	0	22	0	0	16	0	0	2	0	0	10	0
Lane Group Flow (vph)	0	164	0	0	103	0	0	278	0	0	458	0
Confl. Peds. (#/hr)	6		3	3		6	20		9	9		20
Heavy Vehicles (%)	18%	29%	47%	25%	12%	30%	38%	17%	45%	0%	17%	14%
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)		18.8			18.8			60.2			60.2	
Effective Green, g (s)		18.8			18.8			60.2			60.2	
Actuated g/C Ratio		0.21			0.21			0.67			0.67	
Clearance Time (s)		5.4			5.4			5.6			5.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		218			268			984			1023	
v/s Ratio Prot												
v/s Ratio Perm		c0.16			0.08			0.19			c0.30	
v/c Ratio		0.75			0.38			0.28			0.45	
Uniform Delay, d1		33.4			30.6			6.1			7.0	
Progression Factor		1.00			1.00			0.76			1.00	
Incremental Delay, d2		13.6			0.9			0.7			1.4	
Delay (s)		47.0			31.5			5.3			8.5	
Level of Service		D			C			A			A	
Approach Delay (s)		47.0			31.5			5.3			8.5	
Approach LOS		D			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	17.0	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.52			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0	
Intersection Capacity Utilization	50.9%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
31: RR 33 (HARMONY) & Tennyson Ave

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	0	80	60	0	5	30	850	5	5	1380	30
Future Volume (Veh/h)	20	0	80	60	0	5	30	850	5	5	1380	30
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	0	87	65	0	5	33	924	5	5	1500	33
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								258				
pX, platoon unblocked	0.89	0.89		0.89	0.89	0.89				0.89		
vC, conflicting volume	2060	2522	766	1840	2536	464	1533			929		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1940	2461	766	1692	2477	143	1533			667		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	32	100	75	0	100	99	92			99		
cM capacity (veh/h)	32	24	345	38	24	779	430			815		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	109	70	495	467	755	783
Volume Left	22	65	33	0	5	0
Volume Right	87	5	0	5	0	33
cSH	117	40	430	1700	815	1700
Volume to Capacity	0.93	1.74	0.08	0.27	0.01	0.46
Queue Length 95th (m)	41.4	51.1	1.7	0.0	0.1	0.0
Control Delay (s)	134.8	571.7	2.3	0.0	0.2	0.0
Lane LOS	F	F	A		A	
Approach Delay (s)	134.8	571.7	1.2		0.1	
Approach LOS	F	F				

Intersection Summary				
Average Delay	20.9			
Intersection Capacity Utilization	62.4%	ICU Level of Service	B	
Analysis Period (min)	15			

HCM Signalized Intersection Capacity Analysis
32: RR 22 (BLOOR ST) & RR 54 (PARK)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	284	2	1	706	91	1	0	0	218	0	506
Future Volume (vph)	64	284	2	1	706	91	1	0	0	218	0	506
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.4		6.4	6.4	6.4		6.0		6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85		1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95		0.95	0.95	1.00
Satd. Flow (prot)	1750	3430		1785	3466	1479		1785		1679	1679	1597
Flt Permitted	0.20	1.00		0.56	1.00	1.00		0.68		0.95	0.95	1.00
Satd. Flow (perm)	363	3430		1057	3466	1479		1271		1679	1679	1597
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)	70	309	2	1	767	99	1	0	0	237	0	550
RTOR Reduction (vph)	0	1	0	0	0	68	0	0	0	0	0	257
Lane Group Flow (vph)	70	310	0	1	767	31	0	1	0	118	119	293
Heavy Vehicles (%)	2%	4%	0%	0%	3%	8%	0%	0%	0%	1%	0%	0%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Split	NA	Perm
Protected Phases	5	2			6			8		4	4	
Permitted Phases	2			6		6	8					4
Actuated Green, G (s)	36.6	36.6		28.6	28.6	28.6		8.0		27.0	27.0	27.0
Effective Green, g (s)	36.6	36.6		28.6	28.6	28.6		8.0		27.0	27.0	27.0
Actuated g/C Ratio	0.41	0.41		0.32	0.32	0.32		0.09		0.30	0.30	0.30
Clearance Time (s)	3.0	6.4		6.4	6.4	6.4		6.0		6.0	6.0	6.0
Lane Grp Cap (vph)	224	1394		335	1101	469		112		503	503	479
v/s Ratio Prot	c0.02	0.09			c0.22					0.07	0.07	
v/s Ratio Perm	0.11			0.00		0.02		c0.00				c0.18
v/c Ratio	0.31	0.22		0.00	0.70	0.07		0.01		0.23	0.24	0.61
Uniform Delay, d1	17.8	17.4		21.0	26.9	21.4		37.4		23.7	23.7	27.0
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		0.92	0.92	0.87
Incremental Delay, d2	3.6	0.4		0.0	3.7	0.3		0.1		1.1	1.1	5.7
Delay (s)	21.4	17.8		21.0	30.6	21.7		37.5		23.0	23.0	29.2
Level of Service	C	B		C	C	C		D		C	C	C
Approach Delay (s)		18.5			29.5			37.5			27.4	
Approach LOS		B			C			D			C	

Intersection Summary				
HCM 2000 Control Delay	26.6	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.56			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	21.4	
Intersection Capacity Utilization	72.8%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
33: PARK ROAD S & RR 22 (BLOOR ST)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	128	427	243	489	0	614	0	269	0	0	1
Future Volume (vph)	0	128	427	243	489	0	614	0	269	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2	6.2	6.0	6.2		6.3	6.3			6.3	
Lane Util. Factor		0.95	1.00	1.00	0.95		0.97	1.00			1.00	
Frpb, ped/bikes		1.00	0.98	1.00	1.00		1.00	0.97			1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt		1.00	0.85	1.00	1.00		1.00	0.85			0.86	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)		3245	1546	1761	3535		3429	1496			1625	
Flt Permitted		1.00	1.00	0.53	1.00		0.76	1.00			1.00	
Satd. Flow (perm)		3245	1546	985	3535		2733	1496			1625	
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)	0	139	464	264	532	0	667	0	292	0	0	1
RTOR Reduction (vph)	0	0	324	0	0	0	0	210	0	0	1	0
Lane Group Flow (vph)	0	139	140	264	532	0	667	82	0	0	0	0
Confl. Peds. (#/hr)	7		7	7		7			10	10		
Heavy Vehicles (%)	0%	10%	1%	1%	1%	0%	1%	0%	4%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA			NA	
Protected Phases		2		1	6			8		7	7	
Permitted Phases	2		2	6			8					
Actuated Green, G (s)		24.1	24.1	37.2	37.2		22.5	22.5			1.3	
Effective Green, g (s)		24.1	24.1	37.2	37.2		22.5	22.5			1.3	
Actuated g/C Ratio		0.30	0.30	0.47	0.47		0.28	0.28			0.02	
Clearance Time (s)		6.2	6.2	6.0	6.2		6.3	6.3			6.3	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)		980	466	528	1647		770	421			26	
v/s Ratio Prot		0.04		c0.04	0.15			0.06			c0.00	
v/s Ratio Perm			0.09	c0.19			c0.24					
v/c Ratio		0.14	0.30	0.50	0.32		0.87	0.20			0.00	
Uniform Delay, d1		20.3	21.4	13.9	13.4		27.2	21.8			38.6	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2		0.3	1.7	0.7	0.5		10.1	0.2			0.0	
Delay (s)		20.6	23.0	14.6	13.9		37.3	22.0			38.6	
Level of Service		C	C	B	B		D	C			D	
Approach Delay (s)		22.5			14.1			32.6			38.6	
Approach LOS		C			B			C			D	

Intersection Summary				
HCM 2000 Control Delay	23.8	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	79.8	Sum of lost time (s)	24.8	
Intersection Capacity Utilization	73.1%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
34: RR 2 (SIMCOE ST) & Driveway

11/02/2022

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	2	716	14	5	380
Future Volume (Veh/h)	1	2	716	14	5	380
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)	1	2	778	15	5	413
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			323			105
pX, platoon unblocked	0.96					
vC, conflicting volume	994	259			793	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	909	259			793	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			99	
cM capacity (veh/h)	262	740			824	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	3	259	259	259	15	5	206	206
Volume Left	1	0	0	0	0	5	0	0
Volume Right	2	0	0	0	15	0	0	0
cSH	460	1700	1700	1700	1700	824	1700	1700
Volume to Capacity	0.01	0.15	0.15	0.15	0.01	0.01	0.12	0.12
Queue Length 95th (m)	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Control Delay (s)	12.9	0.0	0.0	0.0	0.0	9.4	0.0	0.0
Lane LOS	B					A		
Approach Delay (s)	12.9	0.0				0.1		
Approach LOS	B							

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	23.8%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
35: Driveway & RR 22 (BLOOR ST)

11/02/2022

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	283	9	14	534	5	17
Future Volume (Veh/h)	283	9	14	534	5	17
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)	308	10	15	580	5	18
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				75		
pX, platoon unblocked						
vC, conflicting volume			318		633	108
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			318		633	108
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		99	98
cM capacity (veh/h)			1239		407	926

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	123	123	72	208	387	23
Volume Left	0	0	0	15	0	5
Volume Right	0	0	10	0	0	18
cSH	1700	1700	1700	1239	1700	725
Volume to Capacity	0.07	0.07	0.04	0.01	0.23	0.03
Queue Length 95th (m)	0.0	0.0	0.0	0.3	0.0	0.7
Control Delay (s)	0.0	0.0	0.0	0.7	0.0	10.1
Lane LOS				A		B
Approach Delay (s)	0.0			0.2		10.1
Approach LOS						B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	34.2%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis
36: RR 2 (SIMCOE ST) & RR 22 (BLOOR ST)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	40	90	240	80	250	180	420	0	50	110	220
Future Volume (vph)	30	40	90	240	80	250	180	420	0	50	110	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2		6.0	6.2	6.2	6.2	6.2		6.2	6.2	6.2
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	0.99	1.00		1.00	1.00	1.00	0.99	1.00		1.00	1.00	1.00
Frt	1.00	0.90		1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1724	2954		1779	3466	1548	1771	3433		1711	3466	1435
Flt Permitted	0.70	1.00		0.56	1.00	1.00	0.68	1.00		0.44	1.00	1.00
Satd. Flow (perm)	1266	2954		1044	3466	1548	1260	3433		796	3466	1435
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	43	98	261	87	272	196	457	0	54	120	239
RTOR Reduction (vph)	0	63	0	0	0	150	0	0	0	0	0	157
Lane Group Flow (vph)	33	78	0	261	87	122	196	457	0	54	120	82
Confl. Peds. (#/hr)	9		9	9		9	9		6	6		9
Heavy Vehicles (%)	3%	6%	7%	0%	3%	1%	0%	4%	0%	4%	3%	9%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8			4		4
Actuated Green, G (s)	35.1	31.8		46.8	40.5	40.5	30.8	30.8		30.8	30.8	30.8
Effective Green, g (s)	35.1	31.8		46.8	40.5	40.5	30.8	30.8		30.8	30.8	30.8
Actuated g/C Ratio	0.39	0.35		0.52	0.45	0.45	0.34	0.34		0.34	0.34	0.34
Clearance Time (s)	3.0	6.2		6.0	6.2	6.2	6.2	6.2		6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	510	1043		616	1559	696	431	1174		272	1186	491
v/s Ratio Prot	0.00	0.03		c0.04	0.03			0.13			0.03	
v/s Ratio Perm	0.02			c0.18		0.08	c0.16			0.07		0.06
v/c Ratio	0.06	0.07		0.42	0.06	0.18	0.45	0.39		0.20	0.10	0.17
Uniform Delay, d1	17.1	19.3		12.4	14.0	14.8	23.1	22.5		20.9	20.2	20.6
Progression Factor	1.00	1.00		1.14	1.09	2.52	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.1		0.4	0.1	0.5	3.4	1.0		1.6	0.2	0.7
Delay (s)	17.1	19.5		14.6	15.3	37.8	26.5	23.4		22.5	20.3	21.4
Level of Service	B	B		B	B	D	C	C		C	C	C
Approach Delay (s)		19.0			24.8			24.4			21.2	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.4
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
37: Hwy 401 North Ramp/Drew Street & Toronto Ave

11/02/2022

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	90	20	10	100	0
Future Volume (Veh/h)	10	90	20	10	100	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	98	22	11	109	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						175
pX, platoon unblocked						
vC, conflicting volume	246	28			33	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	246	28			33	
tC, single (s)	6.4	6.5			4.4	
tC, 2 stage (s)						
tF (s)	3.5	3.6			2.5	
p0 queue free %	98	90			92	
cM capacity (veh/h)	681	965			1400	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	109	33	109
Volume Left	11	0	109
Volume Right	98	11	0
cSH	926	1700	1400
Volume to Capacity	0.12	0.02	0.08
Queue Length 95th (m)	2.8	0.0	1.8
Control Delay (s)	9.4	0.0	7.8
Lane LOS	A		A
Approach Delay (s)	9.4	0.0	7.8
Approach LOS	A		

Intersection Summary			
Average Delay	7.5		
Intersection Capacity Utilization	25.0%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis
38: RR 22 (BLOOR ST) & Hwy 401 Ramps

11/02/2022

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	90	10	40	0	520	780
Future Volume (vph)	90	10	40	0	520	780
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	0.95	0.95		0.97	0.91
Frt	1.00	1.00	1.00		0.94	0.85
Flt Protected	0.95	1.00	1.00		0.97	1.00
Satd. Flow (prot)	1750	3500	3500		3256	1425
Flt Permitted	0.73	1.00	1.00		0.97	1.00
Satd. Flow (perm)	1340	3500	3500		3256	1425
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	98	11	43	0	565	848
RTOR Reduction (vph)	0	0	0	0	229	307
Lane Group Flow (vph)	98	11	43	0	735	142
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	49.6	49.6	49.6		28.4	28.4
Effective Green, g (s)	49.6	49.6	49.6		28.4	28.4
Actuated g/C Ratio	0.55	0.55	0.55		0.32	0.32
Clearance Time (s)	6.0	6.0	6.0		6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	738	1928	1928		1027	449
v/s Ratio Prot		0.00	0.01		c0.23	
v/s Ratio Perm	c0.07					0.10
v/c Ratio	0.13	0.01	0.02		0.72	0.32
Uniform Delay, d1	9.8	9.1	9.2		27.2	23.4
Progression Factor	0.84	0.82	1.37		1.00	1.00
Incremental Delay, d2	0.4	0.0	0.0		2.4	0.4
Delay (s)	8.6	7.5	12.6		29.6	23.8
Level of Service	A	A	B		C	C
Approach Delay (s)		8.5	12.6		27.8	
Approach LOS		A	B		C	

Intersection Summary			
HCM 2000 Control Delay	26.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	45.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
39: RR 16 (RITSON RD) & RR 22 (BLOOR ST)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	200	260	60	30	30	10	200	10	20	780	10
Future Volume (vph)	70	200	260	60	30	30	10	200	10	20	780	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5	6.5	6.5	6.5			6.4	6.4		6.4	6.4
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			0.95	1.00		0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99			1.00	0.95		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.93			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00			1.00	1.00		1.00	1.00
Satd. Flow (prot)	1714	3433	1435	1756	3151			3364	1522		3388	1597
Flt Permitted	0.64	1.00	1.00	0.62	1.00			0.91	1.00		0.94	1.00
Satd. Flow (perm)	1155	3433	1435	1138	3151			3061	1522		3199	1597
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)	76	217	283	65	33	33	11	217	11	22	848	11
RTOR Reduction (vph)	0	0	58	0	23	0	0	0	6	0	0	6
Lane Group Flow (vph)	76	217	225	65	43	0	0	228	5	0	870	5
Confl. Peds. (#/hr)	2		6	6		2			25	25		
Heavy Vehicles (%)	4%	4%	9%	1%	3%	5%	3%	6%	0%	11%	5%	0%
Turn Type	pm+pt	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2		2	6			8		8	4		4
Actuated Green, G (s)	35.5	35.5	35.5	26.9	26.9			41.6	41.6		41.6	41.6
Effective Green, g (s)	35.5	35.5	35.5	26.9	26.9			41.6	41.6		41.6	41.6
Actuated g/C Ratio	0.39	0.39	0.39	0.30	0.30			0.46	0.46		0.46	0.46
Clearance Time (s)	3.0	6.5	6.5	6.5	6.5			6.4	6.4		6.4	6.4
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)	490	1354	566	340	941			1414	703		1478	738
v/s Ratio Prot	0.01	0.06			0.01							
v/s Ratio Perm	0.05		c0.16	0.06				0.07	0.00		c0.27	0.00
v/c Ratio	0.16	0.16	0.40	0.19	0.05			0.16	0.01		0.59	0.01
Uniform Delay, d1	17.3	17.6	19.6	23.5	22.4			14.1	13.1		17.9	13.1
Progression Factor	0.44	0.46	0.35	0.82	0.82			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	0.2	1.9	1.1	0.1			0.2	0.0		1.7	0.0
Delay (s)	7.8	8.4	8.7	20.3	18.4			14.3	13.1		19.6	13.1
Level of Service	A	A	A	C	B			B	B		B	B
Approach Delay (s)		8.5			19.4			14.3			19.5	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	85.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
40: RR 35 (WILSON RD) & RR 22 (BLOOR ST)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	101	172	68	36	249	109	53	115	43	114	225	114
Future Volume (vph)	101	172	68	36	249	109	53	115	43	114	225	114
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	0.99		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.96	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.96		1.00	0.95		1.00	0.96		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1716	1664		1604	1703		1637	1724		1697	1714	
Flt Permitted	0.39	1.00		0.60	1.00		0.39	1.00		0.64	1.00	
Satd. Flow (perm)	708	1664		1010	1703		668	1724		1144	1714	
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	187	74	39	271	118	58	125	47	124	245	124
RTOR Reduction (vph)	0	16	0	0	17	0	0	15	0	0	21	0
Lane Group Flow (vph)	110	245	0	39	372	0	58	157	0	124	348	0
Confl. Peds. (#/hr)	1		22	22		1	9		6	6		9
Heavy Vehicles (%)	4%	5%	8%	7%	4%	6%	8%	3%	5%	4%	2%	4%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	46.0	46.0		39.0	39.0		32.3	32.3		32.3	32.3	
Effective Green, g (s)	46.0	46.0		39.0	39.0		32.3	32.3		32.3	32.3	
Actuated g/C Ratio	0.51	0.51		0.43	0.43		0.36	0.36		0.36	0.36	
Clearance Time (s)	3.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	406	850		437	737		239	618		410	615	
v/s Ratio Prot	0.01	c0.15			c0.22			0.09			c0.20	
v/s Ratio Perm	0.13			0.04			0.09			0.11		
v/c Ratio	0.27	0.29		0.09	0.50		0.24	0.25		0.30	0.57	
Uniform Delay, d1	12.3	12.6		15.0	18.5		20.3	20.4		20.7	23.2	
Progression Factor	1.92	1.84		1.00	1.00		1.00	1.00		0.91	0.94	
Incremental Delay, d2	0.4	0.9		0.4	2.5		2.4	1.0		1.8	3.5	
Delay (s)	23.9	24.1		15.4	21.0		22.7	21.3		20.6	25.4	
Level of Service	C	C		B	C		C	C		C	C	
Approach Delay (s)		24.0			20.5			21.7			24.2	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	22.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	78.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
41: RR 56 (FAREWELL ST) & RR 22 (BLOOR ST)

11/02/2022

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	370	115	600	460	45	110
Future Volume (vph)	370	115	600	460	45	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	3.0	6.2	6.3	6.3
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	0.91
Frpb, ped/bikes	1.00	0.99	1.00	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	0.92	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.98	1.00
Satd. Flow (prot)	3305	1516	1767	3535	2839	1275
Flt Permitted	1.00	1.00	0.48	1.00	0.98	1.00
Satd. Flow (perm)	3305	1516	895	3535	2839	1275
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	402	125	652	500	49	120
RTOR Reduction (vph)	0	59	0	0	55	55
Lane Group Flow (vph)	402	66	652	500	54	5
Confl. Peds. (#/hr)		1	1		1	
Heavy Vehicles (%)	8%	4%	1%	1%	16%	14%
Turn Type	NA	Perm	pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases		2	6		8	8
Actuated Green, G (s)	42.1	42.1	60.8	60.8	6.7	6.7
Effective Green, g (s)	42.1	42.1	60.8	60.8	6.7	6.7
Actuated g/C Ratio	0.53	0.53	0.76	0.76	0.08	0.08
Clearance Time (s)	6.2	6.2	3.0	6.2	6.3	6.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1739	797	851	2686	237	106
v/s Ratio Prot	0.12		c0.15	0.14		
v/s Ratio Perm		0.04	c0.43		c0.02	0.00
v/c Ratio	0.23	0.08	0.77	0.19	0.23	0.05
Uniform Delay, d1	10.2	9.4	3.8	2.7	34.2	33.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.2	4.2	0.2	0.5	0.2
Delay (s)	10.5	9.6	8.0	2.8	34.7	33.9
Level of Service	B	A	A	A	C	C
Approach Delay (s)	10.3			5.8	34.4	
Approach LOS	B			A	C	

Intersection Summary				
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.74			
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	15.5	
Intersection Capacity Utilization	63.9%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
42: RR 33 (HARMONY) & RR 22 (BLOOR ST)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	205	370	155	470	285	65	441	515	221	620	450	320
Future Volume (vph)	205	370	155	470	285	65	441	515	221	620	450	320
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	6.3	6.3	3.7	6.3	6.3	3.0	6.5	6.5	6.0	6.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91	1.00	0.95	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	0.85	1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1439	2833	1109	1539	3025	1238	1363	2975	1016	1405	2904	
Flt Permitted	0.56	1.00	1.00	0.26	1.00	1.00	0.23	1.00	1.00	0.17	1.00	
Satd. Flow (perm)	854	2833	1109	429	3025	1238	328	2975	1016	252	2904	
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)	223	402	168	511	310	71	479	560	240	674	489	348
RTOR Reduction (vph)	0	0	142	0	0	56	0	3	185	0	108	0
Lane Group Flow (vph)	223	402	26	511	310	15	479	581	32	674	729	0
Heavy Vehicles (%)	24%	26%	44%	16%	18%	29%	31%	13%	43%	27%	14%	17%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		
Actuated Green, G (s)	35.7	18.7	18.7	45.7	25.0	25.0	49.5	17.5	17.5	61.5	26.5	
Effective Green, g (s)	35.7	18.7	18.7	45.7	25.0	25.0	49.5	17.5	17.5	61.5	26.5	
Actuated g/C Ratio	0.30	0.16	0.16	0.38	0.21	0.21	0.41	0.15	0.15	0.51	0.22	
Clearance Time (s)	3.7	6.3	6.3	3.7	6.3	6.3	3.0	6.5	6.5	6.0	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	336	441	172	378	630	257	411	433	148	494	641	
v/s Ratio Prot	0.09	0.14		c0.26	0.10		0.31	0.20		c0.43	0.25	
v/s Ratio Perm	0.10		0.02	c0.25		0.01	0.17		0.03	c0.27		
v/c Ratio	0.66	0.91	0.15	1.35	0.49	0.06	1.17	1.34	0.21	1.36	1.14	
Uniform Delay, d1	35.0	49.8	43.8	31.9	41.9	38.1	33.7	51.2	45.2	33.0	46.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	4.9	25.6	1.9	174.9	2.7	0.4	97.9	169.1	0.7	176.6	80.1	
Delay (s)	39.9	75.4	45.7	206.8	44.6	38.5	131.6	220.4	45.9	209.7	126.8	
Level of Service	D	E	D	F	D	D	F	F	D	F	F	
Approach Delay (s)		59.1			137.0			157.7			163.8	
Approach LOS		E			F			F			F	

Intersection Summary				
HCM 2000 Control Delay	138.2	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.44			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.5	
Intersection Capacity Utilization	106.2%	ICU Level of Service	G	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
43: GRANDVIEW ST & RR 59 (OLIVE AVE)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	235	140	90	530	10	295	80	115	15	50	60
Future Volume (vph)	20	235	140	90	530	10	295	80	115	15	50	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	6.2	6.2		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.93	1.00	1.00		1.00	0.92		1.00	0.97	
Flpb, ped/bikes	0.98	1.00	1.00	0.97	1.00		0.97	1.00		0.92	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.91		1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1425	1678	1242	1502	1590		1495	1357		1640	1394	
Flt Permitted	0.30	1.00	1.00	0.59	1.00		0.68	1.00		0.58	1.00	
Satd. Flow (perm)	457	1678	1242	931	1590		1071	1357		1007	1394	
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)	22	255	152	98	576	11	321	87	125	16	54	65
RTOR Reduction (vph)	0	0	73	0	0	0	0	58	0	0	43	0
Lane Group Flow (vph)	22	255	79	98	587	0	321	154	0	16	76	0
Confl. Peds. (#/hr)	29		21	21		29	17		58	58		17
Heavy Vehicles (%)	23%	12%	20%	15%	18%	0%	16%	17%	16%	0%	18%	22%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	47.2	47.2	47.2	47.2	47.2		31.3	31.3		31.3	31.3	
Effective Green, g (s)	47.2	47.2	47.2	47.2	47.2		31.3	31.3		31.3	31.3	
Actuated g/C Ratio	0.52	0.52	0.52	0.52	0.52		0.35	0.35		0.35	0.35	
Clearance Time (s)	6.2	6.2	6.2	6.2	6.2		5.8	5.8		5.8	5.8	
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)	238	875	647	485	829		370	469		348	482	
v/s Ratio Prot		0.15			c0.37			0.11			0.05	
v/s Ratio Perm	0.05		0.06	0.11			c0.30			0.02		
v/c Ratio	0.09	0.29	0.12	0.20	0.71		0.87	0.33		0.05	0.16	
Uniform Delay, d1	10.9	12.2	11.1	11.6	16.4		27.7	21.9		19.7	20.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.8	0.4	0.9	5.1		18.8	0.4		0.1	0.2	
Delay (s)	11.7	13.1	11.5	12.5	21.5		46.5	22.3		19.7	20.6	
Level of Service	B	B	B	B	C		D	C		B	C	
Approach Delay (s)		12.4			20.2			36.8			20.5	
Approach LOS		B			C			D			C	

Intersection Summary				
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.77			
Actuated Cycle Length (s)	90.5	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	83.4%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
44: GRANDVIEW ST & RR 22 (BLOOR ST)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	970	30	5	905	115	145	135	10	85	55	95
Future Volume (vph)	30	970	30	5	905	115	145	135	10	85	55	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6		3.6	3.6		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	1.00		1.00	0.98		1.00	0.99		1.00	0.91	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1342	1578		1190	1537		1543	1539		1449	1390	
Flt Permitted	0.12	1.00		0.13	1.00		0.54	1.00		0.55	1.00	
Satd. Flow (perm)	164	1578		160	1537		880	1539		845	1390	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	33	1054	33	5	984	125	158	147	11	92	60	103
RTOR Reduction (vph)	0	1	0	0	4	0	0	2	0	0	52	0
Lane Group Flow (vph)	33	1086	0	5	1105	0	158	156	0	92	111	0
Confl. Peds. (#/hr)	3		2	2		3	8		5	5		8
Heavy Vehicles (%)	33%	19%	0%	50%	19%	26%	14%	21%	14%	22%	13%	23%
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)	84.6	84.6		87.6	87.6		23.1	23.1		23.1	23.1	
Effective Green, g (s)	84.6	84.6		87.6	87.6		23.1	23.1		23.1	23.1	
Actuated g/C Ratio	0.70	0.70		0.73	0.73		0.19	0.19		0.19	0.19	
Clearance Time (s)	6.6	6.6		3.6	3.6		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	115	1112		116	1122		169	296		162	267	
v/s Ratio Prot		0.69			c0.72			0.10			0.08	
v/s Ratio Perm	0.20			0.03			c0.18			0.11		
v/c Ratio	0.29	0.98		0.04	0.99		0.93	0.53		0.57	0.41	
Uniform Delay, d1	6.5	16.8		4.5	15.6		47.7	43.5		43.9	42.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.2	21.9		0.7	23.5		50.1	1.7		4.5	1.0	
Delay (s)	12.7	38.7		5.2	39.1		97.8	45.2		48.4	43.6	
Level of Service	B	D		A	D		F	D		D	D	
Approach Delay (s)		37.9			38.9			71.5			45.3	
Approach LOS		D			D			E			D	

Intersection Summary				
HCM 2000 Control Delay	42.8	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	1.00			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.3	
Intersection Capacity Utilization	87.7%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
45: Prestonvale Rd & RR 22 (BLOOR ST)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	645	315	135	455	90	70	245	240	110	265	130
Future Volume (vph)	110	645	315	135	455	90	70	245	240	110	265	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.1	6.1	6.1	6.1	6.1	6.1
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	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1384	1579	1452	1566	1648	1493	1552	1528	1342	1439	1468	1365
Flt Permitted	0.43	1.00	1.00	0.30	1.00	1.00	0.35	1.00	1.00	0.39	1.00	1.00
Satd. Flow (perm)	622	1579	1452	493	1648	1493	572	1528	1342	591	1468	1365
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)	120	701	342	147	495	98	76	266	261	120	288	141
RTOR Reduction (vph)	0	0	101	0	0	33	0	0	179	0	0	108
Lane Group Flow (vph)	120	701	241	147	495	65	76	266	82	120	288	33
Heavy Vehicles (%)	29%	19%	10%	14%	14%	7%	15%	23%	19%	24%	28%	17%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	79.0	79.0	79.0	79.0	79.0	79.0	28.4	28.4	28.4	28.4	28.4	28.4
Effective Green, g (s)	79.0	79.0	79.0	79.0	79.0	79.0	28.4	28.4	28.4	28.4	28.4	28.4
Actuated g/C Ratio	0.66	0.66	0.66	0.66	0.66	0.66	0.24	0.24	0.24	0.24	0.24	0.24
Clearance Time (s)	6.5	6.5	6.5	6.5	6.5	6.5	6.1	6.1	6.1	6.1	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	409	1039	955	324	1084	982	135	361	317	139	347	323
v/s Ratio Prot		c0.44			0.30			0.17			0.20	
v/s Ratio Perm	0.19		0.17	0.30		0.04	0.13		0.06	c0.20		0.02
v/c Ratio	0.29	0.67	0.25	0.45	0.46	0.07	0.56	0.74	0.26	0.86	0.83	0.10
Uniform Delay, d1	8.7	12.6	8.4	10.0	10.0	7.3	40.3	42.3	37.2	43.9	43.5	35.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.8	3.5	0.6	4.5	1.4	0.1	5.3	7.6	0.4	38.9	15.1	0.1
Delay (s)	10.5	16.1	9.0	14.5	11.4	7.4	45.6	50.0	37.7	82.8	58.6	36.0
Level of Service	B	B	A	B	B	A	D	D	D	F	E	D
Approach Delay (s)		13.5			11.5			44.1			58.1	
Approach LOS		B			B			D			E	

Intersection Summary				
HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.72			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.6	
Intersection Capacity Utilization	92.2%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
46: Trulls Road /Trulls Road & RR 22 (BLOOR ST)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	535	125	100	510	125	75	210	100	175	610	120
Future Volume (vph)	75	535	125	100	510	125	75	210	100	175	610	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1750	1842	1566	1750	1842	1566	1750	1842	1566	1750	1842	1566
Flt Permitted	0.18	1.00	1.00	0.09	1.00	1.00	0.10	1.00	1.00	0.50	1.00	1.00
Satd. Flow (perm)	325	1842	1566	172	1842	1566	180	1842	1566	925	1842	1566
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)	82	582	136	109	554	136	82	228	109	190	663	130
RTOR Reduction (vph)	0	0	90	0	0	87	0	0	71	0	0	81
Lane Group Flow (vph)	82	582	46	109	554	49	82	228	38	190	663	49
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	43.0	39.9	39.9	48.8	42.8	42.8	45.0	41.0	41.0	51.0	44.0	44.0
Effective Green, g (s)	43.0	39.9	39.9	48.8	42.8	42.8	45.0	41.0	41.0	51.0	44.0	44.0
Actuated g/C Ratio	0.36	0.34	0.34	0.41	0.36	0.36	0.38	0.35	0.35	0.43	0.37	0.37
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	156	623	529	151	668	568	121	640	544	449	687	584
v/s Ratio Prot	0.01	c0.32		c0.04	c0.30		0.02	0.12		c0.03	c0.36	
v/s Ratio Perm	0.18		0.03	0.26		0.03	0.23		0.02	0.16		0.03
v/c Ratio	0.53	0.93	0.09	0.72	0.83	0.09	0.68	0.36	0.07	0.42	0.97	0.08
Uniform Delay, d1	30.5	37.7	26.6	27.3	34.2	24.7	29.0	28.6	25.7	22.4	36.2	23.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	3.2	21.2	0.1	15.6	8.4	0.1	14.0	0.3	0.1	0.6	25.7	0.1
Delay (s)	33.7	58.9	26.7	42.9	42.6	24.8	43.0	29.0	25.8	23.1	61.9	24.0
Level of Service	C	E	C	D	D	C	D	C	C	C	E	C
Approach Delay (s)		50.9			39.6			30.9			49.4	
Approach LOS		D			D			C			D	

Intersection Summary				
HCM 2000 Control Delay	44.6	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.93			
Actuated Cycle Length (s)	117.9	Sum of lost time (s)	24.0	
Intersection Capacity Utilization	90.0%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
47: RR 34 (COURTICE RD) & RR 22 (BLOOR ST)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	470	310	155	780	160	115	310	30	105	705	140
Future Volume (vph)	160	470	310	155	780	160	115	310	30	105	705	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	7.1		6.0	7.1		6.0	7.4	7.4	6.0	7.4	7.4
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.97		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1733	1730		1684	1772		1638	1789	1377	1733	1740	1500
Flt Permitted	0.09	1.00		0.09	1.00		0.10	1.00	1.00	0.38	1.00	1.00
Satd. Flow (perm)	166	1730		162	1772		174	1789	1377	697	1740	1500
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)	174	511	337	168	848	174	125	337	33	114	766	152
RTOR Reduction (vph)	0	20	0	0	6	0	0	0	22	0	0	95
Lane Group Flow (vph)	174	828	0	168	1016	0	125	337	11	114	766	57
Confl. Peds. (#/hr)			1	1			1					1
Heavy Vehicles (%)	3%	2%	0%	6%	4%	0%	9%	5%	16%	3%	8%	4%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	47.9	43.9		47.9	43.9		43.6	39.6	39.6	47.6	41.6	41.6
Effective Green, g (s)	47.9	43.9		47.9	43.9		43.6	39.6	39.6	47.6	41.6	41.6
Actuated g/C Ratio	0.40	0.37		0.40	0.37		0.36	0.33	0.33	0.40	0.35	0.35
Clearance Time (s)	6.0	7.1		6.0	7.1		6.0	7.4	7.4	6.0	7.4	7.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	6.2	6.2	3.0	6.2	6.2
Lane Grp Cap (vph)	118	632		115	648		112	590	454	328	603	520
v/s Ratio Prot	c0.05	0.48		0.05	c0.57		c0.04	0.19		0.02	c0.44	
v/s Ratio Perm	0.54			0.53			0.37		0.01	0.12		0.04
v/c Ratio	1.47	1.31		1.46	1.57		1.12	0.57	0.02	0.35	1.27	0.11
Uniform Delay, d1	36.5	38.0		36.6	38.0		38.7	33.2	27.1	24.2	39.2	26.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	253.5	150.9		248.8	262.8		119.7	4.0	0.1	0.6	134.3	0.4
Delay (s)	290.0	189.0		285.3	300.8		158.4	37.2	27.2	24.8	173.5	27.0
Level of Service	F	F		F	F		F	D	C	C	F	C
Approach Delay (s)		206.2			298.6			67.1			135.5	
Approach LOS		F			F			E			F	

Intersection Summary				
HCM 2000 Control Delay	197.7	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.41			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	26.5	
Intersection Capacity Utilization	125.2%	ICU Level of Service	H	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
48: RR 34 (COURTICE RD) & BASELINE RD

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	200	255	130	300	210	200	775	170	40	855	55
Future Volume (vph)	125	200	255	130	300	210	200	775	170	40	855	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			-2%			-5%			-5%	
Total Lost time (s)	6.0	7.3	7.3	6.0	7.3	7.3	6.0	7.5	7.5	6.0	7.5	7.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1127	3606	1213	1093	1803	1128	1298	1579	1169	1316	1646	1269
Flt Permitted	0.54	1.00	1.00	0.51	1.00	1.00	0.06	1.00	1.00	0.17	1.00	1.00
Satd. Flow (perm)	636	3606	1213	588	1803	1128	81	1579	1169	239	1646	1269
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)	136	217	277	141	326	228	217	842	185	43	929	60
RTOR Reduction (vph)	0	0	147	0	0	179	0	0	64	0	0	29
Lane Group Flow (vph)	136	217	130	141	326	49	217	842	121	43	929	31
Heavy Vehicles (%)	60%	0%	33%	65%	100%	43%	41%	22%	40%	39%	17%	29%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	18.7	14.7	14.7	24.7	17.7	17.7	77.5	68.3	68.3	64.7	61.5	61.5
Effective Green, g (s)	18.7	14.7	14.7	24.7	17.7	17.7	77.5	68.3	68.3	64.7	61.5	61.5
Actuated g/C Ratio	0.16	0.12	0.12	0.21	0.15	0.15	0.65	0.57	0.57	0.54	0.51	0.51
Clearance Time (s)	6.0	7.3	7.3	6.0	7.3	7.3	6.0	7.5	7.5	6.0	7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	115	441	148	150	265	166	153	898	665	157	843	650
v/s Ratio Prot	0.04	0.06		c0.05	c0.18		c0.12	0.53		0.01	0.56	
v/s Ratio Perm	0.14		0.11	0.14		0.04	c0.79		0.10	0.14		0.02
v/c Ratio	1.18	0.49	0.88	0.94	1.23	0.30	1.42	0.94	0.18	0.27	1.10	0.05
Uniform Delay, d1	49.7	49.2	51.8	46.0	51.1	45.6	39.9	23.9	12.4	17.6	29.2	14.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.29	1.14	0.57	1.00	1.00	1.00
Incremental Delay, d2	141.2	0.9	41.2	55.0	132.1	1.0	217.9	16.4	0.5	0.9	62.8	0.1
Delay (s)	190.9	50.0	93.0	100.9	183.2	46.6	269.3	43.6	7.5	18.6	92.0	14.8
Level of Service	F	D	F	F	F	D	F	D	A	B	F	B
Approach Delay (s)		99.3			121.7			77.6			84.5	
Approach LOS		F			F			E			F	

Intersection Summary				
HCM 2000 Control Delay	91.9	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.43			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	26.8	
Intersection Capacity Utilization	95.6%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
49: Trulls Road & BASELINE RD

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	130	5	5	215	100	5	5	5	400	5	200
Future Volume (vph)	200	130	5	5	215	100	5	5	5	400	5	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			0%			0%			0%	
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.95			0.95		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1767	1851		1750	1754			1730		1750	1572	
Flt Permitted	0.49	1.00		0.66	1.00			0.92		0.75	1.00	
Satd. Flow (perm)	917	1851		1223	1754			1614		1377	1572	
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)	217	141	5	5	234	109	5	5	5	435	5	217
RTOR Reduction (vph)	0	2	0	0	22	0	0	3	0	0	126	0
Lane Group Flow (vph)	217	144	0	5	321	0	0	12	0	435	96	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)	19.4	19.4		19.4	19.4			22.7		22.7	22.7	
Effective Green, g (s)	19.4	19.4		19.4	19.4			22.7		22.7	22.7	
Actuated g/C Ratio	0.36	0.36		0.36	0.36			0.42		0.42	0.42	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	328	663		438	628			677		577	659	
v/s Ratio Prot		0.08			0.18						0.06	
v/s Ratio Perm	c0.24			0.00				0.01		c0.32		
v/c Ratio	0.66	0.22		0.01	0.51			0.02		0.75	0.15	
Uniform Delay, d1	14.6	12.1		11.2	13.6			9.2		13.3	9.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	4.9	0.2		0.0	0.7			0.0		5.6	0.1	
Delay (s)	19.5	12.2		11.2	14.3			9.2		18.9	9.8	
Level of Service	B	B		B	B			A		B	A	
Approach Delay (s)		16.6			14.3			9.2			15.8	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	54.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
50: COURTICE RD (RR34)/RR 34 (COURTICE RD) & 401 WB RAMP

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	205	0	410	100	875	0	0	435	800
Future Volume (vph)	0	0	0	205	0	410	100	875	0	0	435	800
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.5		6.5	3.0	5.1			5.1	5.1
Lane Util. Factor				1.00		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1750		1566	1750	3500			3500	1566
Flt Permitted				0.95		1.00	0.44	1.00			1.00	1.00
Satd. Flow (perm)				1750		1566	804	3500			3500	1566
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)	0	0	0	223	0	446	109	951	0	0	473	870
RTOR Reduction (vph)	0	0	0	0	0	87	0	0	0	0	0	387
Lane Group Flow (vph)	0	0	0	223	0	359	109	951	0	0	473	483
Turn Type				Perm		Perm	pm+pt	NA			NA	Perm
Protected Phases							5	2			6	
Permitted Phases				8		8	2					6
Actuated Green, G (s)				32.0		32.0	76.4	76.4			66.6	66.6
Effective Green, g (s)				32.0		32.0	76.4	76.4			66.6	66.6
Actuated g/C Ratio				0.27		0.27	0.64	0.64			0.55	0.55
Clearance Time (s)				6.5		6.5	3.0	5.1			5.1	5.1
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				466		417	565	2228			1942	869
v/s Ratio Prot							0.01	c0.27			0.14	
v/s Ratio Perm				0.13		c0.23	0.11					c0.31
v/c Ratio				0.48		0.86	0.19	0.43			0.24	0.56
Uniform Delay, d1				37.0		41.9	8.6	10.9			13.7	17.2
Progression Factor				1.00		1.00	1.20	1.11			0.87	0.73
Incremental Delay, d2				0.8		16.5	0.1	0.5			0.0	0.2
Delay (s)				37.8		58.4	10.6	12.6			12.0	12.8
Level of Service				D		E	B	B			B	B
Approach Delay (s)		0.0			51.5			12.4			12.5	
Approach LOS		A			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
51: COURTICE RD (RR34) & 401 W-N/S RAMP/401 EB RAMP

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	525	0	160	0	0	0	0	455	150	170	460	0
Future Volume (vph)	525	0	160	0	0	0	0	455	150	170	460	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2		6.2					5.0	5.0	3.0	5.0	
Lane Util. Factor	1.00		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1750		1566					3500	1566	1750	3500	
Flt Permitted	0.95		1.00					1.00	1.00	0.37	1.00	
Satd. Flow (perm)	1750		1566					3500	1566	683	3500	
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)	571	0	174	0	0	0	0	495	163	185	500	0
RTOR Reduction (vph)	0	0	59	0	0	0	0	0	71	0	0	0
Lane Group Flow (vph)	571	0	115	0	0	0	0	495	92	185	500	0
Turn Type	Perm		Perm					NA	Perm	pm+pt	NA	
Protected Phases								2		1	6	
Permitted Phases	4		4						2	6		
Actuated Green, G (s)	47.4		47.4					46.2	46.2	61.4	61.4	
Effective Green, g (s)	47.4		47.4					46.2	46.2	61.4	61.4	
Actuated g/C Ratio	0.39		0.39					0.39	0.39	0.51	0.51	
Clearance Time (s)	6.2		6.2					5.0	5.0	3.0	5.0	
Vehicle Extension (s)	3.0		3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	691		618					1347	602	457	1790	
v/s Ratio Prot								0.14		c0.04	0.14	
v/s Ratio Perm	c0.33		0.07						0.06	c0.17		
v/c Ratio	0.83		0.19					0.37	0.15	0.40	0.28	
Uniform Delay, d1	32.6		23.7					26.4	24.1	16.6	16.7	
Progression Factor	1.00		1.00					1.00	1.00	1.08	1.07	
Incremental Delay, d2	8.0		0.1					0.8	0.5	0.6	0.4	
Delay (s)	40.6		23.8					27.2	24.7	18.5	18.2	
Level of Service	D		C					C	C	B	B	
Approach Delay (s)		36.7			0.0			26.6			18.3	
Approach LOS		D			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	27.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	79.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
52: BOSWELL DRIVE & HWY 2

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	925	50	50	975	50	175	25	75	75	25	125
Future Volume (vph)	125	925	50	50	975	50	175	25	75	75	25	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4		6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.89		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1699	3380		1731	3362		1714	1451		1547	1540	
Flt Permitted	0.21	1.00		0.22	1.00		0.65	1.00		0.69	1.00	
Satd. Flow (perm)	367	3380		408	3362		1180	1451		1119	1540	
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)	136	1005	54	54	1060	54	190	27	82	82	27	136
RTOR Reduction (vph)	0	5	0	0	4	0	0	38	0	0	32	0
Lane Group Flow (vph)	136	1054	0	54	1110	0	190	71	0	82	131	0
Confl. Peds. (#/hr)	2		3	3		2	2		4	4		2
Heavy Vehicles (%)	5%	4%	17%	3%	5%	11%	4%	0%	18%	15%	8%	5%
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)	36.7	36.7		36.7	36.7		15.7	15.7		15.7	15.7	
Effective Green, g (s)	36.7	36.7		36.7	36.7		15.7	15.7		15.7	15.7	
Actuated g/C Ratio	0.56	0.56		0.56	0.56		0.24	0.24		0.24	0.24	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.2	6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	207	1908		230	1898		285	350		270	371	
v/s Ratio Prot		0.31			0.33			0.05			0.09	
v/s Ratio Perm	c0.37			0.13			c0.16			0.07		
v/c Ratio	0.66	0.55		0.23	0.58		0.67	0.20		0.30	0.35	
Uniform Delay, d1	9.8	9.0		7.1	9.2		22.3	19.7		20.2	20.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.2	1.2		2.4	1.3		5.8	0.3		0.6	0.6	
Delay (s)	25.0	10.1		9.5	10.5		28.1	19.9		20.8	21.0	
Level of Service	C	B		A	B		C	B		C	C	
Approach Delay (s)		11.8			10.5			25.1			21.0	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
53: GREEN RD/GREEN ROAD & HWY 2

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	750	75	50	900	75	125	150	75	125	75	50
Future Volume (vph)	100	750	75	50	900	75	125	150	75	125	75	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.95		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1723	3382		1679	3441		1675	1729		1763	1592	
Flt Permitted	0.23	1.00		0.29	1.00		0.67	1.00		0.56	1.00	
Satd. Flow (perm)	419	3382		521	3441		1181	1729		1039	1592	
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)	109	815	82	54	978	82	136	163	82	136	82	54
RTOR Reduction (vph)	0	8	0	0	7	0	0	35	0	0	16	0
Lane Group Flow (vph)	109	889	0	54	1053	0	136	210	0	136	120	0
Confl. Peds. (#/hr)	19		7	7		19	9		5	5		9
Heavy Vehicles (%)	3%	4%	2%	6%	2%	4%	6%	4%	0%	1%	11%	9%
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)	33.6	33.6		33.6	33.6		13.0	13.0		13.0	13.0	
Effective Green, g (s)	33.6	33.6		33.6	33.6		13.0	13.0		13.0	13.0	
Actuated g/C Ratio	0.56	0.56		0.56	0.56		0.22	0.22		0.22	0.22	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	234	1893		291	1926		255	374		225	344	
v/s Ratio Prot		0.26			c0.31			0.12			0.08	
v/s Ratio Perm	0.26			0.10			0.12			c0.13		
v/c Ratio	0.47	0.47		0.19	0.55		0.53	0.56		0.60	0.35	
Uniform Delay, d1	7.9	7.9		6.5	8.4		20.8	21.0		21.2	19.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	6.5	0.8		1.4	1.1		2.1	1.9		4.5	0.6	
Delay (s)	14.4	8.7		7.9	9.5		23.0	22.9		25.7	20.5	
Level of Service	B	A		A	A		C	C		C	C	
Approach Delay (s)		9.3			9.4			22.9			23.1	
Approach LOS		A			A			C			C	

Intersection Summary				
HCM 2000 Control Delay	12.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.56			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	13.4	
Intersection Capacity Utilization	87.2%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
54: HWY 2 & CLARINGTON BLVD

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	700	100	350	850	100	100	75	250	175	125	75
Future Volume (vph)	75	700	100	350	850	100	100	75	250	175	125	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Total Lost time (s)	6.3	6.3		3.0	6.3		6.5	6.5		6.5	6.5	
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	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.88		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1414	3135		1601	3040		1350	2715		1372	2884	
Flt Permitted	0.28	1.00		0.16	1.00		0.62	1.00		0.54	1.00	
Satd. Flow (perm)	413	3135		262	3040		875	2715		780	2884	
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)	82	761	109	380	924	109	109	82	272	190	136	82
RTOR Reduction (vph)	0	15	0	0	11	0	0	193	0	0	57	0
Lane Group Flow (vph)	82	855	0	380	1022	0	109	161	0	190	161	0
Confl. Peds. (#/hr)	2		5	5		2	13					13
Heavy Vehicles (%)	29%	15%	7%	14%	16%	35%	34%	22%	18%	33%	15%	24%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	22.7	22.7		40.4	40.4		22.0	22.0		22.0	22.0	
Effective Green, g (s)	22.7	22.7		40.4	40.4		21.8	21.8		21.8	21.8	
Actuated g/C Ratio	0.30	0.30		0.54	0.54		0.29	0.29		0.29	0.29	
Clearance Time (s)	6.3	6.3		3.0	6.3		6.3	6.3		6.3	6.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	125	948		403	1637		254	789		226	838	
v/s Ratio Prot		0.27		c0.18	0.34			0.06			0.06	
v/s Ratio Perm	0.20			c0.32			0.12			c0.24		
v/c Ratio	0.66	0.90		0.94	0.62		0.43	0.20		0.84	0.19	
Uniform Delay, d1	22.8	25.1		18.5	12.0		21.6	20.1		25.0	20.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	23.8	13.4		30.5	1.8		1.2	0.1		23.5	0.1	
Delay (s)	46.6	38.5		49.0	13.8		22.7	20.2		48.5	20.1	
Level of Service	D	D		D	B		C	C		D	C	
Approach Delay (s)		39.2			23.3			20.8			33.3	
Approach LOS		D			C			C			C	

Intersection Summary				
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.94			
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	15.8	
Intersection Capacity Utilization	84.6%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
55: REG RD 57 & HWY 2

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	775	300	300	400	175	225	775	350	175	975	125
Future Volume (vph)	150	775	300	300	400	175	225	775	350	175	975	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		-1%			-1%			-3%			-3%	
Total Lost time (s)	3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.2	6.2	6.2	6.2	6.2
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1778	3428	1586	1528	3397	1414	1852	3368	1483	1442	1560	1409
Flt Permitted	0.46	1.00	1.00	0.15	1.00	1.00	0.07	1.00	1.00	0.33	1.00	1.00
Satd. Flow (perm)	865	3428	1586	240	3397	1414	146	3368	1483	497	1560	1409
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)	163	842	326	326	435	190	245	842	380	190	1060	136
RTOR Reduction (vph)	0	0	115	0	0	119	0	0	127	0	0	65
Lane Group Flow (vph)	163	842	211	326	435	71	245	842	253	190	1060	71
Confl. Peds. (#/hr)	3		1	1		3	1		7	7		1
Heavy Vehicles (%)	3%	7%	2%	20%	8%	14%	0%	10%	9%	28%	25%	16%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	30.8	23.8	23.8	37.8	27.8	27.8	59.5	59.5	59.5	50.5	50.5	50.5
Effective Green, g (s)	30.8	23.8	23.8	37.8	27.8	27.8	59.5	59.8	59.8	50.8	50.8	50.8
Actuated g/C Ratio	0.28	0.22	0.22	0.34	0.25	0.25	0.54	0.54	0.54	0.46	0.46	0.46
Clearance Time (s)	3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	300	741	343	211	858	357	172	1830	806	229	720	650
v/s Ratio Prot	0.03	0.25		c0.15	0.13		c0.08	0.25			0.68	
v/s Ratio Perm	0.12		0.13	c0.38		0.05	c0.69		0.17	0.38		0.05
v/c Ratio	0.54	1.14	0.61	1.55	0.51	0.20	1.42	0.46	0.31	0.83	1.47	0.11
Uniform Delay, d1	31.6	43.1	39.0	31.0	35.2	32.3	29.1	15.3	13.8	25.8	29.6	16.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0	77.4	8.0	267.4	2.1	1.3	221.3	0.2	0.2	21.3	220.0	0.1
Delay (s)	33.7	120.5	47.0	298.5	37.4	33.6	250.4	15.5	14.0	47.2	249.6	16.8
Level of Service	C	F	D	F	D	C	F	B	B	D	F	B
Approach Delay (s)		91.8			126.1			54.3			199.0	
Approach LOS		F			F			D			F	

Intersection Summary				
HCM 2000 Control Delay	116.4	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.55			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.4	
Intersection Capacity Utilization	118.8%	ICU Level of Service	H	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
56: ROENIGK DR & KING ST/HWY 2

11/02/2022

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	975	75	125	1175	75	200
Future Volume (vph)	975	75	125	1175	75	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			-1%	0%	
Total Lost time (s)	6.3		6.3	6.3	6.5	6.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3462		1759	3517	1750	1566
Flt Permitted	1.00		0.21	1.00	0.95	1.00
Satd. Flow (perm)	3462		397	3517	1750	1566
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1060	82	136	1277	82	217
RTOR Reduction (vph)	5	0	0	0	0	43
Lane Group Flow (vph)	1137	0	136	1277	82	174
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Actuated Green, G (s)	45.0		45.0	45.0	12.2	12.2
Effective Green, g (s)	45.0		45.0	45.0	12.2	12.2
Actuated g/C Ratio	0.64		0.64	0.64	0.17	0.17
Clearance Time (s)	6.3		6.3	6.3	6.5	6.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2225		255	2260	305	272
v/s Ratio Prot	0.33			c0.36	0.05	
v/s Ratio Perm			0.34			c0.11
v/c Ratio	0.51		0.53	0.57	0.27	0.64
Uniform Delay, d1	6.6		6.8	7.0	25.0	26.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8		7.8	1.0	0.5	4.9
Delay (s)	7.5		14.6	8.0	25.5	31.7
Level of Service	A		B	A	C	C
Approach Delay (s)	7.5			8.7	30.0	
Approach LOS	A			A	C	

Intersection Summary				
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.58			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.8	
Intersection Capacity Utilization	68.6%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
57: GREEN RD & ASPEN SPRINGS DR

11/02/2022

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Right Turn Channelized						
Traffic Volume (veh/h)	50	175	225	50	175	250
Future Volume (veh/h)	50	175	225	50	175	250
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	54	190	245	54	190	272
Approach Volume (veh/h)	244		299			462
Crossing Volume (veh/h)	245		190			54
High Capacity (veh/h)	1143		1193			1328
High v/c (veh/h)	0.21		0.25			0.35
Low Capacity (veh/h)	942		988			1109
Low v/c (veh/h)	0.26		0.30			0.42

Intersection Summary			
Maximum v/c High	0.35		
Maximum v/c Low	0.42		
Intersection Capacity Utilization	61.3%	ICU Level of Service	B

HCM Signalized Intersection Capacity Analysis
58: RR 67 (BOWMANVILLE AVE)/RR 57 (BOWMANVILLE AVE) & ASPEN SPRINGS DR

11/02/2022

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	175	125	250	575	1000	425
Future Volume (vph)	175	125	250	575	1000	425
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	6.2
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1684	1479	1601	2902	3000	1242
Flt Permitted	0.95	1.00	0.23	1.00	1.00	1.00
Satd. Flow (perm)	1684	1479	394	2902	3000	1242
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	190	136	272	625	1087	462
RTOR Reduction (vph)	0	108	0	0	0	135
Lane Group Flow (vph)	190	28	272	625	1087	327
Confl. Peds. (#/hr)			9			9
Heavy Vehicles (%)	6%	8%	11%	23%	19%	23%
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Actuated Green, G (s)	14.3	14.3	63.7	63.7	63.7	63.7
Effective Green, g (s)	16.1	16.1	65.9	65.9	65.9	63.7
Actuated g/C Ratio	0.18	0.18	0.73	0.73	0.73	0.71
Clearance Time (s)	5.8	5.8	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	301	264	288	2124	2196	879
v/s Ratio Prot	c0.11			0.22	0.36	
v/s Ratio Perm		0.02	c0.69			0.26
v/c Ratio	0.63	0.11	0.94	0.29	0.49	0.37
Uniform Delay, d1	34.2	30.9	10.5	4.1	5.1	5.2
Progression Factor	1.00	1.00	0.90	0.94	1.00	1.00
Incremental Delay, d2	4.3	0.2	40.5	0.4	0.8	1.2
Delay (s)	38.5	31.1	50.0	4.2	5.9	6.4
Level of Service	D	C	D	A	A	A
Approach Delay (s)	35.4			18.1	6.0	
Approach LOS	D			B	A	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
59: RR 57 (BOWMANVILLE AVE) & WAVERLY RD

11/02/2022

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	325	75	650	200	75	1150
Future Volume (vph)	325	75	650	200	75	1150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.3	3.3	3.5
Grade (%)	4%		3%			-3%
Total Lost time (s)	6.2	6.2	5.9	5.9	5.9	5.9
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1715	1534	3447	1508	1736	3552
Flt Permitted	0.95	1.00	1.00	1.00	0.37	1.00
Satd. Flow (perm)	1715	1534	3447	1508	671	3552
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	353	82	707	217	82	1250
RTOR Reduction (vph)	0	60	0	107	0	0
Lane Group Flow (vph)	353	22	707	110	82	1250
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Actuated Green, G (s)	15.3	15.3	27.6	27.6	27.6	27.6
Effective Green, g (s)	15.0	15.0	27.9	27.9	27.9	27.9
Actuated g/C Ratio	0.27	0.27	0.51	0.51	0.51	0.51
Clearance Time (s)	5.9	5.9	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	467	418	1748	764	340	1801
v/s Ratio Prot	c0.21		0.21			c0.35
v/s Ratio Perm		0.01		0.07	0.12	
v/c Ratio	0.76	0.05	0.40	0.14	0.24	0.69
Uniform Delay, d1	18.3	14.8	8.4	7.2	7.6	10.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	6.9	0.1	0.7	0.4	1.7	2.2
Delay (s)	25.2	14.8	9.1	7.6	9.3	12.5
Level of Service	C	B	A	A	A	B
Approach Delay (s)	23.2		8.7			12.3
Approach LOS	C		A			B

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	12.1
Intersection Capacity Utilization	67.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
60: GREEN RD & BASELINE RD

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	75	50	50	175	75	5	5	5	100	0	275
Future Volume (vph)	75	75	50	50	175	75	5	5	5	100	0	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.95		1.00	0.93		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1417	1667		1785	1445		1785	1738		1475	1377	
Flt Permitted	0.59	1.00		0.67	1.00		0.51	1.00		0.75	1.00	
Satd. Flow (perm)	883	1667		1259	1445		967	1738		1166	1377	
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)	82	82	54	54	190	82	5	5	5	109	0	299
RTOR Reduction (vph)	0	27	0	0	26	0	0	4	0	0	229	0
Lane Group Flow (vph)	82	109	0	54	246	0	5	6	0	109	70	0
Heavy Vehicles (%)	26%	10%	0%	0%	22%	29%	0%	0%	0%	21%	50%	16%
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)	22.6	22.6		22.6	22.6		10.6	10.6		10.6	10.6	
Effective Green, g (s)	22.6	22.6		22.6	22.6		10.6	10.6		10.6	10.6	
Actuated g/C Ratio	0.50	0.50		0.50	0.50		0.24	0.24		0.24	0.24	
Clearance Time (s)	6.1	6.1		6.1	6.1		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	443	837		632	725		227	409		274	324	
v/s Ratio Prot		0.07			c0.17			0.00			0.05	
v/s Ratio Perm	0.09			0.04			0.01			c0.09		
v/c Ratio	0.19	0.13		0.09	0.34		0.02	0.02		0.40	0.22	
Uniform Delay, d1	6.1	6.0		5.8	6.7		13.2	13.2		14.5	13.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.3		0.3	1.3		0.0	0.0		1.0	0.3	
Delay (s)	7.1	6.3		6.1	8.0		13.3	13.2		15.5	14.2	
Level of Service	A	A		A	A		B	B		B	B	
Approach Delay (s)		6.6			7.7			13.2			14.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	45.0	Sum of lost time (s)	11.8
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
61: RR 57 (BOWMANVILLE AVE) & BASELINE RD

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	150	350	150	225	100	225	550	50	75	1150	150
Future Volume (vph)	125	150	350	150	225	100	225	550	50	75	1150	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Total Lost time (s)	6.4	6.4		6.1	6.4	6.4	6.0	6.7	6.7	6.7	6.7	6.7
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00	0.99	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.90		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1309	2725		1451	1491	1100	1428	2950	1063	1404	3131	1230
Flt Permitted	0.61	1.00		0.19	1.00	1.00	0.08	1.00	1.00	0.43	1.00	1.00
Satd. Flow (perm)	836	2725		285	1491	1100	123	2950	1063	629	3131	1230
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)	136	163	380	163	245	109	245	598	54	82	1250	163
RTOR Reduction (vph)	0	213	0	0	0	72	0	0	23	0	0	104
Lane Group Flow (vph)	136	330	0	163	245	37	245	598	31	82	1250	59
Confl. Peds. (#/hr)	3		3	3		3	1		2	2		1
Heavy Vehicles (%)	36%	16%	16%	23%	26%	43%	25%	21%	48%	27%	14%	27%
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	24.4	24.4		37.4	37.4	37.4	69.6	69.6	69.6	42.9	42.9	42.9
Effective Green, g (s)	24.3	24.3		37.3	37.3	37.3	69.6	69.6	69.6	42.9	42.9	42.9
Actuated g/C Ratio	0.20	0.20		0.31	0.31	0.31	0.58	0.58	0.58	0.36	0.36	0.36
Clearance Time (s)	6.3	6.3		6.0	6.3	6.3	6.0	6.7	6.7	6.7	6.7	6.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	169	551		155	463	341	296	1711	616	224	1119	439
v/s Ratio Prot		0.12		c0.06	0.16		c0.14	0.20			c0.40	
v/s Ratio Perm	0.16			c0.26		0.03	0.34		0.03	0.13		0.05
v/c Ratio	0.80	0.60		1.05	0.53	0.11	0.83	0.35	0.05	0.37	1.12	0.13
Uniform Delay, d1	45.6	43.4		38.8	34.1	29.5	35.1	13.3	10.9	28.5	38.5	26.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.08	0.91	1.45	1.00	1.00	1.00
Incremental Delay, d2	23.5	1.8		86.6	1.1	0.1	13.5	0.4	0.1	4.6	65.1	0.6
Delay (s)	69.1	45.2		125.5	35.2	29.6	51.2	12.5	15.9	33.1	103.7	26.7
Level of Service	E	D		F	D	C	D	B	B	C	F	C
Approach Delay (s)		50.0			62.5			23.3			91.4	
Approach LOS		D			E			C			F	

Intersection Summary				
HCM 2000 Control Delay	62.4	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	1.07			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	25.2	
Intersection Capacity Utilization	90.2%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
62: SPRY AVE & BASELINE RD

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	275	25	25	425	50	0	0	25	50	0	25
Future Volume (vph)	0	275	25	25	425	50	0	0	25	50	0	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.2	4.2	4.2	4.2				4.6		4.6	
Lane Util. Factor		1.00	1.00	1.00	1.00				1.00		1.00	
Frpb, ped/bikes		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	
Frt		1.00	0.85	1.00	0.98				0.85		0.95	
Flt Protected		1.00	1.00	0.95	1.00				1.00		0.97	
Satd. Flow (prot)		1842	1566	1750	1809				1566		1702	
Flt Permitted		1.00	1.00	0.58	1.00				1.00		0.80	
Satd. Flow (perm)		1842	1566	1064	1809				1566		1406	
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)	0	299	27	27	462	54	0	0	27	54	0	27
RTOR Reduction (vph)	0	0	8	0	4	0	0	0	23	0	58	0
Lane Group Flow (vph)	0	299	19	27	512	0	0	0	4	0	23	0
Confl. Peds. (#/hr)	1					1						
Turn Type	Perm	NA	Perm	Perm	NA				Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)		31.8	31.8	31.8	31.8				4.8		4.8	
Effective Green, g (s)		34.0	34.0	34.0	34.0				6.5		6.5	
Actuated g/C Ratio		0.69	0.69	0.69	0.69				0.13		0.13	
Clearance Time (s)		6.4	6.4	6.4	6.4				6.3		6.3	
Vehicle Extension (s)		3.0	3.0	3.0	3.0				3.0		3.0	
Lane Grp Cap (vph)		1270	1080	733	1247				206		185	
v/s Ratio Prot		0.16			c0.28							
v/s Ratio Perm			0.01	0.03					0.00		c0.02	
v/c Ratio		0.24	0.02	0.04	0.41				0.02		0.12	
Uniform Delay, d1		2.8	2.4	2.4	3.3				18.6		18.9	
Progression Factor		1.00	1.00	1.00	1.00				1.00		1.00	
Incremental Delay, d2		0.4	0.0	0.1	1.0				0.0		0.3	
Delay (s)		3.3	2.4	2.5	4.3				18.7		19.2	
Level of Service		A	A	A	A				B		B	
Approach Delay (s)		3.2			4.2			18.7			19.2	
Approach LOS		A			A			B			B	

Intersection Summary				
HCM 2000 Control Delay	5.5	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.36			
Actuated Cycle Length (s)	49.3	Sum of lost time (s)	8.8	
Intersection Capacity Utilization	50.8%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
63: RR 57 (BOWMANVILLE AVE) & Hwy 401 WB Ramps

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	100	0	350	0	475	75	0	575	1050
Future Volume (vph)	0	0	0	100	0	350	0	475	75	0	575	1050
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.0			6.0			6.0	6.0
Lane Util. Factor					1.00			1.00			1.00	1.00
Frt					0.90			0.98			1.00	0.85
Flt Protected					0.99			1.00			1.00	1.00
Satd. Flow (prot)					1631			1808			1842	1566
Flt Permitted					0.99			1.00			1.00	1.00
Satd. Flow (perm)					1631			1808			1842	1566
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)	0	0	0	109	0	380	0	516	82	0	625	1141
RTOR Reduction (vph)	0	0	0	0	224	0	0	8	0	0	0	451
Lane Group Flow (vph)	0	0	0	0	265	0	0	590	0	0	625	690
Turn Type				Perm	NA			NA			NA	Perm
Protected Phases					8			2			6	
Permitted Phases				8								6
Actuated Green, G (s)					12.8			35.2			35.2	35.2
Effective Green, g (s)					12.8			35.2			35.2	35.2
Actuated g/C Ratio					0.21			0.59			0.59	0.59
Clearance Time (s)					6.0			6.0			6.0	6.0
Vehicle Extension (s)					3.0			3.0			3.0	3.0
Lane Grp Cap (vph)					347			1060			1080	918
v/s Ratio Prot								0.33			0.34	
v/s Ratio Perm					0.16							c0.44
v/c Ratio					0.76			0.56			0.58	0.75
Uniform Delay, d1					22.2			7.6			7.8	9.2
Progression Factor					1.00			1.00			1.17	17.91
Incremental Delay, d2					9.6			2.1			0.5	1.3
Delay (s)					31.7			9.7			9.6	165.5
Level of Service					C			A			A	F
Approach Delay (s)		0.0			31.7			9.7			110.3	
Approach LOS		A			C			A			F	

Intersection Summary				
HCM 2000 Control Delay	75.8	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.75			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	102.1%	ICU Level of Service	G	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
64: ENERGY DR & HWY 401 EB RAMPS

11/02/2022

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	50	350	250	500	25
Future Volume (vph)	25	50	350	250	500	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0	6.0
Lane Util. Factor		1.00	1.00		1.00	1.00
Frt		1.00	0.94		1.00	0.85
Flt Protected		0.98	1.00		0.95	1.00
Satd. Flow (prot)		1812	1738		1750	1566
Flt Permitted		0.57	1.00		0.95	1.00
Satd. Flow (perm)		1058	1738		1750	1566
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	54	380	272	543	27
RTOR Reduction (vph)	0	0	45	0	0	16
Lane Group Flow (vph)	0	81	607	0	543	11
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4					6
Actuated Green, G (s)		23.4	23.4		24.6	24.6
Effective Green, g (s)		23.4	23.4		24.6	24.6
Actuated g/C Ratio		0.39	0.39		0.41	0.41
Clearance Time (s)		6.0	6.0		6.0	6.0
Vehicle Extension (s)		3.0	3.0		3.0	3.0
Lane Grp Cap (vph)		412	677		717	642
v/s Ratio Prot			c0.35		c0.31	
v/s Ratio Perm		0.08				0.01
v/c Ratio		0.20	0.90		0.76	0.02
Uniform Delay, d1		12.1	17.2		15.1	10.5
Progression Factor		1.00	1.00		1.00	1.00
Incremental Delay, d2		0.2	14.5		7.3	0.0
Delay (s)		12.3	31.6		22.5	10.6
Level of Service		B	C		C	B
Approach Delay (s)		12.3	31.6		21.9	
Approach LOS		B	C		C	

Intersection Summary				
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.82			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	71.4%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
65: RR 57 (BOWMANVILLE AVE) & ENERGY DR

11/02/2022

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	500	50	75	100	100	575
Future Volume (vph)	500	50	75	100	100	575
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.89	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1750	1566	1750	1842	1630	
Flt Permitted	0.95	1.00	0.17	1.00	1.00	
Satd. Flow (perm)	1750	1566	312	1842	1630	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	543	54	82	109	109	625
RTOR Reduction (vph)	0	35	0	0	357	0
Lane Group Flow (vph)	543	19	82	109	377	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	19.4	19.4	23.6	23.6	23.6	
Effective Green, g (s)	19.4	19.4	23.6	23.6	23.6	
Actuated g/C Ratio	0.35	0.35	0.43	0.43	0.43	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	617	552	133	790	699	
v/s Ratio Prot	c0.31			0.06	0.23	
v/s Ratio Perm		0.01	c0.26			
v/c Ratio	0.88	0.03	0.62	0.14	0.54	
Uniform Delay, d1	16.7	11.7	12.2	9.5	11.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	13.8	0.0	19.5	0.4	3.0	
Delay (s)	30.5	11.7	31.7	9.9	14.6	
Level of Service	C	B	C	A	B	
Approach Delay (s)	28.8			19.3	14.6	
Approach LOS	C			B	B	

Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
66: Prestonvale Rd & Townline Rd Ext

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	430	265	100	350	125	50	50	5	335	235	50
Future Volume (vph)	50	430	265	100	350	125	50	50	5	335	235	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1750	1842	1566	1750	1842	1566	1750	1819		1750	1794	
Flt Permitted	0.35	1.00	1.00	0.23	1.00	1.00	0.55	1.00		0.72	1.00	
Satd. Flow (perm)	643	1842	1566	426	1842	1566	1015	1819		1324	1794	
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)	54	467	288	109	380	136	54	54	5	364	255	54
RTOR Reduction (vph)	0	0	199	0	0	94	0	2	0	0	7	0
Lane Group Flow (vph)	54	467	89	109	380	42	54	57	0	364	302	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	24.5	24.5	24.5	24.5	24.5	24.5	42.4	42.4		42.4	42.4	
Effective Green, g (s)	24.5	24.5	24.5	24.5	24.5	24.5	42.4	42.4		42.4	42.4	
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.31	0.31	0.54	0.54		0.54	0.54	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	199	571	486	132	571	486	545	977		711	964	
v/s Ratio Prot		0.25			0.21			0.03			0.17	
v/s Ratio Perm	0.08		0.06	c0.26		0.03	0.05			c0.28		
v/c Ratio	0.27	0.82	0.18	0.83	0.67	0.09	0.10	0.06		0.51	0.31	
Uniform Delay, d1	20.5	25.1	19.9	25.2	23.6	19.3	8.9	8.7		11.6	10.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	8.9	0.2	32.5	2.9	0.1	0.4	0.1		2.6	0.8	
Delay (s)	21.2	34.0	20.1	57.7	26.6	19.4	9.3	8.8		14.3	11.0	
Level of Service	C	C	C	E	C	B	A	A		B	B	
Approach Delay (s)		28.2			30.4			9.0			12.8	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	78.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	70.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
67: Trulls Road /Trulls Road & Townline Rd Ext

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	460	270	60	300	50	60	310	50	335	350	50
Future Volume (vph)	50	460	270	60	300	50	60	310	50	335	350	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1750	1842	1566	1750	1842	1566	1750	1804		1750	1808	
Flt Permitted	0.41	1.00	1.00	0.17	1.00	1.00	0.44	1.00		0.48	1.00	
Satd. Flow (perm)	752	1842	1566	313	1842	1566	818	1804		883	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)	54	500	293	65	326	54	65	337	54	364	380	54
RTOR Reduction (vph)	0	0	198	0	0	37	0	6	0	0	5	0
Lane Group Flow (vph)	54	500	95	65	326	17	65	385	0	364	429	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	26.5	26.5	26.5	26.5	26.5	26.5	48.1	48.1		48.1	48.1	
Effective Green, g (s)	26.5	26.5	26.5	26.5	26.5	26.5	48.1	48.1		48.1	48.1	
Actuated g/C Ratio	0.31	0.31	0.31	0.31	0.31	0.31	0.56	0.56		0.56	0.56	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	230	563	479	95	563	479	454	1001		490	1004	
v/s Ratio Prot		c0.27			0.18			0.21			0.24	
v/s Ratio Perm	0.07		0.06	0.21		0.01	0.08			c0.41		
v/c Ratio	0.23	0.89	0.20	0.68	0.58	0.03	0.14	0.38		0.74	0.43	
Uniform Delay, d1	22.5	28.6	22.2	26.4	25.3	21.1	9.3	10.9		14.6	11.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	15.6	0.2	18.5	1.4	0.0	0.7	1.1		9.8	1.3	
Delay (s)	23.0	44.3	22.4	44.8	26.8	21.1	10.0	12.0		24.4	12.5	
Level of Service	C	D	C	D	C	C	A	B		C	B	
Approach Delay (s)		35.4			28.7			11.7			17.9	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	24.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	86.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
68: RR 34 (COURTICE RD) & Townline Rd Ext

11/02/2022

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	140	405	605	565	470	615
Future Volume (vph)	140	405	605	565	470	615
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-5%	
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1750	1566	1750	1842	1888	1605
Flt Permitted	0.95	1.00	0.19	1.00	1.00	1.00
Satd. Flow (perm)	1750	1566	357	1842	1888	1605
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	152	440	658	614	511	668
RTOR Reduction (vph)	0	385	0	0	0	304
Lane Group Flow (vph)	152	55	658	614	511	364
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	7		5	2	6	
Permitted Phases		4	2			6
Actuated Green, G (s)	13.9	13.9	85.1	85.1	40.9	40.9
Effective Green, g (s)	13.9	13.9	85.1	85.1	40.9	40.9
Actuated g/C Ratio	0.13	0.13	0.77	0.77	0.37	0.37
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	219	196	753	1412	695	591
v/s Ratio Prot	c0.09		c0.30	0.33	0.27	
v/s Ratio Perm		0.04	c0.37			0.23
v/c Ratio	0.69	0.28	0.87	0.43	0.74	0.62
Uniform Delay, d1	46.5	44.0	21.8	4.5	30.4	28.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.2	0.8	11.0	1.0	6.8	4.7
Delay (s)	55.7	44.8	32.8	5.5	37.2	33.4
Level of Service	E	D	C	A	D	C
Approach Delay (s)	47.6			19.6	35.0	
Approach LOS	D			B	D	

Intersection Summary			
HCM 2000 Control Delay	31.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	111.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
69: Fox Street & Laval Drive

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	350	300	175	400	50	175	100	250	25	25	25
Future Volume (vph)	50	350	300	175	400	50	175	100	250	25	25	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.98		1.00	0.89		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1750	1714		1750	1812		1750	1645		1750	1704	
Flt Permitted	0.09	1.00		0.95	1.00		0.72	1.00		0.15	1.00	
Satd. Flow (perm)	160	1714		1750	1812		1330	1645		283	1704	
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)	54	380	326	190	435	54	190	109	272	27	27	27
RTOR Reduction (vph)	0	26	0	0	4	0	0	75	0	0	21	0
Lane Group Flow (vph)	54	680	0	190	485	0	190	306	0	27	33	0
Turn Type	Perm	NA		Split	NA		Perm	NA		Perm	NA	
Protected Phases		4		8	8			2			6	
Permitted Phases	4						2			6		
Actuated Green, G (s)	46.0	46.0		30.0	30.0		26.0	26.0		26.0	26.0	
Effective Green, g (s)	46.0	46.0		30.0	30.0		26.0	26.0		26.0	26.0	
Actuated g/C Ratio	0.38	0.38		0.25	0.25		0.22	0.22		0.22	0.22	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	61	657		437	453		288	356		61	369	
v/s Ratio Prot		c0.40		0.11	c0.27			c0.19			0.02	
v/s Ratio Perm	0.34						0.14			0.10		
v/c Ratio	0.89	1.04		0.43	1.07		0.66	0.86		0.44	0.09	
Uniform Delay, d1	34.5	37.0		37.9	45.0		43.0	45.2		40.7	37.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	75.0	44.5		0.7	62.6		11.3	22.7		21.6	0.5	
Delay (s)	109.5	81.5		38.6	107.6		54.2	67.9		62.3	38.0	
Level of Service	F	F		D	F		D	E		E	D	
Approach Delay (s)		83.5			88.3			63.4			46.1	
Approach LOS		F			F			E			D	

Intersection Summary				
HCM 2000 Control Delay	78.1	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	1.00			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0	
Intersection Capacity Utilization	82.2%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
102: RR 22 (BLOOR ST)

11/02/2022

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0
Turn Type		Perm	Perm		Prot	Perm
Protected Phases	4			8	2	
Permitted Phases		4	8			2
Actuated Green, G (s)						
Effective Green, g (s)						
Actuated g/C Ratio						
Clearance Time (s)						
Lane Grp Cap (vph)						
v/s Ratio Prot						
v/s Ratio Perm						
v/c Ratio						
Uniform Delay, d1						
Progression Factor						
Incremental Delay, d2						
Delay (s)						
Level of Service						
Approach Delay (s)	0.0		0.0	0.0		
Approach LOS	A		A	A		

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	45.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
103: RR 16 (RITSON RD)

11/02/2022

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	0	0	197	103	389	815
Future Volume (Veh/h)	0	0	197	103	389	815
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	214	112	423	886
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			77			98
pX, platoon unblocked	0.89	0.97			0.97	
vC, conflicting volume	1559	163			326	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1261	88			256	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			67	
cM capacity (veh/h)	97	928			1273	

Direction, Lane #	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	143	183	423	443	443
Volume Left	0	0	423	0	0
Volume Right	0	112	0	0	0
cSH	1700	1700	1273	1700	1700
Volume to Capacity	0.08	0.11	0.33	0.26	0.26
Queue Length 95th (m)	0.0	0.0	10.3	0.0	0.0
Control Delay (s)	0.0	0.0	9.2	0.0	0.0
Lane LOS			A		
Approach Delay (s)	0.0		3.0		
Approach LOS					

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis
104: RR 16 (RITSON RD)

11/02/2022

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	404	648	197	0	0	800
Future Volume (vph)	404	648	197	0	0	800
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0			6.0
Lane Util. Factor	1.00	1.00	0.95			0.95
Frt	1.00	0.85	1.00			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	1750	1566	3500			3500
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	1750	1566	3500			3500
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	439	704	214	0	0	870
RTOR Reduction (vph)	0	336	0	0	0	0
Lane Group Flow (vph)	439	368	214	0	0	870
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	20.8	20.8	27.2			27.2
Effective Green, g (s)	20.8	20.8	27.2			27.2
Actuated g/C Ratio	0.35	0.35	0.45			0.45
Clearance Time (s)	6.0	6.0	6.0			6.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	606	542	1586			1586
v/s Ratio Prot	c0.25		0.06			c0.25
v/s Ratio Perm		0.23				
v/c Ratio	0.72	0.68	0.13			0.55
Uniform Delay, d1	17.1	16.7	9.5			11.9
Progression Factor	1.00	1.00	1.00			1.18
Incremental Delay, d2	4.3	3.4	0.2			1.1
Delay (s)	21.4	20.1	9.7			15.1
Level of Service	C	C	A			B
Approach Delay (s)	20.6		9.7			15.1
Approach LOS	C		A			B

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	55.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
133: OSHAWA CENTRE & RR 59 (GIBB ST)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	119	49	24	280	40	14	3	6	12	8	6
Future Volume (vph)	37	119	49	24	280	40	14	3	6	12	8	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2		6.2	6.2		6.0	6.0		6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		0.99	1.00	1.00
Frt	1.00	0.96		1.00	0.98		1.00	0.90		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1732	3250		1712	3367		1380	3144		1766	1879	1574
Flt Permitted	0.54	1.00		0.64	1.00		0.77	1.00		0.77	1.00	1.00
Satd. Flow (perm)	991	3250		1148	3367		1118	3144		1430	1879	1574
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)	40	129	53	26	304	43	15	3	7	13	9	7
RTOR Reduction (vph)	0	8	0	0	4	0	0	10	0	0	0	7
Lane Group Flow (vph)	40	174	0	26	343	0	15	0	0	13	9	0
Confl. Peds. (#/hr)	1		3	3		1	2		9	9		2
Heavy Vehicles (%)	3%	4%	6%	4%	4%	3%	29%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	92.6	92.6		92.6	92.6		5.2	5.2		5.2	5.2	5.2
Effective Green, g (s)	92.6	92.6		92.6	92.6		5.2	5.2		5.2	5.2	5.2
Actuated g/C Ratio	0.84	0.84		0.84	0.84		0.05	0.05		0.05	0.05	0.05
Clearance Time (s)	6.2	6.2		6.2	6.2		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	834	2735		966	2834		52	148		67	88	74
v/s Ratio Prot		0.05			c0.10			0.00			0.00	
v/s Ratio Perm	0.04			0.02			c0.01			0.01		0.00
v/c Ratio	0.05	0.06		0.03	0.12		0.29	0.00		0.19	0.10	0.00
Uniform Delay, d1	1.4	1.5		1.4	1.5		50.6	49.9		50.4	50.2	49.9
Progression Factor	1.00	1.00		0.58	0.63		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0		0.1	0.1		3.1	0.0		1.4	0.5	0.0
Delay (s)	1.5	1.5		0.9	1.0		53.7	49.9		51.8	50.7	50.0
Level of Service	A	A		A	A		D	D		D	D	D
Approach Delay (s)		1.5			1.0			52.2			51.0	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	5.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.13		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.2
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
418: RR 22 (BLOOR ST) & BURTON RD

11/02/2022

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	369	975	5	0	0
Future Volume (vph)	5	369	975	5	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8	5.8			
Lane Util. Factor		0.95	0.95			
Frt		1.00	1.00			
Flt Protected		1.00	1.00			
Satd. Flow (prot)		3498	3497			
Flt Permitted		0.95	1.00			
Satd. Flow (perm)		3309	3497			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	5	401	1060	5	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	406	1065	0	0	0
Turn Type	Perm	NA	NA			
Protected Phases		2	2			
Permitted Phases	2					
Actuated Green, G (s)		40.8	40.8			
Effective Green, g (s)		40.8	40.8			
Actuated g/C Ratio		1.00	1.00			
Clearance Time (s)		5.8	5.8			
Vehicle Extension (s)		3.0	3.0			
Lane Grp Cap (vph)		3309	3497			
v/s Ratio Prot			c0.30			
v/s Ratio Perm		0.12				
v/c Ratio		0.12	0.30			
Uniform Delay, d1		0.0	0.0			
Progression Factor		1.00	1.00			
Incremental Delay, d2		0.0	0.0			
Delay (s)		0.0	0.0			
Level of Service		A	A			
Approach Delay (s)		0.0	0.0		0.0	
Approach LOS		A	A		A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	40.8	Sum of lost time (s)	10.5
Intersection Capacity Utilization	31.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
428: RR 59 (GIBB ST) & WAVERLY ST IPS

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Future Volume (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5							
Lane Util. Factor		1.00			1.00							
Frt		1.00			1.00							
Flt Protected		1.00			1.00							
Satd. Flow (prot)		1842			1842							
Flt Permitted		1.00			1.00							
Satd. Flow (perm)		1842			1842							
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)	0	1	0	0	1	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Turn Type		NA			NA							
Protected Phases		2			2							
Permitted Phases	2			2								
Actuated Green, G (s)		33.5			33.5							
Effective Green, g (s)		33.5			33.5							
Actuated g/C Ratio		1.00			1.00							
Clearance Time (s)		5.5			5.5							
Vehicle Extension (s)		3.0			3.0							
Lane Grp Cap (vph)		1842			1842							
v/s Ratio Prot		c0.00			0.00							
v/s Ratio Perm												
v/c Ratio		0.00			0.00							
Uniform Delay, d1		0.0			0.0							
Progression Factor		1.00			1.00							
Incremental Delay, d2		0.0			0.0							
Delay (s)		0.0			0.0							
Level of Service		A			A							
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	33.5	Sum of lost time (s)	9.8
Intersection Capacity Utilization	11.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
458: GRENFELL ST (IPS) & RR 59 (GIBB ST)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	257	23	8	271	8	0	0	0	0	0	0
Future Volume (vph)	21	257	23	8	271	8	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8		5.8	5.8							
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	0.99	1.00		0.99	1.00							
Frt	1.00	0.99		1.00	1.00							
Flt Protected	0.95	1.00		0.95	1.00							
Satd. Flow (prot)	1484	1578		1568	1677							
Flt Permitted	0.57	1.00		0.57	1.00							
Satd. Flow (perm)	898	1578		949	1677							
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)	23	279	25	9	295	9	0	0	0	0	0	0
RTOR Reduction (vph)	0	3	0	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	23	301	0	9	303	0	0	0	0	0	0	0
Confl. Peds. (#/hr)	7		5	5		7	9					9
Heavy Vehicles (%)	19%	18%	9%	13%	11%	25%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA							
Protected Phases		2			2							
Permitted Phases	2			2								
Actuated Green, G (s)	41.8	41.8		41.8	41.8							
Effective Green, g (s)	41.8	41.8		41.8	41.8							
Actuated g/C Ratio	0.76	0.76		0.76	0.76							
Clearance Time (s)	5.8	5.8		5.8	5.8							
Vehicle Extension (s)	3.0	3.0		3.0	3.0							
Lane Grp Cap (vph)	682	1199		721	1274							
v/s Ratio Prot		c0.19			0.18							
v/s Ratio Perm	0.03			0.01								
v/c Ratio	0.03	0.25		0.01	0.24							
Uniform Delay, d1	1.6	2.0		1.6	1.9							
Progression Factor	1.05	1.06		1.00	1.00							
Incremental Delay, d2	0.1	0.5		0.0	0.4							
Delay (s)	1.8	2.6		1.6	2.4							
Level of Service	A	A		A	A							
Approach Delay (s)		2.5			2.4			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	2.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	9.8
Intersection Capacity Utilization	22.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
495: TOWNLINE RD. & RR 22 (BLOOR ST)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	164	36	14	332	76	104	88	28	15	21	96
Future Volume (vph)	43	164	36	14	332	76	104	88	28	15	21	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	6.3	6.3		6.3	6.3		6.3	6.3	6.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	0.99		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1785	1789	1507	1566	1808		1776	1655		1781	1648	1557
Flt Permitted	0.49	1.00	1.00	0.64	1.00		0.74	1.00		0.68	1.00	1.00
Satd. Flow (perm)	929	1789	1507	1063	1808		1388	1655		1268	1648	1557
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	178	39	15	361	83	113	96	30	16	23	104
RTOR Reduction (vph)	0	0	13	0	6	0	0	23	0	0	0	89
Lane Group Flow (vph)	47	178	26	15	438	0	113	103	0	16	23	15
Confl. Peds. (#/hr)							4		2	2		4
Heavy Vehicles (%)	0%	5%	6%	14%	1%	1%	0%	6%	18%	0%	14%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2	2	2	6	6		8			4		4
Actuated Green, G (s)	47.5	47.5	47.5	47.5	47.5		9.9	9.9		9.9	9.9	9.9
Effective Green, g (s)	47.5	47.5	47.5	47.5	47.5		9.9	9.9		9.9	9.9	9.9
Actuated g/C Ratio	0.68	0.68	0.68	0.68	0.68		0.14	0.14		0.14	0.14	0.14
Clearance Time (s)	6.3	6.3	6.3	6.3	6.3		6.3	6.3		6.3	6.3	6.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	630	1213	1022	721	1226		196	234		179	233	220
v/s Ratio Prot		0.10			c0.24			0.06			0.01	
v/s Ratio Perm	0.05		0.02	0.01			c0.08			0.01		0.01
v/c Ratio	0.07	0.15	0.03	0.02	0.36		0.58	0.44		0.09	0.10	0.07
Uniform Delay, d1	3.8	4.0	3.7	3.7	4.8		28.1	27.5		26.1	26.2	26.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.3	0.0	0.1	0.8		4.1	1.3		0.2	0.2	0.1
Delay (s)	4.0	4.3	3.7	3.7	5.6		32.2	28.8		26.3	26.4	26.2
Level of Service	A	A	A	A	A		C	C		C	C	C
Approach Delay (s)		4.1			5.5			30.4			26.2	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	59.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
499: FAREWELL ST & RR 59 (OLIVE AVE)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Future Volume (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0							
Lane Util. Factor		1.00			1.00							
Frt		1.00			1.00							
Flt Protected		1.00			1.00							
Satd. Flow (prot)		1842			1842							
Flt Permitted		1.00			1.00							
Satd. Flow (perm)		1842			1842							
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)	0	1	0	0	1	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Turn Type		NA			NA							
Protected Phases		2			2							
Permitted Phases	2			2								
Actuated Green, G (s)		70.0			70.0							
Effective Green, g (s)		70.0			70.0							
Actuated g/C Ratio		1.00			1.00							
Clearance Time (s)		6.0			6.0							
Vehicle Extension (s)		3.0			3.0							
Lane Grp Cap (vph)		1842			1842							
v/s Ratio Prot		c0.00			0.00							
v/s Ratio Perm												
v/c Ratio		0.00			0.00							
Uniform Delay, d1		0.0			0.0							
Progression Factor		1.00			1.00							
Incremental Delay, d2		0.0			0.0							
Delay (s)		0.0			0.0							
Level of Service		A			A							
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.7
Intersection Capacity Utilization	21.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
631: DEVON PORT LN/SAWDON DR (IPS) & BURNS ST E

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Future Volume (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2			6.2							
Lane Util. Factor		1.00			1.00							
Frt		1.00			1.00							
Flt Protected		1.00			1.00							
Satd. Flow (prot)		1842			1842							
Flt Permitted		1.00			1.00							
Satd. Flow (perm)		1842			1842							
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)	0	1	0	0	1	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Turn Type		NA			NA							
Protected Phases		2			2							
Permitted Phases	2			2								
Actuated Green, G (s)		0.0			0.0							
Effective Green, g (s)		0.0			0.0							
Actuated g/C Ratio		0.00			0.00							
Clearance Time (s)		6.2			6.2							
Vehicle Extension (s)		3.0			3.0							
Lane Grp Cap (vph)		0			0							
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio		no cap			no cap							
Uniform Delay, d1		Error			Error							
Progression Factor												
Incremental Delay, d2		Error			Error							
Delay (s)		Error			Error							
Level of Service		F			F							
Approach Delay (s)		Error			Error			0.0			0.0	
Approach LOS		F			F			A			A	

Intersection Summary			
HCM 2000 Control Delay	Error	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	3.0	Sum of lost time (s)	10.9
Intersection Capacity Utilization	11.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
670: RR 35 (WILSON RD) & SHAKESPEARE AVE.

11/02/2022

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	247	27	26	261
Future Volume (vph)	0	0	247	27	26	261
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			6.0			6.0
Lane Util. Factor			1.00			1.00
Frpb, ped/bikes			1.00			1.00
Flpb, ped/bikes			1.00			1.00
Frt			0.99			1.00
Flt Protected			1.00			1.00
Satd. Flow (prot)			1506			1577
Flt Permitted			1.00			0.96
Satd. Flow (perm)			1506			1523
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	268	29	28	284
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	297	0	0	312
Confl. Peds. (#/hr)	133					
Heavy Vehicles (%)	0%	0%	24%	15%	35%	17%
Turn Type			NA		Perm	NA
Protected Phases			2			2
Permitted Phases					2	
Actuated Green, G (s)			70.0			70.0
Effective Green, g (s)			70.0			70.0
Actuated g/C Ratio			1.00			1.00
Clearance Time (s)			6.0			6.0
Vehicle Extension (s)			3.0			3.0
Lane Grp Cap (vph)			1506			1523
v/s Ratio Prot			0.20			
v/s Ratio Perm						c0.20
v/c Ratio			0.20			0.20
Uniform Delay, d1			0.0			0.0
Progression Factor			1.00			1.00
Incremental Delay, d2			0.3			0.3
Delay (s)			0.3			0.3
Level of Service			A			A
Approach Delay (s)	0.0		0.3			0.3
Approach LOS	A		A			A

Intersection Summary			
HCM 2000 Control Delay	0.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	40.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
810: MEADOWGLADE RD & RR 22 (BLOOR ST)

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	126	12	19	164	7	60	45	49	10	18	233
Future Volume (vph)	39	126	12	19	164	7	60	45	49	10	18	233
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3		6.3	6.3		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.92		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1731	1793		1700	1780		1731	1645		1778	1571	
Flt Permitted	0.64	1.00		0.66	1.00		0.59	1.00		0.69	1.00	
Satd. Flow (perm)	1167	1793		1184	1780		1074	1645		1294	1571	
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)	42	137	13	21	178	8	65	49	53	11	20	253
RTOR Reduction (vph)	0	6	0	0	3	0	0	33	0	0	156	0
Lane Group Flow (vph)	42	144	0	21	183	0	65	69	0	11	117	0
Confl. Peds. (#/hr)	1					1	1		3	3		1
Heavy Vehicles (%)	3%	3%	8%	5%	5%	0%	3%	4%	4%	0%	0%	1%
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)	21.7	21.7		21.7	21.7		21.0	21.0		21.0	21.0	
Effective Green, g (s)	21.7	21.7		21.7	21.7		21.0	21.0		21.0	21.0	
Actuated g/C Ratio	0.39	0.39		0.39	0.39		0.38	0.38		0.38	0.38	
Clearance Time (s)	6.3	6.3		6.3	6.3		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	460	707		467	702		410	628		494	599	
v/s Ratio Prot		0.08			c0.10			0.04			c0.07	
v/s Ratio Perm	0.04			0.02			0.06			0.01		
v/c Ratio	0.09	0.20		0.04	0.26		0.16	0.11		0.02	0.19	
Uniform Delay, d1	10.5	11.0		10.3	11.2		11.2	11.0		10.6	11.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.4	0.6		0.2	0.9		0.8	0.4		0.1	0.7	
Delay (s)	10.9	11.6		10.4	12.1		12.0	11.3		10.7	12.1	
Level of Service	B	B		B	B		B	B		B	B	
Approach Delay (s)		11.4			12.0			11.6			12.0	
Approach LOS		B			B			B			B	

Intersection Summary				
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.23			
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	12.3	
Intersection Capacity Utilization	70.2%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
823: HWY 2 & MAPLE GROVE RD

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	585	22	92	667	14	9	11	95	12	13	8
Future Volume (vph)	10	585	22	92	667	14	9	11	95	12	13	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.6	4.6	4.6	4.0	4.6		4.7	4.7		4.7	4.7	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.87		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1487	3433	1465	1767	3481		1785	1596		1785	1608	
Flt Permitted	0.37	1.00	1.00	0.40	1.00		0.74	1.00		0.62	1.00	
Satd. Flow (perm)	575	3433	1465	736	3481		1395	1596		1170	1608	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	636	24	100	725	15	10	12	103	13	14	9
RTOR Reduction (vph)	0	0	8	0	1	0	0	92	0	0	8	0
Lane Group Flow (vph)	11	636	16	100	739	0	10	23	0	13	15	0
Heavy Vehicles (%)	20%	4%	9%	1%	2%	14%	0%	18%	0%	0%	8%	13%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	57.7	57.7	57.7	73.1	69.5		7.1	7.1		7.1	7.1	
Effective Green, g (s)	59.7	59.7	59.7	72.1	71.5		9.2	9.2		9.2	9.2	
Actuated g/C Ratio	0.66	0.66	0.66	0.80	0.79		0.10	0.10		0.10	0.10	
Clearance Time (s)	6.6	6.6	6.6	3.0	6.6		6.8	6.8		6.8	6.8	
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)	381	2277	971	678	2765		142	163		119	164	
v/s Ratio Prot		c0.19		0.01	c0.21			c0.01			0.01	
v/s Ratio Perm	0.02		0.01	0.11			0.01			0.01		
v/c Ratio	0.03	0.28	0.02	0.15	0.27		0.07	0.14		0.11	0.09	
Uniform Delay, d1	5.2	6.3	5.2	2.6	2.4		36.5	36.8		36.7	36.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3	0.0	0.1	0.2		0.2	0.4		0.4	0.2	
Delay (s)	5.3	6.6	5.2	2.7	2.7		36.7	37.2		37.1	36.9	
Level of Service	A	A	A	A	A		D	D		D	D	
Approach Delay (s)		6.5			2.7			37.1			36.9	
Approach LOS		A			A			D			D	

Intersection Summary				
HCM 2000 Control Delay	7.5	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.27			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.3	
Intersection Capacity Utilization	54.5%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
831: RR 67 (BOWMANVILLE AVE) & HARTWELL AVENUE

11/02/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	0	44	0	0	0	29	454	0	0	753	24
Future Volume (vph)	23	0	44	0	0	0	29	454	0	0	753	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.3	6.3				6.6	6.6			6.6	6.6
Lane Util. Factor		1.00	1.00				1.00	0.95			0.95	1.00
Frpb, ped/bikes		1.00	1.00				1.00	1.00			1.00	0.97
Flpb, ped/bikes		1.00	1.00				1.00	1.00			1.00	1.00
Frt		1.00	0.85				1.00	1.00			1.00	0.85
Flt Protected		0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)		1750	1566				1746	3500			3500	1523
Flt Permitted		0.76	1.00				0.34	1.00			1.00	1.00
Satd. Flow (perm)		1395	1566				631	3500			3500	1523
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)	25	0	48	0	0	0	32	493	0	0	818	26
RTOR Reduction (vph)	0	0	44	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	0	25	4	0	0	0	32	493	0	0	818	20
Confl. Peds. (#/hr)							2					2
Turn Type	Perm	NA	Perm				Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		6
Actuated Green, G (s)		6.7	6.7				70.4	70.4			70.4	70.4
Effective Green, g (s)		6.7	6.7				70.4	70.4			70.4	70.4
Actuated g/C Ratio		0.07	0.07				0.78	0.78			0.78	0.78
Clearance Time (s)		6.3	6.3				6.6	6.6			6.6	6.6
Vehicle Extension (s)		3.0	3.0				3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		103	116				493	2737			2737	1191
v/s Ratio Prot								0.14			c0.23	
v/s Ratio Perm		c0.02	0.00				0.05					0.01
v/c Ratio		0.24	0.03				0.06	0.18			0.30	0.02
Uniform Delay, d1		39.3	38.6				2.2	2.5			2.8	2.2
Progression Factor		1.00	1.00				1.00	1.00			0.47	0.11
Incremental Delay, d2		1.2	0.1				0.3	0.1			0.3	0.0
Delay (s)		40.5	38.7				2.5	2.6			1.6	0.3
Level of Service		D	D				A	A			A	A
Approach Delay (s)		39.3			0.0			2.6			1.5	
Approach LOS		D			A			A			A	

Intersection Summary				
HCM 2000 Control Delay	3.8	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.29			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.9	
Intersection Capacity Utilization	44.3%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
832: RR 54 (PARK) & OLIVER IPS

11/02/2022

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	795	595	0
Future Volume (vph)	0	0	0	795	595	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.1	6.1	
Lane Util. Factor				0.95	0.95	
Frpb, ped/bikes				1.00	1.00	
Flpb, ped/bikes				1.00	1.00	
Frt				1.00	1.00	
Flt Protected				1.00	1.00	
Satd. Flow (prot)				3368	3400	
Flt Permitted				1.00	1.00	
Satd. Flow (perm)				3368	3400	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	864	647	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	864	647	0
Confl. Peds. (#/hr)	20					
Heavy Vehicles (%)	2%	2%	2%	6%	5%	2%
Turn Type				NA	NA	
Protected Phases				2	2	
Permitted Phases						
Actuated Green, G (s)				90.0	90.0	
Effective Green, g (s)				90.0	90.0	
Actuated g/C Ratio				1.00	1.00	
Clearance Time (s)				6.1	6.1	
Vehicle Extension (s)				3.0	3.0	
Lane Grp Cap (vph)				3368	3400	
v/s Ratio Prot				c0.26	0.19	
v/s Ratio Perm						
v/c Ratio				0.26	0.19	
Uniform Delay, d1				0.0	0.0	
Progression Factor				1.00	1.00	
Incremental Delay, d2				0.2	0.1	
Delay (s)				0.2	0.1	
Level of Service				A	A	
Approach Delay (s)	0.0			0.2	0.1	
Approach LOS	A			A	A	

Intersection Summary				
HCM 2000 Control Delay	0.2	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.29			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1	
Intersection Capacity Utilization	27.1%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
9990: FAIRBANKS & RR 2 (SIMCOE ST) 11/02/2022

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	680	0	0
Future Volume (Veh/h)	0	0	0	680	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	739	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				67	155	
pX, platoon unblocked	0.76					
vC, conflicting volume	370	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	781	1084	1622			

Direction, Lane #	EB 1	EB 2	EB 3	NB 1	NB 2
Volume Total	0	0	0	370	370
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	0
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.22	0.22
Queue Length 95th (m)	0.0	0.0	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	A	A		
Approach Delay (s)	0.0			0.0	
Approach LOS	A				

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	22.1%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
9998: FAIRBANKS & RR 2A (CENTRE ST) 11/02/2022

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis
1: RR 26 (THICKSON RD) & BURNS ST

10/24/2022

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	220	100	1995	435	75	1510
Future Volume (vph)	220	100	1995	435	75	1510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	6.1	6.1	3.0	6.1
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	0.91
Frpb, ped/bikes	1.00	0.99	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1767	1560	5079	1557	1750	5029
Flt Permitted	0.95	1.00	1.00	1.00	0.05	1.00
Satd. Flow (perm)	1767	1560	5079	1557	97	5029
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	109	2168	473	82	1641
RTOR Reduction (vph)	0	63	0	133	0	0
Lane Group Flow (vph)	239	46	2168	340	82	1641
Confl. Peds. (#/hr)		1		2	2	
Heavy Vehicles (%)	1%	1%	1%	0%	2%	2%
Turn Type	Perm	Perm	NA	Perm	pm+pt	NA
Protected Phases			2		1	6
Permitted Phases	8	8		2	6	
Actuated Green, G (s)	20.2	20.2	80.7	80.7	88.1	88.1
Effective Green, g (s)	20.2	20.2	80.7	80.7	88.1	88.1
Actuated g/C Ratio	0.17	0.17	0.67	0.67	0.73	0.73
Clearance Time (s)	5.6	5.6	6.1	6.1	3.0	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	297	262	3415	1047	131	3692
v/s Ratio Prot			0.43		c0.02	0.33
v/s Ratio Perm	c0.14	0.03		0.22	c0.43	
v/c Ratio	0.80	0.17	0.63	0.33	0.63	0.44
Uniform Delay, d1	48.0	42.8	11.2	8.2	11.9	6.3
Progression Factor	1.00	1.00	0.51	0.12	1.00	1.00
Incremental Delay, d2	14.6	0.3	0.1	0.1	9.0	0.4
Delay (s)	62.6	43.1	5.8	1.0	20.9	6.7
Level of Service	E	D	A	A	C	A
Approach Delay (s)	56.5		4.9		7.4	
Approach LOS	E		A		A	

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: RR 26 (THICKSON RD) & RR 25 (CONSUMERS DR)/RR 25 (STELLAR DR)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	505	775	805	265	415	265	440	1640	305	200	1155	410
Future Volume (vph)	505	775	805	265	415	265	440	1640	305	200	1155	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.6	3.4	3.0	6.6	6.6	3.4	6.4	6.4	3.0	6.4	6.4
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1608	3104	1385	1487	3187	1420	1513	4460	1326	1579	4460	1402
Flt Permitted	0.34	1.00	1.00	0.14	1.00	1.00	0.12	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)	577	3104	1385	220	3187	1420	193	4460	1326	225	4460	1402
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)	549	842	875	288	451	288	478	1783	332	217	1255	446
RTOR Reduction (vph)	0	0	31	0	0	134	0	0	205	0	0	237
Lane Group Flow (vph)	549	842	844	288	451	154	478	1783	127	217	1255	209
Confl. Peds. (#/hr)	1		7	7		1	3		10	10		3
Heavy Vehicles (%)	11%	15%	14%	20%	12%	11%	18%	15%	17%	13%	15%	12%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	47.4	30.4	56.0	43.4	28.4	28.4	58.6	45.6	45.6	39.6	29.6	29.6
Effective Green, g (s)	47.4	30.4	56.0	43.4	28.4	28.4	58.6	45.6	45.6	39.6	29.6	29.6
Actuated g/C Ratio	0.39	0.25	0.47	0.36	0.24	0.24	0.49	0.38	0.38	0.33	0.25	0.25
Clearance Time (s)	3.0	6.6	3.4	3.0	6.6	6.6	3.4	6.4	6.4	3.0	6.4	6.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	373	786	646	237	754	336	375	1694	503	187	1100	345
v/s Ratio Prot	c0.21	0.27	c0.28	0.15	0.14		0.27	0.40		0.10	0.28	
v/s Ratio Perm	c0.37		0.33	0.29		0.11	c0.35		0.10	0.29		0.15
v/c Ratio	1.47	1.07	1.31	1.22	0.60	0.46	1.27	1.05	0.25	1.16	1.14	0.60
Uniform Delay, d1	32.1	44.8	32.0	33.1	40.7	39.2	36.3	37.2	25.5	34.2	45.2	40.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.28	1.01	2.68	1.08	1.11	1.64
Incremental Delay, d2	226.4	52.9	149.0	129.0	1.3	1.0	137.1	33.7	0.8	112.4	73.7	6.9
Delay (s)	258.6	97.7	181.0	162.1	42.0	40.2	183.8	71.4	69.3	149.4	124.0	72.5
Level of Service	F	F	F	F	D	D	F	E	E	F	F	E
Approach Delay (s)		168.8			75.2			91.8			114.9	
Approach LOS		F			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	117.7	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.43		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.4
Intersection Capacity Utilization	104.0%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: RR 26 (THICKSON RD) & HWY 401 WB RAMP

10/24/2022

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	225	730	1655	0	0	1550
Future Volume (vph)	225	730	1655	0	0	1550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%			3%
Total Lost time (s)	6.2	6.2	5.7			5.7
Lane Util. Factor	0.97	0.91	0.91			0.91
Frt	0.91	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	2589	1211	4539			4282
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	2589	1211	4539			4282
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	245	793	1799	0	0	1685
RTOR Reduction (vph)	3	3	0	0	0	0
Lane Group Flow (vph)	639	393	1799	0	0	1685
Heavy Vehicles (%)	34%	20%	13%	0%	0%	18%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	44.8	44.8	63.3			63.3
Effective Green, g (s)	44.8	44.8	63.3			63.3
Actuated g/C Ratio	0.37	0.37	0.53			0.53
Clearance Time (s)	6.2	6.2	5.7			5.7
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	966	452	2394			2258
v/s Ratio Prot	0.25		c0.40			0.39
v/s Ratio Perm		c0.32				
v/c Ratio	0.66	0.87	0.75			0.75
Uniform Delay, d1	31.3	34.9	22.2			22.1
Progression Factor	1.00	1.00	1.00			0.64
Incremental Delay, d2	1.7	16.1	2.2			0.2
Delay (s)	33.0	51.0	24.4			14.3
Level of Service	C	D	C			B
Approach Delay (s)	39.9		24.4			14.3
Approach LOS	D		C			B

Intersection Summary			
HCM 2000 Control Delay	24.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	72.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: RR 26 (THICKSON RD) & HWY 401 EB RAMP

10/24/2022

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	800	375	0	1570	1055	0
Future Volume (vph)	800	375	0	1570	1055	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%			3%	0%	
Total Lost time (s)	5.6	5.6		5.8	5.8	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3049	1195		4318	4347	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3049	1195		4318	4347	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	870	408	0	1707	1147	0
RTOR Reduction (vph)	0	23	0	0	0	0
Lane Group Flow (vph)	870	385	0	1707	1147	0
Heavy Vehicles (%)	13%	33%	0%	17%	18%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	33.9	33.9		44.7	44.7	
Effective Green, g (s)	33.9	33.9		44.7	44.7	
Actuated g/C Ratio	0.38	0.38		0.50	0.50	
Clearance Time (s)	5.6	5.6		5.8	5.8	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	1148	450		2144	2159	
v/s Ratio Prot	0.29			c0.40	0.26	
v/s Ratio Perm		c0.32				
v/c Ratio	0.76	0.86		0.80	0.53	
Uniform Delay, d1	24.5	25.8		18.9	15.5	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.9	14.7		3.2	0.9	
Delay (s)	27.4	40.5		22.0	16.4	
Level of Service	C	D		C	B	
Approach Delay (s)	31.6			22.0	16.4	
Approach LOS	C			C	B	

Intersection Summary			
HCM 2000 Control Delay	23.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	72.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
5: RR 25A (CHAMPLAIN AV) & RR 25 (STELLAR DR)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	775	175	200	365	150	330	40	315	75	85	110
Future Volume (vph)	70	775	175	200	365	150	330	40	315	75	85	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.7	6.7		6.0	6.7		6.0	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.97		1.00	0.96		1.00	0.87		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)	1767	3095		1785	3366		1750	1629		1785	1700	
Flt Permitted	0.44	1.00		0.10	1.00		0.26	1.00		0.53	1.00	
Satd. Flow (perm)	822	3095		192	3366		480	1629		1003	1700	
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)	76	842	190	217	397	163	359	43	342	82	92	120
RTOR Reduction (vph)	0	15	0	0	34	0	0	193	0	0	42	0
Lane Group Flow (vph)	76	1017	0	217	526	0	359	192	0	82	170	0
Heavy Vehicles (%)	1%	0%	66%	0%	2%	0%	2%	0%	0%	0%	0%	2%
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		2		1	6		3	8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	40.6	40.6		58.5	58.5		38.7	38.7		15.1	15.1	
Effective Green, g (s)	40.6	40.6		58.5	58.5		38.7	38.7		15.1	15.1	
Actuated g/C Ratio	0.37	0.37		0.53	0.53		0.35	0.35		0.14	0.14	
Clearance Time (s)	6.7	6.7		6.0	6.7		6.0	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	302	1139		273	1785		371	571		137	232	
v/s Ratio Prot		c0.33		c0.09	0.16		c0.15	0.12			0.10	
v/s Ratio Perm	0.09			0.33			c0.19			0.08		
v/c Ratio	0.25	0.89		0.79	0.29		0.97	0.34		0.60	0.73	
Uniform Delay, d1	24.3	32.8		23.3	14.4		30.8	26.4		44.8	45.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.0	10.8		14.7	0.4		37.8	0.4		6.9	11.3	
Delay (s)	26.3	43.6		38.0	14.8		68.6	26.7		51.6	56.9	
Level of Service	C	D		D	B		E	C		D	E	
Approach Delay (s)		42.4			21.3			46.9			55.4	
Approach LOS		D			C			D			E	

Intersection Summary				
HCM 2000 Control Delay	39.2	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.95			
Actuated Cycle Length (s)	110.3	Sum of lost time (s)	25.1	
Intersection Capacity Utilization	88.5%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: KENDALWOOD RD & BURNS ST E

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	455	0	0	335	200	0	0	15	325	15	115
Future Volume (vph)	130	455	0	0	335	200	0	0	15	325	15	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0			6.4		6.4	6.4	
Lane Util. Factor	1.00	1.00			1.00			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00			0.99			1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00			1.00			1.00		1.00	1.00	
Frt	1.00	1.00			0.94			0.85		1.00	0.87	
Flt Protected	0.95	1.00			1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1577	1740			1606			1597		1594	1409	
Flt Permitted	0.30	1.00			1.00			1.00		0.75	1.00	
Satd. Flow (perm)	495	1740			1606			1597		1253	1409	
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)	141	495	0	0	364	217	0	0	16	353	16	125
RTOR Reduction (vph)	0	0	0	0	35	0	0	11	0	0	84	0
Lane Group Flow (vph)	141	495	0	0	546	0	0	5	0	353	57	0
Confl. Peds. (#/hr)	3					3	4					4
Heavy Vehicles (%)	13%	8%	0%	0%	9%	10%	33%	0%	0%	12%	27%	11%
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)	27.1	27.1			27.1			19.0		19.0	19.0	
Effective Green, g (s)	27.1	27.1			27.1			19.0		19.0	19.0	
Actuated g/C Ratio	0.46	0.46			0.46			0.32		0.32	0.32	
Clearance Time (s)	6.0	6.0			6.0			6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0			3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	229	806			743			518		406	457	
v/s Ratio Prot		0.28			c0.34			0.00			0.04	
v/s Ratio Perm	0.28									c0.28		
v/c Ratio	0.62	0.61			0.74			0.01		0.87	0.12	
Uniform Delay, d1	11.8	11.8			12.8			13.4		18.6	13.9	
Progression Factor	1.00	1.00			1.00			1.00		1.00	1.00	
Incremental Delay, d2	11.8	3.5			6.4			0.0		17.6	0.1	
Delay (s)	23.6	15.3			19.2			13.4		36.2	14.0	
Level of Service	C	B			B			B		D	B	
Approach Delay (s)		17.1			19.2			13.4			29.9	
Approach LOS		B			B			B			C	

Intersection Summary				
HCM 2000 Control Delay	21.4	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	58.5	Sum of lost time (s)	12.4	
Intersection Capacity Utilization	86.6%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: RR 52 (THORNTON RD) & RR 59 (GIBB ST)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	170	555	30	50	420	265	80	700	105	370	600	75
Future Volume (vph)	170	555	30	50	420	265	80	700	105	370	600	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.0	6.1	6.1
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1767	1860	1568	1782	1860	1526	1748	3570	1549	1750	3500	1529
Flt Permitted	0.12	1.00	1.00	0.24	1.00	1.00	0.40	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	215	1860	1568	445	1860	1526	743	3570	1549	242	3500	1529
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)	185	603	33	54	457	288	87	761	114	402	652	82
RTOR Reduction (vph)	0	0	20	0	0	110	0	0	88	0	0	41
Lane Group Flow (vph)	185	603	13	54	457	178	87	761	26	402	652	41
Confl. Peds. (#/hr)	2		3	3		2	1		3	3		1
Heavy Vehicles (%)	1%	1%	0%	0%	1%	3%	2%	0%	0%	2%	2%	2%
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2			6			8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	42.6	42.6	42.6	28.6	28.6	28.6	24.5	24.5	24.5	53.5	53.5	53.5
Effective Green, g (s)	42.6	42.6	42.6	28.6	28.6	28.6	24.5	24.5	24.5	53.5	53.5	53.5
Actuated g/C Ratio	0.39	0.39	0.39	0.26	0.26	0.26	0.23	0.23	0.23	0.49	0.49	0.49
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.1	6.1	6.1	6.0	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	199	732	617	117	491	403	168	808	350	440	1730	756
v/s Ratio Prot	0.07	c0.32			0.25			0.21		c0.19	0.19	
v/s Ratio Perm	c0.30		0.01	0.12		0.12	0.12		0.02	c0.26		0.03
v/c Ratio	0.93	0.82	0.02	0.46	0.93	0.44	0.52	0.94	0.07	0.91	0.38	0.05
Uniform Delay, d1	26.4	29.4	20.1	33.3	38.8	33.1	36.7	41.1	32.9	29.9	17.0	14.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	43.8	7.5	0.0	2.9	24.5	0.8	2.7	18.9	0.1	23.2	0.1	0.0
Delay (s)	70.1	36.9	20.1	36.2	63.3	33.9	39.4	60.1	33.0	53.1	17.1	14.2
Level of Service	E	D	C	D	E	C	D	E	C	D	B	B
Approach Delay (s)		43.7			50.9			55.0			29.6	
Approach LOS		D			D			D			C	

Intersection Summary				
HCM 2000 Control Delay	43.9	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	1.00			
Actuated Cycle Length (s)	108.2	Sum of lost time (s)	24.1	
Intersection Capacity Utilization	97.5%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
8: RR 52 (THORNTON RD) & RR 25 (STELLAR DR)/Laval Drive

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	270	400	155	175	300	150	40	625	130	150	555	180
Future Volume (vph)	270	400	155	175	300	150	40	625	130	150	555	180
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	5.6		6.0	6.0	6.0	6.5	6.5	6.5	6.0	6.5	6.5
Lane Util. Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1513	1732		1750	1842	1566	1580	1648	1566	1750	1592	1377
Flt Permitted	0.33	1.00		0.25	1.00	1.00	0.29	1.00	1.00	0.08	1.00	1.00
Satd. Flow (perm)	531	1732		466	1842	1566	484	1648	1566	140	1592	1377
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)	293	435	168	190	326	163	43	679	141	163	603	196
RTOR Reduction (vph)	0	11	0	0	0	111	0	0	83	0	0	104
Lane Group Flow (vph)	293	592	0	190	326	52	43	679	58	163	603	92
Heavy Vehicles (%)	18%	2%	9%	2%	2%	2%	13%	14%	2%	2%	18%	16%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	51.4	51.4		38.0	38.0	38.0	46.5	46.5	46.5	56.5	56.5	56.5
Effective Green, g (s)	51.4	51.4		38.0	38.0	38.0	46.5	46.5	46.5	56.5	56.5	56.5
Actuated g/C Ratio	0.43	0.43		0.32	0.32	0.32	0.39	0.39	0.39	0.47	0.47	0.47
Clearance Time (s)	6.0	5.6		6.0	6.0	6.0	6.5	6.5	6.5	6.0	6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	284	741		147	583	495	187	638	606	119	749	648
v/s Ratio Prot	c0.06	0.34			0.18			0.41		0.05	c0.38	
v/s Ratio Perm	0.38			c0.41		0.03	0.09		0.04	c0.59		0.07
v/c Ratio	1.03	0.80		1.29	0.56	0.10	0.23	1.06	0.10	1.37	0.81	0.14
Uniform Delay, d1	36.0	29.8		41.0	34.0	29.0	24.7	36.8	23.4	31.1	27.1	18.0
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	61.8	6.0		172.8	1.2	0.1	2.9	54.0	0.3	210.6	9.0	0.5
Delay (s)	97.9	35.8		213.8	35.2	29.1	27.6	90.7	23.7	241.7	36.1	18.5
Level of Service	F	D		F	D	C	C	F	C	F	D	B
Approach Delay (s)		56.1			83.7			76.6			67.3	
Approach LOS		E			F			E			E	

Intersection Summary				
HCM 2000 Control Delay	70.0	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	1.36			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.5	
Intersection Capacity Utilization	106.6%	ICU Level of Service	G	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
9: RR 25 (CHAMPLAIN AVE) & RR 52 (THORNTON RD)

10/24/2022

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	190	510	650	345	450	350
Future Volume (vph)	190	510	650	345	450	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1638	3000	3368	1353	1487	1452
Flt Permitted	0.20	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	347	3000	3368	1353	1487	1452
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	207	554	707	375	489	380
RTOR Reduction (vph)	0	0	0	269	0	176
Lane Group Flow (vph)	207	554	707	106	489	204
Heavy Vehicles (%)	9%	19%	6%	18%	20%	10%
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases	4			8		6
Actuated Green, G (s)	24.9	24.9	14.9	14.9	16.0	16.0
Effective Green, g (s)	24.9	24.9	14.9	14.9	16.0	16.0
Actuated g/C Ratio	0.47	0.47	0.28	0.28	0.30	0.30
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	260	1412	948	381	449	439
v/s Ratio Prot	c0.06	0.18	0.21		c0.33	
v/s Ratio Perm	c0.31			0.08		0.14
v/c Ratio	0.80	0.39	0.75	0.28	1.09	0.46
Uniform Delay, d1	9.9	9.1	17.3	14.8	18.4	15.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	15.4	0.2	3.2	0.4	68.7	0.8
Delay (s)	25.3	9.3	20.5	15.2	87.1	15.7
Level of Service	C	A	C	B	F	B
Approach Delay (s)		13.6	18.7		55.9	
Approach LOS		B	B		E	

Intersection Summary			
HCM 2000 Control Delay	29.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	52.9	Sum of lost time (s)	18.0
Intersection Capacity Utilization	68.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
10: RR 25 (CHAMPLAIN AVE) & FOX ST

10/24/2022

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	240	720	800	120	210	195
Future Volume (vph)	240	720	800	120	210	195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	5.9	5.9	5.9	5.9	5.9
Lane Util. Factor	1.00	1.00	1.00	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1700	1824	1842	1493	3206	1465
Flt Permitted	0.24	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	430	1824	1842	1493	3206	1465
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	261	783	870	130	228	212
RTOR Reduction (vph)	0	0	0	39	0	161
Lane Group Flow (vph)	261	783	870	91	228	51
Heavy Vehicles (%)	5%	3%	2%	7%	8%	9%
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	52.2	52.2	52.2	52.2	10.9	10.9
Effective Green, g (s)	52.2	52.2	52.2	52.2	10.9	10.9
Actuated g/C Ratio	0.70	0.70	0.70	0.70	0.15	0.15
Clearance Time (s)	5.9	5.9	5.9	5.9	5.9	5.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	299	1271	1283	1040	466	213
v/s Ratio Prot		0.43	0.47		c0.07	
v/s Ratio Perm	c0.61			0.06		0.03
v/c Ratio	0.87	0.62	0.68	0.09	0.49	0.24
Uniform Delay, d1	8.8	6.0	6.5	3.7	29.4	28.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	27.8	2.2	2.9	0.2	0.8	0.6
Delay (s)	36.6	8.3	9.4	3.8	30.3	28.9
Level of Service	D	A	A	A	C	C
Approach Delay (s)		15.4	8.7		29.6	
Approach LOS		B	A		C	

Intersection Summary			
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	74.9	Sum of lost time (s)	11.8
Intersection Capacity Utilization	80.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
11: RR 53 (STEVENSON RD) & RR 59 (GIBB ST)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	350	250	310	430	185	225	1180	510	160	900	80
Future Volume (vph)	70	350	250	310	430	185	225	1180	510	160	900	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.3		3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.2	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.96	1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1496	2615		1433	1580	1189	1397	2818	1249	1422	2861	
Flt Permitted	0.33	1.00		0.21	1.00	1.00	0.09	1.00	1.00	0.10	1.00	
Satd. Flow (perm)	514	2615		311	1580	1189	136	2818	1249	149	2861	
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)	76	380	272	337	467	201	245	1283	554	174	978	87
RTOR Reduction (vph)	0	107	0	0	0	123	0	0	138	0	5	0
Lane Group Flow (vph)	76	545	0	337	467	78	245	1283	416	174	1060	0
Confl. Peds. (#/hr)	25		14	14		25	8		12	12		8
Heavy Vehicles (%)	7%	13%	15%	12%	7%	16%	15%	14%	12%	13%	10%	17%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	36.3	32.3		49.4	42.4	42.4	58.2	48.2	48.2	47.2	40.2	
Effective Green, g (s)	36.3	32.3		49.4	42.4	42.4	58.2	48.2	48.2	47.2	40.2	
Actuated g/C Ratio	0.30	0.27		0.41	0.35	0.35	0.49	0.40	0.40	0.39	0.34	
Clearance Time (s)	3.0	6.3		3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	188	703		258	558	420	223	1131	501	132	958	
v/s Ratio Prot	0.01	0.21		c0.15	0.30		c0.14	0.46		c0.08	0.37	
v/s Ratio Perm	0.11			c0.38		0.07	0.39		0.33	c0.44		
v/c Ratio	0.40	0.78		1.31	0.84	0.19	1.10	1.13	0.83	1.32	1.11	
Uniform Delay, d1	32.2	40.5		29.3	35.6	26.9	36.1	35.9	32.2	30.4	39.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.26	1.53	2.03	1.00	1.00	
Incremental Delay, d2	1.4	8.2		163.0	13.9	1.0	51.4	61.7	1.5	186.5	62.7	
Delay (s)	33.7	48.7		192.3	49.5	27.8	96.8	116.4	66.9	217.0	102.6	
Level of Service	C	D		F	D	C	F	F	E	F	F	
Approach Delay (s)		47.1			93.1			100.9			118.6	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	96.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.32		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	108.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
12: RR 53 (STEVENSON RD) & LAVAL DRIVE

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	95	295	85	110	95	350	1520	155	120	1120	220
Future Volume (vph)	300	95	295	85	110	95	350	1520	155	120	1120	220
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.3	6.3	6.3	6.3		3.0	6.3	6.3	3.0	6.3	6.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.98		1.00	1.00	0.95	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1618	1708	1375	1674	1591		1526	3077	1328	1653	3104	1453
Flt Permitted	0.27	1.00	1.00	0.69	1.00		0.09	1.00	1.00	0.09	1.00	1.00
Satd. Flow (perm)	468	1708	1375	1217	1591		141	3077	1328	163	3104	1453
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)	326	103	321	92	120	103	380	1652	168	130	1217	239
RTOR Reduction (vph)	0	0	184	0	27	0	0	0	60	0	0	132
Lane Group Flow (vph)	326	103	137	92	196	0	380	1652	108	130	1217	107
Confl. Peds. (#/hr)	15		4	4		15	3		11	11		3
Heavy Vehicles (%)	10%	10%	14%	6%	9%	7%	17%	16%	14%	8%	15%	8%
Turn Type	pm+pt	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)	40.1	40.1	40.1	19.1	19.1		67.3	56.2	56.2	50.8	42.7	42.7
Effective Green, g (s)	40.1	40.1	40.1	19.1	19.1		67.3	56.2	56.2	50.8	42.7	42.7
Actuated g/C Ratio	0.33	0.33	0.33	0.16	0.16		0.56	0.47	0.47	0.42	0.36	0.36
Clearance Time (s)	6.0	6.3	6.3	6.3	6.3		3.0	6.3	6.3	3.0	6.3	6.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	300	570	459	193	253		328	1441	621	169	1104	517
v/s Ratio Prot	c0.14	0.06			0.12		c0.21	0.54		0.05	0.39	
v/s Ratio Perm	c0.23		0.10	0.08			c0.44		0.08	0.27		0.07
v/c Ratio	1.09	0.18	0.30	0.48	0.78		1.16	1.15	0.17	0.77	1.10	0.21
Uniform Delay, d1	36.2	28.3	29.5	45.9	48.4		38.3	31.9	18.5	28.4	38.6	26.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.20	0.73	0.66	1.38	1.40	3.18
Incremental Delay, d2	77.1	0.2	0.4	1.9	13.8		74.8	66.8	0.1	2.0	47.6	0.1
Delay (s)	113.3	28.5	29.9	47.8	62.2		120.7	90.2	12.2	41.3	101.8	85.7
Level of Service	F	C	C	D	E		F	F	B	D	F	F
Approach Delay (s)		65.9			58.0			89.5			94.4	
Approach LOS		E			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	85.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.6
Intersection Capacity Utilization	100.5%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
13: RR 53 (STEVENSON RD) & RR 25 (CHAMPLAIN AVE)/HWY 401 WB EXIT RAMP

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	425	0	505	305	390	600	205	1000	0	0	1400	325
Future Volume (vph)	425	0	505	305	390	600	205	1000	0	0	1400	325
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9		5.9	5.9	5.9	5.9	3.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.91	0.91	1.00	1.00	0.95			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.99	1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.99	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1566		1401	1299	2806	1358	1608	3131			4621	1389
Flt Permitted	0.95		1.00	0.95	0.99	1.00	0.12	1.00			1.00	1.00
Satd. Flow (perm)	1566		1401	1299	2806	1358	206	3131			4621	1389
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)	462	0	549	332	424	652	223	1087	0	0	1522	353
RTOR Reduction (vph)	0	0	183	0	0	84	0	0	0	0	0	182
Lane Group Flow (vph)	462	0	366	246	510	568	223	1087	0	0	1522	171
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	14%	0%	14%	25%	20%	16%	11%	14%	0%	0%	11%	15%
Turn Type	Prot		Perm	Split	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases	4			8	8		5	2			6	
Permitted Phases			4			8	2					6
Actuated Green, G (s)	26.1		26.1	34.1	34.1	34.1	40.9	40.9			29.9	29.9
Effective Green, g (s)	26.1		26.1	34.1	34.1	34.1	40.9	40.9			29.9	29.9
Actuated g/C Ratio	0.22		0.22	0.28	0.28	0.28	0.34	0.34			0.25	0.25
Clearance Time (s)	5.9		5.9	5.9	5.9	5.9	3.0	7.1			7.1	7.1
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)	340		304	369	797	385	163	1067			1151	346
v/s Ratio Prot	c0.30			0.19	0.18		c0.09	0.35			0.33	
v/s Ratio Perm			0.26			c0.42	c0.37					0.12
v/c Ratio	1.36		1.20	0.67	0.64	1.47	1.37	1.02			1.32	0.50
Uniform Delay, d1	46.9		46.9	37.9	37.6	43.0	35.0	39.5			45.0	38.6
Progression Factor	1.00		1.00	1.00	1.00	1.00	1.21	1.13			1.26	1.96
Incremental Delay, d2	179.5		118.6	4.5	1.7	227.0	169.3	13.6			148.5	2.8
Delay (s)	226.5		165.6	42.4	39.3	270.0	211.5	58.2			205.3	78.6
Level of Service	F		F	D	D	F	F	E			F	E
Approach Delay (s)		193.4			146.7			84.3			181.4	
Approach LOS		F			F			F			F	

Intersection Summary				
HCM 2000 Control Delay	152.2	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.43			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.9	
Intersection Capacity Utilization	102.6%	ICU Level of Service	G	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
14: RR 53 (STEVENSON RD) & 401 EB RAMP/BLOOR ST CONNECTOR

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	775	405	135	160	0	770	0	885	130	130	570	800
Future Volume (vph)	775	405	135	160	0	770	0	885	130	130	570	800
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3		6.3		6.3		6.6		3.0	6.6	6.6
Lane Util. Factor	0.97	0.95		0.97		1.00		0.91		1.00	0.95	1.00
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	0.96		1.00		0.85		0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	1.00
Satd. Flow (prot)	3177	3030		2684		1210		4161		1594	2879	1413
Flt Permitted	0.95	1.00		0.95		1.00		1.00		0.14	1.00	1.00
Satd. Flow (perm)	3177	3030		2684		1210		4161		228	2879	1413
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)	842	440	147	174	0	837	0	962	141	141	620	870
RTOR Reduction (vph)	0	27	0	0	0	77	0	16	0	0	0	613
Lane Group Flow (vph)	842	560	0	174	0	760	0	1087	0	141	620	257
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	9%	12%	16%	29%	0%	32%	0%	20%	27%	12%	24%	13%
Turn Type	Split	NA		Prot		Perm		NA		pm+pt	NA	Perm
Protected Phases	4	4		3				2		1	6	
Permitted Phases						3				6		6
Actuated Green, G (s)	24.7	24.7		40.7		40.7		26.4		35.4	35.4	35.4
Effective Green, g (s)	24.7	24.7		40.7		40.7		26.4		35.4	35.4	35.4
Actuated g/C Ratio	0.21	0.21		0.34		0.34		0.22		0.29	0.29	0.29
Clearance Time (s)	6.3	6.3		6.3		6.3		6.6		3.0	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)	653	623		910		410		915		135	849	416
v/s Ratio Prot	c0.27	0.18		0.06				c0.26		c0.05	0.22	
v/s Ratio Perm						c0.63				0.25		0.18
v/c Ratio	1.29	0.90		0.19		1.85		1.19		1.04	0.73	0.62
Uniform Delay, d1	47.6	46.4		28.0		39.6		46.8		39.7	38.0	36.5
Progression Factor	1.00	1.00		0.92		1.01		1.00		1.74	1.66	10.99
Incremental Delay, d2	141.5	15.7		0.1		391.4		95.4		35.8	0.5	0.6
Delay (s)	189.2	62.2		25.9		431.4		142.2		104.7	63.4	401.3
Level of Service	F	E		C		F		F		F	E	F
Approach Delay (s)		137.0			361.6			142.2			247.2	
Approach LOS		F			F			F			F	

Intersection Summary				
HCM 2000 Control Delay	216.8	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.48			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.2	
Intersection Capacity Utilization	105.8%	ICU Level of Service	G	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
15: RR 53 (STEVENSON RD) & RR 22 (BLOOR ST)

10/24/2022

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	725	550	380	535	285	380
Future Volume (vph)	725	550	380	535	285	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4	3.0	6.4	5.9	5.9
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3535	1552	1732	3500	3330	1541
Flt Permitted	1.00	1.00	0.29	1.00	0.95	1.00
Satd. Flow (perm)	3535	1552	530	3500	3330	1541
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	788	598	413	582	310	413
RTOR Reduction (vph)	0	167	0	0	0	340
Lane Group Flow (vph)	788	431	413	582	310	73
Confl. Peds. (#/hr)		3	3			2
Heavy Vehicles (%)	1%	1%	3%	2%	4%	2%
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Actuated Green, G (s)	67.1	67.1	86.6	86.6	21.1	21.1
Effective Green, g (s)	67.1	67.1	86.6	86.6	21.1	21.1
Actuated g/C Ratio	0.56	0.56	0.72	0.72	0.18	0.18
Clearance Time (s)	6.4	6.4	3.0	6.4	5.9	5.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	5.0	5.0
Lane Grp Cap (vph)	1976	867	547	2525	585	270
v/s Ratio Prot	0.22		c0.10	0.17	c0.09	
v/s Ratio Perm		0.28	c0.44			0.05
v/c Ratio	0.40	0.50	0.76	0.23	0.53	0.27
Uniform Delay, d1	15.0	16.1	7.9	5.6	44.9	42.8
Progression Factor	1.00	1.00	1.00	1.00	1.36	7.41
Incremental Delay, d2	0.6	2.0	5.9	0.2	0.5	0.3
Delay (s)	15.6	18.2	13.8	5.8	61.6	317.3
Level of Service	B	B	B	A	E	F
Approach Delay (s)	16.7			9.1	207.7	
Approach LOS	B			A	F	

Intersection Summary				
HCM 2000 Control Delay	58.8	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.3	
Intersection Capacity Utilization	64.1%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
16: RR 54 (PARK)/RR 54 (PARK RD) & RR 59 (GIBB ST)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	344	494	348	120	349	106	176	571	71	84	481	174
Future Volume (vph)	344	494	348	120	349	106	176	571	71	84	481	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.1		6.0	6.1		3.0	6.2		6.0	6.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.97		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1604	2933		1590	3033		1544	3147		1606	3032	
Flt Permitted	0.26	1.00		0.21	1.00		0.19	1.00		0.26	1.00	
Satd. Flow (perm)	438	2933		350	3033		305	3147		432	3032	
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)	374	537	378	130	379	115	191	621	77	91	523	189
RTOR Reduction (vph)	0	105	0	0	24	0	0	8	0	0	30	0
Lane Group Flow (vph)	374	810	0	130	470	0	191	690	0	91	682	0
Confl. Peds. (#/hr)	13		7	7		13	13		4	4		13
Heavy Vehicles (%)	0%	1%	3%	1%	2%	0%	4%	0%	2%	0%	1%	1%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	56.9	41.5		37.6	28.2		50.8	37.9		41.7	34.8	
Effective Green, g (s)	56.9	41.5		37.6	28.2		50.8	37.9		41.7	34.8	
Actuated g/C Ratio	0.47	0.35		0.31	0.23		0.42	0.32		0.35	0.29	
Clearance Time (s)	6.0	6.1		6.0	6.1		3.0	6.2		6.0	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	428	1014		206	712		263	993		217	879	
v/s Ratio Prot	c0.17	0.28		0.05	0.16		c0.08	0.22		0.02	0.23	
v/s Ratio Perm	c0.25			0.15			c0.23			0.12		
v/c Ratio	0.87	0.80		0.63	0.66		0.73	0.69		0.42	0.78	
Uniform Delay, d1	23.5	35.5		31.3	41.6		25.0	36.0		27.7	39.0	
Progression Factor	1.00	1.00		1.00	0.75		1.00	1.00		1.00	1.00	
Incremental Delay, d2	17.6	6.6		6.0	4.6		9.6	4.0		1.3	6.7	
Delay (s)	41.1	42.0		37.1	35.6		34.6	40.0		29.1	45.7	
Level of Service	D	D		D	D		C	D		C	D	
Approach Delay (s)		41.8			35.9			38.8			43.8	
Approach LOS		D			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	40.5	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.88			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.3	
Intersection Capacity Utilization	96.4%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
17: RR 2A (CENTRE ST) & RR 59 (GIBB ST)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	317	202	32	334	0	0	0	0	45	848	136
Future Volume (vph)	0	317	202	32	334	0	0	0	0	45	848	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8	5.8	5.8	5.8						5.7	
Lane Util. Factor		0.95	1.00	1.00	0.95						0.91	
Frpb, ped/bikes		1.00	0.96	1.00	1.00						0.99	
Flpb, ped/bikes		1.00	1.00	0.98	1.00						1.00	
Frt		1.00	0.85	1.00	1.00						0.98	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		3213	1385	1582	3213						4398	
Flt Permitted		1.00	1.00	0.54	1.00						1.00	
Satd. Flow (perm)		3213	1385	907	3213						4398	
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)	0	345	220	35	363	0	0	0	0	49	922	148
RTOR Reduction (vph)	0	0	41	0	0	0	0	0	0	0	34	0
Lane Group Flow (vph)	0	345	179	35	363	0	0	0	0	0	1085	0
Confl. Peds. (#/hr)			22	22						11		21
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	2%	1%
Turn Type		NA	Perm	Perm	NA					Perm	NA	
Protected Phases		4			8						6	
Permitted Phases			4	8						6		
Actuated Green, G (s)		21.2	21.2	21.2	21.2						27.3	
Effective Green, g (s)		21.2	21.2	21.2	21.2						27.3	
Actuated g/C Ratio		0.35	0.35	0.35	0.35						0.46	
Clearance Time (s)		5.8	5.8	5.8	5.8						5.7	
Lane Grp Cap (vph)		1135	489	320	1135						2001	
v/s Ratio Prot		0.11			0.11							
v/s Ratio Perm			c0.13	0.04							0.25	
v/c Ratio		0.30	0.37	0.11	0.32						0.54	
Uniform Delay, d1		14.1	14.4	13.0	14.1						11.8	
Progression Factor		1.28	1.43	0.69	0.69						1.00	
Incremental Delay, d2		0.4	1.3	0.7	0.7						1.1	
Delay (s)		18.4	21.9	9.7	10.5						12.9	
Level of Service		B	C	A	B						B	
Approach Delay (s)		19.8			10.4			0.0			12.9	
Approach LOS		B			B			A			B	

Intersection Summary				
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.46			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.5	
Intersection Capacity Utilization	59.9%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
18: RR 2 (SIMCOE ST) & RR 59 (GIBB ST)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	100	0	0	200	20	150	300	40	0	0	0
Future Volume (vph)	200	100	0	0	200	20	150	300	40	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8			5.8			5.5	5.5			
Lane Util. Factor	1.00	0.95			0.95			0.91	1.00			
Frpb, ped/bikes	1.00	1.00			0.99			1.00	0.92			
Flpb, ped/bikes	0.93	1.00			1.00			0.98	1.00			
Frt	1.00	1.00			0.99			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.98	1.00			
Satd. Flow (prot)	1466	3181			3126			4373	1320			
Flt Permitted	0.60	1.00			1.00			0.98	1.00			
Satd. Flow (perm)	931	3181			3126			4373	1320			
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)	217	109	0	0	217	22	163	326	43	0	0	0
RTOR Reduction (vph)	0	0	0	0	13	0	0	0	26	0	0	0
Lane Group Flow (vph)	217	109	0	0	226	0	0	489	17	0	0	0
Confl. Peds. (#/hr)	96					96	59		79			
Heavy Vehicles (%)	2%	1%	0%	0%	0%	4%	2%	2%	0%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4			8			2				
Permitted Phases	4						2		2			
Actuated Green, G (s)	25.2	25.2			25.2			23.5	23.5			
Effective Green, g (s)	25.2	25.2			25.2			23.5	23.5			
Actuated g/C Ratio	0.42	0.42			0.42			0.39	0.39			
Clearance Time (s)	5.8	5.8			5.8			5.5	5.5			
Lane Grp Cap (vph)	391	1336			1312			1712	517			
v/s Ratio Prot		0.03			0.07							
v/s Ratio Perm	c0.23							0.11	0.01			
v/c Ratio	0.55	0.08			0.17			0.29	0.03			
Uniform Delay, d1	13.2	10.5			10.9			12.5	11.2			
Progression Factor	1.34	0.86			1.51			1.00	1.00			
Incremental Delay, d2	5.4	0.1			0.2			0.4	0.1			
Delay (s)	23.0	9.1			16.7			12.9	11.4			
Level of Service	C	A			B			B	B			
Approach Delay (s)		18.4			16.7			12.8			0.0	
Approach LOS		B			B			B			A	

Intersection Summary				
HCM 2000 Control Delay	15.3	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)	11.3	
Intersection Capacity Utilization	59.9%	ICU Level of Service	B	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
19: RR 2 (SIMCOE ST) & RR 59 (OLIVE AVE)

10/24/2022

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	150	10	500	400	50	850
Future Volume (vph)	150	10	500	400	50	850
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.6			4.0
Lane Util. Factor	1.00	1.00	0.95			0.95
Frpb, ped/bikes	1.00	0.96	0.91			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	1.00	0.85	0.93			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	1591	1365	2674			3204
Flt Permitted	0.95	1.00	1.00			0.83
Satd. Flow (perm)	1591	1365	2674			2682
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	11	543	435	54	924
RTOR Reduction (vph)	0	8	242	0	0	0
Lane Group Flow (vph)	163	3	736	0	0	978
Confl. Peds. (#/hr)		28		83		
Heavy Vehicles (%)	1%	1%	2%	3%	0%	0%
Turn Type	Prot	Perm	NA		D.P+P	NA
Protected Phases	4		2		1	1 2
Permitted Phases		4			2	
Actuated Green, G (s)	17.5	17.5	20.4			27.4
Effective Green, g (s)	17.5	17.5	20.4			27.4
Actuated g/C Ratio	0.29	0.29	0.34			0.46
Clearance Time (s)	5.5	5.5	5.6			
Vehicle Extension (s)	3.0	3.0	3.0			
Lane Grp Cap (vph)	464	398	909			1285
v/s Ratio Prot	c0.10		c0.28			c0.09
v/s Ratio Perm		0.00				0.26
v/c Ratio	0.35	0.01	0.81			0.76
Uniform Delay, d1	16.8	15.1	18.0			13.6
Progression Factor	0.96	1.02	1.86			1.00
Incremental Delay, d2	2.0	0.0	7.0			2.7
Delay (s)	18.1	15.5	40.7			16.3
Level of Service	B	B	D			B
Approach Delay (s)	18.0		40.7			16.3
Approach LOS	B		D			B

Intersection Summary				
HCM 2000 Control Delay	27.6	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.62			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	15.1	
Intersection Capacity Utilization	86.5%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
20: ALBERT ST & RR 59 (OLIVE AVE)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	423	19	4	191	80	0	60	10	10	10	185
Future Volume (vph)	75	423	19	4	191	80	0	60	10	10	10	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.6			6.0			5.2			5.2	
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		0.99			0.96			0.98			0.88	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1641			1592			1653			1480	
Flt Permitted		0.91			0.99			1.00			0.99	
Satd. Flow (perm)		1501			1583			1653			1462	
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)	82	460	21	4	208	87	0	65	11	11	11	201
RTOR Reduction (vph)	0	2	0	0	25	0	0	8	0	0	155	0
Lane Group Flow (vph)	0	561	0	0	274	0	0	68	0	0	68	0
Confl. Peds. (#/hr)	3		3				2					
Heavy Vehicles (%)	0%	2%	0%	2%	2%	2%	0%	0%	2%	2%	0%	0%
Turn Type	Perm	NA		Perm	NA			NA		Perm	NA	
Protected Phases		2			6			4			4	
Permitted Phases	2			6			4			4		
Actuated Green, G (s)		35.4			35.0			13.8			13.8	
Effective Green, g (s)		35.4			35.0			13.8			13.8	
Actuated g/C Ratio		0.59			0.58			0.23			0.23	
Clearance Time (s)		5.6			6.0			5.2			5.2	
Lane Grp Cap (vph)		885			923			380			336	
v/s Ratio Prot								0.04				
v/s Ratio Perm		c0.37			0.17						c0.05	
v/c Ratio		0.63			0.30			0.18			0.20	
Uniform Delay, d1		8.1			6.3			18.5			18.7	
Progression Factor		0.31			1.00			0.81			1.00	
Incremental Delay, d2		2.3			0.8			1.0			1.4	
Delay (s)		4.8			7.1			16.0			20.0	
Level of Service		A			A			B			C	
Approach Delay (s)		4.8			7.1			16.0			20.0	
Approach LOS		A			A			B			C	

Intersection Summary				
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.52			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.2	
Intersection Capacity Utilization	82.0%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
21: RR 16 (RITSON RD) & RR 59 (OLIVE AVE)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	345	78	302	535	102	82	639	311	104	479	67
Future Volume (vph)	52	345	78	302	535	102	82	639	311	104	479	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0		5.9	5.9		5.9	5.9	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00		1.00	0.98		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.95		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1336	1496	1226	1292	2710		1464	2594		1422	2770	
Flt Permitted	0.32	1.00	1.00	0.44	1.00		0.36	1.00		0.15	1.00	
Satd. Flow (perm)	450	1496	1226	597	2710		548	2594		221	2770	
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)	57	375	85	328	582	111	89	695	338	113	521	73
RTOR Reduction (vph)	0	0	45	0	13	0	0	49	0	0	9	0
Lane Group Flow (vph)	57	375	40	328	680	0	89	984	0	113	585	0
Confl. Peds. (#/hr)	4		13	13		4	10		8	8		10
Heavy Vehicles (%)	20%	13%	13%	23%	16%	12%	9%	13%	22%	13%	14%	9%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)	57.0	57.0	57.0	57.0	57.0		51.1	51.1		51.1	51.1	
Effective Green, g (s)	57.0	57.0	57.0	57.0	57.0		51.1	51.1		51.1	51.1	
Actuated g/C Ratio	0.48	0.48	0.48	0.48	0.48		0.43	0.43		0.43	0.43	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0		5.9	5.9		5.9	5.9	
Lane Grp Cap (vph)	213	710	582	283	1287		233	1104		94	1179	
v/s Ratio Prot		0.25			0.25			0.38			0.21	
v/s Ratio Perm	0.13		0.03	c0.55			0.16			c0.51		
v/c Ratio	0.27	0.53	0.07	1.16	0.53		0.38	0.89		1.20	0.50	
Uniform Delay, d1	18.9	22.1	17.1	31.5	22.1		23.6	31.9		34.5	25.1	
Progression Factor	0.92	0.89	0.89	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.1	2.8	0.2	103.6	1.6		4.7	10.9		157.0	1.5	
Delay (s)	20.4	22.4	15.5	135.1	23.6		28.3	42.8		191.4	26.6	
Level of Service	C	C	B	F	C		C	D		F	C	
Approach Delay (s)		21.0			59.4			41.6			52.9	
Approach LOS		C			E			D			D	

Intersection Summary				
HCM 2000 Control Delay	46.2	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	1.18			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.9	
Intersection Capacity Utilization	106.2%	ICU Level of Service	G	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
22: RR 35 (WILSON RD) & RR 59 (OLIVE AVE)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	480	77	112	311	106	37	476	104	63	247	41
Future Volume (vph)	55	480	77	112	311	106	37	476	104	63	247	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
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
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1402	1496	1195	1286	1523	1247	1366	1445	1132	1492	1375	1247
Flt Permitted	0.48	1.00	1.00	0.28	1.00	1.00	0.57	1.00	1.00	0.31	1.00	1.00
Satd. Flow (perm)	706	1496	1195	381	1523	1247	817	1445	1132	489	1375	1247
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)	60	522	84	122	338	115	40	517	113	68	268	45
RTOR Reduction (vph)	0	0	50	0	0	68	0	0	64	0	0	25
Lane Group Flow (vph)	60	522	34	122	338	47	40	517	49	68	268	20
Confl. Peds. (#/hr)	4		11	11		4	6		9	9		6
Heavy Vehicles (%)	14%	13%	15%	24%	11%	12%	17%	17%	22%	7%	23%	13%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	28.4	28.4	28.4	28.4	28.4	28.4	30.4	30.4	30.4	30.4	30.4	30.4
Effective Green, g (s)	28.4	28.4	28.4	28.4	28.4	28.4	30.4	30.4	30.4	30.4	30.4	30.4
Actuated g/C Ratio	0.41	0.41	0.41	0.41	0.41	0.41	0.43	0.43	0.43	0.43	0.43	0.43
Clearance Time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Lane Grp Cap (vph)	286	606	484	154	617	505	354	627	491	212	597	541
v/s Ratio Prot		c0.35			0.22			c0.36			0.19	
v/s Ratio Perm	0.08		0.03	0.32		0.04	0.05		0.04	0.14		0.02
v/c Ratio	0.21	0.86	0.07	0.79	0.55	0.09	0.11	0.82	0.10	0.32	0.45	0.04
Uniform Delay, d1	13.5	19.0	12.7	18.2	15.9	12.8	11.8	17.4	11.7	13.0	13.9	11.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.7	14.9	0.3	33.0	3.5	0.4	0.6	11.7	0.4	4.0	2.4	0.1
Delay (s)	15.2	33.9	13.0	51.2	19.4	13.2	12.4	29.2	12.1	17.0	16.3	11.5
Level of Service	B	C	B	D	B	B	B	C	B	B	B	B
Approach Delay (s)		29.6			24.9			25.3			15.9	
Approach LOS		C			C			C			B	

Intersection Summary				
HCM 2000 Control Delay	24.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.84			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	11.2	
Intersection Capacity Utilization	98.1%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
23: RR 33 (HARMONY) & RR 59 (OLIVE AVE)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	815	60	285	420	210	70	1290	450	185	870	150
Future Volume (vph)	160	815	60	285	420	210	70	1290	450	185	870	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		3.0	6.5	6.5	3.0	6.3		3.0	6.3	
Lane Util. Factor	1.00	0.95		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	0.98	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	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.96		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)	1745	3529		1785	1879	1553	1750	3390		1716	3376	
Flt Permitted	0.43	1.00		0.14	1.00	1.00	0.15	1.00		0.07	1.00	
Satd. Flow (perm)	784	3529		255	1879	1553	285	3390		127	3376	
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)	174	886	65	310	457	228	76	1402	489	201	946	163
RTOR Reduction (vph)	0	5	0	0	0	79	0	29	0	0	12	0
Lane Group Flow (vph)	174	946	0	310	457	149	76	1862	0	201	1097	0
Confl. Peds. (#/hr)	4		4	4		4	3		4	4		3
Heavy Vehicles (%)	2%	0%	0%	0%	0%	1%	2%	1%	0%	4%	3%	3%
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	26.5	26.5		42.5	42.5	42.5	59.5	54.7		63.9	56.9	
Effective Green, g (s)	26.5	26.5		42.5	42.5	42.5	59.5	54.7		63.9	56.9	
Actuated g/C Ratio	0.22	0.22		0.35	0.35	0.35	0.50	0.46		0.53	0.47	
Clearance Time (s)	6.5	6.5		3.0	6.5	6.5	3.0	6.3		3.0	6.3	
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)	173	779		256	665	550	199	1545		160	1600	
v/s Ratio Prot		0.27		c0.13	0.24		0.02	0.55		c0.07	0.33	
v/s Ratio Perm	0.22			c0.30		0.10	0.17			c0.59		
v/c Ratio	1.01	1.21		1.21	0.69	0.27	0.38	1.21		1.26	0.69	
Uniform Delay, d1	46.8	46.8		32.5	33.1	27.7	18.3	32.6		33.3	24.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.95	1.10		1.00	1.00	
Incremental Delay, d2	69.9	108.3		125.5	5.7	1.2	0.1	93.0		156.1	2.4	
Delay (s)	116.7	155.1		157.9	38.8	28.9	17.6	129.0		189.4	27.0	
Level of Service	F	F		F	D	C	B	F		F	C	
Approach Delay (s)		149.1			73.6			124.7			51.9	
Approach LOS		F			E			F			D	

Intersection Summary				
HCM 2000 Control Delay	102.7	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.29			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.8	
Intersection Capacity Utilization	118.0%	ICU Level of Service	H	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
24: RR 54 (PARK) & HILLSIDE

10/24/2022

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	206	19	15	594	527	173
Future Volume (vph)	206	19	15	594	527	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2			5.3	5.3	
Lane Util. Factor	1.00			0.95	0.95	
Frpb, ped/bikes	1.00			1.00	0.99	
Flpb, ped/bikes	0.99			1.00	1.00	
Frt	0.99			1.00	0.96	
Flt Protected	0.96			1.00	1.00	
Satd. Flow (prot)	1655			3524	3320	
Flt Permitted	0.96			0.93	1.00	
Satd. Flow (perm)	1655			3286	3320	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	224	21	16	646	573	188
RTOR Reduction (vph)	5	0	0	0	23	0
Lane Group Flow (vph)	240	0	0	662	738	0
Confl. Peds. (#/hr)	4	18	12			12
Heavy Vehicles (%)	7%	0%	8%	1%	2%	3%
Turn Type	Perm		Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4		2			
Actuated Green, G (s)	18.5			61.0	61.0	
Effective Green, g (s)	18.5			61.0	61.0	
Actuated g/C Ratio	0.21			0.68	0.68	
Clearance Time (s)	5.2			5.3	5.3	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	340			2227	2250	
v/s Ratio Prot					c0.22	
v/s Ratio Perm	c0.15			0.20		
v/c Ratio	0.71			0.30	0.33	
Uniform Delay, d1	33.2			5.9	6.0	
Progression Factor	1.00			1.48	1.00	
Incremental Delay, d2	6.6			0.3	0.4	
Delay (s)	39.8			9.0	6.4	
Level of Service	D			A	A	
Approach Delay (s)	39.8			9.0	6.4	
Approach LOS	D			A	A	

Intersection Summary				
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.42			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.5	
Intersection Capacity Utilization	49.7%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
25: RR 2 (SIMCOE ST) & MILL ST

10/24/2022

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	78	90	70	771	966	109
Future Volume (vph)	78	90	70	771	966	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7		5.6	5.6	
Lane Util. Factor	1.00	1.00		0.95	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	0.98	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	1606	1407		3141	3065	
Flt Permitted	0.95	1.00		0.77	1.00	
Satd. Flow (perm)	1606	1407		2418	3065	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	85	98	76	838	1050	118
RTOR Reduction (vph)	0	54	0	0	9	0
Lane Group Flow (vph)	85	44	0	914	1159	0
Confl. Peds. (#/hr)	21	9	18			18
Heavy Vehicles (%)	0%	0%	0%	2%	3%	0%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4	2			
Actuated Green, G (s)	7.6	7.6		41.1	41.1	
Effective Green, g (s)	7.6	7.6		41.1	41.1	
Actuated g/C Ratio	0.13	0.13		0.69	0.69	
Clearance Time (s)	5.7	5.7		5.6	5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	203	178		1656	2099	
v/s Ratio Prot	c0.05				c0.38	
v/s Ratio Perm		0.03		0.38		
v/c Ratio	0.42	0.25		0.55	0.55	
Uniform Delay, d1	24.2	23.6		4.8	4.8	
Progression Factor	1.00	1.00		0.97	1.34	
Incremental Delay, d2	1.4	0.7		0.8	0.8	
Delay (s)	25.6	24.3		5.4	7.2	
Level of Service	C	C		A	A	
Approach Delay (s)	24.9			5.4	7.2	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	7.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	82.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
26: RR 2 (SIMCOE ST) & 1ST AVE

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	600	400	300	10	200	10	300	300	30	10	600	300
Future Volume (vph)	600	400	300	10	200	10	300	300	30	10	600	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	5.9	5.9	5.9	6.0	5.8	5.8	6.0	5.8	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00	0.93	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	0.98	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1575	1658	1409	1506	1658	1336	1575	3181	1289	1450	3150	1409
Flt Permitted	0.34	1.00	1.00	0.51	1.00	1.00	0.16	1.00	1.00	0.55	1.00	1.00
Satd. Flow (perm)	562	1658	1409	808	1658	1336	272	3181	1289	847	3150	1409
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)	652	435	326	11	217	11	326	326	33	11	652	326
RTOR Reduction (vph)	0	0	166	0	0	9	0	0	23	0	0	0
Lane Group Flow (vph)	652	435	160	11	217	2	326	326	10	11	652	326
Confl. Peds. (#/hr)				11		7			16	16		
Heavy Vehicles (%)	2%	2%	2%	6%	2%	5%	2%	1%	4%	9%	2%	2%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		Free
Actuated Green, G (s)	66.3	58.8	58.8	25.0	23.4	23.4	41.9	35.1	35.1	19.2	18.4	120.0
Effective Green, g (s)	66.3	58.8	58.8	25.0	23.4	23.4	41.9	35.1	35.1	19.2	18.4	120.0
Actuated g/C Ratio	0.55	0.49	0.49	0.21	0.19	0.19	0.35	0.29	0.29	0.16	0.15	1.00
Clearance Time (s)	6.0	6.0	6.0	5.9	5.9	5.9	6.0	5.8	5.8	6.0	5.8	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	622	812	690	177	323	260	284	930	377	139	483	1409
v/s Ratio Prot	c0.32	0.26		0.00	0.13		c0.17	0.10		0.00	c0.21	
v/s Ratio Perm	c0.26		0.11	0.01		0.00	0.23		0.01	0.01		0.23
v/c Ratio	1.05	0.54	0.23	0.06	0.67	0.01	1.15	0.35	0.03	0.08	1.35	0.23
Uniform Delay, d1	23.8	21.2	17.6	37.9	44.7	38.9	33.9	33.5	30.3	42.7	50.8	0.0
Progression Factor	1.00	1.00	1.00	0.83	0.91	1.00	1.25	0.97	1.00	0.94	1.03	1.00
Incremental Delay, d2	49.4	0.7	0.2	0.1	5.4	0.0	97.8	1.0	0.1	0.2	169.2	0.3
Delay (s)	73.1	21.8	17.8	31.6	45.9	39.0	140.2	33.3	30.4	40.5	221.4	0.3
Level of Service	E	C	B	C	D	D	F	C	C	D	F	A
Approach Delay (s)		44.6			45.0			84.0			146.5	
Approach LOS		D			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	83.1	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.17		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	23.7
Intersection Capacity Utilization	106.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
27: ALBERT ST & 1ST AVE

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	322	65	12	169	34	50	10	50	50	50	50
Future Volume (vph)	48	322	65	12	169	34	50	10	50	50	50	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.3	5.3		5.3	5.3		5.1	5.1		5.1	5.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.97		1.00	0.97		1.00	0.88		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1778	1790		1770	1794		1769	1607		1773	1719	
Flt Permitted	0.62	1.00		0.45	1.00		0.69	1.00		0.71	1.00	
Satd. Flow (perm)	1160	1790		834	1794		1280	1607		1334	1719	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	52	350	71	13	184	37	54	11	54	54	54	54
RTOR Reduction (vph)	0	12	0	0	12	0	0	36	0	0	36	0
Lane Group Flow (vph)	52	409	0	13	209	0	54	29	0	54	72	0
Confl. Peds. (#/hr)	3		9	9		3	9		4	4		9
Heavy Vehicles (%)	0%	2%	0%	0%	2%	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		
Actuated Green, G (s)	29.7	29.7		29.7	29.7		19.9	19.9		19.9	19.9	
Effective Green, g (s)	29.7	29.7		29.7	29.7		19.9	19.9		19.9	19.9	
Actuated g/C Ratio	0.49	0.49		0.49	0.49		0.33	0.33		0.33	0.33	
Clearance Time (s)	5.3	5.3		5.3	5.3		5.1	5.1		5.1	5.1	
Lane Grp Cap (vph)	574	886		412	888		424	532		442	570	
v/s Ratio Prot		c0.23			0.12			0.02			0.04	
v/s Ratio Perm	0.04			0.02			c0.04			0.04		
v/c Ratio	0.09	0.46		0.03	0.24		0.13	0.05		0.12	0.13	
Uniform Delay, d1	8.0	9.9		7.8	8.7		14.0	13.6		14.0	14.0	
Progression Factor	0.95	1.30		0.81	0.68		1.00	1.00		1.04	1.05	
Incremental Delay, d2	0.3	1.5		0.1	0.6		0.6	0.2		0.6	0.5	
Delay (s)	7.9	14.4		6.4	6.5		14.6	13.8		15.0	15.2	
Level of Service	A	B		A	A		B	B		B	B	
Approach Delay (s)		13.7			6.5			14.2			15.1	
Approach LOS		B			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.4
Intersection Capacity Utilization	61.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
28: Drew Street/DREW ST & 1ST AVE/MCNAUGHTON AVE/MCNAUGHTON AVE/DEAN AVE

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	355	51	185	71	11	155	10	122	9	20	4
Future Volume (vph)	17	355	51	185	71	11	155	10	122	9	20	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.4	5.4		5.4	5.4		5.4	5.4			5.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00			1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.86			0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1596	1601		1572	1557		1591	1443			1643	
Flt Permitted	0.70	1.00		0.40	1.00		0.73	1.00			0.93	
Satd. Flow (perm)	1175	1601		668	1557		1228	1443			1551	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	386	55	201	77	12	168	11	133	10	22	4
RTOR Reduction (vph)	0	8	0	0	7	0	0	83	0	0	2	0
Lane Group Flow (vph)	18	433	0	201	82	0	168	61	0	0	34	0
Confl. Peds. (#/hr)	4		2	2		4						
Heavy Vehicles (%)	0%	3%	6%	2%	7%	0%	1%	0%	1%	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		
Actuated Green, G (s)	26.6	26.6		26.6	26.6		22.6	22.6			22.6	
Effective Green, g (s)	26.6	26.6		26.6	26.6		22.6	22.6			22.6	
Actuated g/C Ratio	0.44	0.44		0.44	0.44		0.38	0.38			0.38	
Clearance Time (s)	5.4	5.4		5.4	5.4		5.4	5.4			5.4	
Lane Grp Cap (vph)	520	709		296	690		462	543			584	
v/s Ratio Prot		0.27			0.05			0.04				
v/s Ratio Perm	0.02			c0.30			c0.14				0.02	
v/c Ratio	0.03	0.61		0.68	0.12		0.36	0.11			0.06	
Uniform Delay, d1	9.4	12.7		13.3	9.8		13.5	12.2			11.9	
Progression Factor	1.44	1.84		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.1	3.7		11.9	0.4		2.2	0.4			0.2	
Delay (s)	13.7	27.0		25.2	10.2		15.7	12.6			12.1	
Level of Service	B	C		C	B		B	B			B	
Approach Delay (s)		26.5			20.6			14.3			12.1	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	21.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.8
Intersection Capacity Utilization	70.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
29: RR 16 (RITSON RD) & MCNAUGHTON AVE/DEAN AVE/DEAN AVE

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	267	74	102	178	150	56	47	933	195	70	784	110
Future Volume (vph)	267	74	102	178	150	56	47	933	195	70	784	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.91		1.00	0.96		1.00	0.97		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)	1306	1218		1367	1336		1417	2571		1275	2596	
Flt Permitted	0.58	1.00		0.62	1.00		0.22	1.00		0.13	1.00	
Satd. Flow (perm)	799	1218		898	1336		321	2571		172	2596	
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)	290	80	111	193	163	61	51	1014	212	76	852	120
RTOR Reduction (vph)	0	56	0	0	15	0	0	19	0	0	12	0
Lane Group Flow (vph)	290	135	0	193	209	0	51	1207	0	76	960	0
Confl. Peds. (#/hr)	8		12	12		8	7		18	18		7
Heavy Vehicles (%)	22%	24%	25%	16%	19%	25%	13%	21%	17%	26%	21%	20%
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)	33.6	33.6		33.6	33.6		44.0	44.0		44.0	44.0	
Effective Green, g (s)	33.6	33.6		33.6	33.6		44.0	44.0		44.0	44.0	
Actuated g/C Ratio	0.37	0.37		0.37	0.37		0.49	0.49		0.49	0.49	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	298	454		335	498		156	1256		84	1269	
v/s Ratio Prot		0.11			0.16			c0.47			0.37	
v/s Ratio Perm	c0.36			0.21			0.16			0.44		
v/c Ratio	0.97	0.30		0.58	0.42		0.33	0.96		0.90	0.76	
Uniform Delay, d1	27.8	19.9		22.5	21.0		14.0	22.2		21.1	18.7	
Progression Factor	1.00	1.00		0.97	0.97		1.00	1.00		1.00	1.00	
Incremental Delay, d2	44.5	0.4		2.4	0.6		5.5	17.6		74.4	4.2	
Delay (s)	72.3	20.3		24.3	21.0		19.5	39.7		95.5	22.9	
Level of Service	E	C		C	C		B	D		F	C	
Approach Delay (s)		51.6			22.5			38.9			28.2	
Approach LOS		D			C			D			C	

Intersection Summary				
HCM 2000 Control Delay	35.2	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.97			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.4	
Intersection Capacity Utilization	103.1%	ICU Level of Service	G	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
30: RR 35 (WILSON RD) & DEAN AVE

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	114	23	60	23	43	26	18	671	29	26	301	56
Future Volume (vph)	114	23	60	23	43	26	18	671	29	26	301	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4			5.4			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			0.99	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.96			0.96			0.99			0.98	
Flt Protected		0.97			0.99			1.00			1.00	
Satd. Flow (prot)		1461			1567			1556			1497	
Flt Permitted		0.78			0.90			0.99			0.93	
Satd. Flow (perm)		1180			1422			1536			1396	
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)	124	25	65	25	47	28	20	729	32	28	327	61
RTOR Reduction (vph)	0	18	0	0	17	0	0	2	0	0	6	0
Lane Group Flow (vph)	0	196	0	0	83	0	0	779	0	0	410	0
Confl. Peds. (#/hr)	7		2	2		7	14		3	3		14
Heavy Vehicles (%)	18%	13%	19%	0%	7%	33%	29%	19%	30%	20%	23%	14%
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)		18.7			18.7			60.3			60.3	
Effective Green, g (s)		18.7			18.7			60.3			60.3	
Actuated g/C Ratio		0.21			0.21			0.67			0.67	
Clearance Time (s)		5.4			5.4			5.6			5.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		245			295			1029			935	
v/s Ratio Prot												
v/s Ratio Perm		c0.17			0.06			c0.51			0.29	
v/c Ratio		0.80			0.28			0.76			0.44	
Uniform Delay, d1		33.9			30.0			9.9			6.9	
Progression Factor		1.22			1.00			1.00			1.00	
Incremental Delay, d2		9.5			0.5			5.2			1.5	
Delay (s)		50.9			30.5			15.2			8.4	
Level of Service		D			C			B			A	
Approach Delay (s)		50.9			30.5			15.2			8.4	
Approach LOS		D			C			B			A	

Intersection Summary				
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.77			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	11.0	
Intersection Capacity Utilization	69.1%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
31: RR 33 (HARMONY) & Tennyson Ave

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	0	50	10	0	10	50	1725	5	15	1105	65
Future Volume (Veh/h)	25	0	50	10	0	10	50	1725	5	15	1105	65
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	0	54	11	0	11	54	1875	5	16	1201	71
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)								258				
pX, platoon unblocked	0.74	0.74		0.74	0.74	0.74				0.74		
vC, conflicting volume	2325	3256	636	2672	3290	940	1272			1880		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	2090	3346	636	2558	3390	223	1272			1490		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	100	87	0	100	98	90			95		
cM capacity (veh/h)	20	5	421	8	5	579	542			331		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	81	22	992	942	616	672
Volume Left	27	11	54	0	16	0
Volume Right	54	11	0	5	0	71
cSH	54	15	542	1700	331	1700
Volume to Capacity	1.51	1.47	0.10	0.55	0.05	0.40
Queue Length 95th (m)	52.4	23.4	2.3	0.0	1.1	0.0
Control Delay (s)	429.7	766.8	3.3	0.0	1.6	0.0
Lane LOS	F	F	A		A	
Approach Delay (s)	429.7	766.8	1.7		0.8	
Approach LOS	F	F				

Intersection Summary				
Average Delay	16.8			
Intersection Capacity Utilization	95.6%	ICU Level of Service	F	
Analysis Period (min)	15			

HCM Signalized Intersection Capacity Analysis
32: RR 22 (BLOOR ST) & RR 54 (PARK)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	399	703	3	1	582	260	9	2	2	300	1	129
Future Volume (vph)	399	703	3	1	582	260	9	2	2	300	1	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.4		6.4	6.4	6.4		6.0		6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99		1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97		0.95	0.95	1.00
Satd. Flow (prot)	1785	3464		1778	3535	1498		1774		1662	1667	1597
Flt Permitted	0.27	1.00		0.36	1.00	1.00		0.97		0.95	0.95	1.00
Satd. Flow (perm)	515	3464		675	3535	1498		1774		1662	1667	1597
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)	434	764	3	1	633	283	10	2	2	326	1	140
RTOR Reduction (vph)	0	1	0	0	0	179	0	2	0	0	0	109
Lane Group Flow (vph)	434	766	0	1	633	104	0	12	0	163	164	31
Confl. Peds. (#/hr)	3		7	7		3			2	2		
Heavy Vehicles (%)	0%	3%	0%	0%	1%	5%	0%	0%	0%	2%	0%	0%
Turn Type	pm+pt	NA		Perm	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2			6		8	8		4	4	
Permitted Phases	2			6		6						4
Actuated Green, G (s)	43.6	43.6		28.6	28.6	28.6		8.0		20.0	20.0	20.0
Effective Green, g (s)	43.6	43.6		28.6	28.6	28.6		8.0		20.0	20.0	20.0
Actuated g/C Ratio	0.48	0.48		0.32	0.32	0.32		0.09		0.22	0.22	0.22
Clearance Time (s)	3.0	6.4		6.4	6.4	6.4		6.0		6.0	6.0	6.0
Lane Grp Cap (vph)	418	1678		214	1123	476		157		369	370	354
v/s Ratio Prot	c0.14	0.22			0.18			c0.01		0.10	c0.10	
v/s Ratio Perm	c0.36			0.00		0.07						0.02
v/c Ratio	1.04	0.46		0.00	0.56	0.22		0.08		0.44	0.44	0.09
Uniform Delay, d1	19.0	15.4		21.0	25.5	22.5		37.6		30.2	30.2	27.8
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		0.82	0.82	1.46
Incremental Delay, d2	54.3	0.9		0.0	2.0	1.0		1.0		3.8	3.8	0.5
Delay (s)	73.3	16.3		21.0	27.6	23.5		38.6		28.6	28.6	40.9
Level of Service	E	B		C	C	C		D		C	C	D
Approach Delay (s)		36.9			26.3			38.6			32.3	
Approach LOS		D			C			D			C	

Intersection Summary				
HCM 2000 Control Delay	32.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.79			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	21.4	
Intersection Capacity Utilization	70.1%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
33: PARK ROAD S & RR 22 (BLOOR ST)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	480	616	102	482	1	497	1	193	0	1	0
Future Volume (vph)	2	480	616	102	482	1	497	1	193	0	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	3.0	6.2		6.3	6.3			6.3	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	1.00			1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.97			1.00	
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.85			1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1740	3466	1520	1486	3499		3395	1527			1879	
Flt Permitted	0.46	1.00	1.00	0.40	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	837	3466	1520	627	3499		3395	1527			1879	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	522	670	111	524	1	540	1	210	0	1	0
RTOR Reduction (vph)	0	0	373	0	0	0	0	167	0	0	0	0
Lane Group Flow (vph)	2	522	298	111	525	0	540	44	0	0	1	0
Confl. Peds. (#/hr)	21		5	5		21			10	10		
Heavy Vehicles (%)	0%	3%	3%	20%	2%	0%	2%	0%	2%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Split	NA			NA	
Protected Phases		2		1	6		8	8		7	7	
Permitted Phases	2		2	6								
Actuated Green, G (s)	35.7	35.7	35.7	43.9	43.9		16.4	16.4			1.3	
Effective Green, g (s)	35.7	35.7	35.7	43.9	43.9		16.4	16.4			1.3	
Actuated g/C Ratio	0.44	0.44	0.44	0.55	0.55		0.20	0.20			0.02	
Clearance Time (s)	6.2	6.2	6.2	3.0	6.2		6.3	6.3			6.3	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	371	1539	674	397	1910		692	311			30	
v/s Ratio Prot		0.15		0.02	c0.15		c0.16	0.03			c0.00	
v/s Ratio Perm	0.00		c0.20	0.13								
v/c Ratio	0.01	0.34	0.44	0.28	0.27		0.78	0.14			0.03	
Uniform Delay, d1	12.5	14.6	15.5	9.1	9.7		30.3	26.2			38.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.0	0.6	2.1	0.4	0.4		5.7	0.2			0.5	
Delay (s)	12.5	15.2	17.5	9.5	10.1		36.0	26.4			39.4	
Level of Service	B	B	B	A	B		D	C			D	
Approach Delay (s)		16.5			10.0			33.3			39.4	
Approach LOS		B			B			C			D	

Intersection Summary				
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.51			
Actuated Cycle Length (s)	80.4	Sum of lost time (s)	21.8	
Intersection Capacity Utilization	69.8%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
34: RR 2 (SIMCOE ST) & Driveway

10/24/2022

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	1	11	694	27	3	735
Future Volume (Veh/h)	1	11	694	27	3	735
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)	1	12	754	29	3	799
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)			327			101
pX, platoon unblocked	0.86					
vC, conflicting volume	1160	251			783	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	854	251			783	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	98			100	
cM capacity (veh/h)	255	748			831	

Direction, Lane #	WB 1	NB 1	NB 2	NB 3	NB 4	SB 1	SB 2	SB 3
Volume Total	13	251	251	251	29	3	400	400
Volume Left	1	0	0	0	0	3	0	0
Volume Right	12	0	0	0	29	0	0	0
cSH	651	1700	1700	1700	1700	831	1700	1700
Volume to Capacity	0.02	0.15	0.15	0.15	0.02	0.00	0.23	0.23
Queue Length 95th (m)	0.4	0.0	0.0	0.0	0.0	0.1	0.0	0.0
Control Delay (s)	10.6	0.0	0.0	0.0	0.0	9.3	0.0	0.0
Lane LOS	B					A		
Approach Delay (s)	10.6	0.0				0.0		
Approach LOS	B							

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	30.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis
35: Driveway & RR 22 (BLOOR ST)

10/24/2022

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	710	25	30	618	11	46
Future Volume (Veh/h)	710	25	30	618	11	46
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	772	27	33	672	12	50
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)				80		
pX, platoon unblocked					0.91	
vC, conflicting volume			799		1188	271
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			799		1005	271
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		94	93
cM capacity (veh/h)			819		208	727

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1
Volume Total	309	309	181	257	448	62
Volume Left	0	0	0	33	0	12
Volume Right	0	0	27	0	0	50
cSH	1700	1700	1700	819	1700	490
Volume to Capacity	0.18	0.18	0.11	0.04	0.26	0.13
Queue Length 95th (m)	0.0	0.0	0.0	0.9	0.0	3.0
Control Delay (s)	0.0	0.0	0.0	1.6	0.0	13.4
Lane LOS				A		B
Approach Delay (s)	0.0			0.6		13.4
Approach LOS						B

Intersection Summary			
Average Delay	0.8		
Intersection Capacity Utilization	45.7%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Signalized Intersection Capacity Analysis
36: RR 2 (SIMCOE ST) & RR 22 (BLOOR ST)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	238	554	131	96	378	164	101	419	115	212	417	136
Future Volume (vph)	238	554	131	96	378	164	101	419	115	212	417	136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2		6.0	6.2	6.2	6.2	6.2		6.2	6.2	6.2
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	0.99		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	0.99	1.00		0.99	1.00	1.00
Frt	1.00	0.97		1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1747	3437		1784	3535	1561	1762	3404		1771	3466	1424
Flt Permitted	0.39	1.00		0.23	1.00	1.00	0.46	1.00		0.38	1.00	1.00
Satd. Flow (perm)	722	3437		434	3535	1561	855	3404		713	3466	1424
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)	259	602	142	104	411	178	110	455	125	230	453	148
RTOR Reduction (vph)	0	17	0	0	0	128	0	21	0	0	0	78
Lane Group Flow (vph)	259	727	0	104	411	50	110	559	0	230	453	70
Confl. Peds. (#/hr)	8		11	11		8	19		15	15		19
Heavy Vehicles (%)	2%	0%	2%	0%	1%	0%	0%	1%	0%	0%	3%	8%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6		6	8			4		4
Actuated Green, G (s)	50.8	37.9		40.9	34.0	34.0	56.8	56.8		56.8	56.8	56.8
Effective Green, g (s)	50.8	37.9		40.9	34.0	34.0	56.8	56.8		56.8	56.8	56.8
Actuated g/C Ratio	0.42	0.32		0.34	0.28	0.28	0.47	0.47		0.47	0.47	0.47
Clearance Time (s)	3.0	6.2		6.0	6.2	6.2	6.2	6.2		6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	423	1085		225	1001	442	404	1611		337	1640	674
v/s Ratio Prot	c0.07	c0.21		0.03	0.12			0.16			0.13	
v/s Ratio Perm	0.19			0.13		0.03	0.13			c0.32		0.05
v/c Ratio	0.61	0.67		0.46	0.41	0.11	0.27	0.35		0.68	0.28	0.10
Uniform Delay, d1	23.8	35.6		28.5	34.9	31.8	19.1	19.9		24.6	19.1	17.5
Progression Factor	1.00	1.00		0.92	0.83	1.48	1.00	1.00		0.78	0.51	0.45
Incremental Delay, d2	2.6	3.3		1.3	1.1	0.5	1.7	0.6		6.3	0.2	0.2
Delay (s)	26.5	38.9		27.5	30.0	47.7	20.8	20.5		25.4	10.0	8.0
Level of Service	C	D		C	C	D	C	C		C	B	A
Approach Delay (s)		35.7			34.1			20.5			13.9	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	26.5	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)	18.4
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
37: Hwy 401 North Ramp/Drew Street & Toronto Ave

10/24/2022

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	10	200	20	10	200	0
Future Volume (Veh/h)	10	200	20	10	200	0
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	217	22	11	217	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (m)						185
pX, platoon unblocked						
vC, conflicting volume	462	28			33	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	462	28			33	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	79			86	
cM capacity (veh/h)	482	1048			1579	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	228	33	217
Volume Left	11	0	217
Volume Right	217	11	0
cSH	992	1700	1579
Volume to Capacity	0.23	0.02	0.14
Queue Length 95th (m)	6.2	0.0	3.3
Control Delay (s)	9.7	0.0	7.6
Lane LOS	A		A
Approach Delay (s)	9.7	0.0	7.6
Approach LOS	A		

Intersection Summary				
Average Delay		8.1		
Intersection Capacity Utilization		37.3%	ICU Level of Service	A
Analysis Period (min)		15		

HCM Signalized Intersection Capacity Analysis
38: RR 22 (BLOOR ST)

10/24/2022

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	452	419	443	394	328	261
Future Volume (vph)	452	419	443	394	328	261
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	0.95	1.00	0.97	0.91
Frt	1.00	1.00	1.00	0.85	0.97	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.96	1.00
Satd. Flow (prot)	1750	3500	3500	1566	3338	1425
Flt Permitted	0.32	1.00	1.00	1.00	0.96	1.00
Satd. Flow (perm)	590	3500	3500	1566	3338	1425
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	491	455	482	428	357	284
RTOR Reduction (vph)	0	0	0	314	34	148
Lane Group Flow (vph)	491	455	482	114	405	54
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	32.0	32.0	16.0	16.0	16.0	16.0
Effective Green, g (s)	32.0	32.0	16.0	16.0	16.0	16.0
Actuated g/C Ratio	0.53	0.53	0.27	0.27	0.27	0.27
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	508	1866	933	417	890	380
v/s Ratio Prot	c0.16	0.13	0.14		c0.12	
v/s Ratio Perm	c0.35			0.07		0.04
v/c Ratio	0.97	0.24	0.52	0.27	0.45	0.14
Uniform Delay, d1	10.8	7.5	18.7	17.4	18.4	16.8
Progression Factor	3.27	1.76	1.00	1.00	1.00	1.00
Incremental Delay, d2	26.6	0.2	2.0	1.6	1.7	0.8
Delay (s)	61.8	13.4	20.8	19.0	20.0	17.5
Level of Service	E	B	C	B	C	B
Approach Delay (s)		38.6	19.9		19.2	
Approach LOS		D	B		B	

Intersection Summary				
HCM 2000 Control Delay		26.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio		0.86		
Actuated Cycle Length (s)		60.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization		64.4%	ICU Level of Service	C
Analysis Period (min)		15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
39: RR 16 (RITSON RD) & RR 22 (BLOOR ST)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	487	427	126	47	220	96	65	598	117	98	413	527
Future Volume (vph)	487	427	126	47	220	96	65	598	117	98	413	527
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5	6.5	6.5	6.5			6.4	6.4		6.4	6.4
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95			0.95	1.00		0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.99			1.00	0.97		1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.95			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00			1.00	1.00		0.99	1.00
Satd. Flow (prot)	1759	3535	1318	1744	3173			3457	1504		3246	1496
Flt Permitted	0.46	1.00	1.00	0.49	1.00			0.78	1.00		0.60	1.00
Satd. Flow (perm)	859	3535	1318	891	3173			2716	1504		1978	1496
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)	529	464	137	51	239	104	71	650	127	107	449	573
RTOR Reduction (vph)	0	0	68	0	53	0	0	0	82	0	0	372
Lane Group Flow (vph)	529	464	69	51	290	0	0	721	45	0	556	201
Confl. Peds. (#/hr)	13		4	4		13	10		13	13		10
Heavy Vehicles (%)	1%	1%	19%	2%	7%	5%	0%	3%	3%	8%	9%	4%
Turn Type	pm+pt	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2		2	6			8		8	4		4
Actuated Green, G (s)	45.5	45.5	45.5	23.3	23.3			31.6	31.6		31.6	31.6
Effective Green, g (s)	45.5	45.5	45.5	23.3	23.3			31.6	31.6		31.6	31.6
Actuated g/C Ratio	0.51	0.51	0.51	0.26	0.26			0.35	0.35		0.35	0.35
Clearance Time (s)	3.0	6.5	6.5	6.5	6.5			6.4	6.4		6.4	6.4
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)	626	1787	666	230	821			953	528		694	525
v/s Ratio Prot	c0.18	0.13			0.09							
v/s Ratio Perm	c0.25		0.05	0.06				0.27	0.03		c0.28	0.13
v/c Ratio	0.85	0.26	0.10	0.22	0.35			0.76	0.08		0.80	0.38
Uniform Delay, d1	15.9	12.7	11.6	26.2	27.2			25.8	19.5		26.4	21.9
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	10.2	0.4	0.3	2.2	1.2			5.6	0.3		9.5	2.1
Delay (s)	26.1	13.0	11.9	28.4	28.4			31.4	19.8		35.8	24.0
Level of Service	C	B	B	C	C			C	B		D	C
Approach Delay (s)		19.0			28.4			29.7			29.8	
Approach LOS		B			C			C			C	

Intersection Summary				
HCM 2000 Control Delay		26.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio		0.86		
Actuated Cycle Length (s)		90.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization		97.3%	ICU Level of Service	F
Analysis Period (min)		15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
40: RR 35 (WILSON RD) & RR 22 (BLOOR ST)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	233	421	55	38	161	261	52	347	59	104	150	77
Future Volume (vph)	233	421	55	38	161	261	52	347	59	104	150	77
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.98		1.00	0.91		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1783	1804		1778	1640		1711	1813		1776	1756	
Flt Permitted	0.29	1.00		0.47	1.00		0.52	1.00		0.28	1.00	
Satd. Flow (perm)	543	1804		884	1640		940	1813		516	1756	
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)	253	458	60	41	175	284	57	377	64	113	163	84
RTOR Reduction (vph)	0	5	0	0	57	0	0	6	0	0	18	0
Lane Group Flow (vph)	253	513	0	41	402	0	57	435	0	113	229	0
Confl. Peds. (#/hr)	5		3	3		5	2		6	6		2
Heavy Vehicles (%)	0%	2%	2%	0%	3%	1%	4%	1%	0%	0%	1%	0%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	54.0	54.0		39.3	39.3		34.3	34.3		34.3	34.3	
Effective Green, g (s)	54.0	54.0		39.3	39.3		34.3	34.3		34.3	34.3	
Actuated g/C Ratio	0.54	0.54		0.39	0.39		0.34	0.34		0.34	0.34	
Clearance Time (s)	3.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	438	974		347	644		322	621		176	602	
v/s Ratio Prot	c0.07	0.28			c0.25			c0.24			0.13	
v/s Ratio Perm	0.24			0.05			0.06			0.22		
v/c Ratio	0.58	0.53		0.12	0.62		0.18	0.70		0.64	0.38	
Uniform Delay, d1	14.5	14.8		19.3	24.4		23.0	28.4		27.7	24.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.8	2.0		0.7	4.5		1.2	6.5		16.6	1.8	
Delay (s)	16.3	16.8		20.0	28.9		24.2	34.9		44.3	26.6	
Level of Service	B	B		C	C		C	C		D	C	
Approach Delay (s)		16.7			28.2			33.7			32.2	
Approach LOS		B			C			C			C	

Intersection Summary				
HCM 2000 Control Delay		26.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio		0.65		
Actuated Cycle Length (s)		100.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization		90.3%	ICU Level of Service	E
Analysis Period (min)		15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
41: RR 56 (FAREWELL ST) & RR 22 (BLOOR ST)

10/24/2022

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	455	35	345	345	105	600
Future Volume (vph)	455	35	345	345	105	600
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	3.0	6.2	6.3	6.3
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	0.91
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.98	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	0.89	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.99	1.00
Satd. Flow (prot)	3535	1452	1580	3466	2998	1374
Flt Permitted	1.00	1.00	0.44	1.00	0.99	1.00
Satd. Flow (perm)	3535	1452	733	3466	2998	1374
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	495	38	375	375	114	652
RTOR Reduction (vph)	0	17	0	0	283	283
Lane Group Flow (vph)	495	21	375	375	157	43
Confl. Peds. (#/hr)						2
Heavy Vehicles (%)	1%	10%	13%	3%	6%	4%
Turn Type	NA	Perm	pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases		2	6		8	8
Actuated Green, G (s)	50.8	50.8	65.5	65.5	12.0	12.0
Effective Green, g (s)	50.8	50.8	65.5	65.5	12.0	12.0
Actuated g/C Ratio	0.56	0.56	0.73	0.73	0.13	0.13
Clearance Time (s)	6.2	6.2	3.0	6.2	6.3	6.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1995	819	643	2522	399	183
v/s Ratio Prot	0.14		c0.08	0.11		
v/s Ratio Perm		0.01	c0.35		c0.05	0.03
v/c Ratio	0.25	0.03	0.58	0.15	0.39	0.24
Uniform Delay, d1	9.9	8.7	4.5	3.7	35.7	34.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.1	1.4	0.1	0.6	0.7
Delay (s)	10.2	8.7	5.9	3.9	36.3	35.6
Level of Service	B	A	A	A	D	D
Approach Delay (s)	10.1			4.9	36.0	
Approach LOS	B			A	D	

Intersection Summary			
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	54.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
42: RR 33 (HARMONY) & RR 22 (BLOOR ST)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	450	390	215	290	305	110	261	1225	511	320	575	230
Future Volume (vph)	450	390	215	290	305	110	261	1225	511	320	575	230
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	6.3	6.3	6.3	3.0	6.5	6.5	6.0	6.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	0.91	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	0.98	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	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	0.85	1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1539	3051	1320	1580	2950	1400	1095	2913	1333	1668	2913	
Flt Permitted	0.00	1.00	1.00	0.00	1.00	1.00	0.12	1.00	1.00	0.14	1.00	
Satd. Flow (perm)	0	3051	1320	0	2950	1400	142	2913	1333	238	2913	
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)	489	424	234	315	332	120	284	1332	555	348	625	250
RTOR Reduction (vph)	0	0	176	0	0	101	0	2	233	0	35	0
Lane Group Flow (vph)	489	424	58	315	332	19	284	1386	266	348	840	0
Confl. Peds. (#/hr)	3					3						
Heavy Vehicles (%)	16%	17%	21%	13%	21%	12%	63%	17%	9%	7%	17%	18%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	6	2		5	1		3	8		7	4	
Permitted Phases	2		2	1		1	8		8	4		
Actuated Green, G (s)	29.7	29.7	29.7	18.7	18.7	18.7	52.5	34.5	34.5	41.5	29.5	
Effective Green, g (s)	29.7	29.7	29.7	18.7	18.7	18.7	52.5	34.5	34.5	41.5	29.5	
Actuated g/C Ratio	0.25	0.25	0.25	0.16	0.16	0.16	0.44	0.29	0.29	0.35	0.25	
Clearance Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	3.0	6.5	6.5	6.0	6.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	380	755	326	246	459	218	220	837	383	225	716	
v/s Ratio Prot	c0.32	0.14		c0.20	0.11		c0.21	c0.48		0.15	0.29	
v/s Ratio Perm			0.04			0.01	0.35		0.20	0.38		
v/c Ratio	1.29	0.56	0.18	1.28	0.72	0.09	1.29	1.66	0.69	1.55	1.17	
Uniform Delay, d1	45.1	39.5	35.5	50.6	48.2	43.3	36.0	42.8	38.1	33.2	45.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.44	0.78	
Incremental Delay, d2	147.7	3.0	1.2	153.7	5.6	0.2	160.5	300.4	5.4	258.9	86.8	
Delay (s)	192.8	42.5	36.7	204.3	53.8	43.5	196.5	343.2	43.4	306.6	121.9	
Level of Service	F	D	D	F	D	D	F	F	D	F	F	
Approach Delay (s)		105.4			114.0			255.1			174.5	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	183.8	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	25.1
Intersection Capacity Utilization	111.9%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
43: GRANDVIEW ST & RR 59 (OLIVE AVE)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	750	415	220	455	10	210	80	210	5	100	25
Future Volume (vph)	45	750	415	220	455	10	210	80	210	5	100	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	6.2	6.2		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		0.98	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.89		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1493	1648	1369	1580	1640		1554	1483		1779	1681	
Flt Permitted	0.42	1.00	1.00	0.24	1.00		0.63	1.00		0.30	1.00	
Satd. Flow (perm)	661	1648	1369	392	1640		1032	1483		553	1681	
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)	49	815	451	239	495	11	228	87	228	5	109	27
RTOR Reduction (vph)	0	0	84	0	1	0	0	79	0	0	8	0
Lane Group Flow (vph)	49	815	367	239	505	0	228	236	0	5	128	0
Confl. Peds. (#/hr)	4		1	1		4	8		3	3		8
Heavy Vehicles (%)	19%	14%	14%	13%	14%	20%	13%	2%	14%	0%	8%	6%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	78.8	78.8	78.8	78.8	78.8		28.0	28.0		28.0	28.0	
Effective Green, g (s)	78.8	78.8	78.8	78.8	78.8		28.0	28.0		28.0	28.0	
Actuated g/C Ratio	0.66	0.66	0.66	0.66	0.66		0.24	0.24		0.24	0.24	
Clearance Time (s)	6.2	6.2	6.2	6.2	6.2		5.8	5.8		5.8	5.8	
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)	438	1093	908	260	1087		243	349		130	396	
v/s Ratio Prot		0.49			0.31			0.16			0.08	
v/s Ratio Perm	0.07		0.27	c0.61			c0.22			0.01		
v/c Ratio	0.11	0.75	0.40	0.92	0.46		0.94	0.67		0.04	0.32	
Uniform Delay, d1	7.3	13.3	9.2	17.3	9.7		44.6	41.3		35.0	37.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	4.6	1.3	38.3	1.4		40.6	5.1		0.1	0.5	
Delay (s)	7.8	18.0	10.5	55.6	11.2		85.2	46.4		35.1	38.0	
Level of Service	A	B	B	E	B		F	D		D	D	
Approach Delay (s)		15.0			25.4			62.6			37.9	
Approach LOS		B			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	118.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	100.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
44: GRANDVIEW ST & RR 22 (BLOOR ST)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	950	140	15	625	125	110	130	15	210	185	65
Future Volume (vph)	160	950	140	15	625	125	110	130	15	210	185	65
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		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1566	1682		1428	1557		1579	1673		1620	1572	
Flt Permitted	0.24	1.00		0.05	1.00		0.36	1.00		0.58	1.00	
Satd. Flow (perm)	398	1682		75	1557		595	1673		991	1572	
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)	174	1033	152	16	679	136	120	141	16	228	201	71
RTOR Reduction (vph)	0	4	0	0	6	0	0	3	0	0	11	0
Lane Group Flow (vph)	174	1181	0	16	809	0	120	154	0	228	261	0
Confl. Peds. (#/hr)	1		1	1		1	7		1	1		7
Heavy Vehicles (%)	14%	10%	4%	25%	17%	18%	12%	10%	13%	10%	14%	13%
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)	80.4	80.4		80.4	80.4		27.3	27.3		27.3	27.3	
Effective Green, g (s)	80.4	80.4		80.4	80.4		27.3	27.3		27.3	27.3	
Actuated g/C Ratio	0.67	0.67		0.67	0.67		0.23	0.23		0.23	0.23	
Clearance Time (s)	6.6	6.6		6.6	6.6		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	266	1126		50	1043		135	380		225	357	
v/s Ratio Prot		c0.70			0.52			0.09			0.17	
v/s Ratio Perm	0.44			0.21			0.20			c0.23		
v/c Ratio	0.65	1.05		0.32	0.78		0.89	0.41		1.01	0.73	
Uniform Delay, d1	11.6	19.8		8.3	13.6		44.9	39.4		46.4	43.0	
Progression Factor	1.00	1.00		0.99	1.05		1.00	1.00		1.00	1.00	
Incremental Delay, d2	11.9	40.5		15.9	5.6		45.2	0.7		63.5	7.5	
Delay (s)	23.5	60.3		24.2	19.9		90.1	40.1		109.8	50.5	
Level of Service	C	E		C	B		F	D		F	D	
Approach Delay (s)		55.6			20.0			61.8			77.5	
Approach LOS		E			B			E			E	

Intersection Summary			
HCM 2000 Control Delay	49.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	117.5%	ICU Level of Service	H
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
45: Prestonvale Rd & RR 22 (BLOOR ST)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	715	135	110	595	105	140	125	85	55	290	75
Future Volume (vph)	130	715	135	110	595	105	140	125	85	55	290	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	6.5	6.5		6.1	6.1		6.1	6.1	6.1
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1500	1606	1331	1439	1551		1439	1511		1594	1592	1493
Flt Permitted	0.22	1.00	1.00	0.21	1.00		0.41	1.00		0.57	1.00	1.00
Satd. Flow (perm)	353	1606	1331	322	1551		629	1511		952	1592	1493
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)	141	777	147	120	647	114	152	136	92	60	315	82
RTOR Reduction (vph)	0	0	64	0	9	0	0	36	0	0	0	61
Lane Group Flow (vph)	141	777	83	120	752	0	152	192	0	60	315	21
Heavy Vehicles (%)	19%	17%	20%	24%	18%	21%	24%	16%	18%	12%	18%	7%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8			4		4
Actuated Green, G (s)	39.3	39.3	39.3	39.3	39.3		18.1	18.1		18.1	18.1	18.1
Effective Green, g (s)	39.3	39.3	39.3	39.3	39.3		18.1	18.1		18.1	18.1	18.1
Actuated g/C Ratio	0.56	0.56	0.56	0.56	0.56		0.26	0.26		0.26	0.26	0.26
Clearance Time (s)	6.5	6.5	6.5	6.5	6.5		6.1	6.1		6.1	6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	198	901	747	180	870		162	390		246	411	386
v/s Ratio Prot		0.48			c0.49			0.13			0.20	
v/s Ratio Perm	0.40		0.06	0.37			c0.24			0.06		0.01
v/c Ratio	0.71	0.86	0.11	0.67	0.86		0.94	0.49		0.24	0.77	0.05
Uniform Delay, d1	11.2	13.1	7.2	10.8	13.1		25.4	22.1		20.5	24.0	19.5
Progression Factor	1.10	1.10	1.39	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	19.5	10.7	0.3	17.9	11.2		52.1	1.0		0.5	8.3	0.1
Delay (s)	31.8	25.0	10.3	28.6	24.3		77.5	23.0		21.1	32.3	19.6
Level of Service	C	C	B	C	C		E	C		C	C	B
Approach Delay (s)		23.9			24.8			44.8			28.5	
Approach LOS		C			C			D			C	

Intersection Summary				
HCM 2000 Control Delay	27.8	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.89			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.6	
Intersection Capacity Utilization	98.4%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
46: Trulls Road /Trulls Road & RR 22 (BLOOR ST)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	180	535	110	75	600	145	160	615	65	80	400	110
Future Volume (vph)	180	535	110	75	600	145	160	615	65	80	400	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1750	1842	1566	1750	1842	1566	1750	1842	1566	1750	1842	1566
Flt Permitted	0.21	1.00	1.00	0.27	1.00	1.00	0.34	1.00	1.00	0.11	1.00	1.00
Satd. Flow (perm)	395	1842	1566	498	1842	1566	620	1842	1566	202	1842	1566
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)	196	582	120	82	652	158	174	668	71	87	435	120
RTOR Reduction (vph)	0	0	50	0	0	59	0	0	26	0	0	67
Lane Group Flow (vph)	196	582	70	82	652	99	174	668	45	87	435	53
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	59.0	59.0	59.0	59.0	59.0	59.0	49.0	49.0	49.0	49.0	49.0	49.0
Effective Green, g (s)	59.0	59.0	59.0	59.0	59.0	59.0	49.0	49.0	49.0	49.0	49.0	49.0
Actuated g/C Ratio	0.49	0.49	0.49	0.49	0.49	0.49	0.41	0.41	0.41	0.41	0.41	0.41
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Grp Cap (vph)	194	905	769	244	905	769	253	752	639	82	752	639
v/s Ratio Prot		0.32			0.35			0.36			0.24	
v/s Ratio Perm	c0.50		0.04	0.16		0.06	0.28		0.03	c0.43		0.03
v/c Ratio	1.01	0.64	0.09	0.34	0.72	0.13	0.69	0.89	0.07	1.06	0.58	0.08
Uniform Delay, d1	30.5	22.7	16.2	18.6	24.0	16.6	29.2	33.0	21.6	35.5	27.5	21.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	67.3	3.5	0.2	3.7	4.9	0.3	14.2	14.7	0.2	117.0	3.2	0.3
Delay (s)	97.8	26.2	16.5	22.3	28.9	16.9	43.4	47.7	21.8	152.5	30.7	22.0
Level of Service	F	C	B	C	C	B	D	D	C	F	C	C
Approach Delay (s)		40.5			26.2			44.9			45.6	
Approach LOS		D			C			D			D	

Intersection Summary				
HCM 2000 Control Delay	38.9	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	1.03			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	98.4%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
47: RR 34 (COURTICE RD) & RR 22 (BLOOR ST)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	495	150	20	600	75	180	605	105	75	350	80
Future Volume (vph)	100	495	150	20	600	75	180	605	105	75	350	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.1	7.1		7.1	7.1		7.4	7.4	7.4	7.4	7.4	7.4
Lane Util. Factor	1.00	1.00		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	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1785	1813		1653	1827		1767	1842	1566	1750	1789	1536
Flt Permitted	0.12	1.00		0.15	1.00		0.43	1.00	1.00	0.13	1.00	1.00
Satd. Flow (perm)	228	1813		263	1827		808	1842	1566	241	1789	1536
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)	109	538	163	22	652	82	196	658	114	82	380	87
RTOR Reduction (vph)	0	14	0	0	6	0	0	0	64	0	0	54
Lane Group Flow (vph)	109	687	0	22	728	0	196	658	50	82	380	33
Heavy Vehicles (%)	0%	0%	0%	8%	1%	2%	1%	2%	2%	2%	5%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	34.9	34.9		34.9	34.9		30.6	30.6	30.6	30.6	30.6	30.6
Effective Green, g (s)	34.9	34.9		34.9	34.9		30.6	30.6	30.6	30.6	30.6	30.6
Actuated g/C Ratio	0.44	0.44		0.44	0.44		0.38	0.38	0.38	0.38	0.38	0.38
Clearance Time (s)	7.1	7.1		7.1	7.1		7.4	7.4	7.4	7.4	7.4	7.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.2	6.2	6.2	6.2	6.2	6.2
Lane Grp Cap (vph)	99	790		114	797		309	704	598	92	684	587
v/s Ratio Prot		0.38			0.40			c0.36			0.21	
v/s Ratio Perm	c0.48			0.08			0.24		0.03	0.34		0.02
v/c Ratio	1.10	0.87		0.19	0.91		0.63	0.93	0.08	0.89	0.56	0.06
Uniform Delay, d1	22.6	20.5		13.9	21.1		20.1	23.7	15.8	23.1	19.4	15.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	120.3	10.3		0.8	14.8		9.5	21.2	0.3	67.4	3.2	0.2
Delay (s)	142.9	30.8		14.7	36.0		29.7	45.0	16.0	90.6	22.6	15.8
Level of Service	F	C		B	D		C	D	B	F	C	B
Approach Delay (s)		45.9			35.4			38.5			31.7	
Approach LOS		D			D			D			C	

Intersection Summary				
HCM 2000 Control Delay	38.4	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	1.02			
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	14.5	
Intersection Capacity Utilization	123.0%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
48: RR 34 (COURTICE RD) & BASELINE RD

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	300	185	55	305	50	125	975	15	50	695	80
Future Volume (vph)	65	300	185	55	305	50	125	975	15	50	695	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			-2%			-5%			-5%	
Total Lost time (s)	7.3	7.3	7.3	7.3	7.3	7.3	7.5	7.5	7.5	7.5	7.5	7.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1490	3606	1427	1398	2884	1213	1429	1646	1231	1165	1660	1331
Flt Permitted	0.55	1.00	1.00	0.55	1.00	1.00	0.27	1.00	1.00	0.09	1.00	1.00
Satd. Flow (perm)	865	3606	1427	816	2884	1213	406	1646	1231	115	1660	1331
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)	71	326	201	60	332	54	136	1060	16	54	755	87
RTOR Reduction (vph)	0	0	165	0	0	44	0	0	6	0	0	34
Lane Group Flow (vph)	71	326	36	60	332	10	136	1060	10	54	755	53
Heavy Vehicles (%)	21%	0%	13%	29%	25%	33%	28%	17%	33%	57%	16%	23%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	12.6	12.6	12.6	12.6	12.6	12.6	42.6	42.6	42.6	42.6	42.6	42.6
Effective Green, g (s)	12.6	12.6	12.6	12.6	12.6	12.6	42.6	42.6	42.6	42.6	42.6	42.6
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.18	0.18	0.61	0.61	0.61	0.61	0.61	0.61
Clearance Time (s)	7.3	7.3	7.3	7.3	7.3	7.3	7.5	7.5	7.5	7.5	7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	155	649	256	146	519	218	247	1001	749	69	1010	810
v/s Ratio Prot		0.09			c0.12			c0.64			0.45	
v/s Ratio Perm	0.08		0.03	0.07		0.01	0.34		0.01	0.47		0.04
v/c Ratio	0.46	0.50	0.14	0.41	0.64	0.04	0.55	1.06	0.01	0.78	0.75	0.07
Uniform Delay, d1	25.6	25.9	24.1	25.4	26.6	23.7	8.1	13.7	5.4	10.2	9.8	5.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.13	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.1	0.6	0.3	1.9	2.6	0.1	7.4	43.5	0.0	58.7	5.1	0.2
Delay (s)	27.8	26.5	24.4	27.3	29.2	23.8	16.1	59.0	5.4	68.9	14.9	5.7
Level of Service	C	C	C	C	C	C	B	E	A	E	B	A
Approach Delay (s)		25.9			28.3			53.5			17.3	
Approach LOS		C			C			D			B	

Intersection Summary				
HCM 2000 Control Delay	34.4	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.96			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.8	
Intersection Capacity Utilization	116.8%	ICU Level of Service	H	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
49: Trulls Road & BASELINE RD

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	345	5	5	315	150	5	5	5	60	5	175
Future Volume (vph)	100	345	5	5	315	150	5	5	5	60	5	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			0%			0%			0%	
Total Lost time (s)	6.0	6.0		6.0	6.0			6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.95			0.95		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			0.98		0.95	1.00	
Satd. Flow (prot)	1767	1857		1750	1753			1730		1750	1573	
Flt Permitted	0.27	1.00		0.43	1.00			0.92		0.75	1.00	
Satd. Flow (perm)	508	1857		795	1753			1626		1377	1573	
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)	109	375	5	5	342	163	5	5	5	65	5	190
RTOR Reduction (vph)	0	1	0	0	32	0	0	3	0	0	107	0
Lane Group Flow (vph)	109	379	0	5	473	0	0	12	0	65	88	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)	19.0	19.0		19.0	19.0			24.3		24.3	24.3	
Effective Green, g (s)	19.0	19.0		19.0	19.0			24.3		24.3	24.3	
Actuated g/C Ratio	0.34	0.34		0.34	0.34			0.44		0.44	0.44	
Clearance Time (s)	6.0	6.0		6.0	6.0			6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	174	638		273	602			714		605	691	
v/s Ratio Prot		0.20			c0.27						c0.06	
v/s Ratio Perm	0.21			0.01				0.01		0.05		
v/c Ratio	0.63	0.59		0.02	0.79			0.02		0.11	0.13	
Uniform Delay, d1	15.2	15.0		12.0	16.3			8.8		9.1	9.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	6.9	1.5		0.0	6.7			0.0		0.4	0.4	
Delay (s)	22.0	16.5		12.0	23.0			8.8		9.5	9.6	
Level of Service	C	B		B	C			A		A	A	
Approach Delay (s)		17.7			22.9			8.8			9.6	
Approach LOS		B			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	18.0	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.42			
Actuated Cycle Length (s)	55.3	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	57.3%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
50: COURTICE RD (RR34)/RR 34 (COURTICE RD) & 401 WB RAMP

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	125	0	195	275	1095	0	0	525	415
Future Volume (vph)	0	0	0	125	0	195	275	1095	0	0	525	415
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.5		6.5	3.0	5.1			5.1	5.1
Lane Util. Factor				1.00		1.00	1.00	0.95			0.95	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1750		1566	1750	3500			3500	1566
Flt Permitted				0.95		1.00	0.38	1.00			1.00	1.00
Satd. Flow (perm)				1750		1566	694	3500			3500	1566
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)	0	0	0	136	0	212	299	1190	0	0	571	451
RTOR Reduction (vph)	0	0	0	0	0	72	0	0	0	0	0	232
Lane Group Flow (vph)	0	0	0	136	0	140	299	1190	0	0	571	219
Turn Type				Perm		Perm	pm+pt	NA			NA	Perm
Protected Phases							5	2			6	
Permitted Phases				8		8	2					6
Actuated Green, G (s)				12.8		12.8	45.6	45.6			34.0	34.0
Effective Green, g (s)				12.8		12.8	45.6	45.6			34.0	34.0
Actuated g/C Ratio				0.18		0.18	0.65	0.65			0.49	0.49
Clearance Time (s)				6.5		6.5	3.0	5.1			5.1	5.1
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				320		286	581	2280			1700	760
v/s Ratio Prot							0.06	c0.34			0.16	
v/s Ratio Perm				0.08		c0.09	0.27					0.14
v/c Ratio				0.42		0.49	0.51	0.52			0.34	0.29
Uniform Delay, d1				25.3		25.7	5.4	6.4			11.1	10.8
Progression Factor				1.00		1.00	1.00	1.00			1.28	2.89
Incremental Delay, d2				0.9		1.3	0.8	0.9			0.4	0.7
Delay (s)				26.3		27.0	6.2	7.3			14.5	31.8
Level of Service				C		C	A	A			B	C
Approach Delay (s)		0.0			26.7			7.1			22.1	
Approach LOS		A			C			A			C	

Intersection Summary				
HCM 2000 Control Delay	14.8	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.54			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.6	
Intersection Capacity Utilization	96.7%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
51: COURTICE RD (RR34) & 401 W-N/S RAMP/401 EB RAMP

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	750	0	175	0	0	0	0	625	230	200	450	0
Future Volume (vph)	750	0	175	0	0	0	0	625	230	200	450	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2		6.2					5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00		1.00					0.95	1.00	1.00	0.95	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1750		1566					3500	1566	1750	3500	
Flt Permitted	0.95		1.00					1.00	1.00	0.30	1.00	
Satd. Flow (perm)	1750		1566					3500	1566	560	3500	
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)	815	0	190	0	0	0	0	679	250	217	489	0
RTOR Reduction (vph)	0	0	37	0	0	0	0	0	96	0	0	0
Lane Group Flow (vph)	815	0	153	0	0	0	0	679	154	217	489	0
Turn Type	Perm		Perm					NA	Perm	Perm	NA	
Protected Phases								2			6	
Permitted Phases	4		4						2	6		
Actuated Green, G (s)	56.8		56.8					52.0	52.0	52.0	52.0	
Effective Green, g (s)	56.8		56.8					52.0	52.0	52.0	52.0	
Actuated g/C Ratio	0.47		0.47					0.43	0.43	0.43	0.43	
Clearance Time (s)	6.2		6.2					5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0		3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	828		741					1516	678	242	1516	
v/s Ratio Prot								0.19			0.14	
v/s Ratio Perm	c0.47		0.10						0.10	c0.39		
v/c Ratio	0.98		0.21					0.45	0.23	0.90	0.32	
Uniform Delay, d1	31.2		18.4					23.9	21.4	31.5	22.4	
Progression Factor	1.00		1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	27.2		0.1					1.0	0.8	36.3	0.6	
Delay (s)	58.4		18.6					24.9	22.2	67.8	23.0	
Level of Service	E		B					C	C	E	C	
Approach Delay (s)		50.8			0.0			24.1			36.7	
Approach LOS		D			A			C			D	

Intersection Summary				
HCM 2000 Control Delay	37.7	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.94			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	11.2	
Intersection Capacity Utilization	96.7%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
52: BOSWELL DRIVE & HWY 2

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	275	1475	175	125	1100	125	100	50	75	150	50	150
Future Volume (vph)	275	1475	175	125	1100	125	100	50	75	150	50	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.4		3.0	6.4		6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		0.98	1.00	
Frt	1.00	0.98		1.00	0.98		1.00	0.91		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1767	3452		1700	3376		1706	1550		1733	1573	
Flt Permitted	0.11	1.00		0.06	1.00		0.40	1.00		0.61	1.00	
Satd. Flow (perm)	208	3452		109	3376		725	1550		1112	1573	
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	1603	190	136	1196	136	109	54	82	163	54	163
RTOR Reduction (vph)	0	7	0	0	6	0	0	47	0	0	94	0
Lane Group Flow (vph)	299	1786	0	136	1326	0	109	89	0	163	123	0
Confl. Peds. (#/hr)	3		12	12		3	6		15	15		6
Heavy Vehicles (%)	1%	1%	2%	5%	4%	2%	4%	0%	13%	1%	8%	3%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	86.4	74.6		74.5	65.7		21.0	21.0		21.0	21.0	
Effective Green, g (s)	86.4	74.6		74.5	65.7		21.0	21.0		21.0	21.0	
Actuated g/C Ratio	0.72	0.62		0.62	0.55		0.18	0.18		0.18	0.18	
Clearance Time (s)	3.0	6.4		3.0	6.4		6.2	6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	379	2145		184	1848		126	271		194	275	
v/s Ratio Prot	c0.12	c0.52		0.05	0.39			0.06			0.08	
v/s Ratio Perm	0.45			0.40			c0.15			0.15		
v/c Ratio	0.79	0.83		0.74	0.72		0.87	0.33		0.84	0.45	
Uniform Delay, d1	25.2	17.8		26.0	20.2		48.1	43.3		47.9	44.3	
Progression Factor	1.00	1.00		1.13	0.70		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.4	4.0		6.1	1.0		42.0	0.7		26.5	1.2	
Delay (s)	35.7	21.8		35.4	15.1		90.1	44.0		74.4	45.5	
Level of Service	D	C		D	B		F	D		E	D	
Approach Delay (s)		23.8			17.0			64.5			57.9	
Approach LOS		C			B			E			E	

Intersection Summary				
HCM 2000 Control Delay	26.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.85			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.6	
Intersection Capacity Utilization	92.9%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
53: GREEN RD/GREEN ROAD & HWY 2

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	200	1250	175	75	1050	150	200	175	75	350	250	50
Future Volume (vph)	200	1250	175	75	1050	150	200	175	75	350	250	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0		3.0	7.0		6.4	6.4		6.0	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		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	0.98		1.00	0.95		1.00	0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1750	3411		1750	3446		1727	1769		1765	1779	
Flt Permitted	0.08	1.00		0.09	1.00		0.56	1.00		0.28	1.00	
Satd. Flow (perm)	147	3411		157	3446		1024	1769		529	1779	
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)	217	1359	190	82	1141	163	217	190	82	380	272	54
RTOR Reduction (vph)	0	9	0	0	9	0	0	13	0	0	6	0
Lane Group Flow (vph)	217	1540	0	82	1295	0	217	259	0	380	320	0
Confl. Peds. (#/hr)	11		16	16		11	4		8	8		4
Heavy Vehicles (%)	2%	2%	1%	2%	1%	1%	3%	1%	0%	1%	2%	6%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	60.0	53.0		51.0	47.0		25.6	25.6		46.6	46.6	
Effective Green, g (s)	60.0	53.0		51.0	47.0		25.6	25.6		46.6	46.6	
Actuated g/C Ratio	0.50	0.44		0.42	0.39		0.21	0.21		0.39	0.39	
Clearance Time (s)	3.0	7.0		3.0	7.0		6.4	6.4		6.0	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	207	1506		119	1349		218	377		359	690	
v/s Ratio Prot	c0.09	0.45		0.02	0.38			0.15		c0.13	0.18	
v/s Ratio Perm	c0.44			0.27			0.21			c0.28		
v/c Ratio	1.05	1.02		0.69	0.96		1.00	0.69		1.06	0.46	
Uniform Delay, d1	34.4	33.5		28.7	35.6		47.1	43.5		33.0	27.4	
Progression Factor	1.63	0.87		1.48	1.28		1.00	1.00		1.00	1.00	
Incremental Delay, d2	60.5	23.5		13.8	15.4		59.3	5.2		63.8	0.5	
Delay (s)	116.4	52.6		56.4	60.9		106.4	48.7		96.8	27.9	
Level of Service	F	D		E	E		F	D		F	C	
Approach Delay (s)		60.4			60.7			74.3			65.0	
Approach LOS		E			E			E			E	

Intersection Summary				
HCM 2000 Control Delay	62.8	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	1.12			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.4	
Intersection Capacity Utilization	99.5%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
54: HWY 2 & CLARINGTON BLVD

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	1400	75	350	975	100	100	75	225	200	100	75
Future Volume (vph)	100	1400	75	350	975	100	100	75	225	200	100	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Total Lost time (s)	6.3	6.3		6.0	6.3		6.3	6.3		6.3	6.3	
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	0.99	
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	0.89		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1531	3141		1615	3125		1489	2775		1496	2947	
Flt Permitted	0.24	1.00		0.07	1.00		0.63	1.00		0.48	1.00	
Satd. Flow (perm)	390	3141		114	3125		990	2775		764	2947	
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)	109	1522	82	380	1060	109	109	82	245	217	109	82
RTOR Reduction (vph)	0	3	0	0	6	0	0	188	0	0	63	0
Lane Group Flow (vph)	109	1601	0	380	1163	0	109	139	0	217	128	0
Confl. Peds. (#/hr)	5					5	4					4
Heavy Vehicles (%)	19%	15%	21%	13%	14%	24%	22%	7%	20%	22%	18%	11%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	53.7	53.7		79.7	79.7		27.7	27.7		27.7	27.7	
Effective Green, g (s)	53.7	53.7		79.7	79.7		27.7	27.7		27.7	27.7	
Actuated g/C Ratio	0.45	0.45		0.66	0.66		0.23	0.23		0.23	0.23	
Clearance Time (s)	6.3	6.3		6.0	6.3		6.3	6.3		6.3	6.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	174	1405		325	2075		228	640		176	680	
v/s Ratio Prot		0.51		c0.19	0.37			0.05			0.04	
v/s Ratio Perm	0.28			c0.58			0.11			c0.28		
v/c Ratio	0.63	1.14		1.17	0.56		0.48	0.22		1.23	0.19	
Uniform Delay, d1	25.4	33.1		40.9	10.8		39.9	37.4		46.1	37.1	
Progression Factor	0.85	0.78		1.30	0.79		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.5	63.6		91.6	0.5		1.6	0.2		144.2	0.1	
Delay (s)	23.2	89.4		144.7	9.1		41.5	37.5		190.3	37.2	
Level of Service	C	F		F	A		D	D		F	D	
Approach Delay (s)		85.2			42.3			38.5			118.7	
Approach LOS		F			D			D			F	

Intersection Summary				
HCM 2000 Control Delay	67.4	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	1.22			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.6	
Intersection Capacity Utilization	101.7%	ICU Level of Service	G	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
55: REG RD 57 & HWY 2

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	175	1050	400	350	975	300	275	475	300	300	625	175
Future Volume (vph)	175	1050	400	350	975	300	275	475	300	300	625	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		-1%			-1%			-3%			-3%	
Total Lost time (s)	3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.5	6.5	6.0	6.5	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1764	3365	1571	1581	3397	1451	1798	3308	1549	1684	1789	1571
Flt Permitted	0.13	1.00	1.00	0.11	1.00	1.00	0.14	1.00	1.00	0.24	1.00	1.00
Satd. Flow (perm)	234	3365	1571	181	3397	1451	273	3308	1549	432	1789	1571
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	1141	435	380	1060	326	299	516	326	326	679	190
RTOR Reduction (vph)	0	0	121	0	0	117	0	0	164	0	0	77
Lane Group Flow (vph)	190	1141	314	380	1060	209	299	516	162	326	679	113
Confl. Peds. (#/hr)	3		1	1		3	1					1
Heavy Vehicles (%)	4%	9%	3%	16%	8%	11%	3%	12%	7%	10%	9%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	42.8	33.8	33.8	55.8	43.8	43.8	39.7	27.7	27.7	51.5	36.5	36.5
Effective Green, g (s)	42.8	33.8	33.8	55.8	43.8	43.8	39.7	27.7	27.7	51.5	36.5	36.5
Actuated g/C Ratio	0.36	0.28	0.28	0.46	0.36	0.36	0.33	0.23	0.23	0.43	0.30	0.30
Clearance Time (s)	3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.5	6.5	6.0	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	198	947	442	305	1239	529	242	763	357	371	544	477
v/s Ratio Prot	0.07	0.34		c0.20	0.31		c0.12	0.16		0.13	c0.38	
v/s Ratio Perm	0.27		0.20	c0.38		0.14	0.28		0.10	0.25		0.07
v/c Ratio	0.96	1.20	0.71	1.25	0.86	0.39	1.24	0.68	0.45	0.88	1.25	0.24
Uniform Delay, d1	30.7	43.1	38.7	36.7	35.2	28.3	34.4	42.1	39.7	26.0	41.8	31.3
Progression Factor	1.61	1.47	1.83	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.1	93.2	0.9	135.1	7.7	2.2	136.3	2.4	0.9	20.3	126.4	0.3
Delay (s)	60.6	156.3	71.6	171.8	42.9	30.5	170.8	44.4	40.6	46.3	168.1	31.6
Level of Service	E	F	E	F	D	C	F	D	D	D	F	C
Approach Delay (s)		125.2			68.3			76.4			113.2	
Approach LOS		F			E			E			F	

Intersection Summary				
HCM 2000 Control Delay	96.1	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.31			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.7	
Intersection Capacity Utilization	113.8%	ICU Level of Service	H	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
56: ROENIGK DR & KING ST/HWY 2

10/24/2022

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1500	150	225	1450	125	300
Future Volume (vph)	1500	150	225	1450	125	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			-1%	0%	
Total Lost time (s)	6.0		6.0	6.0	6.0	6.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3452		1759	3517	1750	1566
Flt Permitted	1.00		0.07	1.00	0.95	1.00
Satd. Flow (perm)	3452		130	3517	1750	1566
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1630	163	245	1576	136	326
RTOR Reduction (vph)	7	0	0	0	0	191
Lane Group Flow (vph)	1786	0	245	1576	136	135
Turn Type	NA		pm+pt	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases			8			2
Actuated Green, G (s)	51.0		70.0	70.0	18.0	18.0
Effective Green, g (s)	51.0		70.0	70.0	18.0	18.0
Actuated g/C Ratio	0.51		0.70	0.70	0.18	0.18
Clearance Time (s)	6.0		6.0	6.0	6.0	6.0
Lane Grp Cap (vph)	1760		302	2461	315	281
v/s Ratio Prot	c0.52		c0.11	0.45	0.08	
v/s Ratio Perm			0.46			c0.09
v/c Ratio	1.01		0.81	0.64	0.43	0.48
Uniform Delay, d1	24.5		30.8	8.2	36.5	36.8
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	25.1		20.6	1.3	4.3	5.8
Delay (s)	49.6		51.4	9.4	40.7	42.6
Level of Service	D		D	A	D	D
Approach Delay (s)	49.6			15.1	42.0	
Approach LOS	D			B	D	

Intersection Summary				
HCM 2000 Control Delay	33.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.87			
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.0	
Intersection Capacity Utilization	80.6%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
57: GREEN RD & ASPEN SPRINGS DR

10/24/2022

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Right Turn Channelized						
Traffic Volume (veh/h)	25	225	425	125	275	325
Future Volume (veh/h)	25	225	425	125	275	325
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	27	245	462	136	299	353
Approach Volume (veh/h)	272		598			652
Crossing Volume (veh/h)	462		299			27
High Capacity (veh/h)	962		1095			1356
High v/c (veh/h)	0.28		0.55			0.48
Low Capacity (veh/h)	780		899			1135
Low v/c (veh/h)	0.35		0.67			0.57

Intersection Summary			
Maximum v/c High	0.55		
Maximum v/c Low	0.67		
Intersection Capacity Utilization	87.6%	ICU Level of Service	E

HCM Signalized Intersection Capacity Analysis
58: RR 67 (BOWMANVILLE AVE)/RR 57 (BOWMANVILLE AVE) & ASPEN SPRINGS DR

10/24/2022

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	325	125	225	750	875	375
Future Volume (vph)	325	125	225	750	875	375
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	6.2
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1566	1417	1607	3051	3104	1420
Flt Permitted	0.95	1.00	0.25	1.00	1.00	1.00
Satd. Flow (perm)	1566	1417	427	3051	3104	1420
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	353	136	245	815	951	408
RTOR Reduction (vph)	0	85	0	0	0	180
Lane Group Flow (vph)	353	51	245	815	951	228
Confl. Peds. (#/hr)		3	1			1
Heavy Vehicles (%)	14%	11%	11%	17%	15%	10%
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Actuated Green, G (s)	16.7	16.7	36.3	36.3	36.3	36.3
Effective Green, g (s)	18.5	18.5	38.5	38.5	38.5	36.3
Actuated g/C Ratio	0.28	0.28	0.59	0.59	0.59	0.56
Clearance Time (s)	5.8	5.8	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	445	403	252	1807	1838	793
v/s Ratio Prot	c0.23			0.27	0.31	
v/s Ratio Perm		0.04	c0.57			0.16
v/c Ratio	0.79	0.13	0.97	0.45	0.52	0.29
Uniform Delay, d1	21.5	17.3	12.7	7.4	7.8	7.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	9.4	0.1	50.0	0.8	1.0	0.9
Delay (s)	30.9	17.4	62.7	8.2	8.8	8.5
Level of Service	C	B	E	A	A	A
Approach Delay (s)	27.1			20.8	8.7	
Approach LOS	C			C	A	

Intersection Summary			
HCM 2000 Control Delay	16.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
59: RR 57 (BOWMANVILLE AVE) & WAVERLY RD

10/24/2022

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	175	100	1025	375	125	875
Future Volume (vph)	175	100	1025	375	125	875
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.3	3.3	3.5
Grade (%)	4%		3%			-3%
Total Lost time (s)	5.9	5.9	6.2	6.2	6.2	6.2
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1732	1565	3482	1489	1655	3386
Flt Permitted	0.95	1.00	1.00	1.00	0.22	1.00
Satd. Flow (perm)	1732	1565	3482	1489	379	3386
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	190	109	1114	408	136	951
RTOR Reduction (vph)	0	43	0	163	0	0
Lane Group Flow (vph)	190	66	1114	245	136	951
Confl. Peds. (#/hr)				1	1	
Heavy Vehicles (%)	1%	0%	1%	1%	7%	7%
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Actuated Green, G (s)	11.9	11.9	36.0	36.0	36.0	36.0
Effective Green, g (s)	11.9	11.9	36.0	36.0	36.0	36.0
Actuated g/C Ratio	0.20	0.20	0.60	0.60	0.60	0.60
Clearance Time (s)	5.9	5.9	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	343	310	2089	893	227	2031
v/s Ratio Prot	c0.11		0.32			0.28
v/s Ratio Perm		0.04		0.16	c0.36	
v/c Ratio	0.55	0.21	0.53	0.27	0.60	0.47
Uniform Delay, d1	21.7	20.1	7.1	5.7	7.5	6.7
Progression Factor	1.00	1.00	1.50	5.43	1.00	1.00
Incremental Delay, d2	1.9	0.3	0.6	0.4	11.2	0.8
Delay (s)	23.6	20.5	11.1	31.6	18.7	7.5
Level of Service	C	C	B	C	B	A
Approach Delay (s)	22.5		16.6			8.9
Approach LOS	C		B			A

Intersection Summary			
HCM 2000 Control Delay	14.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.1
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
60: GREEN RD & BASELINE RD

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	275	500	50	50	400	225	5	5	5	175	5	150
Future Volume (vph)	275	500	50	50	400	225	5	5	5	175	5	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.95		1.00	0.93		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1580	1580		892	1506		1785	1738		1500	1431	
Flt Permitted	0.31	1.00		0.37	1.00		0.65	1.00		0.75	1.00	
Satd. Flow (perm)	516	1580		343	1506		1223	1738		1186	1431	
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	543	54	54	435	245	5	5	5	190	5	163
RTOR Reduction (vph)	0	5	0	0	27	0	0	4	0	0	128	0
Lane Group Flow (vph)	299	592	0	54	653	0	5	6	0	190	40	0
Heavy Vehicles (%)	13%	19%	0%	100%	18%	18%	0%	0%	0%	19%	50%	11%
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)	42.5	42.5		42.5	42.5		14.8	14.8		14.8	14.8	
Effective Green, g (s)	42.5	42.5		42.5	42.5		14.8	14.8		14.8	14.8	
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.21	0.21		0.21	0.21	
Clearance Time (s)	6.1	6.1		6.1	6.1		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	317	971		210	926		261	372		254	306	
v/s Ratio Prot		0.37			0.43			0.00			0.03	
v/s Ratio Perm	c0.58			0.16			0.00			c0.16		
v/c Ratio	0.94	0.61		0.26	0.71		0.02	0.02		0.75	0.13	
Uniform Delay, d1	12.2	8.2		6.1	9.0		21.4	21.4		25.4	21.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	38.0	2.9		2.9	4.5		0.0	0.0		11.4	0.2	
Delay (s)	50.1	11.0		9.0	13.5		21.5	21.4		36.8	22.1	
Level of Service	D	B		A	B		C	C		D	C	
Approach Delay (s)		24.1			13.2			21.4			29.9	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	21.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	69.1	Sum of lost time (s)	11.8
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
61: RR 57 (BOWMANVILLE AVE) & BASELINE RD

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	225	325	300	125	350	125	250	1050	125	125	675	275
Future Volume (vph)	225	325	300	125	350	125	250	1050	125	125	675	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Total Lost time (s)	6.0	6.3		6.3	6.3	6.3	6.7	6.7	6.7	6.7	6.7	6.7
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1416	2712		1534	1592	1357	1537	2975	1241	1487	3025	1343
Flt Permitted	0.19	1.00		0.39	1.00	1.00	0.31	1.00	1.00	0.14	1.00	1.00
Satd. Flow (perm)	283	2712		635	1592	1357	494	2975	1241	222	3025	1343
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)	245	353	326	136	380	136	272	1141	136	136	734	299
RTOR Reduction (vph)	0	80	0	0	0	66	0	0	71	0	0	156
Lane Group Flow (vph)	245	599	0	136	380	70	272	1141	65	136	734	143
Confl. Peds. (#/hr)	2		7	7		2	2		1	1		2
Heavy Vehicles (%)	26%	21%	21%	16%	18%	16%	16%	20%	27%	20%	18%	16%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8		8	2		2	6		6
Actuated Green, G (s)	49.6	49.6		30.6	30.6	30.6	57.4	57.4	57.4	57.4	57.4	57.4
Effective Green, g (s)	49.6	49.6		30.6	30.6	30.6	57.4	57.4	57.4	57.4	57.4	57.4
Actuated g/C Ratio	0.41	0.41		0.26	0.26	0.26	0.48	0.48	0.48	0.48	0.48	0.48
Clearance Time (s)	6.0	6.3		6.3	6.3	6.3	6.7	6.7	6.7	6.7	6.7	6.7
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	239	1120		161	405	346	236	1423	593	106	1446	642
v/s Ratio Prot	c0.11	0.22			0.24			0.38			0.24	
v/s Ratio Perm	c0.31			0.21		0.05	0.55		0.05	c0.61		0.11
v/c Ratio	1.03	0.53		0.84	0.94	0.20	1.15	0.80	0.11	1.28	0.51	0.22
Uniform Delay, d1	30.0	26.5		42.4	43.8	35.1	31.3	26.5	17.2	31.3	21.6	18.3
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.07	1.02	2.66
Incremental Delay, d2	64.9	0.5		31.3	29.2	0.3	106.0	4.9	0.4	177.8	1.2	0.7
Delay (s)	94.8	27.0		73.7	73.0	35.4	137.3	31.3	17.6	211.2	23.1	49.3
Level of Service	F	C		E	E	D	F	C	B	F	C	D
Approach Delay (s)		45.0			65.3			48.7			51.7	
Approach LOS		D			E			D			D	

Intersection Summary				
HCM 2000 Control Delay	51.3	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	1.20			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.0	
Intersection Capacity Utilization	98.5%	ICU Level of Service	F	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
62: SPRY AVE & BASELINE RD

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	550	0	0	550	75	0	0	0	50	0	50
Future Volume (vph)	25	550	0	0	550	75	0	0	0	50	0	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0						6.0	
Lane Util. Factor	1.00	1.00			1.00						1.00	
Frt	1.00	1.00			0.98						0.93	
Flt Protected	0.95	1.00			1.00						0.98	
Satd. Flow (prot)	1750	1842			1809						1676	
Flt Permitted	0.24	1.00			1.00						0.86	
Satd. Flow (perm)	444	1842			1809						1471	
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)	27	598	0	0	598	82	0	0	0	54	0	54
RTOR Reduction (vph)	0	0	0	0	9	0	0	0	0	0	43	0
Lane Group Flow (vph)	27	598	0	0	671	0	0	0	0	0	65	0
Turn Type	Perm	NA	Perm	Perm	NA				Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2		2	6		
Actuated Green, G (s)	27.0	27.0			27.0						16.0	
Effective Green, g (s)	27.0	27.0			27.0						16.0	
Actuated g/C Ratio	0.49	0.49			0.49						0.29	
Clearance Time (s)	6.0	6.0			6.0						6.0	
Lane Grp Cap (vph)	217	904			888						427	
v/s Ratio Prot		0.32			c0.37							
v/s Ratio Perm	0.06										c0.04	
v/c Ratio	0.12	0.66			0.76						0.15	
Uniform Delay, d1	7.6	10.6			11.3						14.5	
Progression Factor	1.00	1.00			1.00						1.00	
Incremental Delay, d2	1.2	3.8			5.9						0.8	
Delay (s)	8.8	14.4			17.3						15.2	
Level of Service	A	B			B						B	
Approach Delay (s)		14.1			17.3			0.0			15.2	
Approach LOS		B			B			A			B	

Intersection Summary				
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.53			
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	49.3%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
63: RR 57 (BOWMANVILLE AVE) & Hwy 401 WB Ramps

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	25	0	300	0	1075	25	0	525	575
Future Volume (vph)	0	0	0	25	0	300	0	1075	25	0	525	575
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					6.0			6.0			6.0	6.0
Lane Util. Factor					1.00			1.00			1.00	1.00
Frt					0.88			1.00			1.00	0.85
Flt Protected					1.00			1.00			1.00	1.00
Satd. Flow (prot)					1606			1836			1842	1566
Flt Permitted					1.00			1.00			1.00	1.00
Satd. Flow (perm)					1606			1836			1842	1566
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)	0	0	0	27	0	326	0	1168	27	0	571	625
RTOR Reduction (vph)	0	0	0	0	95	0	0	1	0	0	0	180
Lane Group Flow (vph)	0	0	0	0	258	0	0	1194	0	0	571	445
Turn Type				Perm	NA			NA			NA	Perm
Protected Phases					8			2			6	
Permitted Phases				8								6
Actuated Green, G (s)					21.7			83.1			83.1	83.1
Effective Green, g (s)					21.7			83.1			83.1	83.1
Actuated g/C Ratio					0.19			0.71			0.71	0.71
Clearance Time (s)					6.0			6.0			6.0	6.0
Vehicle Extension (s)					3.0			3.0			3.0	3.0
Lane Grp Cap (vph)					298			1306			1310	1114
v/s Ratio Prot								c0.65			0.31	
v/s Ratio Perm					0.16							0.28
v/c Ratio					0.86			0.91			0.44	0.40
Uniform Delay, d1					46.1			13.9			7.0	6.8
Progression Factor					1.00			1.00			1.00	1.00
Incremental Delay, d2					22.0			11.4			1.1	1.1
Delay (s)					68.2			25.3			8.1	7.9
Level of Service					E			C			A	A
Approach Delay (s)		0.0			68.2			25.3			8.0	
Approach LOS		A			E			C			A	

Intersection Summary				
HCM 2000 Control Delay	23.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.90			
Actuated Cycle Length (s)	116.8	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	88.0%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
64: ENERGY DR & HWY 401 EB RAMPS

10/24/2022

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	25	250	100	500	775	0
Future Volume (vph)	25	250	100	500	775	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0		6.0	
Lane Util. Factor		1.00	1.00		1.00	
Frt		1.00	0.89		1.00	
Flt Protected		1.00	1.00		0.95	
Satd. Flow (prot)		1834	1635		1750	
Flt Permitted		0.24	1.00		0.95	
Satd. Flow (perm)		435	1635		1750	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	27	272	109	543	842	0
RTOR Reduction (vph)	0	0	326	0	0	0
Lane Group Flow (vph)	0	299	326	0	842	0
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4					6
Actuated Green, G (s)		16.0	16.0		27.0	
Effective Green, g (s)		16.0	16.0		27.0	
Actuated g/C Ratio		0.29	0.29		0.49	
Clearance Time (s)		6.0	6.0		6.0	
Lane Grp Cap (vph)		126	475		859	
v/s Ratio Prot			0.20		c0.48	
v/s Ratio Perm		c0.69				
v/c Ratio		2.37	0.69		0.98	
Uniform Delay, d1		19.5	17.3		13.7	
Progression Factor		1.00	1.00		1.00	
Incremental Delay, d2		641.6	7.8		26.3	
Delay (s)		661.1	25.1		40.0	
Level of Service		F	C		D	
Approach Delay (s)		661.1	25.1		40.0	
Approach LOS		F	C		D	

Intersection Summary				
HCM 2000 Control Delay	138.2	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.49			
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	89.0%	ICU Level of Service	E	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
65: RR 57 (BOWMANVILLE AVE) & ENERGY DR

10/24/2022

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	950	50	100	150	50	500
Future Volume (vph)	950	50	100	150	50	500
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.88	
Flt Protected	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1750	1566	1750	1842	1616	
Flt Permitted	0.95	1.00	0.25	1.00	1.00	
Satd. Flow (perm)	1750	1566	461	1842	1616	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1033	54	109	163	54	543
RTOR Reduction (vph)	0	22	0	0	419	0
Lane Group Flow (vph)	1033	32	109	163	178	0
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	42.0	42.0	16.0	16.0	16.0	
Effective Green, g (s)	42.0	42.0	16.0	16.0	16.0	
Actuated g/C Ratio	0.60	0.60	0.23	0.23	0.23	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	
Lane Grp Cap (vph)	1050	939	105	421	369	
v/s Ratio Prot	c0.59			0.09	0.11	
v/s Ratio Perm		0.02	c0.24			
v/c Ratio	0.98	0.03	1.04	0.39	0.48	
Uniform Delay, d1	13.7	5.7	27.0	22.9	23.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	24.1	0.1	98.5	2.7	4.5	
Delay (s)	37.8	5.8	125.5	25.5	27.9	
Level of Service	D	A	F	C	C	
Approach Delay (s)	36.2			65.6	27.9	
Approach LOS	D			E	C	

Intersection Summary			
HCM 2000 Control Delay	37.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	106.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
66: Prestonvale Rd & Townline Rd Ext

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	300	100	150	400	75	75	250	100	200	300	50
Future Volume (vph)	50	300	100	150	400	75	75	250	100	200	300	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1750	1842	1566	1750	1842	1566	1750	1763		1750	1803	
Flt Permitted	0.20	1.00	1.00	0.37	1.00	1.00	0.49	1.00		0.49	1.00	
Satd. Flow (perm)	376	1842	1566	674	1842	1566	910	1763		908	1803	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	326	109	163	435	82	82	272	109	217	326	54
RTOR Reduction (vph)	0	0	78	0	0	56	0	10	0	0	4	0
Lane Group Flow (vph)	54	326	31	163	435	26	82	371	0	217	376	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	27.9	27.9	27.9	27.9	27.9	27.9	59.3	59.3		59.3	59.3	
Effective Green, g (s)	27.9	27.9	27.9	27.9	27.9	27.9	59.3	59.3		59.3	59.3	
Actuated g/C Ratio	0.28	0.28	0.28	0.28	0.28	0.28	0.60	0.60		0.60	0.60	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	105	518	440	189	518	440	543	1053		542	1077	
v/s Ratio Prot		0.18			0.24			0.21			0.21	
v/s Ratio Perm	0.14		0.02	c0.24		0.02	0.09			c0.24		
v/c Ratio	0.51	0.63	0.07	0.86	0.84	0.06	0.15	0.35		0.40	0.35	
Uniform Delay, d1	30.0	31.1	26.1	33.8	33.5	26.1	8.8	10.2		10.5	10.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.2	2.4	0.1	30.9	11.4	0.1	0.6	0.9		2.2	0.9	
Delay (s)	34.2	33.5	26.2	64.7	45.0	26.1	9.4	11.1		12.7	11.0	
Level of Service	C	C	C	E	D	C	A	B		B	B	
Approach Delay (s)		32.0			47.4			10.8			11.7	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	26.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	99.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
67: Trulls Road /Trulls Road & Townline Rd Ext

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	400	100	50	350	200	100	400	100	175	300	100
Future Volume (vph)	150	400	100	50	350	200	100	400	100	175	300	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1750	1842	1566	1750	1842	1566	1750	1787		1750	1773	
Flt Permitted	0.34	1.00	1.00	0.26	1.00	1.00	0.45	1.00		0.36	1.00	
Satd. Flow (perm)	620	1842	1566	473	1842	1566	830	1787		670	1773	
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)	163	435	109	54	380	217	109	435	109	190	326	109
RTOR Reduction (vph)	0	0	77	0	0	154	0	10	0	0	14	0
Lane Group Flow (vph)	163	435	32	54	380	63	109	534	0	190	421	0
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	21.5	21.5	21.5	21.5	21.5	21.5	40.3	40.3		40.3	40.3	
Effective Green, g (s)	21.5	21.5	21.5	21.5	21.5	21.5	40.3	40.3		40.3	40.3	
Actuated g/C Ratio	0.29	0.29	0.29	0.29	0.29	0.29	0.55	0.55		0.55	0.55	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	180	536	456	137	536	456	453	975		365	968	
v/s Ratio Prot		0.24			0.21			c0.30			0.24	
v/s Ratio Perm	c0.26		0.02	0.11		0.04	0.13			0.28		
v/c Ratio	0.91	0.81	0.07	0.39	0.71	0.14	0.24	0.55		0.52	0.44	
Uniform Delay, d1	25.2	24.3	18.9	20.9	23.4	19.3	8.8	10.8		10.6	10.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	41.0	9.1	0.1	1.9	4.3	0.1	1.3	2.2		5.2	1.4	
Delay (s)	66.2	33.4	19.0	22.8	27.6	19.5	10.0	13.1		15.9	11.4	
Level of Service	E	C	B	C	C	B	B	B		B	B	
Approach Delay (s)		38.7			24.5			12.5			12.8	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	73.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.6%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
68: RR 34 (COURTICE RD) & Townline Rd Ext

10/24/2022

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	300	400	350	500	400	300
Future Volume (vph)	300	400	350	500	400	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			0%	-5%	
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1750	1566	1750	1842	1888	1605
Flt Permitted	0.95	1.00	0.47	1.00	1.00	1.00
Satd. Flow (perm)	1750	1566	865	1842	1888	1605
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	326	435	380	543	435	326
RTOR Reduction (vph)	0	336	0	0	0	109
Lane Group Flow (vph)	326	99	380	543	435	217
Turn Type	Perm	Perm	Perm	NA	NA	Perm
Protected Phases				2	6	
Permitted Phases	4	4	2			6
Actuated Green, G (s)	24.9	24.9	73.3	73.3	73.3	73.3
Effective Green, g (s)	24.9	24.9	73.3	73.3	73.3	73.3
Actuated g/C Ratio	0.23	0.23	0.67	0.67	0.67	0.67
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	395	353	575	1225	1255	1067
v/s Ratio Prot				0.29	0.23	
v/s Ratio Perm	c0.19	0.06	c0.44			0.14
v/c Ratio	0.83	0.28	0.66	0.44	0.35	0.20
Uniform Delay, d1	40.6	35.2	11.0	8.8	8.0	7.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	13.1	0.4	5.9	1.2	0.8	0.4
Delay (s)	53.7	35.7	16.9	9.9	8.8	7.6
Level of Service	D	D	B	A	A	A
Approach Delay (s)	43.4			12.8	8.3	
Approach LOS	D			B	A	

Intersection Summary			
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	110.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.1%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
69: Fox Street & Laval Drive /Laval Drive

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	80	300	300	150	500	75	100	100	160	25	50	25
Future Volume (vph)	80	300	300	150	500	75	100	100	160	25	50	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.93		1.00	0.98		1.00	0.91		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1750	1704		1750	1806		1750	1672		1750	1750	
Flt Permitted	0.25	1.00		0.22	1.00		0.70	1.00		0.58	1.00	
Satd. Flow (perm)	455	1704		407	1806		1297	1672		1065	1750	
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)	87	326	326	163	543	82	109	109	174	27	54	27
RTOR Reduction (vph)	0	73	0	0	11	0	0	99	0	0	18	0
Lane Group Flow (vph)	87	579	0	163	614	0	109	184	0	27	63	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)	21.3	21.3		21.3	21.3		16.2	16.2		16.2	16.2	
Effective Green, g (s)	21.3	21.3		21.3	21.3		16.2	16.2		16.2	16.2	
Actuated g/C Ratio	0.43	0.43		0.43	0.43		0.33	0.33		0.33	0.33	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	195	733		175	777		424	547		348	572	
v/s Ratio Prot		0.34			0.34			c0.11			0.04	
v/s Ratio Perm	0.19			c0.40			0.08			0.03		
v/c Ratio	0.45	0.79		0.93	0.79		0.26	0.34		0.08	0.11	
Uniform Delay, d1	9.9	12.2		13.4	12.2		12.2	12.6		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	1.6	5.7		48.3	5.5		1.5	1.7		0.4	0.4	
Delay (s)	11.6	17.8		61.7	17.7		13.7	14.2		11.9	12.0	
Level of Service	B	B		E	B		B	B		B	B	
Approach Delay (s)		17.1			26.8			14.1			12.0	
Approach LOS		B			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	49.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
102: RR 22 (BLOOR ST)

10/24/2022

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0
Turn Type		Perm	Perm		Prot	Perm
Protected Phases	4			8	2	
Permitted Phases		4	8			2
Actuated Green, G (s)						
Effective Green, g (s)						
Actuated g/C Ratio						
Clearance Time (s)						
Lane Grp Cap (vph)						
v/s Ratio Prot						
v/s Ratio Perm						
v/c Ratio						
Uniform Delay, d1						
Progression Factor						
Incremental Delay, d2						
Delay (s)						
Level of Service						
Approach Delay (s)	0.0		0.0	0.0		
Approach LOS	A		A	A		

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	44.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
103: RR 16 (RITSON RD)

10/24/2022

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0
Turn Type					Perm	
Protected Phases			2			6
Permitted Phases					6	
Actuated Green, G (s)						
Effective Green, g (s)						
Actuated g/C Ratio						
Clearance Time (s)						
Lane Grp Cap (vph)						
v/s Ratio Prot						
v/s Ratio Perm						
v/c Ratio						
Uniform Delay, d1						
Progression Factor						
Incremental Delay, d2						
Delay (s)						
Level of Service						
Approach Delay (s)	0.0		0.0			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	22.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	16.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
104: RR 16 (RITSON RD)

10/24/2022

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0
Turn Type	Prot	Perm				
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)						
Effective Green, g (s)						
Actuated g/C Ratio						
Clearance Time (s)						
Lane Grp Cap (vph)						
v/s Ratio Prot						
v/s Ratio Perm						
v/c Ratio						
Uniform Delay, d1						
Progression Factor						
Incremental Delay, d2						
Delay (s)						
Level of Service						
Approach Delay (s)	0.0		0.0			0.0
Approach LOS	A		A			A

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	45.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	16.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
133: OSHAWA CENTRE & RR 59 (GIBB ST)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	119	49	24	280	40	14	3	6	12	8	6
Future Volume (vph)	37	119	49	24	280	40	14	3	6	12	8	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2		3.0	6.2		6.0	6.0		6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.97		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		0.97	1.00	1.00
Frt	1.00	0.96		1.00	0.98		1.00	0.90		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1766	3306		1779	3379		1781	3028		1733	1879	1543
Flt Permitted	0.54	1.00		0.64	1.00		0.82	1.00		0.82	1.00	1.00
Satd. Flow (perm)	1009	3306		1193	3379		1530	3028		1489	1879	1543
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)	40	129	53	26	304	43	15	3	7	13	9	7
RTOR Reduction (vph)	0	11	0	0	4	0	0	10	0	0	0	7
Lane Group Flow (vph)	40	171	0	26	343	0	15	0	0	13	9	0
Confl. Peds. (#/hr)	2		6	6		2	2		24	24		2
Heavy Vehicles (%)	1%	3%	2%	0%	4%	0%	0%	6%	1%	0%	0%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	90.0	86.9		89.8	86.8		4.9	4.9		4.9	4.9	4.9
Effective Green, g (s)	90.0	86.9		89.8	86.8		4.9	4.9		4.9	4.9	4.9
Actuated g/C Ratio	0.82	0.79		0.82	0.79		0.04	0.04		0.04	0.04	0.04
Clearance Time (s)	3.0	6.2		3.0	6.2		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	846	2611		989	2666		68	134		66	83	68
v/s Ratio Prot	c0.00	0.05		0.00	c0.10			0.00			0.00	
v/s Ratio Perm	0.04			0.02			c0.01			0.01		0.00
v/c Ratio	0.05	0.07		0.03	0.13		0.22	0.00		0.20	0.11	0.00
Uniform Delay, d1	1.9	2.6		1.9	2.7		50.7	50.2		50.7	50.5	50.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	0.0		0.0	0.1		1.6	0.0		1.5	0.6	0.0
Delay (s)	1.9	2.6		1.9	2.8		52.3	50.2		52.1	51.0	50.2
Level of Service	A	A		A	A		D	D		D	D	D
Approach Delay (s)		2.5			2.8			51.5			51.3	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	6.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.13		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.2
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
418: RR 22 (BLOOR ST) & BURTON RD

10/24/2022

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)						
Lane Util. Factor						
Frt						
Flt Protected						
Satd. Flow (prot)						
Flt Permitted						
Satd. Flow (perm)						
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0
Turn Type						
Protected Phases		2	2			
Permitted Phases	2					
Actuated Green, G (s)						
Effective Green, g (s)						
Actuated g/C Ratio						
Clearance Time (s)						
Vehicle Extension (s)						
Lane Grp Cap (vph)						
v/s Ratio Prot						
v/s Ratio Perm						
v/c Ratio						
Uniform Delay, d1						
Progression Factor						
Incremental Delay, d2						
Delay (s)						
Level of Service						
Approach Delay (s)		0.0	0.0		0.0	
Approach LOS		A	A		A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	40.8	Sum of lost time (s)	10.5
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
428: RR 59 (GIBB ST) & WAVERLY ST IPS

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Future Volume (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5			5.5							
Lane Util. Factor		1.00			1.00							
Frt		1.00			1.00							
Flt Protected		1.00			1.00							
Satd. Flow (prot)		1842			1842							
Flt Permitted		1.00			1.00							
Satd. Flow (perm)		1842			1842							
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)	0	1	0	0	1	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Turn Type		NA			NA							
Protected Phases		2			2							
Permitted Phases	2			2								
Actuated Green, G (s)		33.5			33.5							
Effective Green, g (s)		33.5			33.5							
Actuated g/C Ratio		1.00			1.00							
Clearance Time (s)		5.5			5.5							
Vehicle Extension (s)		3.0			3.0							
Lane Grp Cap (vph)		1842			1842							
v/s Ratio Prot		c0.00			0.00							
v/s Ratio Perm												
v/c Ratio		0.00			0.00							
Uniform Delay, d1		0.0			0.0							
Progression Factor		1.00			1.00							
Incremental Delay, d2		0.0			0.0							
Delay (s)		0.0			0.0							
Level of Service		A			A							
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	33.5	Sum of lost time (s)	9.8
Intersection Capacity Utilization	11.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
458: GRENFELL ST (IPS) & RR 59 (GIBB ST)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	257	23	8	271	8	0	0	0	0	0	0
Future Volume (vph)	21	257	23	8	271	8	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8		5.8	5.8							
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	0.99	1.00		0.98	1.00							
Frt	1.00	0.99		1.00	1.00							
Flt Protected	0.95	1.00		0.95	1.00							
Satd. Flow (prot)	1710	1599		1439	1688							
Flt Permitted	0.57	1.00		0.57	1.00							
Satd. Flow (perm)	1035	1599		871	1688							
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)	23	279	25	9	295	9	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	23	304	0	9	304	0	0	0	0	0	0	0
Confl. Peds. (#/hr)	8		15	15		8	27					27
Heavy Vehicles (%)	3%	16%	10%	21%	11%	0%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA							
Protected Phases		2			2							
Permitted Phases	2			2								
Actuated Green, G (s)	59.6	59.6		59.6	59.6							
Effective Green, g (s)	59.6	59.6		59.6	59.6							
Actuated g/C Ratio	1.00	1.00		1.00	1.00							
Clearance Time (s)	5.8	5.8		5.8	5.8							
Vehicle Extension (s)	3.0	3.0		3.0	3.0							
Lane Grp Cap (vph)	1035	1599		871	1688							
v/s Ratio Prot		c0.19			0.18							
v/s Ratio Perm	0.02			0.01								
v/c Ratio	0.02	0.19		0.01	0.18							
Uniform Delay, d1	0.0	0.0		0.0	0.0							
Progression Factor	1.00	1.00		1.00	1.00							
Incremental Delay, d2	0.0	0.3		0.0	0.2							
Delay (s)	0.0	0.3		0.0	0.2							
Level of Service	A	A		A	A							
Approach Delay (s)		0.2			0.2			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	59.6	Sum of lost time (s)	9.8
Intersection Capacity Utilization	22.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
495: TOWNLINE RD. & RR 22 (BLOOR ST)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	164	36	14	332	76	104	88	28	15	21	96
Future Volume (vph)	43	164	36	14	332	76	104	88	28	15	21	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	6.3	6.3		6.3	6.3		6.3	6.3	6.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	1.00		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		0.99	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.96		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1767	1879	1546	1634	1826		1774	1738		1785	1824	1481
Flt Permitted	0.49	1.00	1.00	0.64	1.00		0.74	1.00		0.61	1.00	1.00
Satd. Flow (perm)	912	1879	1546	1110	1826		1386	1738		1138	1824	1481
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	178	39	15	361	83	113	96	30	16	23	104
RTOR Reduction (vph)	0	0	9	0	4	0	0	12	0	0	0	91
Lane Group Flow (vph)	47	178	30	15	440	0	113	114	0	16	23	13
Confl. Peds. (#/hr)			1	1			3					3
Heavy Vehicles (%)	1%	0%	1%	9%	0%	0%	0%	4%	5%	0%	3%	5%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		2			6			8			4	
Permitted Phases	2	2	2	6	6		8			4		4
Actuated Green, G (s)	92.2	92.2	92.2	92.2	92.2		15.2	15.2		15.2	15.2	15.2
Effective Green, g (s)	92.2	92.2	92.2	92.2	92.2		15.2	15.2		15.2	15.2	15.2
Actuated g/C Ratio	0.77	0.77	0.77	0.77	0.77		0.13	0.13		0.13	0.13	0.13
Clearance Time (s)	6.3	6.3	6.3	6.3	6.3		6.3	6.3		6.3	6.3	6.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	700	1443	1187	852	1402		175	220		144	231	187
v/s Ratio Prot		0.09			c0.24			0.07			0.01	
v/s Ratio Perm	0.05		0.02	0.01			c0.08			0.01		0.01
v/c Ratio	0.07	0.12	0.03	0.02	0.31		0.65	0.52		0.11	0.10	0.07
Uniform Delay, d1	3.4	3.6	3.3	3.3	4.2		49.8	49.0		46.4	46.3	46.2
Progression Factor	1.24	1.25	1.58	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	0.0	0.0	0.0	0.6		7.9	2.0		0.3	0.2	0.2
Delay (s)	4.2	4.5	5.2	3.3	4.8		57.8	51.0		46.8	46.5	46.3
Level of Service	A	A	A	A	A		E	D		D	D	D
Approach Delay (s)		4.5			4.8			54.2			46.4	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
499: FAREWELL ST & RR 59 (OLIVE AVE)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Future Volume (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0							
Lane Util. Factor		1.00			1.00							
Frt		1.00			1.00							
Flt Protected		1.00			1.00							
Satd. Flow (prot)		1842			1842							
Flt Permitted		1.00			1.00							
Satd. Flow (perm)		1842			1842							
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)	0	1	0	0	1	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Turn Type		NA			NA							
Protected Phases		2			2							
Permitted Phases	2			2								
Actuated Green, G (s)		70.0			70.0							
Effective Green, g (s)		70.0			70.0							
Actuated g/C Ratio		1.00			1.00							
Clearance Time (s)		6.0			6.0							
Vehicle Extension (s)		3.0			3.0							
Lane Grp Cap (vph)		1842			1842							
v/s Ratio Prot		c0.00			0.00							
v/s Ratio Perm												
v/c Ratio		0.00			0.00							
Uniform Delay, d1		0.0			0.0							
Progression Factor		1.00			1.00							
Incremental Delay, d2		0.0			0.0							
Delay (s)		0.0			0.0							
Level of Service		A			A							
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.7
Intersection Capacity Utilization	21.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
631: DEVON PORT LN/SAWDON DR (IPS) & BURNS ST E

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Future Volume (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2			6.2							
Lane Util. Factor		1.00			1.00							
Frt		1.00			1.00							
Flt Protected		1.00			1.00							
Satd. Flow (prot)		1842			1842							
Flt Permitted		1.00			1.00							
Satd. Flow (perm)		1842			1842							
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)	0	1	0	0	1	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Turn Type		NA			NA							
Protected Phases		2			2							
Permitted Phases	2			2								
Actuated Green, G (s)		31.2			31.2							
Effective Green, g (s)		31.2			31.2							
Actuated g/C Ratio		1.00			1.00							
Clearance Time (s)		6.2			6.2							
Vehicle Extension (s)		3.0			3.0							
Lane Grp Cap (vph)		1842			1842							
v/s Ratio Prot		c0.00			0.00							
v/s Ratio Perm												
v/c Ratio		0.00			0.00							
Uniform Delay, d1		0.0			0.0							
Progression Factor		1.00			1.00							
Incremental Delay, d2		0.0			0.0							
Delay (s)		0.0			0.0							
Level of Service		A			A							
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	31.2	Sum of lost time (s)	10.9
Intersection Capacity Utilization	11.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
670: RR 35 (WILSON RD) & SHAKESPEARE AVE.

10/24/2022

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	247	27	26	261
Future Volume (vph)	0	0	247	27	26	261
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			6.0			6.0
Lane Util. Factor			1.00			1.00
Frpb, ped/bikes			1.00			1.00
Flpb, ped/bikes			1.00			1.00
Frt			0.99			1.00
Flt Protected			1.00			1.00
Satd. Flow (prot)			1524			1568
Flt Permitted			1.00			0.96
Satd. Flow (perm)			1524			1514
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	268	29	28	284
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	297	0	0	312
Confl. Peds. (#/hr)		2				
Heavy Vehicles (%)	2%	2%	21%	28%	12%	20%
Turn Type			NA		Perm	NA
Protected Phases			2			2
Permitted Phases					2	
Actuated Green, G (s)			70.0			70.0
Effective Green, g (s)			70.0			70.0
Actuated g/C Ratio			1.00			1.00
Clearance Time (s)			6.0			6.0
Vehicle Extension (s)			3.0			3.0
Lane Grp Cap (vph)			1524			1514
v/s Ratio Prot			0.19			
v/s Ratio Perm						c0.21
v/c Ratio			0.19			0.21
Uniform Delay, d1			0.0			0.0
Progression Factor			1.00			1.00
Incremental Delay, d2			0.3			0.3
Delay (s)			0.3			0.3
Level of Service			A			A
Approach Delay (s)	0.0		0.3			0.3
Approach LOS	A		A			A

Intersection Summary			
HCM 2000 Control Delay	0.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	47.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
810: MEADOWGLADE RD & RR 22 (BLOOR ST)

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	126	12	19	164	7	60	45	49	10	18	233
Future Volume (vph)	39	126	12	19	164	7	60	45	49	10	18	233
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4		5.9	5.9		5.9	5.9	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.92		1.00	0.87	
Flpb, ped/bikes	0.98	1.00		1.00	1.00		0.92	1.00		0.88	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.92		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1645	1763		1695	1715		1594	1548		1418	1403	
Flt Permitted	0.64	1.00		0.66	1.00		0.53	1.00		0.69	1.00	
Satd. Flow (perm)	1109	1763		1181	1715		891	1548		1031	1403	
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)	42	137	13	21	178	8	65	49	53	11	20	253
RTOR Reduction (vph)	0	5	0	0	3	0	0	35	0	0	168	0
Lane Group Flow (vph)	42	145	0	21	183	0	65	67	0	11	105	0
Confl. Peds. (#/hr)	18		2	2		18	71		78	78		71
Heavy Vehicles (%)	6%	5%	5%	5%	8%	22%	3%	3%	3%	11%	2%	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)	34.2	34.2		34.2	34.2		23.5	23.5		23.5	23.5	
Effective Green, g (s)	34.2	34.2		34.2	34.2		23.5	23.5		23.5	23.5	
Actuated g/C Ratio	0.49	0.49		0.49	0.49		0.34	0.34		0.34	0.34	
Clearance Time (s)	6.4	6.4		6.4	6.4		5.9	5.9		5.9	5.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	541	861		577	837		299	519		346	471	
v/s Ratio Prot		0.08			c0.11			0.04			c0.07	
v/s Ratio Perm	0.04			0.02			0.07			0.01		
v/c Ratio	0.08	0.17		0.04	0.22		0.22	0.13		0.03	0.22	
Uniform Delay, d1	9.5	10.0		9.3	10.3		16.7	16.1		15.6	16.7	
Progression Factor	1.00	1.00		0.80	0.82		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.4		0.1	0.3		1.7	0.5		0.2	1.1	
Delay (s)	9.8	10.4		7.5	8.8		18.3	16.7		15.8	17.8	
Level of Service	A	B		A	A		B	B		B	B	
Approach Delay (s)		10.3			8.6			17.3			17.7	
Approach LOS		B			A			B			B	

Intersection Summary				
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.22			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.3	
Intersection Capacity Utilization	74.2%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
823: HWY 2 & MAPLE GROVE RD

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	585	22	92	667	14	9	11	95	12	13	8
Future Volume (vph)	10	585	22	92	667	14	9	11	95	12	13	8
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	3.0	6.6		6.8	6.8		6.8	6.8	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.87		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1784	3500	1413	1750	3484		1783	1600		1733	1668	
Flt Permitted	0.37	1.00	1.00	0.39	1.00		0.74	1.00		0.68	1.00	
Satd. Flow (perm)	696	3500	1413	721	3484		1393	1600		1246	1668	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	636	24	100	725	15	10	12	103	13	14	9
RTOR Reduction (vph)	0	0	8	0	1	0	0	95	0	0	8	0
Lane Group Flow (vph)	11	636	16	100	739	0	10	20	0	13	15	0
Confl. Peds. (#/hr)	1					1	1					1
Heavy Vehicles (%)	0%	2%	13%	2%	2%	7%	0%	7%	1%	3%	9%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	61.7	61.7	61.7	69.5	69.5		7.1	7.1		7.1	7.1	
Effective Green, g (s)	61.7	61.7	61.7	69.5	69.5		7.1	7.1		7.1	7.1	
Actuated g/C Ratio	0.69	0.69	0.69	0.77	0.77		0.08	0.08		0.08	0.08	
Clearance Time (s)	6.6	6.6	6.6	3.0	6.6		6.8	6.8		6.8	6.8	
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)	477	2399	968	611	2690		109	126		98	131	
v/s Ratio Prot		0.18		0.01	c0.21			c0.01			0.01	
v/s Ratio Perm	0.02		0.01	0.12			0.01			0.01		
v/c Ratio	0.02	0.27	0.02	0.16	0.27		0.09	0.16		0.13	0.11	
Uniform Delay, d1	4.5	5.4	4.5	2.5	3.0		38.5	38.7		38.6	38.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3	0.0	0.1	0.3		0.4	0.6		0.6	0.4	
Delay (s)	4.6	5.7	4.5	2.7	3.2		38.8	39.3		39.2	38.9	
Level of Service	A	A	A	A	A		D	D		D	D	
Approach Delay (s)		5.6			3.2			39.2			39.0	
Approach LOS		A			A			D			D	

Intersection Summary				
HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.27			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.4	
Intersection Capacity Utilization	61.0%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
831: RR 67 (BOWMANVILLE AVE) & HARTWELL AVENUE

10/24/2022

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	0	44	0	0	0	29	454	0	0	753	24
Future Volume (vph)	23	0	44	0	0	0	29	454	0	0	753	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.3	6.3				6.6	6.6			6.6	6.6
Lane Util. Factor		1.00	1.00				1.00	0.95			0.95	1.00
Frt		1.00	0.85				1.00	1.00			1.00	0.85
Flt Protected		0.95	1.00				0.95	1.00			1.00	1.00
Satd. Flow (prot)		1594	1507				1623	3051			3025	1465
Flt Permitted		0.76	1.00				0.34	1.00			1.00	1.00
Satd. Flow (perm)		1270	1507				586	3051			3025	1465
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)	25	0	48	0	0	0	32	493	0	0	818	26
RTOR Reduction (vph)	0	0	44	0	0	0	0	0	0	0	0	6
Lane Group Flow (vph)	0	25	4	0	0	0	32	493	0	0	818	20
Heavy Vehicles (%)	12%	2%	6%	2%	2%	2%	10%	17%	2%	2%	18%	9%
Turn Type	Perm	NA	Perm				Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		6
Actuated Green, G (s)		6.9	6.9				70.2	70.2			70.2	70.2
Effective Green, g (s)		6.9	6.9				70.2	70.2			70.2	70.2
Actuated g/C Ratio		0.08	0.08				0.78	0.78			0.78	0.78
Clearance Time (s)		6.3	6.3				6.6	6.6			6.6	6.6
Vehicle Extension (s)		3.0	3.0				3.0	3.0			3.0	3.0
Lane Grp Cap (vph)		97	115				457	2379			2359	1142
v/s Ratio Prot								0.16			c0.27	
v/s Ratio Perm		c0.02	0.00				0.05					0.01
v/c Ratio		0.26	0.03				0.07	0.21			0.35	0.02
Uniform Delay, d1		39.1	38.5				2.3	2.6			3.0	2.2
Progression Factor		1.00	1.00				1.00	1.00			1.00	1.00
Incremental Delay, d2		1.4	0.1				0.3	0.2			0.4	0.0
Delay (s)		40.5	38.6				2.6	2.8			3.4	2.2
Level of Service		D	D				A	A			A	A
Approach Delay (s)		39.2			0.0			2.8			3.4	
Approach LOS		D			A			A			A	

Intersection Summary				
HCM 2000 Control Delay	5.0	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.34			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.9	
Intersection Capacity Utilization	44.3%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
832: RR 54 (PARK) & OLIVER IPS

10/24/2022

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	0	0	577	423	0
Future Volume (vph)	0	0	0	577	423	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.1	6.1	
Lane Util. Factor				0.95	0.95	
Frpb, ped/bikes				1.00	1.00	
Flpb, ped/bikes				1.00	1.00	
Frt				1.00	1.00	
Flt Protected				1.00	1.00	
Satd. Flow (prot)				3368	3400	
Flt Permitted				1.00	1.00	
Satd. Flow (perm)				3368	3400	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	627	460	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	627	460	0
Confl. Peds. (#/hr)	6					
Heavy Vehicles (%)	2%	2%	2%	6%	5%	2%
Turn Type				NA	NA	
Protected Phases				2	2	
Permitted Phases						
Actuated Green, G (s)				90.0	90.0	
Effective Green, g (s)				90.0	90.0	
Actuated g/C Ratio				1.00	1.00	
Clearance Time (s)				6.1	6.1	
Vehicle Extension (s)				3.0	3.0	
Lane Grp Cap (vph)				3368	3400	
v/s Ratio Prot				c0.19	0.14	
v/s Ratio Perm						
v/c Ratio				0.19	0.14	
Uniform Delay, d1				0.0	0.0	
Progression Factor				1.00	1.00	
Incremental Delay, d2				0.1	0.1	
Delay (s)				0.1	0.1	
Level of Service				A	A	
Approach Delay (s)	0.0			0.1	0.1	
Approach LOS	A			A	A	

Intersection Summary				
HCM 2000 Control Delay	0.1	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.21			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.1	
Intersection Capacity Utilization	21.8%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis
9990: FAIRBANKS & RR 2 (SIMCOE ST)

10/24/2022

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				67	155	
pX, platoon unblocked						
vC, conflicting volume	0	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1023	1084	1622			

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

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

HCM Unsignalized Intersection Capacity Analysis
9998: FAIRBANKS & RR 2A (CENTRE ST)

10/24/2022

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis
1: RR 26 (THICKSON RD) & BURNS ST

Ritson Bridge Closure
Timing Plan: Default

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	279	62	952	92	25	1408
Future Volume (vph)	279	62	952	92	25	1408
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	6.1		6.1	6.1
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	0.98	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1745	1523	3270		1394	3433
Flt Permitted	0.95	1.00	1.00		0.21	1.00
Satd. Flow (perm)	1745	1523	3270		314	3433
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	303	67	1035	100	27	1530
RTOR Reduction (vph)	0	53	6	0	0	0
Lane Group Flow (vph)	303	14	1129	0	27	1530
Confl. Peds. (#/hr)	2	4				
Heavy Vehicles (%)	2%	3%	8%	5%	28%	4%
Turn Type	Perm	Perm	NA		Perm	NA
Protected Phases			2			6
Permitted Phases	8	8			6	
Actuated Green, G (s)	22.9	22.9	75.4		75.4	75.4
Effective Green, g (s)	22.9	22.9	75.4		75.4	75.4
Actuated g/C Ratio	0.21	0.21	0.69		0.69	0.69
Clearance Time (s)	5.6	5.6	6.1		6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	363	317	2241		215	2353
v/s Ratio Prot			0.35			c0.45
v/s Ratio Perm	c0.17	0.01			0.09	
v/c Ratio	0.83	0.04	0.50		0.13	0.65
Uniform Delay, d1	41.7	34.8	8.3		6.0	9.8
Progression Factor	1.00	1.00	0.84		1.00	1.00
Incremental Delay, d2	15.1	0.1	0.7		1.2	1.4
Delay (s)	56.9	34.9	7.8		7.2	11.2
Level of Service	E	C	A		A	B
Approach Delay (s)	52.9		7.8			11.2
Approach LOS	D		A			B

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: RR 26 (THICKSON RD) & RR 25 (CONSUMERS DR)/RR 25 (STELLAR DR)

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	165	351	153	290	96	524	965	296	119	971	305
Future Volume (vph)	135	165	351	153	290	96	524	965	296	119	971	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.6	6.6	3.0	6.6	6.6	6.4	6.4	6.4	3.0	6.4	6.4
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1578	3187	1310	1431	3187	1378	1526	4422	1324	1606	4460	1454
Flt Permitted	0.46	1.00	1.00	0.64	1.00	1.00	0.11	1.00	1.00	0.26	1.00	1.00
Satd. Flow (perm)	771	3187	1310	963	3187	1378	182	4422	1324	441	4460	1454
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)	147	179	382	166	315	104	570	1049	322	129	1055	332
RTOR Reduction (vph)	0	0	324	0	0	88	0	0	145	0	0	187
Lane Group Flow (vph)	147	179	58	166	315	16	570	1049	177	129	1055	145
Confl. Peds. (#/hr)	4		10	10		4	3		17	17		3
Heavy Vehicles (%)	13%	12%	19%	24%	12%	14%	17%	16%	16%	11%	15%	8%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	22.5	16.7	16.7	22.5	16.7	16.7	71.5	60.3	60.3	37.0	28.8	28.8
Effective Green, g (s)	22.5	16.7	16.7	22.5	16.7	16.7	71.5	60.3	60.3	37.0	28.8	28.8
Actuated g/C Ratio	0.20	0.15	0.15	0.20	0.15	0.15	0.65	0.55	0.55	0.34	0.26	0.26
Clearance Time (s)	3.0	6.6	6.6	3.0	6.6	6.6	6.4	6.4	6.4	3.0	6.4	6.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	200	483	198	221	483	209	561	2424	725	235	1167	380
v/s Ratio Prot	0.04	0.06		c0.04	0.10		c0.33	0.24		0.04	0.24	
v/s Ratio Perm	0.11		0.04	c0.11		0.01	c0.32		0.13	0.14		0.10
v/c Ratio	0.73	0.37	0.29	0.75	0.65	0.08	1.02	0.43	0.24	0.55	0.90	0.38
Uniform Delay, d1	39.8	41.9	41.4	40.0	43.9	40.0	30.2	14.7	13.0	26.3	39.3	33.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.09	0.84	0.93	0.84	0.84	0.61
Incremental Delay, d2	13.1	0.5	0.8	13.4	3.2	0.2	40.7	0.5	0.7	1.9	8.9	2.1
Delay (s)	52.8	42.4	42.2	53.4	47.1	40.2	73.6	12.8	12.8	24.1	41.9	22.4
Level of Service	D	D	D	D	D	D	E	B	B	C	D	C
Approach Delay (s)		44.5			47.6			30.7			36.1	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	36.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.4
Intersection Capacity Utilization	87.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: RR 26 (THICKSON RD) & HWY 401 WB RAMP

Ritson Bridge Closure
Timing Plan: Default

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	286	708	693	0	0	1251
Future Volume (vph)	286	708	693	0	0	1251
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%			3%
Total Lost time (s)	6.2	6.2	5.7			5.7
Lane Util. Factor	0.97	0.91	0.91			0.91
Frt	0.92	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	2760	1232	4347			4282
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	2760	1232	4347			4282
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	311	770	753	0	0	1360
RTOR Reduction (vph)	144	144	0	0	0	0
Lane Group Flow (vph)	552	241	753	0	0	1360
Heavy Vehicles (%)	19%	18%	18%	0%	0%	18%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	27.5	27.5	70.6			70.6
Effective Green, g (s)	27.5	27.5	70.6			70.6
Actuated g/C Ratio	0.25	0.25	0.64			0.64
Clearance Time (s)	6.2	6.2	5.7			5.7
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	690	308	2789			2748
v/s Ratio Prot	c0.20		0.17			c0.32
v/s Ratio Perm		0.20				
v/c Ratio	0.80	0.78	0.27			0.49
Uniform Delay, d1	38.7	38.5	8.5			10.3
Progression Factor	1.00	1.00	0.60			0.55
Incremental Delay, d2	6.6	12.2	0.2			0.4
Delay (s)	45.3	50.6	5.3			6.1
Level of Service	D	D	A			A
Approach Delay (s)	47.2		5.3			6.1
Approach LOS	D		A			A

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: RR 26 (THICKSON RD) & HWY 401 EB RAMP

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	353	289	0	463	1011	0
Future Volume (vph)	353	289	0	463	1011	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%			3%	0%	
Total Lost time (s)	5.6	5.6		5.8	5.8	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3022	1135		3770	4310	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3022	1135		3770	4310	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	384	314	0	503	1099	0
RTOR Reduction (vph)	0	55	0	0	0	0
Lane Group Flow (vph)	384	259	0	503	1099	0
Heavy Vehicles (%)	14%	40%	0%	34%	19%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	29.2	29.2		69.4	69.4	
Effective Green, g (s)	29.2	29.2		69.4	69.4	
Actuated g/C Ratio	0.27	0.27		0.63	0.63	
Clearance Time (s)	5.6	5.6		5.8	5.8	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	802	301		2378	2719	
v/s Ratio Prot	0.13			0.13	c0.25	
v/s Ratio Perm		c0.23				
v/c Ratio	0.48	0.86		0.21	0.40	
Uniform Delay, d1	34.0	38.5		8.6	10.1	
Progression Factor	1.00	1.00		1.00	0.42	
Incremental Delay, d2	0.5	21.3		0.2	0.4	
Delay (s)	34.4	59.8		8.8	4.6	
Level of Service	C	E		A	A	
Approach Delay (s)	45.8			8.8	4.6	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
5: RR 25A (CHAMPLAIN AV) & RR 25 (STELLAR DR)

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	71	117	0	134	2	100	4	4	4	3	75
Future Volume (vph)	102	71	117	0	134	2	100	4	4	4	3	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.7	6.7			6.7		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95			0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.91			1.00		1.00	0.93		1.00	0.86	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1716	3044			3528		1684	1738		1785	1489	
Flt Permitted	0.66	1.00			1.00		0.70	1.00		0.75	1.00	
Satd. Flow (perm)	1189	3044			3528		1244	1738		1414	1489	
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)	111	77	127	0	146	2	109	4	4	4	3	82
RTOR Reduction (vph)	0	53	0	0	1	0	0	3	0	0	70	0
Lane Group Flow (vph)	111	151	0	0	147	0	109	5	0	4	15	0
Confl. Peds. (#/hr)			3	3								
Heavy Vehicles (%)	4%	1%	7%	0%	1%	0%	6%	0%	0%	0%	33%	7%
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)	29.3	29.3			29.3		7.6	7.6		7.6	7.6	
Effective Green, g (s)	29.3	29.3			29.3		7.6	7.6		7.6	7.6	
Actuated g/C Ratio	0.59	0.59			0.59		0.15	0.15		0.15	0.15	
Clearance Time (s)	6.7	6.7			6.7		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	696	1783			2067		189	264		214	226	
v/s Ratio Prot		0.05			0.04			0.00			0.01	
v/s Ratio Perm	c0.09						c0.09			0.00		
v/c Ratio	0.16	0.08			0.07		0.58	0.02		0.02	0.07	
Uniform Delay, d1	4.7	4.5			4.5		19.7	18.0		18.0	18.2	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.1			0.1		4.2	0.0		0.0	0.1	
Delay (s)	5.2	4.6			4.5		23.9	18.1		18.1	18.3	
Level of Service	A	A			A		C	B		B	B	
Approach Delay (s)		4.8			4.5			23.5			18.3	
Approach LOS		A			A			C			B	

Intersection Summary				
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.25			
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	13.1	
Intersection Capacity Utilization	62.0%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: KENDALWOOD RD & BURNS ST E

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	163	1	1	270	106	1	8	2	84	8	85
Future Volume (vph)	38	163	1	1	270	106	1	8	2	84	8	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.97	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.96		1.00	0.97		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1502	1699		1785	1598		882	1828		1608	1430	
Flt Permitted	0.52	1.00		0.64	1.00		0.69	1.00		0.75	1.00	
Satd. Flow (perm)	825	1699		1212	1598		642	1828		1270	1430	
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)	41	177	1	1	293	115	1	9	2	91	9	92
RTOR Reduction (vph)	0	0	0	0	13	0	0	2	0	0	79	0
Lane Group Flow (vph)	41	178	0	1	395	0	1	9	0	91	22	0
Confl. Peds. (#/hr)	6					6	7					7
Heavy Vehicles (%)	18%	10%	100%	0%	11%	13%	100%	0%	0%	11%	0%	11%
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)	39.4	39.4		39.4	39.4		8.2	8.2		8.2	8.2	
Effective Green, g (s)	39.4	39.4		39.4	39.4		8.2	8.2		8.2	8.2	
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.14	0.14		0.14	0.14	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	541	1115		795	1049		87	249		173	195	
v/s Ratio Prot		0.10			c0.25			0.01			0.02	
v/s Ratio Perm	0.05			0.00			0.00			c0.07		
v/c Ratio	0.08	0.16		0.00	0.38		0.01	0.04		0.53	0.11	
Uniform Delay, d1	3.7	3.9		3.5	4.7		22.4	22.5		24.1	22.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.3		0.0	1.0		0.1	0.1		2.9	0.3	
Delay (s)	4.0	4.3		3.5	5.7		22.4	22.5		27.0	23.0	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		4.2			5.7			22.5			24.9	
Approach LOS		A			A			C			C	

Intersection Summary				
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.40			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.4	
Intersection Capacity Utilization	53.7%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: RR 52 (THORNTON RD) & RR 59 (GIBB ST)

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	122	10	26	208	150	15	94	10	196	162	78
Future Volume (vph)	50	122	10	26	208	150	15	94	10	196	162	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.94		1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1647	1824		1785	1677		1783	1803		1716	1746	
Flt Permitted	0.49	1.00		0.67	1.00		0.60	1.00		0.68	1.00	
Satd. Flow (perm)	853	1824		1250	1677		1123	1803		1236	1746	
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)	54	133	11	28	226	163	16	102	11	213	176	85
RTOR Reduction (vph)	0	5	0	0	45	0	0	7	0	0	31	0
Lane Group Flow (vph)	54	139	0	28	344	0	16	106	0	213	230	0
Confl. Peds. (#/hr)	5					5	1					1
Heavy Vehicles (%)	8%	2%	0%	0%	3%	5%	0%	3%	0%	4%	1%	3%
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)	14.1	14.1		14.1	14.1		13.5	13.5		13.5	13.5	
Effective Green, g (s)	14.1	14.1		14.1	14.1		13.5	13.5		13.5	13.5	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.34	0.34		0.34	0.34	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	302	647		443	595		381	613		420	593	
v/s Ratio Prot		0.08			c0.21			0.06			0.13	
v/s Ratio Perm	0.06			0.02			0.01			c0.17		
v/c Ratio	0.18	0.21		0.06	0.58		0.04	0.17		0.51	0.39	
Uniform Delay, d1	8.8	8.9		8.4	10.4		8.8	9.2		10.4	10.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.2		0.1	1.4		0.0	0.1		1.0	0.4	
Delay (s)	9.1	9.1		8.5	11.8		8.8	9.3		11.4	10.4	
Level of Service	A	A		A	B		A	A		B	B	
Approach Delay (s)		9.1			11.5			9.3			10.8	
Approach LOS		A			B			A			B	

Intersection Summary				
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.54			
Actuated Cycle Length (s)	39.7	Sum of lost time (s)	12.1	
Intersection Capacity Utilization	61.3%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
8: RR 52 (THORNTON RD) & RR 25 (STELLAR DR)

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	0	12	5	0	5	14	43	0	0	73	157
Future Volume (vph)	64	0	12	5	0	5	14	43	0	0	73	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6		6.0	6.0		6.5	6.5			6.5	6.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.85		1.00	0.85		1.00	1.00			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	1638	1125		1750	1566		1472	1528			1579	1432
Flt Permitted	0.75	1.00		0.75	1.00		0.71	1.00			1.00	1.00
Satd. Flow (perm)	1301	1125		1380	1566		1093	1528			1579	1432
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)	70	0	13	5	0	5	15	47	0	0	79	171
RTOR Reduction (vph)	0	12	0	0	5	0	0	0	0	0	0	56
Lane Group Flow (vph)	70	1	0	5	0	0	15	47	0	0	79	115
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	9%	2%	42%	2%	2%	2%	21%	23%	2%	2%	19%	9%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)	5.8	5.8		5.4	5.4		37.1	37.1			37.1	37.1
Effective Green, g (s)	5.8	5.8		5.4	5.4		37.1	37.1			37.1	37.1
Actuated g/C Ratio	0.11	0.11		0.10	0.10		0.67	0.67			0.67	0.67
Clearance Time (s)	5.6	5.6		6.0	6.0		6.5	6.5			6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	137	118		135	153		737	1030			1065	965
v/s Ratio Prot		0.00			0.00			0.03			0.05	
v/s Ratio Perm	c0.05			0.00			0.01					c0.08
v/c Ratio	0.51	0.01		0.04	0.00		0.02	0.05			0.07	0.12
Uniform Delay, d1	23.3	22.0		22.4	22.4		3.0	3.0			3.1	3.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	3.2	0.0		0.1	0.0		0.1	0.1			0.1	0.3
Delay (s)	26.5	22.1		22.6	22.4		3.0	3.1			3.2	3.4
Level of Service	C	C		C	C		A	A			A	A
Approach Delay (s)		25.8			22.5			3.1			3.4	
Approach LOS		C			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	8.4	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.17			
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	12.5	
Intersection Capacity Utilization	54.2%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
9: RR 25 (CHAMPLAIN AVE) & RR 52 (THORNTON RD)

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	9	55	160	48	43	45
Future Volume (vph)	9	55	160	48	43	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	5.9	5.9	5.9	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1608	1540	1807	1413	1451	1413
Flt Permitted	0.65	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1096	1540	1807	1413	1451	1413
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	60	174	52	47	49
RTOR Reduction (vph)	0	0	0	14	0	45
Lane Group Flow (vph)	10	60	174	38	47	4
Heavy Vehicles (%)	11%	22%	4%	13%	23%	13%
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	44.1	44.1	44.1	44.1	4.8	4.8
Effective Green, g (s)	44.1	44.1	44.1	44.1	4.8	4.8
Actuated g/C Ratio	0.72	0.72	0.72	0.72	0.08	0.08
Clearance Time (s)	5.9	5.9	5.9	5.9	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	792	1113	1306	1021	114	111
v/s Ratio Prot		0.04	c0.10		c0.03	
v/s Ratio Perm	0.01			0.03		0.00
v/c Ratio	0.01	0.05	0.13	0.04	0.41	0.03
Uniform Delay, d1	2.4	2.4	2.6	2.4	26.8	26.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.1	0.2	0.1	2.4	0.1
Delay (s)	2.4	2.5	2.8	2.5	29.2	26.1
Level of Service	A	A	A	A	C	C
Approach Delay (s)		2.5	2.7		27.6	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	61.0	Sum of lost time (s)	12.1
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
10: RR 25 (CHAMPLAIN AVE) & FOX ST

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	48	142	698	16	18	79
Future Volume (vph)	48	142	698	16	18	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	5.9	5.9	5.9	5.9	5.9
Lane Util. Factor	1.00	1.00	1.00	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1716	1663	1789	1507	3267	1551
Flt Permitted	0.35	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	633	1663	1789	1507	3267	1551
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	52	154	759	17	20	86
RTOR Reduction (vph)	0	0	0	4	0	84
Lane Group Flow (vph)	52	154	759	13	20	2
Heavy Vehicles (%)	4%	13%	5%	6%	6%	3%
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	50.4	50.4	50.4	50.4	1.3	1.3
Effective Green, g (s)	50.4	50.4	50.4	50.4	1.3	1.3
Actuated g/C Ratio	0.79	0.79	0.79	0.79	0.02	0.02
Clearance Time (s)	5.9	5.9	5.9	5.9	5.9	5.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	502	1319	1419	1196	66	31
v/s Ratio Prot		0.09	c0.42		c0.01	
v/s Ratio Perm	0.08			0.01		0.00
v/c Ratio	0.10	0.12	0.53	0.01	0.30	0.06
Uniform Delay, d1	1.5	1.5	2.3	1.4	30.7	30.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.2	1.4	0.0	2.6	0.8
Delay (s)	1.9	1.7	3.8	1.4	33.2	31.3
Level of Service	A	A	A	A	C	C
Approach Delay (s)		1.7	3.7		31.6	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	6.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	63.5	Sum of lost time (s)	11.8
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
11: RR 53 (STEVENSON RD) & RR 59 (GIBB ST)

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	132	127	143	161	35	138	417	137	34	472	14
Future Volume (vph)	21	132	127	143	161	35	138	417	137	34	472	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3		3.0	6.3	6.3	3.0	6.2	6.2	3.0	6.2	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1396	2498		1332	1470	1088	1376	2869	1219	1319	2711	
Flt Permitted	0.64	1.00		0.58	1.00	1.00	0.42	1.00	1.00	0.47	1.00	
Satd. Flow (perm)	934	2498		812	1470	1088	609	2869	1219	649	2711	
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)	23	143	138	155	175	38	150	453	149	37	513	15
RTOR Reduction (vph)	0	82	0	0	0	23	0	0	77	0	2	0
Lane Group Flow (vph)	23	199	0	155	175	15	150	453	72	37	526	0
Confl. Peds. (#/hr)	11		7	7		11	7		11	11		7
Heavy Vehicles (%)	14%	20%	16%	20%	15%	29%	16%	12%	15%	21%	18%	14%
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	44.3	44.3		44.3	44.3	44.3	53.2	53.2	53.2	53.2	53.2	
Effective Green, g (s)	44.3	44.3		44.3	44.3	44.3	53.2	53.2	53.2	53.2	53.2	
Actuated g/C Ratio	0.40	0.40		0.40	0.40	0.40	0.48	0.48	0.48	0.48	0.48	
Clearance Time (s)	6.3	6.3		3.0	6.3	6.3	3.0	6.2	6.2	3.0	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	376	1006		327	592	438	294	1387	589	313	1311	
v/s Ratio Prot		0.08			0.12			0.16			0.19	
v/s Ratio Perm	0.02			c0.19		0.01	c0.25		0.06	0.06		
v/c Ratio	0.06	0.20		0.47	0.30	0.03	0.51	0.33	0.12	0.12	0.40	
Uniform Delay, d1	20.1	21.3		24.2	22.3	19.9	19.5	17.4	15.6	15.6	18.2	
Progression Factor	1.00	1.00		0.89	0.91	0.98	0.66	0.65	0.63	1.00	1.00	
Incremental Delay, d2	0.3	0.4		1.1	1.3	0.1	1.4	0.6	0.4	0.2	0.9	
Delay (s)	20.4	21.8		22.6	21.4	19.7	14.2	11.9	10.3	15.7	19.1	
Level of Service	C	C		C	C	B	B	B	B	B	B	
Approach Delay (s)		21.7			21.8			12.1			18.9	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
12: RR 53 (STEVENSON RD) & LAVAL DRIVE

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	20	82	80	42	78	77	651	66	46	535	82
Future Volume (vph)	73	20	82	80	42	78	77	651	66	46	535	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	6.3	6.3		3.0	6.3	6.3	3.0	6.3	6.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.90		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1550	1634	1302	1550	1343		1512	3000	1424	1283	3051	1417
Flt Permitted	0.61	1.00	1.00	0.74	1.00		0.43	1.00	1.00	0.37	1.00	1.00
Satd. Flow (perm)	996	1634	1302	1212	1343		678	3000	1424	502	3051	1417
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	22	89	87	46	85	84	708	72	50	582	89
RTOR Reduction (vph)	0	0	78	0	74	0	0	0	22	0	0	28
Lane Group Flow (vph)	79	22	11	87	57	0	84	708	50	50	582	61
Confl. Peds. (#/hr)	1		1	1		1	2		3	3		2
Heavy Vehicles (%)	15%	15%	21%	15%	31%	22%	18%	19%	9%	39%	17%	11%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)	13.6	13.6	13.6	13.6	13.6		81.2	76.2	76.2	80.4	75.8	75.8
Effective Green, g (s)	13.6	13.6	13.6	13.6	13.6		81.2	76.2	76.2	80.4	75.8	75.8
Actuated g/C Ratio	0.12	0.12	0.12	0.12	0.12		0.74	0.69	0.69	0.73	0.69	0.69
Clearance Time (s)	6.3	6.3	6.3	6.3	6.3		3.0	6.3	6.3	3.0	6.3	6.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	123	202	160	149	166		538	2078	986	399	2102	976
v/s Ratio Prot		0.01			0.04		c0.01	c0.24		0.01	0.19	
v/s Ratio Perm	c0.08		0.01	0.07			0.11		0.04	0.09		0.04
v/c Ratio	0.64	0.11	0.07	0.58	0.34		0.16	0.34	0.05	0.13	0.28	0.06
Uniform Delay, d1	45.9	42.8	42.6	45.5	44.1		4.0	6.8	5.4	4.2	6.6	5.6
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.73	0.56	0.34	0.55	0.54	0.13
Incremental Delay, d2	10.9	0.2	0.2	5.7	1.2		0.1	0.4	0.1	0.1	0.3	0.1
Delay (s)	56.8	43.1	42.8	51.3	45.3		3.1	4.3	1.9	2.4	3.9	0.8
Level of Service	E	D	D	D	D		A	A	A	A	A	A
Approach Delay (s)		48.6			47.7			3.9			3.4	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis — Ritson Bridge Closure
13: RR 53 (STEVENSON RD) & RR 25 (CHAMPLAIN AVE)/HWY 401 WB EXIT RAMP — Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	0	53	537	215	301	67	447	0	0	878	137
Future Volume (vph)	43	0	53	537	215	301	67	447	0	0	878	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9		5.9	5.9	5.9	5.9	3.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.91	0.91	1.00	1.00	0.95			0.91	1.00
Frt	1.00		0.85	1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.97	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1417		1320	1400	2913	1401	1580	3216			4499	1389
Flt Permitted	0.95		1.00	0.95	0.97	1.00	0.22	1.00			1.00	1.00
Satd. Flow (perm)	1417		1320	1400	2913	1401	367	3216			4499	1389
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	0	58	584	234	327	73	486	0	0	954	149
RTOR Reduction (vph)	0	0	54	0	0	243	0	0	0	0	0	87
Lane Group Flow (vph)	47	0	4	292	526	84	73	486	0	0	954	62
Heavy Vehicles (%)	26%	0%	21%	16%	12%	14%	13%	11%	0%	0%	14%	15%
Turn Type	Prot		Perm	Split	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases	4			8	8		5	2			6	
Permitted Phases			4			8	2					6
Actuated Green, G (s)	8.1		8.1	28.3	28.3	28.3	54.7	54.7			45.8	45.8
Effective Green, g (s)	8.1		8.1	28.3	28.3	28.3	54.7	54.7			45.8	45.8
Actuated g/C Ratio	0.07		0.07	0.26	0.26	0.26	0.50	0.50			0.42	0.42
Clearance Time (s)	5.9		5.9	5.9	5.9	5.9	3.0	7.1			7.1	7.1
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)	104		97	360	749	360	247	1599			1873	578
v/s Ratio Prot	c0.03			c0.21	0.18		0.02	c0.15			c0.21	
v/s Ratio Perm			0.00			0.06	0.13					0.04
v/c Ratio	0.45		0.04	0.81	0.70	0.23	0.30	0.30			0.51	0.11
Uniform Delay, d1	48.8		47.4	38.3	37.0	32.3	15.3	16.4			23.8	19.6
Progression Factor	1.00		1.00	1.00	1.00	1.00	0.78	0.70			0.79	0.42
Incremental Delay, d2	3.1		0.2	13.0	3.0	0.3	0.6	0.5			1.0	0.4
Delay (s)	51.9		47.5	51.3	40.0	32.6	12.5	12.0			19.7	8.6
Level of Service	D		D	D	D	C	B	B			B	A
Approach Delay (s)		49.5			40.8			12.1			18.2	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.9
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Ritson Bridge Closure
14: RR 53 (STEVENSON RD) & 401 EB RAMP/BLOOR ST CONNECTOR — Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	271	166	64	39	0	184	0	238	30	161	373	201
Future Volume (vph)	271	166	64	39	0	184	0	238	30	161	373	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3		6.3		6.3		6.6		3.0	6.6	
Lane Util. Factor	0.97	0.95		0.97		1.00		0.91		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00		1.00		1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00		1.00		1.00		1.00	1.00	
Frt	1.00	0.96		1.00		0.85		0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	3092	2902		2748		1331		4246		1439	2728	
Flt Permitted	0.95	1.00		0.95		1.00		1.00		0.54	1.00	
Satd. Flow (perm)	3092	2902		2748		1331		4246		811	2728	
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)	295	180	70	42	0	200	0	259	33	175	405	218
RTOR Reduction (vph)	0	42	0	0	0	184	0	9	0	0	50	0
Lane Group Flow (vph)	295	208	0	42	0	16	0	283	0	175	573	0
Confl. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	12%	17%	20%	26%	0%	20%	0%	18%	23%	24%	31%	11%
Turn Type	Perm	NA		Prot		Perm		NA		pm+pt	NA	
Protected Phases		4		3				2		1	6	
Permitted Phases	4					3				6		
Actuated Green, G (s)	16.1	16.1		8.9		8.9		52.2		65.8	65.8	
Effective Green, g (s)	16.1	16.1		8.9		8.9		52.2		65.8	65.8	
Actuated g/C Ratio	0.15	0.15		0.08		0.08		0.47		0.60	0.60	
Clearance Time (s)	6.3	6.3		6.3		6.3		6.6		3.0	6.6	
Vehicle Extension (s)	3.0	3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	452	424		222		107		2014		545	1631	
v/s Ratio Prot		0.07		c0.02				0.07		0.03	c0.21	
v/s Ratio Perm	c0.10					0.01				0.16		
v/c Ratio	0.65	0.49		0.19		0.15		0.14		0.32	0.35	
Uniform Delay, d1	44.3	43.2		47.2		47.0		16.3		10.2	11.2	
Progression Factor	1.00	1.00		0.82		1.99		1.00		1.18	1.09	
Incremental Delay, d2	3.4	0.9		0.4		0.6		0.1		0.3	0.5	
Delay (s)	47.7	44.1		38.9		94.4		16.4		12.3	12.7	
Level of Service	D	D		D		F		B		B	B	
Approach Delay (s)		46.0			84.8			16.4			12.6	
Approach LOS		D			F			B			B	

Intersection Summary			
HCM 2000 Control Delay	32.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.2
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Ritson Bridge Closure
15: RR 53 (STEVENSON RD) & RR 22 (BLOOR ST) — Timing Plan: Default

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	222	127	252	1334	659	243
Future Volume (vph)	222	127	252	1334	659	243
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4	3.0	6.4	5.9	5.9
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3275	1439	1680	3500	3395	1497
Flt Permitted	1.00	1.00	0.57	1.00	0.95	1.00
Satd. Flow (perm)	3275	1439	1005	3500	3395	1497
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	241	138	274	1450	716	264
RTOR Reduction (vph)	0	75	0	0	0	188
Lane Group Flow (vph)	241	63	274	1450	716	76
Confl. Peds. (#/hr)		3	3			2
Heavy Vehicles (%)	9%	9%	6%	2%	2%	5%
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Actuated Green, G (s)	50.6	50.6	66.0	66.0	31.7	31.7
Effective Green, g (s)	50.6	50.6	66.0	66.0	31.7	31.7
Actuated g/C Ratio	0.46	0.46	0.60	0.60	0.29	0.29
Clearance Time (s)	6.4	6.4	3.0	6.4	5.9	5.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	5.0	5.0
Lane Grp Cap (vph)	1506	661	679	2100	978	431
v/s Ratio Prot	0.07		0.05	c0.41	c0.21	
v/s Ratio Perm		0.04	0.20			0.05
v/c Ratio	0.16	0.10	0.40	0.69	0.73	0.18
Uniform Delay, d1	17.3	16.8	10.6	15.0	35.3	29.4
Progression Factor	1.00	1.00	1.00	1.00	0.99	1.51
Incremental Delay, d2	0.2	0.3	0.4	1.9	3.5	0.4
Delay (s)	17.5	17.1	11.0	16.9	38.5	44.8
Level of Service	B	B	B	B	D	D
Approach Delay (s)	17.4			16.0	40.2	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	23.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Ritson Bridge Closure
16: RR 54 (PARK)/RR 54 (PARK RD) & RR 59 (GIBB ST) — Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	205	69	118	223	53	89	439	77	65	469	117
Future Volume (vph)	88	205	69	118	223	53	89	439	77	65	469	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.1		6.0	6.1		6.0	6.2		6.0	6.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.97		1.00	0.98		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)	1505	2941		1539	3052		1572	3079		1604	3022	
Flt Permitted	0.56	1.00		0.50	1.00		0.35	1.00		0.41	1.00	
Satd. Flow (perm)	882	2941		807	3052		583	3079		697	3022	
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)	96	223	75	128	242	58	97	477	84	71	510	127
RTOR Reduction (vph)	0	44	0	0	27	0	0	13	0	0	20	0
Lane Group Flow (vph)	96	254	0	128	273	0	97	548	0	71	617	0
Confl. Peds. (#/hr)	20		11	11		20	15		8	8		15
Heavy Vehicles (%)	6%	4%	6%	4%	1%	4%	2%	2%	0%	0%	3%	1%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	17.6	14.4		19.2	15.2		48.0	41.2		46.6	40.5	
Effective Green, g (s)	17.6	14.4		19.2	15.2		48.0	41.2		46.6	40.5	
Actuated g/C Ratio	0.20	0.16		0.21	0.17		0.53	0.46		0.52	0.45	
Clearance Time (s)	6.0	6.1		6.0	6.1		6.0	6.2		6.0	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	194	470		204	515		385	1409		422	1359	
v/s Ratio Prot	0.02	0.09		c0.03	0.09		c0.02	0.18		0.01	c0.20	
v/s Ratio Perm	0.08			c0.11			0.12			0.08		
v/c Ratio	0.49	0.54		0.63	0.53		0.25	0.39		0.17	0.45	
Uniform Delay, d1	31.4	34.8		31.3	34.1		10.7	16.1		11.0	17.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.0	1.3		5.9	1.0		0.3	0.8		0.2	1.1	
Delay (s)	33.4	36.0		37.2	35.1		11.0	16.9		11.2	18.2	
Level of Service	C	D		D	D		B	B		B	B	
Approach Delay (s)		35.4			35.8			16.0			17.5	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	24.3
Intersection Capacity Utilization	70.5%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
17: RR 2A (CENTRE ST) & RR 59 (GIBB ST)

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	182	145	17	287	0	0	0	0	50	509	129
Future Volume (vph)	0	182	145	17	287	0	0	0	0	50	509	129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8	5.8	5.8	5.8						5.7	
Lane Util. Factor		1.00	1.00	1.00	1.00						0.91	
Frpb, ped/bikes		1.00	0.94	1.00	1.00						0.99	
Flpb, ped/bikes		1.00	1.00	0.96	1.00						1.00	
Frt		1.00	0.85	1.00	1.00						0.97	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		1674	1335	1545	1642						4158	
Flt Permitted		1.00	1.00	0.63	1.00						1.00	
Satd. Flow (perm)		1674	1335	1030	1642						4158	
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)	0	198	158	18	312	0	0	0	0	54	553	140
RTOR Reduction (vph)	0	0	94	0	0	0	0	0	0	0	62	0
Lane Group Flow (vph)	0	198	64	18	312	0	0	0	0	0	685	0
Confl. Peds. (#/hr)			45	45						40		18
Heavy Vehicles (%)	0%	1%	1%	0%	3%	0%	0%	0%	0%	2%	7%	4%
Turn Type		NA	Perm	Perm	NA					Perm	NA	
Protected Phases		4			8						6	
Permitted Phases			4	8						6		
Actuated Green, G (s)		24.2	24.2	24.2	24.2						24.3	
Effective Green, g (s)		24.2	24.2	24.2	24.2						24.3	
Actuated g/C Ratio		0.40	0.40	0.40	0.40						0.41	
Clearance Time (s)		5.8	5.8	5.8	5.8						5.7	
Lane Grp Cap (vph)		675	538	415	662						1683	
v/s Ratio Prot		0.12			c0.19							
v/s Ratio Perm			0.05	0.02							0.16	
v/c Ratio		0.29	0.12	0.04	0.47						0.41	
Uniform Delay, d1		12.1	11.2	10.9	13.2						12.7	
Progression Factor		1.00	1.00	0.74	0.82						1.00	
Incremental Delay, d2		1.1	0.4	0.2	2.2						0.7	
Delay (s)		13.2	11.7	8.2	12.9						13.4	
Level of Service		B	B	A	B						B	
Approach Delay (s)		12.5			12.7			0.0			13.4	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
18: RR 2 (SIMCOE ST) & RR 59 (GIBB ST)

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	53	0	0	98	20	188	1027	15	0	0	0
Future Volume (vph)	122	53	0	0	98	20	188	1027	15	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8			5.8			5.5	5.5			
Lane Util. Factor	1.00	1.00			1.00			0.91	1.00			
Frpb, ped/bikes	1.00	1.00			0.99			1.00	0.93			
Flpb, ped/bikes	0.95	1.00			1.00			0.99	1.00			
Frt	1.00	1.00			0.98			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.99	1.00			
Satd. Flow (prot)	1505	1691			1631			4436	1339			
Flt Permitted	0.67	1.00			1.00			0.99	1.00			
Satd. Flow (perm)	1069	1691			1631			4436	1339			
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)	133	58	0	0	107	22	204	1116	16	0	0	0
RTOR Reduction (vph)	0	0	0	0	13	0	0	0	8	0	0	0
Lane Group Flow (vph)	133	58	0	0	116	0	0	1320	8	0	0	0
Confl. Peds. (#/hr)	64					64	31		33			
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4			8			2				
Permitted Phases	4						2		2			
Actuated Green, G (s)	20.2	20.2			20.2			28.5	28.5			
Effective Green, g (s)	20.2	20.2			20.2			28.5	28.5			
Actuated g/C Ratio	0.34	0.34			0.34			0.48	0.48			
Clearance Time (s)	5.8	5.8			5.8			5.5	5.5			
Lane Grp Cap (vph)	359	569			549			2107	636			
v/s Ratio Prot		0.03			0.07							
v/s Ratio Perm	c0.12							0.30	0.01			
v/c Ratio	0.37	0.10			0.21			0.63	0.01			
Uniform Delay, d1	15.1	13.7			14.2			11.8	8.3			
Progression Factor	0.57	0.62			1.00			1.00	1.00			
Incremental Delay, d2	2.8	0.3			0.9			1.4	0.0			
Delay (s)	11.4	8.8			15.1			13.2	8.4			
Level of Service	B	A			B			B	A			
Approach Delay (s)		10.6			15.1			13.1			0.0	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	63.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
19: RR 2 (SIMCOE ST) & RR 59 (OLIVE AVE)

Ritson Bridge Closure
Timing Plan: Default

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	358	184	1066	197	65	565
Future Volume (vph)	358	184	1066	197	65	565
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.6			4.0
Lane Util. Factor	1.00	1.00	0.95			0.95
Frpb, ped/bikes	1.00	0.96	0.97			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	1.00	0.85	0.98			1.00
Flt Protected	0.95	1.00	1.00			0.99
Satd. Flow (prot)	1560	1378	2949			3196
Flt Permitted	0.95	1.00	1.00			0.61
Satd. Flow (perm)	1560	1378	2949			1958
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	389	200	1159	214	71	614
RTOR Reduction (vph)	0	115	12	0	0	0
Lane Group Flow (vph)	389	85	1361	0	0	685
Confl. Peds. (#/hr)		14		44		
Heavy Vehicles (%)	3%	0%	3%	3%	0%	0%
Turn Type	Prot	Perm	NA		D.P+P	NA
Protected Phases	4		2		1	1 2
Permitted Phases		4			2	
Actuated Green, G (s)	34.5	34.5	62.4			70.4
Effective Green, g (s)	34.5	34.5	62.4			70.4
Actuated g/C Ratio	0.29	0.29	0.52			0.59
Clearance Time (s)	5.5	5.5	5.6			
Vehicle Extension (s)	3.0	3.0	3.0			
Lane Grp Cap (vph)	448	396	1533			1231
v/s Ratio Prot	c0.25		c0.46			c0.04
v/s Ratio Perm		0.06				0.29
v/c Ratio	0.87	0.21	0.89			0.56
Uniform Delay, d1	40.6	32.5	25.7			15.2
Progression Factor	0.84	1.04	0.90			1.00
Incremental Delay, d2	16.0	0.9	6.8			0.5
Delay (s)	49.9	34.8	29.9			15.8
Level of Service	D	C	C			B
Approach Delay (s)	44.7		29.9			15.8
Approach LOS	D		C			B

Intersection Summary			
HCM 2000 Control Delay	29.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	94.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
20: ALBERT ST & RR 59 (OLIVE AVE)

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	223	41	78	445	108	11	176	15	0	0	0
Future Volume (vph)	31	223	41	78	445	108	11	176	15	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.6			5.6			5.2				
Lane Util. Factor		1.00			1.00			1.00				
Frpb, ped/bikes		1.00			0.99			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		0.98			0.98			0.99				
Flt Protected		0.99			0.99			1.00				
Satd. Flow (prot)		1625			1624			1643				
Flt Permitted		0.90			0.92			1.00				
Satd. Flow (perm)		1477			1497			1643				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	242	45	85	484	117	12	191	16	0	0	0
RTOR Reduction (vph)	0	10	0	0	12	0	0	5	0	0	0	0
Lane Group Flow (vph)	0	311	0	0	674	0	0	214	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	6		3			
Heavy Vehicles (%)	3%	1%	0%	0%	0%	3%	9%	1%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA				
Protected Phases		2			2			4				
Permitted Phases	2			2			4					
Actuated Green, G (s)		35.4			35.4			13.8				
Effective Green, g (s)		35.4			35.4			13.8				
Actuated g/C Ratio		0.59			0.59			0.23				
Clearance Time (s)		5.6			5.6			5.2				
Lane Grp Cap (vph)		871			883			377				
v/s Ratio Prot												
v/s Ratio Perm		0.21			c0.45			0.13				
v/c Ratio		0.36			0.76			0.57				
Uniform Delay, d1		6.4			9.2			20.5				
Progression Factor		1.11			1.00			0.98				
Incremental Delay, d2		0.8			6.2			5.8				
Delay (s)		7.9			15.4			25.8				
Level of Service		A			B			C				
Approach Delay (s)		7.9			15.4			25.8			0.0	
Approach LOS		A			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.8
Intersection Capacity Utilization	74.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
21: RR 16 (RITSON RD) & RR 59 (OLIVE AVE)

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	126	82	5	31	332	116	29	63	92	93	90	184
Future Volume (vph)	126	82	5	31	332	116	29	63	92	93	90	184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	6.0		6.0	6.0		6.0	5.9		6.0	5.9	
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	0.99		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	0.96		1.00	0.91		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1147	1503		1358	1392		1408	2483		1413	2452	
Flt Permitted	0.24	1.00		0.70	1.00		0.57	1.00		0.57	1.00	
Satd. Flow (perm)	286	1503		995	1392		844	2483		850	2452	
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)	137	89	5	34	361	126	32	68	100	101	98	200
RTOR Reduction (vph)	0	2	0	0	12	0	0	77	0	0	148	0
Lane Group Flow (vph)	137	92	0	34	475	0	32	91	0	101	150	0
Confl. Peds. (#/hr)	9		2	2		9	1		5	5		1
Heavy Vehicles (%)	40%	11%	21%	18%	17%	13%	14%	13%	17%	13%	12%	18%
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	55.6	55.6		38.5	38.5		26.0	23.8		32.2	26.9	
Effective Green, g (s)	55.6	55.6		38.5	38.5		26.0	23.8		32.2	26.9	
Actuated g/C Ratio	0.54	0.54		0.38	0.38		0.25	0.23		0.31	0.26	
Clearance Time (s)	4.0	6.0		6.0	6.0		6.0	5.9		6.0	5.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	264	814		373	522		225	575		295	642	
v/s Ratio Prot	c0.07	0.06			c0.34		0.00	0.04		c0.02	0.06	
v/s Ratio Perm	0.21			0.03			0.03			c0.09		
v/c Ratio	0.52	0.11		0.09	0.91		0.14	0.16		0.34	0.23	
Uniform Delay, d1	15.2	11.5		20.7	30.4		29.3	31.4		26.1	29.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.7	0.1		0.1	19.6		0.3	0.6		0.7	0.9	
Delay (s)	17.0	11.5		20.8	50.0		29.6	32.0		26.8	30.6	
Level of Service	B	B		C	D		C	C		C	C	
Approach Delay (s)		14.8			48.1			31.6			29.6	
Approach LOS		B			D			C			C	

Intersection Summary				
HCM 2000 Control Delay	34.5	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.66			
Actuated Cycle Length (s)	102.6	Sum of lost time (s)	21.9	
Intersection Capacity Utilization	75.9%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
22: RR 35 (WILSON RD) & RR 59 (OLIVE AVE)

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	138	70	75	258	55	82	255	47	24	234	28
Future Volume (vph)	24	138	70	75	258	55	82	255	47	24	234	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
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
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.97	1.00	1.00	0.95	1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1184	1458	1100	1272	1386	1195	1354	1398	1143	1253	1470	1155
Flt Permitted	0.56	1.00	1.00	0.66	1.00	1.00	0.60	1.00	1.00	0.57	1.00	1.00
Satd. Flow (perm)	704	1458	1100	886	1386	1195	849	1398	1143	749	1470	1155
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	150	76	82	280	60	89	277	51	26	254	30
RTOR Reduction (vph)	0	0	45	0	0	36	0	0	30	0	0	18
Lane Group Flow (vph)	26	150	31	82	280	24	89	277	21	26	254	12
Confl. Peds. (#/hr)	4		17	17		4	4		14	14		4
Heavy Vehicles (%)	35%	16%	24%	23%	22%	17%	18%	21%	20%	26%	15%	21%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4
Effective Green, g (s)	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4	24.4
Actuated g/C Ratio	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41	0.41
Clearance Time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Lane Grp Cap (vph)	286	592	447	360	563	485	345	568	464	304	597	469
v/s Ratio Prot		0.10			c0.20			c0.20			0.17	
v/s Ratio Perm	0.04		0.03	0.09		0.02	0.10		0.02	0.03		0.01
v/c Ratio	0.09	0.25	0.07	0.23	0.50	0.05	0.26	0.49	0.04	0.09	0.43	0.03
Uniform Delay, d1	11.0	11.8	10.9	11.6	13.2	10.8	11.8	13.2	10.8	10.9	12.8	10.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.04	1.03	1.24	1.00	1.00	1.00
Incremental Delay, d2	0.6	1.0	0.3	1.5	3.1	0.2	1.8	3.0	0.2	0.6	2.2	0.1
Delay (s)	11.6	12.8	11.2	13.1	16.4	11.0	14.0	16.5	13.6	11.5	15.0	10.8
Level of Service	B	B	B	B	B	B	B	B	B	B	B	B
Approach Delay (s)		12.2			15.0			15.6			14.3	
Approach LOS		B			B			B			B	

Intersection Summary				
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.49			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.2	
Intersection Capacity Utilization	73.8%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
23: RR 33 (HARMONY) & RR 59 (OLIVE AVE)

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	121	82	371	345	128	58	525	125	60	780	71
Future Volume (vph)	38	121	82	371	345	128	58	525	125	60	780	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		3.0	6.5	6.5	3.0	6.3		3.0	6.3	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.94		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)	1699	3165		1764	1842	1545	1716	3310		1637	3402	
Flt Permitted	0.54	1.00		0.55	1.00	1.00	0.14	1.00		0.26	1.00	
Satd. Flow (perm)	963	3165		1019	1842	1545	261	3310		454	3402	
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)	41	132	89	403	375	139	63	571	136	65	848	77
RTOR Reduction (vph)	0	64	0	0	0	78	0	23	0	0	7	0
Lane Group Flow (vph)	41	157	0	403	375	61	63	684	0	65	918	0
Confl. Peds. (#/hr)	1		5	5		1	2		3	3		2
Heavy Vehicles (%)	5%	0%	13%	1%	2%	2%	4%	5%	2%	9%	3%	8%
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	25.5	25.5		39.5	39.5	39.5	34.7	30.0		34.7	30.0	
Effective Green, g (s)	25.5	25.5		39.5	39.5	39.5	34.7	30.0		34.7	30.0	
Actuated g/C Ratio	0.28	0.28		0.44	0.44	0.44	0.39	0.33		0.39	0.33	
Clearance Time (s)	6.5	6.5		3.0	6.5	6.5	3.0	6.3		3.0	6.3	
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)	272	896		538	808	678	176	1103		236	1134	
v/s Ratio Prot		0.05		c0.09	0.20		c0.02	0.21		0.01	c0.27	
v/s Ratio Perm	0.04			c0.24		0.04	0.12			0.09		
v/c Ratio	0.15	0.18		0.75	0.46	0.09	0.36	0.62		0.28	0.81	
Uniform Delay, d1	24.1	24.3		19.4	17.8	14.8	19.2	25.2		18.2	27.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.2	0.4		5.7	1.9	0.3	1.2	2.6		0.6	6.3	
Delay (s)	25.3	24.7		25.0	19.7	15.0	20.5	27.8		18.9	33.7	
Level of Service	C	C		C	B	B	C	C		B	C	
Approach Delay (s)		24.8			21.3			27.2			32.7	
Approach LOS		C			C			C			C	

Intersection Summary				
HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.78			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.8	
Intersection Capacity Utilization	85.9%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
24: RR 54 (PARK) & HILLSIDE

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	117	8	17	453	482	176
Future Volume (vph)	117	8	17	453	482	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2			5.3	5.3	
Lane Util. Factor	1.00			0.95	0.95	
Frpb, ped/bikes	1.00			1.00	0.99	
Flpb, ped/bikes	0.99			1.00	1.00	
Frt	0.99			1.00	0.96	
Flt Protected	0.96			1.00	1.00	
Satd. Flow (prot)	1699			3480	3311	
Flt Permitted	0.96			0.93	1.00	
Satd. Flow (perm)	1699			3227	3311	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	127	9	18	492	524	191
RTOR Reduction (vph)	6	0	0	0	38	0
Lane Group Flow (vph)	130	0	0	510	677	0
Confl. Peds. (#/hr)	10	18	7			7
Heavy Vehicles (%)	2%	25%	13%	2%	1%	7%
Turn Type	Perm		Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4		2			
Actuated Green, G (s)	8.7			40.8	40.8	
Effective Green, g (s)	8.7			40.8	40.8	
Actuated g/C Ratio	0.14			0.68	0.68	
Clearance Time (s)	5.2			5.3	5.3	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	246			2194	2251	
v/s Ratio Prot					c0.20	
v/s Ratio Perm	c0.08			0.16		
v/c Ratio	0.53			0.23	0.30	
Uniform Delay, d1	23.8			3.6	3.9	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	2.0			0.2	0.3	
Delay (s)	25.8			3.9	4.2	
Level of Service	C			A	A	
Approach Delay (s)	25.8			3.9	4.2	
Approach LOS	C			A	A	

Intersection Summary				
HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.34			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.5	
Intersection Capacity Utilization	44.3%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
25: RR 2 (SIMCOE ST) & MILL ST

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	59	48	31	1143	784	40
Future Volume (vph)	59	48	31	1143	784	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7		5.6	5.6	
Lane Util. Factor	1.00	1.00		0.95	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	0.99	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	1606	1318		3082	2997	
Flt Permitted	0.95	1.00		0.91	1.00	
Satd. Flow (perm)	1606	1318		2820	2997	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	52	34	1242	852	43
RTOR Reduction (vph)	0	46	0	0	4	0
Lane Group Flow (vph)	64	6	0	1276	891	0
Confl. Peds. (#/hr)	18	7	25			25
Heavy Vehicles (%)	0%	7%	7%	4%	6%	8%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4	2			
Actuated Green, G (s)	7.1	7.1		41.6	41.6	
Effective Green, g (s)	7.1	7.1		41.6	41.6	
Actuated g/C Ratio	0.12	0.12		0.69	0.69	
Clearance Time (s)	5.7	5.7		5.6	5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	190	155		1955	2077	
v/s Ratio Prot	c0.04				0.30	
v/s Ratio Perm		0.00		c0.45		
v/c Ratio	0.34	0.04		0.65	0.43	
Uniform Delay, d1	24.3	23.4		5.2	4.0	
Progression Factor	1.00	1.00		0.74	1.19	
Incremental Delay, d2	1.1	0.1		1.4	0.5	
Delay (s)	25.3	23.5		5.2	5.3	
Level of Service	C	C		A	A	
Approach Delay (s)	24.5			5.2	5.3	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
26: RR 2 (SIMCOE ST) & 1ST AVE

Ritson Bridge Closure
Timing Plan: Default

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	37	215	947	10	50	719
Future Volume (vph)	37	215	947	10	50	719
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9		5.8			5.8
Lane Util. Factor	1.00		0.95			0.95
Frpb, ped/bikes	0.99		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.88		1.00			1.00
Flt Protected	0.99		1.00			1.00
Satd. Flow (prot)	1374		3081			2967
Flt Permitted	0.99		1.00			0.83
Satd. Flow (perm)	1374		3081			2458
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	40	234	1029	11	54	782
RTOR Reduction (vph)	42	0	1	0	0	0
Lane Group Flow (vph)	232	0	1039	0	0	836
Confl. Peds. (#/hr)	3	3		11	11	
Heavy Vehicles (%)	11%	6%	4%	10%	21%	7%
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	14.7		33.6			33.6
Effective Green, g (s)	14.7		33.6			33.6
Actuated g/C Ratio	0.24		0.56			0.56
Clearance Time (s)	5.9		5.8			5.8
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	336		1725			1376
v/s Ratio Prot	c0.17		0.34			
v/s Ratio Perm						c0.34
v/c Ratio	0.69		0.60			0.61
Uniform Delay, d1	20.6		8.8			8.8
Progression Factor	0.98		0.70			0.77
Incremental Delay, d2	5.5		1.2			1.9
Delay (s)	25.7		7.3			8.7
Level of Service	C		A			A
Approach Delay (s)	25.7		7.3			8.7
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	85.0%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
27: ALBERT ST & 1ST AVE

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	43	8	12	254	131	6	105	19	15	96	19
Future Volume (vph)	7	43	8	12	254	131	6	105	19	15	96	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3			5.1			5.1	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.96			0.98			0.98	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		1678			1724			1831			1807	
Flt Permitted		0.95			0.99			0.99			0.96	
Satd. Flow (perm)		1606			1716			1810			1750	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	47	9	13	276	142	7	114	21	16	104	21
RTOR Reduction (vph)	0	4	0	0	29	0	0	10	0	0	10	0
Lane Group Flow (vph)	0	60	0	0	402	0	0	132	0	0	131	0
Confl. Peds. (#/hr)	1		2	2		1	3		1	1		3
Heavy Vehicles (%)	0%	12%	0%	0%	4%	2%	0%	0%	0%	0%	0%	6%
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)		30.7			30.7			18.9			18.9	
Effective Green, g (s)		30.7			30.7			18.9			18.9	
Actuated g/C Ratio		0.51			0.51			0.31			0.31	
Clearance Time (s)		5.3			5.3			5.1			5.1	
Lane Grp Cap (vph)		821			878			570			551	
v/s Ratio Prot												
v/s Ratio Perm		0.04			c0.23			0.07			c0.07	
v/c Ratio		0.07			0.46			0.23			0.24	
Uniform Delay, d1		7.4			9.3			15.2			15.2	
Progression Factor		0.59			0.66			1.00			0.90	
Incremental Delay, d2		0.1			1.6			0.9			0.8	
Delay (s)		4.6			7.7			16.1			14.4	
Level of Service		A			A			B			B	
Approach Delay (s)		4.6			7.7			16.1			14.4	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.4
Intersection Capacity Utilization	45.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
28: Drew Street/DREW ST & 1ST AVE/MCNAUGHTON AVE/MCNAUGHTON AVE/DEAN AVE

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	80	9	134	92	5	262	6	160	9	68	8
Future Volume (vph)	6	80	9	134	92	5	262	6	160	9	68	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4		5.4	5.4		5.4	5.4			5.4	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00			1.00	
Frpb, ped/bikes		1.00		1.00	1.00		1.00	0.98			1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00			1.00	
Frt		0.99		1.00	0.99		1.00	0.86			0.99	
Flt Protected		1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)		1485		1588	1531		1588	1403			1637	
Flt Permitted		0.99		0.69	1.00		0.70	1.00			0.97	
Satd. Flow (perm)		1468		1153	1531		1165	1403			1596	
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)	7	87	10	146	100	5	285	7	174	10	74	9
RTOR Reduction (vph)	0	6	0	0	3	0	0	100	0	0	5	0
Lane Group Flow (vph)	0	98	0	146	102	0	285	81	0	0	88	0
Confl. Peds. (#/hr)	3		1	1		3	1		1	1		1
Heavy Vehicles (%)	0%	14%	0%	1%	10%	0%	1%	0%	1%	11%	0%	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)		23.6		23.6	23.6		25.6	25.6			25.6	
Effective Green, g (s)		23.6		23.6	23.6		25.6	25.6			25.6	
Actuated g/C Ratio		0.39		0.39	0.39		0.43	0.43			0.43	
Clearance Time (s)		5.4		5.4	5.4		5.4	5.4			5.4	
Lane Grp Cap (vph)		577		453	602		497	598			680	
v/s Ratio Prot					0.07			0.06				
v/s Ratio Perm		0.07		c0.13			c0.24				0.06	
v/c Ratio		0.17		0.32	0.17		0.57	0.14			0.13	
Uniform Delay, d1		11.8		12.6	11.8		13.1	10.5			10.4	
Progression Factor		0.79		1.00	0.98		1.00	1.00			1.00	
Incremental Delay, d2		0.6		1.9	0.6		4.8	0.5			0.4	
Delay (s)		10.0		14.5	12.2		17.8	10.9			10.8	
Level of Service		A		B	B		B	B			B	
Approach Delay (s)		10.0			13.5			15.1			10.8	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.8
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Ritson Bridge Closure
29: RR 16 (RITSON RD) & MCNAUGHTON AVE/DEAN AVE/DEAN AVE

Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	134	36	15	179	93	23	17	40	72	32	0	76
Future Volume (vph)	134	36	15	179	93	23	17	40	72	32	0	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.96		1.00	0.97		1.00	0.90		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1294	1160		1298	1235		1513	2241		1201	2303	
Flt Permitted	0.68	1.00		0.72	1.00		0.70	1.00		0.68	1.00	
Satd. Flow (perm)	921	1160		985	1235		1115	2241		854	2303	
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)	146	39	16	195	101	25	18	43	78	35	0	83
RTOR Reduction (vph)	0	11	0	0	18	0	0	38	0	0	41	0
Lane Group Flow (vph)	146	44	0	195	108	0	18	83	0	35	42	0
Confl. Peds. (#/hr)	1		7	7		1	1		9	9		1
Heavy Vehicles (%)	24%	34%	50%	23%	27%	55%	6%	22%	29%	32%	24%	16%
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)	17.0	17.0		17.0	17.0		30.6	30.6		30.6	30.6	
Effective Green, g (s)	17.0	17.0		17.0	17.0		30.6	30.6		30.6	30.6	
Actuated g/C Ratio	0.28	0.28		0.28	0.28		0.51	0.51		0.51	0.51	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	260	328		279	349		568	1142		435	1174	
v/s Ratio Prot		0.04			0.09			0.04			0.02	
v/s Ratio Perm	0.16			c0.20			0.02			c0.04		
v/c Ratio	0.56	0.13		0.70	0.31		0.03	0.07		0.08	0.04	
Uniform Delay, d1	18.3	16.0		19.2	16.9		7.3	7.5		7.5	7.3	
Progression Factor	0.89	0.82		1.05	1.05		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.7	0.2		7.4	0.5		0.1	0.1		0.4	0.1	
Delay (s)	19.1	13.4		27.6	18.3		7.4	7.6		7.9	7.4	
Level of Service	B	B		C	B		A	A		A	A	
Approach Delay (s)		17.5			23.9			7.6			7.5	
Approach LOS		B			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	16.9	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.30			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.4	
Intersection Capacity Utilization	44.7%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Ritson Bridge Closure
30: RR 35 (WILSON RD) & DEAN AVE

Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	7	20	12	18	10	17	264	11	4	356	86
Future Volume (vph)	35	7	20	12	18	10	17	264	11	4	356	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4			5.4			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			0.99	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.96			0.97			0.99			0.97	
Flt Protected		0.97			0.99			1.00			1.00	
Satd. Flow (prot)		1339			1472			1559			1555	
Flt Permitted		0.80			0.88			0.97			1.00	
Satd. Flow (perm)		1104			1309			1515			1553	
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)	38	8	22	13	20	11	18	287	12	4	387	93
RTOR Reduction (vph)	0	20	0	0	10	0	0	1	0	0	9	0
Lane Group Flow (vph)	0	48	0	0	34	0	0	316	0	0	475	0
Confl. Peds. (#/hr)	6		3	3		6	20		9	9		20
Heavy Vehicles (%)	18%	29%	47%	25%	12%	30%	38%	17%	45%	0%	17%	14%
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)		5.9			5.9			43.1			43.1	
Effective Green, g (s)		5.9			5.9			43.1			43.1	
Actuated g/C Ratio		0.10			0.10			0.72			0.72	
Clearance Time (s)		5.4			5.4			5.6			5.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		108			128			1088			1115	
v/s Ratio Prot												
v/s Ratio Perm		c0.04			0.03			0.21			c0.31	
v/c Ratio		0.45			0.27			0.29			0.43	
Uniform Delay, d1		25.5			25.0			3.0			3.4	
Progression Factor		1.08			1.00			1.10			1.17	
Incremental Delay, d2		2.9			1.1			0.6			1.2	
Delay (s)		30.5			26.2			3.9			5.2	
Level of Service		C			C			A			A	
Approach Delay (s)		30.5			26.2			3.9			5.2	
Approach LOS		C			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.43			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.0	
Intersection Capacity Utilization	42.7%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Ritson Bridge Closure
32: RR 22 (BLOOR ST) & RR 54 (PARK)

Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	315	2	1	639	119	1	0	0	257	0	507
Future Volume (vph)	89	315	2	1	639	119	1	0	0	257	0	507
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.4		6.4	6.4	6.4		6.0		6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85		1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95		0.95	0.95	1.00
Satd. Flow (prot)	1750	3430		1785	3466	1479		1785		1679	1679	1597
Flt Permitted	0.24	1.00		0.55	1.00	1.00		0.95		0.95	0.95	1.00
Satd. Flow (perm)	437	3430		1024	3466	1479		1785		1679	1679	1597
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)	97	342	2	1	695	129	1	0	0	279	0	551
RTOR Reduction (vph)	0	1	0	0	0	88	0	0	0	0	0	265
Lane Group Flow (vph)	97	343	0	1	695	41	0	1	0	139	140	286
Heavy Vehicles (%)	2%	4%	0%	0%	3%	8%	0%	0%	0%	1%	0%	0%
Turn Type	pm+pt	NA		Perm	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2			6		8	8		4	4	
Permitted Phases	2			6		6						4
Actuated Green, G (s)	36.6	36.6		28.6	28.6	28.6		8.0		27.0	27.0	27.0
Effective Green, g (s)	36.6	36.6		28.6	28.6	28.6		8.0		27.0	27.0	27.0
Actuated g/C Ratio	0.41	0.41		0.32	0.32	0.32		0.09		0.30	0.30	0.30
Clearance Time (s)	3.0	6.4		6.4	6.4	6.4		6.0		6.0	6.0	6.0
Lane Grp Cap (vph)	250	1394		325	1101	469		158		503	503	479
v/s Ratio Prot	c0.02	0.10			c0.20			c0.00		0.08	0.08	
v/s Ratio Perm	0.14			0.00		0.03						c0.18
v/c Ratio	0.39	0.25		0.00	0.63	0.09		0.01		0.28	0.28	0.60
Uniform Delay, d1	17.7	17.6		21.0	26.2	21.5		37.4		24.0	24.1	26.9
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	4.5	0.4		0.0	2.8	0.4		0.1		1.4	1.4	5.4
Delay (s)	22.2	18.0		21.0	29.0	21.9		37.4		25.4	25.4	32.3
Level of Service	C	B		C	C	C		D		C	C	C
Approach Delay (s)		19.0			27.8			37.4			30.0	
Approach LOS		B			C			D			C	

Intersection Summary				
HCM 2000 Control Delay	26.8	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.53			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	21.4	
Intersection Capacity Utilization	71.1%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Ritson Bridge Closure
33: PARK ROAD S & RR 22 (BLOOR ST)

Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	160	477	240	642	0	562	0	241	0	0	1
Future Volume (vph)	0	160	477	240	642	0	562	0	241	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2	6.2	6.0	6.2		6.3	6.3	6.3		6.3	
Lane Util. Factor		0.91	0.91	1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes		0.99	0.98	1.00	1.00		1.00	1.00	0.97		1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt		0.91	0.85	1.00	1.00		1.00	1.00	0.85		0.86	
Flt Protected		1.00	1.00	0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (prot)		2936	1407	1765	3535		1679	1679	1496		1625	
Flt Permitted		1.00	1.00	0.35	1.00		0.76	0.76	1.00		1.00	
Satd. Flow (perm)		2936	1407	646	3535		1338	1338	1496		1625	
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)	0	174	518	261	698	0	611	0	262	0	0	1
RTOR Reduction (vph)	0	184	184	0	0	0	0	0	191	0	1	0
Lane Group Flow (vph)	0	249	75	261	698	0	305	306	71	0	0	0
Confl. Peds. (#/hr)	7		7	7		7			10	10		
Heavy Vehicles (%)	0%	10%	1%	1%	1%	0%	1%	0%	4%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA	Perm		NA	
Protected Phases		2		1	6			8		7	7	
Permitted Phases	2		2	6			8		8			
Actuated Green, G (s)		23.0	23.0	38.2	38.2		21.5	21.5	21.5		1.3	
Effective Green, g (s)		23.0	23.0	38.2	38.2		21.5	21.5	21.5		1.3	
Actuated g/C Ratio		0.29	0.29	0.48	0.48		0.27	0.27	0.27		0.02	
Clearance Time (s)		6.2	6.2	6.0	6.2		6.3	6.3	6.3		6.3	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		846	405	438	1692		360	360	403		26	
v/s Ratio Prot		0.08		c0.07	0.20						c0.00	
v/s Ratio Perm			0.05	c0.22			0.23	c0.23	0.05			
v/c Ratio		0.29	0.18	0.60	0.41		0.85	0.85	0.18		0.00	
Uniform Delay, d1		22.1	21.3	13.4	13.5		27.6	27.6	22.4		38.6	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2		0.9	1.0	2.2	0.7		16.6	16.9	0.2		0.0	
Delay (s)		23.0	22.4	15.5	14.3		44.2	44.5	22.6		38.6	
Level of Service		C	C	B	B		D	D	C		D	
Approach Delay (s)		22.7			14.6			37.8			38.6	
Approach LOS		C			B			D			D	

Intersection Summary				
HCM 2000 Control Delay	24.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.72			
Actuated Cycle Length (s)	79.8	Sum of lost time (s)	24.8	
Intersection Capacity Utilization	72.2%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
36: RR 2 (SIMCOE ST) & RR 22 (BLOOR ST)

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	513	150	157	75	351	202	55	390	71	101	288	139
Future Volume (vph)	513	150	157	75	351	202	55	390	71	101	288	139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2		6.0	6.2		6.2	6.2		6.2	6.2	6.2
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	1.00
Frt	1.00	0.92		1.00	0.95		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1731	3057		1778	3271		1772	3363		1711	3466	1430
Flt Permitted	0.29	1.00		0.55	1.00		0.52	1.00		0.35	1.00	1.00
Satd. Flow (perm)	527	3057		1030	3271		971	3363		629	3466	1430
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)	558	163	171	82	382	220	60	424	77	110	313	151
RTOR Reduction (vph)	0	80	0	0	61	0	0	12	0	0	0	108
Lane Group Flow (vph)	558	254	0	82	541	0	60	489	0	110	313	43
Confl. Peds. (#/hr)	9		9	9		9	9		6	6		9
Heavy Vehicles (%)	3%	6%	7%	0%	3%	1%	0%	4%	0%	4%	3%	9%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	73.8	63.8		44.4	40.4		33.8	33.8		33.8	33.8	33.8
Effective Green, g (s)	73.8	63.8		44.4	40.4		33.8	33.8		33.8	33.8	33.8
Actuated g/C Ratio	0.61	0.53		0.37	0.34		0.28	0.28		0.28	0.28	0.28
Clearance Time (s)	3.0	6.2		6.0	6.2		6.2	6.2		6.2	6.2	6.2
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)	629	1625		406	1101		273	947		177	976	402
v/s Ratio Prot	c0.22	0.08		0.01	0.17			0.15			0.09	
v/s Ratio Perm	c0.32			0.07			0.06			c0.17		0.03
v/c Ratio	0.89	0.16		0.20	0.49		0.22	0.52		0.62	0.32	0.11
Uniform Delay, d1	17.3	14.4		25.0	31.6		33.0	36.2		37.5	34.0	31.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.98	1.92
Incremental Delay, d2	14.2	0.2		0.2	1.6		1.8	2.0		13.0	0.7	0.4
Delay (s)	31.5	14.6		25.2	33.2		34.9	38.2		50.5	34.2	61.9
Level of Service	C	B		C	C		C	D		D	C	E
Approach Delay (s)		25.1			32.2			37.9			44.6	
Approach LOS		C			C			D			D	

Intersection Summary				
HCM 2000 Control Delay	33.7	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.85			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.4	
Intersection Capacity Utilization	98.9%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
38: DREW ST/HWY 401 EB RAMP (RITSON) & RR 22 (BLOOR ST)

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	221	19	27	497	98	21	7	17	369	11	68
Future Volume (vph)	117	221	19	27	497	98	21	7	17	369	11	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.2		6.2	6.2		6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.90		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1714	3422		1635	3342		1696	1489		1716	1556	
Flt Permitted	0.27	1.00		0.59	1.00		0.70	1.00		0.74	1.00	
Satd. Flow (perm)	482	3422		1016	3342		1252	1489		1337	1556	
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)	127	240	21	29	540	107	23	8	18	401	12	74
RTOR Reduction (vph)	0	6	0	0	17	0	0	12	0	0	48	0
Lane Group Flow (vph)	127	255	0	29	630	0	23	14	0	401	38	0
Confl. Peds. (#/hr)	9		7	7		9	2					2
Heavy Vehicles (%)	4%	3%	0%	8%	3%	6%	5%	29%	6%	4%	9%	3%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	45.8	45.8		32.6	32.6		31.8	31.8		31.8	31.8	
Effective Green, g (s)	45.8	45.8		32.6	32.6		31.8	31.8		31.8	31.8	
Actuated g/C Ratio	0.51	0.51		0.36	0.36		0.35	0.35		0.35	0.35	
Clearance Time (s)	6.0	6.2		6.2	6.2		6.2	6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	343	1741		368	1210		442	526		472	549	
v/s Ratio Prot	c0.03	0.07			c0.19			0.01			0.02	
v/s Ratio Perm	0.16			0.03			0.02			c0.30		
v/c Ratio	0.37	0.15		0.08	0.52		0.05	0.03		0.85	0.07	
Uniform Delay, d1	12.9	11.7		18.8	22.6		19.2	19.0		26.9	19.3	
Progression Factor	1.00	1.00		0.89	0.82		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.2		0.4	1.6		0.0	0.0		13.4	0.1	
Delay (s)	13.6	11.9		17.1	20.0		19.2	19.0		40.3	19.3	
Level of Service	B	B		B	B		B	B		D	B	
Approach Delay (s)		12.4			19.9			19.1			36.6	
Approach LOS		B			B			B			D	

Intersection Summary				
HCM 2000 Control Delay	23.1	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.66			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.4	
Intersection Capacity Utilization	75.9%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
39: RR 16 (RITSON RD) & RR 22 (BLOOR ST)

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	257	283	145	409	10	155	44	100	26	190	179
Future Volume (vph)	49	257	283	145	409	10	155	44	100	26	190	179
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5		6.5	6.5			6.4	6.4		6.4	6.4
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95	1.00		0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00			1.00	0.95		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	1.00			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.99	1.00
Satd. Flow (prot)	1715	3051		1760	3451			3315	1522		3346	1597
Flt Permitted	0.46	1.00		0.43	1.00			0.66	1.00		0.89	1.00
Satd. Flow (perm)	828	3051		798	3451			2275	1522		3006	1597
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)	53	279	308	158	445	11	168	48	109	28	207	195
RTOR Reduction (vph)	0	125	0	0	2	0	0	0	80	0	0	144
Lane Group Flow (vph)	53	462	0	158	454	0	0	216	29	0	235	51
Confl. Peds. (#/hr)	2		6	6		2			25	25		
Heavy Vehicles (%)	4%	4%	9%	1%	3%	5%	3%	6%	0%	11%	5%	0%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	53.5	53.5		46.9	46.9			23.6	23.6		23.6	23.6
Effective Green, g (s)	53.5	53.5		46.9	46.9			23.6	23.6		23.6	23.6
Actuated g/C Ratio	0.59	0.59		0.52	0.52			0.26	0.26		0.26	0.26
Clearance Time (s)	3.0	6.5		6.5	6.5			6.4	6.4		6.4	6.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	527	1813		415	1798			596	399		788	418
v/s Ratio Prot	0.00	c0.15			0.13							
v/s Ratio Perm	0.06			c0.20				c0.09	0.02		0.08	0.03
v/c Ratio	0.10	0.25		0.38	0.25			0.36	0.07		0.30	0.12
Uniform Delay, d1	7.7	8.7		12.9	11.9			27.1	25.0		26.6	25.3
Progression Factor	1.67	2.48		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	0.1	0.3		2.6	0.3			1.7	0.3		1.0	0.6
Delay (s)	12.9	21.9		15.5	12.2			28.8	25.3		27.5	25.9
Level of Service	B	C		B	B			C	C		C	C
Approach Delay (s)		21.2			13.1			27.6			26.8	
Approach LOS		C			B			C			C	

Intersection Summary				
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.37			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.9	
Intersection Capacity Utilization	77.3%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
40: RR 35 (WILSON RD) & RR 22 (BLOOR ST)

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	138	175	55	29	329	96	55	137	45	93	231	167
Future Volume (vph)	138	175	55	29	329	96	55	137	45	93	231	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.97	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.96		1.00	0.97		1.00	0.96		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1716	1690		1625	1730		1642	1735		1704	1687	
Flt Permitted	0.30	1.00		0.60	1.00		0.32	1.00		0.63	1.00	
Satd. Flow (perm)	535	1690		1033	1730		554	1735		1136	1687	
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)	150	190	60	32	358	104	60	149	49	101	251	182
RTOR Reduction (vph)	0	19	0	0	17	0	0	20	0	0	43	0
Lane Group Flow (vph)	150	231	0	32	445	0	60	178	0	101	390	0
Confl. Peds. (#/hr)	1		22	22		1	9		6	6		9
Heavy Vehicles (%)	4%	5%	8%	7%	4%	6%	8%	3%	5%	4%	2%	4%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	29.0	29.0		22.0	22.0		19.3	19.3		19.3	19.3	
Effective Green, g (s)	29.0	29.0		22.0	22.0		19.3	19.3		19.3	19.3	
Actuated g/C Ratio	0.48	0.48		0.37	0.37		0.32	0.32		0.32	0.32	
Clearance Time (s)	3.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	337	816		378	634		178	558		365	542	
v/s Ratio Prot	c0.03	0.14			c0.26			0.10			c0.23	
v/s Ratio Perm	0.19			0.03			0.11			0.09		
v/c Ratio	0.45	0.28		0.08	0.70		0.34	0.32		0.28	0.72	
Uniform Delay, d1	9.8	9.3		12.4	16.2		15.5	15.4		15.2	18.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.67	0.72	
Incremental Delay, d2	0.9	0.9		0.4	6.4		5.1	1.5		1.8	7.8	
Delay (s)	10.7	10.1		12.9	22.6		20.5	16.9		12.0	20.7	
Level of Service	B	B		B	C		C	B		B	C	
Approach Delay (s)		10.4			21.9			17.7			19.1	
Approach LOS		B			C			B			B	

Intersection Summary				
HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.69			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.7	
Intersection Capacity Utilization	82.2%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
41: RR 56 (FAREWELL ST)/401 EB RAMP / RR 56 FAREWELL & RR 22 (BLOOR ST)

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	140	70	573	296	172	26	57	67	450	316	86
Future Volume (vph)	75	140	70	573	296	172	26	57	67	450	316	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2		3.0	6.2		6.3	6.3	3.0	5.5	6.3	3.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.95		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1621	3165		1766	3310		1537	1663	1401	3298	3368	1563
Flt Permitted	0.46	1.00		0.53	1.00		0.59	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	793	3165		986	3310		952	1663	1401	3298	3368	1563
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)	82	152	76	623	322	187	28	62	73	489	343	93
RTOR Reduction (vph)	0	59	0	0	85	0	0	0	47	0	0	58
Lane Group Flow (vph)	82	169	0	623	424	0	28	62	26	489	343	35
Confl. Peds. (#/hr)	2		1	1		2	1					1
Heavy Vehicles (%)	10%	8%	4%	1%	1%	1%	16%	13%	14%	5%	6%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2		1	6			8	1	7	4	5
Permitted Phases	2			6			8		8			4
Actuated Green, G (s)	24.9	20.1		48.6	40.8		6.8	6.8	32.3	16.6	28.9	33.7
Effective Green, g (s)	24.9	20.1		48.6	40.8		6.8	6.8	32.3	16.6	28.9	33.7
Actuated g/C Ratio	0.28	0.22		0.54	0.45		0.08	0.08	0.36	0.18	0.32	0.37
Clearance Time (s)	3.0	6.2		3.0	6.2		6.3	6.3	3.0	5.5	6.3	3.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	263	706		753	1500		71	125	502	608	1081	585
v/s Ratio Prot	0.02	0.05		c0.23	0.13			c0.04	0.01	c0.15	0.10	0.00
v/s Ratio Perm	0.07			c0.21			0.03		0.00			0.02
v/c Ratio	0.31	0.24		0.83	0.28		0.39	0.50	0.05	0.80	0.32	0.06
Uniform Delay, d1	24.8	28.7		14.8	15.4		39.6	40.0	18.8	35.1	23.1	18.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.8		7.4	0.5		3.6	3.1	0.0	7.6	0.2	0.0
Delay (s)	25.5	29.5		22.3	15.9		43.2	43.0	18.9	42.8	23.3	18.1
Level of Service	C	C		C	B		D	D	B	D	C	B
Approach Delay (s)		28.4			19.4			32.3			33.0	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	73.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
42: RR 33 (HARMONY) & RR 22 (BLOOR ST)

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	358	212	94	534	169	45	183	163	7	25	643	369
Future Volume (vph)	358	212	94	534	169	45	183	163	7	25	643	369
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	6.3	6.3	3.7	6.3		3.0	6.5		6.5	6.5	3.7
Lane Util. Factor	0.91	0.91	1.00	1.00	0.95		1.00	0.95		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1310	2673	1109	1539	2874		1363	3103		1405	1648	1365
Flt Permitted	0.95	0.74	1.00	0.95	1.00		0.09	1.00		0.64	1.00	1.00
Satd. Flow (perm)	1310	2024	1109	1539	2874		132	3103		940	1648	1365
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)	389	230	102	580	184	49	199	177	8	27	699	401
RTOR Reduction (vph)	0	0	90	0	19	0	0	3	0	0	0	119
Lane Group Flow (vph)	202	417	12	580	214	0	199	182	0	27	699	282
Heavy Vehicles (%)	24%	26%	44%	16%	18%	29%	31%	13%	43%	27%	14%	17%
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA		Perm	NA	pm+ov
Protected Phases	5	2		1	6		3	8			4	5
Permitted Phases			2				8			4		4
Actuated Green, G (s)	21.8	35.5	13.7	35.3	27.2		54.5	54.5		40.5	40.5	62.3
Effective Green, g (s)	21.8	35.5	13.7	35.3	27.2		54.5	54.5		40.5	40.5	62.3
Actuated g/C Ratio	0.18	0.30	0.11	0.29	0.23		0.45	0.45		0.34	0.34	0.52
Clearance Time (s)	3.7	6.3	6.3	3.7	6.3		3.0	6.5		6.5	6.5	3.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	237	716	126	452	651		172	1409		317	556	708
v/s Ratio Prot	0.15	0.11		c0.38	0.07		c0.11	0.06			c0.42	0.07
v/s Ratio Perm		c0.07	0.01				0.42			0.03		0.13
v/c Ratio	0.85	0.58	0.09	1.28	0.33		1.16	0.13		0.09	1.26	0.40
Uniform Delay, d1	47.5	35.9	47.6	42.4	38.8		34.2	19.0		27.1	39.8	17.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	24.4	1.2	1.4	143.5	1.4		117.1	0.0		0.1	129.8	0.4
Delay (s)	71.9	37.2	49.0	185.8	40.1		151.3	19.0		27.2	169.6	17.9
Level of Service	E	D	D	F	D		F	B		C	F	B
Approach Delay (s)		48.6			144.1			87.6			112.2	
Approach LOS		D			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	102.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.16		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	103.7%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
43: GRANDVIEW ST & RR 59 (OLIVE AVE)

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	139	82	53	312	5	173	47	69	9	28	36
Future Volume (vph)	13	139	82	53	312	5	173	47	69	9	28	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	6.2	6.2		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00		1.00	0.93		1.00	0.97	
Flpb, ped/bikes	0.96	1.00	1.00	0.97	1.00		0.97	1.00		0.91	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.91		1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1399	1678	1248	1498	1591		1496	1364		1630	1390	
Flt Permitted	0.54	1.00	1.00	0.66	1.00		0.71	1.00		0.68	1.00	
Satd. Flow (perm)	799	1678	1248	1042	1591		1122	1364		1160	1390	
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)	14	151	89	58	339	5	188	51	75	10	30	39
RTOR Reduction (vph)	0	0	34	0	0	0	0	58	0	0	30	0
Lane Group Flow (vph)	14	151	55	58	344	0	188	68	0	10	39	0
Confl. Peds. (#/hr)	29		21	21		29	17		58	58		17
Heavy Vehicles (%)	23%	12%	20%	15%	18%	0%	16%	17%	16%	0%	18%	22%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	51.0	51.0	51.0	51.0	51.0		18.8	18.8		18.8	18.8	
Effective Green, g (s)	51.0	51.0	51.0	51.0	51.0		18.8	18.8		18.8	18.8	
Actuated g/C Ratio	0.62	0.62	0.62	0.62	0.62		0.23	0.23		0.23	0.23	
Clearance Time (s)	6.2	6.2	6.2	6.2	6.2		5.8	5.8		5.8	5.8	
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)	498	1046	778	649	991		257	313		266	319	
v/s Ratio Prot		0.09			c0.22			0.05			0.03	
v/s Ratio Perm	0.02		0.04	0.06			c0.17			0.01		
v/c Ratio	0.03	0.14	0.07	0.09	0.35		0.73	0.22		0.04	0.12	
Uniform Delay, d1	5.9	6.4	6.1	6.1	7.4		29.2	25.5		24.5	25.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3	0.2	0.3	1.0		10.2	0.4		0.1	0.2	
Delay (s)	6.0	6.7	6.2	6.4	8.4		39.4	25.9		24.5	25.1	
Level of Service	A	A	A	A	A		D	C		C	C	
Approach Delay (s)		6.5			8.1			34.0			25.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	81.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
44: GRANDVIEW ST & RR 22 (BLOOR ST)

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	187	18	2	533	69	86	80	7	51	31	56
Future Volume (vph)	18	187	18	2	533	69	86	80	7	51	31	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6		3.6	3.6		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.99		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1339	1577		1186	1537		1550	1537		1454	1393	
Flt Permitted	0.35	1.00		0.62	1.00		0.70	1.00		0.70	1.00	
Satd. Flow (perm)	496	1577		773	1537		1135	1537		1064	1393	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	203	20	2	579	75	93	87	8	55	34	61
RTOR Reduction (vph)	0	3	0	0	4	0	0	6	0	0	52	0
Lane Group Flow (vph)	20	220	0	2	650	0	93	89	0	55	43	0
Confl. Peds. (#/hr)	3		2	2		3	8		5	5		8
Heavy Vehicles (%)	33%	19%	0%	50%	19%	26%	14%	21%	14%	22%	13%	23%
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)	47.7	47.7		50.7	50.7		10.0	10.0		10.0	10.0	
Effective Green, g (s)	47.7	47.7		50.7	50.7		10.0	10.0		10.0	10.0	
Actuated g/C Ratio	0.68	0.68		0.72	0.72		0.14	0.14		0.14	0.14	
Clearance Time (s)	6.6	6.6		3.6	3.6		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	337	1074		559	1113		162	219		152	199	
v/s Ratio Prot		0.14			c0.42			0.06			0.03	
v/s Ratio Perm	0.04			0.00			c0.08			0.05		
v/c Ratio	0.06	0.20		0.00	0.58		0.57	0.41		0.36	0.21	
Uniform Delay, d1	3.7	4.1		2.7	4.6		28.0	27.3		27.1	26.5	
Progression Factor	1.00	1.00		0.81	0.81		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.4		0.0	2.2		4.8	1.2		1.5	0.5	
Delay (s)	4.0	4.6		2.2	5.9		32.9	28.5		28.6	27.1	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		4.5			5.9			30.7			27.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
45: PRESTONVALE RD & RR 22 (BLOOR ST)

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	145	10	21	210	54	13	26	37	66	39	18
Future Volume (vph)	21	145	10	21	210	54	13	26	37	66	39	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.91		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1384	1571		1566	1618		1552	1420		1439	1437	
Flt Permitted	0.58	1.00		0.65	1.00		0.72	1.00		0.71	1.00	
Satd. Flow (perm)	851	1571		1072	1618		1171	1420		1080	1437	
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)	23	158	11	23	228	59	14	28	40	72	42	20
RTOR Reduction (vph)	0	2	0	0	9	0	0	35	0	0	17	0
Lane Group Flow (vph)	23	167	0	23	278	0	14	33	0	72	45	0
Heavy Vehicles (%)	29%	19%	10%	14%	14%	7%	15%	23%	19%	24%	28%	17%
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)	48.4	48.4		48.4	48.4		9.0	9.0		9.0	9.0	
Effective Green, g (s)	48.4	48.4		48.4	48.4		9.0	9.0		9.0	9.0	
Actuated g/C Ratio	0.69	0.69		0.69	0.69		0.13	0.13		0.13	0.13	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	588	1086		741	1118		150	182		138	184	
v/s Ratio Prot		0.11			c0.17			0.02			0.03	
v/s Ratio Perm	0.03			0.02			0.01			c0.07		
v/c Ratio	0.04	0.15		0.03	0.25		0.09	0.18		0.52	0.24	
Uniform Delay, d1	3.4	3.7		3.4	4.0		26.9	27.2		28.5	27.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3		0.1	0.5		0.3	0.5		3.5	0.7	
Delay (s)	3.5	4.0		3.5	4.6		27.2	27.7		32.0	28.1	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		4.0			4.5			27.6			30.2	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
47: RR 34 (COURTICE RD) & RR 22 (BLOOR ST)

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	129	123	32	107	36	68	183	19	33	355	81
Future Volume (vph)	94	129	123	32	107	36	68	183	19	33	355	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.1	7.1		7.1	7.1		7.4	7.4	7.4	7.4	7.4	7.4
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.93		1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1733	1705		1682	1755		1636	1789	1377	1733	1740	1502
Flt Permitted	0.66	1.00		0.53	1.00		0.52	1.00	1.00	0.63	1.00	1.00
Satd. Flow (perm)	1201	1705		931	1755		890	1789	1377	1154	1740	1502
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)	102	140	134	35	116	39	74	199	21	36	386	88
RTOR Reduction (vph)	0	52	0	0	18	0	0	0	10	0	0	26
Lane Group Flow (vph)	102	222	0	35	137	0	74	199	11	36	386	62
Confl. Peds. (#/hr)			1	1			1					1
Heavy Vehicles (%)	3%	2%	0%	6%	4%	0%	9%	5%	16%	3%	8%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	16.6	16.6		16.6	16.6		35.2	35.2	35.2	35.2	35.2	35.2
Effective Green, g (s)	16.6	16.6		16.6	16.6		35.2	35.2	35.2	35.2	35.2	35.2
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.53	0.53	0.53	0.53	0.53	0.53
Clearance Time (s)	7.1	7.1		7.1	7.1		7.4	7.4	7.4	7.4	7.4	7.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.2	6.2	6.2	6.2	6.2	6.2
Lane Grp Cap (vph)	300	426		233	439		472	949	731	612	923	797
v/s Ratio Prot		c0.13			0.08			0.11			c0.22	
v/s Ratio Perm	0.08			0.04			0.08		0.01	0.03		0.04
v/c Ratio	0.34	0.52		0.15	0.31		0.16	0.21	0.02	0.06	0.42	0.08
Uniform Delay, d1	20.4	21.4		19.4	20.2		8.0	8.2	7.4	7.5	9.4	7.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	1.1		0.3	0.4		0.7	0.5	0.0	0.2	1.4	0.2
Delay (s)	21.0	22.6		19.7	20.6		8.7	8.7	7.4	7.7	10.8	7.8
Level of Service	C	C		B	C		A	A	A	A	B	A
Approach Delay (s)		22.2			20.4			8.6			10.0	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	66.3	Sum of lost time (s)	14.5
Intersection Capacity Utilization	90.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
48: RR 34 (COURTICE RD) & BASELINE RD

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	1	92	17	1	7	70	279	42	23	504	31
Future Volume (vph)	15	1	92	17	1	7	70	279	42	23	504	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			-2%			-5%			-5%	
Total Lost time (s)	7.3	7.3		7.3	7.3		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	1.00	
Frt	1.00	0.85		1.00	0.87		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)	1127	1218		1093	1101		1298	1518		1316	1622	
Flt Permitted	0.75	1.00		0.69	1.00		0.40	1.00		0.55	1.00	
Satd. Flow (perm)	892	1218		796	1101		553	1518		764	1622	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	1	100	18	1	8	76	303	46	25	548	34
RTOR Reduction (vph)	0	86	0	0	7	0	0	5	0	0	2	0
Lane Group Flow (vph)	16	15	0	18	2	0	76	344	0	25	580	0
Heavy Vehicles (%)	60%	0%	33%	65%	100%	43%	41%	22%	40%	39%	17%	29%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	9.6	9.6		9.6	9.6		45.6	45.6		45.6	45.6	
Effective Green, g (s)	9.6	9.6		9.6	9.6		45.6	45.6		45.6	45.6	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.65	0.65		0.65	0.65	
Clearance Time (s)	7.3	7.3		7.3	7.3		7.5	7.5		7.5	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	122	167		109	150		360	988		497	1056	
v/s Ratio Prot		0.01			0.00			0.23			c0.36	
v/s Ratio Perm	0.02			c0.02			0.14			0.03		
v/c Ratio	0.13	0.09		0.17	0.01		0.21	0.35		0.05	0.55	
Uniform Delay, d1	26.5	26.4		26.7	26.1		4.9	5.5		4.4	6.6	
Progression Factor	1.00	1.00		1.00	1.00		0.54	0.54		1.00	1.00	
Incremental Delay, d2	0.5	0.2		0.7	0.0		1.3	1.0		0.2	2.1	
Delay (s)	27.0	26.6		27.4	26.1		4.0	3.9		4.6	8.7	
Level of Service	C	C		C	C		A	A		A	A	
Approach Delay (s)		26.7			27.0			4.0			8.5	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.8
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
50: COURTICE RD (RR34)/RR 34 (COURTICE RD) & 401 WB RAMP

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	120	0	5	60	220	0	0	255	465
Future Volume (vph)	0	0	0	120	0	5	60	220	0	0	255	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.5		6.5	3.0	5.1			5.1	5.1
Lane Util. Factor				1.00		1.00	1.00	1.00			1.00	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1750		1566	1750	1842			1842	1566
Flt Permitted				0.95		1.00	0.55	1.00			1.00	1.00
Satd. Flow (perm)				1750		1566	1011	1842			1842	1566
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)	0	0	0	130	0	5	65	239	0	0	277	505
RTOR Reduction (vph)	0	0	0	0	0	4	0	0	0	0	0	205
Lane Group Flow (vph)	0	0	0	130	0	1	65	239	0	0	277	300
Turn Type				Perm		Perm	pm+pt	NA			NA	Perm
Protected Phases							5	2			6	
Permitted Phases				8		8	2					6
Actuated Green, G (s)				10.1		10.1	48.3	48.3			41.6	41.6
Effective Green, g (s)				10.1		10.1	48.3	48.3			41.6	41.6
Actuated g/C Ratio				0.14		0.14	0.69	0.69			0.59	0.59
Clearance Time (s)				6.5		6.5	3.0	5.1			5.1	5.1
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				252		225	736	1270			1094	930
v/s Ratio Prot							0.00	c0.13			0.15	
v/s Ratio Perm				c0.07		0.00	0.06					c0.19
v/c Ratio				0.52		0.00	0.09	0.19			0.25	0.32
Uniform Delay, d1				27.7		25.6	3.6	3.9			6.8	7.1
Progression Factor				1.00		1.00	0.75	0.62			0.57	0.12
Incremental Delay, d2				1.8		0.0	0.1	0.3			0.5	0.9
Delay (s)				29.5		25.6	2.7	2.7			4.4	1.7
Level of Service				C		C	A	A			A	A
Approach Delay (s)		0.0			29.3			2.7			2.7	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
51: COURTICE RD (RR34) & 401 W-N/S RAMP/401 EB RAMP

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	0	5	0	0	0	0	90	25	100	270	0
Future Volume (vph)	190	0	5	0	0	0	0	90	25	100	270	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2		6.2					5.0	5.0	3.0	5.0	
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00	1.00	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1750		1566					1842	1566	1750	1842	
Flt Permitted	0.95		1.00					1.00	1.00	0.64	1.00	
Satd. Flow (perm)	1750		1566					1842	1566	1178	1842	
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)	207	0	5	0	0	0	0	98	27	109	293	0
RTOR Reduction (vph)	0	0	4	0	0	0	0	0	13	0	0	0
Lane Group Flow (vph)	207	0	1	0	0	0	0	98	14	109	293	0
Turn Type	Perm		Perm					NA	Perm	pm+pt	NA	
Protected Phases								2		1	6	
Permitted Phases	4		4						2	6		
Actuated Green, G (s)	14.3		14.3					35.5	35.5	44.5	44.5	
Effective Green, g (s)	14.3		14.3					35.5	35.5	44.5	44.5	
Actuated g/C Ratio	0.20		0.20					0.51	0.51	0.64	0.64	
Clearance Time (s)	6.2		6.2					5.0	5.0	3.0	5.0	
Vehicle Extension (s)	3.0		3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	357		319					934	794	797	1170	
v/s Ratio Prot								0.05		0.01	c0.16	
v/s Ratio Perm	c0.12		0.00						0.01	0.08		
v/c Ratio	0.58		0.00					0.10	0.02	0.14	0.25	
Uniform Delay, d1	25.1		22.2					9.0	8.6	5.0	5.5	
Progression Factor	1.00		1.00					1.00	1.00	0.46	0.72	
Incremental Delay, d2	2.3		0.0					0.2	0.0	0.1	0.5	
Delay (s)	27.4		22.2					9.2	8.6	2.4	4.5	
Level of Service	C		C					A	A	A	A	
Approach Delay (s)		27.3			0.0			9.1			3.9	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
52: BOSWELL DRIVE & HWY 2

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	614	36	38	653	36	113	17	45	47	13	88
Future Volume (vph)	88	614	36	38	653	36	113	17	45	47	13	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4		6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.89		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1697	3376		1728	3359		1713	1460		1545	1530	
Flt Permitted	0.36	1.00		0.38	1.00		0.69	1.00		0.71	1.00	
Satd. Flow (perm)	644	3376		690	3359		1237	1460		1160	1530	
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)	96	667	39	41	710	39	123	18	49	51	14	96
RTOR Reduction (vph)	0	3	0	0	3	0	0	41	0	0	81	0
Lane Group Flow (vph)	96	703	0	41	746	0	123	26	0	51	29	0
Confl. Peds. (#/hr)	2		3	3		2	2		4	4		2
Heavy Vehicles (%)	5%	4%	17%	3%	5%	11%	4%	0%	18%	15%	8%	5%
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)	63.1	63.1		63.1	63.1		14.3	14.3		14.3	14.3	
Effective Green, g (s)	63.1	63.1		63.1	63.1		14.3	14.3		14.3	14.3	
Actuated g/C Ratio	0.70	0.70		0.70	0.70		0.16	0.16		0.16	0.16	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.2	6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	451	2366		483	2355		196	231		184	243	
v/s Ratio Prot		0.21			c0.22			0.02			0.02	
v/s Ratio Perm	0.15			0.06			c0.10			0.04		
v/c Ratio	0.21	0.30		0.08	0.32		0.63	0.11		0.28	0.12	
Uniform Delay, d1	4.7	5.1		4.3	5.2		35.4	32.4		33.3	32.5	
Progression Factor	0.88	0.89		0.86	1.17		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	0.3		0.3	0.3		6.1	0.2		0.8	0.2	
Delay (s)	5.2	4.9		4.0	6.4		41.5	32.6		34.1	32.7	
Level of Service	A	A		A	A		D	C		C	C	
Approach Delay (s)		4.9			6.2			38.4			33.1	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
53: GREEN RD/GREEN ROAD & HWY 2

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	570	56	35	654	57	87	99	29	79	57	23
Future Volume (vph)	58	570	56	35	654	57	87	99	29	79	57	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		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)	1708	3382		1674	3435		1669	1753		1759	1618	
Flt Permitted	0.36	1.00		0.39	1.00		0.70	1.00		0.66	1.00	
Satd. Flow (perm)	639	3382		692	3435		1231	1753		1224	1618	
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)	63	620	61	38	711	62	95	108	32	86	62	25
RTOR Reduction (vph)	0	5	0	0	5	0	0	15	0	0	20	0
Lane Group Flow (vph)	63	676	0	38	768	0	95	125	0	86	67	0
Confl. Peds. (#/hr)	19		7	7		19	9		5	5		9
Heavy Vehicles (%)	3%	4%	2%	6%	2%	4%	6%	4%	0%	1%	11%	9%
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)	64.0	64.0		64.0	64.0		12.6	12.6		12.6	12.6	
Effective Green, g (s)	64.0	64.0		64.0	64.0		12.6	12.6		12.6	12.6	
Actuated g/C Ratio	0.71	0.71		0.71	0.71		0.14	0.14		0.14	0.14	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	454	2404		492	2442		172	245		171	226	
v/s Ratio Prot		0.20			c0.22			0.07			0.04	
v/s Ratio Perm	0.10			0.05			c0.08			0.07		
v/c Ratio	0.14	0.28		0.08	0.31		0.55	0.51		0.50	0.30	
Uniform Delay, d1	4.2	4.7		4.0	4.8		36.1	35.9		35.8	34.7	
Progression Factor	1.02	0.98		0.55	0.64		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.3		0.3	0.3		3.8	1.8		2.3	0.7	
Delay (s)	4.9	4.9		2.5	3.4		39.9	37.7		38.1	35.5	
Level of Service	A	A		A	A		D	D		D	D	
Approach Delay (s)		4.9			3.4			38.6			36.8	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
54: HWY 2 & CLARINGTON BLVD

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	471	27	237	570	72	29	49	158	110	80	37
Future Volume (vph)	34	471	27	237	570	72	29	49	158	110	80	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Total Lost time (s)	6.3	6.3		3.0	6.3		6.5	6.5	6.3	6.5	6.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1412	3157		1599	3030		1346	1575	1384	1372	2927	
Flt Permitted	0.39	1.00		0.41	1.00		0.67	1.00	1.00	0.72	1.00	
Satd. Flow (perm)	574	3157		695	3030		951	1575	1384	1044	2927	
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)	37	512	29	258	620	78	32	53	172	120	87	40
RTOR Reduction (vph)	0	4	0	0	7	0	0	0	142	0	33	0
Lane Group Flow (vph)	37	537	0	258	691	0	32	53	30	120	94	0
Confl. Peds. (#/hr)	2		5	5		2	13					13
Heavy Vehicles (%)	29%	15%	7%	14%	16%	35%	34%	22%	18%	33%	15%	24%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	49.3	49.3		61.7	61.7		15.7	15.7	15.7	15.7	15.7	
Effective Green, g (s)	49.3	49.3		61.7	61.7		15.5	15.5	15.7	15.5	15.5	
Actuated g/C Ratio	0.55	0.55		0.69	0.69		0.17	0.17	0.17	0.17	0.17	
Clearance Time (s)	6.3	6.3		3.0	6.3		6.3	6.3	6.3	6.3	6.3	
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)	314	1729		570	2077		163	271	241	179	504	
v/s Ratio Prot		0.17		c0.05	0.23			0.03			0.03	
v/s Ratio Perm	0.06			c0.26			0.03		0.02	c0.11		
v/c Ratio	0.12	0.31		0.45	0.33		0.20	0.20	0.12	0.67	0.19	
Uniform Delay, d1	9.8	11.1		5.5	5.8		31.9	31.9	31.4	34.9	31.9	
Progression Factor	0.78	0.70		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	0.5		0.6	0.4		0.6	0.4	0.2	9.5	0.2	
Delay (s)	8.4	8.2		6.0	6.2		32.5	32.3	31.6	44.3	32.0	
Level of Service	A	A		A	A		C	C	C	D	C	
Approach Delay (s)		8.2			6.2			31.8			38.0	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.8
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
55: REG RD 57 & HWY 2

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	509	193	162	272	108	150	515	231	121	646	76
Future Volume (vph)	100	509	193	162	272	108	150	515	231	121	646	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		-1%			-1%			-3%			-3%	
Total Lost time (s)	3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.2	6.2	6.2	6.2	6.2
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1777	3428	1587	1528	3397	1415	1852	1773	1486	1440	1560	1409
Flt Permitted	0.57	1.00	1.00	0.27	1.00	1.00	0.10	1.00	1.00	0.42	1.00	1.00
Satd. Flow (perm)	1068	3428	1587	434	3397	1415	193	1773	1486	642	1560	1409
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)	109	553	210	176	296	117	163	560	251	132	702	83
RTOR Reduction (vph)	0	0	161	0	0	88	0	0	117	0	0	48
Lane Group Flow (vph)	109	553	49	176	296	29	163	560	134	132	702	35
Confl. Peds. (#/hr)	3		1	1		3	1		7	7		1
Heavy Vehicles (%)	3%	7%	2%	20%	8%	14%	0%	10%	9%	28%	25%	16%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	27.4	22.0	22.0	30.0	23.3	23.3	50.6	50.6	50.6	39.6	39.6	39.6
Effective Green, g (s)	27.4	22.0	22.0	30.0	23.3	23.3	50.6	50.9	50.9	39.9	39.9	39.9
Actuated g/C Ratio	0.29	0.23	0.23	0.32	0.25	0.25	0.53	0.54	0.54	0.42	0.42	0.42
Clearance Time (s)	3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	348	793	367	214	833	347	242	949	796	269	655	591
v/s Ratio Prot	0.02	0.16		c0.06	0.09		c0.06	0.32			c0.45	
v/s Ratio Perm	0.07		0.03	c0.20		0.02	0.30		0.09	0.21		0.02
v/c Ratio	0.31	0.70	0.13	0.82	0.36	0.08	0.67	0.59	0.17	0.49	1.07	0.06
Uniform Delay, d1	25.6	33.4	28.9	27.6	29.6	27.6	18.2	15.0	11.3	20.1	27.6	16.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	5.0	0.7	21.8	1.2	0.5	7.2	1.0	0.1	1.4	56.0	0.0
Delay (s)	26.1	38.5	29.7	49.4	30.8	28.1	25.4	16.0	11.4	21.5	83.5	16.4
Level of Service	C	D	C	D	C	C	C	B	B	C	F	B
Approach Delay (s)		34.8			35.8			16.4			68.5	
Approach LOS		C			D			B			E	

Intersection Summary			
HCM 2000 Control Delay	38.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	18.4
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
56: ROENIGK DR & KING ST/HWY 2

Ritson Bridge Closure
Timing Plan: Default

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	642	44	84	782	56	140
Future Volume (vph)	642	44	84	782	56	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			-1%	0%	
Total Lost time (s)	6.3		6.3	6.3	6.5	6.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3466		1759	3517	1750	1566
Flt Permitted	1.00		0.37	1.00	0.95	1.00
Satd. Flow (perm)	3466		682	3517	1750	1566
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	698	48	91	850	61	152
RTOR Reduction (vph)	4	0	0	0	0	135
Lane Group Flow (vph)	742	0	91	850	61	17
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Actuated Green, G (s)	53.8		53.8	53.8	8.4	8.4
Effective Green, g (s)	53.8		53.8	53.8	8.4	8.4
Actuated g/C Ratio	0.72		0.72	0.72	0.11	0.11
Clearance Time (s)	6.3		6.3	6.3	6.5	6.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2486		489	2522	196	175
v/s Ratio Prot	0.21			c0.24	c0.03	
v/s Ratio Perm			0.13			0.01
v/c Ratio	0.30		0.19	0.34	0.31	0.10
Uniform Delay, d1	3.8		3.5	4.0	30.6	29.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3		0.8	0.4	0.9	0.2
Delay (s)	4.1		4.3	4.3	31.5	30.1
Level of Service	A		A	A	C	C
Approach Delay (s)	4.1			4.3	30.5	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	7.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.8
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
58: RR 67 (BOWMANVILLE AVE)/RR 57 (BOWMANVILLE AVE) & ASPEN SPRINGS DR

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	119	83	63	382	668	78
Future Volume (vph)	119	83	63	382	668	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	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)	1684	1479	1601	1528	1544	
Flt Permitted	0.95	1.00	0.29	1.00	1.00	
Satd. Flow (perm)	1684	1479	484	1528	1544	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	129	90	68	415	726	85
RTOR Reduction (vph)	0	76	0	0	3	0
Lane Group Flow (vph)	129	14	68	415	808	0
Confl. Peds. (#/hr)			9			9
Heavy Vehicles (%)	6%	8%	11%	23%	19%	23%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	11.9	11.9	66.1	66.1	66.1	
Effective Green, g (s)	13.7	13.7	68.3	68.3	68.3	
Actuated g/C Ratio	0.15	0.15	0.76	0.76	0.76	
Clearance Time (s)	5.8	5.8	6.2	6.2	6.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	256	225	367	1159	1171	
v/s Ratio Prot	c0.08			0.27	c0.52	
v/s Ratio Perm		0.01	0.14			
v/c Ratio	0.50	0.06	0.19	0.36	0.69	
Uniform Delay, d1	35.0	32.6	3.0	3.6	5.5	
Progression Factor	1.00	1.00	0.67	0.80	1.00	
Incremental Delay, d2	1.6	0.1	1.1	0.8	3.3	
Delay (s)	36.6	32.8	3.1	3.7	8.8	
Level of Service	D	C	A	A	A	
Approach Delay (s)	35.0			3.6	8.8	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
59: RR 57 (BOWMANVILLE AVE) & WAVERLY RD

Ritson Bridge Closure
Timing Plan: Default

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	220	55	434	129	50	767
Future Volume (vph)	220	55	434	129	50	767
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.3	3.3	3.5
Grade (%)	4%		3%			-3%
Total Lost time (s)	6.2	6.2	5.9	5.9	5.9	5.9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1715	1534	1814	1508	1736	1870
Flt Permitted	0.95	1.00	1.00	1.00	0.46	1.00
Satd. Flow (perm)	1715	1534	1814	1508	832	1870
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	60	472	140	54	834
RTOR Reduction (vph)	0	48	0	46	0	0
Lane Group Flow (vph)	239	12	472	94	54	834
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Actuated Green, G (s)	17.8	17.8	60.1	60.1	60.1	60.1
Effective Green, g (s)	17.5	17.5	60.4	60.4	60.4	60.4
Actuated g/C Ratio	0.19	0.19	0.67	0.67	0.67	0.67
Clearance Time (s)	5.9	5.9	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	333	298	1217	1012	558	1254
v/s Ratio Prot	c0.14		0.26			c0.45
v/s Ratio Perm		0.01		0.06	0.06	
v/c Ratio	0.72	0.04	0.39	0.09	0.10	0.67
Uniform Delay, d1	33.9	29.4	6.6	5.2	5.2	8.8
Progression Factor	1.00	1.00	1.33	2.66	0.60	0.53
Incremental Delay, d2	7.2	0.1	0.9	0.2	0.3	2.4
Delay (s)	41.1	29.5	9.7	14.0	3.4	7.0
Level of Service	D	C	A	B	A	A
Approach Delay (s)	38.8		10.7			6.8
Approach LOS	D		B			A

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.1
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
60: GREEN RD & BASELINE RD

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	48	0	1	117	48	0	0	1	63	4	178
Future Volume (vph)	50	48	0	1	117	48	0	0	1	63	4	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1			5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.96			0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1417	1708		1785	1449			1597		1475	1374	
Flt Permitted	0.64	1.00		0.72	1.00			1.00		0.76	1.00	
Satd. Flow (perm)	961	1708		1359	1449			1597		1176	1374	
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)	54	52	0	1	127	52	0	0	1	68	4	193
RTOR Reduction (vph)	0	0	0	0	14	0	0	1	0	0	162	0
Lane Group Flow (vph)	54	52	0	1	165	0	0	0	0	68	35	0
Heavy Vehicles (%)	26%	10%	0%	0%	22%	29%	0%	0%	0%	21%	50%	16%
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)	37.8	37.8		37.8	37.8			9.6		9.6	9.6	
Effective Green, g (s)	37.8	37.8		37.8	37.8			9.6		9.6	9.6	
Actuated g/C Ratio	0.64	0.64		0.64	0.64			0.16		0.16	0.16	
Clearance Time (s)	6.1	6.1		6.1	6.1			5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	613	1090		867	925			258		190	222	
v/s Ratio Prot		0.03			c0.11			0.00			0.03	
v/s Ratio Perm	0.06			0.00						c0.06		
v/c Ratio	0.09	0.05		0.00	0.18			0.00		0.36	0.16	
Uniform Delay, d1	4.1	4.0		3.9	4.4			20.8		22.1	21.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.1		0.0	0.4			0.0		1.2	0.3	
Delay (s)	4.4	4.1		3.9	4.8			20.8		23.2	21.7	
Level of Service	A	A		A	A			C		C	C	
Approach Delay (s)		4.2			4.8			20.8			22.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	59.2	Sum of lost time (s)	11.8
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
61: RR 57 (BOWMANVILLE AVE) & BASELINE RD

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	95	234	103	143	65	150	359	27	56	757	96
Future Volume (vph)	85	95	234	103	143	65	150	359	27	56	757	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Total Lost time (s)	6.4	6.4		6.4	6.4	6.4	6.7	6.7		6.7	6.7	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.89		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)	1310	2721		1449	1491	1101	1427	2873		1404	3033	
Flt Permitted	0.64	1.00		0.48	1.00	1.00	0.28	1.00		0.51	1.00	
Satd. Flow (perm)	889	2721		730	1491	1101	425	2873		749	3033	
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)	92	103	254	112	155	71	163	390	29	61	823	104
RTOR Reduction (vph)	0	79	0	0	0	57	0	4	0	0	7	0
Lane Group Flow (vph)	92	278	0	112	155	14	163	415	0	61	920	0
Confl. Peds. (#/hr)	3		3	3		3	1		2	2		1
Heavy Vehicles (%)	36%	16%	16%	23%	26%	43%	25%	21%	48%	27%	14%	27%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	18.1	18.1		18.1	18.1	18.1	58.9	58.9		58.9	58.9	
Effective Green, g (s)	18.0	18.0		18.0	18.0	18.0	58.9	58.9		58.9	58.9	
Actuated g/C Ratio	0.20	0.20		0.20	0.20	0.20	0.65	0.65		0.65	0.65	
Clearance Time (s)	6.3	6.3		6.3	6.3	6.3	6.7	6.7		6.7	6.7	
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)	177	544		146	298	220	278	1880		490	1984	
v/s Ratio Prot		0.10			0.10			0.14			0.30	
v/s Ratio Perm	0.10			c0.15		0.01	c0.38			0.08		
v/c Ratio	0.52	0.51		0.77	0.52	0.06	0.59	0.22		0.12	0.46	
Uniform Delay, d1	32.1	32.1		34.0	32.1	29.2	8.7	6.3		5.8	7.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		0.87	0.98	
Incremental Delay, d2	2.6	0.8		21.1	1.6	0.1	8.8	0.3		0.4	0.6	
Delay (s)	34.7	32.9		55.1	33.8	29.3	17.5	6.6		5.5	8.2	
Level of Service	C	C		E	C	C	B	A		A	A	
Approach Delay (s)		33.3			39.9			9.6			8.0	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
62: SPRY AVE & BASELINE RD

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	182	1	0	286	28	0	0	1	25	0	21
Future Volume (vph)	6	182	1	0	286	28	0	0	1	25	0	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2		4.2				4.6		4.6	
Lane Util. Factor	1.00	1.00	1.00		1.00				1.00		1.00	
Frpb, ped/bikes	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	
Frt	1.00	1.00	0.85		0.99				0.85		0.94	
Flt Protected	0.95	1.00	1.00		1.00				1.00		0.97	
Satd. Flow (prot)	1748	1842	1566		1814				1566		1682	
Flt Permitted	0.56	1.00	1.00		1.00				1.00		0.83	
Satd. Flow (perm)	1022	1842	1566		1814				1566		1436	
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)	7	198	1	0	311	30	0	0	1	27	0	23
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	1	0	46	0
Lane Group Flow (vph)	7	198	1	0	339	0	0	0	0	0	4	0
Confl. Peds. (#/hr)	1					1						
Turn Type	Perm	NA	Perm	Perm	NA				Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	48.7	48.7	48.7		48.7				2.9		2.9	
Effective Green, g (s)	50.9	50.9	50.9		50.9				4.6		4.6	
Actuated g/C Ratio	0.79	0.79	0.79		0.79				0.07		0.07	
Clearance Time (s)	6.4	6.4	6.4		6.4				6.3		6.3	
Vehicle Extension (s)	3.0	3.0	3.0		3.0				3.0		3.0	
Lane Grp Cap (vph)	809	1458	1239		1435				112		102	
v/s Ratio Prot		0.11			c0.19							
v/s Ratio Perm	0.01		0.00						0.00		c0.00	
v/c Ratio	0.01	0.14	0.00		0.24				0.00		0.04	
Uniform Delay, d1	1.4	1.6	1.4		1.7				27.7		27.8	
Progression Factor	1.00	1.00	1.00		1.00				1.00		1.00	
Incremental Delay, d2	0.0	0.2	0.0		0.4				0.0		0.1	
Delay (s)	1.4	1.8	1.4		2.1				27.7		27.9	
Level of Service	A	A	A		A				C		C	
Approach Delay (s)		1.7			2.1			27.7			27.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	4.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	64.3	Sum of lost time (s)	8.8
Intersection Capacity Utilization	41.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
66: PRESTONVALE RD

Ritson Bridge Closure
Timing Plan: Default

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
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)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	44.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
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)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases								2			6	
Permitted Phases												
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	22.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			-5%	
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
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)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases								2			6	
Permitted Phases												
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	22.0	Sum of lost time (s)	6.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
1: RR 26 (THICKSON RD) & BURNS ST

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	279	62	952	92	25	1408
Future Volume (vph)	279	62	952	92	25	1408
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	6.1		3.0	6.1
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	0.99	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1767	1560	3483		1749	3500
Flt Permitted	0.95	1.00	1.00		0.22	1.00
Satd. Flow (perm)	1767	1560	3483		396	3500
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	303	67	1035	100	27	1530
RTOR Reduction (vph)	0	54	5	0	0	0
Lane Group Flow (vph)	303	13	1130	0	27	1530
Confl. Peds. (#/hr)		1		2	2	
Heavy Vehicles (%)	1%	1%	1%	0%	2%	2%
Turn Type	Perm	Perm	NA		pm+pt	NA
Protected Phases			2		1	6
Permitted Phases	8	8			6	
Actuated Green, G (s)	22.1	22.1	76.2		76.2	76.2
Effective Green, g (s)	22.1	22.1	76.2		76.2	76.2
Actuated g/C Ratio	0.20	0.20	0.69		0.69	0.69
Clearance Time (s)	5.6	5.6	6.1		3.0	6.1
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	355	313	2412		274	2424
v/s Ratio Prot			0.32			c0.44
v/s Ratio Perm	c0.17	0.01			0.07	
v/c Ratio	0.85	0.04	0.47		0.10	0.63
Uniform Delay, d1	42.4	35.4	7.7		5.6	9.2
Progression Factor	1.00	1.00	0.25		1.00	1.00
Incremental Delay, d2	17.7	0.1	0.5		0.2	1.3
Delay (s)	60.1	35.5	2.4		5.7	10.5
Level of Service	E	D	A		A	B
Approach Delay (s)	55.6		2.4			10.4
Approach LOS	E		A			B

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: RR 26 (THICKSON RD) & RR 25 (CONSUMERS DR)/RR 25 (STELLAR DR)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	165	351	153	290	96	524	965	296	119	971	305
Future Volume (vph)	135	165	351	153	290	96	524	965	296	119	971	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.6	6.4	3.0	6.6	6.6	6.4	6.4	6.4	3.0	6.4	6.4
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1608	3104	1392	1482	3187	1420	1513	3104	1328	1578	3104	1402
Flt Permitted	0.47	1.00	1.00	0.62	1.00	1.00	0.13	1.00	1.00	0.27	1.00	1.00
Satd. Flow (perm)	798	3104	1392	972	3187	1420	214	3104	1328	453	3104	1402
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)	147	179	382	166	315	104	570	1049	322	129	1055	332
RTOR Reduction (vph)	0	0	100	0	0	89	0	0	165	0	0	262
Lane Group Flow (vph)	147	179	282	166	315	15	570	1049	157	129	1055	70
Confl. Peds. (#/hr)	1		7	7		1	3		10	10		3
Heavy Vehicles (%)	11%	15%	14%	20%	12%	11%	18%	15%	17%	13%	15%	12%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	27.3	15.8	52.4	28.1	16.2	16.2	66.3	53.7	53.7	32.9	23.3	23.3
Effective Green, g (s)	27.3	15.8	52.4	28.1	16.2	16.2	66.3	53.7	53.7	32.9	23.3	23.3
Actuated g/C Ratio	0.25	0.14	0.48	0.26	0.15	0.15	0.60	0.49	0.49	0.30	0.21	0.21
Clearance Time (s)	3.0	6.6	6.4	3.0	6.6	6.6	6.4	6.4	6.4	3.0	6.4	6.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	282	445	663	303	469	209	561	1515	648	233	657	296
v/s Ratio Prot	0.05	0.06	0.14	c0.06	c0.10		c0.34	0.34		0.05	c0.34	
v/s Ratio Perm	0.07		0.06	0.08		0.01	0.27		0.12	0.12		0.05
v/c Ratio	0.52	0.40	0.43	0.55	0.67	0.07	1.02	0.69	0.24	0.55	1.61	0.24
Uniform Delay, d1	34.3	42.8	18.9	34.3	44.4	40.4	30.1	21.8	16.3	29.4	43.4	36.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.70	0.87	0.99	0.98	1.11	2.91
Incremental Delay, d2	1.7	0.6	0.4	2.0	3.8	0.1	40.6	2.4	0.8	2.1	277.9	1.4
Delay (s)	36.0	43.4	19.4	36.4	48.1	40.6	61.6	21.5	17.0	30.8	325.8	106.1
Level of Service	D	D	B	D	D	D	E	C	B	C	F	F
Approach Delay (s)		28.9			43.5			32.5			252.6	
Approach LOS		C			D			C			F	

Intersection Summary			
HCM 2000 Control Delay	103.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.4
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: RR 26 (THICKSON RD) & HWY 401 WB RAMP

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	286	708	693	0	0	1251
Future Volume (vph)	286	708	693	0	0	1251
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%			3%
Total Lost time (s)	6.2	6.2	5.7			5.7
Lane Util. Factor	0.97	0.91	0.91			0.91
Frt	0.92	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	2590	1211	4539			4282
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	2590	1211	4539			4282
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	311	770	753	0	0	1360
RTOR Reduction (vph)	158	158	0	0	0	0
Lane Group Flow (vph)	538	227	753	0	0	1360
Heavy Vehicles (%)	34%	20%	13%	0%	0%	18%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	27.2	27.2	70.9			70.9
Effective Green, g (s)	27.2	27.2	70.9			70.9
Actuated g/C Ratio	0.25	0.25	0.64			0.64
Clearance Time (s)	6.2	6.2	5.7			5.7
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	640	299	2925			2759
v/s Ratio Prot	c0.21		0.17			c0.32
v/s Ratio Perm		0.19				
v/c Ratio	0.84	0.76	0.26			0.49
Uniform Delay, d1	39.3	38.4	8.3			10.2
Progression Factor	1.00	1.00	1.09			1.37
Incremental Delay, d2	9.7	10.5	0.2			0.1
Delay (s)	49.1	48.9	9.3			14.0
Level of Service	D	D	A			B
Approach Delay (s)	49.0		9.3			14.0
Approach LOS	D		A			B

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: RR 26 (THICKSON RD) & HWY 401 EB RAMP

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	353	289	0	463	1011	0
Future Volume (vph)	353	289	0	463	1011	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%			3%	0%	
Total Lost time (s)	5.6	5.6		5.8	5.8	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3049	1195		4318	4347	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3049	1195		4318	4347	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	384	314	0	503	1099	0
RTOR Reduction (vph)	0	56	0	0	0	0
Lane Group Flow (vph)	384	258	0	503	1099	0
Heavy Vehicles (%)	13%	33%	0%	17%	18%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	28.3	28.3		70.3	70.3	
Effective Green, g (s)	28.3	28.3		70.3	70.3	
Actuated g/C Ratio	0.26	0.26		0.64	0.64	
Clearance Time (s)	5.6	5.6		5.8	5.8	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	784	307		2759	2778	
v/s Ratio Prot	0.13			0.12	c0.25	
v/s Ratio Perm		c0.22				
v/c Ratio	0.49	0.84		0.18	0.40	
Uniform Delay, d1	34.7	38.7		8.1	9.6	
Progression Factor	1.00	1.00		1.00	1.44	
Incremental Delay, d2	0.5	18.4		0.1	0.4	
Delay (s)	35.2	57.1		8.3	14.2	
Level of Service	D	E		A	B	
Approach Delay (s)	45.1			8.3	14.2	
Approach LOS	D			A	B	

Intersection Summary			
HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
5: RR 25A (CHAMPLAIN AVE) & RR 25 (STELLAR DR)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	71	117	0	134	2	100	4	4	4	3	75
Future Volume (vph)	102	71	117	0	134	2	100	4	4	4	3	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.7	6.7			6.7		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95			0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.91			1.00		1.00	0.93		1.00	0.86	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1767	2294			3494		1750	1738		1785	1577	
Flt Permitted	0.66	1.00			1.00		0.70	1.00		0.75	1.00	
Satd. Flow (perm)	1224	2294			3494		1293	1738		1414	1577	
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)	111	77	127	0	146	2	109	4	4	4	3	82
RTOR Reduction (vph)	0	52	0	0	1	0	0	3	0	0	70	0
Lane Group Flow (vph)	111	152	0	0	147	0	109	5	0	4	15	0
Heavy Vehicles (%)	1%	0%	66%	0%	2%	0%	2%	0%	0%	0%	0%	2%
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)	29.3	29.3			29.3		7.5	7.5		7.5	7.5	
Effective Green, g (s)	29.3	29.3			29.3		7.5	7.5		7.5	7.5	
Actuated g/C Ratio	0.59	0.59			0.59		0.15	0.15		0.15	0.15	
Clearance Time (s)	6.7	6.7			6.7		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	718	1346			2051		194	261		212	237	
v/s Ratio Prot		0.07			0.04			0.00			0.01	
v/s Ratio Perm	c0.09						c0.08			0.00		
v/c Ratio	0.15	0.11			0.07		0.56	0.02		0.02	0.06	
Uniform Delay, d1	4.7	4.6			4.4		19.7	18.1		18.1	18.2	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.2			0.1		3.7	0.0		0.0	0.1	
Delay (s)	5.1	4.7			4.5		23.4	18.1		18.1	18.3	
Level of Service	A	A			A		C	B		B	B	
Approach Delay (s)		4.9			4.5			23.0			18.3	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	49.9	Sum of lost time (s)	13.1
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: DEVON PORT LN/SAWDON DR (IPS) & BURNS ST E

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Future Volume (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2			6.2							
Lane Util. Factor		1.00			1.00							
Frt		1.00			1.00							
Flt Protected		1.00			1.00							
Satd. Flow (prot)		1842			1842							
Flt Permitted		1.00			1.00							
Satd. Flow (perm)		1842			1842							
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)	0	1	0	0	1	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Turn Type		NA			NA							
Protected Phases		2			2							
Permitted Phases	2			2								
Actuated Green, G (s)		31.2			31.2							
Effective Green, g (s)		31.2			31.2							
Actuated g/C Ratio		1.00			1.00							
Clearance Time (s)		6.2			6.2							
Vehicle Extension (s)		3.0			3.0							
Lane Grp Cap (vph)		1842			1842							
v/s Ratio Prot		c0.00			0.00							
v/s Ratio Perm												
v/c Ratio		0.00			0.00							
Uniform Delay, d1		0.0			0.0							
Progression Factor		1.00			1.00							
Incremental Delay, d2		0.0			0.0							
Delay (s)		0.0			0.0							
Level of Service		A			A							
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	31.2	Sum of lost time (s)	10.9
Intersection Capacity Utilization	11.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: KENDALWOOD RD & BURNS ST E

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	163	1	1	270	106	1	8	2	84	8	85
Future Volume (vph)	38	163	1	1	270	106	1	8	2	84	8	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.96		1.00	0.97		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1574	1739		1785	1634		1333	1828		1594	1407	
Flt Permitted	0.52	1.00		0.64	1.00		0.69	1.00		0.75	1.00	
Satd. Flow (perm)	864	1739		1212	1634		971	1828		1259	1407	
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)	41	177	1	1	293	115	1	9	2	91	9	92
RTOR Reduction (vph)	0	0	0	0	13	0	0	2	0	0	79	0
Lane Group Flow (vph)	41	178	0	1	395	0	1	9	0	91	22	0
Confl. Peds. (#/hr)	3					3	4					4
Heavy Vehicles (%)	13%	8%	0%	0%	9%	10%	33%	0%	0%	12%	27%	11%
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)	39.4	39.4		39.4	39.4		8.3	8.3		8.3	8.3	
Effective Green, g (s)	39.4	39.4		39.4	39.4		8.3	8.3		8.3	8.3	
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.14	0.14		0.14	0.14	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	566	1140		794	1071		134	252		173	194	
v/s Ratio Prot		0.10			c0.24			0.01			0.02	
v/s Ratio Perm	0.05			0.00			0.00			c0.07		
v/c Ratio	0.07	0.16		0.00	0.37		0.01	0.04		0.53	0.11	
Uniform Delay, d1	3.7	4.0		3.6	4.7		22.3	22.4		24.1	22.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.3		0.0	1.0		0.0	0.1		2.9	0.3	
Delay (s)	4.0	4.3		3.6	5.7		22.4	22.5		26.9	22.9	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		4.2			5.7			22.5			24.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	60.1	Sum of lost time (s)	12.4
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
8: RR 52 (THORNTON RD) & RR 59 (GIBB ST)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	122	10	26	208	150	15	94	10	196	162	78
Future Volume (vph)	50	122	10	26	208	150	15	94	10	196	162	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.94		1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1765	1837		1780	1713		1748	1847		1744	1740	
Flt Permitted	0.49	1.00		0.67	1.00		0.60	1.00		0.68	1.00	
Satd. Flow (perm)	916	1837		1246	1713		1101	1847		1256	1740	
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)	54	133	11	28	226	163	16	102	11	213	176	85
RTOR Reduction (vph)	0	5	0	0	45	0	0	7	0	0	31	0
Lane Group Flow (vph)	54	139	0	28	344	0	16	106	0	213	230	0
Confl. Peds. (#/hr)	2		3	3		2	1		3	3		1
Heavy Vehicles (%)	1%	1%	0%	0%	1%	3%	2%	0%	0%	2%	2%	2%
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)	13.8	13.8		13.8	13.8		13.3	13.3		13.3	13.3	
Effective Green, g (s)	13.8	13.8		13.8	13.8		13.3	13.3		13.3	13.3	
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.34	0.34		0.34	0.34	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	322	646		438	603		373	626		426	590	
v/s Ratio Prot		0.08			c0.20			0.06			0.13	
v/s Ratio Perm	0.06			0.02			0.01			c0.17		
v/c Ratio	0.17	0.21		0.06	0.57		0.04	0.17		0.50	0.39	
Uniform Delay, d1	8.7	8.9		8.4	10.3		8.7	9.1		10.3	9.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.2		0.1	1.2		0.0	0.1		0.9	0.4	
Delay (s)	9.0	9.1		8.5	11.5		8.7	9.2		11.2	10.3	
Level of Service	A	A		A	B		A	A		B	B	
Approach Delay (s)		9.0			11.3			9.1			10.7	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	39.2	Sum of lost time (s)	12.1
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
9: RR 52 (THORNTON RD) & RR 25 (STELLAR DR)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	0	12	0	0	0	14	43	0	0	73	157
Future Volume (vph)	64	0	12	0	0	0	14	43	0	0	73	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6					6.5	6.5			6.5	6.5
Lane Util. Factor	1.00	1.00					1.00	1.00			1.00	1.00
Frt	1.00	0.85					1.00	1.00			1.00	0.85
Flt Protected	0.95	1.00					0.95	1.00			1.00	1.00
Satd. Flow (prot)	1513	1465					1580	1648			1592	1377
Flt Permitted	0.95	1.00					0.71	1.00			1.00	1.00
Satd. Flow (perm)	1513	1465					1173	1648			1592	1377
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)	70	0	13	0	0	0	15	47	0	0	79	171
RTOR Reduction (vph)	0	12	0	0	0	0	0	0	0	0	0	54
Lane Group Flow (vph)	70	1	0	0	0	0	15	47	0	0	79	117
Heavy Vehicles (%)	18%	0%	9%	0%	0%	0%	13%	14%	0%	0%	18%	16%
Turn Type	Perm	NA					Perm	NA		Perm	NA	Perm
Protected Phases		4						2			6	
Permitted Phases	4						2			6		6
Actuated Green, G (s)	5.3	5.3					37.6	37.6			37.6	37.6
Effective Green, g (s)	5.3	5.3					37.6	37.6			37.6	37.6
Actuated g/C Ratio	0.10	0.10					0.68	0.68			0.68	0.68
Clearance Time (s)	5.6	5.6					6.5	6.5			6.5	6.5
Vehicle Extension (s)	3.0	3.0					3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	145	141					801	1126			1088	941
v/s Ratio Prot		0.00						0.03			0.05	
v/s Ratio Perm	c0.05						0.01					c0.08
v/c Ratio	0.48	0.01					0.02	0.04			0.07	0.12
Uniform Delay, d1	23.6	22.5					2.8	2.8			2.9	3.0
Progression Factor	1.00	1.00					1.00	1.00			1.00	1.00
Incremental Delay, d2	2.5	0.0					0.0	0.1			0.1	0.3
Delay (s)	26.1	22.5					2.8	2.9			3.0	3.3
Level of Service	C	C					A	A			A	A
Approach Delay (s)		25.5			0.0			2.9			3.2	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	12.1
Intersection Capacity Utilization	44.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
10: RR 25 (CHAMPLAIN AVE) & RR 52 (THORNTON RD)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	9	55	160	48	43	45
Future Volume (vph)	9	55	160	48	43	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	5.9	5.9	5.9	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1638	1579	1773	1353	1487	1452
Flt Permitted	0.65	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1116	1579	1773	1353	1487	1452
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	60	174	52	47	49
RTOR Reduction (vph)	0	0	0	38	0	24
Lane Group Flow (vph)	10	60	174	14	47	25
Heavy Vehicles (%)	9%	19%	6%	18%	20%	10%
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4			8		6
Actuated Green, G (s)	15.4	15.4	15.4	15.4	28.7	28.7
Effective Green, g (s)	15.4	15.4	15.4	15.4	28.7	28.7
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.51	0.51
Clearance Time (s)	5.9	5.9	5.9	5.9	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	305	432	485	370	759	741
v/s Ratio Prot		0.04	c0.10		c0.03	
v/s Ratio Perm	0.01			0.01		0.02
v/c Ratio	0.03	0.14	0.36	0.04	0.06	0.03
Uniform Delay, d1	14.9	15.4	16.4	15.0	6.9	6.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.1	0.5	0.0	0.2	0.1
Delay (s)	15.0	15.5	16.9	15.0	7.1	6.9
Level of Service	B	B	B	B	A	A
Approach Delay (s)		15.5	16.5		7.0	
Approach LOS		B	B		A	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	56.2	Sum of lost time (s)	12.1
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
11: RR 53 (STEVENSON RD) & RR 59 (GIBB ST)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	132	127	143	161	35	138	417	137	34	472	14
Future Volume (vph)	21	132	127	143	161	35	138	417	137	34	472	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.3		3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.2	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.96	1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	0.98	1.00		0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1470	2577		1420	1580	1192	1387	2818	1250	1412	2900	
Flt Permitted	0.64	1.00		0.58	1.00	1.00	0.41	1.00	1.00	0.46	1.00	
Satd. Flow (perm)	993	2577		866	1580	1192	598	2818	1250	682	2900	
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)	23	143	138	155	175	38	150	453	149	37	513	15
RTOR Reduction (vph)	0	77	0	0	0	21	0	0	83	0	2	0
Lane Group Flow (vph)	23	204	0	155	175	17	150	453	66	37	526	0
Confl. Peds. (#/hr)	25		14	14		25	8		12	12		8
Heavy Vehicles (%)	7%	13%	15%	12%	7%	16%	15%	14%	12%	13%	10%	17%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	48.7	48.7		48.8	48.8	48.8	48.8	48.8	48.8	48.8	48.8	
Effective Green, g (s)	48.7	48.7		48.8	48.8	48.8	48.8	48.8	48.8	48.8	48.8	
Actuated g/C Ratio	0.44	0.44		0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	
Clearance Time (s)	3.0	6.3		3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	439	1140		384	700	528	265	1250	554	302	1286	
v/s Ratio Prot		0.08			0.11			0.16			0.18	
v/s Ratio Perm	0.02			c0.18		0.01	c0.25		0.05	0.05		
v/c Ratio	0.05	0.18		0.40	0.25	0.03	0.57	0.36	0.12	0.12	0.41	
Uniform Delay, d1	17.5	18.6		20.7	19.1	17.3	22.7	20.3	18.0	18.0	20.8	
Progression Factor	1.00	1.00		0.89	0.89	1.00	1.06	0.95	1.23	1.00	1.00	
Incremental Delay, d2	0.0	0.3		0.7	0.9	0.1	2.7	0.8	0.4	0.2	1.0	
Delay (s)	17.5	18.9		19.2	17.8	17.4	26.8	20.0	22.5	18.2	21.8	
Level of Service	B	B		B	B	B	C	C	C	B	C	
Approach Delay (s)		18.8			18.4			21.8			21.5	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
12: RR 53 (STEVENSON RD) & LAVAL DRIVE

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	20	82	80	42	78	77	651	66	46	535	82
Future Volume (vph)	73	20	82	80	42	78	77	651	66	46	535	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	6.3	6.3		3.0	6.3	6.3	3.0	6.3	6.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.98		1.00	1.00	0.95	1.00	1.00	0.98
Flpb, ped/bikes	0.98	1.00	1.00	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.90		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1593	1708	1376	1674	1540		1524	3077	1331	1647	3104	1454
Flt Permitted	0.61	1.00	1.00	0.74	1.00		0.43	1.00	1.00	0.37	1.00	1.00
Satd. Flow (perm)	1021	1708	1376	1309	1540		684	3077	1331	646	3104	1454
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	22	89	87	46	85	84	708	72	50	582	89
RTOR Reduction (vph)	0	0	78	0	75	0	0	0	22	0	0	27
Lane Group Flow (vph)	79	22	11	87	56	0	84	708	50	50	582	62
Confl. Peds. (#/hr)	15		4	4		15	3		11	11		3
Heavy Vehicles (%)	10%	10%	14%	6%	9%	7%	17%	16%	14%	8%	15%	8%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)	13.4	13.4	13.4	13.4	13.4		81.5	76.6	76.6	80.5	76.1	76.1
Effective Green, g (s)	13.4	13.4	13.4	13.4	13.4		81.5	76.6	76.6	80.5	76.1	76.1
Actuated g/C Ratio	0.12	0.12	0.12	0.12	0.12		0.74	0.70	0.70	0.73	0.69	0.69
Clearance Time (s)	6.3	6.3	6.3	6.3	6.3		3.0	6.3	6.3	3.0	6.3	6.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	124	208	167	159	187		544	2142	926	512	2147	1005
v/s Ratio Prot		0.01			0.04		c0.01	c0.23		0.00	0.19	
v/s Ratio Perm	c0.08		0.01	0.07			0.11		0.04	0.07		0.04
v/c Ratio	0.64	0.11	0.06	0.55	0.30		0.15	0.33	0.05	0.10	0.27	0.06
Uniform Delay, d1	46.0	43.0	42.8	45.4	44.0		3.9	6.6	5.3	4.1	6.4	5.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		2.20	2.29	5.30	0.45	0.44	0.07
Incremental Delay, d2	10.3	0.2	0.2	3.8	0.9		0.1	0.4	0.1	0.1	0.3	0.1
Delay (s)	56.2	43.2	42.9	49.3	44.9		8.7	15.5	28.0	1.9	3.1	0.5
Level of Service	E	D	D	D	D		A	B	C	A	A	A
Approach Delay (s)		48.5			46.7			15.9			2.7	
Approach LOS		D			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis — Ritson Bridge Closure
13: RR 53 (STEVENSON RD) & RR 25 (CHAMPLAIN AVE)/HWY 401 WB EXIT RAMP

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	0	53	537	215	301	67	447	0	0	878	137
Future Volume (vph)	43	0	53	537	215	301	67	447	0	0	878	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9		5.9	5.9	5.9	5.9	3.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.91	0.91	1.00	1.00	0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.99	1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.97	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1566		1401	1299	2710	1358	1608	4499			4621	1389
Flt Permitted	0.95		1.00	0.95	0.97	1.00	0.21	1.00			1.00	1.00
Satd. Flow (perm)	1566		1401	1299	2710	1358	356	4499			4621	1389
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	0	58	584	234	327	73	486	0	0	954	149
RTOR Reduction (vph)	0	0	54	0	0	230	0	0	0	0	0	92
Lane Group Flow (vph)	47	0	4	292	526	97	73	486	0	0	954	57
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	14%	0%	14%	25%	20%	16%	11%	14%	0%	0%	11%	15%
Turn Type	Prot		Perm	Split	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases	4			8	8		5	2			6	
Permitted Phases			4			8	2					6
Actuated Green, G (s)	7.8		7.8	32.5	32.5	32.5	50.8	50.8			42.4	42.4
Effective Green, g (s)	7.8		7.8	32.5	32.5	32.5	50.8	50.8			42.4	42.4
Actuated g/C Ratio	0.07		0.07	0.30	0.30	0.30	0.46	0.46			0.39	0.39
Clearance Time (s)	5.9		5.9	5.9	5.9	5.9	3.0	7.1			7.1	7.1
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)	111		99	383	800	401	225	2077			1781	535
v/s Ratio Prot	c0.03			c0.22	0.19		c0.02	0.11			c0.21	
v/s Ratio Perm			0.00			0.07	0.13					0.04
v/c Ratio	0.42		0.04	0.76	0.66	0.24	0.32	0.23			0.54	0.11
Uniform Delay, d1	48.9		47.6	35.2	33.9	29.4	17.5	17.9			26.2	21.7
Progression Factor	1.00		1.00	1.00	1.00	1.00	0.86	0.84			1.06	1.75
Incremental Delay, d2	2.6		0.2	8.7	2.0	0.3	0.8	0.3			1.1	0.4
Delay (s)	51.5		47.8	43.9	35.8	29.7	15.9	15.2			28.8	38.3
Level of Service	D		D	D	D	C	B	B			C	D
Approach Delay (s)		49.5			36.2			15.3			30.1	
Approach LOS		D			D			B			C	

Intersection Summary				
HCM 2000 Control Delay	30.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.60			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.9	
Intersection Capacity Utilization	56.9%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Ritson Bridge Closure
14: RR 53 (STEVENSON RD) & 401 EB RAMP/BLOOR ST CONNECTOR

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	271	166	64	39	0	184	0	238	30	161	373	201
Future Volume (vph)	271	166	64	39	0	184	0	238	30	161	373	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3		6.3		6.3		6.6		3.0	6.6	
Lane Util. Factor	0.97	0.95		0.97		1.00		0.91		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00		1.00		1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00		1.00		1.00		1.00	1.00	
Frt	1.00	0.96		1.00		0.85		0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	3177	3012		2684		1210		4174		1594	2815	
Flt Permitted	0.95	1.00		0.95		1.00		1.00		0.54	1.00	
Satd. Flow (perm)	3177	3012		2684		1210		4174		898	2815	
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)	295	180	70	42	0	200	0	259	33	175	405	218
RTOR Reduction (vph)	0	41	0	0	0	182	0	10	0	0	44	0
Lane Group Flow (vph)	295	209	0	42	0	18	0	282	0	175	579	0
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	9%	12%	16%	29%	0%	32%	0%	20%	27%	12%	24%	13%
Turn Type	Perm	NA		Prot		Perm		NA		pm+pt	NA	
Protected Phases		4		3				2		1	6	
Permitted Phases	4					3				6		
Actuated Green, G (s)	15.8	15.8		10.1		10.1		51.8		64.9	64.9	
Effective Green, g (s)	15.8	15.8		10.1		10.1		51.8		64.9	64.9	
Actuated g/C Ratio	0.14	0.14		0.09		0.09		0.47		0.59	0.59	
Clearance Time (s)	6.3	6.3		6.3		6.3		6.6		3.0	6.6	
Vehicle Extension (s)	3.0	3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	456	432		246		111		1965		593	1660	
v/s Ratio Prot		0.07		c0.02				0.07		0.03	c0.21	
v/s Ratio Perm	c0.09					0.02				0.15		
v/c Ratio	0.65	0.48		0.17		0.17		0.14		0.30	0.35	
Uniform Delay, d1	44.5	43.3		46.1		46.1		16.5		10.4	11.6	
Progression Factor	1.00	1.00		0.91		0.88		1.00		0.80	0.79	
Incremental Delay, d2	3.1	0.9		0.3		0.7		0.2		0.2	0.5	
Delay (s)	47.6	44.2		42.2		41.3		16.7		8.6	9.7	
Level of Service	D	D		D		D		B		A	A	
Approach Delay (s)		46.0			41.4			16.7			9.5	
Approach LOS		D			D			B			A	

Intersection Summary				
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.39			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.2	
Intersection Capacity Utilization	54.4%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Ritson Bridge Closure
15: RR 53 (STEVENSON RD) & RR 22 (BLOOR ST)

Timing Plan: PM Peak

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	222	127	252	1334	659	243
Future Volume (vph)	222	127	252	1334	659	243
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4	3.0	6.4	5.9	5.9
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3535	1553	1729	3500	3330	1541
Flt Permitted	1.00	1.00	0.57	1.00	0.95	1.00
Satd. Flow (perm)	3535	1553	1032	3500	3330	1541
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	241	138	274	1450	716	264
RTOR Reduction (vph)	0	77	0	0	0	184
Lane Group Flow (vph)	241	61	274	1450	716	80
Confl. Peds. (#/hr)		3	3			2
Heavy Vehicles (%)	1%	1%	3%	2%	4%	2%
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Actuated Green, G (s)	48.6	48.6	64.4	64.4	33.3	33.3
Effective Green, g (s)	48.6	48.6	64.4	64.4	33.3	33.3
Actuated g/C Ratio	0.44	0.44	0.59	0.59	0.30	0.30
Clearance Time (s)	6.4	6.4	3.0	6.4	5.9	5.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	5.0	5.0
Lane Grp Cap (vph)	1561	686	685	2049	1008	466
v/s Ratio Prot	0.07		0.05	c0.41	c0.22	
v/s Ratio Perm		0.04	0.19			0.05
v/c Ratio	0.15	0.09	0.40	0.71	0.71	0.17
Uniform Delay, d1	18.4	17.8	11.3	16.1	34.1	28.2
Progression Factor	1.00	1.00	1.00	1.00	0.90	0.79
Incremental Delay, d2	0.2	0.3	0.4	2.1	2.9	0.4
Delay (s)	18.6	18.1	11.7	18.2	33.7	22.6
Level of Service	B	B	B	B	C	C
Approach Delay (s)	18.4			17.2	30.7	
Approach LOS	B			B	C	

Intersection Summary				
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.3	
Intersection Capacity Utilization	65.9%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Ritson Bridge Closure
16: RR 54 (PARK RD W) & RR 59 (GIBB ST)

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	402	160	128	284	49	158	553	105	75	485	156
Future Volume (vph)	158	402	160	128	284	49	158	553	105	75	485	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.1		6.0	6.1		3.0	6.2		6.0	6.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.98		1.00	0.98		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1600	3012		1589	3078		1543	3118		1606	3047	
Flt Permitted	0.51	1.00		0.30	1.00		0.28	1.00		0.27	1.00	
Satd. Flow (perm)	856	3012		504	3078		459	3118		452	3047	
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)	172	437	174	139	309	53	172	601	114	82	527	170
RTOR Reduction (vph)	0	47	0	0	15	0	0	17	0	0	34	0
Lane Group Flow (vph)	172	564	0	139	347	0	172	698	0	82	663	0
Confl. Peds. (#/hr)	13		7	7		13	13		4	4		13
Heavy Vehicles (%)	0%	1%	3%	1%	2%	0%	4%	0%	2%	0%	1%	1%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	30.9	26.9		30.9	26.9		37.6	31.6		35.0	31.8	
Effective Green, g (s)	30.9	26.9		30.9	26.9		37.6	31.6		35.0	31.8	
Actuated g/C Ratio	0.34	0.30		0.34	0.30		0.42	0.35		0.39	0.35	
Clearance Time (s)	6.0	6.1		6.0	6.1		3.0	6.2		6.0	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	326	900		221	919		264	1094		216	1076	
v/s Ratio Prot	0.02	0.19		c0.03	0.11		c0.04	0.22		0.01	0.22	
v/s Ratio Perm	0.16			c0.19			c0.23			0.13		
v/c Ratio	0.53	0.63		0.63	0.38		0.65	0.64		0.38	0.62	
Uniform Delay, d1	22.7	27.2		23.8	24.9		18.3	24.4		18.3	24.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.5	3.3		5.5	1.2		5.7	2.9		1.1	2.6	
Delay (s)	24.2	30.5		29.3	26.1		24.0	27.3		19.4	26.7	
Level of Service	C	C		C	C		C	C		B	C	
Approach Delay (s)		29.1			27.0			26.6			25.9	
Approach LOS		C			C			C			C	

Intersection Summary				
HCM 2000 Control Delay	27.2	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.67			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	24.3	
Intersection Capacity Utilization	83.9%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
17: RR 2A (CENTRE ST) & RR 59 (GIBB ST)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	299	210	26	288	0	0	0	0	36	939	167
Future Volume (vph)	0	299	210	26	288	0	0	0	0	36	939	167
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8	5.8	5.8	5.8						5.7	
Lane Util. Factor		1.00	1.00	1.00	1.00						0.91	
Frpb, ped/bikes		1.00	0.96	1.00	1.00						0.99	
Flpb, ped/bikes		1.00	1.00	0.99	1.00						1.00	
Frt		1.00	0.85	1.00	1.00						0.98	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		1691	1385	1583	1691						4388	
Flt Permitted		1.00	1.00	0.49	1.00						1.00	
Satd. Flow (perm)		1691	1385	818	1691						4388	
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)	0	325	228	28	313	0	0	0	0	39	1021	182
RTOR Reduction (vph)	0	0	32	0	0	0	0	0	0	0	40	0
Lane Group Flow (vph)	0	325	196	28	313	0	0	0	0	0	1202	0
Confl. Peds. (#/hr)			22	22						11		21
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	2%	1%
Turn Type		NA	Perm	Perm	NA					Perm	NA	
Protected Phases		4			8						6	
Permitted Phases			4	8						6		
Actuated Green, G (s)		21.2	21.2	21.2	21.2						27.3	
Effective Green, g (s)		21.2	21.2	21.2	21.2						27.3	
Actuated g/C Ratio		0.35	0.35	0.35	0.35						0.46	
Clearance Time (s)		5.8	5.8	5.8	5.8						5.7	
Lane Grp Cap (vph)		597	489	289	597						1996	
v/s Ratio Prot		c0.19			0.19							
v/s Ratio Perm			0.14	0.03							0.27	
v/c Ratio		0.54	0.40	0.10	0.52						0.60	
Uniform Delay, d1		15.5	14.6	13.0	15.4						12.3	
Progression Factor		1.00	1.00	0.84	0.91						1.00	
Incremental Delay, d2		3.5	2.4	0.6	2.8						1.4	
Delay (s)		19.1	17.1	11.5	16.9						13.6	
Level of Service		B	B	B	B						B	
Approach Delay (s)		18.2			16.5			0.0			13.6	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
18: RR 2 (SIMCOE ST) & RR 59 (GIBB ST)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	172	187	0	0	75	25	230	987	31	0	0	0
Future Volume (vph)	172	187	0	0	75	25	230	987	31	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8			5.8			5.5	5.5			
Lane Util. Factor	1.00	1.00			1.00			0.91	1.00			
Frpb, ped/bikes	1.00	1.00			0.97			1.00	0.86			
Flpb, ped/bikes	0.92	1.00			1.00			0.98	1.00			
Frt	1.00	1.00			0.97			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.99	1.00			
Satd. Flow (prot)	1445	1674			1576			4409	1242			
Flt Permitted	0.69	1.00			1.00			0.99	1.00			
Satd. Flow (perm)	1045	1674			1576			4409	1242			
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)	187	203	0	0	82	27	250	1073	34	0	0	0
RTOR Reduction (vph)	0	0	0	0	17	0	0	0	18	0	0	0
Lane Group Flow (vph)	187	203	0	0	92	0	0	1323	16	0	0	0
Confl. Peds. (#/hr)	96					96	59		79			
Heavy Vehicles (%)	2%	1%	0%	0%	0%	4%	2%	2%	0%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4			8			2				
Permitted Phases	4						2		2			
Actuated Green, G (s)	21.2	21.2			21.2			27.5	27.5			
Effective Green, g (s)	21.2	21.2			21.2			27.5	27.5			
Actuated g/C Ratio	0.35	0.35			0.35			0.46	0.46			
Clearance Time (s)	5.8	5.8			5.8			5.5	5.5			
Lane Grp Cap (vph)	369	591			556			2020	569			
v/s Ratio Prot		0.12			0.06							
v/s Ratio Perm	c0.18							0.30	0.01			
v/c Ratio	0.51	0.34			0.16			0.65	0.03			
Uniform Delay, d1	15.3	14.3			13.3			12.6	8.9			
Progression Factor	0.77	0.82			1.00			1.00	1.00			
Incremental Delay, d2	4.3	1.4			0.6			1.7	0.1			
Delay (s)	16.1	13.0			14.0			14.3	9.0			
Level of Service	B	B			B			B	A			
Approach Delay (s)		14.5			14.0			14.1			0.0	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	66.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
19: RR 2 (SIMCOE ST) & RR 59 (OLIVE AVE)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	389	185	1035	248	154	899
Future Volume (vph)	389	185	1035	248	154	899
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.6			4.0
Lane Util. Factor	1.00	1.00	0.95			0.95
Frpb, ped/bikes	1.00	0.93	0.93			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	1.00	0.85	0.97			1.00
Flt Protected	0.95	1.00	1.00			0.99
Satd. Flow (prot)	1591	1323	2835			3190
Flt Permitted	0.95	1.00	1.00			0.49
Satd. Flow (perm)	1591	1323	2835			1584
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	423	201	1125	270	167	977
RTOR Reduction (vph)	0	147	17	0	0	0
Lane Group Flow (vph)	423	54	1378	0	0	1144
Confl. Peds. (#/hr)		28		83		
Heavy Vehicles (%)	1%	1%	2%	3%	0%	0%
Turn Type	Prot	Perm	NA		D.P+P	NA
Protected Phases	4		2		1	1 2
Permitted Phases		4			2	
Actuated Green, G (s)	32.5	32.5	58.4			72.4
Effective Green, g (s)	32.5	32.5	58.4			72.4
Actuated g/C Ratio	0.27	0.27	0.49			0.60
Clearance Time (s)	5.5	5.5	5.6			
Vehicle Extension (s)	3.0	3.0	3.0			
Lane Grp Cap (vph)	430	358	1379			1143
v/s Ratio Prot	c0.27		0.49			c0.12
v/s Ratio Perm		0.04				c0.49
v/c Ratio	0.98	0.15	1.00			1.00
Uniform Delay, d1	43.5	33.3	30.8			23.8
Progression Factor	0.88	1.26	0.71			1.00
Incremental Delay, d2	36.6	0.8	21.2			26.8
Delay (s)	75.0	42.6	43.1			50.6
Level of Service	E	D	D			D
Approach Delay (s)	64.6		43.1			50.6
Approach LOS	E		D			D

Intersection Summary			
HCM 2000 Control Delay	50.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	110.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
20: ALBERT ST & RR 59 (OLIVE AVE)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	576	50	77	399	72	7	135	35	0	0	0
Future Volume (vph)	40	576	50	77	399	72	7	135	35	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.6			5.6			5.2				
Lane Util. Factor		1.00			1.00			1.00				
Frpb, ped/bikes		1.00			1.00			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		0.99			0.98			0.97				
Flt Protected		1.00			0.99			1.00				
Satd. Flow (prot)		1651			1623			1634				
Flt Permitted		0.95			0.84			1.00				
Satd. Flow (perm)		1565			1367			1634				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	626	54	84	434	78	8	147	38	0	0	0
RTOR Reduction (vph)	0	5	0	0	9	0	0	15	0	0	0	0
Lane Group Flow (vph)	0	718	0	0	587	0	0	178	0	0	0	0
Confl. Peds. (#/hr)	3		3	3		3	2		2			
Heavy Vehicles (%)	0%	1%	0%	0%	1%	4%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA				
Protected Phases		2			2			4				
Permitted Phases	2			2			4					
Actuated Green, G (s)		35.4			35.4			13.8				
Effective Green, g (s)		35.4			35.4			13.8				
Actuated g/C Ratio		0.59			0.59			0.23				
Clearance Time (s)		5.6			5.6			5.2				
Lane Grp Cap (vph)		923			806			375				
v/s Ratio Prot												
v/s Ratio Perm		c0.46			0.43			0.11				
v/c Ratio		0.78			0.73			0.48				
Uniform Delay, d1		9.3			8.8			20.0				
Progression Factor		1.08			1.00			0.85				
Incremental Delay, d2		5.2			5.7			4.1				
Delay (s)		15.2			14.6			21.2				
Level of Service		B			B			C				
Approach Delay (s)		15.2			14.6			21.2			0.0	
Approach LOS		B			B			C			A	

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.8
Intersection Capacity Utilization	76.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
21: RR 16 (RITSON RD) & RR 59 (OLIVE AVE)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	211	242	8	31	484	133	46	14	218	139	100	213
Future Volume (vph)	211	242	8	31	484	133	46	14	218	139	100	213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		5.9	5.9		6.0	5.9	
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	0.96		1.00	0.96	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		0.98	1.00		0.99	1.00	
Frt	1.00	1.00		1.00	0.97		1.00	0.86		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1339	1487		1285	1415		1443	2173		1413	2515	
Flt Permitted	0.18	1.00		0.59	1.00		0.55	1.00		0.43	1.00	
Satd. Flow (perm)	256	1487		801	1415		830	2173		643	2515	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	229	263	9	34	526	145	50	15	237	151	109	232
RTOR Reduction (vph)	0	1	0	0	9	0	0	193	0	0	168	0
Lane Group Flow (vph)	229	271	0	34	662	0	50	59	0	151	173	0
Confl. Peds. (#/hr)	4		13	13		4	10		8	8		10
Heavy Vehicles (%)	20%	13%	13%	23%	16%	12%	9%	13%	22%	13%	14%	9%
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)	71.1	71.1		56.1	56.1		21.3	21.3		31.3	31.3	
Effective Green, g (s)	71.1	71.1		56.1	56.1		21.3	21.3		31.3	31.3	
Actuated g/C Ratio	0.62	0.62		0.49	0.49		0.19	0.19		0.27	0.27	
Clearance Time (s)	6.0	6.0		6.0	6.0		5.9	5.9		6.0	5.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	244	924		393	694		154	404		203	688	
v/s Ratio Prot	c0.07	0.18			0.47			0.03		c0.03	0.07	
v/s Ratio Perm	c0.51			0.04			0.06			c0.18		
v/c Ratio	0.94	0.29		0.09	0.95		0.32	0.15		0.74	0.25	
Uniform Delay, d1	18.5	10.0		15.5	27.9		40.3	38.9		38.9	32.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	40.6	0.2		0.1	23.4		5.5	0.8		13.7	0.9	
Delay (s)	59.1	10.2		15.6	51.2		45.8	39.7		52.6	33.2	
Level of Service	E	B		B	D		D	D		D	C	
Approach Delay (s)		32.5			49.5			40.7			39.2	
Approach LOS		C			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	41.4	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.95			
Actuated Cycle Length (s)	114.3	Sum of lost time (s)	23.9	
Intersection Capacity Utilization	103.5%	ICU Level of Service	G	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
22: RR 35 (WILSON RD) & RR 59 (OLIVE AVE)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	364	94	92	189	69	98	533	103	62	297	28
Future Volume (vph)	38	364	94	92	189	69	98	533	103	62	297	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
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
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1557	1663	1333	1425	1693	1387	1515	1606	1261	1659	1528	1369
Flt Permitted	0.63	1.00	1.00	0.37	1.00	1.00	0.54	1.00	1.00	0.31	1.00	1.00
Satd. Flow (perm)	1031	1663	1333	554	1693	1387	868	1606	1261	543	1528	1369
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	41	396	102	100	205	75	107	579	112	67	323	30
RTOR Reduction (vph)	0	0	69	0	0	51	0	0	57	0	0	15
Lane Group Flow (vph)	41	396	33	100	205	24	107	579	55	67	323	15
Confl. Peds. (#/hr)	4		11	11		4	6		9	9		6
Heavy Vehicles (%)	14%	13%	15%	24%	11%	12%	17%	17%	22%	7%	23%	13%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	19.4	19.4	19.4	19.4	19.4	19.4	29.4	29.4	29.4	29.4	29.4	29.4
Effective Green, g (s)	19.4	19.4	19.4	19.4	19.4	19.4	29.4	29.4	29.4	29.4	29.4	29.4
Actuated g/C Ratio	0.32	0.32	0.32	0.32	0.32	0.32	0.49	0.49	0.49	0.49	0.49	0.49
Clearance Time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Lane Grp Cap (vph)	333	537	431	179	547	448	425	786	617	266	748	670
v/s Ratio Prot		c0.24			0.12			c0.36			0.21	
v/s Ratio Perm	0.04		0.02	0.18		0.02	0.12		0.04	0.12		0.01
v/c Ratio	0.12	0.74	0.08	0.56	0.37	0.05	0.25	0.74	0.09	0.25	0.43	0.02
Uniform Delay, d1	14.3	18.0	14.1	16.8	15.6	14.0	8.9	12.2	8.2	8.9	9.9	7.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.8	8.8	0.3	12.0	2.0	0.2	1.4	6.1	0.3	2.3	1.8	0.1
Delay (s)	15.1	26.8	14.4	28.8	17.6	14.2	10.3	18.3	8.4	11.2	11.7	7.9
Level of Service	B	C	B	C	B	B	B	B	A	B	B	A
Approach Delay (s)		23.6			19.9			15.8			11.4	
Approach LOS		C			B			B			B	

Intersection Summary				
HCM 2000 Control Delay	17.6	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)	11.2	
Intersection Capacity Utilization	89.2%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
23: RR 33 (HARMONY) & RR 59 (OLIVE AVE)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	509	64	219	254	132	45	1010	404	115	703	86
Future Volume (vph)	99	509	64	219	254	132	45	1010	404	115	703	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		3.0	6.5	6.5	3.0	6.3		3.0	6.3	
Lane Util. Factor	1.00	0.95		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	0.98	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	1.00	0.85	1.00	0.96		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)	1743	3503		1785	1879	1553	1749	3375		1716	3399	
Flt Permitted	0.59	1.00		0.15	1.00	1.00	0.26	1.00		0.07	1.00	
Satd. Flow (perm)	1082	3503		276	1879	1553	473	3375		122	3399	
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)	108	553	70	238	276	143	49	1098	439	125	764	93
RTOR Reduction (vph)	0	8	0	0	0	95	0	36	0	0	8	0
Lane Group Flow (vph)	108	615	0	238	276	48	49	1501	0	125	849	0
Confl. Peds. (#/hr)	4		4	4		4	3		4	4		3
Heavy Vehicles (%)	2%	0%	0%	0%	0%	1%	2%	1%	0%	4%	3%	3%
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	24.5	24.5		40.5	40.5	40.5	62.4	57.7		65.0	59.0	
Effective Green, g (s)	24.5	24.5		40.5	40.5	40.5	62.4	57.7		65.0	59.0	
Actuated g/C Ratio	0.20	0.20		0.34	0.34	0.34	0.52	0.48		0.54	0.49	
Clearance Time (s)	6.5	6.5		3.0	6.5	6.5	3.0	6.3		3.0	6.3	
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)	220	715		256	634	524	295	1622		145	1671	
v/s Ratio Prot		0.18		c0.10	0.15		0.01	c0.44		c0.04	0.25	
v/s Ratio Perm	0.10			c0.21		0.03	0.08			0.42		
v/c Ratio	0.49	0.86		0.93	0.44	0.09	0.17	0.93		0.86	0.51	
Uniform Delay, d1	42.2	46.1		32.3	30.9	27.2	15.0	29.1		25.5	20.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	0.51	0.56		1.00	1.00	
Incremental Delay, d2	7.6	12.9		37.2	2.2	0.3	0.0	1.2		37.5	1.1	
Delay (s)	49.9	59.0		69.5	33.0	27.5	7.7	17.6		63.0	21.8	
Level of Service	D	E		E	C	C	A	B		E	C	
Approach Delay (s)		57.6			45.1			17.3			27.0	
Approach LOS		E			D			B			C	

Intersection Summary				
HCM 2000 Control Delay	31.8	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.95			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.8	
Intersection Capacity Utilization	96.8%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
24: RR 54 (PARK RD W) & HILLSIDE

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	185	17	14	615	599	155
Future Volume (vph)	185	17	14	615	599	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2			5.3	5.3	
Lane Util. Factor	1.00			0.95	0.95	
Frpb, ped/bikes	1.00			1.00	0.99	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.97	
Flt Protected	0.96			1.00	1.00	
Satd. Flow (prot)	1659			3525	3357	
Flt Permitted	0.96			0.93	1.00	
Satd. Flow (perm)	1659			3295	3357	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	201	18	15	668	651	168
RTOR Reduction (vph)	6	0	0	0	28	0
Lane Group Flow (vph)	213	0	0	683	791	0
Confl. Peds. (#/hr)	4	18	12			12
Heavy Vehicles (%)	7%	0%	8%	1%	2%	3%
Turn Type	Perm		Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4		2			
Actuated Green, G (s)	13.0			36.5	36.5	
Effective Green, g (s)	13.0			36.5	36.5	
Actuated g/C Ratio	0.22			0.61	0.61	
Clearance Time (s)	5.2			5.3	5.3	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	359			2004	2042	
v/s Ratio Prot					c0.24	
v/s Ratio Perm	c0.13			0.21		
v/c Ratio	0.59			0.34	0.39	
Uniform Delay, d1	21.1			5.8	6.0	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	2.6			0.5	0.6	
Delay (s)	23.7			6.3	6.6	
Level of Service	C			A	A	
Approach Delay (s)	23.7			6.3	6.6	
Approach LOS	C			A	A	

Intersection Summary				
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.44			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.5	
Intersection Capacity Utilization	48.8%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
25: RR 2 (SIMCOE ST) & MILL ST

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	74	85	57	1113	1254	88
Future Volume (vph)	74	85	57	1113	1254	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7		5.6	5.6	
Lane Util. Factor	1.00	1.00		0.95	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	
Frt	1.00	0.85		1.00	0.99	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	1606	1407		3145	3084	
Flt Permitted	0.95	1.00		0.80	1.00	
Satd. Flow (perm)	1606	1407		2509	3084	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	92	62	1210	1363	96
RTOR Reduction (vph)	0	23	0	0	5	0
Lane Group Flow (vph)	80	69	0	1272	1454	0
Confl. Peds. (#/hr)	21	9	18			18
Heavy Vehicles (%)	0%	0%	0%	2%	3%	0%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4	2			
Actuated Green, G (s)	7.7	7.7		41.0	41.0	
Effective Green, g (s)	7.7	7.7		41.0	41.0	
Actuated g/C Ratio	0.13	0.13		0.68	0.68	
Clearance Time (s)	5.7	5.7		5.6	5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	206	180		1714	2107	
v/s Ratio Prot	c0.05				0.47	
v/s Ratio Perm		0.05		c0.51		
v/c Ratio	0.39	0.39		0.74	0.69	
Uniform Delay, d1	24.0	24.0		6.1	5.7	
Progression Factor	1.00	1.00		1.08	1.12	
Incremental Delay, d2	1.2	1.4		2.5	0.6	
Delay (s)	25.2	25.4		9.1	7.0	
Level of Service	C	C		A	A	
Approach Delay (s)	25.3			9.1	7.0	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	99.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
26: RR 2 (SIMCOE ST) & 1ST AVE

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	53	143	998	29	59	1225
Future Volume (vph)	53	143	998	29	59	1225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9		5.8			5.8
Lane Util. Factor	1.00		0.95			0.95
Frpb, ped/bikes	0.99		1.00			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.90		1.00			1.00
Flt Protected	0.99		1.00			1.00
Satd. Flow (prot)	1410		3161			3132
Flt Permitted	0.99		1.00			0.84
Satd. Flow (perm)	1410		3161			2623
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	58	155	1085	32	64	1332
RTOR Reduction (vph)	35	0	3	0	0	0
Lane Group Flow (vph)	178	0	1114	0	0	1396
Confl. Peds. (#/hr)	11	7		16	16	
Heavy Vehicles (%)	6%	5%	1%	4%	9%	2%
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	12.9		35.4			35.4
Effective Green, g (s)	12.9		35.4			35.4
Actuated g/C Ratio	0.22		0.59			0.59
Clearance Time (s)	5.9		5.8			5.8
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	303		1864			1547
v/s Ratio Prot	c0.13		0.35			
v/s Ratio Perm						c0.53
v/c Ratio	0.59		0.60			0.90
Uniform Delay, d1	21.2		7.8			10.8
Progression Factor	1.02		1.57			0.72
Incremental Delay, d2	2.8		1.0			7.2
Delay (s)	24.5		13.2			14.9
Level of Service	C		B			B
Approach Delay (s)	24.5		13.2			14.9
Approach LOS	C		B			B

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	100.1%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
27: ALBERT ST & 1ST AVE

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	96	14	9	158	58	15	149	34	23	124	27
Future Volume (vph)	18	96	14	9	158	58	15	149	34	23	124	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3			5.1			5.1	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			0.99			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.97			0.98			0.98	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		1803			1772			1818			1816	
Flt Permitted		0.95			0.99			0.97			0.95	
Satd. Flow (perm)		1717			1758			1777			1729	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	104	15	10	172	63	16	162	37	25	135	29
RTOR Reduction (vph)	0	7	0	0	21	0	0	13	0	0	11	0
Lane Group Flow (vph)	0	132	0	0	224	0	0	202	0	0	178	0
Confl. Peds. (#/hr)	3		9	9		3	9		4	4		9
Heavy Vehicles (%)	0%	2%	0%	0%	2%	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		
Actuated Green, G (s)		27.7			27.7			21.9			21.9	
Effective Green, g (s)		27.7			27.7			21.9			21.9	
Actuated g/C Ratio		0.46			0.46			0.36			0.36	
Clearance Time (s)		5.3			5.3			5.1			5.1	
Lane Grp Cap (vph)		792			811			648			631	
v/s Ratio Prot												
v/s Ratio Perm		0.08			c0.13			c0.11			0.10	
v/c Ratio		0.17			0.28			0.31			0.28	
Uniform Delay, d1		9.4			10.0			13.7			13.5	
Progression Factor		0.94			0.79			1.00			0.99	
Incremental Delay, d2		0.4			0.8			1.3			0.9	
Delay (s)		9.2			8.7			14.9			14.3	
Level of Service		A			A			B			B	
Approach Delay (s)		9.2			8.7			14.9			14.3	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.4
Intersection Capacity Utilization	40.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
28: Drew Street/DREW ST & 1ST AVE/MCNAUGHTON AVE/MCNAUGHTON AVE

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	124	19	68	76	4	126	8	99	7	17	3
Future Volume (vph)	6	124	19	68	76	4	126	8	99	7	17	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4		5.4	5.4		5.4	5.4			5.4	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00			1.00	
Frpb, ped/bikes		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	
Frt		0.98		1.00	0.99		1.00	0.86			0.99	
Flt Protected		1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)		1600		1571	1572		1591	1444			1645	
Flt Permitted		0.99		0.72	1.00		0.74	1.00			0.94	
Satd. Flow (perm)		1590		1191	1572		1236	1444			1566	
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)	7	135	21	74	83	4	137	9	108	8	18	3
RTOR Reduction (vph)	0	9	0	0	2	0	0	67	0	0	2	0
Lane Group Flow (vph)	0	154	0	74	85	0	137	50	0	0	27	0
Confl. Peds. (#/hr)	4		2	2		4						
Heavy Vehicles (%)	0%	3%	6%	2%	7%	0%	1%	0%	1%	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		
Actuated Green, G (s)		26.6		26.6	26.6		22.6	22.6			22.6	
Effective Green, g (s)		26.6		26.6	26.6		22.6	22.6			22.6	
Actuated g/C Ratio		0.44		0.44	0.44		0.38	0.38			0.38	
Clearance Time (s)		5.4		5.4	5.4		5.4	5.4			5.4	
Lane Grp Cap (vph)		704		528	696		465	543			589	
v/s Ratio Prot					0.05			0.03				
v/s Ratio Perm		c0.10		0.06			c0.11				0.02	
v/c Ratio		0.22		0.14	0.12		0.29	0.09			0.05	
Uniform Delay, d1		10.3		9.9	9.8		13.1	12.1			11.9	
Progression Factor		1.20		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2		0.7		0.6	0.4		1.6	0.3			0.1	
Delay (s)		13.0		10.5	10.2		14.7	12.4			12.0	
Level of Service		B		B	B		B	B			B	
Approach Delay (s)		13.0			10.3			13.7			12.0	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.8
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
29: RR 16 (RITSON RD) & MCNAUGHTON AVE/DEAN AVE

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	77	37	185	161	53	33	98	137	49	27	74
Future Volume (vph)	92	77	37	185	161	53	33	98	137	49	27	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.96		1.00	0.97	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		0.98	1.00		0.97	1.00	
Frt	1.00	0.95		1.00	0.96		1.00	0.91		1.00	0.89	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1307	1282		1365	1343		1399	2375		1232	2311	
Flt Permitted	0.52	1.00		0.68	1.00		0.68	1.00		0.59	1.00	
Satd. Flow (perm)	722	1282		973	1343		1006	2375		770	2311	
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	84	40	201	175	58	36	107	149	53	29	80
RTOR Reduction (vph)	0	29	0	0	20	0	0	62	0	0	33	0
Lane Group Flow (vph)	100	95	0	201	213	0	36	194	0	53	76	0
Confl. Peds. (#/hr)	8		12	12		8	7		18	18		7
Heavy Vehicles (%)	22%	24%	25%	16%	19%	25%	13%	21%	17%	26%	21%	20%
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)	25.2	25.2		25.2	25.2		52.4	52.4		52.4	52.4	
Effective Green, g (s)	25.2	25.2		25.2	25.2		52.4	52.4		52.4	52.4	
Actuated g/C Ratio	0.28	0.28		0.28	0.28		0.58	0.58		0.58	0.58	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	202	358		272	376		585	1382		448	1345	
v/s Ratio Prot		0.07			0.16			c0.08			0.03	
v/s Ratio Perm	0.14			c0.21			0.04			0.07		
v/c Ratio	0.50	0.27		0.74	0.57		0.06	0.14		0.12	0.06	
Uniform Delay, d1	27.1	25.2		29.4	27.7		8.1	8.6		8.4	8.1	
Progression Factor	1.00	1.00		1.00	1.00		0.92	0.82		1.00	1.00	
Incremental Delay, d2	1.9	0.4		10.0	2.0		0.2	0.2		0.5	0.1	
Delay (s)	29.0	25.6		39.5	29.7		7.7	7.2		9.0	8.2	
Level of Service	C	C		D	C		A	A		A	A	
Approach Delay (s)		27.1			34.2			7.3			8.5	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.4
Intersection Capacity Utilization	75.6%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
30: RR 35 (WILSON RD) & DEAN AVE

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	8	22	8	16	9	15	668	24	21	349	46
Future Volume (vph)	42	8	22	8	16	9	15	668	24	21	349	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4			5.4			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			0.99	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.96			0.96			1.00			0.99	
Flt Protected		0.97			0.99			1.00			1.00	
Satd. Flow (prot)		1465			1572			1561			1507	
Flt Permitted		0.80			0.89			0.99			0.95	
Satd. Flow (perm)		1206			1422			1545			1441	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	9	24	9	17	10	16	726	26	23	379	50
RTOR Reduction (vph)	0	22	0	0	9	0	0	1	0	0	5	0
Lane Group Flow (vph)	0	57	0	0	27	0	0	767	0	0	447	0
Confl. Peds. (#/hr)	7		2	2		7	14		3	3		14
Heavy Vehicles (%)	18%	13%	19%	0%	7%	33%	29%	19%	30%	20%	23%	14%
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)		6.0			6.0			43.0			43.0	
Effective Green, g (s)		6.0			6.0			43.0			43.0	
Actuated g/C Ratio		0.10			0.10			0.72			0.72	
Clearance Time (s)		5.4			5.4			5.6			5.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		120			142			1107			1032	
v/s Ratio Prot												
v/s Ratio Perm		c0.05			0.02			c0.50			0.31	
v/c Ratio		0.48			0.19			0.69			0.43	
Uniform Delay, d1		25.5			24.8			4.8			3.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.0			0.7			2.5			1.3	
Delay (s)		28.5			25.4			7.2			4.8	
Level of Service		C			C			A			A	
Approach Delay (s)		28.5			25.4			7.2			4.8	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	59.7%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
32: RR 22 (BLOOR ST) & RR 54 (PARK RD W)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	436	833	3	1	404	300	8	2	2	295	1	216
Future Volume (vph)	436	833	3	1	404	300	8	2	2	295	1	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.4		6.4	6.4	6.4		6.0		6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.99		1.00		1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97		0.95	0.95	1.00
Satd. Flow (prot)	1784	3464		1779	3535	1498		1773		1662	1667	1597
Flt Permitted	0.41	1.00		0.31	1.00	1.00		0.97		0.95	0.95	1.00
Satd. Flow (perm)	767	3464		588	3535	1498		1773		1662	1667	1597
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)	474	905	3	1	439	326	9	2	2	321	1	235
RTOR Reduction (vph)	0	0	0	0	0	222	0	2	0	0	0	183
Lane Group Flow (vph)	474	908	0	1	439	104	0	11	0	160	162	52
Confl. Peds. (#/hr)	3		7	7		3			2	2		
Heavy Vehicles (%)	0%	3%	0%	0%	1%	5%	0%	0%	0%	2%	0%	0%
Turn Type	pm+pt	NA		Perm	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2			6		8	8		4	4	
Permitted Phases	2			6		6						4
Actuated Green, G (s)	43.6	43.6		28.6	28.6	28.6		8.0		20.0	20.0	20.0
Effective Green, g (s)	43.6	43.6		28.6	28.6	28.6		8.0		20.0	20.0	20.0
Actuated g/C Ratio	0.48	0.48		0.32	0.32	0.32		0.09		0.22	0.22	0.22
Clearance Time (s)	3.0	6.4		6.4	6.4	6.4		6.0		6.0	6.0	6.0
Lane Grp Cap (vph)	507	1678		186	1123	476		157		369	370	354
v/s Ratio Prot	c0.12	0.26			0.12			c0.01		0.10	c0.10	
v/s Ratio Perm	c0.33			0.00		0.07						0.03
v/c Ratio	0.93	0.54		0.01	0.39	0.22		0.07		0.43	0.44	0.15
Uniform Delay, d1	19.0	16.2		21.0	23.9	22.5		37.6		30.1	30.2	28.1
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	26.7	1.3		0.1	1.0	1.0		0.9		3.7	3.7	0.9
Delay (s)	45.7	17.5		21.0	24.9	23.5		38.5		33.8	33.9	29.0
Level of Service	D	B		C	C	C		D		C	C	C
Approach Delay (s)		27.1			24.3			38.5			31.8	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	27.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
33: RR 54 (PARK RD E) & RR 22 (BLOOR ST)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	634	628	101	258	1	534	1	173	0	1	0
Future Volume (vph)	2	634	628	101	258	1	534	1	173	0	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	3.0	6.2		6.3	6.3	6.3		6.3	
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes	1.00	0.99	0.98	1.00	1.00		1.00	1.00	0.97		1.00	
Flpb, ped/bikes	0.96	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.96	0.85	1.00	1.00		1.00	1.00	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (prot)	1721	3167	1384	1487	3497		1662	1667	1525		1879	
Flt Permitted	0.58	1.00	1.00	0.17	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)	1049	3167	1384	272	3497		1662	1667	1525		1879	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	689	683	110	280	1	580	1	188	0	1	0
RTOR Reduction (vph)	0	35	238	0	0	0	0	0	148	0	0	0
Lane Group Flow (vph)	2	914	185	110	281	0	290	291	40	0	1	0
Confl. Peds. (#/hr)	21		5	5		21			10	10		
Heavy Vehicles (%)	0%	3%	3%	20%	2%	0%	2%	0%	2%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Split	NA	Perm		NA	
Protected Phases		2		1	6		8	8		7	7	
Permitted Phases	2		2	6					8			
Actuated Green, G (s)	35.6	35.6	35.6	43.8	43.8		17.2	17.2	17.2		1.4	
Effective Green, g (s)	35.6	35.6	35.6	43.8	43.8		17.2	17.2	17.2		1.4	
Actuated g/C Ratio	0.44	0.44	0.44	0.54	0.54		0.21	0.21	0.21		0.02	
Clearance Time (s)	6.2	6.2	6.2	3.0	6.2		6.3	6.3	6.3		6.3	
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)	459	1388	606	224	1886		352	353	323		32	
v/s Ratio Prot		c0.29		c0.03	0.08		0.17	c0.17			c0.00	
v/s Ratio Perm	0.00		0.13	0.23					0.03			
v/c Ratio	0.00	0.66	0.31	0.49	0.15		0.82	0.82	0.12		0.03	
Uniform Delay, d1	12.8	18.0	14.8	11.2	9.4		30.6	30.6	25.9		39.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.0	2.5	1.3	1.7	0.2		14.4	14.4	0.2		0.4	
Delay (s)	12.8	20.5	16.1	12.9	9.5		45.0	45.0	26.1		39.6	
Level of Service	B	C	B	B	A		D	D	C		D	
Approach Delay (s)		19.1			10.5			40.3			39.6	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	24.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	81.2	Sum of lost time (s)	21.8
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
36: RR 2 (SIMCOE ST) & RR 22 (BLOOR ST)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	502	564	182	67	144	219	82	507	94	195	404	153
Future Volume (vph)	502	564	182	67	144	219	82	507	94	195	404	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2		6.0	6.2		6.0	6.2		6.0	6.2	6.2
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	1.00
Frt	1.00	0.96		1.00	0.91		1.00	0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1747	3400		1782	3191		1774	3440		1784	3466	1424
Flt Permitted	0.39	1.00		0.35	1.00		0.48	1.00		0.16	1.00	1.00
Satd. Flow (perm)	711	3400		648	3191		905	3440		304	3466	1424
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)	546	613	198	73	157	238	89	551	102	212	439	166
RTOR Reduction (vph)	0	26	0	0	144	0	0	13	0	0	0	118
Lane Group Flow (vph)	546	785	0	73	251	0	89	640	0	212	439	48
Confl. Peds. (#/hr)	8		11	11		8	19		15	15		19
Heavy Vehicles (%)	2%	0%	2%	0%	1%	0%	0%	1%	0%	0%	3%	8%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	60.8	50.0		35.2	30.4		35.2	29.2		46.4	34.8	34.8
Effective Green, g (s)	60.8	50.0		35.2	30.4		35.2	29.2		46.4	34.8	34.8
Actuated g/C Ratio	0.51	0.42		0.29	0.25		0.29	0.24		0.39	0.29	0.29
Clearance Time (s)	3.0	6.2		6.0	6.2		6.0	6.2		6.0	6.2	6.2
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)	596	1416		235	808		308	837		260	1005	412
v/s Ratio Prot	c0.21	0.23		0.01	0.08		0.01	0.19		c0.08	0.13	
v/s Ratio Perm	c0.25			0.08			0.07			c0.24		0.03
v/c Ratio	0.92	0.55		0.31	0.31		0.29	0.76		0.82	0.44	0.12
Uniform Delay, d1	21.9	26.6		31.2	36.3		31.5	42.2		28.1	34.6	31.3
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.26	1.19	2.24
Incremental Delay, d2	18.8	1.6		0.8	1.0		0.5	6.6		9.4	0.7	0.3
Delay (s)	40.8	28.1		32.0	37.3		32.1	48.8		44.7	42.0	70.4
Level of Service	D	C		C	D		C	D		D	D	E
Approach Delay (s)		33.2			36.5			46.8			48.5	
Approach LOS		C			D			D			D	

Intersection Summary				
HCM 2000 Control Delay	40.3	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.95			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.4	
Intersection Capacity Utilization	102.3%	ICU Level of Service	G	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
38: DREW ST/HWY 401 EB RAMP (RITSON) & RR 22 (BLOOR ST)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	449	21	56	335	210	45	37	78	310	36	32
Future Volume (vph)	241	449	21	56	335	210	45	37	78	310	36	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2		6.2	6.2		6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.94		1.00	0.90		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1762	3466		1773	3244		1734	1669		1762	1727	
Flt Permitted	0.33	1.00		0.46	1.00		0.71	1.00		0.68	1.00	
Satd. Flow (perm)	615	3466		865	3244		1294	1669		1255	1727	
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)	262	488	23	61	364	228	49	40	85	337	39	35
RTOR Reduction (vph)	0	3	0	0	90	0	0	58	0	0	24	0
Lane Group Flow (vph)	262	508	0	61	502	0	49	67	0	337	50	0
Confl. Peds. (#/hr)	12		6	6		12	8		3	3		8
Heavy Vehicles (%)	1%	2%	5%	0%	3%	0%	2%	0%	0%	1%	0%	0%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	48.5	48.5		34.4	34.4		29.1	29.1		29.1	29.1	
Effective Green, g (s)	48.5	48.5		34.4	34.4		29.1	29.1		29.1	29.1	
Actuated g/C Ratio	0.54	0.54		0.38	0.38		0.32	0.32		0.32	0.32	
Clearance Time (s)	3.0	6.2		6.2	6.2		6.2	6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	472	1867		330	1239		418	539		405	558	
v/s Ratio Prot	c0.07	0.15			0.15			0.04			0.03	
v/s Ratio Perm	c0.23			0.07			0.04			c0.27		
v/c Ratio	0.56	0.27		0.18	0.41		0.12	0.13		0.83	0.09	
Uniform Delay, d1	11.8	11.2		18.5	20.3		21.4	21.5		28.2	21.2	
Progression Factor	1.00	1.00		0.83	0.73		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.4	0.4		1.2	0.9		0.1	0.1		13.6	0.1	
Delay (s)	13.2	11.6		16.4	15.7		21.5	21.6		41.8	21.3	
Level of Service	B	B		B	B		C	C		D	C	
Approach Delay (s)		12.1			15.8			21.6			38.1	
Approach LOS		B			B			C			D	

Intersection Summary				
HCM 2000 Control Delay	19.4	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.68			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.4	
Intersection Capacity Utilization	72.7%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
39: RR 16 (RITSON RD) & RR 22 (BLOOR ST)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	693	252	110	279	15	168	63	141	42	66	227
Future Volume (vph)	76	693	252	110	279	15	168	63	141	42	66	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5		6.5	6.5			6.4	6.4		6.4	6.4
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95	1.00		0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.97		1.00	0.97
Flpb, ped/bikes	0.99	1.00		1.00	1.00			0.99	1.00		0.99	1.00
Frt	1.00	0.96		1.00	0.99			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.98	1.00
Satd. Flow (prot)	1757	3224		1747	3309			3387	1504		3208	1496
Flt Permitted	0.53	1.00		0.28	1.00			0.72	1.00		0.76	1.00
Satd. Flow (perm)	973	3224		512	3309			2517	1504		2484	1496
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)	83	753	274	120	303	16	183	68	153	46	72	247
RTOR Reduction (vph)	0	41	0	0	4	0	0	0	118	0	0	190
Lane Group Flow (vph)	83	986	0	120	315	0	0	251	35	0	118	57
Confl. Peds. (#/hr)	13		4	4		13	10		13	13		10
Heavy Vehicles (%)	1%	1%	19%	2%	7%	5%	0%	3%	3%	8%	9%	4%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	56.5	56.5		48.7	48.7			20.6	20.6		20.6	20.6
Effective Green, g (s)	56.5	56.5		48.7	48.7			20.6	20.6		20.6	20.6
Actuated g/C Ratio	0.63	0.63		0.54	0.54			0.23	0.23		0.23	0.23
Clearance Time (s)	3.0	6.5		6.5	6.5			6.4	6.4		6.4	6.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	652	2023		277	1790			576	344		568	342
v/s Ratio Prot	0.01	c0.31			0.10							
v/s Ratio Perm	0.07			0.23				c0.10	0.02		0.05	0.04
v/c Ratio	0.13	0.49		0.43	0.18			0.44	0.10		0.21	0.17
Uniform Delay, d1	6.6	9.0		12.4	10.5			29.7	27.4		28.1	27.8
Progression Factor	1.17	1.50		1.00	1.00			1.00	1.00		1.33	3.02
Incremental Delay, d2	0.1	0.8		4.9	0.2			2.4	0.6		0.8	1.0
Delay (s)	7.8	14.3		17.3	10.7			32.1	28.0		38.1	85.1
Level of Service	A	B		B	B			C	C		D	F
Approach Delay (s)		13.8			12.5			30.6			69.9	
Approach LOS		B			B			C			E	

Intersection Summary				
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.49			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.9	
Intersection Capacity Utilization	76.1%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
40: RR 35 (WILSON RD) & RR 22 (BLOOR ST)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	275	390	45	31	198	224	54	307	48	84	174	132
Future Volume (vph)	275	390	45	31	198	224	54	307	48	84	174	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.98		1.00	0.92		1.00	0.98		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1784	1809		1780	1671		1713	1818		1776	1730	
Flt Permitted	0.27	1.00		0.49	1.00		0.46	1.00		0.38	1.00	
Satd. Flow (perm)	503	1809		923	1671		827	1818		718	1730	
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	424	49	34	215	243	59	334	52	91	189	143
RTOR Reduction (vph)	0	7	0	0	68	0	0	9	0	0	45	0
Lane Group Flow (vph)	299	466	0	34	390	0	59	377	0	91	287	0
Confl. Peds. (#/hr)	5		3	3		5	2		6	6		2
Heavy Vehicles (%)	0%	2%	2%	0%	3%	1%	4%	1%	0%	0%	1%	0%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	29.0	29.0		20.0	20.0		19.3	19.3		19.3	19.3	
Effective Green, g (s)	29.0	29.0		20.0	20.0		19.3	19.3		19.3	19.3	
Actuated g/C Ratio	0.48	0.48		0.33	0.33		0.32	0.32		0.32	0.32	
Clearance Time (s)	3.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	371	874		307	557		266	584		230	556	
v/s Ratio Prot	c0.08	0.26			0.23			c0.21			0.17	
v/s Ratio Perm	c0.31			0.04			0.07			0.13		
v/c Ratio	0.81	0.53		0.11	0.70		0.22	0.64		0.40	0.52	
Uniform Delay, d1	11.3	10.8		13.8	17.4		14.9	17.4		15.8	16.5	
Progression Factor	1.00	1.00		1.38	1.42		1.00	1.00		0.74	0.73	
Incremental Delay, d2	12.0	2.3		0.7	6.9		1.9	5.4		4.8	3.2	
Delay (s)	23.4	13.1		19.8	31.5		16.8	22.8		16.4	15.2	
Level of Service	C	B		B	C		B	C		B	B	
Approach Delay (s)		17.1			30.7			22.0			15.5	
Approach LOS		B			C			C			B	

Intersection Summary				
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.78			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	14.7	
Intersection Capacity Utilization	85.3%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
41: RR 56 (FAREWELL ST)/401 EB RAMP / RR 56 FAREWELL & RR 22 (BLOOR ST)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	332	22	251	216	146	65	250	577	1268	50	162
Future Volume (vph)	120	332	22	251	216	146	65	250	577	1268	50	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2		3.0	6.2		6.3	6.3	3.0	5.5	6.3	3.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00	0.99	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	1.00	1.00
Frt	1.00	0.99		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1766	3482		1580	3238		1684	1807	1526	3429	2950	1597
Flt Permitted	0.52	1.00		0.25	1.00		0.72	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	965	3482		421	3238		1276	1807	1526	3429	2950	1597
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)	130	361	24	273	235	159	71	272	627	1378	54	176
RTOR Reduction (vph)	0	4	0	0	99	0	0	0	52	0	0	62
Lane Group Flow (vph)	130	381	0	273	295	0	71	272	575	1378	54	114
Confl. Peds. (#/hr)	1					1			2	2		
Heavy Vehicles (%)	1%	1%	10%	13%	3%	2%	6%	4%	4%	1%	21%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	pm+ov	Prot	NA	pm+ov
Protected Phases	5	2		1	6			8	1	7	4	5
Permitted Phases	2			6			8		8			4
Actuated Green, G (s)	22.1	12.8		38.8	26.5		17.7	17.7	40.7	45.5	68.7	78.0
Effective Green, g (s)	22.1	12.8		38.8	26.5		17.7	17.7	40.7	45.5	68.7	78.0
Actuated g/C Ratio	0.18	0.11		0.32	0.22		0.15	0.15	0.34	0.38	0.57	0.65
Clearance Time (s)	3.0	6.2		3.0	6.2		6.3	6.3	3.0	5.5	6.3	3.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	239	371		358	715		188	266	517	1300	1688	1038
v/s Ratio Prot	0.04	c0.11		0.15	0.09			0.15	c0.21	c0.40	0.02	0.01
v/s Ratio Perm	0.06			0.10			0.06		0.16			0.06
v/c Ratio	0.54	1.03		0.76	0.41		0.38	1.02	1.11	1.06	0.03	0.11
Uniform Delay, d1	43.1	53.6		33.8	40.1		46.2	51.1	39.6	37.2	11.2	7.9
Progression Factor	1.14	1.08		1.01	0.99		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.2	50.1		9.1	1.7		1.3	61.1	73.9	42.5	0.0	0.0
Delay (s)	51.4	108.2		43.3	41.3		47.5	112.3	113.5	79.8	11.2	8.0
Level of Service	D	F		D	D		D	F	F	E	B	A
Approach Delay (s)		93.8			42.1			108.3			69.6	
Approach LOS		F			D			F			E	

Intersection Summary				
HCM 2000 Control Delay	78.0	HCM 2000 Level of Service	E	
HCM 2000 Volume to Capacity ratio	1.08			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	95.1%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
42: RR 33 (HARMONY) & RR 22 (BLOOR ST)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1040	770	133	337	125	78	36	301	23	71	482	311
Future Volume (vph)	1040	770	133	337	125	78	36	301	23	71	482	311
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	6.3	6.3		3.0	6.5		6.5	6.5	6.3
Lane Util. Factor	0.91	0.91	1.00	1.00	0.95		1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99		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	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1400	2873	1320	1580	2837		1095	3033		1668	1606	1353
Flt Permitted	0.95	0.75	1.00	0.95	1.00		0.13	1.00		0.54	1.00	1.00
Satd. Flow (perm)	1400	2207	1320	1580	2837		145	3033		950	1606	1353
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)	1130	837	145	366	136	85	39	327	25	77	524	338
RTOR Reduction (vph)	0	0	90	0	66	0	0	5	0	0	0	145
Lane Group Flow (vph)	644	1323	55	366	155	0	39	347	0	77	524	193
Confl. Peds. (#/hr)	3					3						
Heavy Vehicles (%)	16%	17%	21%	13%	21%	12%	63%	17%	9%	7%	17%	18%
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA		Perm	NA	pm+ov
Protected Phases	5	2		1	6		3	8			4	5
Permitted Phases			2				8			4		4
Actuated Green, G (s)	39.7	66.2	26.5	39.7	26.5		34.7	34.7		28.7	28.7	68.4
Effective Green, g (s)	39.7	66.2	26.5	39.7	26.5		34.7	34.7		28.7	28.7	68.4
Actuated g/C Ratio	0.33	0.55	0.22	0.33	0.22		0.29	0.29		0.24	0.24	0.57
Clearance Time (s)	6.3	6.3	6.3	6.3	6.3		3.0	6.5		6.5	6.5	6.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	463	1437	291	522	626		65	877		227	384	771
v/s Ratio Prot	c0.46	0.30		0.23	0.05		c0.01	0.11			c0.33	0.08
v/s Ratio Perm		c0.20	0.04				0.16			0.08		0.06
v/c Ratio	1.39	0.92	0.19	0.70	0.25		0.60	0.40		0.34	1.36	0.25
Uniform Delay, d1	40.1	24.5	38.0	35.0	38.5		35.7	34.2		37.8	45.6	12.9
Progression Factor	0.87	0.84	1.73	1.00	1.00		1.00	1.00		1.20	1.05	1.02
Incremental Delay, d2	177.2	1.1	0.1	4.2	0.9		14.0	0.3		0.7	177.3	0.1
Delay (s)	212.0	21.6	66.0	39.2	39.5		49.7	34.5		46.0	225.4	13.3
Level of Service	F	C	E	D	D		D	C		D	F	B
Approach Delay (s)		82.7			39.3			36.0			134.4	
Approach LOS		F			D			D			F	

Intersection Summary				
HCM 2000 Control Delay	83.9	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.23			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	22.1	
Intersection Capacity Utilization	101.8%	ICU Level of Service	G	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
43: GRANDVIEW ST & RR 59 (OLIVE AV)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	139	82	53	312	5	173	47	69	9	28	36
Future Volume (vph)	13	139	82	53	312	5	173	47	69	9	28	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	6.2	6.2		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.91		1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1493	1648	1370	1577	1643		1559	1544		1777	1578	
Flt Permitted	0.54	1.00	1.00	0.66	1.00		0.71	1.00		0.68	1.00	
Satd. Flow (perm)	855	1648	1370	1097	1643		1169	1544		1265	1578	
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)	14	151	89	58	339	5	188	51	75	10	30	39
RTOR Reduction (vph)	0	0	33	0	0	0	0	58	0	0	30	0
Lane Group Flow (vph)	14	151	56	58	344	0	188	68	0	10	39	0
Confl. Peds. (#/hr)	4		1	1		4	8		3	3		8
Heavy Vehicles (%)	19%	14%	14%	13%	14%	20%	13%	2%	14%	0%	8%	6%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	50.9	50.9	50.9	50.9	50.9		18.1	18.1		18.1	18.1	
Effective Green, g (s)	50.9	50.9	50.9	50.9	50.9		18.1	18.1		18.1	18.1	
Actuated g/C Ratio	0.63	0.63	0.63	0.63	0.63		0.22	0.22		0.22	0.22	
Clearance Time (s)	6.2	6.2	6.2	6.2	6.2		5.8	5.8		5.8	5.8	
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)	537	1035	860	689	1032		261	345		282	352	
v/s Ratio Prot		0.09			c0.21			0.04			0.02	
v/s Ratio Perm	0.02		0.04	0.05			c0.16			0.01		
v/c Ratio	0.03	0.15	0.07	0.08	0.33		0.72	0.20		0.04	0.11	
Uniform Delay, d1	5.7	6.2	5.8	5.9	7.1		29.1	25.5		24.6	25.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3	0.1	0.2	0.9		9.4	0.3		0.1	0.1	
Delay (s)	5.8	6.5	6.0	6.1	7.9		38.5	25.8		24.7	25.2	
Level of Service	A	A	A	A	A		D	C		C	C	
Approach Delay (s)		6.2			7.7			33.4			25.1	
Approach LOS		A			A			C			C	

Intersection Summary				
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.43			
Actuated Cycle Length (s)	81.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	65.1%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
44: GRANDVIEW ST & RR 22 (BLOOR ST)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	187	18	2	533	69	86	80	7	51	31	56
Future Volume (vph)	18	187	18	2	533	69	86	80	7	51	31	56
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		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.99		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1565	1690		1426	1573		1579	1680		1621	1469	
Flt Permitted	0.36	1.00		0.62	1.00		0.70	1.00		0.70	1.00	
Satd. Flow (perm)	600	1690		929	1573		1156	1680		1186	1469	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	203	20	2	579	75	93	87	8	55	34	61
RTOR Reduction (vph)	0	3	0	0	4	0	0	6	0	0	52	0
Lane Group Flow (vph)	20	220	0	2	650	0	93	89	0	55	43	0
Confl. Peds. (#/hr)	1		1	1		1	7		1	1		7
Heavy Vehicles (%)	14%	10%	4%	25%	17%	18%	12%	10%	13%	10%	14%	13%
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)	47.9	47.9		47.9	47.9		9.8	9.8		9.8	9.8	
Effective Green, g (s)	47.9	47.9		47.9	47.9		9.8	9.8		9.8	9.8	
Actuated g/C Ratio	0.68	0.68		0.68	0.68		0.14	0.14		0.14	0.14	
Clearance Time (s)	6.6	6.6		6.6	6.6		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	410	1156		635	1076		161	235		166	205	
v/s Ratio Prot		0.13			c0.41			0.05			0.03	
v/s Ratio Perm	0.03			0.00			c0.08			0.05		
v/c Ratio	0.05	0.19		0.00	0.60		0.58	0.38		0.33	0.21	
Uniform Delay, d1	3.6	4.0		3.5	5.9		28.2	27.3		27.1	26.7	
Progression Factor	1.00	1.00		0.72	0.68		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.4		0.0	2.5		4.9	1.0		1.2	0.5	
Delay (s)	3.8	4.4		2.5	6.5		33.1	28.4		28.3	27.2	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		4.3			6.5			30.7			27.6	
Approach LOS		A			A			C			C	

Intersection Summary				
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.60			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.3	
Intersection Capacity Utilization	54.2%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
45: PRESTONVALE RD & RR 22 (BLOOR ST)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	145	10	21	210	54	13	26	37	66	39	18
Future Volume (vph)	21	145	10	21	210	54	13	26	37	66	39	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.91		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1500	1588		1439	1535		1439	1462		1594	1562	
Flt Permitted	0.58	1.00		0.65	1.00		0.72	1.00		0.71	1.00	
Satd. Flow (perm)	922	1588		985	1535		1086	1462		1196	1562	
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)	23	158	11	23	228	59	14	28	40	72	42	20
RTOR Reduction (vph)	0	2	0	0	9	0	0	35	0	0	18	0
Lane Group Flow (vph)	23	167	0	23	278	0	14	33	0	72	44	0
Heavy Vehicles (%)	19%	17%	20%	24%	18%	21%	24%	16%	18%	12%	18%	7%
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)	48.8	48.8		48.8	48.8		8.6	8.6		8.6	8.6	
Effective Green, g (s)	48.8	48.8		48.8	48.8		8.6	8.6		8.6	8.6	
Actuated g/C Ratio	0.70	0.70		0.70	0.70		0.12	0.12		0.12	0.12	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	642	1107		686	1070		133	179		146	191	
v/s Ratio Prot		0.10			c0.18			0.02			0.03	
v/s Ratio Perm	0.02			0.02			0.01			c0.06		
v/c Ratio	0.04	0.15		0.03	0.26		0.11	0.18		0.49	0.23	
Uniform Delay, d1	3.3	3.6		3.3	3.9		27.3	27.6		28.7	27.7	
Progression Factor	1.71	1.85		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3		0.1	0.6		0.3	0.5		2.6	0.6	
Delay (s)	5.7	6.9		3.4	4.5		27.6	28.0		31.3	28.3	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		6.8			4.4			28.0			29.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
47: RR 34 (COURTICE RD) & RR 22 (BLOOR ST)

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	129	123	32	107	36	68	183	19	33	355	81
Future Volume (vph)	94	129	123	32	107	36	68	183	19	33	355	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.1	7.1		7.1	7.1		7.4	7.4	7.4	7.4	7.4	7.4
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.93		1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1785	1741		1653	1786		1767	1842	1566	1750	1789	1536
Flt Permitted	0.66	1.00		0.53	1.00		0.52	1.00	1.00	0.63	1.00	1.00
Satd. Flow (perm)	1237	1741		914	1786		962	1842	1566	1166	1789	1536
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)	102	140	134	35	116	39	74	199	21	36	386	88
RTOR Reduction (vph)	0	53	0	0	18	0	0	0	10	0	0	26
Lane Group Flow (vph)	102	221	0	35	137	0	74	199	11	36	386	62
Heavy Vehicles (%)	0%	0%	0%	8%	1%	2%	1%	2%	2%	2%	5%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	16.5	16.5		16.5	16.5		35.2	35.2	35.2	35.2	35.2	35.2
Effective Green, g (s)	16.5	16.5		16.5	16.5		35.2	35.2	35.2	35.2	35.2	35.2
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.53	0.53	0.53	0.53	0.53	0.53
Clearance Time (s)	7.1	7.1		7.1	7.1		7.4	7.4	7.4	7.4	7.4	7.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.2	6.2	6.2	6.2	6.2	6.2
Lane Grp Cap (vph)	308	433		227	445		511	979	832	619	951	816
v/s Ratio Prot		c0.13			0.08			0.11			c0.22	
v/s Ratio Perm	0.08			0.04			0.08		0.01	0.03		0.04
v/c Ratio	0.33	0.51		0.15	0.31		0.14	0.20	0.01	0.06	0.41	0.08
Uniform Delay, d1	20.3	21.4		19.4	20.2		7.9	8.1	7.3	7.5	9.3	7.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	1.0		0.3	0.4		0.6	0.5	0.0	0.2	1.3	0.2
Delay (s)	21.0	22.4		19.7	20.6		8.5	8.6	7.3	7.7	10.5	7.7
Level of Service	C	C		B	C		A	A	A	A	B	A
Approach Delay (s)		22.0			20.4			8.5			9.9	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	66.2	Sum of lost time (s)	14.5
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
48: RR 34 (COURTICE RD) & BASELINE RD

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	1	92	17	1	7	70	279	42	23	504	31
Future Volume (vph)	15	1	92	17	1	7	70	279	42	23	504	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			-2%			-5%			-5%	
Total Lost time (s)	7.3	7.3		7.3	7.3		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	1.00	
Frt	1.00	0.85		1.00	0.87		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)	1490	1432		1398	1245		1429	1585		1165	1640	
Flt Permitted	0.75	1.00		0.69	1.00		0.40	1.00		0.55	1.00	
Satd. Flow (perm)	1179	1432		1018	1245		609	1585		677	1640	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	1	100	18	1	8	76	303	46	25	548	34
RTOR Reduction (vph)	0	86	0	0	7	0	0	6	0	0	2	0
Lane Group Flow (vph)	16	15	0	18	2	0	76	343	0	25	580	0
Heavy Vehicles (%)	21%	0%	13%	29%	25%	33%	28%	17%	33%	57%	16%	23%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	9.6	9.6		9.6	9.6		45.6	45.6		45.6	45.6	
Effective Green, g (s)	9.6	9.6		9.6	9.6		45.6	45.6		45.6	45.6	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.65	0.65		0.65	0.65	
Clearance Time (s)	7.3	7.3		7.3	7.3		7.5	7.5		7.5	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	161	196		139	170		396	1032		441	1068	
v/s Ratio Prot		0.01			0.00			0.22			c0.35	
v/s Ratio Perm	0.01			c0.02			0.12			0.04		
v/c Ratio	0.10	0.08		0.13	0.01		0.19	0.33		0.06	0.54	
Uniform Delay, d1	26.4	26.3		26.5	26.1		4.9	5.4		4.4	6.6	
Progression Factor	1.00	1.00		1.00	1.00		0.44	0.41		1.00	1.00	
Incremental Delay, d2	0.3	0.2		0.4	0.0		1.1	0.9		0.2	2.0	
Delay (s)	26.7	26.5		27.0	26.1		3.2	3.1		4.7	8.6	
Level of Service	C	C		C	C		A	A		A	A	
Approach Delay (s)		26.5			26.7			3.1			8.4	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.8
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
50: COURTICE RD (RR34)/RR 34 (COURTICE RD) & 401 WB RAMP

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	120	0	5	60	220	0	0	255	465
Future Volume (vph)	0	0	0	120	0	5	60	220	0	0	255	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.5		6.5	3.0	5.1			5.1	5.1
Lane Util. Factor				1.00		1.00	1.00	1.00			1.00	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1750		1566	1750	1842			1842	1566
Flt Permitted				0.95		1.00	0.55	1.00			1.00	1.00
Satd. Flow (perm)				1750		1566	1013	1842			1842	1566
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)	0	0	0	130	0	5	65	239	0	0	277	505
RTOR Reduction (vph)	0	0	0	0	0	4	0	0	0	0	0	201
Lane Group Flow (vph)	0	0	0	130	0	1	65	239	0	0	277	304
Turn Type				Perm		Perm	pm+pt	NA			NA	Perm
Protected Phases							5	2			6	
Permitted Phases				8		8	2					6
Actuated Green, G (s)				9.8		9.8	48.6	48.6			42.2	42.2
Effective Green, g (s)				9.8		9.8	48.6	48.6			42.2	42.2
Actuated g/C Ratio				0.14		0.14	0.69	0.69			0.60	0.60
Clearance Time (s)				6.5		6.5	3.0	5.1			5.1	5.1
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				245		219	739	1278			1110	944
v/s Ratio Prot							0.00	c0.13			0.15	
v/s Ratio Perm				c0.07		0.00	0.06					c0.19
v/c Ratio				0.53		0.00	0.09	0.19			0.25	0.32
Uniform Delay, d1				28.0		25.9	3.5	3.8			6.5	6.9
Progression Factor				1.00		1.00	0.32	0.29			0.87	0.67
Incremental Delay, d2				2.2		0.0	0.1	0.3			0.5	0.8
Delay (s)				30.2		25.9	1.1	1.4			6.1	5.4
Level of Service				C		C	A	A			A	A
Approach Delay (s)		0.0			30.0			1.3			5.7	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
51: COURTICE RD (RR34) & 401 W-N/S RAMP/401 EB RAMP

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	0	5	0	0	0	0	90	25	100	270	0
Future Volume (vph)	190	0	5	0	0	0	0	90	25	100	270	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2		6.2					5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00	1.00	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1750		1566					1842	1566	1750	1842	
Flt Permitted	0.95		1.00					1.00	1.00	0.69	1.00	
Satd. Flow (perm)	1750		1566					1842	1566	1278	1842	
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)	207	0	5	0	0	0	0	98	27	109	293	0
RTOR Reduction (vph)	0	0	4	0	0	0	0	0	10	0	0	0
Lane Group Flow (vph)	207	0	1	0	0	0	0	98	17	109	293	0
Turn Type	Perm		Perm					NA	Perm	Perm	NA	
Protected Phases								2			6	
Permitted Phases	4		4						2	6		
Actuated Green, G (s)	14.6		14.6					44.2	44.2	44.2	44.2	
Effective Green, g (s)	14.6		14.6					44.2	44.2	44.2	44.2	
Actuated g/C Ratio	0.21		0.21					0.63	0.63	0.63	0.63	
Clearance Time (s)	6.2		6.2					5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0		3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	365		326					1163	988	806	1163	
v/s Ratio Prot								0.05			c0.16	
v/s Ratio Perm	c0.12		0.00						0.01	0.09		
v/c Ratio	0.57		0.00					0.08	0.02	0.14	0.25	
Uniform Delay, d1	24.9		21.9					5.0	4.8	5.2	5.7	
Progression Factor	1.00		1.00					1.00	1.00	0.62	0.62	
Incremental Delay, d2	2.0		0.0					0.1	0.0	0.3	0.5	
Delay (s)	26.9		21.9					5.2	4.8	3.5	4.0	
Level of Service	C		C					A	A	A	A	
Approach Delay (s)		26.8			0.0			5.1			3.9	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
52: BOSWELL DRIVE & HWY 2

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	614	36	38	653	36	113	17	45	47	13	88
Future Volume (vph)	88	614	36	38	653	36	113	17	45	47	13	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.4		3.0	6.4		6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		0.98	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.89		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1766	3493		1693	3404		1705	1494		1738	1549	
Flt Permitted	0.33	1.00		0.38	1.00		0.69	1.00		0.71	1.00	
Satd. Flow (perm)	621	3493		676	3404		1232	1494		1305	1549	
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)	96	667	39	41	710	39	123	18	49	51	14	96
RTOR Reduction (vph)	0	3	0	0	3	0	0	41	0	0	81	0
Lane Group Flow (vph)	96	703	0	41	746	0	123	26	0	51	29	0
Confl. Peds. (#/hr)	3		12	12		3	6		15	15		6
Heavy Vehicles (%)	1%	1%	2%	5%	4%	2%	4%	0%	13%	1%	8%	3%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	61.7	56.6		58.3	54.9		14.4	14.4		14.4	14.4	
Effective Green, g (s)	61.7	56.6		58.3	54.9		14.4	14.4		14.4	14.4	
Actuated g/C Ratio	0.69	0.63		0.65	0.61		0.16	0.16		0.16	0.16	
Clearance Time (s)	3.0	6.4		3.0	6.4		6.2	6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	490	2196		476	2076		197	239		208	247	
v/s Ratio Prot	c0.01	0.20		0.00	c0.22			0.02			0.02	
v/s Ratio Perm	0.12			0.05			c0.10			0.04		
v/c Ratio	0.20	0.32		0.09	0.36		0.62	0.11		0.25	0.12	
Uniform Delay, d1	4.9	7.8		5.7	8.8		35.3	32.3		33.0	32.4	
Progression Factor	0.48	0.61		0.57	0.88		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.4		0.1	0.5		6.0	0.2		0.6	0.2	
Delay (s)	2.5	5.1		3.3	8.2		41.3	32.5		33.7	32.6	
Level of Service	A	A		A	A		D	C		C	C	
Approach Delay (s)		4.8			8.0			38.2			32.9	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
53: GREEN ROAD & HWY 2

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	570	56	35	654	57	87	99	29	79	57	23
Future Volume (vph)	58	570	56	35	654	57	87	99	29	79	57	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0		3.0	7.0		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
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		0.99	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	0.99		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)	1746	3439		1741	3480		1726	1792		1755	1735	
Flt Permitted	0.33	1.00		0.39	1.00		0.70	1.00		0.66	1.00	
Satd. Flow (perm)	613	3439		720	3480		1273	1792		1219	1735	
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)	63	620	61	38	711	62	95	108	32	86	62	25
RTOR Reduction (vph)	0	5	0	0	4	0	0	16	0	0	22	0
Lane Group Flow (vph)	63	676	0	38	769	0	95	124	0	86	65	0
Confl. Peds. (#/hr)	11		16	16		11	4		8	8		4
Heavy Vehicles (%)	2%	2%	1%	2%	1%	1%	3%	1%	0%	1%	2%	6%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	62.5	57.9		59.9	56.6		12.4	12.4		12.4	12.4	
Effective Green, g (s)	62.5	57.9		59.9	56.6		12.4	12.4		12.4	12.4	
Actuated g/C Ratio	0.69	0.64		0.67	0.63		0.14	0.14		0.14	0.14	
Clearance Time (s)	3.0	7.0		3.0	7.0		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	483	2212		516	2188		175	246		167	239	
v/s Ratio Prot	c0.01	0.20		0.00	c0.22			0.07			0.04	
v/s Ratio Perm	0.08			0.05			c0.07			0.07		
v/c Ratio	0.13	0.31		0.07	0.35		0.54	0.50		0.51	0.27	
Uniform Delay, d1	4.5	7.1		5.1	8.0		36.2	35.9		36.0	34.8	
Progression Factor	0.66	0.59		0.93	0.99		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3		0.1	0.4		3.4	1.6		2.7	0.6	
Delay (s)	3.1	4.6		4.8	8.3		39.6	37.6		38.7	35.4	
Level of Service	A	A		A	A		D	D		D	D	
Approach Delay (s)		4.4			8.2			38.4			37.0	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
54: HWY 2 & CLARINGTON BLVD

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	471	27	237	570	72	29	49	158	110	80	37
Future Volume (vph)	34	471	27	237	570	72	29	49	158	110	80	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3		3.0	6.3		6.3	6.3		6.3	6.3	
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	0.99	
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	0.89		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1496	3071		1580	3043		1458	2703		1463	2922	
Flt Permitted	0.39	1.00		0.41	1.00		0.67	1.00		0.61	1.00	
Satd. Flow (perm)	608	3071		679	3043		1030	2703		941	2922	
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)	37	512	29	258	620	78	32	53	172	120	87	40
RTOR Reduction (vph)	0	3	0	0	8	0	0	140	0	0	33	0
Lane Group Flow (vph)	37	538	0	258	690	0	32	85	0	120	94	0
Confl. Peds. (#/hr)	5					5	4					4
Heavy Vehicles (%)	19%	15%	21%	13%	14%	24%	22%	7%	20%	22%	18%	11%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	47.5	47.5		60.7	60.7		16.7	16.7		16.7	16.7	
Effective Green, g (s)	47.5	47.5		60.7	60.7		16.7	16.7		16.7	16.7	
Actuated g/C Ratio	0.53	0.53		0.67	0.67		0.19	0.19		0.19	0.19	
Clearance Time (s)	6.3	6.3		3.0	6.3		6.3	6.3		6.3	6.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	320	1620		560	2052		191	501		174	542	
v/s Ratio Prot		0.18		c0.05	0.23			0.03			0.03	
v/s Ratio Perm	0.06			c0.26			0.03			c0.13		
v/c Ratio	0.12	0.33		0.46	0.34		0.17	0.17		0.69	0.17	
Uniform Delay, d1	10.7	12.2		5.9	6.2		30.8	30.8		34.2	30.8	
Progression Factor	0.59	0.62		0.85	0.84		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.5		0.6	0.4		0.4	0.2		10.8	0.2	
Delay (s)	7.0	8.1		5.6	5.6		31.2	31.0		45.1	31.0	
Level of Service	A	A		A	A		C	C		D	C	
Approach Delay (s)		8.0			5.6			31.0			37.8	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
55: RR 57 (BOWMANVILLE AVE)/RR 57 & HWY 2

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	509	193	162	272	108	150	515	231	121	646	76
Future Volume (vph)	100	509	193	162	272	108	150	515	231	121	646	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			-1%			-3%			-3%	
Total Lost time (s)	3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.5	6.5	6.5	6.5	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1720	3292	1523	1546	3322	1405	1759	1703	1515	1647	1750	1538
Flt Permitted	0.57	1.00	1.00	0.38	1.00	1.00	0.16	1.00	1.00	0.35	1.00	1.00
Satd. Flow (perm)	1027	3292	1523	626	3322	1405	302	1703	1515	605	1750	1538
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)	109	553	210	176	296	117	163	560	251	132	702	83
RTOR Reduction (vph)	0	0	132	0	0	74	0	0	82	0	0	63
Lane Group Flow (vph)	109	553	78	176	296	43	163	560	169	132	702	20
Confl. Peds. (#/hr)	3		1	1		3	1					1
Heavy Vehicles (%)	4%	9%	3%	16%	8%	11%	3%	12%	7%	10%	9%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	39.6	33.4	33.4	39.2	33.2	33.2	34.9	34.9	34.9	21.5	21.5	21.5
Effective Green, g (s)	39.6	33.4	33.4	39.2	33.2	33.2	34.9	34.9	34.9	21.5	21.5	21.5
Actuated g/C Ratio	0.44	0.37	0.37	0.44	0.37	0.37	0.39	0.39	0.39	0.24	0.24	0.24
Clearance Time (s)	3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	499	1221	565	333	1225	518	285	660	587	144	418	367
v/s Ratio Prot	0.02	0.17		c0.04	0.09		0.07	c0.33			c0.40	
v/s Ratio Perm	0.08		0.05	c0.19		0.03	0.16		0.11	0.22		0.01
v/c Ratio	0.22	0.45	0.14	0.53	0.24	0.08	0.57	0.85	0.29	0.92	1.68	0.05
Uniform Delay, d1	15.1	21.4	18.8	16.6	19.7	18.5	21.1	25.1	19.0	33.4	34.2	26.4
Progression Factor	0.91	0.92	1.17	1.00	1.00	1.00	0.91	0.95	0.80	1.00	1.00	1.00
Incremental Delay, d2	0.2	1.2	0.5	1.5	0.5	0.3	2.7	9.8	0.3	50.3	316.0	0.1
Delay (s)	14.0	20.9	22.5	18.1	20.1	18.8	21.9	33.8	15.4	83.7	350.3	26.5
Level of Service	B	C	C	B	C	B	C	C	B	F	F	C
Approach Delay (s)		20.4			19.3			27.1			282.6	
Approach LOS		C			B			C			F	

Intersection Summary			
HCM 2000 Control Delay	93.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.7
Intersection Capacity Utilization	85.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
58: RR 67 (BOWMANVILLE AVE)/RR 57 (BOWMANVILLE AVE) & ASPEN SPRINGS DR

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	119	83	63	382	668	78
Future Volume (vph)	119	83	63	382	668	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
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)	1566	1399	1607	1606	1614	
Flt Permitted	0.95	1.00	0.28	1.00	1.00	
Satd. Flow (perm)	1566	1399	481	1606	1614	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	129	90	68	415	726	85
RTOR Reduction (vph)	0	76	0	0	3	0
Lane Group Flow (vph)	129	14	68	415	808	0
Confl. Peds. (#/hr)		3	1			1
Heavy Vehicles (%)	14%	11%	11%	17%	15%	10%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	12.4	12.4	65.6	65.6	65.6	
Effective Green, g (s)	14.2	14.2	67.8	67.8	67.8	
Actuated g/C Ratio	0.16	0.16	0.75	0.75	0.75	
Clearance Time (s)	5.8	5.8	6.2	6.2	6.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	247	220	362	1209	1215	
v/s Ratio Prot	c0.08			0.26	c0.50	
v/s Ratio Perm		0.01	0.14			
v/c Ratio	0.52	0.06	0.19	0.34	0.67	
Uniform Delay, d1	34.8	32.2	3.2	3.7	5.5	
Progression Factor	1.00	1.00	0.27	0.26	0.96	
Incremental Delay, d2	2.0	0.1	1.1	0.7	0.3	
Delay (s)	36.8	32.4	2.0	1.7	5.5	
Level of Service	D	C	A	A	A	
Approach Delay (s)	35.0			1.7	5.5	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
59: RR 57 (BOWMANVILLE AVE) & WAVERLEY RD

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	220	55	434	129	50	767
Future Volume (vph)	220	55	434	129	50	767
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	4%		3%			-3%
Total Lost time (s)	5.9	5.9	6.2	6.2	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1732	1565	1832	1522	1691	1782
Flt Permitted	0.95	1.00	1.00	1.00	0.46	1.00
Satd. Flow (perm)	1732	1565	1832	1522	813	1782
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	60	472	140	54	834
RTOR Reduction (vph)	0	48	0	46	0	0
Lane Group Flow (vph)	239	12	472	94	54	834
Confl. Peds. (#/hr)				1	1	
Heavy Vehicles (%)	1%	0%	1%	1%	7%	7%
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Actuated Green, G (s)	17.7	17.7	60.2	60.2	60.2	60.2
Effective Green, g (s)	17.7	17.7	60.2	60.2	60.2	60.2
Actuated g/C Ratio	0.20	0.20	0.67	0.67	0.67	0.67
Clearance Time (s)	5.9	5.9	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	340	307	1225	1018	543	1191
v/s Ratio Prot	c0.14		0.26			c0.47
v/s Ratio Perm		0.01		0.06	0.07	
v/c Ratio	0.70	0.04	0.39	0.09	0.10	0.70
Uniform Delay, d1	33.7	29.3	6.6	5.3	5.3	9.3
Progression Factor	1.00	1.00	1.33	1.49	0.51	0.50
Incremental Delay, d2	6.5	0.1	0.9	0.2	0.3	2.7
Delay (s)	40.2	29.3	9.7	8.0	3.0	7.4
Level of Service	D	C	A	A	A	A
Approach Delay (s)	38.0		9.3			7.1
Approach LOS	D		A			A

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.1
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
60: GREEN RD/GREEN ROAD & BASELINE RD

Ritson Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	48	0	1	117	48	0	0	1	63	4	178
Future Volume (vph)	50	48	0	1	117	48	0	0	1	63	4	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1			5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.96			0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1580	1579		892	1523			1597		1500	1434	
Flt Permitted	0.64	1.00		0.72	1.00			1.00		0.76	1.00	
Satd. Flow (perm)	1071	1579		679	1523			1597		1196	1434	
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)	54	52	0	1	127	52	0	0	1	68	4	193
RTOR Reduction (vph)	0	0	0	0	14	0	0	1	0	0	162	0
Lane Group Flow (vph)	54	52	0	1	165	0	0	0	0	68	35	0
Heavy Vehicles (%)	13%	19%	0%	100%	18%	18%	0%	0%	0%	19%	50%	11%
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)	37.8	37.8		37.8	37.8			9.5		9.5	9.5	
Effective Green, g (s)	37.8	37.8		37.8	37.8			9.5		9.5	9.5	
Actuated g/C Ratio	0.64	0.64		0.64	0.64			0.16		0.16	0.16	
Clearance Time (s)	6.1	6.1		6.1	6.1			5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	685	1009		434	974			256		192	230	
v/s Ratio Prot		0.03			c0.11			0.00			0.02	
v/s Ratio Perm	0.05			0.00						c0.06		
v/c Ratio	0.08	0.05		0.00	0.17			0.00		0.35	0.15	
Uniform Delay, d1	4.0	4.0		3.8	4.3			20.8		22.1	21.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.1		0.0	0.4			0.0		1.1	0.3	
Delay (s)	4.3	4.1		3.9	4.7			20.8		23.2	21.6	
Level of Service	A	A		A	A			C		C	C	
Approach Delay (s)		4.2			4.7			20.8			22.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	59.1	Sum of lost time (s)	11.8
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	95	234	103	143	65	150	359	27	56	757	96
Future Volume (vph)	85	95	234	103	143	65	150	359	27	56	757	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3		6.3	6.3	6.3	6.7	6.7		6.7	6.7	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.89		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)	1415	2602		1533	1592	1358	1537	2928		1486	2972	
Flt Permitted	0.64	1.00		0.47	1.00	1.00	0.28	1.00		0.51	1.00	
Satd. Flow (perm)	951	2602		762	1592	1358	460	2928		793	2972	
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)	92	103	254	112	155	71	163	390	29	61	823	104
RTOR Reduction (vph)	0	79	0	0	0	57	0	4	0	0	7	0
Lane Group Flow (vph)	92	278	0	112	155	14	163	415	0	61	920	0
Confl. Peds. (#/hr)	2		7	7		2	2		1	1		2
Heavy Vehicles (%)	26%	21%	21%	16%	18%	16%	16%	20%	27%	20%	18%	16%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	17.5	17.5		17.5	17.5	17.5	59.5	59.5		59.5	59.5	
Effective Green, g (s)	17.5	17.5		17.5	17.5	17.5	59.5	59.5		59.5	59.5	
Actuated g/C Ratio	0.19	0.19		0.19	0.19	0.19	0.66	0.66		0.66	0.66	
Clearance Time (s)	6.3	6.3		6.3	6.3	6.3	6.7	6.7		6.7	6.7	
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)	184	505		148	309	264	304	1935		524	1964	
v/s Ratio Prot		0.11			0.10			0.14			0.31	
v/s Ratio Perm	0.10			c0.15		0.01	c0.35			0.08		
v/c Ratio	0.50	0.55		0.76	0.50	0.05	0.54	0.21		0.12	0.47	
Uniform Delay, d1	32.3	32.7		34.2	32.4	29.5	8.0	6.0		5.6	7.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.16	1.16	
Incremental Delay, d2	2.1	1.3		19.6	1.3	0.1	6.6	0.3		0.3	0.6	
Delay (s)	34.5	34.0		53.8	33.6	29.6	14.6	6.3		6.9	9.3	
Level of Service	C	C		D	C	C	B	A		A	A	
Approach Delay (s)		34.1			39.5			8.6			9.1	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0
Intersection Capacity Utilization	82.9%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Synchro 10 Report
Stantec

Synchro 10 Report
Stantec

Synchro 10 Report
Stantec

HCM Signalized Intersection Capacity Analysis
1: RR 26 (THICKSON RD) & BURNS ST

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	279	62	952	92	25	1408
Future Volume (vph)	279	62	952	92	25	1408
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	6.1		6.1	6.1
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	0.98	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1745	1523	3270		1394	3433
Flt Permitted	0.95	1.00	1.00		0.21	1.00
Satd. Flow (perm)	1745	1523	3270		314	3433
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	303	67	1035	100	27	1530
RTOR Reduction (vph)	0	53	6	0	0	0
Lane Group Flow (vph)	303	14	1129	0	27	1530
Confl. Peds. (#/hr)	2	4				
Heavy Vehicles (%)	2%	3%	8%	5%	28%	4%
Turn Type	Perm	Perm	NA		Perm	NA
Protected Phases			2			6
Permitted Phases	8	8			6	
Actuated Green, G (s)	22.9	22.9	75.4		75.4	75.4
Effective Green, g (s)	22.9	22.9	75.4		75.4	75.4
Actuated g/C Ratio	0.21	0.21	0.69		0.69	0.69
Clearance Time (s)	5.6	5.6	6.1		6.1	6.1
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	363	317	2241		215	2353
v/s Ratio Prot			0.35			c0.45
v/s Ratio Perm	c0.17	0.01			0.09	
v/c Ratio	0.83	0.04	0.50		0.13	0.65
Uniform Delay, d1	41.7	34.8	8.3		6.0	9.8
Progression Factor	1.00	1.00	0.84		1.00	1.00
Incremental Delay, d2	15.1	0.1	0.7		1.2	1.4
Delay (s)	56.9	34.9	7.8		7.2	11.2
Level of Service	E	C	A		A	B
Approach Delay (s)	52.9		7.8			11.2
Approach LOS	D		A			B

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	64.6%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: RR 26 (THICKSON RD) & RR 25 (CONSUMERS DR)/RR 25 (STELLAR DR)

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	165	351	153	290	96	524	965	296	119	971	305
Future Volume (vph)	135	165	351	153	290	96	524	965	296	119	971	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.6	6.6	3.0	6.6	6.6	6.4	6.4	6.4	3.0	6.4	6.4
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.91	1.00	1.00	0.91	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.96	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1578	3187	1310	1431	3187	1378	1526	4422	1324	1606	4460	1454
Flt Permitted	0.46	1.00	1.00	0.64	1.00	1.00	0.11	1.00	1.00	0.26	1.00	1.00
Satd. Flow (perm)	771	3187	1310	963	3187	1378	182	4422	1324	441	4460	1454
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)	147	179	382	166	315	104	570	1049	322	129	1055	332
RTOR Reduction (vph)	0	0	324	0	0	88	0	0	145	0	0	187
Lane Group Flow (vph)	147	179	58	166	315	16	570	1049	177	129	1055	145
Confl. Peds. (#/hr)	4		10	10		4	3		17	17		3
Heavy Vehicles (%)	13%	12%	19%	24%	12%	14%	17%	16%	16%	11%	15%	8%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	22.5	16.7	16.7	22.5	16.7	16.7	71.5	60.3	60.3	37.0	28.8	28.8
Effective Green, g (s)	22.5	16.7	16.7	22.5	16.7	16.7	71.5	60.3	60.3	37.0	28.8	28.8
Actuated g/C Ratio	0.20	0.15	0.15	0.20	0.15	0.15	0.65	0.55	0.55	0.34	0.26	0.26
Clearance Time (s)	3.0	6.6	6.6	3.0	6.6	6.6	6.4	6.4	6.4	3.0	6.4	6.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	200	483	198	221	483	209	561	2424	725	235	1167	380
v/s Ratio Prot	0.04	0.06		c0.04	0.10		c0.33	0.24		0.04	0.24	
v/s Ratio Perm	0.11		0.04	c0.11		0.01	c0.32		0.13	0.14		0.10
v/c Ratio	0.73	0.37	0.29	0.75	0.65	0.08	1.02	0.43	0.24	0.55	0.90	0.38
Uniform Delay, d1	39.8	41.9	41.4	40.0	43.9	40.0	30.2	14.7	13.0	26.3	39.3	33.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.09	0.84	0.93	0.84	0.84	0.61
Incremental Delay, d2	13.1	0.5	0.8	13.4	3.2	0.2	40.7	0.5	0.7	1.9	8.9	2.1
Delay (s)	52.8	42.4	42.2	53.4	47.1	40.2	73.6	12.8	12.8	24.1	41.9	22.4
Level of Service	D	D	D	D	D	D	E	B	B	C	D	C
Approach Delay (s)		44.5			47.6			30.7			36.1	
Approach LOS		D			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	36.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.4
Intersection Capacity Utilization	87.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: RR 26 (THICKSON RD) & HWY 401 WB RAMP

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	286	708	693	0	0	1251
Future Volume (vph)	286	708	693	0	0	1251
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%			3%
Total Lost time (s)	6.2	6.2	5.7			5.7
Lane Util. Factor	0.97	0.91	0.91			0.91
Frt	0.92	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	2760	1232	4347			4282
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	2760	1232	4347			4282
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	311	770	753	0	0	1360
RTOR Reduction (vph)	144	144	0	0	0	0
Lane Group Flow (vph)	552	241	753	0	0	1360
Heavy Vehicles (%)	19%	18%	18%	0%	0%	18%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	27.5	27.5	70.6			70.6
Effective Green, g (s)	27.5	27.5	70.6			70.6
Actuated g/C Ratio	0.25	0.25	0.64			0.64
Clearance Time (s)	6.2	6.2	5.7			5.7
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	690	308	2789			2748
v/s Ratio Prot	c0.20		0.17			c0.32
v/s Ratio Perm		0.20				
v/c Ratio	0.80	0.78	0.27			0.49
Uniform Delay, d1	38.7	38.5	8.5			10.3
Progression Factor	1.00	1.00	0.60			0.55
Incremental Delay, d2	6.6	12.2	0.2			0.4
Delay (s)	45.3	50.6	5.3			6.1
Level of Service	D	D	A			A
Approach Delay (s)	47.2		5.3			6.1
Approach LOS	D		A			A

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: RR 26 (THICKSON RD) & HWY 401 EB RAMP

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	353	289	0	463	1011	0
Future Volume (vph)	353	289	0	463	1011	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%			3%	0%	
Total Lost time (s)	5.6	5.6		5.8	5.8	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3022	1135		3770	4310	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3022	1135		3770	4310	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	384	314	0	503	1099	0
RTOR Reduction (vph)	0	55	0	0	0	0
Lane Group Flow (vph)	384	259	0	503	1099	0
Heavy Vehicles (%)	14%	40%	0%	34%	19%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	29.2	29.2		69.4	69.4	
Effective Green, g (s)	29.2	29.2		69.4	69.4	
Actuated g/C Ratio	0.27	0.27		0.63	0.63	
Clearance Time (s)	5.6	5.6		5.8	5.8	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	802	301		2378	2719	
v/s Ratio Prot	0.13			0.13	c0.25	
v/s Ratio Perm		c0.23				
v/c Ratio	0.48	0.86		0.21	0.40	
Uniform Delay, d1	34.0	38.5		8.6	10.1	
Progression Factor	1.00	1.00		1.00	0.42	
Incremental Delay, d2	0.5	21.3		0.2	0.4	
Delay (s)	34.4	59.8		8.8	4.6	
Level of Service	C	E		A	A	
Approach Delay (s)	45.8			8.8	4.6	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
5: RR 25A (CHAMPLAIN AV) & RR 25 (STELLAR DR)

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	71	117	0	134	2	100	4	4	4	3	75
Future Volume (vph)	102	71	117	0	134	2	100	4	4	4	3	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.7	6.7			6.7		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95			0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99			1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.91			1.00		1.00	0.93		1.00	0.86	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1716	3044			3528		1684	1738		1785	1489	
Flt Permitted	0.66	1.00			1.00		0.70	1.00		0.75	1.00	
Satd. Flow (perm)	1189	3044			3528		1244	1738		1414	1489	
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)	111	77	127	0	146	2	109	4	4	4	3	82
RTOR Reduction (vph)	0	53	0	0	1	0	0	3	0	0	70	0
Lane Group Flow (vph)	111	151	0	0	147	0	109	5	0	4	15	0
Confl. Peds. (#/hr)			3	3								
Heavy Vehicles (%)	4%	1%	7%	0%	1%	0%	6%	0%	0%	0%	33%	7%
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)	29.3	29.3			29.3		7.6	7.6		7.6	7.6	
Effective Green, g (s)	29.3	29.3			29.3		7.6	7.6		7.6	7.6	
Actuated g/C Ratio	0.59	0.59			0.59		0.15	0.15		0.15	0.15	
Clearance Time (s)	6.7	6.7			6.7		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	696	1783			2067		189	264		214	226	
v/s Ratio Prot		0.05			0.04			0.00			0.01	
v/s Ratio Perm	c0.09						c0.09			0.00		
v/c Ratio	0.16	0.08			0.07		0.58	0.02		0.02	0.07	
Uniform Delay, d1	4.7	4.5			4.5		19.7	18.0		18.0	18.2	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.1			0.1		4.2	0.0		0.0	0.1	
Delay (s)	5.2	4.6			4.5		23.9	18.1		18.1	18.3	
Level of Service	A	A			A		C	B		B	B	
Approach Delay (s)		4.8			4.5			23.5			18.3	
Approach LOS		A			A			C			B	

Intersection Summary				
HCM 2000 Control Delay	9.8	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.25			
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	13.1	
Intersection Capacity Utilization	62.0%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: KENDALWOOD RD & BURNS ST E

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	163	1	1	270	106	1	8	2	84	8	85
Future Volume (vph)	38	163	1	1	270	106	1	8	2	84	8	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.97	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.96		1.00	0.97		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1502	1699		1785	1598		882	1828		1608	1430	
Flt Permitted	0.52	1.00		0.64	1.00		0.69	1.00		0.75	1.00	
Satd. Flow (perm)	825	1699		1212	1598		642	1828		1270	1430	
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)	41	177	1	1	293	115	1	9	2	91	9	92
RTOR Reduction (vph)	0	0	0	0	13	0	0	2	0	0	79	0
Lane Group Flow (vph)	41	178	0	1	395	0	1	9	0	91	22	0
Confl. Peds. (#/hr)	6					6	7					7
Heavy Vehicles (%)	18%	10%	100%	0%	11%	13%	100%	0%	0%	11%	0%	11%
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)	39.4	39.4		39.4	39.4		8.2	8.2		8.2	8.2	
Effective Green, g (s)	39.4	39.4		39.4	39.4		8.2	8.2		8.2	8.2	
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.14	0.14		0.14	0.14	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	541	1115		795	1049		87	249		173	195	
v/s Ratio Prot		0.10			c0.25			0.01			0.02	
v/s Ratio Perm	0.05			0.00			0.00			c0.07		
v/c Ratio	0.08	0.16		0.00	0.38		0.01	0.04		0.53	0.11	
Uniform Delay, d1	3.7	3.9		3.5	4.7		22.4	22.5		24.1	22.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.3		0.0	1.0		0.1	0.1		2.9	0.3	
Delay (s)	4.0	4.3		3.5	5.7		22.4	22.5		27.0	23.0	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		4.2			5.7			22.5			24.9	
Approach LOS		A			A			C			C	

Intersection Summary				
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.40			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.4	
Intersection Capacity Utilization	53.7%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: RR 52 (THORNTON RD) & RR 59 (GIBB ST)

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	122	10	26	208	150	15	94	10	196	162	78
Future Volume (vph)	50	122	10	26	208	150	15	94	10	196	162	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.94		1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1647	1824		1785	1677		1783	1803		1716	1746	
Flt Permitted	0.49	1.00		0.67	1.00		0.60	1.00		0.68	1.00	
Satd. Flow (perm)	853	1824		1250	1677		1123	1803		1236	1746	
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)	54	133	11	28	226	163	16	102	11	213	176	85
RTOR Reduction (vph)	0	5	0	0	45	0	0	7	0	0	31	0
Lane Group Flow (vph)	54	139	0	28	344	0	16	106	0	213	230	0
Confl. Peds. (#/hr)	5					5	1					1
Heavy Vehicles (%)	8%	2%	0%	0%	3%	5%	0%	3%	0%	4%	1%	3%
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)	14.1	14.1		14.1	14.1		13.5	13.5		13.5	13.5	
Effective Green, g (s)	14.1	14.1		14.1	14.1		13.5	13.5		13.5	13.5	
Actuated g/C Ratio	0.36	0.36		0.36	0.36		0.34	0.34		0.34	0.34	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	302	647		443	595		381	613		420	593	
v/s Ratio Prot		0.08			c0.21			0.06			0.13	
v/s Ratio Perm	0.06			0.02			0.01			c0.17		
v/c Ratio	0.18	0.21		0.06	0.58		0.04	0.17		0.51	0.39	
Uniform Delay, d1	8.8	8.9		8.4	10.4		8.8	9.2		10.4	10.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.2		0.1	1.4		0.0	0.1		1.0	0.4	
Delay (s)	9.1	9.1		8.5	11.8		8.8	9.3		11.4	10.4	
Level of Service	A	A		A	B		A	A		B	B	
Approach Delay (s)		9.1			11.5			9.3			10.8	
Approach LOS		A			B			A			B	

Intersection Summary				
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.54			
Actuated Cycle Length (s)	39.7	Sum of lost time (s)	12.1	
Intersection Capacity Utilization	61.3%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
8: RR 52 (THORNTON RD) & RR 25 (STELLAR DR)

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	0	12	5	0	5	14	43	0	0	73	157
Future Volume (vph)	64	0	12	5	0	5	14	43	0	0	73	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6		6.0	6.0		6.5	6.5			6.5	6.5
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	0.85		1.00	0.85		1.00	1.00			1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			1.00	1.00
Satd. Flow (prot)	1638	1125		1750	1566		1473	1528			1579	1445
Flt Permitted	0.75	1.00		0.75	1.00		0.71	1.00			1.00	1.00
Satd. Flow (perm)	1301	1125		1380	1566		1094	1528			1579	1445
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)	70	0	13	5	0	5	15	47	0	0	79	171
RTOR Reduction (vph)	0	12	0	0	5	0	0	0	0	0	0	56
Lane Group Flow (vph)	70	1	0	5	0	0	15	47	0	0	79	115
Confl. Peds. (#/hr)							2					2
Heavy Vehicles (%)	9%	2%	42%	2%	2%	2%	21%	23%	2%	2%	19%	9%
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2					6
Actuated Green, G (s)	5.8	5.8		5.4	5.4		37.1	37.1			37.1	37.1
Effective Green, g (s)	5.8	5.8		5.4	5.4		37.1	37.1			37.1	37.1
Actuated g/C Ratio	0.11	0.11		0.10	0.10		0.67	0.67			0.67	0.67
Clearance Time (s)	5.6	5.6		6.0	6.0		6.5	6.5			6.5	6.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	137	118		135	153		737	1030			1065	974
v/s Ratio Prot		0.00			0.00			0.03			0.05	
v/s Ratio Perm	c0.05			0.00			0.01					c0.08
v/c Ratio	0.51	0.01		0.04	0.00		0.02	0.05			0.07	0.12
Uniform Delay, d1	23.3	22.0		22.4	22.4		3.0	3.0			3.1	3.2
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	3.2	0.0		0.1	0.0		0.1	0.1			0.1	0.2
Delay (s)	26.5	22.1		22.6	22.4		3.0	3.1			3.2	3.4
Level of Service	C	C		C	C		A	A			A	A
Approach Delay (s)		25.8			22.5			3.1			3.3	
Approach LOS		C			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	8.4	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.17			
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	12.5	
Intersection Capacity Utilization	54.2%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
9: RR 25 (CHAMPLAIN AVE) & RR 52 (THORNTON RD)

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	9	55	160	48	43	45
Future Volume (vph)	9	55	160	48	43	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	5.9	5.9	5.9	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1608	1540	1807	1413	1451	1413
Flt Permitted	0.65	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1096	1540	1807	1413	1451	1413
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	60	174	52	47	49
RTOR Reduction (vph)	0	0	0	14	0	45
Lane Group Flow (vph)	10	60	174	38	47	4
Heavy Vehicles (%)	11%	22%	4%	13%	23%	13%
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	44.1	44.1	44.1	44.1	4.8	4.8
Effective Green, g (s)	44.1	44.1	44.1	44.1	4.8	4.8
Actuated g/C Ratio	0.72	0.72	0.72	0.72	0.08	0.08
Clearance Time (s)	5.9	5.9	5.9	5.9	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	792	1113	1306	1021	114	111
v/s Ratio Prot		0.04	c0.10		c0.03	
v/s Ratio Perm	0.01			0.03		0.00
v/c Ratio	0.01	0.05	0.13	0.04	0.41	0.03
Uniform Delay, d1	2.4	2.4	2.6	2.4	26.8	26.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.1	0.2	0.1	2.4	0.1
Delay (s)	2.4	2.5	2.8	2.5	29.2	26.1
Level of Service	A	A	A	A	C	C
Approach Delay (s)		2.5	2.7		27.6	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	61.0	Sum of lost time (s)	12.1
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
10: RR 25 (CHAMPLAIN AVE) & FOX ST

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	48	142	698	16	18	79
Future Volume (vph)	48	142	698	16	18	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	5.9	5.9	5.9	5.9	5.9
Lane Util. Factor	1.00	1.00	1.00	1.00	0.97	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1716	1663	1789	1507	3267	1551
Flt Permitted	0.35	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	633	1663	1789	1507	3267	1551
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	52	154	759	17	20	86
RTOR Reduction (vph)	0	0	0	4	0	84
Lane Group Flow (vph)	52	154	759	13	20	2
Heavy Vehicles (%)	4%	13%	5%	6%	6%	3%
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		2	6		4	
Permitted Phases	2			6		4
Actuated Green, G (s)	50.4	50.4	50.4	50.4	1.3	1.3
Effective Green, g (s)	50.4	50.4	50.4	50.4	1.3	1.3
Actuated g/C Ratio	0.79	0.79	0.79	0.79	0.02	0.02
Clearance Time (s)	5.9	5.9	5.9	5.9	5.9	5.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	502	1319	1419	1196	66	31
v/s Ratio Prot		0.09	c0.42		c0.01	
v/s Ratio Perm	0.08			0.01		0.00
v/c Ratio	0.10	0.12	0.53	0.01	0.30	0.06
Uniform Delay, d1	1.5	1.5	2.3	1.4	30.7	30.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	0.2	1.4	0.0	2.6	0.8
Delay (s)	1.9	1.7	3.8	1.4	33.2	31.3
Level of Service	A	A	A	A	C	C
Approach Delay (s)		1.7	3.7		31.6	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	6.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	63.5	Sum of lost time (s)	11.8
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
11: RR 53 (STEVENSON RD) & RR 59 (GIBB ST)

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	132	127	143	161	35	138	417	137	34	472	14
Future Volume (vph)	21	132	127	143	161	35	138	417	137	34	472	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3		3.0	6.3	6.3	3.0	6.2	6.2	3.0	6.2	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1396	2498		1332	1470	1088	1376	2869	1219	1319	2711	
Flt Permitted	0.64	1.00		0.58	1.00	1.00	0.42	1.00	1.00	0.47	1.00	
Satd. Flow (perm)	934	2498		812	1470	1088	609	2869	1219	649	2711	
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)	23	143	138	155	175	38	150	453	149	37	513	15
RTOR Reduction (vph)	0	82	0	0	0	23	0	0	77	0	2	0
Lane Group Flow (vph)	23	199	0	155	175	15	150	453	72	37	526	0
Confl. Peds. (#/hr)	11		7	7		11	7		11	11		7
Heavy Vehicles (%)	14%	20%	16%	20%	15%	29%	16%	12%	15%	21%	18%	14%
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	44.3	44.3		44.3	44.3	44.3	53.2	53.2	53.2	53.2	53.2	
Effective Green, g (s)	44.3	44.3		44.3	44.3	44.3	53.2	53.2	53.2	53.2	53.2	
Actuated g/C Ratio	0.40	0.40		0.40	0.40	0.40	0.48	0.48	0.48	0.48	0.48	
Clearance Time (s)	6.3	6.3		3.0	6.3	6.3	3.0	6.2	6.2	3.0	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	376	1006		327	592	438	294	1387	589	313	1311	
v/s Ratio Prot		0.08			0.12			0.16			0.19	
v/s Ratio Perm	0.02			c0.19		0.01	c0.25		0.06	0.06		
v/c Ratio	0.06	0.20		0.47	0.30	0.03	0.51	0.33	0.12	0.12	0.40	
Uniform Delay, d1	20.1	21.3		24.2	22.3	19.9	19.5	17.4	15.6	15.6	18.2	
Progression Factor	1.00	1.00		0.89	0.91	0.98	0.66	0.65	0.63	1.00	1.00	
Incremental Delay, d2	0.3	0.4		1.1	1.3	0.1	1.4	0.6	0.4	0.2	0.9	
Delay (s)	20.4	21.8		22.6	21.4	19.7	14.2	11.9	10.3	15.7	19.1	
Level of Service	C	C		C	C	B	B	B	B	B	B	
Approach Delay (s)		21.7			21.8			12.1			18.9	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
12: RR 53 (STEVENSON RD) & LAVAL DRIVE

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	20	82	80	42	78	77	651	66	46	535	82
Future Volume (vph)	73	20	82	80	42	78	77	651	66	46	535	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	6.3	6.3		3.0	6.3	6.3	3.0	6.3	6.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	0.99		1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.90		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1550	1634	1302	1550	1343		1512	3000	1424	1283	3051	1417
Flt Permitted	0.61	1.00	1.00	0.74	1.00		0.43	1.00	1.00	0.37	1.00	1.00
Satd. Flow (perm)	996	1634	1302	1212	1343		678	3000	1424	502	3051	1417
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	22	89	87	46	85	84	708	72	50	582	89
RTOR Reduction (vph)	0	0	78	0	74	0	0	0	22	0	0	28
Lane Group Flow (vph)	79	22	11	87	57	0	84	708	50	50	582	61
Confl. Peds. (#/hr)	1		1	1		1	2		3	3		2
Heavy Vehicles (%)	15%	15%	21%	15%	31%	22%	18%	19%	9%	39%	17%	11%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)	13.6	13.6	13.6	13.6	13.6		81.2	76.2	76.2	80.4	75.8	75.8
Effective Green, g (s)	13.6	13.6	13.6	13.6	13.6		81.2	76.2	76.2	80.4	75.8	75.8
Actuated g/C Ratio	0.12	0.12	0.12	0.12	0.12		0.74	0.69	0.69	0.73	0.69	0.69
Clearance Time (s)	6.3	6.3	6.3	6.3	6.3		3.0	6.3	6.3	3.0	6.3	6.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	123	202	160	149	166		538	2078	986	399	2102	976
v/s Ratio Prot		0.01			0.04		c0.01	c0.24		0.01	0.19	
v/s Ratio Perm	c0.08		0.01	0.07			0.11		0.04	0.09		0.04
v/c Ratio	0.64	0.11	0.07	0.58	0.34		0.16	0.34	0.05	0.13	0.28	0.06
Uniform Delay, d1	45.9	42.8	42.6	45.5	44.1		4.0	6.8	5.4	4.2	6.6	5.6
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.73	0.56	0.34	0.55	0.54	0.13
Incremental Delay, d2	10.9	0.2	0.2	5.7	1.2		0.1	0.4	0.1	0.1	0.3	0.1
Delay (s)	56.8	43.1	42.8	51.3	45.3		3.1	4.3	1.9	2.4	3.9	0.8
Level of Service	E	D	D	D	D		A	A	A	A	A	A
Approach Delay (s)		48.6			47.7			3.9			3.4	
Approach LOS		D			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	47.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
13: RR 53 (STEVENSON RD) & RR 25 (CHAMPLAIN AVE)/HWY 401 WB EXIT RAMP — Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	0	53	537	215	301	67	447	0	0	878	137
Future Volume (vph)	43	0	53	537	215	301	67	447	0	0	878	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9		5.9	5.9	5.9	5.9	3.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.91	0.91	1.00	1.00	0.95			0.91	1.00
Frt	1.00		0.85	1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.97	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1417		1320	1400	2913	1401	1580	3216			4499	1389
Flt Permitted	0.95		1.00	0.95	0.97	1.00	0.22	1.00			1.00	1.00
Satd. Flow (perm)	1417		1320	1400	2913	1401	367	3216			4499	1389
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	0	58	584	234	327	73	486	0	0	954	149
RTOR Reduction (vph)	0	0	54	0	0	243	0	0	0	0	0	87
Lane Group Flow (vph)	47	0	4	292	526	84	73	486	0	0	954	62
Heavy Vehicles (%)	26%	0%	21%	16%	12%	14%	13%	11%	0%	0%	14%	15%
Turn Type	Prot		Perm	Split	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases	4			8	8		5	2			6	
Permitted Phases			4			8	2					6
Actuated Green, G (s)	8.1		8.1	28.3	28.3	28.3	54.7	54.7			45.8	45.8
Effective Green, g (s)	8.1		8.1	28.3	28.3	28.3	54.7	54.7			45.8	45.8
Actuated g/C Ratio	0.07		0.07	0.26	0.26	0.26	0.50	0.50			0.42	0.42
Clearance Time (s)	5.9		5.9	5.9	5.9	5.9	3.0	7.1			7.1	7.1
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)	104		97	360	749	360	247	1599			1873	578
v/s Ratio Prot	c0.03			c0.21	0.18		0.02	c0.15			c0.21	
v/s Ratio Perm			0.00			0.06	0.13					0.04
v/c Ratio	0.45		0.04	0.81	0.70	0.23	0.30	0.30			0.51	0.11
Uniform Delay, d1	48.8		47.4	38.3	37.0	32.3	15.3	16.4			23.8	19.6
Progression Factor	1.00		1.00	1.00	1.00	1.00	0.78	0.70			0.79	0.42
Incremental Delay, d2	3.1		0.2	13.0	3.0	0.3	0.6	0.5			1.0	0.4
Delay (s)	51.9		47.5	51.3	40.0	32.6	12.5	12.0			19.7	8.6
Level of Service	D		D	D	D	C	B	B			B	A
Approach Delay (s)		49.5			40.8			12.1			18.2	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	27.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.9
Intersection Capacity Utilization	56.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
14: RR 53 (STEVENSON RD) & 401 EB RAMP/BLOOR ST CONNECTOR — Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	271	166	64	39	0	184	0	238	30	161	373	201
Future Volume (vph)	271	166	64	39	0	184	0	238	30	161	373	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3		6.3		6.3		6.6		3.0	6.6	
Lane Util. Factor	0.97	0.95		0.97		1.00		0.91		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00		1.00		1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00		1.00		1.00		1.00	1.00	
Frt	1.00	0.96		1.00		0.85		0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	3092	2902		2748		1331		4246		1439	2728	
Flt Permitted	0.95	1.00		0.95		1.00		1.00		0.54	1.00	
Satd. Flow (perm)	3092	2902		2748		1331		4246		811	2728	
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)	295	180	70	42	0	200	0	259	33	175	405	218
RTOR Reduction (vph)	0	42	0	0	0	184	0	9	0	0	50	0
Lane Group Flow (vph)	295	208	0	42	0	16	0	283	0	175	573	0
Confl. Peds. (#/hr)									1	1		
Heavy Vehicles (%)	12%	17%	20%	26%	0%	20%	0%	18%	23%	24%	31%	11%
Turn Type	Perm	NA		Prot		Perm		NA		pm+pt	NA	
Protected Phases		4		3				2		1	6	
Permitted Phases	4					3				6		
Actuated Green, G (s)	16.1	16.1		8.9		8.9		52.2		65.8	65.8	
Effective Green, g (s)	16.1	16.1		8.9		8.9		52.2		65.8	65.8	
Actuated g/C Ratio	0.15	0.15		0.08		0.08		0.47		0.60	0.60	
Clearance Time (s)	6.3	6.3		6.3		6.3		6.6		3.0	6.6	
Vehicle Extension (s)	3.0	3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	452	424		222		107		2014		545	1631	
v/s Ratio Prot		0.07		c0.02				0.07		0.03	c0.21	
v/s Ratio Perm	c0.10					0.01				0.16		
v/c Ratio	0.65	0.49		0.19		0.15		0.14		0.32	0.35	
Uniform Delay, d1	44.3	43.2		47.2		47.0		16.3		10.2	11.2	
Progression Factor	1.00	1.00		0.82		1.99		1.00		1.18	1.09	
Incremental Delay, d2	3.4	0.9		0.4		0.6		0.1		0.3	0.5	
Delay (s)	47.7	44.1		38.9		94.4		16.4		12.3	12.7	
Level of Service	D	D		D		F		B		B	B	
Approach Delay (s)		46.0			84.8			16.4			12.6	
Approach LOS		D			F			B			B	

Intersection Summary			
HCM 2000 Control Delay	32.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.2
Intersection Capacity Utilization	54.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
15: RR 53 (STEVENSON RD) & RR 22 (BLOOR ST) — Timing Plan: AM Peak

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	222	127	252	1334	659	243
Future Volume (vph)	222	127	252	1334	659	243
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4	3.0	6.4	5.9	5.9
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3275	1439	1680	3500	3395	1497
Flt Permitted	1.00	1.00	0.57	1.00	0.95	1.00
Satd. Flow (perm)	3275	1439	1005	3500	3395	1497
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	241	138	274	1450	716	264
RTOR Reduction (vph)	0	75	0	0	0	188
Lane Group Flow (vph)	241	63	274	1450	716	76
Confl. Peds. (#/hr)		3	3			2
Heavy Vehicles (%)	9%	9%	6%	2%	2%	5%
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Actuated Green, G (s)	50.6	50.6	66.0	66.0	31.7	31.7
Effective Green, g (s)	50.6	50.6	66.0	66.0	31.7	31.7
Actuated g/C Ratio	0.46	0.46	0.60	0.60	0.29	0.29
Clearance Time (s)	6.4	6.4	3.0	6.4	5.9	5.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	5.0	5.0
Lane Grp Cap (vph)	1506	661	679	2100	978	431
v/s Ratio Prot	0.07		0.05	c0.41	c0.21	
v/s Ratio Perm		0.04	0.20			0.05
v/c Ratio	0.16	0.10	0.40	0.69	0.73	0.18
Uniform Delay, d1	17.3	16.8	10.6	15.0	35.3	29.4
Progression Factor	1.00	1.00	1.00	1.00	0.99	1.51
Incremental Delay, d2	0.2	0.3	0.4	1.9	3.5	0.4
Delay (s)	17.5	17.1	11.0	16.9	38.5	44.8
Level of Service	B	B	B	B	D	D
Approach Delay (s)	17.4			16.0	40.2	
Approach LOS	B			B	D	

Intersection Summary			
HCM 2000 Control Delay	23.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.3
Intersection Capacity Utilization	65.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
16: RR 54 (PARK)/RR 54 (PARK RD) & RR 59 (GIBB ST) — Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	205	69	161	223	53	89	521	159	65	484	117
Future Volume (vph)	88	205	69	161	223	53	89	521	159	65	484	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.1		6.0	6.1		6.0	6.2		6.0	6.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.97		1.00	0.96		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1505	2941		1539	3052		1573	3040		1605	3025	
Flt Permitted	0.56	1.00		0.50	1.00		0.34	1.00		0.31	1.00	
Satd. Flow (perm)	882	2941		807	3052		568	3040		526	3025	
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)	96	223	75	175	242	58	97	566	173	71	526	127
RTOR Reduction (vph)	0	44	0	0	27	0	0	27	0	0	20	0
Lane Group Flow (vph)	96	254	0	175	273	0	97	712	0	71	633	0
Confl. Peds. (#/hr)	20		11	11		20	15		8	8		15
Heavy Vehicles (%)	6%	4%	6%	4%	1%	4%	2%	2%	0%	0%	3%	1%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	17.6	14.4		19.2	15.2		48.0	41.2		46.6	40.5	
Effective Green, g (s)	17.6	14.4		19.2	15.2		48.0	41.2		46.6	40.5	
Actuated g/C Ratio	0.20	0.16		0.21	0.17		0.53	0.46		0.52	0.45	
Clearance Time (s)	6.0	6.1		6.0	6.1		6.0	6.2		6.0	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	194	470		204	515		378	1391		345	1361	
v/s Ratio Prot	0.02	0.09		c0.04	0.09		c0.02	c0.23		0.01	0.21	
v/s Ratio Perm	0.08			c0.14			0.12			0.09		
v/c Ratio	0.49	0.54		0.86	0.53		0.26	0.51		0.21	0.47	
Uniform Delay, d1	31.4	34.8		33.4	34.1		10.7	17.3		11.2	17.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.0	1.3		28.1	1.0		0.4	1.4		0.3	1.1	
Delay (s)	33.4	36.0		61.5	35.1		11.1	18.6		11.5	18.4	
Level of Service	C	D		E	D		B	B		B	B	
Approach Delay (s)		35.4			44.8			17.8			17.7	
Approach LOS		D			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	24.3
Intersection Capacity Utilization	72.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
17: RR 2A (CENTRE ST) & RR 59 (GIBB ST)

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	264	145	17	317	0	0	0	0	50	269	141
Future Volume (vph)	0	264	145	17	317	0	0	0	0	50	269	141
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8	5.8	5.8	5.8						5.7	
Lane Util. Factor		1.00	1.00	1.00	1.00						0.91	
Frpb, ped/bikes		1.00	0.94	1.00	1.00						0.99	
Flpb, ped/bikes		1.00	1.00	0.97	1.00						0.99	
Frt		1.00	0.85	1.00	1.00						0.95	
Flt Protected		1.00	1.00	0.95	1.00						0.99	
Satd. Flow (prot)		1674	1335	1553	1642						4062	
Flt Permitted		1.00	1.00	0.57	1.00						0.99	
Satd. Flow (perm)		1674	1335	924	1642						4062	
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)	0	287	158	18	345	0	0	0	0	54	292	153
RTOR Reduction (vph)	0	0	92	0	0	0	0	0	0	0	94	0
Lane Group Flow (vph)	0	287	66	18	345	0	0	0	0	0	405	0
Confl. Peds. (#/hr)			45	45						40		18
Heavy Vehicles (%)	0%	1%	1%	0%	3%	0%	0%	0%	0%	2%	7%	4%
Turn Type		NA	Perm	Perm	NA					Perm	NA	
Protected Phases		4			8						6	
Permitted Phases			4	8						6		
Actuated Green, G (s)		25.2	25.2	25.2	25.2						23.3	
Effective Green, g (s)		25.2	25.2	25.2	25.2						23.3	
Actuated g/C Ratio		0.42	0.42	0.42	0.42						0.39	
Clearance Time (s)		5.8	5.8	5.8	5.8						5.7	
Lane Grp Cap (vph)		703	560	388	689						1577	
v/s Ratio Prot		0.17			c0.21							
v/s Ratio Perm			0.05	0.02							0.10	
v/c Ratio		0.41	0.12	0.05	0.50						0.26	
Uniform Delay, d1		12.2	10.6	10.3	12.8						12.5	
Progression Factor		1.00	1.00	0.94	1.02						1.00	
Incremental Delay, d2		1.8	0.4	0.2	2.5						0.4	
Delay (s)		13.9	11.1	9.8	15.5						12.9	
Level of Service		B	B	A	B						B	
Approach Delay (s)		12.9			15.3			0.0			12.9	
Approach LOS		B			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
18: RR 2 (SIMCOE ST) & RR 59 (GIBB ST)

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	204	53	0	0	98	20	218	423	15	0	0	0
Future Volume (vph)	204	53	0	0	98	20	218	423	15	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8			5.8			5.5	5.5			
Lane Util. Factor	1.00	1.00			1.00			0.91	1.00			
Frpb, ped/bikes	1.00	1.00			0.99			1.00	0.93			
Flpb, ped/bikes	0.95	1.00			1.00			0.98	1.00			
Frt	1.00	1.00			0.98			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.98	1.00			
Satd. Flow (prot)	1505	1691			1631			4381	1339			
Flt Permitted	0.67	1.00			1.00			0.98	1.00			
Satd. Flow (perm)	1069	1691			1631			4381	1339			
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)	222	58	0	0	107	22	237	460	16	0	0	0
RTOR Reduction (vph)	0	0	0	0	12	0	0	0	10	0	0	0
Lane Group Flow (vph)	222	58	0	0	117	0	0	697	6	0	0	0
Confl. Peds. (#/hr)	64					64	31		33			
Heavy Vehicles (%)	1%	0%	0%	0%	0%	0%	0%	3%	0%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4			8			2				
Permitted Phases	4						2		2			
Actuated Green, G (s)	25.2	25.2			25.2			23.5	23.5			
Effective Green, g (s)	25.2	25.2			25.2			23.5	23.5			
Actuated g/C Ratio	0.42	0.42			0.42			0.39	0.39			
Clearance Time (s)	5.8	5.8			5.8			5.5	5.5			
Lane Grp Cap (vph)	448	710			685			1715	524			
v/s Ratio Prot		0.03			0.07							
v/s Ratio Perm	c0.21							0.16	0.00			
v/c Ratio	0.50	0.08			0.17			0.41	0.01			
Uniform Delay, d1	12.7	10.5			10.9			13.2	11.2			
Progression Factor	0.58	0.63			1.00			1.00	1.00			
Incremental Delay, d2	3.6	0.2			0.5			0.7	0.0			
Delay (s)	11.0	6.8			11.4			13.9	11.2			
Level of Service	B	A			B			B	B			
Approach Delay (s)		10.2			11.4			13.9			0.0	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
19: RR 2 (SIMCOE ST) & RR 59 (OLIVE AVE)

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	56	498	177	81	230	151
Future Volume (vph)	56	498	177	81	230	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.6			4.0
Lane Util. Factor	1.00	1.00	0.95			0.95
Frpb, ped/bikes	1.00	0.97	0.96			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	1.00	0.85	0.95			1.00
Flt Protected	0.95	1.00	1.00			0.97
Satd. Flow (prot)	1560	1399	2867			3119
Flt Permitted	0.95	1.00	1.00			0.68
Satd. Flow (perm)	1560	1399	2867			2195
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	541	192	88	250	164
RTOR Reduction (vph)	0	290	64	0	0	0
Lane Group Flow (vph)	61	251	216	0	0	414
Confl. Peds. (#/hr)		14		44		
Heavy Vehicles (%)	3%	0%	3%	3%	0%	0%
Turn Type	Prot	Perm	NA		D.P+P	NA
Protected Phases	4		2		1	1 2
Permitted Phases		4			2	
Actuated Green, G (s)	23.5	23.5	16.4			21.4
Effective Green, g (s)	23.5	23.5	16.4			21.4
Actuated g/C Ratio	0.39	0.39	0.27			0.36
Clearance Time (s)	5.5	5.5	5.6			
Vehicle Extension (s)	3.0	3.0	3.0			
Lane Grp Cap (vph)	611	547	783			859
v/s Ratio Prot	0.04		0.08			c0.04
v/s Ratio Perm		c0.18				c0.13
v/c Ratio	0.10	0.46	0.28			0.48
Uniform Delay, d1	11.6	13.5	17.1			15.0
Progression Factor	1.04	1.41	0.83			1.00
Incremental Delay, d2	0.3	2.2	0.9			0.4
Delay (s)	12.3	21.3	15.1			15.4
Level of Service	B	C	B			B
Approach Delay (s)	20.4		15.1			15.4
Approach LOS	C		B			B

Intersection Summary			
HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	57.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
20: ALBERT ST & RR 59 (OLIVE AVE)

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	195	129	51	283	108	186	229	15	0	0	0
Future Volume (vph)	31	195	129	51	283	108	186	229	15	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.6			5.6			5.2				
Lane Util. Factor		1.00			1.00			1.00				
Frpb, ped/bikes		0.99			0.99			1.00				
Flpb, ped/bikes		1.00			1.00			0.99				
Frt		0.95			0.97			1.00				
Flt Protected		1.00			0.99			0.98				
Satd. Flow (prot)		1570			1601			1567				
Flt Permitted		0.93			0.92			0.98				
Satd. Flow (perm)		1473			1477			1567				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	34	212	140	55	308	117	202	249	16	0	0	0
RTOR Reduction (vph)	0	34	0	0	20	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	352	0	0	460	0	0	465	0	0	0	0
Confl. Peds. (#/hr)	5		5	5		5	6		3			
Heavy Vehicles (%)	3%	1%	0%	0%	0%	3%	9%	1%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA				
Protected Phases		2			2			4				
Permitted Phases	2			2			4					
Actuated Green, G (s)		26.4			26.4			22.8				
Effective Green, g (s)		26.4			26.4			22.8				
Actuated g/C Ratio		0.44			0.44			0.38				
Clearance Time (s)		5.6			5.6			5.2				
Lane Grp Cap (vph)		648			649			595				
v/s Ratio Prot												
v/s Ratio Perm		0.24			c0.31			0.30				
v/c Ratio		0.54			0.71			0.78				
Uniform Delay, d1		12.4			13.7			16.4				
Progression Factor		0.25			1.00			0.89				
Incremental Delay, d2		3.1			6.5			8.5				
Delay (s)		6.2			20.1			23.1				
Level of Service		A			C			C				
Approach Delay (s)		6.2			20.1			23.1			0.0	
Approach LOS		A			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	17.1	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)	10.8
Intersection Capacity Utilization	73.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
21: RR 16 (RITSON RD) & RR 59 (OLIVE AVE)

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	82	98	251	183	75	139	750	92	33	661	34
Future Volume (vph)	10	82	98	251	183	75	139	750	92	33	661	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	5.9		5.9	5.9	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.92		1.00	0.96		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)	1138	1322		1360	1386		1409	2776		1416	2837	
Flt Permitted	0.59	1.00		0.43	1.00		0.18	1.00		0.31	1.00	
Satd. Flow (perm)	703	1322		610	1386		262	2776		465	2837	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	89	107	273	199	82	151	815	100	36	718	37
RTOR Reduction (vph)	0	48	0	0	16	0	0	10	0	0	4	0
Lane Group Flow (vph)	11	148	0	273	265	0	151	905	0	36	751	0
Confl. Peds. (#/hr)	9		2	2		9	1		5	5		1
Heavy Vehicles (%)	40%	11%	21%	18%	17%	13%	14%	13%	17%	13%	12%	18%
Turn Type	Perm	NA		pm+pt	NA		pm+pt	NA		Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	20.0	20.0		37.0	37.0		41.1	41.1		28.1	28.1	
Effective Green, g (s)	20.0	20.0		37.0	37.0		41.1	41.1		28.1	28.1	
Actuated g/C Ratio	0.22	0.22		0.41	0.41		0.46	0.46		0.31	0.31	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	5.9		5.9	5.9	
Lane Grp Cap (vph)	156	293		342	569		208	1267		145	885	
v/s Ratio Prot		0.11		c0.10	0.19		0.06	c0.33			c0.26	
v/s Ratio Perm	0.02			c0.23			0.27			0.08		
v/c Ratio	0.07	0.50		0.80	0.46		0.73	0.71		0.25	0.85	
Uniform Delay, d1	27.7	30.7		21.4	19.3		17.3	19.7		23.1	29.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	6.1		17.5	2.7		19.8	3.5		4.1	9.9	
Delay (s)	28.5	36.7		38.9	22.0		37.0	23.2		27.1	38.9	
Level of Service	C	D		D	C		D	C		C	D	
Approach Delay (s)		36.3			30.3			25.1			38.4	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	31.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	23.9
Intersection Capacity Utilization	94.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
22: RR 35 (WILSON RD) & RR 59 (OLIVE AVE)

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	114	34	62	286	55	42	214	47	24	186	41
Future Volume (vph)	24	114	34	62	286	55	42	214	47	24	186	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
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
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00	0.97	1.00	1.00	0.95	1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00	1.00	0.97	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1184	1458	1094	1265	1386	1193	1352	1398	1138	1247	1470	1154
Flt Permitted	0.52	1.00	1.00	0.68	1.00	1.00	0.63	1.00	1.00	0.60	1.00	1.00
Satd. Flow (perm)	642	1458	1094	902	1386	1193	898	1398	1138	793	1470	1154
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	26	124	37	67	311	60	46	233	51	26	202	45
RTOR Reduction (vph)	0	0	21	0	0	35	0	0	30	0	0	26
Lane Group Flow (vph)	26	124	16	67	311	25	46	233	21	26	202	19
Confl. Peds. (#/hr)	4		17	17		4	4		14	14		4
Heavy Vehicles (%)	35%	16%	24%	23%	22%	17%	18%	21%	20%	26%	15%	21%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4
Effective Green, g (s)	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4
Actuated g/C Ratio	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Clearance Time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Lane Grp Cap (vph)	269	612	459	378	582	501	377	587	477	333	617	484
v/s Ratio Prot		0.09			c0.22			c0.17			0.14	
v/s Ratio Perm	0.04		0.01	0.07		0.02	0.05		0.02	0.03		0.02
v/c Ratio	0.10	0.20	0.03	0.18	0.53	0.05	0.12	0.40	0.04	0.08	0.33	0.04
Uniform Delay, d1	12.3	12.9	11.9	12.7	15.2	12.0	12.4	14.1	12.0	12.2	13.7	12.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.88	0.92	0.72	1.00	1.00	1.00
Incremental Delay, d2	0.7	0.7	0.1	1.0	3.5	0.2	0.7	2.0	0.2	0.5	1.4	0.2
Delay (s)	13.0	13.6	12.1	13.7	18.7	12.2	11.5	15.0	8.8	12.6	15.1	12.1
Level of Service	B	B	B	B	B	B	B	B	A	B	B	B
Approach Delay (s)		13.2			17.0			13.6			14.3	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	69.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
23: RR 33 (HARMONY) & RR 59 (OLIVE AVE)

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	116	56	349	339	123	56	452	120	58	719	76
Future Volume (vph)	37	116	56	349	339	123	56	452	120	58	719	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		3.0	6.5	6.5	3.0	6.3		3.0	6.3	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.95		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)	1699	3238		1763	1842	1545	1716	3302		1637	3392	
Flt Permitted	0.54	1.00		0.57	1.00	1.00	0.18	1.00		0.32	1.00	
Satd. Flow (perm)	970	3238		1062	1842	1545	317	3302		551	3392	
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)	40	126	61	379	368	134	61	491	130	63	782	83
RTOR Reduction (vph)	0	42	0	0	0	75	0	26	0	0	9	0
Lane Group Flow (vph)	40	145	0	379	368	59	61	595	0	63	856	0
Confl. Peds. (#/hr)	1		5	5		1	2		3	3		2
Heavy Vehicles (%)	5%	0%	13%	1%	2%	2%	4%	5%	2%	9%	3%	8%
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	27.7	27.7		39.4	39.4	39.4	34.8	30.1		34.8	30.1	
Effective Green, g (s)	27.7	27.7		39.4	39.4	39.4	34.8	30.1		34.8	30.1	
Actuated g/C Ratio	0.31	0.31		0.44	0.44	0.44	0.39	0.33		0.39	0.33	
Clearance Time (s)	6.5	6.5		3.0	6.5	6.5	3.0	6.3		3.0	6.3	
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)	298	996		532	806	676	195	1104		269	1134	
v/s Ratio Prot		0.04		c0.07	0.20		c0.02	0.18		0.01	c0.25	
v/s Ratio Perm	0.04			c0.24		0.04	0.10			0.08		
v/c Ratio	0.13	0.15		0.71	0.46	0.09	0.31	0.54		0.23	0.76	
Uniform Delay, d1	22.5	22.6		19.5	17.8	14.8	18.8	24.3		17.9	26.7	
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	0.3		4.5	1.9	0.3	0.9	1.9		0.4	4.7	
Delay (s)	23.4	22.9		24.0	19.6	15.0	19.7	26.2		18.4	31.4	
Level of Service	C	C		C	B	B	B	C		B	C	
Approach Delay (s)		23.0			20.8			25.6			30.5	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	25.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.8
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
24: RR 54 (PARK) & HILLSIDE

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	117	8	17	617	540	176
Future Volume (vph)	117	8	17	617	540	176
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2			5.3	5.3	
Lane Util. Factor	1.00			0.95	0.95	
Frpb, ped/bikes	1.00			1.00	0.99	
Flpb, ped/bikes	0.99			1.00	1.00	
Frt	0.99			1.00	0.96	
Flt Protected	0.96			1.00	1.00	
Satd. Flow (prot)	1699			3485	3329	
Flt Permitted	0.96			0.93	1.00	
Satd. Flow (perm)	1699			3247	3329	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	127	9	18	671	587	191
RTOR Reduction (vph)	6	0	0	0	32	0
Lane Group Flow (vph)	130	0	0	689	746	0
Confl. Peds. (#/hr)	10	18	7			7
Heavy Vehicles (%)	2%	25%	13%	2%	1%	7%
Turn Type	Perm		Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4		2			
Actuated Green, G (s)	8.7			40.8	40.8	
Effective Green, g (s)	8.7			40.8	40.8	
Actuated g/C Ratio	0.14			0.68	0.68	
Clearance Time (s)	5.2			5.3	5.3	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	246			2207	2263	
v/s Ratio Prot					c0.22	
v/s Ratio Perm	c0.08			0.21		
v/c Ratio	0.53			0.31	0.33	
Uniform Delay, d1	23.8			3.9	4.0	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	2.0			0.4	0.4	
Delay (s)	25.8			4.3	4.3	
Level of Service	C			A	A	
Approach Delay (s)	25.8			4.3	4.3	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
25: RR 2 (SIMCOE ST) & MILL ST

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	59	48	31	139	68	40
Future Volume (vph)	59	48	31	139	68	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7		5.6	5.6	
Lane Util. Factor	1.00	1.00		0.95	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		0.99	1.00	
Frt	1.00	0.85		1.00	0.94	
Flt Protected	0.95	1.00		0.99	1.00	
Satd. Flow (prot)	1606	1318		3024	2778	
Flt Permitted	0.95	1.00		0.90	1.00	
Satd. Flow (perm)	1606	1318		2755	2778	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	52	34	151	74	43
RTOR Reduction (vph)	0	46	0	0	13	0
Lane Group Flow (vph)	64	6	0	185	104	0
Confl. Peds. (#/hr)	18	7	25			25
Heavy Vehicles (%)	0%	7%	7%	4%	6%	8%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4	2			
Actuated Green, G (s)	7.1	7.1		41.6	41.6	
Effective Green, g (s)	7.1	7.1		41.6	41.6	
Actuated g/C Ratio	0.12	0.12		0.69	0.69	
Clearance Time (s)	5.7	5.7		5.6	5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	190	155		1910	1926	
v/s Ratio Prot	c0.04				0.04	
v/s Ratio Perm		0.00		c0.07		
v/c Ratio	0.34	0.04		0.10	0.05	
Uniform Delay, d1	24.3	23.4		3.0	2.9	
Progression Factor	1.00	1.00		0.80	1.57	
Incremental Delay, d2	1.1	0.1		0.1	0.1	
Delay (s)	25.3	23.5		2.5	4.7	
Level of Service	C	C		A	A	
Approach Delay (s)	24.5			2.5	4.7	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.13		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
26: RR 2 (SIMCOE ST) & 1ST AVE

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	91	54	105	10	50	2
Future Volume (vph)	91	54	105	10	50	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9		5.8			5.8
Lane Util. Factor	1.00		0.95			0.95
Frpb, ped/bikes	0.99		1.00			1.00
Flpb, ped/bikes	1.00		1.00			0.99
Frt	0.95		0.99			1.00
Flt Protected	0.97		1.00			0.95
Satd. Flow (prot)	1419		3023			2510
Flt Permitted	0.97		1.00			0.76
Satd. Flow (perm)	1419		3023			2001
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	99	59	114	11	54	2
RTOR Reduction (vph)	50	0	4	0	0	0
Lane Group Flow (vph)	108	0	121	0	0	56
Confl. Peds. (#/hr)	3	3		11	11	
Heavy Vehicles (%)	11%	6%	4%	10%	21%	7%
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	9.0		39.3			39.3
Effective Green, g (s)	9.0		39.3			39.3
Actuated g/C Ratio	0.15		0.65			0.65
Clearance Time (s)	5.9		5.8			5.8
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	212		1980			1310
v/s Ratio Prot	c0.08		c0.04			
v/s Ratio Perm						0.03
v/c Ratio	0.51		0.06			0.04
Uniform Delay, d1	23.5		3.7			3.7
Progression Factor	0.63		1.00			1.10
Incremental Delay, d2	1.6		0.1			0.1
Delay (s)	16.3		3.8			4.1
Level of Service	B		A			A
Approach Delay (s)	16.3		3.8			4.1
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	36.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
27: ALBERT ST & 1ST AVE

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	43	8	12	254	239	6	226	19	15	157	19
Future Volume (vph)	7	43	8	12	254	239	6	226	19	15	157	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3			5.1			5.1	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.94			0.99			0.99	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1678			1688			1854			1830	
Flt Permitted		0.94			1.00			0.99			0.96	
Satd. Flow (perm)		1593			1682			1840			1769	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	47	9	13	276	260	7	246	21	16	171	21
RTOR Reduction (vph)	0	4	0	0	54	0	0	5	0	0	6	0
Lane Group Flow (vph)	0	60	0	0	495	0	0	269	0	0	202	0
Confl. Peds. (#/hr)	1		2	2		1	3		1	1		3
Heavy Vehicles (%)	0%	12%	0%	0%	4%	2%	0%	0%	0%	0%	0%	6%
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)		32.7			32.7			16.9			16.9	
Effective Green, g (s)		32.7			32.7			16.9			16.9	
Actuated g/C Ratio		0.55			0.55			0.28			0.28	
Clearance Time (s)		5.3			5.3			5.1			5.1	
Lane Grp Cap (vph)		868			916			518			498	
v/s Ratio Prot												
v/s Ratio Perm		0.04			c0.29			c0.15			0.11	
v/c Ratio		0.07			0.54			0.52			0.40	
Uniform Delay, d1		6.5			8.8			18.1			17.5	
Progression Factor		0.16			0.65			1.00			0.64	
Incremental Delay, d2		0.2			2.2			3.7			2.0	
Delay (s)		1.2			7.9			21.8			13.3	
Level of Service		A			A			C			B	
Approach Delay (s)		1.2			7.9			21.8			13.3	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.4
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
28: Drew Street/DREW ST & 1ST AVE/MCNAUGHTON AVE/MCNAUGHTON AVE/EDEN AVE

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	80	9	134	92	5	262	6	160	9	68	8
Future Volume (vph)	6	80	9	134	92	5	262	6	160	9	68	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4		5.4	5.4		5.4	5.4			5.4	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00			1.00	
Frpb, ped/bikes		1.00		1.00	1.00		1.00	0.98			1.00	
Flpb, ped/bikes		1.00		1.00	1.00		1.00	1.00			1.00	
Frt		0.99		1.00	0.99		1.00	0.86			0.99	
Flt Protected		1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)		1485		1588	1531		1588	1403			1637	
Flt Permitted		0.99		0.69	1.00		0.70	1.00			0.97	
Satd. Flow (perm)		1468		1153	1531		1165	1403			1596	
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)	7	87	10	146	100	5	285	7	174	10	74	9
RTOR Reduction (vph)	0	6	0	0	3	0	0	100	0	0	5	0
Lane Group Flow (vph)	0	98	0	146	102	0	285	81	0	0	88	0
Confl. Peds. (#/hr)	3		1	1		3	1		1	1		1
Heavy Vehicles (%)	0%	14%	0%	1%	10%	0%	1%	0%	1%	11%	0%	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)		23.6		23.6	23.6		25.6	25.6			25.6	
Effective Green, g (s)		23.6		23.6	23.6		25.6	25.6			25.6	
Actuated g/C Ratio		0.39		0.39	0.39		0.43	0.43			0.43	
Clearance Time (s)		5.4		5.4	5.4		5.4	5.4			5.4	
Lane Grp Cap (vph)		577		453	602		497	598			680	
v/s Ratio Prot					0.07			0.06				
v/s Ratio Perm		0.07		c0.13			c0.24				0.06	
v/c Ratio		0.17		0.32	0.17		0.57	0.14			0.13	
Uniform Delay, d1		11.8		12.6	11.8		13.1	10.5			10.4	
Progression Factor		1.07		1.03	1.03		1.00	1.00			1.00	
Incremental Delay, d2		0.6		1.8	0.6		4.8	0.5			0.4	
Delay (s)		13.3		14.8	12.7		17.8	10.9			10.8	
Level of Service		B		B	B		B	B			B	
Approach Delay (s)		13.3			13.9			15.1			10.8	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.8
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
29: RR 16 (RITSON RD) & MCNAUGHTON AVE/DEAN AVE/DEAN AVE
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	134	36	15	179	93	23	17	836	72	32	839	76
Future Volume (vph)	134	36	15	179	93	23	17	836	72	32	839	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.97		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1294	1160		1298	1235		1515	2583		1213	2568	
Flt Permitted	0.68	1.00		0.72	1.00		0.24	1.00		0.24	1.00	
Satd. Flow (perm)	921	1160		985	1235		384	2583		311	2568	
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)	146	39	16	195	101	25	18	909	78	35	912	83
RTOR Reduction (vph)	0	12	0	0	16	0	0	9	0	0	10	0
Lane Group Flow (vph)	146	43	0	195	110	0	18	978	0	35	985	0
Confl. Peds. (#/hr)	1		7	7		1	1		9	9		1
Heavy Vehicles (%)	24%	34%	50%	23%	27%	55%	6%	22%	29%	32%	24%	16%
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)	15.9	15.9		15.9	15.9		31.7	31.7		31.7	31.7	
Effective Green, g (s)	15.9	15.9		15.9	15.9		31.7	31.7		31.7	31.7	
Actuated g/C Ratio	0.27	0.27		0.27	0.27		0.53	0.53		0.53	0.53	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	244	307		261	327		202	1364		164	1356	
v/s Ratio Prot		0.04			0.09			0.38			c0.38	
v/s Ratio Perm	0.16			c0.20			0.05			0.11		
v/c Ratio	0.60	0.14		0.75	0.34		0.09	0.72		0.21	0.73	
Uniform Delay, d1	19.3	16.8		20.2	17.8		7.0	10.7		7.5	10.8	
Progression Factor	0.89	0.84		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.9	0.2		11.1	0.6		0.9	3.3		3.0	3.4	
Delay (s)	20.9	14.4		31.3	18.4		7.9	14.0		10.5	14.3	
Level of Service	C	B		C	B		A	B		B	B	
Approach Delay (s)		19.1			26.2			13.9			14.1	
Approach LOS		B			C			B			B	

Intersection Summary				
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	12.4	
Intersection Capacity Utilization	57.6%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
30: RR 35 (WILSON RD) & DEAN AVE
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	7	20	12	18	10	17	182	11	4	260	86
Future Volume (vph)	35	7	20	12	18	10	17	182	11	4	260	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4			5.4			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			0.98	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.96			0.97			0.99			0.97	
Flt Protected		0.97			0.99			1.00			1.00	
Satd. Flow (prot)		1337			1471			1540			1539	
Flt Permitted		0.80			0.89			0.96			1.00	
Satd. Flow (perm)		1102			1325			1492			1536	
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)	38	8	22	13	20	11	18	198	12	4	283	93
RTOR Reduction (vph)	0	20	0	0	10	0	0	1	0	0	9	0
Lane Group Flow (vph)	0	48	0	0	34	0	0	227	0	0	371	0
Confl. Peds. (#/hr)	6		3	3		6	20		9	9		20
Heavy Vehicles (%)	18%	29%	47%	25%	12%	30%	38%	17%	45%	0%	17%	14%
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)		6.2			6.2			52.8			52.8	
Effective Green, g (s)		6.2			6.2			52.8			52.8	
Actuated g/C Ratio		0.09			0.09			0.75			0.75	
Clearance Time (s)		5.4			5.4			5.6			5.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		97			117			1125			1158	
v/s Ratio Prot												
v/s Ratio Perm		c0.04			0.03			0.15			c0.24	
v/c Ratio		0.49			0.29			0.20			0.32	
Uniform Delay, d1		30.4			29.8			2.5			2.8	
Progression Factor		1.00			1.00			1.00			0.78	
Incremental Delay, d2		3.9			1.4			0.4			0.7	
Delay (s)		34.3			31.2			2.9			2.9	
Level of Service		C			C			A			A	
Approach Delay (s)		34.3			31.2			2.9			2.9	
Approach LOS		C			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	7.6	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.34			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	11.0	
Intersection Capacity Utilization	38.0%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
32: RR 22 (BLOOR ST) & RR 54 (PARK)
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	164	294	2	1	578	208	1	0	0	284	23	514
Future Volume (vph)	164	294	2	1	578	208	1	0	0	284	23	514
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.4		6.4	6.4	6.4		6.0		6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		0.95	0.95	1.00
Frt	1.00	1.00		1.00	1.00	0.85		1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.95		0.95	0.96	1.00
Satd. Flow (prot)	1750	3430		1785	3466	1479		1785		1679	1698	1597
Flt Permitted	0.28	1.00		0.56	1.00	1.00		0.65		0.95	0.96	1.00
Satd. Flow (perm)	524	3430		1046	3466	1479		1214		1679	1698	1597
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)	178	320	2	1	628	226	1	0	0	309	25	559
RTOR Reduction (vph)	0	1	0	0	0	144	0	0	0	0	0	309
Lane Group Flow (vph)	178	321	0	1	628	82	0	1	0	167	167	250
Heavy Vehicles (%)	2%	4%	0%	0%	3%	8%	0%	0%	0%	1%	0%	0%
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Split	NA	Perm
Protected Phases	5	2			6			8		4	4	
Permitted Phases	2			6		6	8					4
Actuated Green, G (s)	39.6	39.6		29.6	29.6	29.6		8.0		24.0	24.0	24.0
Effective Green, g (s)	39.6	39.6		29.6	29.6	29.6		8.0		24.0	24.0	24.0
Actuated g/C Ratio	0.44	0.44		0.33	0.33	0.33		0.09		0.27	0.27	0.27
Clearance Time (s)	3.0	6.4		6.4	6.4	6.4		6.0		6.0	6.0	6.0
Lane Grp Cap (vph)	325	1509		344	1139	486		107		447	452	425
v/s Ratio Prot	c0.04	0.09			0.18					0.10	0.10	
v/s Ratio Perm	c0.20			0.00		0.06		c0.00				c0.16
v/c Ratio	0.55	0.21		0.00	0.55	0.17		0.01		0.37	0.37	0.59
Uniform Delay, d1	16.5	15.6		20.3	24.8	21.5		37.4		26.9	26.8	28.7
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	6.5	0.3		0.0	1.9	0.7		0.2		2.4	2.3	5.9
Delay (s)	23.0	15.9		20.3	26.7	22.2		37.5		29.3	29.2	34.6
Level of Service	C	B		C	C	C		D		C	C	C
Approach Delay (s)		18.4			25.5			37.5			32.6	
Approach LOS		B			C			D			C	

Intersection Summary				
HCM 2000 Control Delay	26.7	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.52			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	21.4	
Intersection Capacity Utilization	70.5%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
33: PARK ROAD S & RR 22 (BLOOR ST)
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	133	456	240	735	0	550	0	241	0	0	1
Future Volume (vph)	0	133	456	240	735	0	550	0	241	0	0	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2	6.2	6.0	6.2		6.3	6.3	6.3		6.3	
Lane Util. Factor		0.91	0.91	1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes		0.99	0.98	1.00	1.00		1.00	1.00	0.97		1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt		0.91	0.85	1.00	1.00		1.00	1.00	0.85		0.86	
Flt Protected		1.00	1.00	0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (prot)		2926	1407	1764	3535		1679	1679	1496		1625	
Flt Permitted		1.00	1.00	0.38	1.00		0.76	0.76	1.00		1.00	
Satd. Flow (perm)		2926	1407	705	3535		1338	1338	1496		1625	
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)	0	145	496	261	799	0	598	0	262	0	0	1
RTOR Reduction (vph)	0	176	176	0	0	0	0	0	192	0	1	0
Lane Group Flow (vph)	0	217	72	261	799	0	299	299	70	0	0	0
Confl. Peds. (#/hr)	7		7	7		7			10	10		
Heavy Vehicles (%)	0%	10%	1%	1%	1%	0%	1%	0%	4%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Perm	NA	Perm		NA	
Protected Phases		2		1	6			8		7	7	
Permitted Phases	2		2	6			8		8			
Actuated Green, G (s)		22.7	22.7	37.3	37.3		20.9	20.9	20.9		1.3	
Effective Green, g (s)		22.7	22.7	37.3	37.3		20.9	20.9	20.9		1.3	
Actuated g/C Ratio		0.29	0.29	0.48	0.48		0.27	0.27	0.27		0.02	
Clearance Time (s)		6.2	6.2	6.0	6.2		6.3	6.3	6.3		6.3	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)		848	407	452	1683		357	357	399		26	
v/s Ratio Prot		0.07		c0.06	0.23						c0.00	
v/s Ratio Perm			0.05	c0.21			c0.22	0.22	0.05			
v/c Ratio		0.26	0.18	0.58	0.47		0.84	0.84	0.18		0.00	
Uniform Delay, d1		21.3	20.8	13.1	13.9		27.1	27.1	22.1		37.9	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2		0.7	0.9	1.8	1.0		15.6	15.6	0.2		0.0	
Delay (s)		22.0	21.8	14.9	14.8		42.7	42.7	22.3		37.9	
Level of Service		C	C	B	B		D	D	C		D	
Approach Delay (s)		21.9			14.8			36.5			37.9	
Approach LOS		C			B			D			D	

Intersection Summary				
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.71			
Actuated Cycle Length (s)	78.3	Sum of lost time (s)	24.8	
Intersection Capacity Utilization	74.5%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
36: RR 2 (SIMCOE ST) & RR 22 (BLOOR ST)

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	121	459	213	275	458	39	140	102	173	32	0	40
Future Volume (vph)	121	459	213	275	458	39	140	102	173	32	0	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2		6.0	6.2		6.2	6.2		6.2		6.2
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00		1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		1.00		0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00		1.00
Frt	1.00	0.95		1.00	0.99		1.00	0.91		1.00		0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95		1.00
Satd. Flow (prot)	1730	3177		1784	3425		1769	3150		1709		1435
Flt Permitted	0.45	1.00		0.21	1.00		0.76	1.00		0.57		1.00
Satd. Flow (perm)	821	3177		388	3425		1410	3150		1024		1435
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)	132	499	232	299	498	42	152	111	188	35	0	43
RTOR Reduction (vph)	0	59	0	0	7	0	0	128	0	0	0	29
Lane Group Flow (vph)	132	672	0	299	533	0	152	171	0	35	0	14
Confl. Peds. (#/hr)	9		9	9		9	9		6	6		9
Heavy Vehicles (%)	3%	6%	7%	0%	3%	1%	0%	4%	0%	4%	3%	9%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm		Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	35.8	30.0		48.8	40.0		28.8	28.8		28.8		28.8
Effective Green, g (s)	35.8	30.0		48.8	40.0		28.8	28.8		28.8		28.8
Actuated g/C Ratio	0.40	0.33		0.54	0.44		0.32	0.32		0.32		0.32
Clearance Time (s)	3.0	6.2		6.0	6.2		6.2	6.2		6.2		6.2
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0		3.0
Lane Grp Cap (vph)	385	1059		408	1522		451	1008		327		459
v/s Ratio Prot	0.02	0.21		c0.10	0.16			0.05				
v/s Ratio Perm	0.11			c0.29			c0.11			0.03		0.01
v/c Ratio	0.34	0.63		0.73	0.35		0.34	0.17		0.11		0.03
Uniform Delay, d1	17.7	25.4		13.8	16.5		23.3	22.0		21.5		21.0
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00		1.00
Incremental Delay, d2	0.5	2.9		6.7	0.6		2.0	0.4		0.7		0.1
Delay (s)	18.2	28.3		20.5	17.1		25.3	22.4		22.2		21.1
Level of Service	B	C		C	B		C	C		C		C
Approach Delay (s)		26.7			18.3			23.4			21.6	
Approach LOS		C			B			C			C	

Intersection Summary				
HCM 2000 Control Delay	22.7	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.61			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.4	
Intersection Capacity Utilization	79.7%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
38: DREW ST/HWY 401 EB RAMP (RITSON) & RR 22 (BLOOR ST)

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	364	19	27	501	98	21	7	17	369	11	68
Future Volume (vph)	117	364	19	27	501	98	21	7	17	369	11	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2		6.2	6.2		6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.90		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1708	3440		1644	3347		1698	1489		1716	1558	
Flt Permitted	0.38	1.00		0.51	1.00		0.70	1.00		0.74	1.00	
Satd. Flow (perm)	683	3440		879	3347		1253	1489		1337	1558	
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)	127	396	21	29	545	107	23	8	18	401	12	74
RTOR Reduction (vph)	0	6	0	0	28	0	0	12	0	0	47	0
Lane Group Flow (vph)	127	411	0	29	624	0	23	14	0	401	39	0
Confl. Peds. (#/hr)	9		7	7		9	2					2
Heavy Vehicles (%)	4%	3%	0%	8%	3%	6%	5%	29%	6%	4%	9%	3%
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)	22.9	22.9		22.9	22.9		19.7	19.7		19.7	19.7	
Effective Green, g (s)	22.9	22.9		22.9	22.9		19.7	19.7		19.7	19.7	
Actuated g/C Ratio	0.42	0.42		0.42	0.42		0.36	0.36		0.36	0.36	
Clearance Time (s)	6.2	6.2		6.2	6.2		6.2	6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	284	1432		365	1393		448	533		478	558	
v/s Ratio Prot		0.12			c0.19			0.01			0.02	
v/s Ratio Perm	0.19			0.03			0.02			c0.30		
v/c Ratio	0.45	0.29		0.08	0.45		0.05	0.03		0.84	0.07	
Uniform Delay, d1	11.5	10.6		9.7	11.5		11.5	11.4		16.2	11.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	5.0	0.5		0.4	1.0		0.0	0.0		12.2	0.1	
Delay (s)	16.5	11.1		10.1	12.6		11.6	11.5		28.4	11.7	
Level of Service	B	B		B	B		B	B		C	B	
Approach Delay (s)		12.4			12.5			11.5			25.5	
Approach LOS		B			B			B			C	

Intersection Summary				
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.63			
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	12.4	
Intersection Capacity Utilization	76.4%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
39: RR 16 (RITSON RD) & RR 22 (BLOOR ST)

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	458	144	178	78	343	99	71	341	59	88	503	332
Future Volume (vph)	458	144	178	78	343	99	71	341	59	88	503	332
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5		6.5	6.5			6.4	6.4		6.4	6.4
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95	1.00		0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00			1.00	0.95		1.00	1.00
Flpb, ped/bikes	1.00	1.00		0.99	1.00			1.00	1.00		1.00	1.00
Frt	1.00	0.92		1.00	0.97			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		0.99	1.00
Satd. Flow (prot)	1716	3032		1757	3323			3355	1522		3337	1597
Flt Permitted	0.35	1.00		0.54	1.00			0.65	1.00		0.75	1.00
Satd. Flow (perm)	641	3032		1003	3323			2194	1522		2526	1597
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)	498	157	193	85	373	108	77	371	64	96	547	361
RTOR Reduction (vph)	0	52	0	0	28	0	0	0	44	0	0	246
Lane Group Flow (vph)	498	298	0	85	453	0	0	448	20	0	643	115
Confl. Peds. (#/hr)	2		6	6		2			25	25		
Heavy Vehicles (%)	4%	4%	9%	1%	3%	5%	3%	6%	0%	11%	5%	0%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	48.5	48.5		24.9	24.9			28.6	28.6		28.6	28.6
Effective Green, g (s)	48.5	48.5		24.9	24.9			28.6	28.6		28.6	28.6
Actuated g/C Ratio	0.54	0.54		0.28	0.28			0.32	0.32		0.32	0.32
Clearance Time (s)	3.0	6.5		6.5	6.5			6.4	6.4		6.4	6.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	591	1633		277	919			697	483		802	507
v/s Ratio Prot	c0.19	0.10			0.14							
v/s Ratio Perm	c0.26			0.08				0.20	0.01		c0.25	0.07
v/c Ratio	0.84	0.18		0.31	0.49			0.64	0.04		0.80	0.23
Uniform Delay, d1	14.2	10.6		25.7	27.3			26.3	21.2		28.1	22.6
Progression Factor	1.00	1.00		0.77	0.77			1.00	1.00		1.00	1.00
Incremental Delay, d2	10.6	0.2		2.5	1.6			4.5	0.2		8.3	1.0
Delay (s)	24.7	10.9		22.3	22.6			30.8	21.4		36.4	23.6
Level of Service	C	B		C	C			C	C		D	C
Approach Delay (s)		19.0			22.5			29.7			31.8	
Approach LOS		B			C			C			C	

Intersection Summary				
HCM 2000 Control Delay	25.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.86			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.9	
Intersection Capacity Utilization	93.7%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
40: RR 35 (WILSON RD) & RR 22 (BLOOR ST)

Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	139	55	29	324	88	55	120	45	93	183	119
Future Volume (vph)	82	139	55	29	324	88	55	120	45	93	183	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.98		1.00	1.00		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		0.96	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.96		1.00	0.97		1.00	0.96		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1716	1664		1600	1733		1635	1724		1698	1692	
Flt Permitted	0.33	1.00		0.63	1.00		0.43	1.00		0.63	1.00	
Satd. Flow (perm)	596	1664		1054	1733		738	1724		1122	1692	
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)	89	151	60	32	352	96	60	130	49	101	199	129
RTOR Reduction (vph)	0	16	0	0	10	0	0	15	0	0	26	0
Lane Group Flow (vph)	89	195	0	32	438	0	60	164	0	101	302	0
Confl. Peds. (#/hr)	1		22	22		1	9		6	6		9
Heavy Vehicles (%)	4%	5%	8%	7%	4%	6%	8%	3%	5%	4%	2%	4%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	47.1	47.1		38.1	38.1		31.2	31.2		31.2	31.2	
Effective Green, g (s)	47.1	47.1		38.1	38.1		31.2	31.2		31.2	31.2	
Actuated g/C Ratio	0.52	0.52		0.42	0.42		0.35	0.35		0.35	0.35	
Clearance Time (s)	3.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	386	870		446	733		255	597		388	586	
v/s Ratio Prot	0.02	c0.12			c0.25			0.10			c0.18	
v/s Ratio Perm	0.11			0.03			0.08			0.09		
v/c Ratio	0.23	0.22		0.07	0.60		0.24	0.27		0.26	0.52	
Uniform Delay, d1	12.0	11.6		15.4	20.0		20.9	21.2		21.1	23.4	
Progression Factor	0.78	1.09		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.6		0.3	3.6		2.2	1.1		1.6	3.2	
Delay (s)	9.6	13.1		15.7	23.6		23.1	22.4		22.7	26.6	
Level of Service	A	B		B	C		C	C		C	C	
Approach Delay (s)		12.1			23.1			22.5			25.7	
Approach LOS		B			C			C			C	

Intersection Summary				
HCM 2000 Control Delay	21.5	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.53			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	14.7	
Intersection Capacity Utilization	76.8%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
41: RR 56 (FAREWELL ST)/401 EB RAMP / RR 56 FAREWELL & RR 22 (BLOOR ST)

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	72	100	67	520	272	165	25	55	64	433	304	83
Future Volume (vph)	72	100	67	520	272	165	25	55	64	433	304	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2		3.0	6.2		6.3	6.3	6.3	5.5	6.3	6.3
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.94		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1620	3137		1766	3302		1537	1663	1401	3298	3368	1560
Flt Permitted	0.48	1.00		0.59	1.00		0.55	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	819	3137		1091	3302		894	1663	1401	3298	3368	1560
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)	78	109	73	565	296	179	27	60	70	471	330	90
RTOR Reduction (vph)	0	50	0	0	69	0	0	0	65	0	0	63
Lane Group Flow (vph)	78	132	0	565	406	0	27	60	5	471	330	27
Confl. Peds. (#/hr)	2		1	1		2	1					1
Heavy Vehicles (%)	10%	8%	4%	1%	1%	1%	16%	13%	14%	5%	6%	1%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases	2			6			8		8			4
Actuated Green, G (s)	41.0	35.2		64.0	55.2		8.0	8.0	8.0	20.0	33.5	33.5
Effective Green, g (s)	41.0	35.2		64.0	55.2		8.0	8.0	8.0	20.0	33.5	33.5
Actuated g/C Ratio	0.37	0.32		0.58	0.50		0.07	0.07	0.07	0.18	0.30	0.30
Clearance Time (s)	3.0	6.2		3.0	6.2		6.3	6.3	6.3	5.5	6.3	6.3
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	347	1003		793	1657		65	120	101	599	1025	475
v/s Ratio Prot	0.01	0.04		c0.17	0.12			c0.04		c0.14	0.10	
v/s Ratio Perm	0.07			c0.25			0.03		0.00			0.02
v/c Ratio	0.22	0.13		0.71	0.24		0.42	0.50	0.05	0.79	0.32	0.06
Uniform Delay, d1	22.7	26.6		14.2	15.6		48.8	49.1	47.5	43.0	29.5	27.1
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.3		3.0	0.4		4.3	3.3	0.2	6.7	0.2	0.1
Delay (s)	23.1	26.8		17.3	15.9		53.0	52.3	47.7	49.7	29.7	27.1
Level of Service	C	C		B	B		D	D	D	D	C	C
Approach Delay (s)		25.7			16.6			50.4			40.0	
Approach LOS		C			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	28.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
42: RR 33 (HARMONY) & RR 22 (BLOOR ST)

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	297	217	90	513	168	38	176	157	7	11	618	306
Future Volume (vph)	297	217	90	513	168	38	176	157	7	11	618	306
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.7	6.3	6.3	3.7	6.3		3.0	6.5		6.5	6.5	6.5
Lane Util. Factor	0.91	0.91	1.00	1.00	0.95		1.00	0.95		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1310	2679	1109	1539	2893		1363	3101		1405	1648	1365
Flt Permitted	0.61	0.76	1.00	0.52	1.00		0.08	1.00		0.64	1.00	1.00
Satd. Flow (perm)	844	2084	1109	835	2893		119	3101		945	1648	1365
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)	323	236	98	558	183	41	191	171	8	12	672	333
RTOR Reduction (vph)	0	0	88	0	15	0	0	3	0	0	0	162
Lane Group Flow (vph)	174	385	10	558	209	0	191	176	0	12	672	171
Heavy Vehicles (%)	24%	26%	44%	16%	18%	29%	31%	13%	43%	27%	14%	17%
Turn Type	pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2			2	6		8			4		4
Actuated Green, G (s)	28.1	28.1	12.7	44.7	25.6		62.5	62.5		45.1	45.1	45.1
Effective Green, g (s)	28.1	28.1	12.7	44.7	25.6		62.5	62.5		45.1	45.1	45.1
Actuated g/C Ratio	0.23	0.23	0.11	0.37	0.21		0.52	0.52		0.38	0.38	0.38
Clearance Time (s)	3.7	6.3	6.3	3.7	6.3		3.0	6.5		6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	257	564	117	477	617		211	1615		355	619	513
v/s Ratio Prot	0.09	0.09		c0.28	0.07		c0.11	0.06			c0.41	
v/s Ratio Perm	0.07	0.07	0.01	c0.16			0.36			0.01		0.13
v/c Ratio	0.68	0.68	0.09	1.17	0.34		0.91	0.11		0.03	1.09	0.33
Uniform Delay, d1	40.6	41.9	48.4	34.8	40.0		35.1	14.6		23.7	37.5	26.7
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	6.9	3.4	1.5	96.9	1.5		36.8	0.0		0.0	61.6	0.4
Delay (s)	47.5	45.3	49.9	131.7	41.5		71.8	14.6		23.7	99.0	27.1
Level of Service	D	D	D	F	D		E	B		C	F	C
Approach Delay (s)		46.6			105.9			44.2			74.6	
Approach LOS		D			F			D			E	

Intersection Summary			
HCM 2000 Control Delay	72.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	19.5
Intersection Capacity Utilization	99.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
43: GRANDVIEW ST & RR 59 (OLIVE AVE)

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	139	82	53	312	5	173	47	69	9	28	36
Future Volume (vph)	13	139	82	53	312	5	173	47	69	9	28	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	6.2	6.2		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	1.00		1.00	0.93		1.00	0.97	
Flpb, ped/bikes	0.96	1.00	1.00	0.97	1.00		0.97	1.00		0.91	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.91		1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1399	1678	1248	1498	1591		1496	1364		1630	1390	
Flt Permitted	0.54	1.00	1.00	0.66	1.00		0.71	1.00		0.68	1.00	
Satd. Flow (perm)	799	1678	1248	1042	1591		1122	1364		1160	1390	
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)	14	151	89	58	339	5	188	51	75	10	30	39
RTOR Reduction (vph)	0	0	34	0	0	0	0	58	0	0	30	0
Lane Group Flow (vph)	14	151	55	58	344	0	188	68	0	10	39	0
Confl. Peds. (#/hr)	29		21	21		29	17		58	58		17
Heavy Vehicles (%)	23%	12%	20%	15%	18%	0%	16%	17%	16%	0%	18%	22%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	51.0	51.0	51.0	51.0	51.0		18.8	18.8		18.8	18.8	
Effective Green, g (s)	51.0	51.0	51.0	51.0	51.0		18.8	18.8		18.8	18.8	
Actuated g/C Ratio	0.62	0.62	0.62	0.62	0.62		0.23	0.23		0.23	0.23	
Clearance Time (s)	6.2	6.2	6.2	6.2	6.2		5.8	5.8		5.8	5.8	
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)	498	1046	778	649	991		257	313		266	319	
v/s Ratio Prot		0.09			c0.22			0.05			0.03	
v/s Ratio Perm	0.02		0.04	0.06			c0.17			0.01		
v/c Ratio	0.03	0.14	0.07	0.09	0.35		0.73	0.22		0.04	0.12	
Uniform Delay, d1	5.9	6.4	6.1	6.1	7.4		29.2	25.5		24.5	25.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3	0.2	0.3	1.0		10.2	0.4		0.1	0.2	
Delay (s)	6.0	6.7	6.2	6.4	8.4		39.4	25.9		24.5	25.1	
Level of Service	A	A	A	A	A		D	C		C	C	
Approach Delay (s)		6.5			8.1			34.0			25.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	81.8	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
44: GRANDVIEW ST & RR 22 (BLOOR ST)

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	187	18	2	533	69	86	80	7	51	31	56
Future Volume (vph)	18	187	18	2	533	69	86	80	7	51	31	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.6	6.6		3.6	3.6		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.99		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1339	1577		1186	1537		1550	1537		1454	1393	
Flt Permitted	0.35	1.00		0.62	1.00		0.70	1.00		0.70	1.00	
Satd. Flow (perm)	496	1577		773	1537		1135	1537		1064	1393	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	203	20	2	579	75	93	87	8	55	34	61
RTOR Reduction (vph)	0	3	0	0	4	0	0	6	0	0	52	0
Lane Group Flow (vph)	20	220	0	2	650	0	93	89	0	55	43	0
Confl. Peds. (#/hr)	3		2	2		3	8		5	5		8
Heavy Vehicles (%)	33%	19%	0%	50%	19%	26%	14%	21%	14%	22%	13%	23%
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)	47.7	47.7		50.7	50.7		10.0	10.0		10.0	10.0	
Effective Green, g (s)	47.7	47.7		50.7	50.7		10.0	10.0		10.0	10.0	
Actuated g/C Ratio	0.68	0.68		0.72	0.72		0.14	0.14		0.14	0.14	
Clearance Time (s)	6.6	6.6		3.6	3.6		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	337	1074		559	1113		162	219		152	199	
v/s Ratio Prot		0.14			c0.42			0.06			0.03	
v/s Ratio Perm	0.04			0.00			c0.08			0.05		
v/c Ratio	0.06	0.20		0.00	0.58		0.57	0.41		0.36	0.21	
Uniform Delay, d1	3.7	4.1		2.7	4.6		28.0	27.3		27.1	26.5	
Progression Factor	1.00	1.00		0.81	0.81		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.4		0.0	2.2		4.8	1.2		1.5	0.5	
Delay (s)	4.0	4.6		2.2	5.9		32.9	28.5		28.6	27.1	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		4.5			5.9			30.7			27.6	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.3
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
45: PRESTONVALE RD & RR 22 (BLOOR ST)

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	145	10	21	210	54	13	26	37	66	39	18
Future Volume (vph)	21	145	10	21	210	54	13	26	37	66	39	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.91		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1384	1571		1566	1618		1552	1420		1439	1437	
Flt Permitted	0.58	1.00		0.65	1.00		0.72	1.00		0.71	1.00	
Satd. Flow (perm)	851	1571		1072	1618		1171	1420		1080	1437	
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)	23	158	11	23	228	59	14	28	40	72	42	20
RTOR Reduction (vph)	0	2	0	0	9	0	0	35	0	0	17	0
Lane Group Flow (vph)	23	167	0	23	278	0	14	33	0	72	45	0
Heavy Vehicles (%)	29%	19%	10%	14%	14%	7%	15%	23%	19%	24%	28%	17%
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)	48.4	48.4		48.4	48.4		9.0	9.0		9.0	9.0	
Effective Green, g (s)	48.4	48.4		48.4	48.4		9.0	9.0		9.0	9.0	
Actuated g/C Ratio	0.69	0.69		0.69	0.69		0.13	0.13		0.13	0.13	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	588	1086		741	1118		150	182		138	184	
v/s Ratio Prot		0.11			c0.17			0.02			0.03	
v/s Ratio Perm	0.03			0.02			0.01			c0.07		
v/c Ratio	0.04	0.15		0.03	0.25		0.09	0.18		0.52	0.24	
Uniform Delay, d1	3.4	3.7		3.4	4.0		26.9	27.2		28.5	27.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3		0.1	0.5		0.3	0.5		3.5	0.7	
Delay (s)	3.5	4.0		3.5	4.6		27.2	27.7		32.0	28.1	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		4.0			4.5			27.6			30.2	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
47: RR 34 (COURTICE RD) & RR 22 (BLOOR ST)

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	129	123	32	107	36	68	183	19	33	355	81
Future Volume (vph)	94	129	123	32	107	36	68	183	19	33	355	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.1	7.1		7.1	7.1		7.4	7.4	7.4	7.4	7.4	7.4
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.93		1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1733	1705		1682	1755		1636	1789	1377	1733	1740	1502
Flt Permitted	0.66	1.00		0.53	1.00		0.52	1.00	1.00	0.63	1.00	1.00
Satd. Flow (perm)	1201	1705		931	1755		890	1789	1377	1154	1740	1502
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)	102	140	134	35	116	39	74	199	21	36	386	88
RTOR Reduction (vph)	0	52	0	0	18	0	0	0	10	0	0	26
Lane Group Flow (vph)	102	222	0	35	137	0	74	199	11	36	386	62
Confl. Peds. (#/hr)			1	1			1					1
Heavy Vehicles (%)	3%	2%	0%	6%	4%	0%	9%	5%	16%	3%	8%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	16.6	16.6		16.6	16.6		35.2	35.2	35.2	35.2	35.2	35.2
Effective Green, g (s)	16.6	16.6		16.6	16.6		35.2	35.2	35.2	35.2	35.2	35.2
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.53	0.53	0.53	0.53	0.53	0.53
Clearance Time (s)	7.1	7.1		7.1	7.1		7.4	7.4	7.4	7.4	7.4	7.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.2	6.2	6.2	6.2	6.2	6.2
Lane Grp Cap (vph)	300	426		233	439		472	949	731	612	923	797
v/s Ratio Prot		c0.13			0.08			0.11			c0.22	
v/s Ratio Perm	0.08			0.04			0.08		0.01	0.03		0.04
v/c Ratio	0.34	0.52		0.15	0.31		0.16	0.21	0.02	0.06	0.42	0.08
Uniform Delay, d1	20.4	21.4		19.4	20.2		8.0	8.2	7.4	7.5	9.4	7.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.7	1.1		0.3	0.4		0.7	0.5	0.0	0.2	1.4	0.2
Delay (s)	21.0	22.6		19.7	20.6		8.7	8.7	7.4	7.7	10.8	7.8
Level of Service	C	C		B	C		A	A	A	A	B	A
Approach Delay (s)		22.2			20.4			8.6			10.0	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	14.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	66.3	Sum of lost time (s)	14.5
Intersection Capacity Utilization	90.3%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
48: RR 34 (COURTICE RD) & BASELINE RD

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	1	92	17	1	7	70	279	42	23	504	31
Future Volume (vph)	15	1	92	17	1	7	70	279	42	23	504	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			-2%			-5%			-5%	
Total Lost time (s)	7.3	7.3		7.3	7.3		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	1.00	
Frt	1.00	0.85		1.00	0.87		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)	1127	1218		1093	1101		1298	1518		1316	1622	
Flt Permitted	0.75	1.00		0.69	1.00		0.40	1.00		0.55	1.00	
Satd. Flow (perm)	892	1218		796	1101		553	1518		764	1622	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	1	100	18	1	8	76	303	46	25	548	34
RTOR Reduction (vph)	0	86	0	0	7	0	0	5	0	0	2	0
Lane Group Flow (vph)	16	15	0	18	2	0	76	344	0	25	580	0
Heavy Vehicles (%)	60%	0%	33%	65%	100%	43%	41%	22%	40%	39%	17%	29%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	9.6	9.6		9.6	9.6		45.6	45.6		45.6	45.6	
Effective Green, g (s)	9.6	9.6		9.6	9.6		45.6	45.6		45.6	45.6	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.65	0.65		0.65	0.65	
Clearance Time (s)	7.3	7.3		7.3	7.3		7.5	7.5		7.5	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	122	167		109	150		360	988		497	1056	
v/s Ratio Prot		0.01			0.00			0.23			c0.36	
v/s Ratio Perm	0.02			c0.02			0.14			0.03		
v/c Ratio	0.13	0.09		0.17	0.01		0.21	0.35		0.05	0.55	
Uniform Delay, d1	26.5	26.4		26.7	26.1		4.9	5.5		4.4	6.6	
Progression Factor	1.00	1.00		1.00	1.00		0.54	0.54		1.00	1.00	
Incremental Delay, d2	0.5	0.2		0.7	0.0		1.3	1.0		0.2	2.1	
Delay (s)	27.0	26.6		27.4	26.1		4.0	3.9		4.6	8.7	
Level of Service	C	C		C	C		A	A		A	A	
Approach Delay (s)		26.7			27.0			4.0			8.5	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.8
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
50: COURTICE RD (RR34)/RR 34 (COURTICE RD) & 401 WB RAMP

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	120	0	5	60	220	0	0	255	465
Future Volume (vph)	0	0	0	120	0	5	60	220	0	0	255	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.5		6.5	3.0	5.1			5.1	5.1
Lane Util. Factor				1.00		1.00	1.00	1.00			1.00	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1750		1566	1750	1842			1842	1566
Flt Permitted				0.95		1.00	0.55	1.00			1.00	1.00
Satd. Flow (perm)				1750		1566	1011	1842			1842	1566
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)	0	0	0	130	0	5	65	239	0	0	277	505
RTOR Reduction (vph)	0	0	0	0	0	4	0	0	0	0	0	205
Lane Group Flow (vph)	0	0	0	130	0	1	65	239	0	0	277	300
Turn Type				Perm		Perm	pm+pt	NA			NA	Perm
Protected Phases							5	2			6	
Permitted Phases				8		8	2					6
Actuated Green, G (s)				10.1		10.1	48.3	48.3			41.6	41.6
Effective Green, g (s)				10.1		10.1	48.3	48.3			41.6	41.6
Actuated g/C Ratio				0.14		0.14	0.69	0.69			0.59	0.59
Clearance Time (s)				6.5		6.5	3.0	5.1			5.1	5.1
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				252		225	736	1270			1094	930
v/s Ratio Prot							0.00	c0.13			0.15	
v/s Ratio Perm				c0.07		0.00	0.06					c0.19
v/c Ratio				0.52		0.00	0.09	0.19			0.25	0.32
Uniform Delay, d1				27.7		25.6	3.6	3.9			6.8	7.1
Progression Factor				1.00		1.00	0.75	0.62			0.57	0.12
Incremental Delay, d2				1.8		0.0	0.1	0.3			0.5	0.9
Delay (s)				29.5		25.6	2.7	2.7			4.4	1.7
Level of Service				C		C	A	A			A	A
Approach Delay (s)		0.0			29.3			2.7			2.7	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
51: COURTICE RD (RR34) & 401 W-N/S RAMP/401 EB RAMP

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	0	5	0	0	0	0	90	25	100	270	0
Future Volume (vph)	190	0	5	0	0	0	0	90	25	100	270	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2		6.2					5.0	5.0	3.0	5.0	
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00	1.00	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1750		1566					1842	1566	1750	1842	
Flt Permitted	0.95		1.00					1.00	1.00	0.64	1.00	
Satd. Flow (perm)	1750		1566					1842	1566	1178	1842	
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)	207	0	5	0	0	0	0	98	27	109	293	0
RTOR Reduction (vph)	0	0	4	0	0	0	0	0	13	0	0	0
Lane Group Flow (vph)	207	0	1	0	0	0	0	98	14	109	293	0
Turn Type	Perm		Perm					NA	Perm	pm+pt	NA	
Protected Phases								2		1	6	
Permitted Phases	4		4						2	6		
Actuated Green, G (s)	14.3		14.3					35.5	35.5	44.5	44.5	
Effective Green, g (s)	14.3		14.3					35.5	35.5	44.5	44.5	
Actuated g/C Ratio	0.20		0.20					0.51	0.51	0.64	0.64	
Clearance Time (s)	6.2		6.2					5.0	5.0	3.0	5.0	
Vehicle Extension (s)	3.0		3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	357		319					934	794	797	1170	
v/s Ratio Prot								0.05		0.01	c0.16	
v/s Ratio Perm	c0.12		0.00						0.01	0.08		
v/c Ratio	0.58		0.00					0.10	0.02	0.14	0.25	
Uniform Delay, d1	25.1		22.2					9.0	8.6	5.0	5.5	
Progression Factor	1.00		1.00					1.00	1.00	0.46	0.72	
Incremental Delay, d2	2.3		0.0					0.2	0.0	0.1	0.5	
Delay (s)	27.4		22.2					9.2	8.6	2.4	4.5	
Level of Service	C		C					A	A	A	A	
Approach Delay (s)		27.3			0.0			9.1			3.9	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.2
Intersection Capacity Utilization	56.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
52: BOSWELL DRIVE & HWY 2

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	614	36	38	653	36	113	17	45	47	13	88
Future Volume (vph)	88	614	36	38	653	36	113	17	45	47	13	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4		6.4	6.4		6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.89		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1697	3376		1728	3359		1713	1460		1545	1530	
Flt Permitted	0.36	1.00		0.38	1.00		0.69	1.00		0.71	1.00	
Satd. Flow (perm)	644	3376		690	3359		1237	1460		1160	1530	
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)	96	667	39	41	710	39	123	18	49	51	14	96
RTOR Reduction (vph)	0	3	0	0	3	0	0	41	0	0	81	0
Lane Group Flow (vph)	96	703	0	41	746	0	123	26	0	51	29	0
Confl. Peds. (#/hr)	2		3	3		2	2		4	4		2
Heavy Vehicles (%)	5%	4%	17%	3%	5%	11%	4%	0%	18%	15%	8%	5%
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)	63.1	63.1		63.1	63.1		14.3	14.3		14.3	14.3	
Effective Green, g (s)	63.1	63.1		63.1	63.1		14.3	14.3		14.3	14.3	
Actuated g/C Ratio	0.70	0.70		0.70	0.70		0.16	0.16		0.16	0.16	
Clearance Time (s)	6.4	6.4		6.4	6.4		6.2	6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	451	2366		483	2355		196	231		184	243	
v/s Ratio Prot		0.21			c0.22			0.02			0.02	
v/s Ratio Perm	0.15			0.06			c0.10			0.04		
v/c Ratio	0.21	0.30		0.08	0.32		0.63	0.11		0.28	0.12	
Uniform Delay, d1	4.7	5.1		4.3	5.2		35.4	32.4		33.3	32.5	
Progression Factor	0.88	0.89		0.86	1.17		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	0.3		0.3	0.3		6.1	0.2		0.8	0.2	
Delay (s)	5.2	4.9		4.0	6.4		41.5	32.6		34.1	32.7	
Level of Service	A	A		A	A		D	C		C	C	
Approach Delay (s)		4.9			6.2			38.4			33.1	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	65.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
53: GREEN RD/GREEN ROAD & HWY 2

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	570	56	35	654	57	87	99	29	79	57	23
Future Volume (vph)	58	570	56	35	654	57	87	99	29	79	57	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.0	7.0		7.0	7.0		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.99		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)	1708	3382		1674	3435		1669	1753		1759	1618	
Flt Permitted	0.36	1.00		0.39	1.00		0.70	1.00		0.66	1.00	
Satd. Flow (perm)	639	3382		692	3435		1231	1753		1224	1618	
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)	63	620	61	38	711	62	95	108	32	86	62	25
RTOR Reduction (vph)	0	5	0	0	5	0	0	15	0	0	20	0
Lane Group Flow (vph)	63	676	0	38	768	0	95	125	0	86	67	0
Confl. Peds. (#/hr)	19		7	7		19	9		5	5		9
Heavy Vehicles (%)	3%	4%	2%	6%	2%	4%	6%	4%	0%	1%	11%	9%
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)	64.0	64.0		64.0	64.0		12.6	12.6		12.6	12.6	
Effective Green, g (s)	64.0	64.0		64.0	64.0		12.6	12.6		12.6	12.6	
Actuated g/C Ratio	0.71	0.71		0.71	0.71		0.14	0.14		0.14	0.14	
Clearance Time (s)	7.0	7.0		7.0	7.0		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	454	2404		492	2442		172	245		171	226	
v/s Ratio Prot		0.20			c0.22			0.07			0.04	
v/s Ratio Perm	0.10			0.05			c0.08			0.07		
v/c Ratio	0.14	0.28		0.08	0.31		0.55	0.51		0.50	0.30	
Uniform Delay, d1	4.2	4.7		4.0	4.8		36.1	35.9		35.8	34.7	
Progression Factor	1.02	0.98		0.55	0.64		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	0.3		0.3	0.3		3.8	1.8		2.3	0.7	
Delay (s)	4.9	4.9		2.5	3.4		39.9	37.7		38.1	35.5	
Level of Service	A	A		A	A		D	D		D	D	
Approach Delay (s)		4.9			3.4			38.6			36.8	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.4
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
54: HWY 2 & CLARINGTON BLVD

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	471	27	237	570	72	29	49	158	110	80	37
Future Volume (vph)	34	471	27	237	570	72	29	49	158	110	80	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Total Lost time (s)	6.3	6.3		3.0	6.3		6.5	6.5	6.3	6.5	6.5	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00	1.00	1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	1.00	0.85	1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1412	3157		1599	3030		1346	1575	1384	1372	2927	
Flt Permitted	0.39	1.00		0.41	1.00		0.67	1.00	1.00	0.72	1.00	
Satd. Flow (perm)	574	3157		695	3030		951	1575	1384	1044	2927	
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)	37	512	29	258	620	78	32	53	172	120	87	40
RTOR Reduction (vph)	0	4	0	0	7	0	0	0	142	0	33	0
Lane Group Flow (vph)	37	537	0	258	691	0	32	53	30	120	94	0
Confl. Peds. (#/hr)	2		5	5		2	13					13
Heavy Vehicles (%)	29%	15%	7%	14%	16%	35%	34%	22%	18%	33%	15%	24%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	49.3	49.3		61.7	61.7		15.7	15.7	15.7	15.7	15.7	
Effective Green, g (s)	49.3	49.3		61.7	61.7		15.5	15.5	15.7	15.5	15.5	
Actuated g/C Ratio	0.55	0.55		0.69	0.69		0.17	0.17	0.17	0.17	0.17	
Clearance Time (s)	6.3	6.3		3.0	6.3		6.3	6.3	6.3	6.3	6.3	
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)	314	1729		570	2077		163	271	241	179	504	
v/s Ratio Prot		0.17		c0.05	0.23			0.03			0.03	
v/s Ratio Perm	0.06			c0.26			0.03		0.02	c0.11		
v/c Ratio	0.12	0.31		0.45	0.33		0.20	0.20	0.12	0.67	0.19	
Uniform Delay, d1	9.8	11.1		5.5	5.8		31.9	31.9	31.4	34.9	31.9	
Progression Factor	0.78	0.70		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.7	0.5		0.6	0.4		0.6	0.4	0.2	9.5	0.2	
Delay (s)	8.4	8.2		6.0	6.2		32.5	32.3	31.6	44.3	32.0	
Level of Service	A	A		A	A		C	C	C	D	C	
Approach Delay (s)		8.2			6.2			31.8			38.0	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	13.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.8
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
55: REG RD 57 & HWY 2
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	509	193	162	272	108	150	515	231	121	646	76
Future Volume (vph)	100	509	193	162	272	108	150	515	231	121	646	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		-1%			-1%			-3%			-3%	
Total Lost time (s)	3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.2	6.2	6.2	6.2	6.2
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1777	3428	1587	1528	3397	1415	1852	1773	1486	1440	1560	1409
Flt Permitted	0.57	1.00	1.00	0.27	1.00	1.00	0.10	1.00	1.00	0.42	1.00	1.00
Satd. Flow (perm)	1068	3428	1587	434	3397	1415	193	1773	1486	642	1560	1409
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)	109	553	210	176	296	117	163	560	251	132	702	83
RTOR Reduction (vph)	0	0	161	0	0	88	0	0	117	0	0	48
Lane Group Flow (vph)	109	553	49	176	296	29	163	560	134	132	702	35
Confl. Peds. (#/hr)	3		1	1		3	1		7	7		1
Heavy Vehicles (%)	3%	7%	2%	20%	8%	14%	0%	10%	9%	28%	25%	16%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	27.4	22.0	22.0	30.0	23.3	23.3	50.6	50.6	50.6	39.6	39.6	39.6
Effective Green, g (s)	27.4	22.0	22.0	30.0	23.3	23.3	50.6	50.9	50.9	39.9	39.9	39.9
Actuated g/C Ratio	0.29	0.23	0.23	0.32	0.25	0.25	0.53	0.54	0.54	0.42	0.42	0.42
Clearance Time (s)	3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	348	793	367	214	833	347	242	949	796	269	655	591
v/s Ratio Prot	0.02	0.16		c0.06	0.09		c0.06	0.32			c0.45	
v/s Ratio Perm	0.07		0.03	c0.20		0.02	0.30		0.09	0.21		0.02
v/c Ratio	0.31	0.70	0.13	0.82	0.36	0.08	0.67	0.59	0.17	0.49	1.07	0.06
Uniform Delay, d1	25.6	33.4	28.9	27.6	29.6	27.6	18.2	15.0	11.3	20.1	27.6	16.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.5	5.0	0.7	21.8	1.2	0.5	7.2	1.0	0.1	1.4	56.0	0.0
Delay (s)	26.1	38.5	29.7	49.4	30.8	28.1	25.4	16.0	11.4	21.5	83.5	16.4
Level of Service	C	D	C	D	C	C	C	B	B	C	F	B
Approach Delay (s)		34.8			35.8			16.4			68.5	
Approach LOS		C			D			B			E	

Intersection Summary			
HCM 2000 Control Delay	38.9	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	18.4
Intersection Capacity Utilization	82.4%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
56: ROENIGK DR & KING ST/HWY 2
Timing Plan: AM Peak

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	642	44	84	782	56	140
Future Volume (vph)	642	44	84	782	56	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%			-1%	0%	
Total Lost time (s)	6.3		6.3	6.3	6.5	6.5
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frt	0.99		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3466		1759	3517	1750	1566
Flt Permitted	1.00		0.37	1.00	0.95	1.00
Satd. Flow (perm)	3466		682	3517	1750	1566
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	698	48	91	850	61	152
RTOR Reduction (vph)	4	0	0	0	0	135
Lane Group Flow (vph)	742	0	91	850	61	17
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	2			6	8	
Permitted Phases			6			8
Actuated Green, G (s)	53.8		53.8	53.8	8.4	8.4
Effective Green, g (s)	53.8		53.8	53.8	8.4	8.4
Actuated g/C Ratio	0.72		0.72	0.72	0.11	0.11
Clearance Time (s)	6.3		6.3	6.3	6.5	6.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	2486		489	2522	196	175
v/s Ratio Prot	0.21			c0.24	c0.03	
v/s Ratio Perm			0.13			0.01
v/c Ratio	0.30		0.19	0.34	0.31	0.10
Uniform Delay, d1	3.8		3.5	4.0	30.6	29.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3		0.8	0.4	0.9	0.2
Delay (s)	4.1		4.3	4.3	31.5	30.1
Level of Service	A		A	A	C	C
Approach Delay (s)	4.1			4.3	30.5	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	7.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	12.8
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
58: RR 67 (BOWMANVILLE AVE)/RR 57 (BOWMANVILLE AVE) & ASPEN SPRINGS DR
Timing Plan: AM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	119	83	63	382	668	78
Future Volume (vph)	119	83	63	382	668	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	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)	1684	1479	1601	1528	1544	
Flt Permitted	0.95	1.00	0.29	1.00	1.00	
Satd. Flow (perm)	1684	1479	484	1528	1544	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	129	90	68	415	726	85
RTOR Reduction (vph)	0	76	0	0	3	0
Lane Group Flow (vph)	129	14	68	415	808	0
Confl. Peds. (#/hr)			9			9
Heavy Vehicles (%)	6%	8%	11%	23%	19%	23%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	11.9	11.9	66.1	66.1	66.1	
Effective Green, g (s)	13.7	13.7	68.3	68.3	68.3	
Actuated g/C Ratio	0.15	0.15	0.76	0.76	0.76	
Clearance Time (s)	5.8	5.8	6.2	6.2	6.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	256	225	367	1159	1171	
v/s Ratio Prot	c0.08			0.27	c0.52	
v/s Ratio Perm		0.01	0.14			
v/c Ratio	0.50	0.06	0.19	0.36	0.69	
Uniform Delay, d1	35.0	32.6	3.0	3.6	5.5	
Progression Factor	1.00	1.00	0.67	0.80	1.00	
Incremental Delay, d2	1.6	0.1	1.1	0.8	3.3	
Delay (s)	36.6	32.8	3.1	3.7	8.8	
Level of Service	D	C	A	A	A	
Approach Delay (s)	35.0			3.6	8.8	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
59: RR 57 (BOWMANVILLE AVE) & WAVERLY RD
Timing Plan: AM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	220	55	434	129	50	767
Future Volume (vph)	220	55	434	129	50	767
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.3	3.3	3.5
Grade (%)	4%		3%			-3%
Total Lost time (s)	6.2	6.2	5.9	5.9	5.9	5.9
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1715	1534	1814	1508	1736	1870
Flt Permitted	0.95	1.00	1.00	1.00	0.46	1.00
Satd. Flow (perm)	1715	1534	1814	1508	832	1870
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	60	472	140	54	834
RTOR Reduction (vph)	0	48	0	46	0	0
Lane Group Flow (vph)	239	12	472	94	54	834
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Actuated Green, G (s)	17.8	17.8	60.1	60.1	60.1	60.1
Effective Green, g (s)	17.5	17.5	60.4	60.4	60.4	60.4
Actuated g/C Ratio	0.19	0.19	0.67	0.67	0.67	0.67
Clearance Time (s)	5.9	5.9	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	333	298	1217	1012	558	1254
v/s Ratio Prot	c0.14		0.26			c0.45
v/s Ratio Perm		0.01		0.06	0.06	
v/c Ratio	0.72	0.04	0.39	0.09	0.10	0.67
Uniform Delay, d1	33.9	29.4	6.6	5.2	5.2	8.8
Progression Factor	1.00	1.00	1.33	2.66	0.60	0.53
Incremental Delay, d2	7.2	0.1	0.9	0.2	0.3	2.4
Delay (s)	41.1	29.5	9.7	14.0	3.4	7.0
Level of Service	D	C	A	B	A	A
Approach Delay (s)	38.8		10.7			6.8
Approach LOS	D		B			A

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.1
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
60: GREEN RD & BASELINE RD

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	48	0	1	117	48	0	0	1	63	4	178
Future Volume (vph)	50	48	0	1	117	48	0	0	1	63	4	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1			5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.96			0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1417	1708		1785	1449			1597		1475	1374	
Flt Permitted	0.64	1.00		0.72	1.00			1.00		0.76	1.00	
Satd. Flow (perm)	961	1708		1359	1449			1597		1176	1374	
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)	54	52	0	1	127	52	0	0	1	68	4	193
RTOR Reduction (vph)	0	0	0	0	14	0	0	1	0	0	162	0
Lane Group Flow (vph)	54	52	0	1	165	0	0	0	0	68	35	0
Heavy Vehicles (%)	26%	10%	0%	0%	22%	29%	0%	0%	0%	21%	50%	16%
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)	37.8	37.8		37.8	37.8			9.6		9.6	9.6	
Effective Green, g (s)	37.8	37.8		37.8	37.8			9.6		9.6	9.6	
Actuated g/C Ratio	0.64	0.64		0.64	0.64			0.16		0.16	0.16	
Clearance Time (s)	6.1	6.1		6.1	6.1			5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	613	1090		867	925			258		190	222	
v/s Ratio Prot		0.03			c0.11			0.00			0.03	
v/s Ratio Perm	0.06			0.00						c0.06		
v/c Ratio	0.09	0.05		0.00	0.18			0.00		0.36	0.16	
Uniform Delay, d1	4.1	4.0		3.9	4.4			20.8		22.1	21.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.3	0.1		0.0	0.4			0.0		1.2	0.3	
Delay (s)	4.4	4.1		3.9	4.8			20.8		23.2	21.7	
Level of Service	A	A		A	A			C		C	C	
Approach Delay (s)		4.2			4.8			20.8			22.1	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	59.2	Sum of lost time (s)	11.8
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
61: RR 57 (BOWMANVILLE AVE) & BASELINE RD

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	95	234	103	143	65	150	359	27	56	757	96
Future Volume (vph)	85	95	234	103	143	65	150	359	27	56	757	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Total Lost time (s)	6.4	6.4		6.4	6.4	6.4	6.7	6.7		6.7	6.7	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.89		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)	1310	2721		1449	1491	1101	1427	2873		1404	3033	
Flt Permitted	0.64	1.00		0.48	1.00	1.00	0.28	1.00		0.51	1.00	
Satd. Flow (perm)	889	2721		730	1491	1101	425	2873		749	3033	
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)	92	103	254	112	155	71	163	390	29	61	823	104
RTOR Reduction (vph)	0	79	0	0	0	57	0	4	0	0	7	0
Lane Group Flow (vph)	92	278	0	112	155	14	163	415	0	61	920	0
Confl. Peds. (#/hr)	3		3	3		3	1		2	2		1
Heavy Vehicles (%)	36%	16%	16%	23%	26%	43%	25%	21%	48%	27%	14%	27%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	18.1	18.1		18.1	18.1	18.1	58.9	58.9		58.9	58.9	
Effective Green, g (s)	18.0	18.0		18.0	18.0	18.0	58.9	58.9		58.9	58.9	
Actuated g/C Ratio	0.20	0.20		0.20	0.20	0.20	0.65	0.65		0.65	0.65	
Clearance Time (s)	6.3	6.3		6.3	6.3	6.3	6.7	6.7		6.7	6.7	
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)	177	544		146	298	220	278	1880		490	1984	
v/s Ratio Prot		0.10			0.10			0.14			0.30	
v/s Ratio Perm	0.10			c0.15		0.01	c0.38			0.08		
v/c Ratio	0.52	0.51		0.77	0.52	0.06	0.59	0.22		0.12	0.46	
Uniform Delay, d1	32.1	32.1		34.0	32.1	29.2	8.7	6.3		5.8	7.7	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		0.87	0.98	
Incremental Delay, d2	2.6	0.8		21.1	1.6	0.1	8.8	0.3		0.4	0.6	
Delay (s)	34.7	32.9		55.1	33.8	29.3	17.5	6.6		5.5	8.2	
Level of Service	C	C		E	C	C	B	A		A	A	
Approach Delay (s)		33.3			39.9			9.6			8.0	
Approach LOS		C			D			A			A	

Intersection Summary			
HCM 2000 Control Delay	17.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.1
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
62: SPRY AVE & BASELINE RD

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	182	1	0	286	28	0	0	1	25	0	21
Future Volume (vph)	6	182	1	0	286	28	0	0	1	25	0	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.2	4.2	4.2		4.2				4.6		4.6	
Lane Util. Factor	1.00	1.00	1.00		1.00				1.00		1.00	
Frpb, ped/bikes	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	
Frt	1.00	1.00	0.85		0.99				0.85		0.94	
Flt Protected	0.95	1.00	1.00		1.00				1.00		0.97	
Satd. Flow (prot)	1748	1842	1566		1814				1566		1682	
Flt Permitted	0.56	1.00	1.00		1.00				1.00		0.83	
Satd. Flow (perm)	1022	1842	1566		1814				1566		1436	
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)	7	198	1	0	311	30	0	0	1	27	0	23
RTOR Reduction (vph)	0	0	0	0	2	0	0	0	1	0	46	0
Lane Group Flow (vph)	7	198	1	0	339	0	0	0	0	0	4	0
Confl. Peds. (#/hr)	1					1						
Turn Type	Perm	NA	Perm	Perm	NA				Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8		8	4		
Actuated Green, G (s)	48.7	48.7	48.7		48.7				2.9		2.9	
Effective Green, g (s)	50.9	50.9	50.9		50.9				4.6		4.6	
Actuated g/C Ratio	0.79	0.79	0.79		0.79				0.07		0.07	
Clearance Time (s)	6.4	6.4	6.4		6.4				6.3		6.3	
Vehicle Extension (s)	3.0	3.0	3.0		3.0				3.0		3.0	
Lane Grp Cap (vph)	809	1458	1239		1435				112		102	
v/s Ratio Prot		0.11			c0.19							
v/s Ratio Perm	0.01		0.00						0.00		c0.00	
v/c Ratio	0.01	0.14	0.00		0.24				0.00		0.04	
Uniform Delay, d1	1.4	1.6	1.4		1.7				27.7		27.8	
Progression Factor	1.00	1.00	1.00		1.00				1.00		1.00	
Incremental Delay, d2	0.0	0.2	0.0		0.4				0.0		0.1	
Delay (s)	1.4	1.8	1.4		2.1				27.7		27.9	
Level of Service	A	A	A		A				C		C	
Approach Delay (s)		1.7			2.1			27.7			27.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	4.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	64.3	Sum of lost time (s)	8.8
Intersection Capacity Utilization	41.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
66: PRESTONVALE RD

Simcoe Bridge Closure
Timing Plan: AM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
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)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	44.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
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)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases								2			6	
Permitted Phases												
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary				
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.00			
Actuated Cycle Length (s)	22.0	Sum of lost time (s)	6.0	
Intersection Capacity Utilization	0.0%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			0%			-5%	
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
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)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases								2			6	
Permitted Phases												
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary				
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.00			
Actuated Cycle Length (s)	22.0	Sum of lost time (s)	6.0	
Intersection Capacity Utilization	0.0%	ICU Level of Service	A	
Analysis Period (min)	15			
c Critical Lane Group				

HCM Signalized Intersection Capacity Analysis
1: RR 26 (THICKSON RD) & BURNS ST

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	279	62	952	92	25	1408
Future Volume (vph)	279	62	952	92	25	1408
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	6.1		3.0	6.1
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frpb, ped/bikes	1.00	0.99	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1767	1560	3483		1749	3500
Flt Permitted	0.95	1.00	1.00		0.22	1.00
Satd. Flow (perm)	1767	1560	3483		396	3500
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	303	67	1035	100	27	1530
RTOR Reduction (vph)	0	54	5	0	0	0
Lane Group Flow (vph)	303	13	1130	0	27	1530
Confl. Peds. (#/hr)		1		2	2	
Heavy Vehicles (%)	1%	1%	1%	0%	2%	2%
Turn Type	Perm	Perm	NA		pm+pt	NA
Protected Phases			2		1	6
Permitted Phases	8	8			6	
Actuated Green, G (s)	22.1	22.1	76.2		76.2	76.2
Effective Green, g (s)	22.1	22.1	76.2		76.2	76.2
Actuated g/C Ratio	0.20	0.20	0.69		0.69	0.69
Clearance Time (s)	5.6	5.6	6.1		3.0	6.1
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	355	313	2412		274	2424
v/s Ratio Prot			0.32			c0.44
v/s Ratio Perm	c0.17	0.01			0.07	
v/c Ratio	0.85	0.04	0.47		0.10	0.63
Uniform Delay, d1	42.4	35.4	7.7		5.6	9.2
Progression Factor	1.00	1.00	0.25		1.00	1.00
Incremental Delay, d2	17.7	0.1	0.5		0.2	1.3
Delay (s)	60.1	35.5	2.4		5.7	10.5
Level of Service	E	D	A		A	B
Approach Delay (s)	55.6		2.4			10.4
Approach LOS	E		A			B

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	64.2%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: RR 26 (THICKSON RD) & RR 25 (CONSUMERS DR)/RR 25 (STELLAR DR)

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	165	351	153	290	96	524	965	296	119	971	305
Future Volume (vph)	135	165	351	153	290	96	524	965	296	119	971	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.6	6.4	3.0	6.6	6.6	6.4	6.4	6.4	3.0	6.4	6.4
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.97	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1608	3104	1392	1482	3187	1420	1513	3104	1328	1578	3104	1402
Flt Permitted	0.47	1.00	1.00	0.62	1.00	1.00	0.13	1.00	1.00	0.27	1.00	1.00
Satd. Flow (perm)	798	3104	1392	972	3187	1420	214	3104	1328	453	3104	1402
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)	147	179	382	166	315	104	570	1049	322	129	1055	332
RTOR Reduction (vph)	0	0	100	0	0	89	0	0	165	0	0	262
Lane Group Flow (vph)	147	179	282	166	315	15	570	1049	157	129	1055	70
Confl. Peds. (#/hr)	1		7	7		1	3		10	10		3
Heavy Vehicles (%)	11%	15%	14%	20%	12%	11%	18%	15%	17%	13%	15%	12%
Turn Type	pm+pt	NA	pm+ov	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4	5	3	8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	27.3	15.8	52.4	28.1	16.2	16.2	66.3	53.7	53.7	32.9	23.3	23.3
Effective Green, g (s)	27.3	15.8	52.4	28.1	16.2	16.2	66.3	53.7	53.7	32.9	23.3	23.3
Actuated g/C Ratio	0.25	0.14	0.48	0.26	0.15	0.15	0.60	0.49	0.49	0.30	0.21	0.21
Clearance Time (s)	3.0	6.6	6.4	3.0	6.6	6.6	6.4	6.4	6.4	3.0	6.4	6.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	282	445	663	303	469	209	561	1515	648	233	657	296
v/s Ratio Prot	0.05	0.06	0.14	c0.06	c0.10		c0.34	0.34		0.05	c0.34	
v/s Ratio Perm	0.07		0.06	0.08		0.01	0.27		0.12	0.12		0.05
v/c Ratio	0.52	0.40	0.43	0.55	0.67	0.07	1.02	0.69	0.24	0.55	1.61	0.24
Uniform Delay, d1	34.3	42.8	18.9	34.3	44.4	40.4	30.1	21.8	16.3	29.4	43.4	36.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.70	0.87	0.99	0.98	1.11	2.91
Incremental Delay, d2	1.7	0.6	0.4	2.0	3.8	0.1	40.6	2.4	0.8	2.1	277.9	1.4
Delay (s)	36.0	43.4	19.4	36.4	48.1	40.6	61.6	21.5	17.0	30.8	325.8	106.1
Level of Service	D	D	B	D	D	D	E	C	B	C	F	F
Approach Delay (s)		28.9			43.5			32.5			252.6	
Approach LOS		C			D			C			F	

Intersection Summary			
HCM 2000 Control Delay	103.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.4
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
3: RR 26 (THICKSON RD) & HWY 401 WB RAMP

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	286	708	693	0	0	1251
Future Volume (vph)	286	708	693	0	0	1251
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	0%		0%			3%
Total Lost time (s)	6.2	6.2	5.7			5.7
Lane Util. Factor	0.97	0.91	0.91			0.91
Frt	0.92	0.85	1.00			1.00
Flt Protected	0.98	1.00	1.00			1.00
Satd. Flow (prot)	2590	1211	4539			4282
Flt Permitted	0.98	1.00	1.00			1.00
Satd. Flow (perm)	2590	1211	4539			4282
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	311	770	753	0	0	1360
RTOR Reduction (vph)	158	158	0	0	0	0
Lane Group Flow (vph)	538	227	753	0	0	1360
Heavy Vehicles (%)	34%	20%	13%	0%	0%	18%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	27.2	27.2	70.9			70.9
Effective Green, g (s)	27.2	27.2	70.9			70.9
Actuated g/C Ratio	0.25	0.25	0.64			0.64
Clearance Time (s)	6.2	6.2	5.7			5.7
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	640	299	2925			2759
v/s Ratio Prot	c0.21		0.17			c0.32
v/s Ratio Perm		0.19				
v/c Ratio	0.84	0.76	0.26			0.49
Uniform Delay, d1	39.3	38.4	8.3			10.2
Progression Factor	1.00	1.00	1.09			1.37
Incremental Delay, d2	9.7	10.5	0.2			0.1
Delay (s)	49.1	48.9	9.3			14.0
Level of Service	D	D	A			B
Approach Delay (s)	49.0		9.3			14.0
Approach LOS	D		A			B

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.9
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
4: RR 26 (THICKSON RD) & HWY 401 EB RAMP

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	353	289	0	463	1011	0
Future Volume (vph)	353	289	0	463	1011	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	1%			3%	0%	
Total Lost time (s)	5.6	5.6		5.8	5.8	
Lane Util. Factor	0.97	1.00		0.91	0.91	
Frt	1.00	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	3049	1195		4318	4347	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	3049	1195		4318	4347	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	384	314	0	503	1099	0
RTOR Reduction (vph)	0	56	0	0	0	0
Lane Group Flow (vph)	384	258	0	503	1099	0
Heavy Vehicles (%)	13%	33%	0%	17%	18%	0%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	28.3	28.3		70.3	70.3	
Effective Green, g (s)	28.3	28.3		70.3	70.3	
Actuated g/C Ratio	0.26	0.26		0.64	0.64	
Clearance Time (s)	5.6	5.6		5.8	5.8	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	784	307		2759	2778	
v/s Ratio Prot	0.13			0.12	c0.25	
v/s Ratio Perm		c0.22				
v/c Ratio	0.49	0.84		0.18	0.40	
Uniform Delay, d1	34.7	38.7		8.1	9.6	
Progression Factor	1.00	1.00		1.00	1.44	
Incremental Delay, d2	0.5	18.4		0.1	0.4	
Delay (s)	35.2	57.1		8.3	14.2	
Level of Service	D	E		A	B	
Approach Delay (s)	45.1			8.3	14.2	
Approach LOS	D			A	B	

Intersection Summary			
HCM 2000 Control Delay	22.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	11.4
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
5: RR 25A (CHAMPLAIN AVE) & RR 25 (STELLAR DR)

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	71	117	0	134	2	100	4	4	4	3	75
Future Volume (vph)	102	71	117	0	134	2	100	4	4	4	3	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.7	6.7			6.7		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95			0.95		1.00	1.00		1.00	1.00	
Frt	1.00	0.91			1.00		1.00	0.93		1.00	0.86	
Flt Protected	0.95	1.00			1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1767	2294			3494		1750	1738		1785	1577	
Flt Permitted	0.66	1.00			1.00		0.70	1.00		0.75	1.00	
Satd. Flow (perm)	1224	2294			3494		1293	1738		1414	1577	
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)	111	77	127	0	146	2	109	4	4	4	3	82
RTOR Reduction (vph)	0	52	0	0	1	0	0	3	0	0	70	0
Lane Group Flow (vph)	111	152	0	0	147	0	109	5	0	4	15	0
Heavy Vehicles (%)	1%	0%	66%	0%	2%	0%	2%	0%	0%	0%	0%	2%
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)	29.3	29.3			29.3		7.5	7.5		7.5	7.5	
Effective Green, g (s)	29.3	29.3			29.3		7.5	7.5		7.5	7.5	
Actuated g/C Ratio	0.59	0.59			0.59		0.15	0.15		0.15	0.15	
Clearance Time (s)	6.7	6.7			6.7		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	718	1346			2051		194	261		212	237	
v/s Ratio Prot		0.07			0.04			0.00			0.01	
v/s Ratio Perm	c0.09						c0.08			0.00		
v/c Ratio	0.15	0.11			0.07		0.56	0.02		0.02	0.06	
Uniform Delay, d1	4.7	4.6			4.4		19.7	18.1		18.1	18.2	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.2			0.1		3.7	0.0		0.0	0.1	
Delay (s)	5.1	4.7			4.5		23.4	18.1		18.1	18.3	
Level of Service	A	A			A		C	B		B	B	
Approach Delay (s)		4.9			4.5			23.0			18.3	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	9.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	49.9	Sum of lost time (s)	13.1
Intersection Capacity Utilization	62.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
6: DEVON PORT LN/SAWDON DR (IPS) & BURNS ST E

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Future Volume (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.2			6.2							
Lane Util. Factor		1.00			1.00							
Frt		1.00			1.00							
Flt Protected		1.00			1.00							
Satd. Flow (prot)		1842			1842							
Flt Permitted		1.00			1.00							
Satd. Flow (perm)		1842			1842							
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)	0	1	0	0	1	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1	0	0	1	0	0	0	0	0	0	0
Turn Type		NA			NA							
Protected Phases		2			2							
Permitted Phases	2			2								
Actuated Green, G (s)		31.2			31.2							
Effective Green, g (s)		31.2			31.2							
Actuated g/C Ratio		1.00			1.00							
Clearance Time (s)		6.2			6.2							
Vehicle Extension (s)		3.0			3.0							
Lane Grp Cap (vph)		1842			1842							
v/s Ratio Prot		c0.00			0.00							
v/s Ratio Perm												
v/c Ratio		0.00			0.00							
Uniform Delay, d1		0.0			0.0							
Progression Factor		1.00			1.00							
Incremental Delay, d2		0.0			0.0							
Delay (s)		0.0			0.0							
Level of Service		A			A							
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	31.2	Sum of lost time (s)	10.9
Intersection Capacity Utilization	11.8%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
7: KENDALWOOD RD & BURNS ST E

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	163	1	1	270	106	1	8	2	84	8	85
Future Volume (vph)	38	163	1	1	270	106	1	8	2	84	8	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.96		1.00	0.97		1.00	0.86	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1574	1739		1785	1634		1333	1828		1594	1407	
Flt Permitted	0.52	1.00		0.64	1.00		0.69	1.00		0.75	1.00	
Satd. Flow (perm)	864	1739		1212	1634		971	1828		1259	1407	
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)	41	177	1	1	293	115	1	9	2	91	9	92
RTOR Reduction (vph)	0	0	0	0	13	0	0	2	0	0	79	0
Lane Group Flow (vph)	41	178	0	1	395	0	1	9	0	91	22	0
Confl. Peds. (#/hr)	3					3	4					4
Heavy Vehicles (%)	13%	8%	0%	0%	9%	10%	33%	0%	0%	12%	27%	11%
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)	39.4	39.4		39.4	39.4		8.3	8.3		8.3	8.3	
Effective Green, g (s)	39.4	39.4		39.4	39.4		8.3	8.3		8.3	8.3	
Actuated g/C Ratio	0.66	0.66		0.66	0.66		0.14	0.14		0.14	0.14	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	566	1140		794	1071		134	252		173	194	
v/s Ratio Prot		0.10			c0.24			0.01			0.02	
v/s Ratio Perm	0.05			0.00			0.00			c0.07		
v/c Ratio	0.07	0.16		0.00	0.37		0.01	0.04		0.53	0.11	
Uniform Delay, d1	3.7	4.0		3.6	4.7		22.3	22.4		24.1	22.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.3		0.0	1.0		0.0	0.1		2.9	0.3	
Delay (s)	4.0	4.3		3.6	5.7		22.4	22.5		26.9	22.9	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		4.2			5.7			22.5			24.8	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	10.0	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	60.1	Sum of lost time (s)	12.4
Intersection Capacity Utilization	53.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
8: RR 52 (THORNTON RD) & RR 59 (GIBB ST)

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	122	10	26	208	150	15	94	10	196	162	78
Future Volume (vph)	50	122	10	26	208	150	15	94	10	196	162	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.94		1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1765	1837		1780	1713		1748	1847		1744	1740	
Flt Permitted	0.49	1.00		0.67	1.00		0.60	1.00		0.68	1.00	
Satd. Flow (perm)	916	1837		1246	1713		1101	1847		1256	1740	
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)	54	133	11	28	226	163	16	102	11	213	176	85
RTOR Reduction (vph)	0	5	0	0	45	0	0	7	0	0	31	0
Lane Group Flow (vph)	54	139	0	28	344	0	16	106	0	213	230	0
Confl. Peds. (#/hr)	2		3	3		2	1		3	3		1
Heavy Vehicles (%)	1%	1%	0%	0%	1%	3%	2%	0%	0%	2%	2%	2%
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)	13.8	13.8		13.8	13.8		13.3	13.3		13.3	13.3	
Effective Green, g (s)	13.8	13.8		13.8	13.8		13.3	13.3		13.3	13.3	
Actuated g/C Ratio	0.35	0.35		0.35	0.35		0.34	0.34		0.34	0.34	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	322	646		438	603		373	626		426	590	
v/s Ratio Prot		0.08			c0.20			0.06			0.13	
v/s Ratio Perm	0.06			0.02			0.01			c0.17		
v/c Ratio	0.17	0.21		0.06	0.57		0.04	0.17		0.50	0.39	
Uniform Delay, d1	8.7	8.9		8.4	10.3		8.7	9.1		10.3	9.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.2		0.1	1.2		0.0	0.1		0.9	0.4	
Delay (s)	9.0	9.1		8.5	11.5		8.7	9.2		11.2	10.3	
Level of Service	A	A		A	B		A	A		B	B	
Approach Delay (s)		9.0			11.3			9.1			10.7	
Approach LOS		A			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	39.2	Sum of lost time (s)	12.1
Intersection Capacity Utilization	61.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
9: RR 52 (THORNTON RD) & RR 25 (STELLAR DR)

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	0	12	0	0	0	14	43	0	0	73	157
Future Volume (vph)	64	0	12	0	0	0	14	43	0	0	73	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6					6.5	6.5			6.5	6.5
Lane Util. Factor	1.00	1.00					1.00	1.00			1.00	1.00
Frt	1.00	0.85					1.00	1.00			1.00	0.85
Flt Protected	0.95	1.00					0.95	1.00			1.00	1.00
Satd. Flow (prot)	1513	1465					1580	1648			1592	1377
Flt Permitted	0.95	1.00					0.71	1.00			1.00	1.00
Satd. Flow (perm)	1513	1465					1173	1648			1592	1377
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)	70	0	13	0	0	0	15	47	0	0	79	171
RTOR Reduction (vph)	0	12	0	0	0	0	0	0	0	0	0	54
Lane Group Flow (vph)	70	1	0	0	0	0	15	47	0	0	79	117
Heavy Vehicles (%)	18%	0%	9%	0%	0%	0%	13%	14%	0%	0%	18%	16%
Turn Type	Perm	NA					Perm	NA		Perm	NA	Perm
Protected Phases		4						2			6	
Permitted Phases	4						2			6		6
Actuated Green, G (s)	5.3	5.3					37.6	37.6			37.6	37.6
Effective Green, g (s)	5.3	5.3					37.6	37.6			37.6	37.6
Actuated g/C Ratio	0.10	0.10					0.68	0.68			0.68	0.68
Clearance Time (s)	5.6	5.6					6.5	6.5			6.5	6.5
Vehicle Extension (s)	3.0	3.0					3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	145	141					801	1126			1088	941
v/s Ratio Prot		0.00						0.03			0.05	
v/s Ratio Perm	c0.05						0.01					c0.08
v/c Ratio	0.48	0.01					0.02	0.04			0.07	0.12
Uniform Delay, d1	23.6	22.5					2.8	2.8			2.9	3.0
Progression Factor	1.00	1.00					1.00	1.00			1.00	1.00
Incremental Delay, d2	2.5	0.0					0.0	0.1			0.1	0.3
Delay (s)	26.1	22.5					2.8	2.9			3.0	3.3
Level of Service	C	C					A	A			A	A
Approach Delay (s)		25.5			0.0			2.9			3.2	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	12.1
Intersection Capacity Utilization	44.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
10: RR 25 (CHAMPLAIN AVE) & RR 52 (THORNTON RD)

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	9	55	160	48	43	45
Future Volume (vph)	9	55	160	48	43	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9	5.9	5.9	5.9	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1638	1579	1773	1353	1487	1452
Flt Permitted	0.65	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1116	1579	1773	1353	1487	1452
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	60	174	52	47	49
RTOR Reduction (vph)	0	0	0	38	0	24
Lane Group Flow (vph)	10	60	174	14	47	25
Heavy Vehicles (%)	9%	19%	6%	18%	20%	10%
Turn Type	Perm	NA	NA	Perm	Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4			8		6
Actuated Green, G (s)	15.4	15.4	15.4	15.4	28.7	28.7
Effective Green, g (s)	15.4	15.4	15.4	15.4	28.7	28.7
Actuated g/C Ratio	0.27	0.27	0.27	0.27	0.51	0.51
Clearance Time (s)	5.9	5.9	5.9	5.9	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	305	432	485	370	759	741
v/s Ratio Prot		0.04	c0.10		c0.03	
v/s Ratio Perm	0.01			0.01		0.02
v/c Ratio	0.03	0.14	0.36	0.04	0.06	0.03
Uniform Delay, d1	14.9	15.4	16.4	15.0	6.9	6.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.0	0.1	0.5	0.0	0.2	0.1
Delay (s)	15.0	15.5	16.9	15.0	7.1	6.9
Level of Service	B	B	B	B	A	A
Approach Delay (s)		15.5	16.5		7.0	
Approach LOS		B	B		A	

Intersection Summary			
HCM 2000 Control Delay	14.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	56.2	Sum of lost time (s)	12.1
Intersection Capacity Utilization	43.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
11: RR 53 (STEVENSON RD) & RR 59 (GIBB ST)

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	132	127	143	161	35	138	417	137	34	472	14
Future Volume (vph)	21	132	127	143	161	35	138	417	137	34	472	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.3		3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.2	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.96	1.00	1.00	0.97	1.00	1.00	
Flpb, ped/bikes	0.98	1.00		0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1470	2577		1420	1580	1192	1387	2818	1250	1412	2900	
Flt Permitted	0.64	1.00		0.58	1.00	1.00	0.41	1.00	1.00	0.46	1.00	
Satd. Flow (perm)	993	2577		866	1580	1192	598	2818	1250	682	2900	
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)	23	143	138	155	175	38	150	453	149	37	513	15
RTOR Reduction (vph)	0	77	0	0	0	21	0	0	83	0	2	0
Lane Group Flow (vph)	23	204	0	155	175	17	150	453	66	37	526	0
Confl. Peds. (#/hr)	25		14	14		25	8		12	12		8
Heavy Vehicles (%)	7%	13%	15%	12%	7%	16%	15%	14%	12%	13%	10%	17%
Turn Type	pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2		2	6		
Actuated Green, G (s)	48.7	48.7		48.8	48.8	48.8	48.8	48.8	48.8	48.8	48.8	
Effective Green, g (s)	48.7	48.7		48.8	48.8	48.8	48.8	48.8	48.8	48.8	48.8	
Actuated g/C Ratio	0.44	0.44		0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	
Clearance Time (s)	3.0	6.3		3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	439	1140		384	700	528	265	1250	554	302	1286	
v/s Ratio Prot		0.08			0.11			0.16			0.18	
v/s Ratio Perm	0.02			c0.18		0.01	c0.25		0.05	0.05		
v/c Ratio	0.05	0.18		0.40	0.25	0.03	0.57	0.36	0.12	0.12	0.41	
Uniform Delay, d1	17.5	18.6		20.7	19.1	17.3	22.7	20.3	18.0	18.0	20.8	
Progression Factor	1.00	1.00		0.89	0.89	1.00	1.06	0.95	1.23	1.00	1.00	
Incremental Delay, d2	0.0	0.3		0.7	0.9	0.1	2.7	0.8	0.4	0.2	1.0	
Delay (s)	17.5	18.9		19.2	17.8	17.4	26.8	20.0	22.5	18.2	21.8	
Level of Service	B	B		B	B	B	C	C	C	B	C	
Approach Delay (s)		18.8			18.4			21.8			21.5	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	20.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	83.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
12: RR 53 (STEVENSON RD) & LAVAL DRIVE

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	20	82	80	42	78	77	651	66	46	535	82
Future Volume (vph)	73	20	82	80	42	78	77	651	66	46	535	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	6.3	6.3		3.0	6.3	6.3	3.0	6.3	6.3
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.98		1.00	1.00	0.95	1.00	1.00	0.98
Flpb, ped/bikes	0.98	1.00	1.00	0.99	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.90		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1593	1708	1376	1674	1540		1524	3077	1331	1647	3104	1454
Flt Permitted	0.61	1.00	1.00	0.74	1.00		0.43	1.00	1.00	0.37	1.00	1.00
Satd. Flow (perm)	1021	1708	1376	1309	1540		684	3077	1331	646	3104	1454
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	22	89	87	46	85	84	708	72	50	582	89
RTOR Reduction (vph)	0	0	78	0	75	0	0	0	22	0	0	27
Lane Group Flow (vph)	79	22	11	87	56	0	84	708	50	50	582	62
Confl. Peds. (#/hr)	15		4	4		15	3		11	11		3
Heavy Vehicles (%)	10%	10%	14%	6%	9%	7%	17%	16%	14%	8%	15%	8%
Turn Type	Perm	NA	Perm	Perm	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)	13.4	13.4	13.4	13.4	13.4		81.5	76.6	76.6	80.5	76.1	76.1
Effective Green, g (s)	13.4	13.4	13.4	13.4	13.4		81.5	76.6	76.6	80.5	76.1	76.1
Actuated g/C Ratio	0.12	0.12	0.12	0.12	0.12		0.74	0.70	0.70	0.73	0.69	0.69
Clearance Time (s)	6.3	6.3	6.3	6.3	6.3		3.0	6.3	6.3	3.0	6.3	6.3
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	124	208	167	159	187		544	2142	926	512	2147	1005
v/s Ratio Prot		0.01			0.04		c0.01	c0.23		0.00	0.19	
v/s Ratio Perm	c0.08		0.01	0.07			0.11		0.04	0.07		0.04
v/c Ratio	0.64	0.11	0.06	0.55	0.30		0.15	0.33	0.05	0.10	0.27	0.06
Uniform Delay, d1	46.0	43.0	42.8	45.4	44.0		3.9	6.6	5.3	4.1	6.4	5.5
Progression Factor	1.00	1.00	1.00	1.00	1.00		2.20	2.29	5.30	0.45	0.44	0.07
Incremental Delay, d2	10.3	0.2	0.2	3.8	0.9		0.1	0.4	0.1	0.1	0.3	0.1
Delay (s)	56.2	43.2	42.9	49.3	44.9		8.7	15.5	28.0	1.9	3.1	0.5
Level of Service	E	D	D	D	D		A	B	C	A	A	A
Approach Delay (s)		48.5			46.7			15.9			2.7	
Approach LOS		D			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	49.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
13: RR 53 (STEVENSON RD) & RR 25 (CHAMPLAIN AVE)/HWY 401 WB EXIT RAMP

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	0	53	537	215	301	67	447	0	0	878	137
Future Volume (vph)	43	0	53	537	215	301	67	447	0	0	878	137
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9		5.9	5.9	5.9	5.9	3.0	7.1			7.1	7.1
Lane Util. Factor	1.00		1.00	0.91	0.91	1.00	1.00	0.91			0.91	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.99	1.00	1.00			1.00	1.00
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00
Frt	1.00		0.85	1.00	1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected	0.95		1.00	0.95	0.97	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)	1566		1401	1299	2710	1358	1608	4499			4621	1389
Flt Permitted	0.95		1.00	0.95	0.97	1.00	0.21	1.00			1.00	1.00
Satd. Flow (perm)	1566		1401	1299	2710	1358	356	4499			4621	1389
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	47	0	58	584	234	327	73	486	0	0	954	149
RTOR Reduction (vph)	0	0	54	0	0	230	0	0	0	0	0	92
Lane Group Flow (vph)	47	0	4	292	526	97	73	486	0	0	954	57
Confl. Peds. (#/hr)	1					1						
Heavy Vehicles (%)	14%	0%	14%	25%	20%	16%	11%	14%	0%	0%	11%	15%
Turn Type	Prot		Perm	Split	NA	Perm	pm+pt	NA			NA	Perm
Protected Phases	4			8	8		5	2			6	
Permitted Phases			4			8	2					6
Actuated Green, G (s)	7.8		7.8	32.5	32.5	32.5	50.8	50.8			42.4	42.4
Effective Green, g (s)	7.8		7.8	32.5	32.5	32.5	50.8	50.8			42.4	42.4
Actuated g/C Ratio	0.07		0.07	0.30	0.30	0.30	0.46	0.46			0.39	0.39
Clearance Time (s)	5.9		5.9	5.9	5.9	5.9	3.0	7.1			7.1	7.1
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)	111		99	383	800	401	225	2077			1781	535
v/s Ratio Prot	c0.03			c0.22	0.19		c0.02	0.11			c0.21	
v/s Ratio Perm			0.00			0.07	0.13					0.04
v/c Ratio	0.42		0.04	0.76	0.66	0.24	0.32	0.23			0.54	0.11
Uniform Delay, d1	48.9		47.6	35.2	33.9	29.4	17.5	17.9			26.2	21.7
Progression Factor	1.00		1.00	1.00	1.00	1.00	0.86	0.84			1.06	1.75
Incremental Delay, d2	2.6		0.2	8.7	2.0	0.3	0.8	0.3			1.1	0.4
Delay (s)	51.5		47.8	43.9	35.8	29.7	15.9	15.2			28.8	38.3
Level of Service	D		D	D	D	C	B	B			C	D
Approach Delay (s)		49.5			36.2			15.3			30.1	
Approach LOS		D			D			B			C	

Intersection Summary				
HCM 2000 Control Delay	30.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.60			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.9	
Intersection Capacity Utilization	56.9%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
14: RR 53 (STEVENSON RD) & 401 EB RAMP/BLOOR ST CONNECTOR

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	271	166	64	39	0	184	0	238	30	161	373	201
Future Volume (vph)	271	166	64	39	0	184	0	238	30	161	373	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3		6.3		6.3		6.6		3.0	6.6	
Lane Util. Factor	0.97	0.95		0.97		1.00		0.91		1.00	0.95	
Frpb, ped/bikes	1.00	1.00		1.00		1.00		1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00		1.00		1.00		1.00	1.00	
Frt	1.00	0.96		1.00		0.85		0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	3177	3012		2684		1210		4174		1594	2815	
Flt Permitted	0.95	1.00		0.95		1.00		1.00		0.54	1.00	
Satd. Flow (perm)	3177	3012		2684		1210		4174		898	2815	
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)	295	180	70	42	0	200	0	259	33	175	405	218
RTOR Reduction (vph)	0	41	0	0	0	182	0	10	0	0	44	0
Lane Group Flow (vph)	295	209	0	42	0	18	0	282	0	175	579	0
Confl. Peds. (#/hr)			1	1								
Heavy Vehicles (%)	9%	12%	16%	29%	0%	32%	0%	20%	27%	12%	24%	13%
Turn Type	Perm	NA		Prot		Perm		NA		pm+pt	NA	
Protected Phases		4		3				2		1	6	
Permitted Phases	4					3				6		
Actuated Green, G (s)	15.8	15.8		10.1		10.1		51.8		64.9	64.9	
Effective Green, g (s)	15.8	15.8		10.1		10.1		51.8		64.9	64.9	
Actuated g/C Ratio	0.14	0.14		0.09		0.09		0.47		0.59	0.59	
Clearance Time (s)	6.3	6.3		6.3		6.3		6.6		3.0	6.6	
Vehicle Extension (s)	3.0	3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	456	432		246		111		1965		593	1660	
v/s Ratio Prot		0.07		c0.02				0.07		0.03	c0.21	
v/s Ratio Perm	c0.09					0.02				0.15		
v/c Ratio	0.65	0.48		0.17		0.17		0.14		0.30	0.35	
Uniform Delay, d1	44.5	43.3		46.1		46.1		16.5		10.4	11.6	
Progression Factor	1.00	1.00		0.91		0.88		1.00		0.80	0.79	
Incremental Delay, d2	3.1	0.9		0.3		0.7		0.2		0.2	0.5	
Delay (s)	47.6	44.2		42.2		41.3		16.7		8.6	9.7	
Level of Service	D	D		D		D		B		A	A	
Approach Delay (s)		46.0			41.4			16.7			9.5	
Approach LOS		D			D			B			A	

Intersection Summary				
HCM 2000 Control Delay	25.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.39			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.2	
Intersection Capacity Utilization	54.4%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
15: RR 53 (STEVENSON RD) & RR 22 (BLOOR ST)

Timing Plan: PM Peak

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	222	127	252	1334	659	243
Future Volume (vph)	222	127	252	1334	659	243
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.4	6.4	3.0	6.4	5.9	5.9
Lane Util. Factor	0.95	1.00	1.00	0.95	0.97	1.00
Frpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	3535	1553	1729	3500	3330	1541
Flt Permitted	1.00	1.00	0.57	1.00	0.95	1.00
Satd. Flow (perm)	3535	1553	1032	3500	3330	1541
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	241	138	274	1450	716	264
RTOR Reduction (vph)	0	77	0	0	0	184
Lane Group Flow (vph)	241	61	274	1450	716	80
Confl. Peds. (#/hr)		3	3			2
Heavy Vehicles (%)	1%	1%	3%	2%	4%	2%
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	6	8	
Permitted Phases		2	6			8
Actuated Green, G (s)	48.6	48.6	64.4	64.4	33.3	33.3
Effective Green, g (s)	48.6	48.6	64.4	64.4	33.3	33.3
Actuated g/C Ratio	0.44	0.44	0.59	0.59	0.30	0.30
Clearance Time (s)	6.4	6.4	3.0	6.4	5.9	5.9
Vehicle Extension (s)	3.0	3.0	3.0	3.0	5.0	5.0
Lane Grp Cap (vph)	1561	686	685	2049	1008	466
v/s Ratio Prot	0.07		0.05	c0.41	c0.22	
v/s Ratio Perm		0.04	0.19			0.05
v/c Ratio	0.15	0.09	0.40	0.71	0.71	0.17
Uniform Delay, d1	18.4	17.8	11.3	16.1	34.1	28.2
Progression Factor	1.00	1.00	1.00	1.00	0.90	0.79
Incremental Delay, d2	0.2	0.3	0.4	2.1	2.9	0.4
Delay (s)	18.6	18.1	11.7	18.2	33.7	22.6
Level of Service	B	B	B	B	C	C
Approach Delay (s)	18.4			17.2	30.7	
Approach LOS	B			B	C	

Intersection Summary				
HCM 2000 Control Delay	21.6	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.3	
Intersection Capacity Utilization	65.9%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
16: RR 54 (PARK RD W) & RR 59 (GIBB ST)

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	402	160	209	284	49	158	621	173	75	535	156
Future Volume (vph)	158	402	160	209	284	49	158	621	173	75	535	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.1		6.0	6.1		3.0	6.2		6.0	6.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	0.99	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.98		1.00	0.97		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)	1598	3010		1590	3076		1544	3083		1606	3054	
Flt Permitted	0.54	1.00		0.21	1.00		0.20	1.00		0.22	1.00	
Satd. Flow (perm)	901	3010		351	3076		322	3083		375	3054	
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)	172	437	174	227	309	53	172	675	188	82	582	170
RTOR Reduction (vph)	0	34	0	0	11	0	0	21	0	0	22	0
Lane Group Flow (vph)	172	577	0	227	351	0	172	842	0	82	730	0
Confl. Peds. (#/hr)	13		7	7		13	13		4	4		13
Heavy Vehicles (%)	0%	1%	3%	1%	2%	0%	4%	0%	2%	0%	1%	1%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	41.9	31.3		51.9	36.3		54.8	45.6		42.7	39.5	
Effective Green, g (s)	41.9	31.3		51.9	36.3		54.8	45.6		42.7	39.5	
Actuated g/C Ratio	0.35	0.26		0.43	0.30		0.46	0.38		0.36	0.33	
Clearance Time (s)	6.0	6.1		6.0	6.1		3.0	6.2		6.0	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	376	785		312	930		272	1171		166	1005	
v/s Ratio Prot	0.04	0.19		c0.09	0.11		c0.06	c0.27		0.01	0.24	
v/s Ratio Perm	0.12			c0.22			0.22			0.16		
v/c Ratio	0.46	0.74		0.73	0.38		0.63	0.72		0.49	0.73	
Uniform Delay, d1	28.5	40.6		24.6	33.0		22.2	31.7		29.4	35.5	
Progression Factor	1.00	1.00		1.16	0.84		1.13	1.07		1.00	1.00	
Incremental Delay, d2	0.9	6.1		7.3	1.0		4.4	3.6		2.3	4.6	
Delay (s)	29.4	46.6		35.7	28.8		29.5	37.6		31.7	40.1	
Level of Service	C	D		D	C		C	D		C	D	
Approach Delay (s)		42.8			31.5			36.3			39.2	
Approach LOS		D			C			D			D	

Intersection Summary				
HCM 2000 Control Delay	37.7	HCM 2000 Level of Service	D	
HCM 2000 Volume to Capacity ratio	0.78			
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	24.3	
Intersection Capacity Utilization	87.0%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
17: RR 2A (CENTRE ST) & RR 59 (GIBB ST)

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	367	210	26	323	0	0	0	0	36	573	213
Future Volume (vph)	0	367	210	26	323	0	0	0	0	36	573	213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.8	5.8	5.8	5.8						5.7	
Lane Util. Factor		1.00	1.00	1.00	1.00						0.91	
Frpb, ped/bikes		1.00	0.96	1.00	1.00						0.99	
Flpb, ped/bikes		1.00	1.00	0.99	1.00						1.00	
Frt		1.00	0.85	1.00	1.00						0.96	
Flt Protected		1.00	1.00	0.95	1.00						1.00	
Satd. Flow (prot)		1691	1385	1587	1691						4287	
Flt Permitted		1.00	1.00	0.44	1.00						1.00	
Satd. Flow (perm)		1691	1385	736	1691						4287	
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)	0	399	228	28	351	0	0	0	0	39	623	232
RTOR Reduction (vph)	0	0	66	0	0	0	0	0	0	0	105	0
Lane Group Flow (vph)	0	399	162	28	351	0	0	0	0	0	789	0
Confl. Peds. (#/hr)			22	22						11		21
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%	2%	1%
Turn Type		NA	Perm	Perm	NA					Perm	NA	
Protected Phases		4			8						6	
Permitted Phases			4	8						6		
Actuated Green, G (s)		25.2	25.2	25.2	25.2						23.3	
Effective Green, g (s)		25.2	25.2	25.2	25.2						23.3	
Actuated g/C Ratio		0.42	0.42	0.42	0.42						0.39	
Clearance Time (s)		5.8	5.8	5.8	5.8						5.7	
Lane Grp Cap (vph)		710	581	309	710						1664	
v/s Ratio Prot		c0.24			0.21							
v/s Ratio Perm			0.12	0.04							0.18	
v/c Ratio		0.56	0.28	0.09	0.49						0.47	
Uniform Delay, d1		13.2	11.4	10.5	12.7						13.8	
Progression Factor		1.78	2.49	1.00	1.11						1.00	
Incremental Delay, d2		2.2	0.8	0.6	2.3						1.0	
Delay (s)		25.8	29.3	11.0	16.4						14.7	
Level of Service		C	C	B	B						B	
Approach Delay (s)		27.1			16.0			0.0			14.7	
Approach LOS		C			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.5
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
18: RR 2 (SIMCOE ST) & RR 59 (GIBB ST)

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	240	187	0	0	75	25	265	375	31	0	0	0
Future Volume (vph)	240	187	0	0	75	25	265	375	31	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.8	5.8			5.8			5.5	5.5			
Lane Util. Factor	1.00	1.00			1.00			0.91	1.00			
Frpb, ped/bikes	1.00	1.00			0.97			1.00	0.86			
Flpb, ped/bikes	0.92	1.00			1.00			0.96	1.00			
Frt	1.00	1.00			0.97			1.00	0.85			
Flt Protected	0.95	1.00			1.00			0.98	1.00			
Satd. Flow (prot)	1445	1674			1576			4272	1242			
Flt Permitted	0.69	1.00			1.00			0.98	1.00			
Satd. Flow (perm)	1045	1674			1576			4272	1242			
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)	261	203	0	0	82	27	288	408	34	0	0	0
RTOR Reduction (vph)	0	0	0	0	16	0	0	0	21	0	0	0
Lane Group Flow (vph)	261	203	0	0	93	0	0	696	13	0	0	0
Confl. Peds. (#/hr)	96					96	59		79			
Heavy Vehicles (%)	2%	1%	0%	0%	0%	4%	2%	2%	0%	0%	0%	0%
Turn Type	Perm	NA			NA		Perm	NA	Perm			
Protected Phases		4			8			2				
Permitted Phases	4						2		2			
Actuated Green, G (s)	25.2	25.2			25.2			23.5	23.5			
Effective Green, g (s)	25.2	25.2			25.2			23.5	23.5			
Actuated g/C Ratio	0.42	0.42			0.42			0.39	0.39			
Clearance Time (s)	5.8	5.8			5.8			5.5	5.5			
Lane Grp Cap (vph)	438	703			661			1673	486			
v/s Ratio Prot		0.12			0.06							
v/s Ratio Perm	c0.25							0.16	0.01			
v/c Ratio	0.60	0.29			0.14			0.42	0.03			
Uniform Delay, d1	13.5	11.5			10.7			13.3	11.2			
Progression Factor	0.79	0.87			1.00			1.00	1.00			
Incremental Delay, d2	5.1	0.9			0.4			0.8	0.1			
Delay (s)	15.7	10.9			11.2			14.0	11.3			
Level of Service	B	B			B			B	B			
Approach Delay (s)		13.6			11.2			13.9			0.0	
Approach LOS		B			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	13.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
19: RR 2 (SIMCOE ST) & RR 59 (OLIVE AVE)

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	61	505	138	74	441	273
Future Volume (vph)	61	505	138	74	441	273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5	5.6			4.0
Lane Util. Factor	1.00	1.00	0.95			0.95
Frpb, ped/bikes	1.00	0.96	0.93			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	1.00	0.85	0.95			1.00
Flt Protected	0.95	1.00	1.00			0.97
Satd. Flow (prot)	1591	1365	2774			3117
Flt Permitted	0.95	1.00	1.00			0.70
Satd. Flow (perm)	1591	1365	2774			2242
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	66	549	150	80	479	297
RTOR Reduction (vph)	0	380	58	0	0	0
Lane Group Flow (vph)	66	169	172	0	0	776
Confl. Peds. (#/hr)		28		83		
Heavy Vehicles (%)	1%	1%	2%	3%	0%	0%
Turn Type	Prot	Perm	NA		D.P+P	NA
Protected Phases	4		2		1	1 2
Permitted Phases		4			2	
Actuated Green, G (s)	18.5	18.5	16.4			26.4
Effective Green, g (s)	18.5	18.5	16.4			26.4
Actuated g/C Ratio	0.31	0.31	0.27			0.44
Clearance Time (s)	5.5	5.5	5.6			
Vehicle Extension (s)	3.0	3.0	3.0			
Lane Grp Cap (vph)	490	420	758			1132
v/s Ratio Prot	0.04		0.06			c0.11
v/s Ratio Perm		c0.12				c0.19
v/c Ratio	0.13	0.40	0.23			0.69
Uniform Delay, d1	15.0	16.4	16.9			13.5
Progression Factor	1.00	1.00	0.59			1.00
Incremental Delay, d2	0.6	2.9	0.7			1.7
Delay (s)	15.5	19.3	10.7			15.2
Level of Service	B	B	B			B
Approach Delay (s)	18.9		10.7			15.2
Approach LOS	B		B			B

Intersection Summary			
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	15.1
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
20: ALBERT ST & RR 59 (OLIVE AVE)

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	543	195	48	216	72	183	124	35	0	0	0
Future Volume (vph)	40	543	195	48	216	72	183	124	35	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.6			5.6			5.2				
Lane Util. Factor		1.00			1.00			1.00				
Frpb, ped/bikes		0.99			0.99			1.00				
Flpb, ped/bikes		1.00			1.00			1.00				
Frt		0.97			0.97			0.99				
Flt Protected		1.00			0.99			0.97				
Satd. Flow (prot)		1606			1596			1614				
Flt Permitted		0.97			0.82			0.97				
Satd. Flow (perm)		1555			1322			1614				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	590	212	52	235	78	199	135	38	0	0	0
RTOR Reduction (vph)	0	13	0	0	11	0	0	4	0	0	0	0
Lane Group Flow (vph)	0	832	0	0	354	0	0	368	0	0	0	0
Confl. Peds. (#/hr)	3		3	3		3	2		2			
Heavy Vehicles (%)	0%	1%	0%	0%	1%	4%	0%	0%	0%	0%	0%	0%
Turn Type	Perm	NA		Perm	NA		Perm	NA				
Protected Phases		2			2			4				
Permitted Phases	2			2			4					
Actuated Green, G (s)		55.4			55.4			23.8				
Effective Green, g (s)		55.4			55.4			23.8				
Actuated g/C Ratio		0.62			0.62			0.26				
Clearance Time (s)		5.6			5.6			5.2				
Lane Grp Cap (vph)		957			813			426				
v/s Ratio Prot												
v/s Ratio Perm		c0.53			0.27			0.23				
v/c Ratio		0.87			0.44			0.86				
Uniform Delay, d1		14.3			9.1			31.5				
Progression Factor		1.00			1.00			1.00				
Incremental Delay, d2		10.6			1.7			20.1				
Delay (s)		24.9			10.8			51.6				
Level of Service		C			B			D				
Approach Delay (s)		24.9			10.8			51.6			0.0	
Approach LOS		C			B			D			A	

Intersection Summary			
HCM 2000 Control Delay	27.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.8
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
21: RR 16 (RITSON RD) & RR 59 (OLIVE AVE)

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	242	158	260	329	72	155	996	218	73	767	47
Future Volume (vph)	36	242	158	260	329	72	155	996	218	73	767	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.0	5.9		6.0	5.9	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.99		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	0.94		1.00	0.97		1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1337	1387		1306	1422		1474	2704		1422	2792	
Flt Permitted	0.42	1.00		0.11	1.00		0.13	1.00		0.10	1.00	
Satd. Flow (perm)	593	1387		157	1422		201	2704		146	2792	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	39	263	172	283	358	78	168	1083	237	79	834	51
RTOR Reduction (vph)	0	19	0	0	6	0	0	16	0	0	4	0
Lane Group Flow (vph)	39	416	0	283	430	0	168	1304	0	79	881	0
Confl. Peds. (#/hr)	4		13	13		4	10		8	8		10
Heavy Vehicles (%)	20%	13%	13%	23%	16%	12%	9%	13%	22%	13%	14%	9%
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	35.0	31.4		54.4	44.8		55.1	46.1		45.1	41.1	
Effective Green, g (s)	35.0	31.4		54.4	44.8		55.1	46.1		45.1	41.1	
Actuated g/C Ratio	0.29	0.26		0.44	0.37		0.45	0.38		0.37	0.34	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.0	5.9		6.0	5.9	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	191	355		229	520		184	1018		95	937	
v/s Ratio Prot	0.01	0.30		c0.17	0.30		c0.07	c0.48		0.03	0.32	
v/s Ratio Perm	0.05			c0.38			0.34			0.28		
v/c Ratio	0.20	1.17		1.24	0.83		0.91	1.28		0.83	0.94	
Uniform Delay, d1	32.3	45.5		35.7	35.3		25.5	38.2		34.8	39.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	102.9		137.8	10.4		42.3	134.2		43.3	18.1	
Delay (s)	32.8	148.4		173.6	45.6		67.8	172.4		78.1	57.5	
Level of Service	C	F		F	D		E	F		E	E	
Approach Delay (s)		138.9			96.0			160.6			59.2	
Approach LOS		F			F			F			E	

Intersection Summary			
HCM 2000 Control Delay	118.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.31		
Actuated Cycle Length (s)	122.4	Sum of lost time (s)	23.9
Intersection Capacity Utilization	104.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
22: RR 35 (WILSON RD) & RR 59 (OLIVE AVE)

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	337	54	79	218	69	36	471	103	62	244	41
Future Volume (vph)	38	337	54	79	218	69	36	471	103	62	244	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
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
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.97	1.00	1.00	0.96	1.00	1.00	0.97
Flpb, ped/bikes	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1556	1663	1328	1422	1693	1385	1512	1606	1258	1657	1528	1367
Flt Permitted	0.60	1.00	1.00	0.46	1.00	1.00	0.57	1.00	1.00	0.30	1.00	1.00
Satd. Flow (perm)	982	1663	1328	681	1693	1385	903	1606	1258	531	1528	1367
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)	41	366	59	86	237	75	39	512	112	67	265	45
RTOR Reduction (vph)	0	0	34	0	0	44	0	0	65	0	0	26
Lane Group Flow (vph)	41	366	25	86	237	32	39	512	47	67	265	19
Confl. Peds. (#/hr)	4		11	11		4	6		9	9		6
Heavy Vehicles (%)	14%	13%	15%	24%	11%	12%	17%	17%	22%	7%	23%	13%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4
Effective Green, g (s)	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4	29.4
Actuated g/C Ratio	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42	0.42
Clearance Time (s)	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6	5.6
Lane Grp Cap (vph)	412	698	557	286	711	581	379	674	528	223	641	574
v/s Ratio Prot		c0.22			0.14			c0.32			0.17	
v/s Ratio Perm	0.04		0.02	0.13		0.02	0.04		0.04	0.13		0.01
v/c Ratio	0.10	0.52	0.04	0.30	0.33	0.05	0.10	0.76	0.09	0.30	0.41	0.03
Uniform Delay, d1	12.3	15.1	12.0	13.5	13.7	12.0	12.3	17.3	12.2	13.5	14.2	11.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.92	0.90	1.00	1.00	1.00
Incremental Delay, d2	0.5	2.8	0.2	2.7	1.3	0.2	0.5	7.9	0.3	3.4	2.0	0.1
Delay (s)	12.8	17.9	12.1	16.2	15.0	12.2	12.2	23.8	11.3	16.9	16.2	12.0
Level of Service	B	B	B	B	B	B	B	C	B	B	B	B
Approach Delay (s)		16.7			14.7			21.0			15.8	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	17.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	84.5%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
23: RR 33 (HARMONY) & RR 59 (OLIVE AVE)

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	489	36	202	252	127	43	892	388	111	642	91
Future Volume (vph)	95	489	36	202	252	127	43	892	388	111	642	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		3.0	6.5	6.5	3.0	6.3		3.0	6.3	
Lane Util. Factor	1.00	0.95		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	0.98	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	1.00	0.85	1.00	0.95		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)	1744	3529		1784	1879	1555	1749	3367		1716	3390	
Flt Permitted	0.59	1.00		0.28	1.00	1.00	0.28	1.00		0.09	1.00	
Satd. Flow (perm)	1085	3529		524	1879	1555	509	3367		168	3390	
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)	103	532	39	220	274	138	47	970	422	121	698	99
RTOR Reduction (vph)	0	5	0	0	0	86	0	49	0	0	11	0
Lane Group Flow (vph)	103	566	0	220	274	52	47	1343	0	121	786	0
Confl. Peds. (#/hr)	4		4	4		4	3		4	4		3
Heavy Vehicles (%)	2%	0%	0%	0%	0%	1%	2%	1%	0%	4%	3%	3%
Turn Type	Perm	NA		pm+pt	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases		4		3	8		5	2		1	6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	27.5	27.5		37.5	37.5	37.5	44.3	40.7		49.1	43.1	
Effective Green, g (s)	27.5	27.5		37.5	37.5	37.5	44.3	40.7		49.1	43.1	
Actuated g/C Ratio	0.28	0.28		0.38	0.38	0.38	0.44	0.41		0.49	0.43	
Clearance Time (s)	6.5	6.5		3.0	6.5	6.5	3.0	6.3		3.0	6.3	
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)	298	970		284	704	583	270	1370		175	1461	
v/s Ratio Prot		0.16		c0.05	0.15		0.01	c0.40		c0.04	0.23	
v/s Ratio Perm	0.09			c0.24		0.03	0.07			0.30		
v/c Ratio	0.35	0.58		0.77	0.39	0.09	0.17	0.98		0.69	0.54	
Uniform Delay, d1	29.0	31.3		25.2	22.9	20.2	16.3	29.3		21.5	21.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.2	2.6		12.4	1.6	0.3	0.3	20.1		11.2	1.4	
Delay (s)	32.2	33.9		37.6	24.5	20.5	16.6	49.4		32.7	22.5	
Level of Service	C	C		D	C	C	B	D		C	C	
Approach Delay (s)		33.6			28.2			48.3			23.8	
Approach LOS		C			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	36.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	18.8
Intersection Capacity Utilization	91.9%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
24: RR 54 (PARK RD W) & HILLSIDE

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	185	17	14	752	730	155
Future Volume (vph)	185	17	14	752	730	155
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.2			5.3	5.3	
Lane Util. Factor	1.00			0.95	0.95	
Frpb, ped/bikes	1.00			1.00	0.99	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.97	
Flt Protected	0.96			1.00	1.00	
Satd. Flow (prot)	1659			3527	3378	
Flt Permitted	0.96			0.93	1.00	
Satd. Flow (perm)	1659			3296	3378	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	201	18	15	817	793	168
RTOR Reduction (vph)	6	0	0	0	22	0
Lane Group Flow (vph)	213	0	0	832	939	0
Confl. Peds. (#/hr)	4	18	12			12
Heavy Vehicles (%)	7%	0%	8%	1%	2%	3%
Turn Type	Perm		Perm	NA	NA	
Protected Phases				2	6	
Permitted Phases	4		2			
Actuated Green, G (s)	13.0			36.5	36.5	
Effective Green, g (s)	13.0			36.5	36.5	
Actuated g/C Ratio	0.22			0.61	0.61	
Clearance Time (s)	5.2			5.3	5.3	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	359			2005	2054	
v/s Ratio Prot					c0.28	
v/s Ratio Perm	c0.13			0.25		
v/c Ratio	0.59			0.41	0.46	
Uniform Delay, d1	21.1			6.2	6.4	
Progression Factor	1.00			1.00	0.41	
Incremental Delay, d2	2.6			0.6	0.5	
Delay (s)	23.7			6.8	3.1	
Level of Service	C			A	A	
Approach Delay (s)	23.7			6.8	3.1	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	6.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.5
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
25: RR 2 (SIMCOE ST) & MILL ST

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	74	85	57	41	274	88
Future Volume (vph)	74	85	57	41	274	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.7	5.7		5.6	5.6	
Lane Util. Factor	1.00	1.00		0.95	0.95	
Frpb, ped/bikes	1.00	0.98		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00	
Frt	1.00	0.85		1.00	0.96	
Flt Protected	0.95	1.00		0.97	1.00	
Satd. Flow (prot)	1606	1407		3063	2989	
Flt Permitted	0.95	1.00		0.73	1.00	
Satd. Flow (perm)	1606	1407		2312	2989	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	80	92	62	45	298	96
RTOR Reduction (vph)	0	81	0	0	29	0
Lane Group Flow (vph)	80	12	0	107	365	0
Confl. Peds. (#/hr)	21	9	18			18
Heavy Vehicles (%)	0%	0%	0%	2%	3%	0%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	2	
Permitted Phases		4	2			
Actuated Green, G (s)	7.5	7.5		41.2	41.2	
Effective Green, g (s)	7.5	7.5		41.2	41.2	
Actuated g/C Ratio	0.12	0.12		0.69	0.69	
Clearance Time (s)	5.7	5.7		5.6	5.6	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	200	175		1587	2052	
v/s Ratio Prot	c0.05				c0.12	
v/s Ratio Perm		0.01		0.05		
v/c Ratio	0.40	0.07		0.07	0.18	
Uniform Delay, d1	24.2	23.2		3.1	3.4	
Progression Factor	1.00	1.00		0.77	1.34	
Incremental Delay, d2	1.3	0.2		0.1	0.2	
Delay (s)	25.5	23.3		2.5	4.7	
Level of Service	C	C		A	A	
Approach Delay (s)	24.3			2.5	4.7	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	9.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.3
Intersection Capacity Utilization	56.2%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
26: RR 2 (SIMCOE ST) & 1ST AVE

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	89	36	34	29	59	245
Future Volume (vph)	89	36	34	29	59	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.9		5.8			5.8
Lane Util. Factor	1.00		0.95			0.95
Frpb, ped/bikes	0.99		0.98			1.00
Flpb, ped/bikes	1.00		1.00			1.00
Frt	0.96		0.93			1.00
Flt Protected	0.97		1.00			0.99
Satd. Flow (prot)	1477		2861			3066
Flt Permitted	0.97		1.00			0.89
Satd. Flow (perm)	1477		2861			2760
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	97	39	37	32	64	266
RTOR Reduction (vph)	33	0	11	0	0	0
Lane Group Flow (vph)	103	0	58	0	0	330
Confl. Peds. (#/hr)	11	7		16	16	
Heavy Vehicles (%)	6%	5%	1%	4%	9%	2%
Turn Type	Prot		NA		Perm	NA
Protected Phases	8		2			6
Permitted Phases					6	
Actuated Green, G (s)	8.6		39.7			39.7
Effective Green, g (s)	8.6		39.7			39.7
Actuated g/C Ratio	0.14		0.66			0.66
Clearance Time (s)	5.9		5.8			5.8
Vehicle Extension (s)	3.0		3.0			3.0
Lane Grp Cap (vph)	211		1893			1826
v/s Ratio Prot	c0.07		0.02			
v/s Ratio Perm						c0.12
v/c Ratio	0.49		0.03			0.18
Uniform Delay, d1	23.7		3.5			3.9
Progression Factor	1.02		1.33			1.36
Incremental Delay, d2	1.7		0.0			0.2
Delay (s)	25.9		4.7			5.5
Level of Service	C		A			A
Approach Delay (s)	25.9		4.7			5.5
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	11.7
Intersection Capacity Utilization	36.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
27: ALBERT ST & 1ST AVE

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	96	14	9	158	130	15	242	34	23	240	27
Future Volume (vph)	18	96	14	9	158	130	15	242	34	23	240	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.3			5.3			5.1			5.1	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.94			0.98			0.99	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1803			1727			1838			1841	
Flt Permitted		0.94			0.99			0.98			0.96	
Satd. Flow (perm)		1699			1716			1799			1772	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	104	15	10	172	141	16	263	37	25	261	29
RTOR Reduction (vph)	0	7	0	0	47	0	0	8	0	0	6	0
Lane Group Flow (vph)	0	132	0	0	276	0	0	308	0	0	309	0
Confl. Peds. (#/hr)	3		9	9		3	9		4	4		9
Heavy Vehicles (%)	0%	2%	0%	0%	2%	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		
Actuated Green, G (s)		26.7			26.7			22.9			22.9	
Effective Green, g (s)		26.7			26.7			22.9			22.9	
Actuated g/C Ratio		0.44			0.44			0.38			0.38	
Clearance Time (s)		5.3			5.3			5.1			5.1	
Lane Grp Cap (vph)		756			763			686			676	
v/s Ratio Prot												
v/s Ratio Perm		0.08			c0.16			0.17			c0.17	
v/c Ratio		0.17			0.36			0.45			0.46	
Uniform Delay, d1		10.0			11.0			13.8			13.9	
Progression Factor		0.63			0.77			1.00			1.00	
Incremental Delay, d2		0.5			1.3			2.1			2.2	
Delay (s)		6.8			9.8			16.0			16.1	
Level of Service		A			A			B			B	
Approach Delay (s)		6.8			9.8			16.0			16.1	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.4
Intersection Capacity Utilization	48.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
28: Drew Street/DREW ST & 1ST AVE/MCNAUGHTON AVE/MCNAUGHTON AVE

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	124	19	68	76	4	126	8	99	7	17	3
Future Volume (vph)	6	124	19	68	76	4	126	8	99	7	17	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4		5.4	5.4		5.4	5.4			5.4	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00			1.00	
Frpb, ped/bikes		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	
Frt		0.98		1.00	0.99		1.00	0.86			0.99	
Flt Protected		1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)		1600		1571	1572		1591	1444			1645	
Flt Permitted		0.99		0.72	1.00		0.74	1.00			0.94	
Satd. Flow (perm)		1590		1191	1572		1236	1444			1566	
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)	7	135	21	74	83	4	137	9	108	8	18	3
RTOR Reduction (vph)	0	9	0	0	2	0	0	67	0	0	2	0
Lane Group Flow (vph)	0	154	0	74	85	0	137	50	0	0	27	0
Confl. Peds. (#/hr)	4		2	2		4						
Heavy Vehicles (%)	0%	3%	6%	2%	7%	0%	1%	0%	1%	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		
Actuated Green, G (s)		26.6		26.6	26.6		22.6	22.6			22.6	
Effective Green, g (s)		26.6		26.6	26.6		22.6	22.6			22.6	
Actuated g/C Ratio		0.44		0.44	0.44		0.38	0.38			0.38	
Clearance Time (s)		5.4		5.4	5.4		5.4	5.4			5.4	
Lane Grp Cap (vph)		704		528	696		465	543			589	
v/s Ratio Prot					0.05			0.03				
v/s Ratio Perm		c0.10		0.06			c0.11				0.02	
v/c Ratio		0.22		0.14	0.12		0.29	0.09			0.05	
Uniform Delay, d1		10.3		9.9	9.8		13.1	12.1			11.9	
Progression Factor		1.35		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2		0.7		0.6	0.4		1.6	0.3			0.1	
Delay (s)		14.6		10.5	10.2		14.7	12.4			12.0	
Level of Service		B		B	B		B	B			B	
Approach Delay (s)		14.6			10.3			13.7			12.0	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.8
Intersection Capacity Utilization	61.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
29: RR 16 (RITSON RD) & MCNAUGHTON AVE/DEAN AVE

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	92	77	37	185	161	53	33	1190	137	49	1073	74
Future Volume (vph)	92	77	37	185	161	53	33	1190	137	49	1073	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.96		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)	1307	1282		1365	1343		1419	2605		1275	2625	
Flt Permitted	0.49	1.00		0.68	1.00		0.17	1.00		0.13	1.00	
Satd. Flow (perm)	674	1282		973	1343		259	2605		168	2625	
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	84	40	201	175	58	36	1293	149	53	1166	80
RTOR Reduction (vph)	0	20	0	0	14	0	0	9	0	0	5	0
Lane Group Flow (vph)	100	104	0	201	219	0	36	1433	0	53	1241	0
Confl. Peds. (#/hr)	8		12	12		8	7		18	18		7
Heavy Vehicles (%)	22%	24%	25%	16%	19%	25%	13%	21%	17%	26%	21%	20%
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)	21.1	21.1		21.1	21.1		56.5	56.5		56.5	56.5	
Effective Green, g (s)	21.1	21.1		21.1	21.1		56.5	56.5		56.5	56.5	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.63	0.63		0.63	0.63	
Clearance Time (s)	6.0	6.0		6.0	6.0		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	158	300		228	314		162	1635		105	1647	
v/s Ratio Prot		0.08			0.16			c0.55			0.47	
v/s Ratio Perm	0.15			c0.21			0.14			0.32		
v/c Ratio	0.63	0.35		0.88	0.70		0.22	0.88		0.50	0.75	
Uniform Delay, d1	31.0	28.7		33.2	31.5		7.2	13.9		9.1	11.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.0	0.7		30.3	6.6		3.1	6.9		16.3	3.2	
Delay (s)	39.0	29.4		63.5	38.2		10.4	20.8		25.4	15.1	
Level of Service	D	C		E	D		B	C		C	B	
Approach Delay (s)		33.7			49.9			20.5			15.5	
Approach LOS		C			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.4
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
30: RR 35 (WILSON RD) & DEAN AVE

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	42	8	22	8	16	9	15	545	24	21	244	46
Future Volume (vph)	42	8	22	8	16	9	15	545	24	21	244	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.4			5.4			5.6			5.6	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			1.00			0.99	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.96			0.96			0.99			0.98	
Flt Protected		0.97			0.99			1.00			1.00	
Satd. Flow (prot)		1463			1571			1556			1499	
Flt Permitted		0.80			0.90			0.99			0.95	
Satd. Flow (perm)		1204			1430			1542			1427	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	9	24	9	17	10	16	592	26	23	265	50
RTOR Reduction (vph)	0	21	0	0	9	0	0	1	0	0	6	0
Lane Group Flow (vph)	0	58	0	0	27	0	0	633	0	0	332	0
Confl. Peds. (#/hr)	7		2	2		7	14		3	3		14
Heavy Vehicles (%)	18%	13%	19%	0%	7%	33%	29%	19%	30%	20%	23%	14%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		8.0			8.0			51.0			51.0	
Effective Green, g (s)		8.0			8.0			51.0			51.0	
Actuated g/C Ratio		0.11			0.11			0.73			0.73	
Clearance Time (s)		5.4			5.4			5.6			5.6	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		137			163			1123			1039	
v/s Ratio Prot												
v/s Ratio Perm		c0.05			0.02			c0.41			0.23	
v/c Ratio		0.42			0.17			0.56			0.32	
Uniform Delay, d1		28.8			28.0			4.4			3.4	
Progression Factor		1.00			1.00			1.00			0.91	
Incremental Delay, d2		2.1			0.5			2.0			0.8	
Delay (s)		30.9			28.5			6.4			3.9	
Level of Service		C			C			A			A	
Approach Delay (s)		30.9			28.5			6.4			3.9	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	52.4%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
32: RR 22 (BLOOR ST) & RR 54 (PARK RD W)

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	478	892	3	1	337	395	8	2	2	435	27	182
Future Volume (vph)	478	892	3	1	337	395	8	2	2	435	27	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.4		6.4	6.4	6.4		6.0		6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00		1.00		0.95	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.98		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	1.00
Frt	1.00	1.00		1.00	1.00	0.85		0.98		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.97		0.95	0.96	1.00
Satd. Flow (prot)	1784	3464		1778	3535	1497		1773		1662	1680	1597
Flt Permitted	0.42	1.00		0.29	1.00	1.00		0.97		0.95	0.96	1.00
Satd. Flow (perm)	784	3464		551	3535	1497		1773		1662	1680	1597
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)	520	970	3	1	366	429	9	2	2	473	29	198
RTOR Reduction (vph)	0	0	0	0	0	320	0	2	0	0	0	153
Lane Group Flow (vph)	520	973	0	1	366	109	0	11	0	251	251	45
Confl. Peds. (#/hr)	3		7	7		3			2	2		
Heavy Vehicles (%)	0%	3%	0%	0%	1%	5%	0%	0%	0%	2%	0%	0%
Turn Type	pm+pt	NA		Perm	NA	Perm	Split	NA		Split	NA	Perm
Protected Phases	5	2			6		8	8		4	4	
Permitted Phases	2			6		6						4
Actuated Green, G (s)	66.6	66.6		30.6	30.6	30.6		8.0		27.0	27.0	27.0
Effective Green, g (s)	66.6	66.6		30.6	30.6	30.6		8.0		27.0	27.0	27.0
Actuated g/C Ratio	0.55	0.55		0.26	0.26	0.26		0.07		0.22	0.22	0.22
Clearance Time (s)	3.0	6.4		6.4	6.4	6.4		6.0		6.0	6.0	6.0
Lane Grp Cap (vph)	710	1922		140	901	381		118		373	378	359
v/s Ratio Prot	c0.20	0.28			0.10			c0.01		c0.15	0.15	
v/s Ratio Perm	c0.21			0.00		0.07						0.03
v/c Ratio	0.73	0.51		0.01	0.41	0.29		0.09		0.67	0.66	0.12
Uniform Delay, d1	17.2	16.5		33.4	37.1	35.9		52.6		42.5	42.4	37.1
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	6.6	1.0		0.1	1.4	1.9		1.6		9.3	8.9	0.7
Delay (s)	23.8	17.5		33.5	38.5	37.8		54.2		51.8	51.3	37.8
Level of Service	C	B		C	D	D		D		D	D	D
Approach Delay (s)		19.7			38.1			54.2			47.6	
Approach LOS		B			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	31.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	21.4
Intersection Capacity Utilization	80.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
33: RR 54 (PARK RD E) & RR 22 (BLOOR ST)

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	679	681	101	405	1	517	1	173	0	1	0
Future Volume (vph)	2	679	681	101	405	1	517	1	173	0	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	3.0	6.2		6.3	6.3	6.3		6.3	
Lane Util. Factor	1.00	0.91	0.91	1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes	1.00	0.99	0.98	1.00	1.00		1.00	1.00	0.97		1.00	
Flpb, ped/bikes	0.97	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	0.96	0.85	1.00	1.00		1.00	1.00	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (prot)	1734	3166	1384	1487	3498		1662	1667	1525		1879	
Flt Permitted	0.50	1.00	1.00	0.15	1.00		0.95	0.95	1.00		1.00	
Satd. Flow (perm)	906	3166	1384	234	3498		1662	1667	1525		1879	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	2	738	740	110	440	1	562	1	188	0	1	0
RTOR Reduction (vph)	0	35	256	0	0	0	0	0	149	0	0	0
Lane Group Flow (vph)	2	984	203	110	441	0	281	282	39	0	1	0
Confl. Peds. (#/hr)	21		5	5		21			10	10		
Heavy Vehicles (%)	0%	3%	3%	20%	2%	0%	2%	0%	2%	0%	0%	0%
Turn Type	Perm	NA	Perm	pm+pt	NA		Split	NA	Perm		NA	
Protected Phases		2		1	6		8	8		7	7	
Permitted Phases	2		2	6					8			
Actuated Green, G (s)	35.7	35.7	35.7	43.9	43.9		16.9	16.9	16.9		1.3	
Effective Green, g (s)	35.7	35.7	35.7	43.9	43.9		16.9	16.9	16.9		1.3	
Actuated g/C Ratio	0.44	0.44	0.44	0.54	0.54		0.21	0.21	0.21		0.02	
Clearance Time (s)	6.2	6.2	6.2	3.0	6.2		6.3	6.3	6.3		6.3	
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)	399	1397	610	207	1898		347	348	318		30	
v/s Ratio Prot		c0.31		c0.03	0.13		0.17	c0.17			c0.00	
v/s Ratio Perm	0.00		0.15	0.25					0.03			
v/c Ratio	0.01	0.70	0.33	0.53	0.23		0.81	0.81	0.12		0.03	
Uniform Delay, d1	12.7	18.3	14.8	11.6	9.7		30.5	30.5	26.0		39.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.0	3.0	1.5	2.6	0.3		13.0	13.3	0.2		0.5	
Delay (s)	12.7	21.3	16.3	14.2	10.0		43.5	43.8	26.2		39.6	
Level of Service	B	C	B	B	A		D	D	C		D	
Approach Delay (s)		19.7			10.8			39.3			39.6	
Approach LOS		B			B			D			D	

Intersection Summary			
HCM 2000 Control Delay	23.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	80.9	Sum of lost time (s)	21.8
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
36: RR 2 (SIMCOE ST) & RR 22 (BLOOR ST)

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	99	917	277	349	291	34	191	131	224	69	51	44
Future Volume (vph)	99	917	277	349	291	34	191	131	224	69	51	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2		6.0	6.2		6.2	6.2		6.2	6.2	6.2
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.98		1.00	1.00	0.96
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.98	1.00		0.99	1.00	1.00
Frt	1.00	0.97		1.00	0.98		1.00	0.91		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1744	3409		1785	3474		1743	3156		1766	3466	1424
Flt Permitted	0.54	1.00		0.07	1.00		0.72	1.00		0.43	1.00	1.00
Satd. Flow (perm)	992	3409		137	3474		1320	3156		792	3466	1424
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)	108	997	301	379	316	37	208	142	243	75	55	48
RTOR Reduction (vph)	0	23	0	0	8	0	0	185	0	0	0	36
Lane Group Flow (vph)	108	1275	0	379	346	0	208	200	0	75	55	12
Confl. Peds. (#/hr)	8		11	11		8	19		15	15		19
Heavy Vehicles (%)	2%	0%	2%	0%	1%	0%	0%	1%	0%	0%	3%	8%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	54.5	48.7		78.8	70.0		28.8	28.8		28.8	28.8	28.8
Effective Green, g (s)	54.5	48.7		78.8	70.0		28.8	28.8		28.8	28.8	28.8
Actuated g/C Ratio	0.45	0.41		0.66	0.58		0.24	0.24		0.24	0.24	0.24
Clearance Time (s)	3.0	6.2		6.0	6.2		6.2	6.2		6.2	6.2	6.2
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)	486	1383		420	2026		316	757		190	831	341
v/s Ratio Prot	0.01	0.37		c0.18	0.10			0.06			0.02	
v/s Ratio Perm	0.09			c0.41			c0.16			0.09		0.01
v/c Ratio	0.22	0.92		0.90	0.17		0.66	0.26		0.39	0.07	0.03
Uniform Delay, d1	19.1	33.9		37.1	11.6		41.2	37.0		38.3	35.2	34.9
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.11	1.14	1.00
Incremental Delay, d2	0.2	11.6		22.1	0.2		10.3	0.9		6.0	0.2	0.2
Delay (s)	19.3	45.4		59.2	11.7		51.4	37.9		48.7	40.1	35.1
Level of Service	B	D		E	B		D	D		D	D	D
Approach Delay (s)		43.4			36.3			42.6			42.4	
Approach LOS		D			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	41.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.4
Intersection Capacity Utilization	107.4%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
38: DREW ST/HWY 401 EB RAMP (RITSON) & RR 22 (BLOOR ST)

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	241	604	21	56	355	210	45	37	78	310	36	32
Future Volume (vph)	241	604	21	56	355	210	45	37	78	310	36	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2		6.2	6.2		6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		0.99	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.94		1.00	0.90		1.00	0.93	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1762	3475		1775	3248		1732	1669		1761	1726	
Flt Permitted	0.33	1.00		0.39	1.00		0.71	1.00		0.68	1.00	
Satd. Flow (perm)	617	3475		734	3248		1292	1669		1255	1726	
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)	262	657	23	61	386	228	49	40	85	337	39	35
RTOR Reduction (vph)	0	2	0	0	75	0	0	58	0	0	24	0
Lane Group Flow (vph)	262	678	0	61	539	0	49	67	0	337	50	0
Confl. Peds. (#/hr)	12		6	6		12	8		3	3		8
Heavy Vehicles (%)	1%	2%	5%	0%	3%	0%	2%	0%	0%	1%	0%	0%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	56.2	56.2		42.4	42.4		31.4	31.4		31.4	31.4	
Effective Green, g (s)	56.2	56.2		42.4	42.4		31.4	31.4		31.4	31.4	
Actuated g/C Ratio	0.56	0.56		0.42	0.42		0.31	0.31		0.31	0.31	
Clearance Time (s)	3.0	6.2		6.2	6.2		6.2	6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	470	1952		311	1377		405	524		394	541	
v/s Ratio Prot	c0.06	0.20			0.17			0.04			0.03	
v/s Ratio Perm	c0.25			0.08			0.04			c0.27		
v/c Ratio	0.56	0.35		0.20	0.39		0.12	0.13		0.86	0.09	
Uniform Delay, d1	11.9	11.9		18.1	19.9		24.5	24.5		32.2	24.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.4	0.5		1.4	0.8		0.1	0.1		16.4	0.1	
Delay (s)	13.4	12.4		19.5	20.7		24.6	24.6		48.6	24.3	
Level of Service	B	B		B	C		C	C		D	C	
Approach Delay (s)		12.7			20.6			24.6			44.2	
Approach LOS		B			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.4
Intersection Capacity Utilization	73.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
39: RR 16 (RITSON RD) & RR 22 (BLOOR ST)

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	633	488	131	49	201	128	46	486	82	173	367	447
Future Volume (vph)	633	488	131	49	201	128	46	486	82	173	367	447
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.5		6.5	6.5			6.4	6.4		6.4	6.4
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95	1.00		0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99			1.00	0.96		1.00	0.97
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	0.94			1.00	0.85		1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00		0.98	1.00
Satd. Flow (prot)	1759	3284		1744	3118			3458	1495		3224	1489
Flt Permitted	0.39	1.00		0.40	1.00			0.79	1.00		0.60	1.00
Satd. Flow (perm)	730	3284		728	3118			2748	1495		1952	1489
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)	688	530	142	53	218	139	50	528	89	188	399	486
RTOR Reduction (vph)	0	20	0	0	83	0	0	0	58	0	0	318
Lane Group Flow (vph)	688	652	0	53	274	0	0	578	31	0	587	168
Confl. Peds. (#/hr)	13		4	4		13	10		13	13		10
Heavy Vehicles (%)	1%	1%	19%	2%	7%	5%	0%	3%	3%	8%	9%	4%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8		8	4		4
Actuated Green, G (s)	65.5	65.5		25.2	25.2			41.6	41.6		41.6	41.6
Effective Green, g (s)	65.5	65.5		25.2	25.2			41.6	41.6		41.6	41.6
Actuated g/C Ratio	0.55	0.55		0.21	0.21			0.35	0.35		0.35	0.35
Clearance Time (s)	3.0	6.5		6.5	6.5			6.4	6.4		6.4	6.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	718	1792		152	654			952	518		676	516
v/s Ratio Prot	c0.30	0.20			0.09							
v/s Ratio Perm	c0.23			0.07				0.21	0.02		c0.30	0.11
v/c Ratio	0.96	0.36		0.35	0.42			0.61	0.06		0.94dl	0.33
Uniform Delay, d1	21.1	15.4		40.4	41.1			32.4	26.2		36.6	28.9
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	23.5	0.6		6.2	2.0			2.9	0.2		14.2	1.7
Delay (s)	44.6	16.0		46.6	43.0			35.3	26.4		50.8	30.6
Level of Service	D	B		D	D			D	C		D	C
Approach Delay (s)		30.5			43.5			34.1			41.6	
Approach LOS		C			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	36.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	15.9
Intersection Capacity Utilization	102.8%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis — Simcoe Bridge Closure
40: RR 35 (WILSON RD) & RR 22 (BLOOR ST)

Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	189	342	45	31	209	212	54	282	48	84	122	80
Future Volume (vph)	189	342	45	31	209	212	54	282	48	84	122	80
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	0.98		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.98		1.00	0.92		1.00	0.98		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1783	1804		1777	1674		1710	1813		1773	1739	
Flt Permitted	0.33	1.00		0.52	1.00		0.54	1.00		0.34	1.00	
Satd. Flow (perm)	623	1804		966	1674		970	1813		628	1739	
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)	205	372	49	34	227	230	59	307	52	91	133	87
RTOR Reduction (vph)	0	5	0	0	34	0	0	6	0	0	24	0
Lane Group Flow (vph)	205	416	0	34	423	0	59	353	0	91	196	0
Confl. Peds. (#/hr)	5		3	3		5	2		6	6		2
Heavy Vehicles (%)	0%	2%	2%	0%	3%	1%	4%	1%	0%	0%	1%	0%
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	58.0	58.0		44.4	44.4		30.3	30.3		30.3	30.3	
Effective Green, g (s)	58.0	58.0		44.4	44.4		30.3	30.3		30.3	30.3	
Actuated g/C Ratio	0.58	0.58		0.44	0.44		0.30	0.30		0.30	0.30	
Clearance Time (s)	3.0	6.0		6.0	6.0		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	484	1046		428	743		293	549		190	526	
v/s Ratio Prot	c0.04	0.23			c0.25			c0.19			0.11	
v/s Ratio Perm	0.20			0.04			0.06			0.15		
v/c Ratio	0.42	0.40		0.08	0.57		0.20	0.64		0.48	0.37	
Uniform Delay, d1	11.6	11.5		16.0	20.7		25.9	30.2		28.4	27.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.6	1.1		0.4	3.1		1.5	5.7		8.4	2.0	
Delay (s)	12.2	12.6		16.4	23.8		27.4	35.9		36.8	29.4	
Level of Service	B	B		B	C		C	D		D	C	
Approach Delay (s)		12.5			23.3			34.7			31.6	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	23.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	14.7
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
41: RR 56 (FAREWELL ST)/401 EB RAMP / RR 56 FAREWELL & RR 22 (BLOOR ST)

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	273	21	208	207	140	62	240	555	1219	48	156
Future Volume (vph)	115	273	21	208	207	140	62	240	555	1219	48	156
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2		3.0	6.2		6.3	6.3	6.3	5.5	6.3	6.3
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00	1.00	0.97	0.95	1.00
Frpb, ped/bikes	1.00	1.00		1.00	0.99		1.00	1.00	0.98	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	1.00	1.00
Frt	1.00	0.99		1.00	0.94		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1766	3474		1580	3239		1684	1807	1512	3429	2950	1597
Flt Permitted	0.53	1.00		0.36	1.00		0.72	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	981	3474		592	3239		1279	1807	1512	3429	2950	1597
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)	125	297	23	226	225	152	67	261	603	1325	52	170
RTOR Reduction (vph)	0	5	0	0	108	0	0	0	156	0	0	68
Lane Group Flow (vph)	125	315	0	226	269	0	67	261	447	1325	52	102
Confl. Peds. (#/hr)	1					1			2	2		
Heavy Vehicles (%)	1%	1%	10%	13%	3%	2%	6%	4%	4%	1%	21%	0%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases	2			6			8		8			4
Actuated Green, G (s)	22.0	15.2		31.2	21.4		20.1	20.1	20.1	40.7	66.3	66.3
Effective Green, g (s)	22.0	15.2		31.2	21.4		20.1	20.1	20.1	40.7	66.3	66.3
Actuated g/C Ratio	0.20	0.14		0.28	0.19		0.18	0.18	0.18	0.37	0.60	0.60
Clearance Time (s)	3.0	6.2		3.0	6.2		6.3	6.3	6.3	5.5	6.3	6.3
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	244	480		284	630		233	330	276	1268	1778	962
v/s Ratio Prot	0.03	0.09		c0.09	0.08			0.14		c0.39	0.02	
v/s Ratio Perm	0.07			c0.13			0.05		c0.30			0.06
v/c Ratio	0.51	0.66		0.80	0.43		0.29	0.79	1.62	1.04	0.03	0.11
Uniform Delay, d1	37.9	44.9		33.3	38.9		38.8	42.9	44.9	34.6	8.8	9.3
Progression Factor	1.00	1.00		1.18	1.25		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.8	6.8		13.6	2.0		0.7	12.2	294.8	37.9	0.0	0.0
Delay (s)	39.7	51.8		53.0	50.7		39.5	55.1	339.7	72.5	8.8	9.3
Level of Service	D	D		D	D		D	E	F	E	A	A
Approach Delay (s)		48.4			51.5			238.3			63.4	
Approach LOS		D			D			F			E	

Intersection Summary				
HCM 2000 Control Delay	105.7	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.12			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	21.0	
Intersection Capacity Utilization	92.6%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
42: RR 33 (HARMONY) & RR 22 (BLOOR ST)

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	928	766	128	324	128	67	35	289	22	43	463	257
Future Volume (vph)	928	766	128	324	128	67	35	289	22	43	463	257
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	6.3	6.3		3.0	6.5		6.5	6.5	6.5
Lane Util. Factor	0.91	0.91	1.00	1.00	0.95		1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	1.00	0.99		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	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.99		1.00	1.00	0.85
Flt Protected	0.95	0.98	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1400	2884	1320	1580	2854		1095	3033		1668	1606	1353
Flt Permitted	0.95	0.46	1.00	0.95	1.00		0.15	1.00		0.55	1.00	1.00
Satd. Flow (perm)	1400	1334	1320	1580	2854		171	3033		963	1606	1353
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)	1009	833	139	352	139	73	38	314	24	47	503	279
RTOR Reduction (vph)	0	0	95	0	56	0	0	5	0	0	0	191
Lane Group Flow (vph)	605	1237	44	352	156	0	38	333	0	47	503	88
Confl. Peds. (#/hr)	3					3						
Heavy Vehicles (%)	16%	17%	21%	13%	21%	12%	63%	17%	9%	7%	17%	18%
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA		Perm	NA	Perm
Protected Phases	6	2		5	1		3	8			4	
Permitted Phases			2				8			4		4
Actuated Green, G (s)	34.5	34.5	34.5	25.4	25.4		31.0	31.0		23.9	23.9	23.9
Effective Green, g (s)	34.5	34.5	34.5	25.4	25.4		31.0	31.0		23.9	23.9	23.9
Actuated g/C Ratio	0.31	0.31	0.31	0.23	0.23		0.28	0.28		0.22	0.22	0.22
Clearance Time (s)	6.3	6.3	6.3	6.3	6.3		3.0	6.5		6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	439	904	414	364	659		82	854		209	348	293
v/s Ratio Prot	c0.43	0.43		c0.22	0.05		c0.02	0.11			c0.31	
v/s Ratio Perm			0.03				0.11			0.05		0.07
v/c Ratio	1.38	1.37	0.11	0.97	0.24		0.46	0.39		0.22	1.45	0.30
Uniform Delay, d1	37.8	37.8	26.8	41.9	34.4		31.9	31.9		35.4	43.0	36.0
Progression Factor	0.73	0.73	0.53	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	171.5	166.4	0.0	38.1	0.2		4.1	0.3		0.5	216.0	0.6
Delay (s)	199.0	193.9	14.2	80.0	34.6		36.0	32.2		36.0	259.1	36.6
Level of Service	F	F	B	E	C		D	C		D	F	D
Approach Delay (s)		182.8			62.9			32.5			171.6	
Approach LOS		F			E			C			F	

Intersection Summary				
HCM 2000 Control Delay	147.2	HCM 2000 Level of Service	F	
HCM 2000 Volume to Capacity ratio	1.23			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	22.1	
Intersection Capacity Utilization	97.8%	ICU Level of Service	F	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
43: GRANDVIEW ST & RR 59 (OLIVE AV)

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	13	139	82	53	312	5	173	47	69	9	28	36
Future Volume (vph)	13	139	82	53	312	5	173	47	69	9	28	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2	6.2	6.2	6.2	6.2		5.8	5.8		5.8	5.8	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	0.91		1.00	0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1493	1648	1370	1577	1643		1559	1544		1777	1578	
Flt Permitted	0.54	1.00	1.00	0.66	1.00		0.71	1.00		0.68	1.00	
Satd. Flow (perm)	855	1648	1370	1097	1643		1169	1544		1265	1578	
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)	14	151	89	58	339	5	188	51	75	10	30	39
RTOR Reduction (vph)	0	0	33	0	0	0	0	58	0	0	30	0
Lane Group Flow (vph)	14	151	56	58	344	0	188	68	0	10	39	0
Confl. Peds. (#/hr)	4		1	1		4	8		3	3		8
Heavy Vehicles (%)	19%	14%	14%	13%	14%	20%	13%	2%	14%	0%	8%	6%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8			4		
Actuated Green, G (s)	50.9	50.9	50.9	50.9	50.9		18.1	18.1		18.1	18.1	
Effective Green, g (s)	50.9	50.9	50.9	50.9	50.9		18.1	18.1		18.1	18.1	
Actuated g/C Ratio	0.63	0.63	0.63	0.63	0.63		0.22	0.22		0.22	0.22	
Clearance Time (s)	6.2	6.2	6.2	6.2	6.2		5.8	5.8		5.8	5.8	
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)	537	1035	860	689	1032		261	345		282	352	
v/s Ratio Prot		0.09			c0.21			0.04			0.02	
v/s Ratio Perm	0.02		0.04	0.05			c0.16			0.01		
v/c Ratio	0.03	0.15	0.07	0.08	0.33		0.72	0.20		0.04	0.11	
Uniform Delay, d1	5.7	6.2	5.8	5.9	7.1		29.1	25.5		24.6	25.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3	0.1	0.2	0.9		9.4	0.3		0.1	0.1	
Delay (s)	5.8	6.5	6.0	6.1	7.9		38.5	25.8		24.7	25.2	
Level of Service	A	A	A	A	A		D	C		C	C	
Approach Delay (s)		6.2			7.7			33.4			25.1	
Approach LOS		A			A			C			C	

Intersection Summary				
HCM 2000 Control Delay	16.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.43			
Actuated Cycle Length (s)	81.0	Sum of lost time (s)	12.0	
Intersection Capacity Utilization	65.1%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
44: GRANDVIEW ST & RR 22 (BLOOR ST)

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	187	18	2	533	69	86	80	7	51	31	56
Future Volume (vph)	18	187	18	2	533	69	86	80	7	51	31	56
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		5.7	5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.98		1.00	0.99		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1565	1690		1426	1573		1579	1680		1621	1469	
Flt Permitted	0.36	1.00		0.62	1.00		0.70	1.00		0.70	1.00	
Satd. Flow (perm)	600	1690		929	1573		1156	1680		1186	1469	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	203	20	2	579	75	93	87	8	55	34	61
RTOR Reduction (vph)	0	3	0	0	4	0	0	6	0	0	52	0
Lane Group Flow (vph)	20	220	0	2	650	0	93	89	0	55	43	0
Confl. Peds. (#/hr)	1		1	1		1	7		1	1		7
Heavy Vehicles (%)	14%	10%	4%	25%	17%	18%	12%	10%	13%	10%	14%	13%
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)	47.9	47.9		47.9	47.9		9.8	9.8		9.8	9.8	
Effective Green, g (s)	47.9	47.9		47.9	47.9		9.8	9.8		9.8	9.8	
Actuated g/C Ratio	0.68	0.68		0.68	0.68		0.14	0.14		0.14	0.14	
Clearance Time (s)	6.6	6.6		6.6	6.6		5.7	5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	410	1156		635	1076		161	235		166	205	
v/s Ratio Prot		0.13			c0.41			0.05			0.03	
v/s Ratio Perm	0.03			0.00			c0.08			0.05		
v/c Ratio	0.05	0.19		0.00	0.60		0.58	0.38		0.33	0.21	
Uniform Delay, d1	3.6	4.0		3.5	5.9		28.2	27.3		27.1	26.7	
Progression Factor	1.00	1.00		0.72	0.68		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.4		0.0	2.5		4.9	1.0		1.2	0.5	
Delay (s)	3.8	4.4		2.5	6.5		33.1	28.4		28.3	27.2	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		4.3			6.5			30.7			27.6	
Approach LOS		A			A			C			C	

Intersection Summary				
HCM 2000 Control Delay	12.3	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.60			
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.3	
Intersection Capacity Utilization	54.2%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
45: PRESTONVALE RD & RR 22 (BLOOR ST)

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	145	10	21	210	54	13	26	37	66	39	18
Future Volume (vph)	21	145	10	21	210	54	13	26	37	66	39	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5		6.5	6.5		6.1	6.1		6.1	6.1	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.99		1.00	0.97		1.00	0.91		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1500	1588		1439	1535		1439	1462		1594	1562	
Flt Permitted	0.58	1.00		0.65	1.00		0.72	1.00		0.71	1.00	
Satd. Flow (perm)	922	1588		985	1535		1086	1462		1196	1562	
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)	23	158	11	23	228	59	14	28	40	72	42	20
RTOR Reduction (vph)	0	2	0	0	9	0	0	35	0	0	18	0
Lane Group Flow (vph)	23	167	0	23	278	0	14	33	0	72	44	0
Heavy Vehicles (%)	19%	17%	20%	24%	18%	21%	24%	16%	18%	12%	18%	7%
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)	48.8	48.8		48.8	48.8		8.6	8.6		8.6	8.6	
Effective Green, g (s)	48.8	48.8		48.8	48.8		8.6	8.6		8.6	8.6	
Actuated g/C Ratio	0.70	0.70		0.70	0.70		0.12	0.12		0.12	0.12	
Clearance Time (s)	6.5	6.5		6.5	6.5		6.1	6.1		6.1	6.1	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	642	1107		686	1070		133	179		146	191	
v/s Ratio Prot		0.10			c0.18			0.02			0.03	
v/s Ratio Perm	0.02			0.02			0.01			c0.06		
v/c Ratio	0.04	0.15		0.03	0.26		0.11	0.18		0.49	0.23	
Uniform Delay, d1	3.3	3.6		3.3	3.9		27.3	27.6		28.7	27.7	
Progression Factor	1.71	1.85		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3		0.1	0.6		0.3	0.5		2.6	0.6	
Delay (s)	5.7	6.9		3.4	4.5		27.6	28.0		31.3	28.3	
Level of Service	A	A		A	A		C	C		C	C	
Approach Delay (s)		6.8			4.4			28.0			29.9	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.29		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	12.6
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
47: RR 34 (COURTICE RD) & RR 22 (BLOOR ST)

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	129	123	32	107	36	68	183	19	33	355	81
Future Volume (vph)	94	129	123	32	107	36	68	183	19	33	355	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	7.1	7.1		7.1	7.1		7.4	7.4	7.4	7.4	7.4	7.4
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.93		1.00	0.96		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1785	1741		1653	1786		1767	1842	1566	1750	1789	1536
Flt Permitted	0.66	1.00		0.53	1.00		0.52	1.00	1.00	0.63	1.00	1.00
Satd. Flow (perm)	1237	1741		914	1786		962	1842	1566	1166	1789	1536
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)	102	140	134	35	116	39	74	199	21	36	386	88
RTOR Reduction (vph)	0	53	0	0	18	0	0	0	10	0	0	26
Lane Group Flow (vph)	102	221	0	35	137	0	74	199	11	36	386	62
Heavy Vehicles (%)	0%	0%	0%	8%	1%	2%	1%	2%	2%	2%	5%	4%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		6
Actuated Green, G (s)	16.5	16.5		16.5	16.5		35.2	35.2	35.2	35.2	35.2	35.2
Effective Green, g (s)	16.5	16.5		16.5	16.5		35.2	35.2	35.2	35.2	35.2	35.2
Actuated g/C Ratio	0.25	0.25		0.25	0.25		0.53	0.53	0.53	0.53	0.53	0.53
Clearance Time (s)	7.1	7.1		7.1	7.1		7.4	7.4	7.4	7.4	7.4	7.4
Vehicle Extension (s)	3.0	3.0		3.0	3.0		6.2	6.2	6.2	6.2	6.2	6.2
Lane Grp Cap (vph)	308	433		227	445		511	979	832	619	951	816
v/s Ratio Prot		c0.13			0.08			0.11			c0.22	
v/s Ratio Perm	0.08			0.04			0.08		0.01	0.03		0.04
v/c Ratio	0.33	0.51		0.15	0.31		0.14	0.20	0.01	0.06	0.41	0.08
Uniform Delay, d1	20.3	21.4		19.4	20.2		7.9	8.1	7.3	7.5	9.3	7.6
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	1.0		0.3	0.4		0.6	0.5	0.0	0.2	1.3	0.2
Delay (s)	21.0	22.4		19.7	20.6		8.5	8.6	7.3	7.7	10.5	7.7
Level of Service	C	C		B	C		A	A	A	A	B	A
Approach Delay (s)		22.0			20.4			8.5			9.9	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	14.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	66.2	Sum of lost time (s)	14.5
Intersection Capacity Utilization	90.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
48: RR 34 (COURTICE RD) & BASELINE RD

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	1	92	17	1	7	70	279	42	23	504	31
Future Volume (vph)	15	1	92	17	1	7	70	279	42	23	504	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			-2%			-5%			-5%	
Total Lost time (s)	7.3	7.3		7.3	7.3		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	1.00	
Frt	1.00	0.85		1.00	0.87		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)	1490	1432		1398	1245		1429	1585		1165	1640	
Flt Permitted	0.75	1.00		0.69	1.00		0.40	1.00		0.55	1.00	
Satd. Flow (perm)	1179	1432		1018	1245		609	1585		677	1640	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	1	100	18	1	8	76	303	46	25	548	34
RTOR Reduction (vph)	0	86	0	0	7	0	0	6	0	0	2	0
Lane Group Flow (vph)	16	15	0	18	2	0	76	343	0	25	580	0
Heavy Vehicles (%)	21%	0%	13%	29%	25%	33%	28%	17%	33%	57%	16%	23%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	9.6	9.6		9.6	9.6		45.6	45.6		45.6	45.6	
Effective Green, g (s)	9.6	9.6		9.6	9.6		45.6	45.6		45.6	45.6	
Actuated g/C Ratio	0.14	0.14		0.14	0.14		0.65	0.65		0.65	0.65	
Clearance Time (s)	7.3	7.3		7.3	7.3		7.5	7.5		7.5	7.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	161	196		139	170		396	1032		441	1068	
v/s Ratio Prot		0.01			0.00			0.22			c0.35	
v/s Ratio Perm	0.01			c0.02			0.12			0.04		
v/c Ratio	0.10	0.08		0.13	0.01		0.19	0.33		0.06	0.54	
Uniform Delay, d1	26.4	26.3		26.5	26.1		4.9	5.4		4.4	6.6	
Progression Factor	1.00	1.00		1.00	1.00		0.44	0.41		1.00	1.00	
Incremental Delay, d2	0.3	0.2		0.4	0.0		1.1	0.9		0.2	2.0	
Delay (s)	26.7	26.5		27.0	26.1		3.2	3.1		4.7	8.6	
Level of Service	C	C		C	C		A	A		A	A	
Approach Delay (s)		26.5			26.7			3.1			8.4	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.8
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
50: COURTICE RD (RR34)/RR 34 (COURTICE RD) & 401 WB RAMP

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	120	0	5	60	220	0	0	255	465
Future Volume (vph)	0	0	0	120	0	5	60	220	0	0	255	465
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				6.5		6.5	3.0	5.1			5.1	5.1
Lane Util. Factor				1.00		1.00	1.00	1.00			1.00	1.00
Frt				1.00		0.85	1.00	1.00			1.00	0.85
Flt Protected				0.95		1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)				1750		1566	1750	1842			1842	1566
Flt Permitted				0.95		1.00	0.55	1.00			1.00	1.00
Satd. Flow (perm)				1750		1566	1013	1842			1842	1566
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)	0	0	0	130	0	5	65	239	0	0	277	505
RTOR Reduction (vph)	0	0	0	0	0	4	0	0	0	0	0	201
Lane Group Flow (vph)	0	0	0	130	0	1	65	239	0	0	277	304
Turn Type				Perm		Perm	pm+pt	NA			NA	Perm
Protected Phases							5	2			6	
Permitted Phases				8		8	2					6
Actuated Green, G (s)				9.8		9.8	48.6	48.6			42.2	42.2
Effective Green, g (s)				9.8		9.8	48.6	48.6			42.2	42.2
Actuated g/C Ratio				0.14		0.14	0.69	0.69			0.60	0.60
Clearance Time (s)				6.5		6.5	3.0	5.1			5.1	5.1
Vehicle Extension (s)				3.0		3.0	3.0	3.0			3.0	3.0
Lane Grp Cap (vph)				245		219	739	1278			1110	944
v/s Ratio Prot							0.00	c0.13			0.15	
v/s Ratio Perm				c0.07		0.00	0.06					c0.19
v/c Ratio				0.53		0.00	0.09	0.19			0.25	0.32
Uniform Delay, d1				28.0		25.9	3.5	3.8			6.5	6.9
Progression Factor				1.00		1.00	0.32	0.29			0.87	0.67
Incremental Delay, d2				2.2		0.0	0.1	0.3			0.5	0.8
Delay (s)				30.2		25.9	1.1	1.4			6.1	5.4
Level of Service				C		C	A	A			A	A
Approach Delay (s)		0.0			30.0			1.3			5.7	
Approach LOS		A			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.35		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	14.6
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
51: COURTICE RD (RR34) & 401 W-N/S RAMP/401 EB RAMP

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	0	5	0	0	0	0	90	25	100	270	0
Future Volume (vph)	190	0	5	0	0	0	0	90	25	100	270	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.2		6.2					5.0	5.0	5.0	5.0	
Lane Util. Factor	1.00		1.00					1.00	1.00	1.00	1.00	
Frt	1.00		0.85					1.00	0.85	1.00	1.00	
Flt Protected	0.95		1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1750		1566					1842	1566	1750	1842	
Flt Permitted	0.95		1.00					1.00	1.00	0.69	1.00	
Satd. Flow (perm)	1750		1566					1842	1566	1278	1842	
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)	207	0	5	0	0	0	0	98	27	109	293	0
RTOR Reduction (vph)	0	0	4	0	0	0	0	0	10	0	0	0
Lane Group Flow (vph)	207	0	1	0	0	0	0	98	17	109	293	0
Turn Type	Perm		Perm					NA	Perm	Perm	NA	
Protected Phases								2			6	
Permitted Phases	4		4						2	6		
Actuated Green, G (s)	14.6		14.6					44.2	44.2	44.2	44.2	
Effective Green, g (s)	14.6		14.6					44.2	44.2	44.2	44.2	
Actuated g/C Ratio	0.21		0.21					0.63	0.63	0.63	0.63	
Clearance Time (s)	6.2		6.2					5.0	5.0	5.0	5.0	
Vehicle Extension (s)	3.0		3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	365		326					1163	988	806	1163	
v/s Ratio Prot								0.05			c0.16	
v/s Ratio Perm	c0.12		0.00						0.01	0.09		
v/c Ratio	0.57		0.00					0.08	0.02	0.14	0.25	
Uniform Delay, d1	24.9		21.9					5.0	4.8	5.2	5.7	
Progression Factor	1.00		1.00					1.00	1.00	0.62	0.62	
Incremental Delay, d2	2.0		0.0					0.1	0.0	0.3	0.5	
Delay (s)	26.9		21.9					5.2	4.8	3.5	4.0	
Level of Service	C		C					A	A	A	A	
Approach Delay (s)		26.8			0.0			5.1			3.9	
Approach LOS		C			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	11.2
Intersection Capacity Utilization	65.7%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
52: BOSWELL DRIVE & HWY 2

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	614	36	38	653	36	113	17	45	47	13	88
Future Volume (vph)	88	614	36	38	653	36	113	17	45	47	13	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.4		3.0	6.4		6.2	6.2		6.2	6.2	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	0.98		1.00	0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		0.99	1.00		0.98	1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.89		1.00	0.87	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1766	3493		1693	3404		1705	1494		1738	1549	
Flt Permitted	0.33	1.00		0.38	1.00		0.69	1.00		0.71	1.00	
Satd. Flow (perm)	621	3493		676	3404		1232	1494		1305	1549	
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)	96	667	39	41	710	39	123	18	49	51	14	96
RTOR Reduction (vph)	0	3	0	0	3	0	0	41	0	0	81	0
Lane Group Flow (vph)	96	703	0	41	746	0	123	26	0	51	29	0
Confl. Peds. (#/hr)	3		12	12		3	6		15	15		6
Heavy Vehicles (%)	1%	1%	2%	5%	4%	2%	4%	0%	13%	1%	8%	3%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	61.7	56.6		58.3	54.9		14.4	14.4		14.4	14.4	
Effective Green, g (s)	61.7	56.6		58.3	54.9		14.4	14.4		14.4	14.4	
Actuated g/C Ratio	0.69	0.63		0.65	0.61		0.16	0.16		0.16	0.16	
Clearance Time (s)	3.0	6.4		3.0	6.4		6.2	6.2		6.2	6.2	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	490	2196		476	2076		197	239		208	247	
v/s Ratio Prot	c0.01	0.20		0.00	c0.22			0.02			0.02	
v/s Ratio Perm	0.12			0.05			c0.10			0.04		
v/c Ratio	0.20	0.32		0.09	0.36		0.62	0.11		0.25	0.12	
Uniform Delay, d1	4.9	7.8		5.7	8.8		35.3	32.3		33.0	32.4	
Progression Factor	0.48	0.61		0.57	0.88		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.4		0.1	0.5		6.0	0.2		0.6	0.2	
Delay (s)	2.5	5.1		3.3	8.2		41.3	32.5		33.7	32.6	
Level of Service	A	A		A	A		D	C		C	C	
Approach Delay (s)		4.8			8.0			38.2			32.9	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
53: GREEN ROAD & HWY 2

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	570	56	35	654	57	87	99	29	79	57	23
Future Volume (vph)	58	570	56	35	654	57	87	99	29	79	57	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	7.0		3.0	7.0		6.4	6.4		6.4	6.4	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		1.00	1.00	
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		0.99	1.00		1.00	1.00		0.99	1.00	
Frt	1.00	0.99		1.00	0.99		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)	1746	3439		1741	3480		1726	1792		1755	1735	
Flt Permitted	0.33	1.00		0.39	1.00		0.70	1.00		0.66	1.00	
Satd. Flow (perm)	613	3439		720	3480		1273	1792		1219	1735	
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)	63	620	61	38	711	62	95	108	32	86	62	25
RTOR Reduction (vph)	0	5	0	0	4	0	0	16	0	0	22	0
Lane Group Flow (vph)	63	676	0	38	769	0	95	124	0	86	65	0
Confl. Peds. (#/hr)	11		16	16		11	4		8	8		4
Heavy Vehicles (%)	2%	2%	1%	2%	1%	1%	3%	1%	0%	1%	2%	6%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	62.5	57.9		59.9	56.6		12.4	12.4		12.4	12.4	
Effective Green, g (s)	62.5	57.9		59.9	56.6		12.4	12.4		12.4	12.4	
Actuated g/C Ratio	0.69	0.64		0.67	0.63		0.14	0.14		0.14	0.14	
Clearance Time (s)	3.0	7.0		3.0	7.0		6.4	6.4		6.4	6.4	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	483	2212		516	2188		175	246		167	239	
v/s Ratio Prot	c0.01	0.20		0.00	c0.22			0.07			0.04	
v/s Ratio Perm	0.08			0.05			c0.07			0.07		
v/c Ratio	0.13	0.31		0.07	0.35		0.54	0.50		0.51	0.27	
Uniform Delay, d1	4.5	7.1		5.1	8.0		36.2	35.9		36.0	34.8	
Progression Factor	0.66	0.59		0.93	0.99		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.1	0.3		0.1	0.4		3.4	1.6		2.7	0.6	
Delay (s)	3.1	4.6		4.8	8.3		39.6	37.6		38.7	35.4	
Level of Service	A	A		A	A		D	D		D	D	
Approach Delay (s)		4.4			8.2			38.4			37.0	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.4
Intersection Capacity Utilization	61.0%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
54: HWY 2 & CLARINGTON BLVD

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	471	27	237	570	72	29	49	158	110	80	37
Future Volume (vph)	34	471	27	237	570	72	29	49	158	110	80	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3		3.0	6.3		6.3	6.3		6.3	6.3	
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	0.99	
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	0.89		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1496	3071		1580	3043		1458	2703		1463	2922	
Flt Permitted	0.39	1.00		0.41	1.00		0.67	1.00		0.61	1.00	
Satd. Flow (perm)	608	3071		679	3043		1030	2703		941	2922	
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)	37	512	29	258	620	78	32	53	172	120	87	40
RTOR Reduction (vph)	0	3	0	0	8	0	0	140	0	0	33	0
Lane Group Flow (vph)	37	538	0	258	690	0	32	85	0	120	94	0
Confl. Peds. (#/hr)	5					5	4					4
Heavy Vehicles (%)	19%	15%	21%	13%	14%	24%	22%	7%	20%	22%	18%	11%
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases		2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	47.5	47.5		60.7	60.7		16.7	16.7		16.7	16.7	
Effective Green, g (s)	47.5	47.5		60.7	60.7		16.7	16.7		16.7	16.7	
Actuated g/C Ratio	0.53	0.53		0.67	0.67		0.19	0.19		0.19	0.19	
Clearance Time (s)	6.3	6.3		3.0	6.3		6.3	6.3		6.3	6.3	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	320	1620		560	2052		191	501		174	542	
v/s Ratio Prot		0.18		c0.05	0.23			0.03			0.03	
v/s Ratio Perm	0.06			c0.26			0.03			c0.13		
v/c Ratio	0.12	0.33		0.46	0.34		0.17	0.17		0.69	0.17	
Uniform Delay, d1	10.7	12.2		5.9	6.2		30.8	30.8		34.2	30.8	
Progression Factor	0.59	0.62		0.85	0.84		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.7	0.5		0.6	0.4		0.4	0.2		10.8	0.2	
Delay (s)	7.0	8.1		5.6	5.6		31.2	31.0		45.1	31.0	
Level of Service	A	A		A	A		C	C		D	C	
Approach Delay (s)		8.0			5.6			31.0			37.8	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	13.4	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	15.6
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
55: RR 57 (BOWMANVILLE AVE)/RR 57 & HWY 2

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	509	193	162	272	108	150	515	231	121	646	76
Future Volume (vph)	100	509	193	162	272	108	150	515	231	121	646	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			-1%			-3%			-3%	
Total Lost time (s)	3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.5	6.5	6.5	6.5	6.5
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.97	1.00	1.00	1.00	1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1720	3292	1523	1546	3322	1405	1759	1703	1515	1647	1750	1538
Flt Permitted	0.57	1.00	1.00	0.38	1.00	1.00	0.16	1.00	1.00	0.35	1.00	1.00
Satd. Flow (perm)	1027	3292	1523	626	3322	1405	302	1703	1515	605	1750	1538
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)	109	553	210	176	296	117	163	560	251	132	702	83
RTOR Reduction (vph)	0	0	132	0	0	74	0	0	82	0	0	63
Lane Group Flow (vph)	109	553	78	176	296	43	163	560	169	132	702	20
Confl. Peds. (#/hr)	3		1	1		3	1					1
Heavy Vehicles (%)	4%	9%	3%	16%	8%	11%	3%	12%	7%	10%	9%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases	5	2		1	6		3	8			4	
Permitted Phases	2		2	6		6	8		8	4		4
Actuated Green, G (s)	39.6	33.4	33.4	39.2	33.2	33.2	34.9	34.9	34.9	21.5	21.5	21.5
Effective Green, g (s)	39.6	33.4	33.4	39.2	33.2	33.2	34.9	34.9	34.9	21.5	21.5	21.5
Actuated g/C Ratio	0.44	0.37	0.37	0.44	0.37	0.37	0.39	0.39	0.39	0.24	0.24	0.24
Clearance Time (s)	3.0	6.2	6.2	3.0	6.2	6.2	3.0	6.5	6.5	6.5	6.5	6.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	499	1221	565	333	1225	518	285	660	587	144	418	367
v/s Ratio Prot	0.02	0.17		c0.04	0.09		0.07	c0.33			c0.40	
v/s Ratio Perm	0.08		0.05	c0.19		0.03	0.16		0.11	0.22		0.01
v/c Ratio	0.22	0.45	0.14	0.53	0.24	0.08	0.57	0.85	0.29	0.92	1.68	0.05
Uniform Delay, d1	15.1	21.4	18.8	16.6	19.7	18.5	21.1	25.1	19.0	33.4	34.2	26.4
Progression Factor	0.91	0.92	1.17	1.00	1.00	1.00	0.91	0.95	0.80	1.00	1.00	1.00
Incremental Delay, d2	0.2	1.2	0.5	1.5	0.5	0.3	2.7	9.8	0.3	50.3	316.0	0.1
Delay (s)	14.0	20.9	22.5	18.1	20.1	18.8	21.9	33.8	15.4	83.7	350.3	26.5
Level of Service	B	C	C	B	C	B	C	C	B	F	F	C
Approach Delay (s)		20.4			19.3			27.1			282.6	
Approach LOS		C			B			C			F	

Intersection Summary			
HCM 2000 Control Delay	93.9	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	18.7
Intersection Capacity Utilization	85.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
58: RR 67 (BOWMANVILLE AVE)/RR 57 (BOWMANVILLE AVE) & ASPEN SPRINGS DR

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	119	83	63	382	668	78
Future Volume (vph)	119	83	63	382	668	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.97	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
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)	1566	1399	1607	1606	1614	
Flt Permitted	0.95	1.00	0.28	1.00	1.00	
Satd. Flow (perm)	1566	1399	481	1606	1614	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	129	90	68	415	726	85
RTOR Reduction (vph)	0	76	0	0	3	0
Lane Group Flow (vph)	129	14	68	415	808	0
Confl. Peds. (#/hr)		3	1			1
Heavy Vehicles (%)	14%	11%	11%	17%	15%	10%
Turn Type	Prot	Perm	Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4	2			
Actuated Green, G (s)	12.4	12.4	65.6	65.6	65.6	
Effective Green, g (s)	14.2	14.2	67.8	67.8	67.8	
Actuated g/C Ratio	0.16	0.16	0.75	0.75	0.75	
Clearance Time (s)	5.8	5.8	6.2	6.2	6.2	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	247	220	362	1209	1215	
v/s Ratio Prot	c0.08			0.26	c0.50	
v/s Ratio Perm		0.01	0.14			
v/c Ratio	0.52	0.06	0.19	0.34	0.67	
Uniform Delay, d1	34.8	32.2	3.2	3.7	5.5	
Progression Factor	1.00	1.00	0.27	0.26	0.96	
Incremental Delay, d2	2.0	0.1	1.1	0.7	0.3	
Delay (s)	36.8	32.4	2.0	1.7	5.5	
Level of Service	D	C	A	A	A	
Approach Delay (s)	35.0			1.7	5.5	
Approach LOS	C			A	A	

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	66.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
59: RR 57 (BOWMANVILLE AVE) & WAVERLEY RD

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	220	55	434	129	50	767
Future Volume (vph)	220	55	434	129	50	767
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	4%		3%			-3%
Total Lost time (s)	5.9	5.9	6.2	6.2	6.2	6.2
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1732	1565	1832	1522	1691	1782
Flt Permitted	0.95	1.00	1.00	1.00	0.46	1.00
Satd. Flow (perm)	1732	1565	1832	1522	813	1782
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	60	472	140	54	834
RTOR Reduction (vph)	0	48	0	46	0	0
Lane Group Flow (vph)	239	12	472	94	54	834
Confl. Peds. (#/hr)				1	1	
Heavy Vehicles (%)	1%	0%	1%	1%	7%	7%
Turn Type	Prot	Perm	NA	Perm	Perm	NA
Protected Phases	8		2			6
Permitted Phases		8		2	6	
Actuated Green, G (s)	17.7	17.7	60.2	60.2	60.2	60.2
Effective Green, g (s)	17.7	17.7	60.2	60.2	60.2	60.2
Actuated g/C Ratio	0.20	0.20	0.67	0.67	0.67	0.67
Clearance Time (s)	5.9	5.9	6.2	6.2	6.2	6.2
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	340	307	1225	1018	543	1191
v/s Ratio Prot	c0.14		0.26			c0.47
v/s Ratio Perm		0.01		0.06	0.07	
v/c Ratio	0.70	0.04	0.39	0.09	0.10	0.70
Uniform Delay, d1	33.7	29.3	6.6	5.3	5.3	9.3
Progression Factor	1.00	1.00	1.33	1.49	0.51	0.50
Incremental Delay, d2	6.5	0.1	0.9	0.2	0.3	2.7
Delay (s)	40.2	29.3	9.7	8.0	3.0	7.4
Level of Service	D	C	A	A	A	A
Approach Delay (s)	38.0		9.3			7.1
Approach LOS	D		A			A

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.1
Intersection Capacity Utilization	63.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis
60: GREEN RD/GREEN ROAD & BASELINE RD

Simcoe Bridge Closure
Timing Plan: PM Peak

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	48	0	1	117	48	0	0	1	63	4	178
Future Volume (vph)	50	48	0	1	117	48	0	0	1	63	4	178
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.1	6.1		6.1	6.1			5.7		5.7	5.7	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Frt	1.00	1.00		1.00	0.96			0.85		1.00	0.85	
Flt Protected	0.95	1.00		0.95	1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1580	1579		892	1523			1597		1500	1434	
Flt Permitted	0.64	1.00		0.72	1.00			1.00		0.76	1.00	
Satd. Flow (perm)	1071	1579		679	1523			1597		1196	1434	
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)	54	52	0	1	127	52	0	0	1	68	4	193
RTOR Reduction (vph)	0	0	0	0	14	0	0	1	0	0	162	0
Lane Group Flow (vph)	54	52	0	1	165	0	0	0	0	68	35	0
Heavy Vehicles (%)	13%	19%	0%	100%	18%	18%	0%	0%	0%	19%	50%	11%
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)	37.8	37.8		37.8	37.8			9.5		9.5	9.5	
Effective Green, g (s)	37.8	37.8		37.8	37.8			9.5		9.5	9.5	
Actuated g/C Ratio	0.64	0.64		0.64	0.64			0.16		0.16	0.16	
Clearance Time (s)	6.1	6.1		6.1	6.1			5.7		5.7	5.7	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	685	1009		434	974			256		192	230	
v/s Ratio Prot		0.03			c0.11			0.00			0.02	
v/s Ratio Perm	0.05			0.00						c0.06		
v/c Ratio	0.08	0.05		0.00	0.17			0.00		0.35	0.15	
Uniform Delay, d1	4.0	4.0		3.8	4.3			20.8		22.1	21.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.1		0.0	0.4			0.0		1.1	0.3	
Delay (s)	4.3	4.1		3.9	4.7			20.8		23.2	21.6	
Level of Service	A	A		A	A			C		C	C	
Approach Delay (s)		4.2			4.7			20.8			22.0	
Approach LOS		A			A			C			C	

Intersection Summary			
HCM 2000 Control Delay	12.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	59.1	Sum of lost time (s)	11.8
Intersection Capacity Utilization	59.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	95	234	103	143	65	150	359	27	56	757	96
Future Volume (vph)	85	95	234	103	143	65	150	359	27	56	757	96
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3		6.3	6.3	6.3	6.7	6.7		6.7	6.7	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.99	1.00	1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.89		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)	1415	2602		1533	1592	1358	1537	2928		1486	2972	
Flt Permitted	0.64	1.00		0.47	1.00	1.00	0.28	1.00		0.51	1.00	
Satd. Flow (perm)	951	2602		762	1592	1358	460	2928		793	2972	
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)	92	103	254	112	155	71	163	390	29	61	823	104
RTOR Reduction (vph)	0	79	0	0	0	57	0	4	0	0	7	0
Lane Group Flow (vph)	92	278	0	112	155	14	163	415	0	61	920	0
Confl. Peds. (#/hr)	2		7	7		2	2		1	1		2
Heavy Vehicles (%)	26%	21%	21%	16%	18%	16%	16%	20%	27%	20%	18%	16%
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)	17.5	17.5		17.5	17.5	17.5	59.5	59.5		59.5	59.5	
Effective Green, g (s)	17.5	17.5		17.5	17.5	17.5	59.5	59.5		59.5	59.5	
Actuated g/C Ratio	0.19	0.19		0.19	0.19	0.19	0.66	0.66		0.66	0.66	
Clearance Time (s)	6.3	6.3		6.3	6.3	6.3	6.7	6.7		6.7	6.7	
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)	184	505		148	309	264	304	1935		524	1964	
v/s Ratio Prot		0.11			0.10			0.14			0.31	
v/s Ratio Perm	0.10			c0.15		0.01	c0.35			0.08		
v/c Ratio	0.50	0.55		0.76	0.50	0.05	0.54	0.21		0.12	0.47	
Uniform Delay, d1	32.3	32.7		34.2	32.4	29.5	8.0	6.0		5.6	7.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.16	1.16	
Incremental Delay, d2	2.1	1.3		19.6	1.3	0.1	6.6	0.3		0.3	0.6	
Delay (s)	34.5	34.0		53.8	33.6	29.6	14.6	6.3		6.9	9.3	
Level of Service	C	C		D	C	C	B	A		A	A	
Approach Delay (s)		34.1			39.5			8.6			9.1	
Approach LOS		C			D			A			A	

Intersection Summary				
HCM 2000 Control Delay	18.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.59			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0	
Intersection Capacity Utilization	82.9%	ICU Level of Service	E	
Analysis Period (min)	15			

c Critical Lane Group

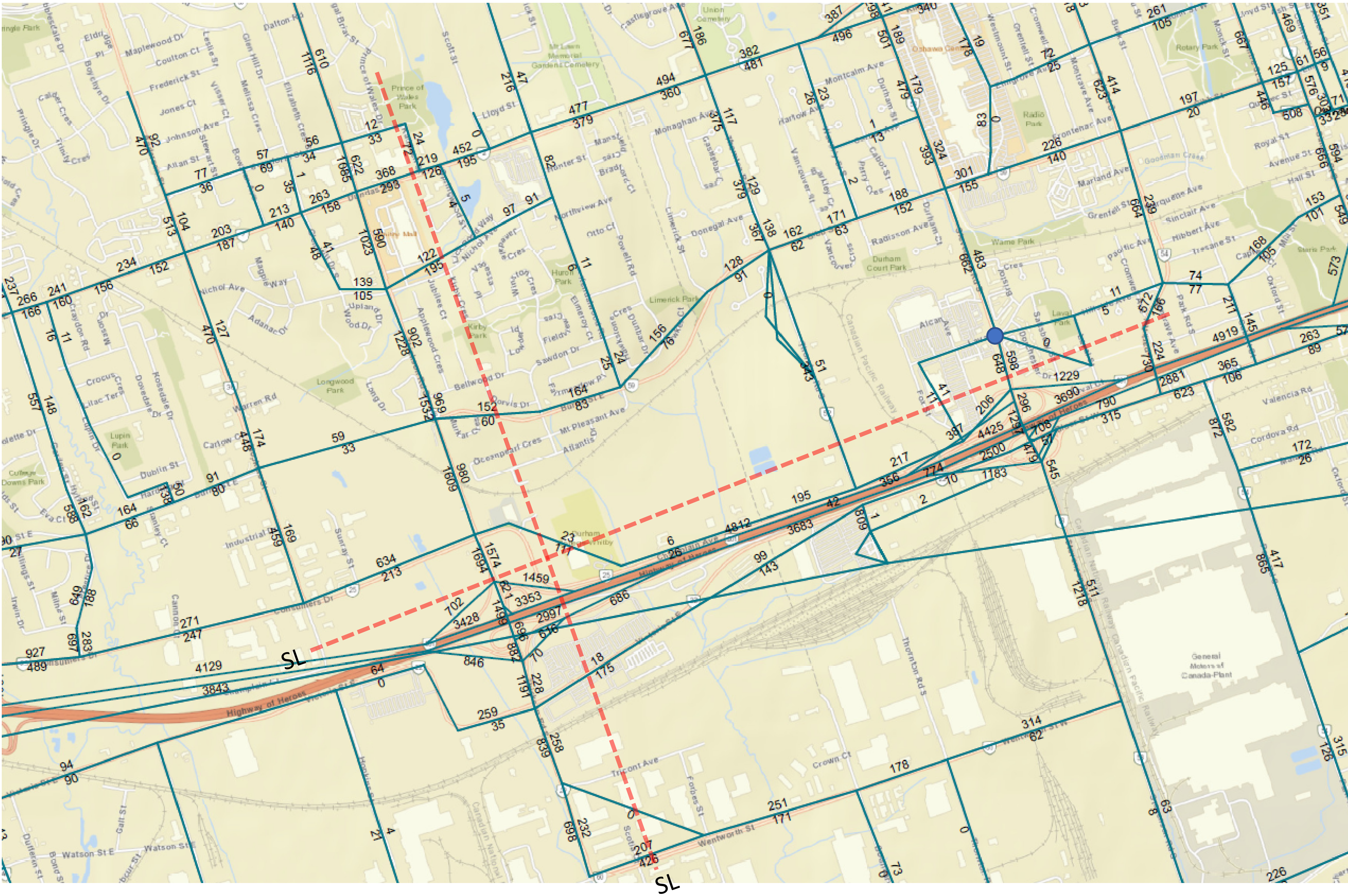
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	119	49	24	280	40	14	3	6	12	8	6
Future Volume (vph)	37	119	49	24	280	40	14	3	6	12	8	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	6.2		3.0	6.2		6.0	6.0		6.0	6.0	6.0
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99		1.00	1.00		1.00	0.97		1.00	1.00	0.99
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		0.97	1.00	1.00
Frt	1.00	0.96		1.00	0.98		1.00	0.90		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1766	3306		1779	3379		1781	3028		1733	1879	1543
Flt Permitted	0.54	1.00		0.64	1.00		0.82	1.00		0.82	1.00	1.00
Satd. Flow (perm)	1009	3306		1193	3379		1530	3028		1489	1879	1543
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)	40	129	53	26	304	43	15	3	7	13	9	7
RTOR Reduction (vph)	0	11	0	0	4	0	0	10	0	0	0	7
Lane Group Flow (vph)	40	171	0	26	343	0	15	0	0	13	9	0
Confl. Peds. (#/hr)	2		6	6		2	2		24	24		2
Heavy Vehicles (%)	1%	3%	2%	0%	4%	0%	0%	6%	1%	0%	0%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	Perm
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		4
Actuated Green, G (s)	90.0	86.9		89.8	86.8		4.9	4.9		4.9	4.9	4.9
Effective Green, g (s)	90.0	86.9		89.8	86.8		4.9	4.9		4.9	4.9	4.9
Actuated g/C Ratio	0.82	0.79		0.82	0.79		0.04	0.04		0.04	0.04	0.04
Clearance Time (s)	3.0	6.2		3.0	6.2		6.0	6.0		6.0	6.0	6.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	846	2611		989	2666		68	134		66	83	68
v/s Ratio Prot	c0.00	0.05		0.00	c0.10			0.00			0.00	
v/s Ratio Perm	0.04			0.02			c0.01			0.01		0.00
v/c Ratio	0.05	0.07		0.03	0.13		0.22	0.00		0.20	0.11	0.00
Uniform Delay, d1	1.9	2.6		1.9	2.7		50.7	50.2		50.7	50.5	50.2
Progression Factor	2.74	2.28		1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.0	0.0		0.0	0.1		1.6	0.0		1.5	0.6	0.0
Delay (s)	5.1	5.9		1.9	2.8		52.3	50.2		52.1	51.0	50.2
Level of Service	A	A		A	A		D	D		D	D	D
Approach Delay (s)		5.7			2.8			51.5			51.3	
Approach LOS		A			A			D			D	

Intersection Summary				
HCM 2000 Control Delay	7.8	HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio	0.13			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	15.2	
Intersection Capacity Utilization	56.6%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

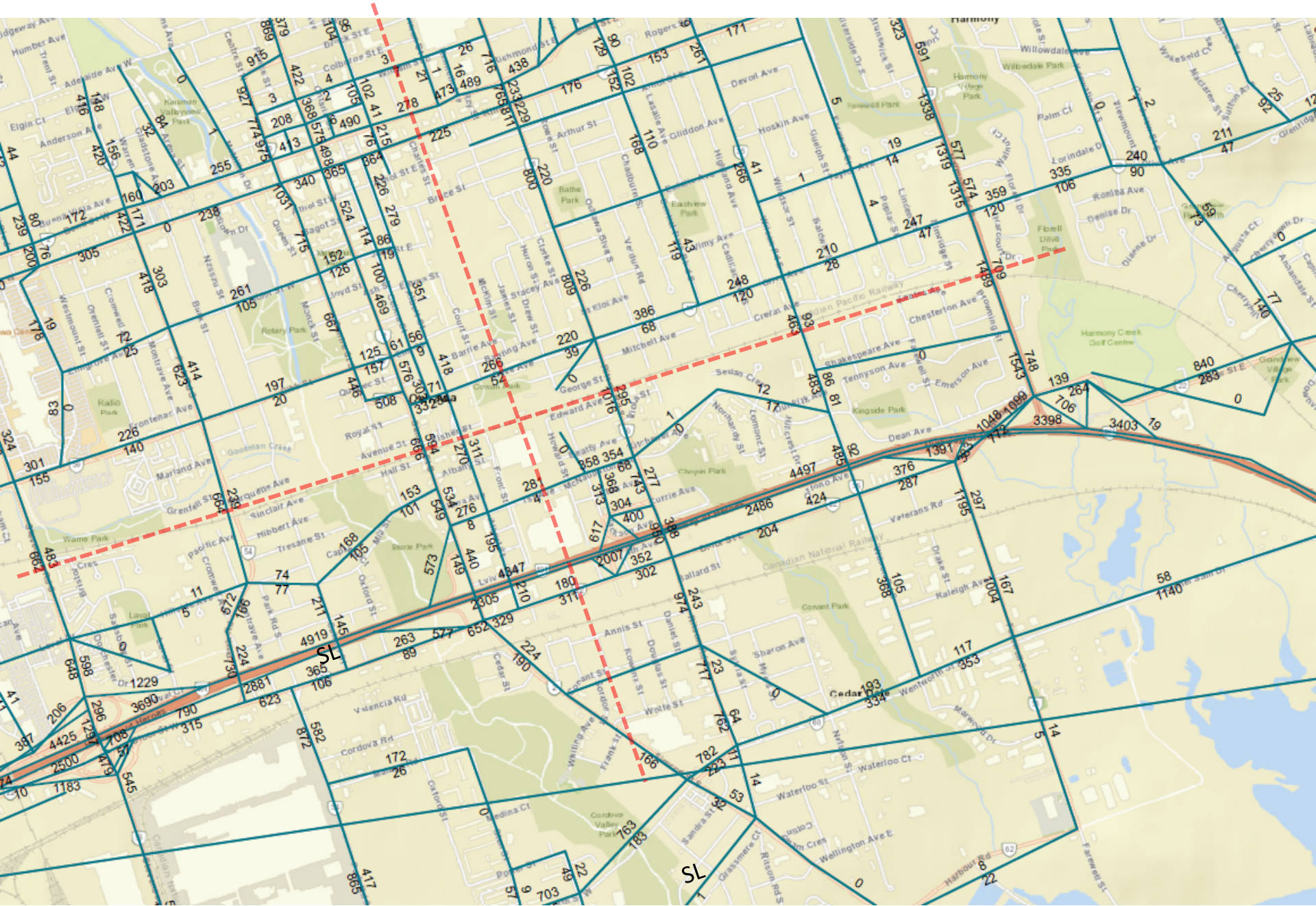
Appendix B
DRTPM Screenline Outputs

Focus Area B1 – Thornton’s Corner (2017 Existing)

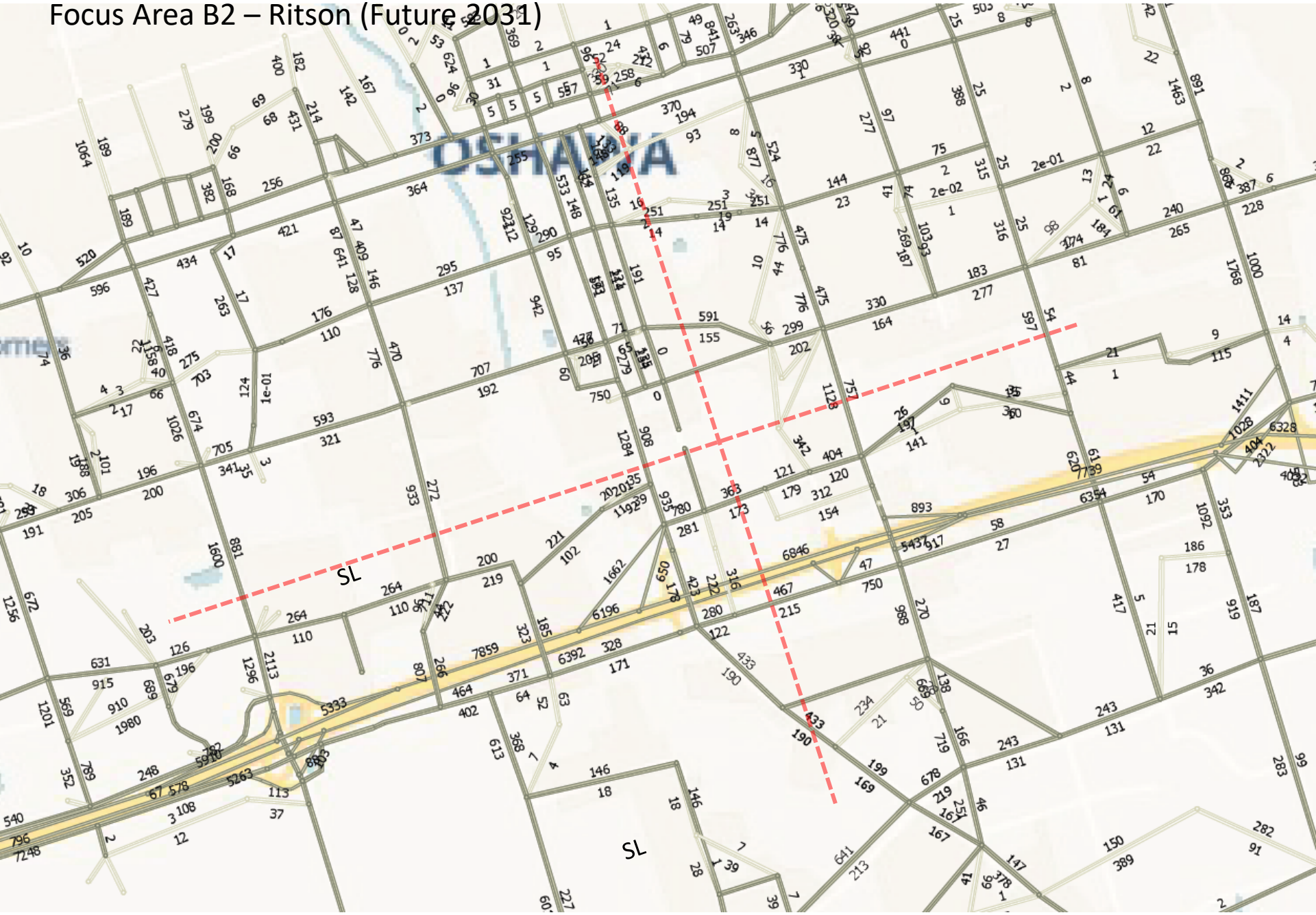


Focus Area B1 – Thornton's Corner (Future 2031)

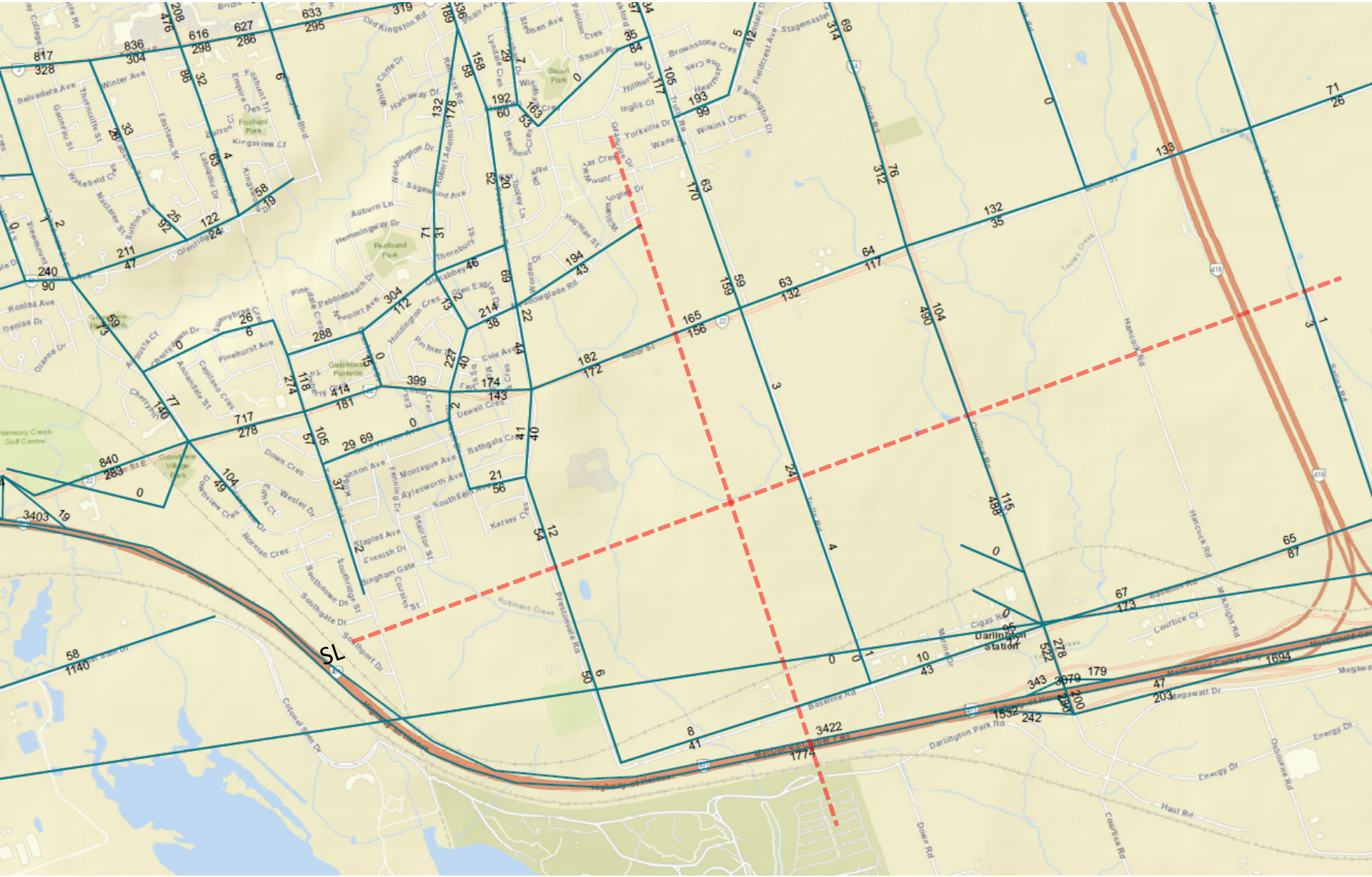
Focus Area B2 – Ritson (2017 Existing)



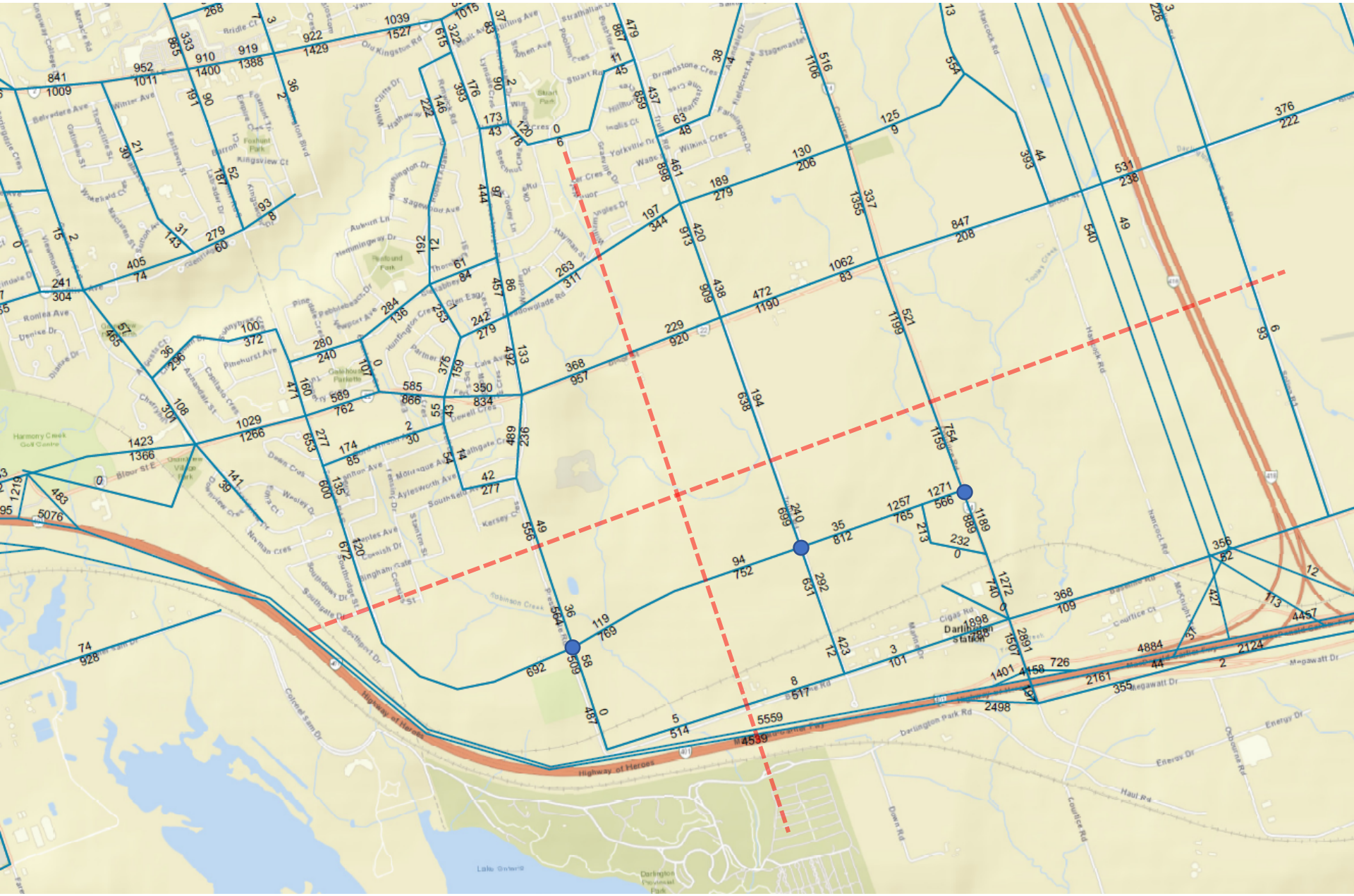
Focus Area B2 – Ritson (Future 2031)



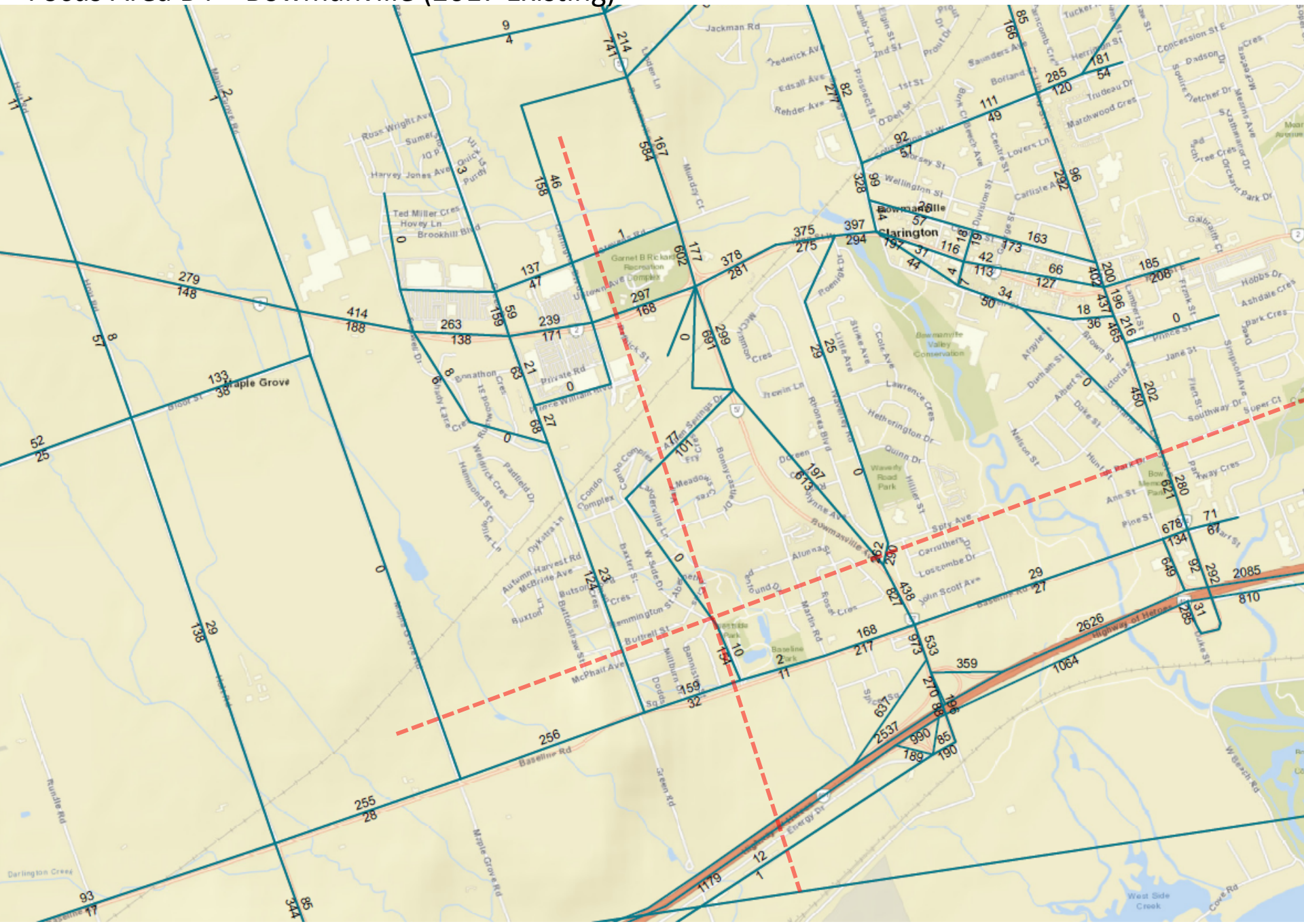
Focus Area B3 – Courtice (2017 Existing)



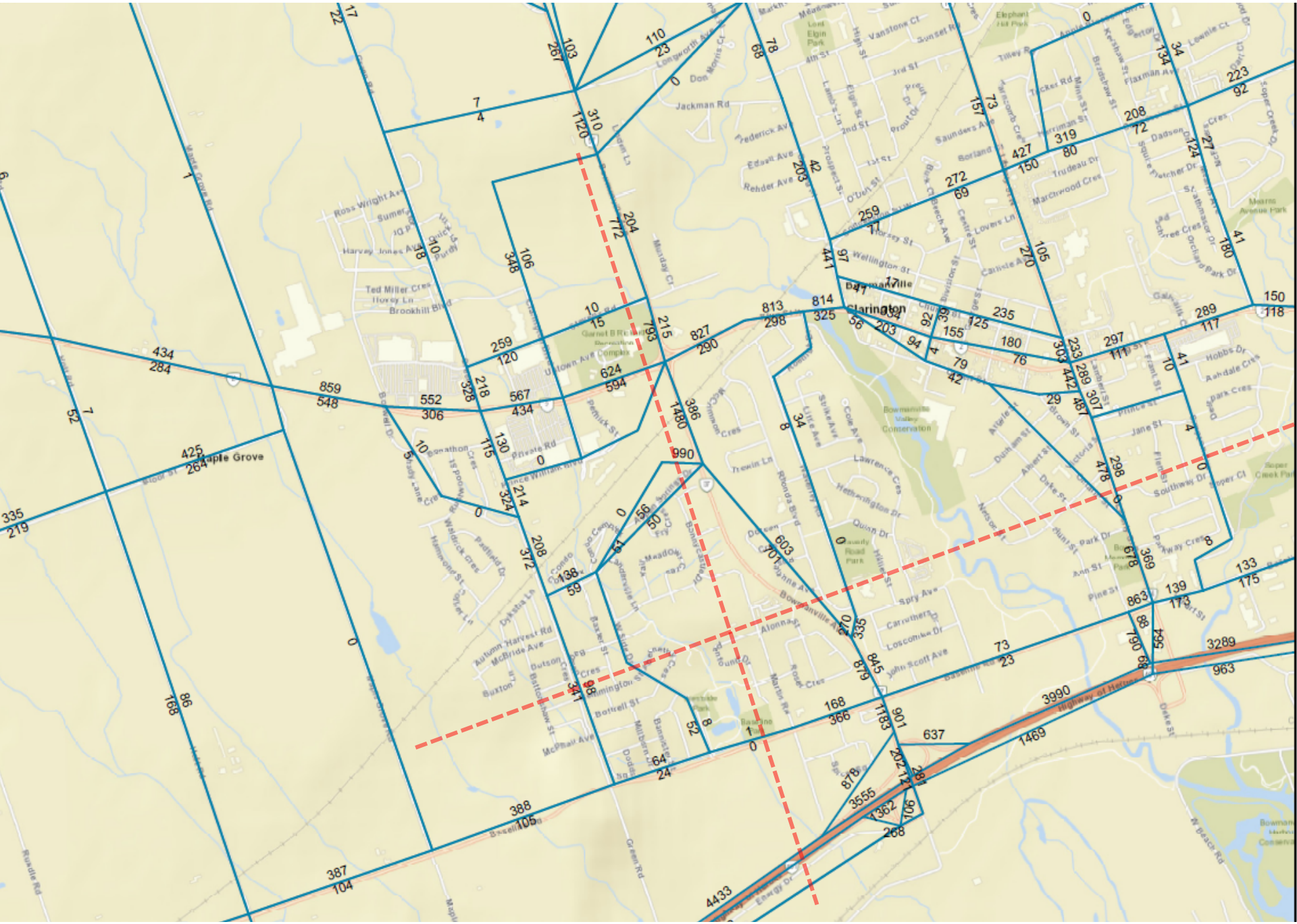
Focus Area B3 – Courtice (Future 2031)



Focus Area B4 – Bowmanville (2017 Existing)



Focus Area B4 – Bowmanville (Future 2031)



Appendix C
TMC

Road 1	Road 2	Type	TMC Date	Source
Thickson Road South	Burns Street East	Signalized	2019-06	Region
Thickson Road South	Regional Road 25	Signalized	2019-06	Region
Regional Road 25	Stellar Drive	Signalized	2019-06	Region
Thickson Road South	Highway 401 WB Ramp Terminal	Signalized	2019-06	Region
Thickson Road South	Highway 401 EB Ramp Terminal	Signalized	2019-06	Region
Burns Street East	Kendalwood Road/ Mount Pleasant Avenue	Signalized	2019-06	Region
Thornton Road South	Regional Road 25 (Champlain Ave)	Signalized	2020-11	Region
Thornton road south	Gibb street	Signalized	2016-06	Region
Stevenson Road South	Gibb Street	Signalized	2021-03	Region
Regional Road 53	Laval Drive	Signalized	2020-11	Region
Stevenson Road South	Highway 401 WB Ramp Terminal	Signalized	2019-06	Region
Bloor Street West	Stevenson Road South (connecting Ramp)	Signalized	2017-06	Region
Stevenson Road South	Highway 401 EB Ramp Terminal	Signalized	2020-11	Region
Bloor Street West	Park Road South	Signalized	2018-10	Region
Park Road South	Hillside Avenue	Signalized	2018-11	Region
Park Road South	Gibb Street	Signalized	2018-11	Region
Gibb Street	Centre Street South	Signalized	2016-06	Region
Simcoe Street	Gibb Street	Signalized	2016-06	Region
Simcoe Street	Olive Avenue	Signalized	2016-06	Region
Simcoe Street	Mill Street	Signalized	2016-06	Region
Simcoe Street	1st Avenue	Signalized	2017-05	Region
Albert Street	1st Avenue	Signalized	2016-06	Region
Albert Street	Olive Avenue	Signalized	2018-10	Region
Simcoe Street South	Bloor Street West	Signalized	2016-06	Region
Bloor Street West	Highway 401 EB Ramp Terminal	Unsignalized	2008-04	Region
McNaughton Avenue	Drew Street	Signalized	2017-05	Region
Drew Street	Toronto Avenue	Unsignalized	2019-09	-
Bloor Street East	Highway 401 EB Ramps (west of Ritson Rd)	Signalized	2017-02 2018-10	Region
Ritson Street South	Bloor Street East	Signalized	2016-10	Region
Ritson Street South	McNaughton Avenue/ Dean Avenue	Signalized	2020-11	Region
Ritson Street South	Viola Avenue	Unsignalized	2007-11	Region
Ritson Street South	Olive Avenue	Signalized	2020-11	Region
Wilson Road South	Olive Avenue	Signalized	2020-09	Region
Wilson Road South	Shakespeare Avenue	Signalized	2020-09	Region
Wilson Road South	Dean Avenue	Signalized	2020-09	Region
Wilson Road South	Bloor Street East	Signalized	2018-10	Region
Bloor Street East	Farewell Street	Signalized	2018-10	Region

Road 1	Road 2	Type	TMC Date	Source
Harmony Road South	Bloor Street East	Signalized	2019-06	Region
Harmony Road South	Tennyson Avenue	Unsignalized	2020-11	Region
Harmony Road South	Olive Avenue	Signalized	2017-05	Region
Grandview Street South	Olive Avenue	Signalized	2020-09	Region
Regional Road 22/ Bloor Street East	Grandview Street South	Signalized	2020-11	Region
Bloor Street	Prestonvale Road	Signalized	2019-05	Region
Bloor Street	Trulls Road	Unsignalized	2019-05	Region
Courtice Road	Bloor Street	Signalized	2018-10	Region
Courtice Road	Baseline Road West	Signalized	2019-11	Region
Regional Highway 2	Maple Grove Road	Signalized	2018-05	Region
Regional Highway 2	Boswell Drive	Signalized	2017-05	Region
Green Road	Regional Highway 2	Signalized	2017-05	Region
Bowmanville Avenue	Aspen Springs Drive	Signalized	2019-11	Region
Green Road	Baseline Road West	Signalized	2020-11	Region
Regional Highway 2	Clarington Boulevard	Signalized	2020-11	Region
Regional Highway 2	Bowmanville Avenue	Signalized	2019-11	Region
Waverley Road	Baseline Road West	Signalized	2019-11	Region

TMC Tabular Report

Thickson Rd (R.R.26) @ Burns St

TMC No: 0260100000 **Intersection ID:** 8072 **Count ID:** 35702018027 **Count Date:** 06/25/2019, Tue

AM Peak 07:30

North leg (Ped. 0 / Ped. 7)

PHF	Trucks %	Trucks	Cars
0.00	0%	0	0
0.88	11%	135	1052
0.81	31%	4	9
↑		142	728

East leg

	Cars	Trucks	Trucks %	PHF
↰	49	10	17%	0.82
←	0	0	0%	0.00
↲	356	40	10%	0.90
→	95	21		

West leg

PHF	Trucks %	Trucks	Cars	
←		0	0	↵
0.00	0%	0	0	↱
0.00	0%	0	0	→
0.00	0%	0	0	↴

South leg (Ped. 0 / Ped. 3)

Cars	Trucks	Trucks %	PHF
1408	175	↓	
0	0	0%	0.00
679	132	16%	0.85
86	17	17%	0.83

MD Peak 12:45

North leg (Ped. 0 / Ped. 3)

PHF	Trucks %	Trucks	Cars
0.00	0%	0	0
0.97	14%	167	1041
0.64	8%	3	33
↑		164	1073

East leg

	Cars	Trucks	Trucks %	PHF
↰	47	5	10%	0.72
←	0	0	0%	0.00
↲	222	31	12%	0.81
→	212	18		

West leg

PHF	Trucks %	Trucks	Cars	
←		0	0	↵
0.00	0%	0	0	↱
0.00	0%	0	0	→
0.00	0%	0	0	↴

South leg (Ped. 1 / Ped. 7)

Cars	Trucks	Trucks %	PHF
1263	198	↓	
0	0	0%	0.00
1026	159	13%	0.91
179	15	8%	0.84

PM Peak 17:15

North leg (Ped. 0 / Ped. 3)

PHF	Trucks %	Trucks	Cars
0.00	0%	0	0
0.96	12%	134	982
0.69	11%	8	66
↑		188	1281

East leg

	Cars	Trucks	Trucks %	PHF
↰	77	4	5%	0.81
←	0	0	0%	0.00
↲	273	22	7%	0.82
→	483	66		

West leg

PHF	Trucks %	Trucks	Cars	
←		0	0	↵
0.00	0%	0	0	↱
0.00	0%	0	0	→
0.00	0%	0	0	↴

South leg (Ped. 1 / Ped. 4)

Cars	Trucks	Trucks %	PHF
1255	156	↓	
0	0	0%	0.00
1204	184	13%	0.91
417	58	12%	0.84

Total Count 8 hours*

North leg (Ped. 4 / Ped. 25)

Trucks %	Trucks	Cars
0%	0	0
14%	1234	7751
10%	32	290
↑	1330	7695

East leg

	Cars	Trucks	Trucks %
↰	465	50	10%
←	0	0	0%
↲	2169	288	12%
→	1984	297	

West leg

Trucks %	Trucks	Cars	
←	0	0	↵
0%	0	0	↱
0%	0	0	→
0%	0	0	↴

South leg (Ped. 7 / Ped. 37)

Cars	Trucks	Trucks %
9920	1522	↓
0	0	0%
7230	1280	15%
1694	265	14%

TMC 15 Min Report

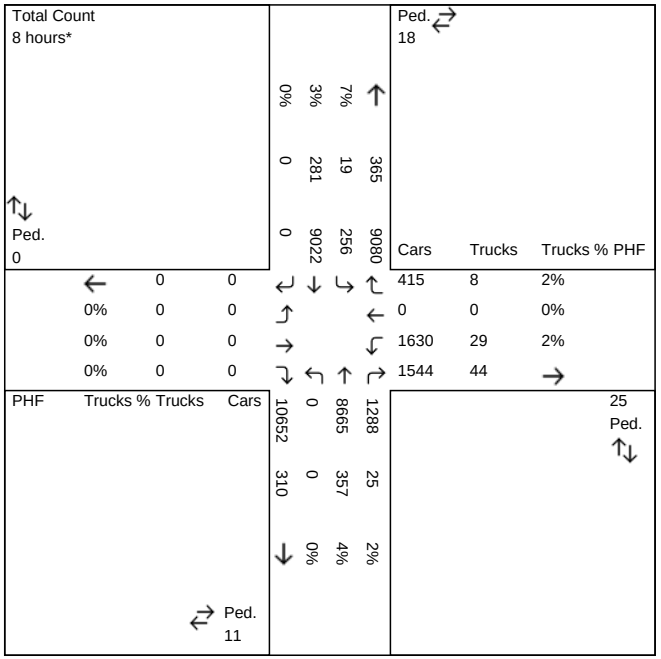
Thickson Rd (R.R.26) @ Burns St

TMC No: 0260100000 **Intersection ID:** 8072 **Count ID:** 35702018027 **Count Date:** 06/25/2019, Tue

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Total
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	1	180	0	0	36	0	0	0	0	1	52	0	1	12	0	2	0	0	0	1	0	58	7	0	29	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	381
06:30	2	215	0	1	43	0	0	0	0	0	77	0	4	12	0	0	0	0	0	0	0	91	5	0	29	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	481
06:45	0	229	0	0	51	0	0	0	0	1	99	0	6	14	0	1	0	0	0	0	0	96	6	0	40	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	548
07:00	1	249	0	0	52	0	0	0	0	3	79	0	8	13	0	1	0	0	0	0	0	112	11	0	33	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	566
07:15	1	253	0	1	34	0	0	0	0	0	78	0	17	16	0	2	0	0	0	0	0	123	19	0	47	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	594
07:30	**2**	**302**	**0**	**0**	**34**	**0**	**0**	**0**	**0**	**0**	**85**	**0**	**11**	**10**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**144**	**23**	**0**	**34**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**648**
07:45	**2**	**255**	**0**	**1**	**32**	**0**	**0**	**0**	**0**	**3**	**87**	**0**	**13**	**13**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**151**	**18**	**0**	**43**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**625**
08:00	**3**	**263**	**0**	**1**	**36**	**0**	**0**	**0**	**0**	**0**	**103**	**0**	**10**	**7**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**209**	**19**	**0**	**30**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**692**
08:15	**2**	**232**	**0**	**2**	**33**	**0**	**0**	**0**	**0**	**4**	**81**	**0**	**15**	**10**	**0**	**3**	**0**	**0**	**0**	**1**	**0**	**175**	**26**	**0**	**25**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**614**
08:30	4	243	0	0	28	0	0	0	0	1	96	0	16	11	0	2	0	0	0	1	0	176	29	0	34	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	642
08:45	6	221	0	1	46	0	0	0	0	1	70	0	20	5	0	0	0	0	0	0	0	196	20	0	27	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	619
09:00	5	248	0	1	43	0	0	0	0	1	90	0	14	10	0	2	0	0	0	1	0	149	27	0	19	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	613
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	8	249	0	0	46	0	0	0	0	0	60	0	18	8	0	2	0	0	0	1	0	202	41	0	36	9	0	0	0	1	0	0	0	0	0	0	0	0	0	1	682
12:00	6	238	0	1	46	0	0	0	0	0	44	0	12	10	0	1	0	0	0	2	0	247	42	0	51	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	713
12:15	15	236	0	0	55	0	0	0	0	0	49	0	16	13	0	3	0	0	0	1	0	257	52	0	33	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	740
12:30	8	245	0	0	33	0	0	0	0	0	55	0	18	11	0	0	0	0	0	2	0	259	45	0	39	6	0	0	0	1	0	0	0	0	0	0	0	0	0	1	723
12:45	**9**	**263**	**0**	**0**	**40**	**0**	**0**	**0**	**0**	**2**	**52**	**0**	**13**	**11**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**264**	**54**	**0**	**38**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**753**
13:00	**13**	**246**	**0**	**1**	**45**	**0**	**0**	**0**	**0**	**1**	**67**	**0**	**15**	**11**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**224**	**37**	**0**	**30**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**698**
13:15	**3**	**266**	**0**	**0**	**36**	**0**	**0**	**0**	**0**	**0**	**60**	**0**	**8**	**4**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**275**	**44**	**0**	**51**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**758**
13:30	**8**	**266**	**0**	**2**	**46**	**0**	**0**	**0**	**0**	**0**	**43**	**0**	**11**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**263**	**44**	**0**	**40**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**730**
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	11	213	0	0	41	0	0	0	0	1	47	0	20	8	0	0	0	0	0	0	0	298	82	0	56	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	795
15:30	16	209	0	1	28	0	0	0	0	0	42	0	24	10	0	0	0	0	0	2	0	293	72	0	60	10	0	0	0	1	0	0	0	0	0	0	0	0	0	1	769
15:45	16	236	0	2	32	0	0	0	0	0	45	0	18	5	0	6	0	0	0	6	0	300	98	0	55	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	830
16:00	5	235	0	2	35	0	0	0	0	3	72	0	15	10	0	1	0	0	0	0	0	258	74	0	43	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	765
16:15	18	236	0	2	38	0	0	0	0	0	65	0	17	9	0	6	0	0	0	2	0	323	77	0	41	12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	846
16:30	24	250	0	1	43	0	0	0	0	0	63	0	14	4	0	1	0	0	0	4	0	308	105	0	42	16	0	0	0	1	0	0	0	0	0	0	0	0	0	1	877
16:45	14	261	0	1	39	0	0	0	0	0	58	0	16	7	0	0	0	0	0	0	0	301	88	0	38	13	0	0	0	1	0	0	0	0	0	0	0	0	0	0	837
17:00	21	230	0	3	29	0	0	0	0	0	77	0	18	7	0	1	0	0	0	0	0	274	112	0	53	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	845
17:15	**13**	**240**	**0**	**0**	**33**	**0**	**0**	**0**	**0**	**0**	**67**	**0**	**14**	**8**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**298**	**123**	**0**	**58**	**19**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**877**
17:30	**23**	**239**	**0**	**4**	**39**	**0**	**0**	**0**	**0**	**2**	**83**	**0**	**16**	**7**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**273**	**109**	**0**	**51**	**13**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**861**
17:45	**16**	**240**	**0**	**2**	**35**	**0**	**0**	**0**	**0**	**1**	**61**	**0**	**24**	**3**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**290**	**100**	**0**	**35**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**824**
18:00	**14**	**263**	**0**	**2**	**27**	**0**	**0**	**0**	**0**	**0**	**62**	**0**	**23**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**343**	**85**	**0**	**40**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**875**
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

Thickson Rd (R.R.26) @ Burns St

TMC No: 0260100000 **Intersection ID:** 8072 **Count ID:** 35702018415 **Count Date:** 02/25/2020, Tue



TMC 15 Min Report

Thickson Rd (R.R.26) @ Burns St

TMC No: 0260100000 **Intersection ID:** 8072 **Count ID:** 35702018415 **Count Date:** 02/25/2020, Tue

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
05:00	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*	0*	0*	0*	0*	0*	0*	0*
05:15	0*	141*	0*	0*	0*	0*	0*	2*	0*	0*	26*	0*	1*	0*	0*	0*	0*	0*	0*	0*	0*	21*	3*	0*	2*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	196*
05:30	0*	165*	0*	0*	0*	0*	0*	2*	0*	0*	41*	0*	4*	0*	0*	0*	0*	0*	0*	0*	0*	24*	2*	0*	5*	0*	0*	2*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	245*
05:45	0*	194*	0*	0*	0*	0*	0*	2*	0*	1*	51*	0*	6*	0*	0*	0*	0*	0*	0*	0*	0*	52*	3*	0*	3*	0*	0*	3*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	315*
06:00	0*	150*	0*	0*	1*	0*	0*	1*	0*	1*	37*	0*	4*	0*	0*	0*	0*	0*	0*	1*	0*	51*	4*	0*	3*	0*	0*	6*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	259*
06:15	1	188	0	0	0	0	0	1	0	0	43	0	6	0	0	0	0	0	0	1	0	61	7	0	3	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	315
06:30	1	234	0	0	1	0	0	2	0	2	66	0	3	0	0	0	0	0	0	0	0	64	1	0	3	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	384
06:45	1	274	0	0	0	0	0	1	0	1	66	0	8	1	0	0	0	0	0	1	0	112	11	0	4	1	0	16	0	1	0	0	0	0	0	0	0	0	0	0	498
07:00	3	330	0	0	2	0	0	5	0	4	56	0	7	0	0	0	0	0	0	0	0	108	9	0	0	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	538
07:15	4	314	0	0	1	0	0	6	0	0	65	0	9	1	0	1	0	0	0	0	0	135	11	0	10	1	0	13	2	0	0	0	0	0	0	0	0	0	0	0	573
07:30	2	344	0	0	2	0	0	1	0	0	81	0	5	1	0	0	0	0	0	0	0	157	18	0	7	0	0	16	0	0	0	0	0	0	0	0	0	0	0	0	634
07:45	5	403	0	1	2	0	0	20	0	2	72	0	8	0	0	0	2	0	0	0	0	205	18	0	3	1	0	11	1	0	0	0	0	0	0	0	0	0	0	0	754
08:00	2	320	0	3	1	0	0	12	0	2	86	0	17	2	0	0	0	0	0	0	0	234	17	0	1	0	0	9	0	1	0	0	0	0	0	0	0	0	0	0	707
08:15	4	292	0	2	2	0	0	6	0	0	53	0	11	0	0	1	0	0	0	0	0	225	27	0	4	1	0	19	2	1	0	0	0	0	0	0	0	0	0	0	650
08:30	7	343	0	1	3	0	0	4	0	0	63	0	24	1	0	0	0	0	1	0	0	214	25	0	1	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	713
08:45	10	261	0	3	3	0	0	8	0	0	92	0	19	1	0	2	0	0	0	2	0	225	28	0	3	1	0	12	0	1	0	0	0	0	0	0	0	0	0	0	671
09:00	6	296	0	0	10	0	0	11	0	0	54	0	13	0	0	0	1	0	0	0	0	278	18	0	3	0	0	13	2	0	0	0	0	0	0	0	0	0	0	0	705
09:15	8*	258*	0*	0*	9*	0*	0*	11*	0*	1*	52*	0*	13*	0*	0*	0*	0*	0*	0*	1*	0*	226*	23*	0*	1*	0*	0*	11*	1*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	615*
09:30	7*	230*	0*	0*	1*	0*	0*	9*	0*	2*	47*	0*	9*	0*	0*	0*	1*	0*	0*	2*	0*	239*	30*	0*	2*	0*	0*	14*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	593*
09:45	7*	227*	0*	0*	0*	0*	0*	8*	0*	0*	47*	0*	17*	1*	0*	0*	0*	0*	0*	0*	0*	216*	21*	0*	3*	0*	0*	11*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	558*
10:00	8*	252*	0*	0*	1*	0*	1*	8*	0*	6*	32*	0*	15*	0*	0*	0*	1*	0*	0*	2*	0*	225*	27*	0*	1*	0*	0*	15*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	594*
10:15	7*	255*	0*	0*	1*	0*	0*	8*	0*	0*	33*	0*	19*	0*	0*	0*	1*	0*	0*	1*	0*	159*	18*	0*	1*	0*	0*	6*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	509*
10:30	12*	238*	0*	0*	1*	0*	0*	12*	0*	0*	42*	0*	11*	0*	0*	0*	2*	0*	0*	0*	0*	179*	27*	0*	1*	0*	0*	14*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	539*
10:45	6*	226*	0*	0*	1*	0*	0*	7*	0*	0*	32*	0*	10*	1*	0*	0*	0*	0*	0*	0*	0*	209*	26*	0*	1*	0*	0*	12*	2*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	533*
11:00	8*	245*	0*	0*	2*	0*	1*	8*	0*	0*	47*	0*	10*	0*	0*	0*	1*	0*	0*	0*	0*	219*	26*	0*	1*	1*	0*	6*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	575*
11:15	5*	236*	0*	0*	1*	0*	0*	9*	0*	0*	34*	0*	13*	0*	0*	0*	0*	0*	0*	0*	0*	191*	29*	0*	0*	0*	0*	8*	1*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	527*
Period 2																																									
11:30	7*	231*	0*	0*	0*	0*	1*	6*	0*	0*	31*	0*	21*	0*	0*	0*	0*	0*	0*	1*	0*	214*	19*	0*	1*	0*	0*	8*	1*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	541*
11:45	10	285	0	0	0	0	0	13	0	0	39	0	14	0	0	0	2	0	0	0	0	279	23	0	1	0	0	9	1	0	0	0	0	0	0	0	0	0	0	0	676
12:00	10	309	0	0	1	0	1	5	0	0	49	0	12	0	0	0	0	0	0	5	0	252	34	0	3	0	0	6	1	1	0	0	0	0	0	0	0	0	0	0	689
12:15	10	241	0	0	2	0	0	7	0	0	41	0	12	0	0	0	0	0	0	4	0	248	35	0	0	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	608
12:30	8	248	0	0	1	0	0	3	0	0	34	0	7	0	0	0	1	0	0	0	0	236	33	0	2	0	0	14	0	0	0	0	0	0	0	0	0	0	0	0	587
12:45	9	236	0	0	1	0	0	7	0	0	38	0	13	0	0	0	0	0	0	0	0	255	30	0	1	0	0	12	0	0	0	0	0	0	0	0	0	0	0	0	602
13:00	11	246	0	0	1	0	0	12	0	0	44	0	12	0	0	0	0	0	0	0	0	230	25	0	1	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	592
13:15	7	256	0	0	1	0	1	10	0	0	39	0	12	0	0	0	0	0	0	0	0	307	24	0	1	0	0	13	0	0	0	0	0	0	0	0	0	0	0	0	671
13:30	11	248	0	0	1	0	0	11	0	0	32	0	15	0	0	0	0	0	0	0	0	255	27	0	1	0	0	9	0	0	0	0	0	0	0	0	0	0	0	0	610
Period 3																																									
13:45	11*	240*	0*	0*	1*	0*	0*	9*	0*	0*	34*	0*	16*	0*	0*	1*	0*	0*	0*	0*	0*	261*	31*	0*	2*	0*	0*	8*	0*	1*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	615*
14:00	4*	246*	0*	0*	0*	0*	1*	12*	0*	0*	42*	0*	111*	0*	0*	0*	0*	0*	0*	1*	0*	228*	34*	0*	2*	0*	0*	5*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	686*
14:15	9*	235*	0*	0*	1*	0*	0*	11*	0*	0*	40*	0*	9*	0*	0*	0*	1*	0*	0*	1*	0*	256*	34*	0*	7*	0*	0*	9*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	613*
14:30	10*	254*	0*	0*	3*	0*	0*	10*	0*	2*	41*	0*	20*	0*	0*	0*	1*	0*	1*	0*	0*	259*	34*	0*	8*	0*	0*	9*	0*	1*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	653*
14:45	7*	212*	0*	0*	0*	0*	0*	11*	0*	0*	48*	0*	17*	0*	0*	0*	0*	0*	0*	1*	0*	306*	54*	0*	7*	0*	0*	10*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	673*
15:00	14*	236*	0*	0*	1*	0*	0*	11*	0*	0*	30*	0*	19*	1*	0*	1*	0*	0*	0*	2*	0*	289*	47*	0*	3*	0*	0*	5*	0*	1*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	660*
15:15	10	217	0	1	4	0	0	4	0	1	31	0	17	1	0	2	0	0	0	1	0	336	61	0	1	0	0	9	1	1	0	0	0	0	0	0	0	0	0	0	698
15:30	9	245	0	1	2	0	0	7	0	1	37	0	17	1	0	0	1	0	0	0	0	346	61	0	3	0	0	6	0	2	0	0	0	0	0	0	0	0	0	0	739
15:45	10	243	0	3	4	0	0	9	0	0	48	0	9	2	0	1	1	0	0	3	0	355	67	0	1	0	0	8	2	0	0	0	0	0	0	0	0	0	0	0	766
16:00	10	255	0	1	7	0	0	9	0	1	49	0	14	0	0	0	0	0	0	5	0	349	67	0	4	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	774
16:15	13	267	0	0	2	0	0	7	0	0	57	0	14	4	0	0	1	0	0	1	0	380	76	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	826
16:30	7	346	0	0	4	0	0	4	0	0	40	0	20	1	0	0	0	0	0	0	0	370	78	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	873
16:45	10	354	0	0	2	0	0	4	0	0	40	0	16	0	0	0	0	0	0	2	0	415	72	0	3	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	921
17:00	17	341	0	1	3	0	0	3	0	0	43	0	19	0	0	0	0	0	0	0	0	388	82	0	2	0	0	8	0	0	0	0	0	0	0	0	0	0	0	0	907
17:15	11	271	0	0	0	0	0	4	0	1	42	0	23	0	0	0	0	0	0	0	0	453	83	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	891
17:30	10	267	0	0	1	0	0	8	0	0	44	0	14	1	0	0	1	0	0	0	0	402	74	0	0	0	0	1	2	3	0	0	0	0	0	0	0	0	0	0	828
17:45	12	266	0	0	1	0	0	3	0	2	43	0	15	0	0	0	1	0	0	0	0	373	70	0	2	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	791
18:00	15	282	0	0	2	0	0	7	0	1	43	0	10	1	0	0	0	0	0	0	0	418	76	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	858
18:15	9*	209*	0*	0*	2*	0*	0*	0*	0*	1*	59*	0*	14*	0*	0*	0*	1*	0*	0*	1*	0*	350*	65*	0*	1*	0*	0*	2*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	714*
18:30	10*	263*	0*	0*	1*	0*	0*	7*	0*	0*	43*	0*	16*	1*	0*	0*	0*	0*	0*	3*	0*	347*	64*	0*	0*	1*	0*	1*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	757*
18:45	16*	252*	0*	0*	0*	0*	0*	4*	0*	0*	42*	0*	13*	0*	0*	0*	1*	0*	0*	0*	0*	386*	53*	0*	2*	0*	0*	3*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	772*
19:00	14*	217*	0*	0*	1*	0*	0*	4*	0*	1*	29*	0*	13*	1*	0*	0*	0*	0*	0*	1*	0*	384*	64*	0*	0*	1*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	730*
19:15	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Thickson Rd (R.R.26) @ Consumers Dr/Stellar Dr (R.R.25)

TMC No: 0250400000 **Intersection ID:** 8313 **Count ID:** 35702018035 **Count Date:** 06/27/2019, Thu

AM Peak 08:00

Leg	Movement	Cars	Trucks	Trucks %	PHF
North	↲	282	23	8%	0.86
North	↓	828	143	15%	0.89
North	↳	106	13	11%	0.78
North	↑ (exit)	1013	183		
East	↰	83	13	14%	0.80
East	←	254	36	12%	0.90
East	↲	117	36	24%	0.96
East	→ (exit)	500	80		
West	← (exit)	971	148		
West	↱	118	17	13%	0.84
West	→	145	20	12%	0.90
West	↴	286	65	19%	0.90
South	↓ (exit)	1231	244		
South	↰	435	89	17%	0.96
South	↑	812	153	16%	0.96
South	↱	249	47	16%	0.83

Ped.: North-west 3; North-east 4; South-west 10; South-east 17

MD Peak 12:45

Leg	Movement	Cars	Trucks	Trucks %	PHF
North	↲	234	34	13%	0.85
North	↓	743	135	15%	0.95
North	↳	129	21	14%	0.85
North	↑ (exit)	1138	238		
East	↰	135	22	14%	0.84
East	←	187	44	19%	0.86
East	↲	206	49	19%	0.92
East	→ (exit)	543	104		
West	← (exit)	751	166		
West	↱	203	35	15%	0.89
West	→	214	32	13%	0.89
West	↴	364	123	25%	0.92
South	↓ (exit)	1313	307		
South	↰	330	88	21%	0.84
South	↑	800	181	18%	0.86
South	↱	200	51	20%	0.85

Ped.: North-west 6; North-east 1; South-west 2; South-east 10

PM Peak 16:30

Leg	Movement	Cars	Trucks	Trucks %	PHF
North	↲	269	38	12%	0.80
North	↓	740	132	15%	0.95
North	↳	105	16	13%	0.74
North	↑ (exit)	1542	246		
East	↰	182	22	11%	0.86
East	←	198	27	12%	0.84
East	↲	162	41	20%	0.86
East	→ (exit)	732	130		
West	← (exit)	763	128		
West	↱	335	42	11%	0.90
West	→	436	74	15%	0.87
West	↴	589	94	14%	0.88
South	↓ (exit)	1491	267		
South	↰	296	63	18%	0.93
South	↑	1025	182	15%	0.90
South	↱	191	40	17%	0.78

Ped.: North-west 3; North-east 1; South-west 7; South-east 10

Total Count 8 hours*

Leg	Movement	Cars	Trucks	Trucks %	PHF
North	↲	1837	224	11%	
North	↓	6157	1053	15%	
North	↳	720	123	15%	
North	↑ (exit)	8939	1702		
East	↰	893	148	14%	
East	←	1470	246	14%	
East	↲	1163	319	22%	
East	→ (exit)	3910	797		
West	← (exit)	5690	1082		
West	↱	1563	235	13%	
West	→	1760	277	14%	
West	↴	2906	634	18%	
South	↓ (exit)	10226	2006		
South	↰	2383	612	20%	
South	↑	6483	1319	17%	
South	↱	1430	397	22%	

Ped.: North-west 37; North-east 35; South-west 47; South-east 90

TMC 15 Min Report

Thickson Rd (R.R.26) @ Consumers Dr/Stellar Dr (R.R.25)

TMC No: 0250400000 **Intersection ID:** 8313 **Count ID:** 35702018035 **Count Date:** 06/27/2019, Thu

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Total
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	9	192	42	1	34	3	0	0	0	1	27	21	8	8	9	7	0	0	0	3	24	71	20	10	20	12	0	0	0	0	4	9	26	5	2	7	0	0	0	0	575
06:30	11	226	54	3	36	3	0	0	0	0	35	33	8	13	8	4	0	0	0	0	57	90	20	18	24	17	0	0	0	2	9	7	37	1	1	9	0	0	0	0	726
06:45	11	204	51	3	27	3	0	0	0	0	25	38	12	18	9	2	0	0	0	2	54	113	33	18	43	20	0	0	0	0	12	8	33	2	2	13	0	0	0	0	756
07:00	13	231	71	1	35	7	0	0	0	0	25	45	10	13	7	2	0	0	0	0	47	120	28	11	48	15	0	0	0	1	8	13	48	3	1	15	0	0	0	0	818
07:15	13	226	45	4	38	4	0	0	0	0	26	18	7	11	6	2	0	0	0	0	45	113	30	15	30	11	0	0	0	2	21	14	54	4	1	19	0	0	0	0	759
07:30	24	226	81	4	26	5	0	0	0	0	22	42	19	6	8	6	0	0	0	1	58	115	32	15	40	14	0	0	0	0	24	24	56	4	1	13	0	0	0	0	866
07:45	17	247	76	4	31	4	0	0	0	3	34	64	16	12	10	3	0	0	0	6	77	168	51	18	37	21	0	0	0	0	21	19	74	3	3	10	0	0	0	0	1029
08:00	**23**	**244**	**83**	**3**	**30**	**6**	**0**	**0**	**0**	**1**	**29**	**71**	**27**	**11**	**7**	**3**	**0**	**0**	**0**	**7**	**109**	**194**	**63**	**22**	**39**	**9**	**0**	**0**	**0**	**4**	**25**	**44**	**84**	**3**	**2**	**14**	**0**	**0**	**0**	**0**	**1157**
08:15	**25**	**160**	**68**	**3**	**29**	**5**	**0**	**0**	**0**	**2**	**28**	**73**	**20**	**7**	**8**	**3**	**0**	**0**	**0**	**2**	**107**	**195**	**78**	**19**	**37**	**11**	**0**	**0**	**0**	**2**	**33**	**30**	**68**	**7**	**6**	**24**	**0**	**0**	**0**	**0**	**1050**
08:30	**36**	**225**	**78**	**2**	**41**	**9**	**0**	**0**	**0**	**0**	**32**	**63**	**17**	**8**	**13**	**3**	**0**	**0**	**0**	**2**	**109**	**209**	**62**	**28**	**42**	**16**	**0**	**0**	**0**	**0**	**24**	**38**	**63**	**3**	**6**	**13**	**0**	**0**	**0**	**0**	**1142**
08:45	**22**	**199**	**53**	**5**	**43**	**3**	**0**	**0**	**0**	**1**	**28**	**47**	**19**	**10**	**8**	**4**	**0**	**0**	**0**	**6**	**110**	**214**	**46**	**20**	**35**	**11**	**0**	**0**	**0**	**4**	**36**	**33**	**71**	**4**	**6**	**14**	**0**	**0**	**0**	**3**	**1055**
09:00	24	214	54	5	36	10	0	0	0	0	41	54	14	7	12	2	0	0	0	2	90	191	44	18	41	15	0	0	0	1	34	35	63	5	7	17	0	0	0	1	1037
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	37	192	53	5	26	5	0	0	0	1	39	46	27	17	8	9	0	0	0	4	83	200	37	22	30	10	0	0	0	0	37	34	85	3	10	21	0	0	0	1	1042
12:00	25	210	41	4	27	12	0	0	0	1	45	41	27	9	10	4	0	0	0	4	96	217	53	18	36	10	0	0	0	2	38	49	81	5	4	20	0	0	0	4	1093
12:15	21	181	46	5	35	8	0	0	0	5	42	56	29	13	3	6	0	0	0	8	71	192	46	23	39	20	0	0	0	5	59	56	113	8	8	9	0	0	0	1	1108
12:30	25	199	64	5	30	10	0	0	0	0	48	48	35	9	8	5	0	0	0	3	84	201	40	25	50	18	0	0	0	0	48	54	77	9	8	24	0	0	0	2	1129
12:45	**30**	**187**	**50**	**4**	**36**	**11**	**0**	**0**	**0**	**0**	**54**	**53**	**29**	**15**	**14**	**7**	**0**	**0**	**0**	**5**	**68**	**166**	**65**	**21**	**41**	**9**	**0**	**0**	**0**	**0**	**58**	**50**	**84**	**9**	**11**	**29**	**0**	**0**	**0**	**3**	**1109**
13:00	**32**	**181**	**57**	**6**	**37**	**6**	**0**	**0**	**0**	**1**	**52**	**51**	**37**	**12**	**7**	**6**	**0**	**0**	**0**	**2**	**64**	**188**	**40**	**23**	**52**	**8**	**0**	**0**	**0**	**2**	**46**	**61**	**90**	**10**	**8**	**34**	**0**	**0**	**0**	**2**	**1115**
13:15	**29**	**200**	**70**	**5**	**30**	**9**	**0**	**0**	**0**	**0**	**48**	**38**	**25**	**12**	**15**	**6**	**0**	**0**	**0**	**1**	**96**	**238**	**44**	**22**	**46**	**16**	**0**	**0**	**0**	**0**	**54**	**50**	**95**	**10**	**4**	**37**	**0**	**0**	**0**	**1**	**1201**
13:30	**38**	**175**	**57**	**6**	**32**	**8**	**0**	**0**	**0**	**0**	**52**	**45**	**44**	**10**	**8**	**3**	**0**	**0**	**0**	**2**	**102**	**208**	**51**	**22**	**42**	**18**	**0**	**0**	**0**	**0**	**45**	**53**	**95**	**6**	**9**	**23**	**0**	**0**	**0**	**0**	**1154**
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	14	166	32	3	31	4	0	0	0	7	38	32	36	8	6	6	0	0	0	8	58	249	47	30	56	16	0	0	0	7	59	58	113	10	10	27	0	0	0	2	1133
15:30	16	156	30	6	32	6	0	0	0	0	36	38	41	7	4	3	0	0	0	0	60	240	43	33	55	17	0	0	0	0	53	60	109	11	10	25	0	0	0	2	1093
15:45	18	135	48	1	38	4	0	0	0	7	30	46	32	10	6	4	0	0	0	5	71	261	66	22	52	6	0	0	0	1	71	78	102	11	16	23	0	0	0	5	1169
16:00	20	149	40	5	29	7	0	0	0	1	23	43	45	2	8	5	0	0	0	0	62	220	40	17	43	22	0	0	0	4	76	81	130	13	17	23	0	0	0	2	1127
16:15	26	175	50	2	41	9	0	0	0	0	33	42	38	7	4	6	0	0	0	2	70	232	37	10	51	3	0	0	0	1	79	123	125	15	11	29	0	0	0	2	1223
16:30	**31**	**166**	**42**	**3**	**36**	**11**	**0**	**0**	**0**	**0**	**36**	**48**	**45**	**9**	**2**	**4**	**0**	**0**	**0**	**2**	**78**	**258**	**51**	**13**	**49**	**6**	**0**	**0**	**0**	**3**	**68**	**107**	**121**	**11**	**14**	**25**	**0**	**0**	**0**	**2**	**1241**
16:45	**37**	**182**	**71**	**4**	**32**	**7**	**0**	**0**	**0**	**0**	**49**	**62**	**52**	**10**	**5**	**7**	**0**	**0**	**0**	**4**	**72**	**243**	**62**	**12**	**45**	**12**	**0**	**0**	**0**	**1**	**83**	**101**	**151**	**10**	**15**	**24**	**0**	**0**	**0**	**1**	**1354**
17:00	**19**	**203**	**84**	**5**	**27**	**12**	**0**	**0**	**0**	**0**	**39**	**41**	**37**	**9**	**9**	**5**	**0**	**0**	**0**	**1**	**75**	**242**	**36**	**13**	**33**	**10**	**0**	**0**	**0**	**3**	**91**	**104**	**144**	**9**	**23**	**24**	**0**	**0**	**0**	**0**	**1298**
17:15	**18**	**189**	**72**	**4**	**37**	**8**	**0**	**0**	**0**	**1**	**38**	**47**	**48**	**13**	**11**	**6**	**0**	**0**	**0**	**3**	**71**	**282**	**42**	**25**	**55**	**12**	**0**	**0**	**0**	**0**	**93**	**124**	**173**	**12**	**22**	**21**	**0**	**0**	**0**	**0**	**1427**
17:30	26	192	52	4	33	4	0	0	0	1	46	49	39	11	5	6	0	0	0	0	69	251	44	15	38	3	0	0	0	2	82	90	119	14	15	14	0	0	0	1	1225
17:45	14	170	70	6	34	13	0	0	0	1	34	39	34	8	4	6	0	0	0	2	75	316	34	16	39	8	0	0	0	0	89	98	110	7	15	19	0	0	0	1	1262
18:00	16	155	52	2	24	8	0	0	0	1	29	36	16	4	4	3	0	0	0	3	71	286	45	18	31	1	0	0	0	0	83	55	112	8	9	15	0	0	0	1	1088
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Thickson Rd (R.R.26) @ Highway 401 Wb Off Ramp

TMC No: 0260200000 **Intersection ID:** 8426 **Count ID:** 35702018051 **Count Date:** 06/25/2019, Tue

AM Peak 07:30

Ped. (NW) 0 · Ped. (NE) 0 · Ped. (SW) 0 · Ped. (SE) 3

North leg (PHF / Trucks % / Trucks / Cars, read top to bottom):

U-turn	Through	Left	Exit
0.00	0.88	0.00	
0%	18%	0%	
0	220	0	249
0	1031	0	1152

East leg:

Movement	Cars	Trucks	Trucks %	PHF
U-turn	583	125	18%	0.84
Through	0	0	0%	0.00
Left	231	55	19%	0.94
Exit	0	0		

West leg:

Movement	PHF	Trucks %	Trucks	Cars
Exit			0	0
Left	0.00	0%	0	0
Through	0.00	0%	0	0
Right	0.00	0%	0	0

South leg (Cars / Trucks / Trucks % / PHF, read top to bottom):

Exit	U-turn	Through	Right
1262	0	569	0
275	0	124	0
	0%	18%	0%
	0.00	0.94	0.00

MD Peak 12:30

Ped. (NW) 0 · Ped. (NE) 0 · Ped. (SW) 0 · Ped. (SE) 0

North leg (PHF / Trucks % / Trucks / Cars, read top to bottom):

U-turn	Through	Left	Exit
0.00	0.95	0.00	
0%	17%	0%	
0	226	0	253
0	1100	0	1573

East leg:

Movement	Cars	Trucks	Trucks %	PHF
U-turn	354	72	17%	0.93
Through	0	0	0%	0.00
Left	107	32	23%	0.89
Exit	0	0		

West leg:

Movement	PHF	Trucks %	Trucks	Cars
Exit			0	0
Left	0.00	0%	0	0
Through	0.00	0%	0	0
Right	0.00	0%	0	0

South leg (Cars / Trucks / Trucks % / PHF, read top to bottom):

Exit	U-turn	Through	Right
1207	0	1219	0
258	0	181	0
	0%	13%	0%
	0.00	0.92	0.00

PM Peak 15:45

Ped. (NW) 0 · Ped. (NE) 0 · Ped. (SW) 0 · Ped. (SE) 5

North leg (PHF / Trucks % / Trucks / Cars, read top to bottom):

U-turn	Through	Left	Exit
0.00	0.91	0.00	
0%	18%	0%	
0	247	0	294
0	1136	0	1669

East leg:

Movement	Cars	Trucks	Trucks %	PHF
U-turn	399	100	20%	0.95
Through	0	0	0%	0.00
Left	88	46	34%	0.73
Exit	0	0		

West leg:

Movement	PHF	Trucks %	Trucks	Cars
Exit			0	0
Left	0.00	0%	0	0
Through	0.00	0%	0	0
Right	0.00	0%	0	0

South leg (Cars / Trucks / Trucks % / PHF, read top to bottom):

Exit	U-turn	Through	Right
1224	0	1270	0
293	0	194	0
	0%	13%	0%
	0.00	0.95	0.00

Total Count 8 hours*

Ped. (NW) 0 · Ped. (NE) 0 · Ped. (SW) 0 · Ped. (SE) 13

North leg (Trucks % / Trucks / Cars, read top to bottom):

U-turn	Through	Left	Exit
0%	17%	0%	
0	1729	0	2119
0	8153	0	10829

East leg:

Movement	Cars	Trucks	Trucks %	PHF
U-turn	3234	718	18%	
Through	0	0	0%	
Left	1167	361	24%	
Exit	0	0		

West leg:

Movement	PHF	Trucks %	Trucks	Cars
Exit			0	0
Left		0%	0	0
Through		0%	0	0
Right		0%	0	0

South leg (Cars / Trucks / Trucks %, read top to bottom):

Exit	U-turn	Through	Right
9320	0	7595	0
2090	0	1401	0
	0%	16%	0%

TMC 15 Min Report

Thickson Rd (R.R.26) @ Highway 401 Wb Off Ramp

TMC No: 0260200000 **Intersection ID:** 8426 **Count ID:** 35702018051 **Count Date:** 06/25/2019, Tue

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Total
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	0	178	0	0	39	0	0	0	0	0	51	0	43	21	0	19	0	0	0	0	0	49	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	422
06:30	0	232	0	0	48	0	0	0	0	0	80	0	74	15	0	23	0	0	0	0	0	76	0	0	37	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	585
06:45	0	215	0	0	52	0	0	0	0	0	66	0	80	30	0	24	0	0	0	1	0	90	0	0	52	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	610
07:00	0	252	0	0	53	0	0	0	0	0	85	0	93	22	0	20	0	0	0	0	0	102	0	0	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	666
07:15	0	223	0	0	43	0	0	0	0	0	55	0	64	16	0	28	0	0	0	0	0	113	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	582
07:30	**0**	**225**	**0**	**0**	**48**	**0**	**0**	**0**	**0**	**0**	**53**	**0**	**114**	**17**	**0**	**39**	**0**	**0**	**0**	**1**	**0**	**150**	**0**	**0**	**34**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**681**
07:45	**0**	**286**	**0**	**0**	**52**	**0**	**0**	**0**	**0**	**0**	**61**	**0**	**129**	**14**	**0**	**31**	**0**	**0**	**0**	**0**	**0**	**143**	**0**	**0**	**33**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**749**
08:00	**0**	**288**	**0**	**0**	**66**	**0**	**0**	**0**	**0**	**0**	**60**	**0**	**180**	**16**	**0**	**30**	**0**	**0**	**0**	**2**	**0**	**147**	**0**	**0**	**31**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**820**
08:15	**0**	**232**	**0**	**0**	**54**	**0**	**0**	**0**	**0**	**0**	**57**	**0**	**160**	**8**	**0**	**25**	**0**	**0**	**0**	**0**	**0**	**129**	**0**	**0**	**26**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**691**
08:30	0	189	0	0	49	0	0	0	0	0	55	0	180	9	0	18	0	0	0	0	0	132	0	0	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	674
08:45	0	201	0	0	53	0	0	0	0	0	29	0	134	14	0	24	0	0	0	0	0	156	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	639
09:00	0	248	0	0	46	0	0	0	0	0	39	0	97	10	0	18	0	0	0	0	0	169	0	0	27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	654
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	0	245	0	0	60	0	0	0	0	0	31	0	76	10	0	23	0	0	0	0	0	246	0	0	61	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	752
12:00	0	241	0	0	55	0	0	0	0	0	29	0	106	9	0	21	0	0	0	0	0	252	0	0	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	769
12:15	0	240	0	0	58	0	0	0	0	0	24	0	88	8	0	16	0	0	0	0	0	280	0	0	59	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	773
12:30	**0**	**281**	**0**	**0**	**63**	**0**	**0**	**0**	**0**	**0**	**31**	**0**	**98**	**8**	**0**	**17**	**0**	**0**	**0**	**0**	**0**	**276**	**0**	**0**	**33**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**807**
12:45	**0**	**298**	**0**	**0**	**52**	**0**	**0**	**0**	**0**	**0**	**27**	**0**	**86**	**6**	**0**	**16**	**0**	**0**	**0**	**0**	**0**	**335**	**0**	**0**	**44**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**864**
13:00	**0**	**282**	**0**	**0**	**52**	**0**	**0**	**0**	**0**	**0**	**24**	**0**	**80**	**8**	**0**	**19**	**0**	**0**	**0**	**0**	**0**	**321**	**0**	**0**	**40**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**826**
13:15	**0**	**239**	**0**	**0**	**59**	**0**	**0**	**0**	**0**	**0**	**25**	**0**	**90**	**10**	**0**	**20**	**0**	**0**	**0**	**0**	**0**	**287**	**0**	**0**	**64**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**794**
13:30	0	242	0	0	58	0	0	0	0	0	26	0	81	7	0	19	0	0	0	1	0	294	0	0	64	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	792
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	0	258	0	0	74	0	0	0	0	0	14	0	86	7	0	26	0	0	0	1	0	318	0	0	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	823
15:30	0	253	0	0	55	0	0	0	0	0	30	0	88	7	0	17	0	0	0	0	0	293	0	0	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	798
15:45	**0**	**294**	**0**	**0**	**61**	**0**	**0**	**0**	**0**	**0**	**21**	**0**	**97**	**10**	**0**	**29**	**0**	**0**	**0**	**3**	**0**	**328**	**0**	**0**	**58**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**901**
16:00	**0**	**271**	**0**	**0**	**69**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**103**	**5**	**0**	**28**	**0**	**0**	**0**	**1**	**0**	**324**	**0**	**0**	**50**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**865**
16:15	**0**	**320**	**0**	**0**	**61**	**0**	**0**	**0**	**0**	**0**	**31**	**0**	**104**	**15**	**0**	**24**	**0**	**0**	**0**	**1**	**0**	**321**	**0**	**0**	**37**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**914**
16:30	**0**	**251**	**0**	**0**	**56**	**0**	**0**	**0**	**0**	**0**	**22**	**0**	**95**	**16**	**0**	**19**	**0**	**0**	**0**	**0**	**0**	**297**	**0**	**0**	**49**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**805**
16:45	0	315	0	0	49	0	0	0	0	0	23	0	97	12	0	20	0	0	0	0	0	310	0	0	46	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	872
17:00	0	265	0	0	42	0	0	0	0	0	20	0	100	8	0	17	0	0	0	1	0	313	0	0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	811
17:15	0	301	0	0	65	0	0	0	0	0	27	0	126	7	0	27	0	0	0	1	0	315	0	0	56	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	925
17:30	0	253	0	0	48	0	0	0	0	0	15	0	103	6	0	34	0	0	0	0	0	346	0	0	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	852
17:45	0	286	0	0	45	0	0	0	0	0	28	0	92	4	0	16	0	0	0	0	0	336	0	0	42	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	849
18:00	0	249	0	0	44	0	0	0	0	0	14	0	90	6	0	11	0	0	0	0	0	347	0	0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	806
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Thickson (R.R.26) @ Hwy 401 Eb Off Ramp

TMC No: 0260900000 **Intersection ID:** 8578 **Count ID:** 35702018052 **Count Date:** 06/25/2019, Tue

AM Peak 07:15

North leg (Ped. NW: 0; Ped. NE: 0)

	↵	↓	↳	↑
PHF	0.00	0.85	0.00	
Trucks %	0%	19%	0%	
Trucks	0	197	0	207
Cars	0	814	0	609

West leg

	PHF	Trucks %	Trucks	Cars
←			0	0
↱	0.85	14%	51	302
→	0.00	0%	0	0
↴	0.86	40%	116	173

East leg

	Cars	Trucks	Trucks %	PHF
↰	0	0	0%	0.00
←	0	0	0%	0.00
↲	0	0	0%	0.00
→	0	0		

South leg (Ped. SW: 0; Ped. SE: 0)

	↓	↰	↑	↱
Cars	987	0	307	0
Trucks	313	0	156	0
Trucks %		0%	34%	0%
PHF		0.00	0.91	0.00

MD Peak 12:30

North leg (Ped. NW: 0; Ped. NE: 0)

	↵	↓	↳	↑
PHF	0.00	0.93	0.00	
Trucks %	0%	19%	0%	
Trucks	0	182	0	276
Cars	0	759	0	1252

West leg

	PHF	Trucks %	Trucks	Cars
←			0	0
↱	0.86	13%	64	443
→	0.00	0%	0	0
↴	0.90	45%	129	159

East leg

	Cars	Trucks	Trucks %	PHF
↰	0	0	0%	0.00
←	0	0	0%	0.00
↲	0	0	0%	0.00
→	0	0		

South leg (Ped. SW: 0; Ped. SE: 0)

	↓	↰	↑	↱
Cars	918	0	809	0
Trucks	311	0	212	0
Trucks %		0%	21%	0%
PHF		0.00	0.93	0.00

PM Peak 17:00

North leg (Ped. NW: 0; Ped. NE: 0)

	↵	↓	↳	↑
PHF	0.00	0.93	0.00	
Trucks %	0%	18%	0%	
Trucks	0	131	0	288
Cars	0	607	0	1552

West leg

	PHF	Trucks %	Trucks	Cars
←			0	0
↱	0.82	13%	74	485
→	0.00	0%	0	0
↴	0.82	33%	77	159

East leg

	Cars	Trucks	Trucks %	PHF
↰	0	0	0%	0.00
←	0	0	0%	0.00
↲	0	0	0%	0.00
→	0	0		

South leg (Ped. SW: 0; Ped. SE: 0)

	↓	↰	↑	↱
Cars	766	0	1067	0
Trucks	208	0	214	0
Trucks %		0%	17%	0%
PHF		0.00	0.79	0.00

Total Count 7 hours*

North leg (Ped. NW: 0; Ped. NE: 0)

	↵	↓	↳	↑
Trucks %	0%	21%	0%	
Trucks	0	1373	0	2060
Cars	0	5197	0	8156

West leg

	PHF	Trucks %	Trucks	Cars
←			0	0
↱		15%	517	2919
→		0%	0	0
↴		39%	830	1280

East leg

	Cars	Trucks	Trucks %	PHF
↰	0	0	0%	
←	0	0	0%	
↲	0	0	0%	
→	0	0		

South leg (Ped. SW: 1; Ped. SE: 0)

	↓	↰	↑	↱
Cars	6477	0	5237	0
Trucks	2203	0	1543	0
Trucks %		0%	23%	0%

TMC 15 Min Report

Thickson (R.R.26) @ Hwy 401 Eb Off Ramp

TMC No: 0260900000 **Intersection ID:** 8578 **Count ID:** 35702018052 **Count Date:** 06/25/2019, Tue

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										Total
		Cars			Trucks			Heavies		Ped		Cars			Trucks			Heavies		Ped		Cars			Trucks			Heavies		Ped		Cars			Trucks			Heavies		Ped	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	0	163	0	0	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25	0	0	18	0	0	0	0	0	33	0	48	17	0	26	0	0	0	0	369
06:30	0	210	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	46	0	0	37	0	0	0	0	0	39	0	51	13	0	25	0	0	0	0	461
06:45	0	176	0	0	63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	0	0	39	0	0	0	0	0	48	0	57	29	0	19	0	0	0	0	489
07:00	0	246	0	0	60	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64	0	0	40	0	0	0	0	0	46	0	71	16	0	19	0	0	0	0	562
07:15	**0**	**194**	**0**	**0**	**48**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**73**	**0**	**0**	**45**	**0**	**0**	**0**	**0**	**0**	**50**	**0**	**32**	**15**	**0**	**31**	**0**	**0**	**0**	**0**	**488**
07:30	**0**	**173**	**0**	**0**	**48**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**92**	**0**	**0**	**35**	**0**	**0**	**0**	**0**	**0**	**79**	**0**	**32**	**11**	**0**	**30**	**0**	**0**	**0**	**0**	**500**
07:45	**0**	**204**	**0**	**0**	**45**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**62**	**0**	**0**	**39**	**0**	**0**	**0**	**0**	**0**	**89**	**0**	**53**	**15**	**0**	**27**	**0**	**0**	**0**	**0**	**534**
08:00	**0**	**243**	**0**	**0**	**56**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**80**	**0**	**0**	**37**	**0**	**0**	**0**	**0**	**0**	**84**	**0**	**56**	**10**	**0**	**28**	**0**	**0**	**0**	**0**	**594**
08:15	0	181	0	0	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	95	0	0	21	0	0	0	0	0	54	0	37	7	0	23	0	0	0	0	462
08:30	0	157	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	93	0	0	42	0	0	0	0	0	57	0	20	8	0	23	0	0	0	0	440
08:45	0	141	0	0	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	121	0	0	36	0	0	0	0	0	47	0	27	5	0	25	0	0	0	0	452
09:00	0	149	0	0	51	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	119	0	0	34	0	0	0	0	0	67	0	28	5	0	17	0	0	0	0	470
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	0	163	0	0	58	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	179	0	0	69	0	0	0	0	0	101	0	49	26	0	31	0	0	0	0	676
12:00	0	174	0	0	43	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	168	0	0	70	0	0	0	0	0	104	0	45	21	0	37	0	0	0	0	662
12:15	0	169	0	0	41	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	202	0	0	58	0	0	0	0	0	113	0	48	17	0	28	0	0	0	0	676
12:30	**0**	**183**	**0**	**0**	**44**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**214**	**0**	**0**	**39**	**0**	**0**	**0**	**0**	**0**	**99**	**0**	**44**	**15**	**0**	**26**	**0**	**0**	**0**	**0**	**664**
12:45	**0**	**205**	**0**	**0**	**47**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**214**	**0**	**0**	**55**	**0**	**0**	**0**	**0**	**0**	**124**	**0**	**30**	**15**	**0**	**35**	**0**	**0**	**0**	**0**	**725**
13:00	**0**	**187**	**0**	**0**	**51**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**178**	**0**	**0**	**46**	**0**	**0**	**0**	**0**	**0**	**90**	**0**	**40**	**16**	**0**	**40**	**0**	**0**	**0**	**0**	**648**
13:15	**0**	**184**	**0**	**0**	**40**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**203**	**0**	**0**	**72**	**0**	**0**	**0**	**0**	**0**	**130**	**0**	**45**	**18**	**0**	**28**	**0**	**0**	**0**	**0**	**720**
13:30	0	0	0	0	39	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	57	0	0	0	0	0	0	0	0	22	0	17	0	0	0	0	648
Period 3																																									
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	0	125	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	260	0	0	77	0	0	0	0	0	124	0	35	21	0	18	0	0	0	0	700
15:30	0	151	0	0	29	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	195	0	0	53	0	0	0	0	0	126	0	41	22	0	34	0	0	0	0	651
15:45	0	146	0	0	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	236	0	0	67	0	0	0	0	1	142	0	38	16	0	33	0	0	0	0	709
16:00	0	135	0	0	48	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	202	0	0	51	0	0	0	0	0	119	0	42	16	0	29	0	0	0	0	642
16:15	0	136	0	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	268	0	0	46	0	0	0	0	0	103	0	39	14	0	23	0	0	0	0	664
16:30	0	138	0	0	45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	240	0	0	50	0	0	0	0	0	111	0	27	24	0	23	0	0	0	0	658
16:45	0	121	0	0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	278	0	0	51	0	0	0	0	0	89	0	40	14	0	30	0	0	0	0	663
17:00	**0**	**173**	**0**	**0**	**25**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**232**	**0**	**0**	**48**	**0**	**0**	**0**	**0**	**0**	**115**	**0**	**36**	**21**	**0**	**21**	**0**	**0**	**0**	**0**	**671**
17:15	**0**	**139**	**0**	**0**	**41**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**334**	**0**	**0**	**70**	**0**	**0**	**0**	**0**	**0**	**90**	**0**	**51**	**14**	**0**	**21**	**0**	**0**	**0**	**0**	**760**
17:30	**0**	**133**	**0**	**0**	**35**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**270**	**0**	**0**	**50**	**0**	**0**	**0**	**0**	**0**	**129**	**0**	**31**	**19**	**0**	**19**	**0**	**0**	**0**	**0**	**686**
17:45	**0**	**162**	**0**	**0**	**30**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**231**	**0**	**0**	**46**	**0**	**0**	**0**	**0**	**0**	**151**	**0**	**41**	**20**	**0**	**16**	**0**	**0**	**0**	**0**	**697**
18:00	0	136	0	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	205	0	0	45	0	0	0	0	0	166	0	46	15	0	28	0	0	0	0	669
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Burns St @ Kendalwood Rd

TMC No: 0805700000 **Intersection ID:** 7993 **Count ID:** 35702018011 **Count Date:** 06/26/2019, Wed

AM Peak 08:15

Ped. 7 (⇅) | Ped. 6 (⇄)

	↵	↓	↳	↰
PHF	0.79	0.40	0.81	
Trucks %	11%	0%	11%	↑
Trucks	9	0	9	21
Cars	76	8	75	131

PHF	Trucks %	Trucks	Cars			Cars	Trucks	Trucks %	PHF
	←	40	316		↰	92	14	13%	0.76
0.79	18%	7	31	↱	←	240	30	11%	0.87
0.85	10%	17	146	→	↲	1	0	0%	0.25
0.25	100%	1	0	↴	↱	223	26	→	

	↴	↰	↑	↱
Cars	9	0	8	2
Trucks	1	1	0	0
Trucks %	↓	100%	0%	0%
PHF		0.25	0.67	0.50

Ped. 0 (⇄) | Ped. 0 (⇅)

MD Peak 12:30

Ped. 2 (⇅) | Ped. 1 (⇄)

	↵	↓	↳	↰
PHF	0.88	0.38	0.95	
Trucks %	3%	0%	12%	↑
Trucks	2	0	18	23
Cars	58	3	137	177

PHF	Trucks %	Trucks	Cars			Cars	Trucks	Trucks %	PHF
	←	17	252		↰	131	11	8%	0.77
0.75	19%	10	44	↱	←	192	15	7%	0.83
0.88	10%	20	181	→	↲	9	0	0%	0.45
0.25	100%	1	0	↴	↱	319	38	→	

	↴	↰	↑	↱
Cars	12	2	2	1
Trucks	1	0	2	0
Trucks %	↓	0%	50%	0%
PHF		0.25	0.50	0.25

Ped. 0 (⇄) | Ped. 0 (⇅)

PM Peak 16:45

Ped. 4 (⇅) | Ped. 3 (⇄)

	↵	↓	↳	↰
PHF	0.83	0.55	0.91	
Trucks %	11%	27%	12%	↑
Trucks	10	3	31	28
Cars	80	8	219	223

PHF	Trucks %	Trucks	Cars			Cars	Trucks	Trucks %	PHF
	←	34	314		↰	136	15	10%	0.94
0.85	13%	13	86	↱	←	232	23	9%	0.80
0.99	8%	26	318	→	↲	9	0	0%	0.56
0.25	0%	0	1	↴	↱	543	57	→	

	↴	↰	↑	↱
Cars	18	2	1	6
Trucks	3	1	0	0
Trucks %	↓	33%	0%	0%
PHF		0.38	0.25	0.50

Ped. 0 (⇄) | Ped. 0 (⇅)

Total Count 8 hours*

Ped. 27 (⇅) | Ped. 28 (⇄)

	↵	↓	↳	↰
Trucks %	13%	15%	12%	↑
Trucks	71	8	117	171
Cars	490	44	890	1173

PHF	Trucks %	Trucks	Cars			Cars	Trucks	Trucks %	PHF
	←	269	2146		↰	768	103	12%	
	15%	65	376	↱	←	1649	195	11%	
	11%	175	1414	→	↲	39	0	0%	
	29%	2	5	↴	↱	2331	293	→	

	↴	↰	↑	↱
Cars	88	7	29	27
Trucks	10	3	3	1
Trucks %	↓	30%	9%	4%

Ped. 1 (⇄) | Ped. 2 (⇅)

TMC 15 Min Report

Burns St @ Kendalwood Rd

TMC No: 0805700000 **Intersection ID:** 7993 **Count ID:** 35702018011 **Count Date:** 06/26/2019, Wed

	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	
Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Total
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	5	0	9	3	0	2	0	0	0	0	0	30	8	0	12	1	0	0	0	0	0	2	1	0	0	0	0	0	0	0	1	4	1	1	1	0	0	0	0	0	81
06:30	9	0	11	0	0	9	0	0	0	0	0	41	11	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	0	3	0	0	0	0	0	94
06:45	7	0	15	1	0	3	0	0	0	0	0	51	7	0	11	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8	0	1	0	0	0	0	0	0	107
07:00	6	0	14	1	0	3	0	0	0	0	0	57	12	0	6	4	0	0	0	0	0	1	1	0	0	0	0	0	0	0	2	11	0	1	1	0	0	0	0	1	121
07:15	10	0	13	1	0	3	0	0	0	0	0	66	8	0	6	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	11	0	2	3	0	0	0	0	0	129
07:30	11	0	22	3	0	4	0	0	0	0	2	57	15	0	4	5	0	0	0	0	0	0	0	0	1	0	0	0	0	0	2	21	0	1	2	0	0	0	0	1	151
07:45	12	0	19	0	0	3	0	0	0	2	2	50	15	0	10	6	0	0	0	0	0	1	0	0	0	0	0	0	0	0	6	16	0	2	1	0	0	0	0	0	145
08:00	10	1	15	2	1	4	0	0	0	2	0	74	15	0	10	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	18	0	0	5	0	0	0	0	0	164
08:15	**16**	**1**	**6**	**2**	**0**	**2**	**0**	**0**	**0**	**1**	**1**	**47**	**15**	**0**	**8**	**6**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**37**	**0**	**2**	**5**	**0**	**0**	**0**	**0**	**2**	**163**
08:30	**19**	**0**	**24**	**3**	**0**	**3**	**0**	**0**	**0**	**4**	**0**	**63**	**23**	**0**	**12**	**3**	**0**	**0**	**0**	**0**	**0**	**3**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**37**	**0**	**2**	**5**	**0**	**0**	**0**	**0**	**3**	**215**
08:45	**17**	**5**	**23**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**59**	**20**	**0**	**3**	**4**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**44**	**0**	**3**	**4**	**1**	**0**	**0**	**0**	**1**	**195**
09:00	**23**	**2**	**23**	**3**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**71**	**34**	**0**	**7**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**28**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**207**
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	21	0	16	2	0	1	0	0	0	1	1	29	21	0	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	35	0	0	3	0	0	0	0	0	146
12:00	35	4	19	6	0	1	0	0	0	0	1	39	27	0	4	2	0	0	0	0	1	4	0	0	0	0	0	0	0	0	8	49	1	0	3	0	0	0	0	0	204
12:15	34	1	9	6	0	2	0	0	0	3	2	40	25	0	10	4	0	0	0	0	1	1	7	0	0	1	0	0	0	0	12	34	0	1	4	0	0	0	0	1	198
12:30	**33**	**1**	**16**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**42**	**28**	**0**	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**8**	**53**	**0**	**1**	**4**	**0**	**0**	**0**	**0**	**1**	**200**
12:45	**35**	**0**	**14**	**4**	**0**	**1**	**0**	**0**	**0**	**0**	**5**	**62**	**29**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**36**	**0**	**3**	**5**	**1**	**0**	**0**	**0**	**0**	**215**
13:00	**35**	**0**	**16**	**6**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**48**	**33**	**0**	**8**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**10**	**50**	**0**	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**218**
13:15	**34**	**2**	**12**	**4**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**40**	**41**	**0**	**3**	**5**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**42**	**0**	**2**	**9**	**0**	**0**	**0**	**0**	**1**	**209**
13:30	0	0	0	2	0	0	0	0	0	2	1	46	23	0	3	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	8	41	0	2	4	0	0	0	0	2	185
Period 3																																									
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	38	1	19	3	1	1	0	0	0	2	1	62	38	0	4	4	0	0	0	1	0	1	0	0	0	0	0	0	0	1	17	54	0	0	11	0	0	0	0	1	260
15:30	41	4	10	2	1	1	0	0	0	1	0	37	40	0	4	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	13	53	1	1	6	0	0	0	0	1	220
15:45	35	3	12	4	0	2	0	0	0	1	0	45	23	0	6	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	70	0	4	10	0	0	0	0	1	234
16:00	35	1	8	6	0	2	0	0	0	3	2	43	23	0	6	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	23	68	0	4	10	0	0	0	0	3	240
16:15	50	1	17	6	1	1	0	0	0	0	2	62	29	0	7	3	0	0	0	0	0	1	2	0	0	0	0	0	0	0	20	67	0	6	13	0	0	0	0	1	289
16:30	15	3	19	4	1	3	0	0	0	0	2	63	23	0	7	2	0	0	0	0	0	2	0	1	0	0	0	0	0	0	23	68	1	3	10	0	0	0	0	0	250
16:45	**62**	**2**	**26**	**7**	**1**	**1**	**0**	**0**	**0**	**2**	**2**	**54**	**36**	**0**	**4**	**3**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**23**	**85**	**0**	**3**	**2**	**0**	**0**	**0**	**0**	**1**	**317**
17:00	**50**	**2**	**18**	**11**	**0**	**5**	**0**	**0**	**0**	**0**	**1**	**59**	**36**	**0**	**6**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**71**	**1**	**3**	**13**	**0**	**0**	**0**	**0**	**2**	**297**
17:15	**59**	**4**	**19**	**6**	**1**	**1**	**0**	**0**	**0**	**0**	**4**	**71**	**36**	**0**	**9**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**	**83**	**0**	**5**	**4**	**0**	**0**	**0**	**0**	**1**	**330**
17:30	**48**	**0**	**17**	**7**	**1**	**3**	**0**	**0**	**0**	**1**	**2**	**48**	**28**	**0**	**4**	**6**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**27**	**79**	**0**	**2**	**7**	**0**	**0**	**0**	**0**	**0**	**283**
17:45	52	3	16	5	0	2	0	0	0	0	3	47	19	0	6	4	0	0	0	0	0	1	2	0	0	0	0	0	0	0	25	79	0	4	12	0	0	0	0	0	280
18:00	33	3	13	2	0	3	0	0	0	1	1	46	27	0	2	5	0	0	0	0	1	3	3	0	0	0	0	0	0	0	24	60	0	2	10	0	0	0	0	2	241
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Champlain Av (R.R.25A) @ Thornton Rd (R.R.52)

TMC No: 0251000000 **Intersection ID:** 8218 **Count ID:** 35702018560 **Count Date:** 11/10/2020, Tue

AM Peak 07:45

				0.66	0.00	0.83		Ped. 0			
				13%	0%	23%					
				6	0	10	7				
Ped. 0				39	0	33	50	Cars	Trucks	Trucks %	PHF
		13	192					42	6	13%	0.86
0.38	11%	1	8					153	7	4%	0.74
0.81	22%	12	43					0	0	0%	0.00
0.00	0%	0	0					76	22		
PHF	Trucks %	Trucks	Cars	0	0	0	0				0 Ped.
				0	0	0	0				
					0%	0%	0%				
			Ped. 0		0.00	0.00	0.00				

MD Peak 12:45

				0.54	0.00	0.71		Ped. 0			
				21%	0%	25%					
				6	0	12	25				
Ped. 0				22	0	36	82	Cars	Trucks	Trucks %	PHF
		29	174					55	15	21%	0.88
0.71	27%	10	27					152	23	13%	0.89
0.94	15%	30	173					0	0	0%	0.00
0.00	0%	0	0					209	42		
PHF	Trucks %	Trucks	Cars	0	0	0	0				0 Ped.
				0	0	0	0				
					0%	0%	0%				
			Ped. 0		0.00	0.00	0.00				

PM Peak 16:30

				0.70	0.00	0.82		Ped. 0			
				10%	0%	20%					
				3	0	18	26				
Ped. 0				28	0	71	141	Cars	Trucks	Trucks %	PHF
		16	224					93	21	18%	0.84
0.78	9%	5	48					196	13	6%	0.74
0.84	19%	58	246					0	0	0%	0.00
0.00	0%	0	0					317	76		
PHF	Trucks %	Trucks	Cars	0	0	0	0				0 Ped.
				0	0	0	0				
					0%	0%	0%				
			Ped. 0		0.00	0.00	0.00				

Total Count 8 hours*

								Ped. 4			
				15%	0%	21%					
				31	0	96	127				
Ped. 0				181	0	358	628	Cars	Trucks	Trucks %	PHF
		128	1249					451	91	17%	
	17%	36	177					1068	97	8%	
	20%	261	1014					0	0	0%	
	0%	0	0					1372	357		
PHF	Trucks %	Trucks	Cars	0	0	0	0				0 Ped.
				0	0	0	0				
					0%	0%	0%				
			Ped. 0								

Champlain Av (R.R.25A) @ Thornton Rd (R.R.52)

TMC No: 0251000000 **Intersection ID:** 8218 **Count ID:** 35702018560 **Count Date:** 11/10/2020, Tue

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										Total
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	6	0	0	0	0	0	0	0	0	0	0	11	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	21
06:30	2	0	3	1	0	0	0	0	0	0	0	16	6	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	35
06:45	4	0	1	0	0	0	0	0	0	0	0	31	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	1	0	0	0	0	0	47
07:00	7	0	1	1	0	2	0	0	0	0	0	27	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7	0	0	2	0	0	0	0	0	58
07:15	7	0	6	1	0	0	0	0	0	0	0	22	7	0	2	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	9	0	0	4	0	0	0	0	0	64
07:30	9	0	11	2	0	1	0	0	0	0	0	22	7	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	8	0	0	3	0	0	0	0	0	71
07:45	**7**	**0**	**6**	**4**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**53**	**13**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**96**
08:00	**11**	**0**	**11**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**43**	**11**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**11**	**0**	**1**	**6**	**0**	**0**	**0**	**0**	**0**	**106**
08:15	**7**	**0**	**13**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**38**	**5**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**14**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**86**
08:30	**8**	**0**	**9**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**19**	**13**	**0**	**4**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**11**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**72**
08:45	15	0	6	4	0	1	0	0	0	0	0	22	8	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	17	0	0	1	0	0	0	0	0	84
09:00	6	0	5	3	0	0	0	0	0	0	0	33	17	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	13	0	1	3	0	0	0	0	0	85
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	11	0	6	7	0	0	0	0	0	0	0	37	13	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	29	0	0	9	0	0	0	0	0	118
12:00	10	0	9	3	0	1	0	0	0	0	0	41	12	0	3	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	31	0	0	7	0	0	0	0	0	132
12:15	9	0	5	2	0	1	0	0	0	0	0	21	9	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	35	0	3	11	0	0	0	0	0	109
12:30	10	0	4	3	0	2	0	0	0	0	0	27	7	0	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	35	0	0	10	0	0	0	0	0	109
12:45	**13**	**0**	**5**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**45**	**13**	**0**	**4**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**37**	**0**	**4**	**10**	**0**	**0**	**0**	**0**	**0**	**143**
13:00	**14**	**0**	**13**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**43**	**14**	**0**	**4**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**47**	**0**	**1**	**5**	**0**	**0**	**0**	**0**	**0**	**162**
13:15	**9**	**0**	**4**	**6**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**36**	**16**	**0**	**6**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**46**	**0**	**2**	**4**	**0**	**0**	**0**	**0**	**0**	**143**
13:30	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**28**	**12**	**0**	**9**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**43**	**0**	**3**	**11**	**0**	**0**	**0**	**0**	**0**	**139**
Period 3																																									
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	9	0	6	6	0	1	0	0	0	0	0	28	19	0	4	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	44	0	1	27	0	0	0	0	0	162
15:30	11	0	1	5	0	1	0	0	0	0	0	18	18	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	39	0	3	24	0	0	0	0	0	128
15:45	11	0	2	2	0	1	0	0	0	0	0	37	25	0	2	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	39	0	2	16	0	0	0	0	0	148
16:00	22	0	9	4	0	1	0	0	0	0	0	32	21	0	2	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	39	0	2	24	0	0	0	0	0	172
16:15	21	0	2	4	0	3	0	0	0	1	0	29	25	0	1	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	50	0	2	11	0	0	0	0	0	162
16:30	**14**	**0**	**10**	**4**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**41**	**18**	**0**	**5**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**61**	**0**	**2**	**15**	**0**	**0**	**0**	**0**	**0**	**186**
16:45	**17**	**0**	**9**	**4**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**51**	**25**	**0**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**45**	**0**	**0**	**17**	**0**	**0**	**0**	**0**	**0**	**181**
17:00	**22**	**0**	**6**	**5**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**36**	**21**	**0**	**4**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**75**	**0**	**1**	**16**	**0**	**0**	**0**	**0**	**0**	**210**
17:15	**18**	**0**	**3**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**68**	**29**	**0**	**3**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**65**	**0**	**2**	**10**	**0**	**0**	**0**	**0**	**0**	**223**
17:30	19	0	7	2	0	1	0	0	0	0	0	32	23	0	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	45	0	3	3	0	0	0	0	0	151
17:45	12	0	4	4	0	0	0	0	0	2	0	39	23	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	51	0	1	5	0	0	0	0	0	152
18:00	17	0	4	2	0	0	0	0	0	1	0	42	12	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	48	0	2	0	0	0	0	0	0	136
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Thornton Rd (R.R.52) @ Gibb St (R.R.59)

TMC No: 0520200000 **Intersection ID:** 7623 **Count ID:** 29762016159 **Count Date:** 06/07/2016, Tue

AM Peak 08:15

Ped. 1								Ped. 5			
				0.75	0.90	0.82					
				3%	1%	4%					
				2	1	8	15				
				76	161	188	279	Cars	Trucks	Trucks %	PHF
		8	293					142	8	5%	0.80
0.74	8%	4	46					202	6	3%	0.78
0.87	2%	3	119					26	0	0%	0.72
0.63	0%	0	10					317	11		
PHF	Trucks %	Trucks	Cars	197	15	91	10				0 Ped.
				1	0	3	0				
					0%	3%	0%				
			Ped. 0		0.63	0.76	0.63				

MD Peak 12:45

Ped. 0								Ped. 2			
				0.75	0.84	0.76					
				8%	2%	2%					
				4	3	4	11				
				47	125	164	338	Cars	Trucks	Trucks %	PHF
		9	282					157	7	4%	0.85
0.73	0%	0	44					202	5	2%	0.92
0.88	1%	2	188					23	0	0%	0.58
0.52	4%	1	24					381	6		
PHF	Trucks %	Trucks	Cars	172	33	137	29				0 Ped.
				4	0	4	0				
					0%	3%	0%				
			Ped. 0		0.83	0.88	0.66				

PM Peak 16:45

Ped. 1								Ped. 2			
				0.73	0.88	0.96					
				2%	2%	2%					
				1	2	4	6				
				43	117	214	590	Cars	Trucks	Trucks %	PHF
		4	335					150	5	3%	0.84
0.69	1%	1	98					245	2	1%	0.79
0.84	1%	3	322					28	0	0%	0.78
0.75	0%	0	18					598	7		
PHF	Trucks %	Trucks	Cars	163	47	342	62				3 Ped.
				2	1	0	0				
					2%	0%	0%				
			Ped. 3		0.75	0.82	0.78				

Total Count -5 hours*

Ped. 14								Ped. 33			
				3%	2%	3%					
				14	17	38	84				
				405	979	1444	2775	Cars	Trucks	Trucks %	PHF
		43	2163					1164	54	4%	
	3%	12	371					1556	26	2%	
	2%	26	1432					177	2	1%	
	3%	4	129					3105	67		
PHF	Trucks %	Trucks	Cars	1285	202	1240	229				12 Ped.
				23	3	18	3				
					1%	1%	1%				
			Ped. 13								

TMC 15 Min Report

Thornton Rd (R.R.52) @ Gibb St (R.R.59)

TMC No: 0520200000 **Intersection ID:** 7623 **Count ID:** 29762016159 **Count Date:** 06/07/2016, Tue

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										Total
	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	27	15	7	1	1	0	0	0	0	1	1	18	11	0	0	1	0	0	0	0	0	3	1	0	0	0	0	0	0	2	0	13	1	0	0	0	0	0	0	0	103
06:30	27	23	10	0	0	0	0	0	0	0	6	12	16	0	0	0	0	0	0	0	0	12	2	0	2	0	0	0	0	0	3	17	1	0	0	0	0	0	0	0	131
06:45	24	34	11	2	0	3	0	0	0	5	7	40	20	0	0	2	0	0	0	0	1	6	0	0	0	0	0	0	0	0	1	14	1	0	0	0	0	0	0	0	171
07:00	37	26	8	0	0	1	0	0	0	0	4	31	25	0	1	1	0	0	0	0	1	11	0	0	0	0	0	0	0	1	5	8	2	0	0	0	0	0	0	1	163
07:15	28	25	16	1	0	0	0	0	0	1	5	32	18	0	0	3	0	0	0	0	2	9	0	0	0	0	0	0	0	0	3	16	4	0	0	0	0	0	0	0	163
07:30	25	38	6	0	0	1	0	0	0	1	9	27	27	0	1	0	0	0	0	2	3	16	2	0	2	0	0	0	0	0	7	20	1	1	0	0	0	0	0	0	189
07:45	34	45	12	2	1	0	0	0	0	0	1	47	31	0	0	3	0	0	0	0	1	19	3	0	2	0	0	0	0	0	6	21	2	1	3	0	0	0	0	1	235
08:00	51	48	21	2	1	0	0	0	0	0	3	41	40	0	3	2	0	0	0	0	8	24	2	0	0	0	0	0	0	0	6	21	3	0	0	0	0	0	0	1	277
08:15	**45**	**33**	**19**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**37**	**38**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**6**	**17**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**33**	**4**	**3**	**1**	**0**	**0**	**0**	**0**	**1**	**258**
08:30	**33**	**41**	**16**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**5**	**54**	**30**	**0**	**4**	**1**	**0**	**0**	**0**	**0**	**4**	**30**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**13**	**31**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**269**
08:45	**53**	**42**	**16**	**4**	**1**	**1**	**0**	**0**	**0**	**0**	**9**	**45**	**43**	**0**	**1**	**4**	**0**	**0**	**0**	**0**	**3**	**28**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**12**	**33**	**3**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**305**
09:00	**57**	**45**	**25**	**3**	**0**	**1**	**0**	**0**	**0**	**3**	**9**	**66**	**31**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**16**	**4**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**7**	**22**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**295**
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	50	21	8	0	1	1	0	0	0	0	7	47	34	0	0	2	0	0	0	1	7	34	9	0	1	0	0	0	0	0	7	48	3	0	0	0	0	0	0	1	282
12:00	33	33	10	2	0	0	0	0	0	2	3	43	34	0	0	3	0	0	0	0	4	24	5	0	1	1	0	0	0	0	15	49	8	1	0	1	0	0	0	0	272
12:15	51	26	9	0	0	0	0	0	0	1	7	47	37	0	0	3	0	0	0	1	11	32	13	1	1	1	0	0	0	0	11	25	14	0	1	0	0	0	0	0	292
12:30	28	27	12	1	0	0	0	0	0	1	3	59	48	1	2	1	0	0	0	0	2	27	12	0	1	0	0	0	0	0	7	42	5	0	1	0	0	0	0	0	280
12:45	**53**	**25**	**9**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	**54**	**44**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**10**	**34**	**7**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**11**	**43**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**305**
13:00	**34**	**32**	**15**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**6**	**53**	**37**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**28**	**11**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**15**	**46**	**12**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**302**
13:15	**50**	**38**	**9**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**4**	**41**	**46**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**8**	**40**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**53**	**3**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**311**
13:30	**27**	**30**	**14**	**0**	**2**	**1**	**0**	**0**	**0**	**2**	**10**	**54**	**30**	**0**	**2**	**3**	**0**	**0**	**0**	**0**	**7**	**35**	**7**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**10**	**46**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**287**
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	53	21	13	4	2	0	0	0	0	2	6	67	55	0	0	3	0	0	0	4	2	47	7	0	1	0	0	0	0	1	16	50	5	0	2	1	0	0	0	2	364
15:30	56	12	18	1	0	0	0	0	0	1	2	62	52	1	1	0	0	0	0	0	5	43	7	0	0	0	0	0	0	3	13	50	2	1	3	0	0	0	0	2	335
15:45	50	40	22	1	0	0	0	0	0	1	10	58	56	0	1	3	0	0	0	1	10	59	12	0	0	0	0	0	0	0	12	58	5	0	3	0	0	0	0	1	403
16:00	61	27	8	1	1	1	0	0	0	4	8	54	48	0	2	3	0	0	0	0	12	60	14	0	0	0	0	0	0	1	18	62	6	0	0	1	0	0	0	0	392
16:15	65	27	17	2	1	0	0	0	0	3	3	61	49	0	0	2	0	0	0	0	12	72	13	1	0	1	0	0	0	0	16	59	2	2	2	0	0	0	0	1	411
16:30	67	26	9	1	3	0	0	0	0	0	4	69	42	0	1	0	0	0	0	0	10	55	0	0	0	0	0	0	0	0	13	83	5	0	1	0	0	0	0	0	389
16:45	**54**	**34**	**14**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**9**	**78**	**24**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**15**	**67**	**9**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**28**	**96**	**4**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**438**
17:00	**49**	**27**	**11**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**7**	**47**	**45**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**8**	**97**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**36**	**84**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**436**
17:15	**56**	**28**	**6**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**49**	**37**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**11**	**104**	**20**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**18**	**74**	**5**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**421**
17:30	**55**	**28**	**12**	**1**	**1**	**0**	**0**	**0**	**0**	**2**	**6**	**71**	**44**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**13**	**74**	**19**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**68**	**6**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**419**
17:45	60	31	13	0	0	0	0	0	0	1	4	47	32	0	0	2	0	0	0	0	4	58	14	0	0	0	0	0	0	1	9	82	3	0	1	0	0	0	0	1	363
18:00	51	31	9	1	0	0	0	0	0	0	7	45	40	0	1	0	0	0	0	0	12	59	12	0	0	0	0	0	0	1	15	65	4	1	1	0	0	0	0	1	356
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Stevenson Rd (R.R.53) @ Gibb St (R.R.59)

TMC No: 0530500000 **Intersection ID:** 7426 **Count ID:** 35702018662 **Count Date:** 03/03/2021, Wed

AM Peak 07:45

North leg

	↵	↓	↳	↑
PHF	0.70	0.91	0.71	
Trucks %	14%	18%	21%	
Trucks	2	83	7	61
Cars	12	389	27	412

East leg

	Cars	Trucks	Trucks %	PHF
↰	25	10	29%	0.80
←	137	24	15%	0.98
↲	115	28	20%	0.72
→	250	53		

South leg

	↓	↰	↑	↱
Cars	611	116	369	117
Trucks	131	22	48	20
Trucks %		16%	12%	15%
PHF		0.80	0.92	0.80

West leg

PHF	Trucks %	Trucks	Cars	
		48	265	←
0.88	14%	3	18	↱
0.85	20%	26	106	→
0.86	16%	20	107	↴

Ped.: NE 11; NW 7; SE 11; SW 7

MD Peak 12:15

North leg

	↵	↓	↳	↑
PHF	0.73	0.96	0.84	
Trucks %	9%	15%	15%	
Trucks	3	82	15	102
Cars	32	477	82	652

East leg

	Cars	Trucks	Trucks %	PHF
↰	98	18	16%	0.94
←	201	23	10%	0.85
↲	217	32	13%	0.74
→	487	92		

South leg

	↓	↰	↑	↱
Cars	790	79	517	235
Trucks	134	16	80	43
Trucks %		17%	13%	15%
PHF		0.82	0.89	0.83

West leg

PHF	Trucks %	Trucks	Cars	
		42	312	←
0.79	10%	4	37	↱
0.84	17%	34	170	→
0.91	17%	20	96	↴

Ped.: NE 14; NW 6; SE 11; SW 19

PM Peak 16:00

North leg

	↵	↓	↳	↑
PHF	0.78	0.92	0.76	
Trucks %	17%	10%	13%	
Trucks	8	63	13	126
Cars	39	560	84	797

East leg

	Cars	Trucks	Trucks %	PHF
↰	93	18	16%	0.90
←	237	19	7%	0.86
↲	256	34	12%	0.90
→	565	80		

South leg

	↓	↰	↑	↱
Cars	981	115	665	270
Trucks	126	20	105	36
Trucks %		15%	14%	12%
PHF		0.89	0.97	0.92

West leg

PHF	Trucks %	Trucks	Cars	
		47	391	←
0.75	7%	3	39	↱
0.90	13%	31	211	→
0.80	15%	29	165	↴

Ped.: NE 25; NW 8; SE 12; SW 14

Total Count 8 hours*

North leg

	↵	↓	↳	↑
Trucks %	13%	14%	14%	
Trucks	33	566	78	743
Cars	214	3603	468	4457

East leg

	Cars	Trucks	Trucks %	PHF
↰	560	103	16%	
←	1332	160	11%	
↲	1523	235	13%	
→	3163	538		

South leg

	↓	↰	↑	↱
Cars	6021	666	3653	1480
Trucks	986	134	612	255
Trucks %		17%	14%	15%

West leg

PHF	Trucks %	Trucks	Cars	
		327	2212	←
	10%	28	244	↱
	14%	205	1215	→
	17%	185	895	↴

Ped.: NE 116; NW 74; SE 96; SW 102

TMC 15 Min Report

Stevenson Rd (R.R.53) @ Gibb St (R.R.59)

TMC No: 0530500000 **Intersection ID:** 7426 **Count ID:** 35702018662 **Count Date:** 03/03/2021, Wed

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Total
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	2	73	4	2	17	1	0	0	0	0	24	11	3	5	2	0	0	0	0	0	7	20	8	1	4	4	0	0	0	0	2	7	19	0	2	4	0	0	0	0	222
06:30	2	85	0	0	12	0	0	0	0	0	27	9	3	4	2	1	0	0	0	0	8	34	7	0	2	1	0	0	0	0	1	6	17	0	0	3	0	0	0	1	225
06:45	4	87	1	1	16	0	0	0	0	0	18	19	5	5	5	0	0	0	0	0	10	37	13	2	3	2	0	0	0	0	3	11	23	0	2	4	0	0	0	0	271
07:00	5	103	4	0	22	0	0	0	0	1	18	15	2	6	3	2	0	0	0	1	9	32	16	5	11	3	0	0	0	0	3	11	26	0	3	3	0	0	0	0	304
07:15	2	96	2	1	17	0	0	0	0	0	21	15	2	7	6	0	0	0	0	3	13	46	11	2	21	4	0	0	0	2	2	8	21	0	3	4	0	0	0	1	310
07:30	2	106	2	1	13	0	0	0	0	3	28	15	1	6	3	1	0	0	0	0	13	76	22	3	12	7	0	0	0	1	7	19	24	2	1	5	0	0	0	1	374
07:45	**1**	**105**	**4**	**2**	**25**	**1**	**0**	**0**	**0**	**1**	**40**	**31**	**6**	**10**	**9**	**2**	**0**	**0**	**0**	**2**	**27**	**84**	**21**	**1**	**20**	**8**	**0**	**0**	**0**	**0**	**4**	**23**	**32**	**1**	**6**	**5**	**0**	**0**	**0**	**1**	**472**
08:00	**10**	**104**	**3**	**2**	**25**	**1**	**0**	**0**	**0**	**3**	**25**	**35**	**4**	**8**	**6**	**1**	**0**	**0**	**0**	**0**	**25**	**87**	**26**	**9**	**6**	**3**	**0**	**0**	**0**	**0**	**5**	**22**	**27**	**1**	**6**	**7**	**0**	**0**	**0**	**3**	**454**
08:15	**6**	**87**	**1**	**1**	**8**	**0**	**0**	**0**	**0**	**7**	**24**	**35**	**8**	**5**	**5**	**3**	**0**	**0**	**0**	**6**	**31**	**95**	**31**	**2**	**12**	**5**	**0**	**0**	**0**	**4**	**5**	**29**	**26**	**1**	**7**	**3**	**0**	**0**	**0**	**3**	**450**
08:30	**10**	**93**	**4**	**2**	**25**	**0**	**0**	**0**	**0**	**0**	**26**	**36**	**7**	**5**	**4**	**4**	**0**	**0**	**0**	**3**	**33**	**103**	**39**	**10**	**10**	**4**	**0**	**0**	**0**	**3**	**4**	**32**	**22**	**0**	**7**	**5**	**0**	**0**	**0**	**0**	**491**
08:45	16	85	6	2	15	1	0	0	0	1	38	25	11	6	4	2	0	0	0	1	15	82	40	6	16	5	0	0	0	4	3	31	24	3	6	6	0	0	0	2	456
09:00	13	79	8	1	16	1	0	0	0	0	24	38	12	5	3	4	0	0	0	1	15	87	30	9	11	3	0	0	0	2	11	24	22	0	6	7	0	0	0	2	434
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	6	111	16	2	24	4	0	0	0	0	60	45	20	7	4	5	0	0	0	1	13	117	52	3	17	13	0	0	0	6	11	40	25	0	5	8	0	0	0	4	619
12:00	25	110	6	2	16	0	0	0	0	4	55	46	25	8	6	3	0	0	0	5	15	126	51	6	18	9	0	0	0	5	9	38	28	0	3	8	0	0	0	5	632
12:15	**22**	**127**	**8**	**6**	**15**	**1**	**0**	**0**	**0**	**3**	**76**	**50**	**24**	**8**	**5**	**4**	**0**	**0**	**0**	**3**	**25**	**141**	**74**	**3**	**26**	**10**	**0**	**0**	**0**	**7**	**6**	**36**	**22**	**0**	**8**	**5**	**0**	**0**	**0**	**2**	**717**
12:30	**12**	**112**	**11**	**2**	**21**	**1**	**0**	**0**	**0**	**0**	**48**	**45**	**26**	**9**	**5**	**5**	**0**	**0**	**0**	**4**	**14**	**126**	**47**	**4**	**23**	**12**	**0**	**0**	**0**	**3**	**9**	**54**	**29**	**1**	**7**	**2**	**0**	**0**	**0**	**0**	**632**
12:45	**24**	**127**	**10**	**5**	**19**	**0**	**0**	**0**	**0**	**7**	**44**	**61**	**28**	**6**	**5**	**3**	**0**	**0**	**0**	**4**	**17**	**118**	**55**	**3**	**16**	**14**	**0**	**0**	**0**	**4**	**11**	**40**	**23**	**2**	**9**	**3**	**0**	**0**	**0**	**2**	**660**
13:00	**24**	**111**	**3**	**2**	**27**	**1**	**0**	**0**	**0**	**4**	**49**	**45**	**20**	**9**	**8**	**6**	**0**	**0**	**0**	**0**	**23**	**132**	**59**	**6**	**15**	**7**	**0**	**0**	**0**	**5**	**11**	**40**	**22**	**1**	**10**	**10**	**0**	**0**	**0**	**2**	**652**
13:15	15	113	5	5	18	1	0	0	0	4	60	50	25	7	5	2	0	0	0	3	14	114	43	5	23	9	0	0	0	2	7	56	37	1	6	5	0	0	0	2	637
13:30	26	125	12	2	27	2	0	0	0	6	69	35	21	9	3	8	0	0	0	5	22	132	64	2	22	7	0	0	0	8	12	45	19	1	7	9	0	0	0	3	703
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	15	109	7	4	24	2	0	0	0	8	73	71	21	9	7	4	0	0	0	7	17	186	63	7	27	10	0	0	0	6	8	43	26	3	16	9	0	0	0	3	785
15:30	25	152	8	2	20	2	0	0	0	2	51	58	30	11	8	5	0	0	0	2	28	127	75	5	26	12	0	0	0	3	9	53	27	0	9	4	0	0	0	3	757
15:45	16	118	11	6	15	1	0	0	0	7	78	47	25	10	8	3	0	0	0	1	26	147	58	2	29	15	0	0	0	3	13	41	35	1	10	12	0	0	0	10	748
16:00	**19**	**143**	**10**	**4**	**19**	**2**	**0**	**0**	**0**	**6**	**60**	**68**	**25**	**8**	**6**	**4**	**0**	**0**	**0**	**1**	**26**	**166**	**67**	**7**	**24**	**5**	**0**	**0**	**0**	**4**	**5**	**43**	**36**	**2**	**5**	**10**	**0**	**0**	**0**	**0**	**775**
16:15	**19**	**128**	**13**	**3**	**13**	**2**	**0**	**0**	**0**	**11**	**61**	**56**	**26**	**6**	**4**	**5**	**0**	**0**	**0**	**3**	**34**	**159**	**63**	**4**	**31**	**13**	**0**	**0**	**0**	**0**	**10**	**57**	**49**	**1**	**10**	**12**	**0**	**0**	**0**	**6**	**799**
16:30	**28**	**136**	**5**	**4**	**15**	**2**	**0**	**0**	**0**	**3**	**73**	**58**	**24**	**8**	**3**	**5**	**0**	**0**	**0**	**4**	**30**	**176**	**66**	**6**	**23**	**9**	**0**	**0**	**0**	**4**	**10**	**55**	**40**	**0**	**6**	**6**	**0**	**0**	**0**	**2**	**801**
16:45	**18**	**153**	**11**	**2**	**16**	**2**	**0**	**0**	**0**	**5**	**62**	**55**	**18**	**12**	**6**	**4**	**0**	**0**	**0**	**4**	**25**	**164**	**74**	**3**	**27**	**9**	**0**	**0**	**0**	**6**	**14**	**56**	**40**	**0**	**10**	**1**	**0**	**0**	**0**	**0**	**797**
17:00	19	131	12	2	19	3	0	0	0	3	50	45	41	8	5	4	0	0	0	3	25	140	62	6	25	10	0	0	0	1	10	54	21	0	10	5	0	0	0	3	717
17:15	25	135	7	1	14	0	0	0	0	7	70	63	28	5	5	3	0	0	0	8	24	140	65	7	39	9	0	0	0	10	12	66	38	1	9	4	0	0	0	6	801
17:30	16	127	7	2	9	1	0	0	0	5	57	53	19	9	5	3	0	0	0	2	27	163	54	2	30	6	0	0	0	1	7	73	37	2	5	5	0	0	0	0	727
17:45	24	110	4	4	14	1	0	0	0	6	54	56	20	7	4	2	0	0	0	9	25	144	57	2	26	18	0	0	0	3	11	56	25	2	8	5	0	0	0	5	702
18:00	17	122	9	3	10	0	0	0	0	9	60	41	30	7	6	5	0	0	0	10	30	152	67	1	17	9	0	0	0	5	9	46	33	2	3	6	0	0	0	2	711
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Stevenson Rd (R.R.53) @ Laval Dr/Walmart

TMC No: 0531100000 **Intersection ID:** 7855 **Count ID:** 35702018506 **Count Date:** 11/05/2020, Thu

AM Peak 08:00

Approach	Movement	Cars	Trucks	Trucks %	PHF
North	↵	55	7	11%	0.86
North	↓	444	91	17%	0.92
North	↳	28	18	39%	0.77
North	↑	651	151		
West	←	147	34		
West	↰	62	11	15%	0.68
West	→	17	3	15%	0.63
West	↴	66	18	21%	0.81
East	↰	61	17	22%	0.65
East	←	29	13	31%	0.70
East	↲	68	12	15%	0.83
East	→	105	27		
South	↓	578	121		
South	↰	63	14	18%	0.80
South	↑	528	123	19%	0.87
South	↱	60	6	9%	0.72

Ped.: 2 (West) ↑↓; 1 (North) ⇄; 3 (East) ↑↓; 1 (South) ⇄

MD Peak 11:45

Approach	Movement	Cars	Trucks	Trucks %	PHF
North	↵	119	26	18%	0.79
North	↓	504	118	19%	0.97
North	↳	27	8	23%	0.88
North	↑	867	156		
West	←	349	56		
West	↰	228	38	14%	0.90
West	→	51	4	7%	0.86
West	↴	187	33	15%	0.90
East	↰	36	5	12%	0.79
East	←	57	3	5%	0.71
East	↲	27	8	23%	0.80
East	→	118	18		
South	↓	718	159		
South	↰	173	27	14%	0.89
South	↑	603	113	16%	0.96
South	↱	40	6	13%	0.64

Ped.: 2 (West) ↑↓; 9 (North) ⇄; 5 (East) ↑↓; 3 (South) ⇄

PM Peak 16:45

Approach	Movement	Cars	Trucks	Trucks %	PHF
North	↵	122	11	8%	0.90
North	↓	730	127	15%	0.87
North	↳	66	6	8%	0.90
North	↑	1164	197		
West	←	358	52		
West	↰	254	27	10%	0.88
West	→	52	6	10%	0.85
West	↴	183	30	14%	0.75
East	↰	53	4	7%	0.75
East	←	60	6	9%	0.79
East	↲	47	3	6%	0.78
East	→	199	25		
South	↓	960	160		
South	↰	176	35	17%	0.96
South	↑	857	166	16%	0.92
South	↱	81	13	14%	0.90

Ped.: 3 (West) ↑↓; 15 (North) ⇄; 11 (East) ↑↓; 4 (South) ⇄

Total Count 8 hours*

Approach	Movement	Cars	Trucks	Trucks %	PHF
North	↵	709	103	13%	
North	↓	4688	874	16%	
North	↳	277	66	19%	
North	↑	6203	1146		
West	←	2051	333		
West	↰	1341	195	13%	
West	→	274	33	11%	
West	↴	1047	196	16%	
East	↰	361	66	15%	
East	←	327	49	13%	
East	↲	350	79	18%	
East	→	917	169		
South	↓	6085	1149		
South	↰	1015	181	15%	
South	↑	4501	885	16%	
South	↱	366	70	16%	

Ped.: 38 (West) ↑↓; 89 (North) ⇄; 53 (East) ↑↓; 46 (South) ⇄

Generated: 06/30/2021

TMC 15 Min Report

Stevenson Rd (R.R.53) @ Laval Dr/Walmart

TMC No: 0531100000 **Intersection ID:** 7855 **Count ID:** 35702018506 **Count Date:** 11/05/2020, Thu

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	3	108	2	0	10	0	0	0	0	1	15	0	7	2	0	1	0	0	0	1	3	25	3	1	7	1	0	0	0	1	3	0	5	1	0	3	0	0	0	0	203
06:30	0	102	4	1	15	0	0	0	0	0	12	2	4	7	0	0	0	0	0	0	5	32	2	1	8	2	0	0	0	0	3	0	3	0	0	1	0	0	0	0	204
06:45	1	121	3	0	21	1	0	0	0	3	14	4	7	4	0	0	0	0	0	1	3	48	6	2	17	1	0	0	0	0	5	0	4	2	0	2	0	0	0	0	270
07:00	1	118	13	0	8	0	0	0	0	0	15	3	8	2	0	3	0	0	0	1	12	65	4	2	15	0	0	0	0	0	6	0	2	2	0	3	0	0	0	0	283
07:15	5	134	4	0	19	1	0	0	0	0	12	4	5	2	1	1	0	0	0	0	11	57	1	5	20	2	0	0	0	2	4	3	8	1	0	4	0	0	0	1	307
07:30	6	134	4	0	28	1	0	0	0	0	6	4	4	3	1	2	0	0	0	1	16	73	8	3	14	0	0	0	0	2	6	1	11	3	0	2	0	0	0	0	333
07:45	4	147	8	1	32	6	0	0	0	1	18	4	12	6	0	2	0	0	0	1	17	111	6	1	18	1	0	0	0	0	12	5	16	3	0	4	0	0	0	0	436
08:00	**2**	**118**	**16**	**1**	**27**	**2**	**0**	**0**	**0**	**0**	**17**	**2**	**9**	**3**	**2**	**2**	**0**	**0**	**0**	**0**	**21**	**156**	**18**	**3**	**31**	**2**	**0**	**0**	**0**	**1**	**11**	**3**	**13**	**3**	**0**	**4**	**0**	**0**	**0**	**1**	**468**
08:15	**13**	**105**	**10**	**2**	**17**	**1**	**0**	**0**	**0**	**0**	**17**	**7**	**10**	**2**	**4**	**6**	**0**	**0**	**0**	**1**	**15**	**135**	**22**	**3**	**25**	**1**	**0**	**0**	**0**	**0**	**13**	**3**	**18**	**3**	**0**	**8**	**0**	**0**	**0**	**0**	**441**
08:30	**6**	**112**	**15**	**7**	**26**	**1**	**0**	**0**	**0**	**0**	**15**	**9**	**19**	**2**	**3**	**2**	**0**	**0**	**0**	**0**	**11**	**122**	**10**	**5**	**30**	**2**	**0**	**0**	**0**	**0**	**15**	**5**	**17**	**1**	**1**	**2**	**0**	**0**	**0**	**1**	**439**
08:45	**7**	**109**	**14**	**8**	**21**	**3**	**0**	**0**	**0**	**1**	**19**	**11**	**23**	**5**	**4**	**7**	**0**	**0**	**0**	**2**	**16**	**115**	**10**	**3**	**37**	**1**	**0**	**0**	**0**	**0**	**23**	**6**	**18**	**4**	**2**	**4**	**0**	**0**	**0**	**0**	**473**
09:00	6	128	21	0	25	7	0	0	0	0	6	10	11	3	1	1	0	0	0	0	24	121	3	5	23	2	0	0	0	1	21	5	9	6	0	12	0	0	0	1	452
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	**8**	**120**	**24**	**2**	**31**	**5**	**0**	**0**	**0**	**3**	**11**	**11**	**11**	**0**	**1**	**2**	**0**	**0**	**0**	**1**	**41**	**153**	**18**	**6**	**26**	**0**	**0**	**0**	**0**	**0**	**65**	**11**	**37**	**9**	**1**	**6**	**0**	**0**	**0**	**0**	**603**
12:00	**5**	**122**	**29**	**4**	**34**	**7**	**0**	**0**	**0**	**1**	**8**	**19**	**10**	**3**	**2**	**1**	**0**	**0**	**0**	**1**	**45**	**159**	**7**	**10**	**28**	**2**	**0**	**0**	**0**	**1**	**57**	**14**	**52**	**12**	**2**	**9**	**0**	**0**	**0**	**1**	**645**
12:15	**8**	**129**	**36**	**2**	**26**	**10**	**0**	**0**	**0**	**3**	**4**	**20**	**9**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**36**	**146**	**8**	**6**	**29**	**2**	**0**	**0**	**0**	**1**	**57**	**13**	**52**	**8**	**1**	**7**	**0**	**0**	**0**	**0**	**617**
12:30	**6**	**133**	**30**	**0**	**27**	**4**	**0**	**0**	**0**	**2**	**4**	**7**	**6**	**2**	**0**	**2**	**0**	**0**	**0**	**2**	**51**	**145**	**7**	**5**	**30**	**2**	**0**	**0**	**0**	**1**	**49**	**13**	**46**	**9**	**0**	**11**	**0**	**0**	**0**	**1**	**595**
12:45	11	152	26	3	18	5	0	0	0	3	6	11	6	1	2	1	0	0	0	2	44	120	7	8	34	1	0	0	0	5	56	10	41	5	3	8	0	0	0	3	592
13:00	9	178	30	3	35	4	0	0	0	4	5	21	8	1	0	2	0	0	0	3	41	112	7	1	23	2	0	0	0	3	60	8	39	11	2	13	0	0	0	5	630
13:15	6	132	35	1	23	8	0	0	0	5	6	12	13	3	3	1	0	0	0	2	38	131	4	7	36	1	0	0	0	2	67	11	40	5	2	7	0	0	0	0	601
13:30	8	143	26	4	38	4	0	0	0	3	6	10	10	0	1	1	0	0	0	0	40	133	4	10	24	0	0	0	0	1	58	14	47	9	0	5	0	0	0	1	600
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	16	157	29	5	46	1	0	0	0	11	10	8	14	2	2	2	0	0	0	5	34	195	14	5	25	6	0	0	0	2	61	7	56	10	1	11	0	0	0	2	737
15:30	15	168	24	4	39	3	0	0	0	6	16	12	17	4	1	4	0	0	0	3	40	203	19	8	30	4	0	0	0	2	54	12	51	10	0	9	0	0	0	3	761
15:45	12	173	21	2	46	8	0	0	0	7	16	15	7	5	4	4	0	0	0	3	41	180	12	9	29	1	0	0	0	3	60	13	40	4	1	7	0	0	0	3	726
16:00	9	168	32	5	56	4	0	0	0	3	10	21	14	4	3	2	0	0	0	0	54	197	13	11	43	8	0	0	0	1	51	17	55	11	3	7	0	0	0	1	803
16:15	12	202	31	0	21	4	0	0	0	6	16	16	14	2	1	6	0	0	0	3	40	174	18	15	42	6	0	0	0	2	65	6	42	7	2	4	0	0	0	3	760
16:30	9	193	33	2	25	0	0	0	0	4	2	10	20	3	2	5	0	0	0	0	51	176	16	3	30	2	0	0	0	4	69	14	38	13	5	4	0	0	0	4	737
16:45	**18**	**206**	**32**	**2**	**41**	**5**	**0**	**0**	**0**	**4**	**7**	**14**	**13**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**48**	**208**	**17**	**4**	**46**	**6**	**0**	**0**	**0**	**1**	**57**	**12**	**42**	**7**	**0**	**9**	**0**	**0**	**0**	**1**	**803**
17:00	**18**	**178**	**26**	**0**	**33**	**4**	**0**	**0**	**0**	**4**	**14**	**11**	**10**	**2**	**1**	**0**	**0**	**0**	**0**	**1**	**41**	**230**	**21**	**9**	**47**	**1**	**0**	**0**	**0**	**0**	**66**	**13**	**38**	**5**	**1**	**8**	**0**	**0**	**0**	**1**	**783**
17:15	**15**	**168**	**34**	**2**	**33**	**1**	**0**	**0**	**0**	**4**	**11**	**17**	**18**	**0**	**2**	**1**	**0**	**0**	**0**	**7**	**44**	**225**	**21**	**10**	**48**	**2**	**0**	**0**	**0**	**0**	**62**	**11**	**61**	**4**	**4**	**10**	**0**	**0**	**0**	**0**	**815**
17:30	**15**	**178**	**30**	**2**	**20**	**1**	**0**	**0**	**0**	**3**	**15**	**18**	**12**	**1**	**3**	**3**	**0**	**0**	**0**	**0**	**43**	**194**	**22**	**12**	**25**	**4**	**0**	**0**	**0**	**3**	**69**	**16**	**42**	**11**	**1**	**3**	**0**	**0**	**0**	**1**	**747**
17:45	10	181	25	3	16	2	0	0	0	2	10	6	13	0	3	1	0	0	0	5	46	178	19	5	29	3	0	0	0	4	63	14	47	12	0	3	0	0	0	1	701
18:00	13	171	42	0	17	0	0	0	0	5	7	8	17	2	2	1	0	0	0	3	43	182	19	3	16	2	0	0	0	3	73	14	57	4	1	6	0	0	0	3	714
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Stevenson Rd (R.R.53) @ Champlain Av (R.R.25A)/401 WB Off Ramp

TMC No: 0251100000 **Intersection ID:** 7970 **Count ID:** 35702018055 **Count Date:** 06/27/2019, Thu

AM Peak 07:30

North leg:

	↵	↓	↳	↑
PHF	0.84	0.88	0.00	
Trucks %	15%	14%	0%	
Trucks	21	127	0	103
Cars	116	751	0	688

Ped. (north): 0; Ped. (west): 0

West leg:

	PHF	Trucks %	Trucks	Cars
←			55	364
↱	0.72	26%	11	32
→	0.00	0%	0	0
↴	0.78	21%	11	42

East leg:

	Cars	Trucks	Trucks %	PHF
↰	259	42	14%	0.83
←	190	25	12%	0.84
↲	450	87	16%	0.82
→	0	0		

South leg:

	↓	↰	↑	↱
Cars	1243	58	397	0
Trucks	225	9	50	0
Trucks %		13%	11%	0%
PHF		0.80	0.88	0.00

Ped. (east): 0; Ped. (south): 0

MD Peak 12:30

North leg:

	↵	↓	↳	↑
PHF	0.67	0.85	0.00	
Trucks %	17%	14%	0%	
Trucks	13	153	0	171
Cars	65	906	0	1098

Ped. (north): 0; Ped. (west): 0

West leg:

	PHF	Trucks %	Trucks	Cars
←			64	204
↱	0.84	8%	9	105
→	0.00	0%	0	0
↴	0.74	27%	37	99

East leg:

	Cars	Trucks	Trucks %	PHF
↰	316	59	16%	0.85
←	76	27	26%	0.86
↲	118	35	23%	0.75
→	0	0		

South leg:

	↓	↰	↑	↱
Cars	1123	63	677	0
Trucks	225	24	103	0
Trucks %		28%	13%	0%
PHF		0.95	0.90	0.00

Ped. (east): 0; Ped. (south): 0

PM Peak 16:45

North leg:

	↵	↓	↳	↑
PHF	0.74	0.93	0.00	
Trucks %	15%	11%	0%	
Trucks	11	128	0	220
Cars	63	1013	0	1301

Ped. (north): 1; Ped. (west): 0

West leg:

	PHF	Trucks %	Trucks	Cars
←			41	210
↱	0.90	14%	43	275
→	0.00	0%	0	0
↴	0.90	14%	41	261

East leg:

	Cars	Trucks	Trucks %	PHF
↰	360	71	16%	0.90
←	91	23	20%	0.86
↲	137	45	25%	0.76
→	0	0		

South leg:

	↓	↰	↑	↱
Cars	1411	56	666	0
Trucks	214	7	106	0
Trucks %		11%	14%	0%
PHF		0.93	0.96	0.00

Ped. (east): 0; Ped. (south): 0

Total Count 3 hours*

North leg:

	↵	↓	↳	↑
Trucks %	16%	14%	0%	
Trucks	111	1147	0	1208
Cars	603	6967	0	7513

Ped. (north): 2; Ped. (west): 0

West leg:

	PHF	Trucks %	Trucks	Cars
←			405	1821
↱		15%	173	961
→		0%	0	0
↴		18%	208	921

East leg:

	Cars	Trucks	Trucks %	PHF
↰	2294	388	14%	
←	794	180	18%	
↲	2081	529	20%	
→	0	0		

South leg:

	↓	↰	↑	↱
Cars	9969	424	4258	0
Trucks	1884	114	647	0
Trucks %		21%	13%	0%

Ped. (east): 7; Ped. (south): 0

TMC 15 Min Report

Stevenson Rd (R.R.53) @ Champlain Av (R.R.25A)/401 WB Off Ramp

TMC No: 0251100000 **Intersection ID:** 7970 **Count ID:** 35702018055 **Count Date:** 06/27/2019, Thu

	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
Time	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	0	198	8	0	48	3	0	0	0	0	115	13	22	52	5	4	0	0	0	0	5	32	0	3	6	0	0	0	0	0	2	0	9	2	0	1	0	0	0	0	528
06:30	0	181	10	0	53	3	0	0	0	0	183	24	19	29	10	7	0	0	0	0	6	45	0	1	7	0	0	0	0	0	4	0	7	3	0	5	0	0	0	0	597
06:45	0	147	20	0	37	4	0	0	0	0	112	23	22	24	10	11	0	0	0	1	6	41	0	1	6	0	0	0	0	0	2	0	7	1	0	3	0	0	0	0	478
07:00	0	210	21	0	30	3	0	0	0	1	175	30	33	36	4	11	0	0	0	1	18	70	0	6	13	0	0	0	0	0	4	0	6	2	0	5	0	0	0	0	679
07:15	0	164	12	0	29	3	0	0	0	0	119	44	29	17	6	6	0	0	0	0	11	58	0	1	15	0	0	0	0	0	3	0	7	1	0	7	0	0	0	0	532
07:30	**0**	**185**	**25**	**0**	**26**	**3**	**0**	**0**	**0**	**0**	**141**	**47**	**41**	**22**	**5**	**7**	**0**	**0**	**0**	**0**	**9**	**100**	**0**	**2**	**16**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**5**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**644**
07:45	**0**	**214**	**33**	**0**	**35**	**8**	**0**	**0**	**0**	**0**	**100**	**44**	**67**	**28**	**10**	**8**	**0**	**0**	**0**	**0**	**17**	**87**	**0**	**4**	**13**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**15**	**3**	**0**	**2**	**0**	**0**	**0**	**0**	**695**
08:00	**0**	**193**	**32**	**0**	**37**	**6**	**0**	**0**	**0**	**0**	**124**	**60**	**73**	**19**	**4**	**14**	**0**	**0**	**0**	**0**	**12**	**92**	**0**	**3**	**12**	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**10**	**2**	**0**	**5**	**0**	**0**	**0**	**0**	**711**
08:15	**0**	**159**	**26**	**0**	**29**	**4**	**0**	**0**	**0**	**0**	**85**	**39**	**78**	**18**	**6**	**13**	**0**	**0**	**0**	**0**	**20**	**118**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**12**	**4**	**0**	**1**	**0**	**0**	**0**	**0**	**628**
08:30	0	172	22	0	22	6	0	0	0	0	97	48	72	16	11	12	0	0	0	0	18	103	0	1	12	0	0	0	0	0	11	0	11	4	0	2	0	0	0	0	640
08:45	0	185	26	0	23	3	0	0	0	0	65	26	87	14	4	11	0	0	0	0	17	152	0	5	11	0	0	0	0	0	6	0	9	1	0	4	0	0	0	0	649
09:00	0	177	21	0	43	8	0	0	0	0	72	31	76	14	5	14	0	0	0	0	19	143	0	3	11	0	0	0	0	0	11	0	7	5	0	2	0	0	0	0	662
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	0	224	19	0	35	5	0	0	0	0	41	15	87	11	7	10	0	0	0	0	13	134	0	3	21	0	0	0	0	0	20	0	17	7	0	11	0	0	0	0	680
12:00	0	198	12	0	42	4	0	0	0	0	23	23	85	10	5	10	0	0	0	1	9	110	0	4	19	0	0	0	0	0	16	0	19	8	0	9	0	0	0	0	607
12:15	0	205	24	0	31	3	0	0	0	0	41	19	90	7	2	10	0	0	0	1	16	170	0	7	24	0	0	0	0	0	27	0	18	4	0	5	0	0	0	0	704
12:30	**0**	**220**	**10**	**0**	**39**	**1**	**0**	**0**	**0**	**0**	**43**	**22**	**93**	**8**	**6**	**17**	**0**	**0**	**0**	**0**	**17**	**163**	**0**	**5**	**21**	**0**	**0**	**0**	**0**	**0**	**27**	**0**	**37**	**3**	**0**	**9**	**0**	**0**	**0**	**0**	**741**
12:45	**0**	**224**	**20**	**0**	**37**	**5**	**0**	**0**	**0**	**0**	**17**	**16**	**75**	**8**	**5**	**15**	**0**	**0**	**0**	**0**	**14**	**154**	**0**	**6**	**27**	**0**	**0**	**0**	**0**	**0**	**31**	**0**	**16**	**3**	**0**	**11**	**0**	**0**	**0**	**0**	**684**
13:00	**0**	**273**	**10**	**0**	**37**	**3**	**0**	**0**	**0**	**0**	**21**	**20**	**72**	**8**	**4**	**16**	**0**	**0**	**0**	**0**	**15**	**169**	**0**	**8**	**29**	**0**	**0**	**0**	**0**	**0**	**18**	**0**	**29**	**1**	**0**	**7**	**0**	**0**	**0**	**0**	**740**
13:15	**0**	**189**	**25**	**0**	**40**	**4**	**0**	**0**	**0**	**0**	**37**	**18**	**76**	**11**	**12**	**11**	**0**	**0**	**0**	**0**	**17**	**191**	**0**	**5**	**26**	**0**	**0**	**0**	**0**	**0**	**29**	**0**	**17**	**2**	**0**	**10**	**0**	**0**	**0**	**0**	**720**
13:30	0	221	22	0	37	3	0	0	0	0	36	9	64	11	3	12	0	0	0	1	14	150	0	7	41	0	0	0	0	0	33	0	24	10	0	10	0	0	0	0	708
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	0	228	14	0	47	4	0	0	0	0	27	7	67	11	5	7	0	0	0	0	13	188	0	6	28	0	0	0	0	0	39	0	28	5	0	4	0	0	0	0	728
15:30	0	255	17	0	33	1	0	0	0	0	48	14	74	22	2	13	0	0	0	0	16	184	0	4	30	0	0	0	0	0	39	0	39	8	0	6	0	0	0	0	805
15:45	0	246	18	0	44	2	0	0	0	0	37	10	85	20	1	22	0	0	0	0	18	151	0	5	37	0	0	0	0	0	49	0	50	8	0	7	0	0	0	0	810
16:00	0	267	18	0	31	1	0	0	0	0	24	20	81	11	4	13	0	0	0	0	6	149	0	3	26	0	0	0	0	0	55	0	30	11	0	10	0	0	0	0	760
16:15	0	250	15	0	44	2	0	0	0	0	36	17	97	10	6	10	0	0	0	1	10	144	0	6	24	0	0	0	0	0	66	0	46	13	0	10	0	0	0	0	807
16:30	0	259	28	0	48	3	0	0	0	0	28	18	76	16	5	7	0	0	0	1	12	150	0	4	20	0	0	0	0	0	68	0	82	10	0	4	0	0	0	0	839
16:45	**0**	**234**	**15**	**0**	**28**	**1**	**0**	**0**	**0**	**1**	**22**	**25**	**84**	**11**	**5**	**17**	**0**	**0**	**0**	**0**	**13**	**172**	**0**	**2**	**30**	**0**	**0**	**0**	**0**	**0**	**80**	**0**	**70**	**8**	**0**	**11**	**0**	**0**	**0**	**0**	**829**
17:00	**0**	**249**	**22**	**0**	**31**	**3**	**0**	**0**	**0**	**0**	**47**	**21**	**74**	**13**	**5**	**18**	**0**	**0**	**0**	**0**	**12**	**161**	**0**	**2**	**31**	**0**	**0**	**0**	**0**	**0**	**69**	**0**	**64**	**12**	**0**	**7**	**0**	**0**	**0**	**0**	**841**
17:15	**0**	**267**	**11**	**0**	**25**	**6**	**0**	**0**	**0**	**0**	**23**	**25**	**99**	**12**	**8**	**19**	**0**	**0**	**0**	**0**	**15**	**178**	**0**	**2**	**20**	**0**	**0**	**0**	**0**	**0**	**56**	**0**	**54**	**9**	**0**	**12**	**0**	**0**	**0**	**0**	**841**
17:30	**0**	**263**	**15**	**0**	**44**	**1**	**0**	**0**	**0**	**0**	**45**	**20**	**103**	**9**	**5**	**17**	**0**	**0**	**0**	**0**	**16**	**155**	**0**	**1**	**25**	**0**	**0**	**0**	**0**	**0**	**70**	**0**	**73**	**14**	**0**	**11**	**0**	**0**	**0**	**0**	**887**
17:45	0	256	21	0	39	1	0	0	0	0	44	27	93	13	7	13	0	0	0	0	10	164	0	3	21	0	0	0	0	0	47	0	50	3	0	7	0	0	0	0	819
18:00	0	254	11	0	23	4	0	0	0	0	53	19	100	18	3	13	0	0	0	0	10	180	0	1	16	0	0	0	0	0	47	0	53	4	0	7	0	0	0	0	816
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Bloor St (R.R.22) @ Stevenson Rd Connector Ramp

TMC No: 0227200000 **Intersection ID:** 8092 **Count ID:** 35702016798 **Count Date:** 06/13/2017, Tue

AM Peak 06:30

North leg: Ped. 0 (crossing) ; Ped. 0 (west side)

PHF	Trucks %	Trucks	Cars
0.00	0%	0	0
0.00	0%	0	0
0.00	0%	0	0
		0	0

West leg:

PHF	Trucks %	Trucks	Cars	Movement
		39	1954	←
0.00	0%	0	0	↰
0.69	9%	19	203	→
0.61	9%	11	116	↴

East leg:

Movement	Cars	Trucks	Trucks %	PHF
↰	0	0	0%	0.00
←	1306	28	2%	0.87
↲	236	16	6%	0.77
→	435	30		

East Ped. 2

South leg:

Cars	Trucks	Trucks %	PHF
352	27		
648	11	2%	0.79
0	0	0%	0.00
232	11	5%	0.82

South Ped. 3

MD Peak 12:30

North leg: Ped. 0 (crossing) ; Ped. 2 (west side)

PHF	Trucks %	Trucks	Cars
0.00	0%	0	0
0.00	0%	0	0
0.00	0%	0	0
		0	0

West leg:

PHF	Trucks %	Trucks	Cars	Movement
		14	523	←
0.00	0%	0	0	↰
0.94	3%	11	319	→
0.85	7%	14	196	↴

East leg:

Movement	Cars	Trucks	Trucks %	PHF
↰	0	0	0%	0.00
←	338	8	2%	0.87
↲	288	30	9%	0.82
→	672	36		

East Ped. 3

South leg:

Cars	Trucks	Trucks %	PHF
484	44		
185	6	3%	0.96
0	0	0%	0.00
353	25	7%	0.90

South Ped. 3

PM Peak 17:15

North leg: Ped. 0 (crossing) ; Ped. 0 (west side)

PHF	Trucks %	Trucks	Cars
0.00	0%	0	0
0.00	0%	0	0
0.00	0%	0	0
		0	0

West leg:

PHF	Trucks %	Trucks	Cars	Movement
		20	687	←
0.00	0%	0	0	↰
0.95	1%	12	872	→
0.94	1%	7	606	↴

East leg:

Movement	Cars	Trucks	Trucks %	PHF
↰	0	0	0%	0.00
←	430	9	2%	0.90
↲	270	9	3%	0.89
→	1395	24		

East Ped. 2

South leg:

Cars	Trucks	Trucks %	PHF
876	16		
257	11	4%	0.88
0	0	0%	0.00
523	12	2%	0.92

South Ped. 3

Total Count -1 hours*

North leg: Ped. 0 (crossing) ; Ped. 4 (west side)

Trucks %	Trucks	Cars
0%	0	0
0%	0	0
0%	0	0
	0	0

West leg:

Trucks %	Trucks	Cars	Movement
	194	6654	←
0%	0	0	↰
4%	134	3484	→
5%	95	1971	↴

East leg:

Movement	Cars	Trucks	Trucks %
↰	0	0	0%
←	4446	128	3%
↲	2221	139	6%
→	6602	267	

East Ped. 20

South leg:

Cars	Trucks	Trucks %
4192	234	
2208	66	3%
0	0	0%
3118	133	4%

South Ped. 27

TMC 15 Min Report

Bloor St (R.R.22) @ Stevenson Rd Connector Ramp

TMC No: 0227200000 **Intersection ID:** 8092 **Count ID:** 35702016798 **Count Date:** 06/13/2017, Tue

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:15	0	0	0	0	0	0	0	0	0	0	102	237	0	3	4	0	0	0	0	0	58	0	72	1	0	0	0	0	0	0	0	41	17	0	6	3	0	0	0	0	544
06:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**80**	**378**	**0**	**2**	**5**	**0**	**0**	**0**	**0**	**1**	**156**	**0**	**72**	**3**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**47**	**20**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**769**
06:45	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**60**	**329**	**0**	**5**	**13**	**0**	**0**	**0**	**0**	**1**	**120**	**0**	**51**	**2**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**42**	**23**	**0**	**5**	**2**	**0**	**0**	**0**	**0**	**657**
07:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**51**	**321**	**0**	**5**	**6**	**0**	**0**	**0**	**0**	**0**	**205**	**0**	**58**	**4**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**42**	**26**	**0**	**4**	**3**	**0**	**0**	**0**	**0**	**730**
07:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**45**	**278**	**0**	**4**	**4**	**0**	**0**	**0**	**0**	**0**	**167**	**0**	**51**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**72**	**47**	**0**	**9**	**5**	**0**	**0**	**0**	**0**	**686**
07:30	0	0	0	0	0	0	0	0	0	0	59	266	0	4	6	0	0	0	0	0	152	0	71	6	0	3	0	0	0	0	0	87	35	0	3	8	0	0	0	0	700
07:45	0	0	0	0	0	0	0	0	0	0	80	210	0	4	5	0	0	0	0	0	72	0	84	0	0	4	0	0	0	1	0	55	23	0	8	7	0	0	0	0	553
08:00	0	0	0	0	0	0	0	0	0	0	57	165	0	3	5	0	0	0	0	2	103	0	117	4	0	3	0	0	0	1	0	60	34	0	1	5	0	0	0	0	560
08:15	0	0	0	0	0	0	0	0	0	0	48	140	0	4	4	0	0	0	0	0	40	0	90	1	0	6	0	0	0	0	0	58	17	0	4	0	0	0	0	0	412
08:30	0	0	0	0	0	0	0	0	0	0	63	165	0	3	8	0	0	0	0	0	62	0	97	2	0	7	0	0	0	0	0	70	32	0	5	5	0	0	0	0	519
08:45	0	0	0	0	0	0	0	0	0	0	52	123	0	10	7	0	0	0	0	0	53	0	89	2	0	5	0	0	0	0	0	52	19	0	8	1	0	0	0	0	421
09:00	0	0	0	0	0	0	0	0	0	0	46	109	0	2	5	0	0	0	0	0	65	0	115	2	0	8	0	0	0	1	0	59	23	0	6	4	0	0	0	0	445
09:15	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	5*	2*	0*	0*	1*	0*	0*	0*	0*	0*	0*	0*	2*	2*	0*	2*	0*	0*	0*	0*	0*	4*	4*	0*	0*	1*	0*	0*	0*	0*	23*
Period 2																																									
11:45	0	0	0	0	0	0	0	0	0	0	71	58	0	6	4	0	0	0	0	0	29	0	69	1	0	5	0	0	0	0	0	63	33	0	2	2	0	0	0	0	343
12:00	0	0	0	0	0	0	0	0	0	0	62	82	0	4	3	0	0	0	0	1	43	0	84	1	0	4	0	0	0	2	0	85	44	0	5	4	0	0	0	0	424
12:15	0	0	0	0	0	0	0	0	0	0	80	76	0	6	2	0	0	0	0	3	34	0	88	1	0	6	0	0	0	3	0	96	36	0	1	6	0	0	0	0	438
12:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**74**	**97**	**0**	**5**	**3**	**0**	**0**	**0**	**0**	**2**	**42**	**0**	**81**	**2**	**0**	**9**	**0**	**0**	**0**	**2**	**0**	**84**	**55**	**0**	**2**	**7**	**0**	**0**	**0**	**0**	**465**
12:45	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**83**	**78**	**0**	**14**	**1**	**0**	**0**	**0**	**0**	**1**	**48**	**0**	**87**	**1**	**0**	**8**	**0**	**0**	**0**	**1**	**0**	**76**	**35**	**0**	**6**	**2**	**0**	**0**	**0**	**2**	**443**
13:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**60**	**82**	**0**	**4**	**3**	**0**	**0**	**0**	**0**	**0**	**46**	**0**	**99**	**2**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**72**	**53**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**431**
13:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**71**	**81**	**0**	**7**	**1**	**0**	**0**	**0**	**0**	**0**	**49**	**0**	**86**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**87**	**53**	**0**	**1**	**3**	**0**	**0**	**0**	**0**	**442**
13:30	0	0	0	0	0	0	0	0	0	0	56	72	0	5	3	0	0	0	0	0	44	0	101	4	0	0	0	0	0	0	0	101	43	0	5	5	0	0	0	0	439
Period 3																																									
13:45	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	2*	5*	0*	1*	0*	0*	0*	0*	0*	1*	2*	0*	3*	2*	0*	2*	0*	0*	0*	2*	0*	2*	3*	0*	2*	1*	0*	0*	0*	0*	28*
15:15	0	0	0	0	0	0	0	0	0	0	93	90	0	4	5	0	0	0	0	1	31	0	115	2	0	3	0	0	0	2	0	121	50	0	3	0	0	0	0	0	520
15:30	0	0	0	0	0	0	0	0	0	0	85	70	0	4	1	0	0	0	0	0	37	0	110	1	0	4	0	0	0	0	0	148	59	0	5	4	0	0	0	0	528
15:45	0	0	0	0	0	0	0	0	0	0	71	88	0	4	4	0	0	0	0	0	45	0	96	1	0	4	0	0	0	0	0	120	55	0	5	0	0	0	0	0	493
16:00	0	0	0	0	0	0	0	0	0	0	71	97	0	2	2	0	0	0	0	1	40	0	109	2	0	5	0	0	0	2	0	160	89	0	6	2	0	0	0	1	589
16:15	0	0	0	0	0	0	0	0	0	0	88	86	0	5	6	0	0	0	0	1	50	0	141	3	0	5	0	0	0	1	0	130	55	0	4	0	0	0	0	0	575
16:30	0	0	0	0	0	0	0	0	0	0	80	72	0	2	4	0	0	0	0	3	51	0	116	0	0	5	0	0	0	3	0	174	146	0	7	4	0	0	0	0	667
16:45	0	0	0	0	0	0	0	0	0	0	80	100	0	2	5	0	0	0	0	1	53	0	133	2	0	4	0	0	0	1	0	210	96	0	6	0	0	0	0	0	693
17:00	0	0	0	0	0	0	0	0	0	0	83	66	0	7	0	0	0	0	0	0	56	0	113	2	0	4	0	0	0	1	0	200	147	0	2	3	0	0	0	1	685
17:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**71**	**102**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**55**	**0**	**142**	**4**	**0**	**4**	**0**	**0**	**0**	**1**	**0**	**207**	**161**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**751**
17:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**75**	**118**	**0**	**3**	**2**	**0**	**0**	**0**	**0**	**0**	**67**	**0**	**117**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**227**	**161**	**0**	**3**	**2**	**0**	**0**	**0**	**0**	**780**
17:45	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**70**	**90**	**0**	**3**	**3**	**0**	**0**	**0**	**0**	**2**	**60**	**0**	**134**	**1**	**0**	**5**	**0**	**0**	**0**	**2**	**0**	**229**	**155**	**0**	**4**	**4**	**0**	**0**	**0**	**0**	**762**
18:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**54**	**120**	**0**	**3**	**2**	**0**	**0**	**0**	**0**	**0**	**75**	**0**	**130**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**209**	**129**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**730**
18:15	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*	2*	0*	0*	0*	0*	0*	0*	0*	0*	2*

TMC Tabular Report

Stevenson Rd S (R.R. 53) @ Hwy 401 EB Off Ramp/Bloor St (R.R. 22) Connector Ramp

TMC No: 0530100000 **Intersection ID:** 8143 **Count ID:** 35702018507 **Count Date:** 11/03/2020, Tue

AM Peak 07:45

North leg (Ped. ⇄ 0)

	↲	↓	↳	↑
PHF	0.88	0.88	0.89	
Trucks %	11%	31%	24%	
Trucks	23	115	39	112
Cars	178	258	122	581

West leg (⇅ Ped. 0)

Movement	PHF	Trucks %	Trucks	Cars
←			23	178
↗	0.90	12%	33	238
→	0.97	17%	28	138
↘	0.67	20%	13	51

East leg (⇅ Ped. 1)

Movement	Cars	Trucks	Trucks %	PHF
↰	147	37	20%	0.90
←	0	0	0%	0.00
↙	29	10	26%	0.70
→	283	74		

South leg (⇄ Ped. 0)

	↓	↰	↑	↱
Cars	338	0	196	23
Trucks	138	0	42	7
Trucks %		0%	18%	29%
PHF		0.00	0.85	0.75

MD Peak 12:30

North leg (Ped. ⇄ 0)

	↲	↓	↳	↑
PHF	0.95	0.83	0.93	
Trucks %	14%	23%	16%	
Trucks	56	48	40	164
Cars	348	159	213	812

West leg (⇅ Ped. 0)

Movement	PHF	Trucks %	Trucks	Cars
←			56	348
↗	0.80	8%	28	306
→	0.78	19%	33	139
↘	0.70	31%	12	27

East leg (⇅ Ped. 0)

Movement	Cars	Trucks	Trucks %	PHF
↰	315	65	17%	0.83
←	0	0	0%	0.00
↙	24	10	29%	0.85
→	393	90		

South leg (⇄ Ped. 0)

	↓	↰	↑	↱
Cars	210	0	191	41
Trucks	70	0	71	17
Trucks %		0%	27%	29%
PHF		0.00	0.84	0.85

PM Peak 16:00

North leg (Ped. ⇄ 0)

	↲	↓	↳	↑
PHF	0.87	0.87	0.86	
Trucks %	13%	24%	12%	
Trucks	75	66	30	334
Cars	492	209	222	1240

West leg (⇅ Ped. 1)

Movement	PHF	Trucks %	Trucks	Cars
←			75	492
↗	0.99	9%	43	412
→	0.89	12%	28	211
↘	0.80	16%	13	67

East leg (⇅ Ped. 0)

Movement	Cars	Trucks	Trucks %	PHF
↰	410	189	32%	0.66
←	0	0	0%	0.00
↙	22	9	29%	0.65
→	488	78		

South leg (⇄ Ped. 1)

	↓	↰	↑	↱
Cars	298	0	418	55
Trucks	88	0	102	20
Trucks %		0%	20%	27%
PHF		0.00	0.92	0.85

Total Count 3 hours*

North leg (Ped. ⇄ 0)

	↲	↓	↳	↑
Trucks %	13%	22%	16%	
Trucks	361	470	257	1332
Cars	2494	1688	1397	6509

West leg (⇅ Ped. 4)

Movement	PHF	Trucks %	Trucks	Cars
←			361	2494
↗		11%	286	2273
→		15%	209	1185
↘		19%	93	385

East leg (⇅ Ped. 4)

Movement	Cars	Trucks	Trucks %	PHF
↰	2241	517	19%	
←	0	0	0%	
↙	208	87	29%	
→	2883	573		

South leg (⇄ Ped. 4)

	↓	↰	↑	↱
Cars	2281	0	1995	301
Trucks	650	0	529	107
Trucks %		0%	21%	26%

Stevenson Rd S (R.R. 53) @ Hwy 401 EB Off Ramp/Bloor St (R.R. 22) Connector Ramp

TMC No: 0530100000 **Intersection ID:** 8143 **Count ID:** 35702018507 **Count Date:** 11/03/2020, Tue

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	21	50	30	0	6	3	0	0	0	0	6	0	28	0	0	4	0	0	0	0	0	21	2	0	7	0	0	0	0	1	18	17	3	4	3	1	0	0	0	1	226
06:30	40	60	36	8	8	8	0	0	0	0	7	0	27	0	0	5	0	0	0	0	0	28	1	0	3	1	0	0	0	0	16	12	13	2	2	1	0	0	0	0	278
06:45	40	69	50	5	13	3	0	0	0	0	12	0	38	4	0	7	0	0	0	0	0	31	5	0	8	1	0	0	0	0	25	12	7	6	4	3	0	0	0	0	343
07:00	45	96	26	6	17	4	0	0	0	0	12	0	30	7	0	5	0	0	0	0	0	30	2	0	9	3	0	0	0	0	31	20	12	9	4	1	0	0	0	0	369
07:15	27	62	37	7	11	9	0	0	0	0	8	0	40	1	0	6	0	0	0	0	0	45	7	0	20	6	0	0	0	0	35	21	14	7	4	2	0	0	0	0	369
07:30	29	45	50	8	27	7	0	0	0	0	9	0	41	6	0	3	0	0	0	0	0	50	6	0	10	3	0	0	0	0	50	25	11	11	3	6	0	0	0	0	400
07:45	**31**	**77**	**38**	**10**	**29**	**4**	**0**	**0**	**0**	**0**	**11**	**0**	**46**	**3**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**50**	**5**	**0**	**8**	**2**	**0**	**0**	**0**	**0**	**61**	**35**	**7**	**10**	**6**	**3**	**0**	**0**	**0**	**0**	**441**
08:00	**35**	**63**	**53**	**10**	**35**	**4**	**0**	**0**	**0**	**0**	**4**	**0**	**31**	**1**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**60**	**4**	**0**	**10**	**1**	**0**	**0**	**0**	**0**	**59**	**38**	**20**	**8**	**5**	**4**	**0**	**0**	**0**	**0**	**455**
08:15	**25**	**61**	**48**	**10**	**32**	**6**	**0**	**0**	**0**	**0**	**7**	**0**	**35**	**4**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**47**	**9**	**0**	**9**	**1**	**0**	**0**	**0**	**0**	**68**	**35**	**9**	**7**	**8**	**0**	**0**	**0**	**0**	**0**	**431**
08:30	**31**	**57**	**39**	**9**	**19**	**9**	**0**	**0**	**0**	**0**	**7**	**0**	**35**	**2**	**0**	**12**	**0**	**0**	**0**	**1**	**0**	**39**	**5**	**0**	**15**	**3**	**0**	**0**	**0**	**0**	**50**	**30**	**15**	**8**	**9**	**6**	**0**	**0**	**0**	**0**	**401**
08:45	30	56	39	8	14	15	0	0	0	0	7	0	39	3	0	11	0	0	0	1	0	42	3	0	12	2	0	0	0	0	40	40	8	12	7	2	0	0	0	0	391
09:00	36	65	42	11	11	10	0	0	0	0	8	0	46	2	0	17	0	0	0	0	0	35	5	0	16	3	0	0	0	0	49	35	10	11	8	4	0	0	0	0	424
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	33	53	74	9	11	15	0	0	0	0	6	0	83	6	0	18	0	0	0	0	0	42	10	0	13	3	0	0	0	0	70	30	6	11	7	2	0	0	0	0	502
12:00	50	37	70	9	13	10	0	0	0	0	5	0	68	3	0	19	0	0	0	0	0	44	11	0	16	7	0	0	0	0	70	37	8	8	8	0	0	0	0	0	493
12:15	45	38	75	13	9	12	0	0	0	0	4	0	91	4	0	17	0	0	0	0	0	54	14	0	14	6	0	0	0	0	85	35	15	5	9	5	0	0	0	0	550
12:30	**57**	**30**	**87**	**11**	**16**	**19**	**0**	**0**	**0**	**0**	**4**	**0**	**54**	**3**	**0**	**22**	**0**	**0**	**0**	**0**	**0**	**43**	**10**	**0**	**19**	**7**	**0**	**0**	**0**	**0**	**98**	**36**	**1**	**7**	**6**	**2**	**0**	**0**	**0**	**0**	**532**
12:45	**47**	**34**	**86**	**8**	**12**	**15**	**0**	**0**	**0**	**0**	**6**	**0**	**93**	**4**	**0**	**21**	**0**	**0**	**0**	**0**	**0**	**40**	**11**	**0**	**13**	**2**	**0**	**0**	**0**	**0**	**71**	**25**	**11**	**6**	**8**	**2**	**0**	**0**	**0**	**0**	**515**
13:00	**61**	**51**	**90**	**6**	**11**	**14**	**0**	**0**	**0**	**0**	**9**	**0**	**87**	**1**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**51**	**9**	**0**	**18**	**4**	**0**	**0**	**0**	**0**	**51**	**30**	**8**	**10**	**12**	**6**	**0**	**0**	**0**	**0**	**540**
13:15	**48**	**44**	**85**	**15**	**9**	**8**	**0**	**0**	**0**	**0**	**5**	**0**	**81**	**2**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**57**	**11**	**0**	**21**	**4**	**0**	**0**	**0**	**0**	**86**	**48**	**7**	**5**	**7**	**2**	**0**	**0**	**0**	**0**	**556**
13:30	50	46	77	10	12	12	0	0	0	0	7	0	75	7	0	13	0	0	0	0	0	63	13	0	15	3	0	0	0	0	71	31	9	8	6	3	0	0	0	0	531
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	35	47	110	6	13	24	0	0	0	0	6	0	77	5	0	13	0	0	0	1	0	113	12	0	28	8	0	0	0	0	98	50	13	13	12	0	0	0	0	0	684
15:30	47	48	100	14	20	17	0	0	0	0	7	0	103	2	0	18	0	0	0	0	0	71	10	0	18	5	0	0	0	0	101	41	17	18	7	3	0	0	0	0	667
15:45	47	61	106	5	20	16	0	0	0	0	10	0	90	4	0	15	0	0	0	0	0	120	14	0	20	3	0	0	0	0	97	51	16	7	9	3	0	0	0	0	714
16:00	**50**	**47**	**117**	**9**	**14**	**20**	**0**	**0**	**0**	**0**	**5**	**0**	**88**	**0**	**0**	**138**	**0**	**0**	**0**	**0**	**0**	**88**	**11**	**0**	**19**	**4**	**0**	**0**	**0**	**1**	**103**	**48**	**21**	**11**	**8**	**3**	**0**	**0**	**0**	**1**	**806**
16:15	**66**	**49**	**110**	**4**	**19**	**13**	**0**	**0**	**0**	**0**	**7**	**0**	**112**	**5**	**0**	**19**	**0**	**0**	**0**	**0**	**0**	**108**	**14**	**0**	**26**	**3**	**0**	**0**	**0**	**0**	**104**	**47**	**21**	**11**	**6**	**4**	**0**	**0**	**0**	**0**	**748**
16:30	**61**	**54**	**125**	**12**	**25**	**19**	**0**	**0**	**0**	**0**	**7**	**0**	**84**	**1**	**0**	**19**	**0**	**0**	**0**	**0**	**0**	**106**	**14**	**0**	**32**	**7**	**0**	**0**	**0**	**0**	**104**	**55**	**9**	**11**	**8**	**2**	**0**	**0**	**0**	**0**	**755**
16:45	**45**	**59**	**140**	**5**	**8**	**23**	**0**	**0**	**0**	**0**	**3**	**0**	**126**	**3**	**0**	**13**	**0**	**0**	**0**	**0**	**0**	**116**	**16**	**0**	**25**	**6**	**0**	**0**	**0**	**0**	**101**	**61**	**16**	**10**	**6**	**4**	**0**	**0**	**0**	**0**	**786**
17:00	57	51	110	6	12	13	0	0	0	0	5	0	91	1	0	11	0	0	0	0	0	77	13	0	32	6	0	0	0	0	105	58	15	9	9	5	0	0	0	0	686
17:15	47	42	130	10	9	18	0	0	0	0	9	0	110	2	0	23	0	0	0	1	0	114	15	0	30	2	0	0	0	2	101	60	21	14	7	5	0	0	0	2	774
17:30	61	43	110	6	6	5	0	0	0	0	3	0	107	1	0	14	0	0	0	0	0	81	15	0	22	1	0	0	0	0	95	41	11	12	3	3	0	0	0	0	640
17:45	62	39	112	0	4	4	0	0	0	0	1	0	113	0	0	3	0	0	0	0	0	73	12	0	13	0	0	0	0	0	90	51	11	9	4	2	0	0	0	0	603
18:00	38	54	92	7	5	2	0	0	0	0	1	0	72	0	0	4	0	0	0	0	0	56	12	0	8	0	0	0	0	0	70	30	20	6	4	4	0	0	0	0	485
18:15	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Bloor St W (R.R.22) @ Park Rd S (R.R.54) (West)

TMC No: 0226300000 **Intersection ID:** 8010 **Count ID:** 35702017745 **Count Date:** 10/10/2018, Wed

AM Peak 06:15

Ped. (NW): 0 — Ped. (NE): 0 — Ped. (SE): 0 — Ped. (SW): 0

North approach:

PHF	0.79	0.00	0.54	
Trucks %	0%	0%	1%	↑
Trucks	0	0	2	8
Cars	436	0	186	140

West approach:

PHF	Trucks %	Trucks	Cars
	←	17	1034
0.66	2%	1	60
0.66	4%	16	363
0.50	0%	0	2

East approach:

Cars	Trucks	Trucks %	PHF
80	7	8%	0.81
597	17	3%	0.90
1	0	0%	0.25
549	18	→	

South approach:

Cars	3	1	0	0
Trucks	0	0	0	0
Trucks %	↓	0%	0%	0%
PHF		0.25	0.00	0.00

MD Peak 12:45

Ped. (NW): 0 — Ped. (NE): 5 — Ped. (SE): 5 — Ped. (SW): 8

North approach:

PHF	0.93	0.00	0.93	
Trucks %	2%	0%	0%	↑
Trucks	2	0	1	3
Cars	117	0	200	232

West approach:

PHF	Trucks %	Trucks	Cars
	←	16	429
0.94	1%	1	74
0.95	7%	28	396
0.50	0%	0	2

East approach:

Cars	Trucks	Trucks %	PHF
158	2	1%	0.75
311	14	4%	0.91
2	0	0%	0.50
597	29	→	

South approach:

Cars	4	1	0	1
Trucks	0	0	0	0
Trucks %	↓	0%	0%	0%
PHF		0.25	0.00	0.25

PM Peak 17:15

Ped. (NW): 0 — Ped. (NE): 3 — Ped. (SE): 2 — Ped. (SW): 7

North approach:

PHF	0.84	0.25	0.91	
Trucks %	0%	0%	2%	↑
Trucks	0	0	5	3
Cars	111	1	254	627

West approach:

PHF	Trucks %	Trucks	Cars
	←	21	486
0.83	0%	0	380
0.90	3%	28	909
0.25	0%	0	3

East approach:

Cars	Trucks	Trucks %	PHF
245	3	1%	0.91
367	21	5%	0.98
1	0	0%	0.25
1165	33	→	

South approach:

Cars	5	8	2	2
Trucks	0	0	0	0
Trucks %	↓	0%	0%	0%
PHF		0.40	0.25	0.50

Total Count -1 hours*

Ped. (NW): 13 — Ped. (NE): 25 — Ped. (SE): 16 — Ped. (SW): 71

North approach:

Trucks %	0%	0%	2%	↑
Trucks	6	0	25	40
Cars	1551	2	1509	2439

West approach:

PHF	Trucks %	Trucks	Cars
	←	145	4850
	0%	6	1237
	5%	182	3611
	0%	0	20

East approach:

Cars	Trucks	Trucks %	PHF
1198	34	3%	
3286	139	4%	
8	0	0%	
5134	207	→	

South approach:

Cars	30	13	4	14
Trucks	0	0	0	0
Trucks %	↓	0%	0%	0%

TMC 15 Min Report

Bloor St W (R.R.22) @ Park Rd S (R.R.54) (West)

TMC No: 0226300000 **Intersection ID:** 8010 **Count ID:** 35702017745 **Count Date:** 10/10/2018, Wed

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	**87**	**0**	**78**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**140**	**15**	**0**	**3**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**140**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**476**
06:30	**59**	**0**	**130**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**167**	**20**	**0**	**4**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**107**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**502**
06:45	**16**	**0**	**90**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**157**	**26**	**0**	**3**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**23**	**51**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**372**
07:00	**24**	**0**	**138**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**133**	**19**	**0**	**7**	**4**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**	**65**	**1**	**1**	**6**	**0**	**0**	**0**	**0**	**0**	**419**
07:15	27	0	148	2	0	0	0	0	0	0	0	143	16	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	34	87	0	0	10	0	0	0	0	0	471
07:30	24	0	104	0	0	0	0	0	0	3	0	124	20	0	8	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	40	81	0	0	6	0	0	0	0	0	412
07:45	26	0	64	0	0	0	0	0	0	1	0	128	27	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44	64	0	0	8	0	0	0	0	0	368
08:00	55	0	60	0	0	0	0	0	0	2	0	124	35	0	6	0	0	0	0	1	0	0	0	0	0	0	0	0	0	5	43	89	2	3	2	0	0	0	0	2	429
08:15	32	0	51	1	0	0	0	0	0	0	0	121	36	0	2	4	0	0	0	1	0	0	1	0	0	0	0	0	0	1	37	59	1	0	7	0	0	0	0	0	354
08:30	42	0	60	1	0	0	0	0	0	0	0	135	43	0	3	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1	52	82	5	0	7	0	0	0	0	0	433
08:45	40	1	45	0	0	2	0	0	0	1	0	115	50	0	7	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	47	84	0	0	3	0	0	0	0	0	398
09:00	45	0	35	4	0	1	0	0	0	1	0	109	40	0	9	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	43	83	1	0	2	0	0	0	0	1	378
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	31	0	12	0	0	0	0	0	0	1	1	146	8	0	4	0	0	0	0	1	0	0	2	0	0	0	0	0	0	2	1	95	0	0	8	0	0	0	0	0	312
12:00	31	0	19	0	0	0	0	0	0	1	2	49	36	0	6	1	0	0	0	0	0	0	1	0	0	0	0	0	0	3	27	102	0	0	5	0	0	0	0	0	283
12:15	27	0	23	0	0	1	0	0	0	0	1	75	26	0	7	0	0	0	0	1	0	0	1	0	0	0	0	0	0	2	21	54	0	0	2	0	0	0	0	2	243
12:30	46	0	19	1	0	0	0	0	0	0	0	86	22	0	2	1	0	0	0	1	0	0	3	0	0	0	0	0	0	2	24	58	2	1	6	0	0	0	0	1	275
12:45	**49**	**0**	**29**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**75**	**24**	**0**	**5**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**20**	**98**	**1**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**311**
13:00	**53**	**0**	**26**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**70**	**52**	**0**	**1**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**20**	**95**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**336**
13:15	**50**	**0**	**32**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**85**	**41**	**0**	**4**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**17**	**97**	**0**	**1**	**12**	**0**	**0**	**0**	**0**	**0**	**343**
13:30	**48**	**0**	**30**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**81**	**41**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**17**	**106**	**1**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**338**
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	68	0	23	1	0	0	0	0	0	0	0	86	39	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	28	95	0	0	5	0	0	0	0	0	359
15:30	73	0	23	2	0	0	0	0	0	1	0	83	37	0	3	2	0	0	0	2	0	0	0	0	0	0	0	0	0	5	26	120	0	0	1	0	0	0	0	0	378
15:45	38	0	24	1	0	0	0	0	0	0	0	75	49	0	1	3	0	0	0	0	1	0	0	0	0	0	0	0	0	5	28	115	0	0	2	0	0	0	0	1	343
16:00	58	0	35	2	0	0	0	0	0	0	0	83	38	0	4	3	0	0	0	0	0	0	1	0	0	0	0	0	0	1	23	102	0	0	4	0	0	0	0	0	354
16:15	55	0	41	0	0	0	0	0	0	1	0	80	57	0	3	1	0	0	0	2	0	0	0	0	0	0	0	0	0	5	30	105	1	0	6	0	0	0	0	0	387
16:30	43	0	24	0	0	0	0	0	0	1	0	87	41	0	4	0	0	0	0	0	1	0	0	0	0	0	0	0	0	6	30	108	0	0	9	0	0	0	0	4	358
16:45	52	0	36	2	0	0	0	0	0	2	0	80	47	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	56	150	1	0	8	0	0	0	0	2	440
17:00	56	0	41	0	0	0	0	0	0	2	0	82	48	0	5	0	0	0	0	0	1	0	1	0	0	0	0	0	0	2	89	210	0	0	9	0	0	0	0	0	546
17:15	**59**	**0**	**33**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**90**	**57**	**0**	**7**	**2**	**0**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**99**	**214**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**575**
17:30	**69**	**0**	**27**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**93**	**59**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**74**	**247**	**0**	**0**	**13**	**0**	**0**	**0**	**0**	**0**	**591**
17:45	**67**	**0**	**25**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**89**	**67**	**0**	**5**	**1**	**0**	**0**	**0**	**1**	**2**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**114**	**239**	**3**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**625**
18:00	**59**	**1**	**26**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**95**	**62**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**93**	**209**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**561**
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Park Rd (R.R.54) @ Hillside Av

TMC No: 0540200000 **Intersection ID:** 7730 **Count ID:** 35702017813 **Count Date:** 11/08/2018, Thu

AM Peak 08:15

North leg (Ped. 7 west side, Ped. 10 east side)

PHF	0.73	0.94	0.00	
Trucks %	7%	1%	0%	↑
Trucks	12	5	0	8
Cars	157	348	0	487

West leg

PHF	Trucks %	Trucks	Cars	
	←	14	171	
0.70	2%	2	110	↗
0.00	0%	0	0	→
0.50	25%	2	6	↘

East leg

Cars	Trucks	Trucks %	PHF
0	0	0%	0.00
0	0	0%	0.00
0	0	0%	0.00
0	0	→	

South leg (Ped. 18 west side, Ped. 0 east side)

Cars	354	14	377	0
Trucks	7	2	6	0
Trucks %	↓	13%	2%	0%
PHF		0.50	0.86	0.00

MD Peak 12:45

North leg (Ped. 4 west side, Ped. 2 east side)

PHF	0.57	0.71	0.00	
Trucks %	0%	2%	0%	↑
Trucks	0	4	0	6
Cars	52	235	0	438

West leg

PHF	Trucks %	Trucks	Cars	
	←	0	56	
0.84	1%	1	76	↗
0.00	0%	0	0	→
0.67	0%	0	8	↘

East leg

Cars	Trucks	Trucks %	PHF
0	0	0%	0.00
0	0	0%	0.00
0	0	0%	0.00
0	0	→	

South leg (Ped. 1 west side, Ped. 0 east side)

Cars	243	4	362	0
Trucks	4	0	5	0
Trucks %	↓	0%	1%	0%
PHF		0.50	0.89	0.00

PM Peak 15:15

North leg (Ped. 12 west side, Ped. 4 east side)

PHF	0.83	0.85	0.00	
Trucks %	3%	2%	0%	↑
Trucks	4	9	0	17
Cars	145	445	0	673

West leg

PHF	Trucks %	Trucks	Cars	
	←	5	157	
0.81	7%	12	166	↗
0.00	0%	0	0	→
0.50	0%	0	16	↘

East leg

Cars	Trucks	Trucks %	PHF
0	0	0%	0.00
0	0	0%	0.00
0	0	0%	0.00
0	0	→	

South leg (Ped. 18 west side, Ped. 0 east side)

Cars	461	12	507	0
Trucks	9	1	5	0
Trucks %	↓	8%	1%	0%
PHF		0.65	0.91	0.00

Total Count -1 hours*

North leg (Ped. 29 west side, Ped. 26 east side)

Trucks %	2%	1%	0%	↑
Trucks	21	42	0	59
Cars	821	3194	0	3804

West leg

PHF	Trucks %	Trucks	Cars	
	←	25	888	
	2%	19	770	↗
	0%	0	0	→
	4%	3	81	↘

East leg

Cars	Trucks	Trucks %	PHF
0	0	0%	
0	0	0%	
0	0	0%	
0	0	→	

South leg (Ped. 41 west side, Ped. 0 east side)

Cars	3275	67	3034	0
Trucks	45	4	40	0
Trucks %	↓	6%	1%	0%

TMC 15 Min Report

Park Rd (R.R.54) @ Hillside Av

TMC No: 0540200000 **Intersection ID:** 7730 **Count ID:** 35702017813 **Count Date:** 11/08/2018, Thu

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	0	154	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	17	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	183
06:30	0	154	5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38	0	0	0	0	0	0	0	0	5	0	1	0	0	0	0	0	0	0	204
06:45	0	107	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	42	0	0	0	0	0	0	0	0	4	0	3	1	0	0	0	0	0	0	173
07:00	0	179	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	40	0	0	2	0	0	0	0	0	4	0	2	0	0	0	0	0	0	0	237
07:15	0	146	16	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	60	0	0	0	0	0	0	0	0	6	0	3	0	0	0	0	0	0	0	232
07:30	0	123	14	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	63	0	1	2	0	0	0	0	0	9	0	1	0	0	0	0	0	0	0	220
07:45	0	96	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	86	0	0	3	0	0	0	0	1	16	0	2	1	0	0	0	0	0	1	224
08:00	0	119	22	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	80	0	0	1	0	0	0	0	2	14	0	1	0	0	0	0	0	0	0	243
08:15	**0**	**92**	**37**	**0**	**2**	**2**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**90**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**5**	**15**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**264**
08:30	**0**	**87**	**56**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**109**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**8**	**23**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**292**
08:45	**0**	**77**	**24**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**95**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	**39**	**0**	**2**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**249**
09:00	**0**	**92**	**40**	**0**	**2**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**83**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**2**	**33**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**271**
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	0	81	29	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	86	0	0	1	0	0	0	0	0	24	0	2	1	0	0	0	0	0	0	225
12:00	0	76	31	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	80	0	0	2	0	0	0	0	0	26	0	6	0	0	0	0	0	0	1	226
12:15	0	66	32	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	89	0	0	1	0	0	0	0	0	22	0	7	0	0	1	0	0	0	4	228
12:30	0	77	18	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	70	0	0	1	0	0	0	0	0	17	0	4	1	0	0	0	0	0	0	191
12:45	**0**	**80**	**15**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**103**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**218**
13:00	**0**	**83**	**23**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**78**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**18**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**209**
13:15	**0**	**72**	**14**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**95**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**20**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**211**
13:30	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**86**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**22**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**239**
Period 3																																									
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	**0**	**130**	**29**	**0**	**3**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**139**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**12**	**55**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**380**
15:30	**0**	**124**	**37**	**0**	**1**	**3**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**115**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**5**	**38**	**0**	**4**	**7**	**0**	**0**	**0**	**0**	**0**	**7**	**346**
15:45	**0**	**85**	**45**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**123**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**43**	**0**	**8**	**2**	**0**	**0**	**0**	**0**	**0**	**4**	**319**
16:00	**0**	**106**	**34**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**130**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**30**	**0**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**311**
16:15	0	109	26	0	1	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	3	117	0	0	0	0	0	0	0	0	42	0	1	0	0	0	0	0	0	0	303
16:30	0	76	31	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2	144	0	0	3	0	0	0	0	0	33	0	2	0	0	0	0	0	0	0	293
16:45	0	97	27	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	106	0	0	0	0	0	0	0	0	34	0	4	0	0	0	0	0	0	0	275
17:00	0	113	28	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	113	0	0	1	0	0	0	0	0	31	0	1	0	0	0	0	0	0	0	291
17:15	0	93	44	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	142	0	0	3	0	0	0	0	1	37	0	5	0	0	0	0	0	0	0	328
17:30	0	115	33	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	135	0	0	1	0	0	0	0	0	31	0	3	0	0	0	0	0	0	0	322
17:45	0	90	35	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4	139	0	0	1	0	0	0	0	0	29	0	2	0	0	0	0	0	0	0	301
18:00	0	95	33	0	3	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	141	0	0	2	0	0	0	0	0	27	0	1	0	0	0	0	0	0	0	307
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Park Rd (R.R.54) @ Gibb St (R.R.59)

TMC No: 0540600000 **Intersection ID:** 7229 **Count ID:** 35702017811 **Count Date:** 11/08/2018, Thu

AM Peak 08:15

Ped. 20 (north) · Ped. 15 (west) · Ped. 8 (east) · Ped. 11 (south)

North leg

PHF	0.80	0.90	0.65	
Trucks %	1%	3%	0%	↑
Trucks	1	14	0	13
Cars	111	391	62	519

East leg

	Cars	Trucks	Trucks %	PHF
↰	49	2	4%	0.91
←	211	3	1%	0.80
↲	47	2	4%	0.77
→	300	7		

West leg

PHF	Trucks %	Trucks	Cars	
	←	6	406	
0.82	6%	5	80	↱
0.82	4%	7	190	→
0.83	6%	4	62	↴

South leg

Cars	500	84	390	48
Trucks	20	2	6	0
Trucks %	↓	2%	2%	0%
PHF		0.83	0.87	0.75

MD Peak 11:45

Ped. 11 (north) · Ped. 10 (west) · Ped. 2 (east) · Ped. 20 (south)

North leg

PHF	0.88	0.87	0.64	
Trucks %	1%	1%	0%	↑
Trucks	1	4	0	6
Cars	157	347	51	484

East leg

	Cars	Trucks	Trucks %	PHF
↰	44	0	0%	0.58
←	301	11	4%	0.86
↲	50	0	0%	0.69
→	341	2		

West leg

PHF	Trucks %	Trucks	Cars	
	←	16	559	
0.92	2%	2	108	↱
0.80	1%	2	254	→
0.94	5%	5	100	↴

South leg

Cars	497	101	332	36
Trucks	9	4	4	0
Trucks %	↓	4%	1%	0%
PHF		0.80	0.80	0.82

PM Peak 17:15

Ped. 13 (north) · Ped. 13 (west) · Ped. 4 (east) · Ped. 7 (south)

North leg

PHF	0.78	0.87	0.86	
Trucks %	1%	1%	0%	↑
Trucks	1	3	0	2
Cars	149	412	72	689

East leg

	Cars	Trucks	Trucks %	PHF
↰	47	0	0%	0.78
←	271	2	1%	0.88
↲	52	1	2%	0.78
→	514	4		

West leg

PHF	Trucks %	Trucks	Cars	
	←	9	566	
0.83	0%	0	152	↱
0.93	1%	3	383	→
0.86	3%	5	149	↴

South leg

Cars	613	146	490	59
Trucks	9	6	2	1
Trucks %	↓	4%	0%	2%
PHF		0.66	0.94	0.71

Total Count 1 hours*

Ped. 90 (north) · Ped. 80 (west) · Ped. 60 (east) · Ped. 92 (south)

North leg

Trucks %	1%	1%	1%	↑
Trucks	6	42	5	53
Cars	973	3336	420	4028

East leg

	Cars	Trucks	Trucks %	PHF
↰	321	6	2%	
←	1914	41	2%	
↲	354	7	2%	
→	2628	47		

West leg

PHF	Trucks %	Trucks	Cars	
	←	78	3683	
	2%	14	771	↱
	2%	37	1882	→
	4%	33	741	↴

South leg

Cars	4431	796	2936	326
Trucks	82	31	33	5
Trucks %	↓	4%	1%	2%

TMC 15 Min Report

Park Rd (R.R.54) @ Gibb St (R.R.59)

TMC No: 0540600000 **Intersection ID:** 7229 **Count ID:** 35702017811 **Count Date:** 11/08/2018, Thu

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										Total
	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	6	123	17	0	0	0	0	0	0	0	15	33	0	0	1	0	0	0	0	0	5	19	2	1	0	0	0	0	0	0	4	7	14	0	1	1	0	0	0	1	250
06:30	8	125	20	1	0	0	0	0	0	0	9	24	3	0	0	0	0	0	0	0	8	41	1	0	0	0	0	0	0	0	2	8	11	0	1	1	0	0	0	0	263
06:45	7	123	22	0	0	0	0	0	0	0	9	23	6	0	2	0	0	0	0	0	7	51	1	1	0	0	0	0	0	1	3	21	7	0	1	0	0	0	0	1	286
07:00	6	171	12	0	2	0	0	0	0	3	11	43	4	1	2	0	0	0	0	2	11	37	3	1	0	1	0	0	0	0	8	12	8	0	0	1	0	0	0	0	339
07:15	1	136	12	0	1	0	0	0	0	0	5	37	4	0	1	0	0	0	0	1	13	58	3	1	0	0	0	0	0	0	6	13	2	0	2	0	0	0	0	1	297
07:30	4	108	18	0	2	0	0	0	0	1	7	41	1	0	1	0	0	0	0	1	10	63	4	1	2	1	0	0	0	0	10	20	11	1	1	1	0	0	0	0	309
07:45	14	103	24	0	0	0	0	0	0	3	5	53	8	0	2	0	0	0	0	2	15	97	7	1	4	0	0	0	0	3	17	27	7	0	2	0	0	0	0	0	394
08:00	9	123	28	1	1	0	0	0	0	1	11	50	6	1	0	0	0	0	0	1	20	80	6	0	0	1	0	0	0	1	13	48	10	1	1	1	0	0	0	3	417
08:15	**10**	**96**	**28**	**0**	**5**	**1**	**0**	**0**	**0**	**7**	**13**	**66**	**9**	**1**	**1**	**1**	**0**	**0**	**0**	**1**	**18**	**86**	**9**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**22**	**44**	**13**	**1**	**3**	**1**	**0**	**0**	**0**	**0**	**438**
08:30	**17**	**111**	**25**	**0**	**2**	**0**	**0**	**0**	**0**	**4**	**11**	**44**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**21**	**101**	**16**	**0**	**2**	**0**	**0**	**0**	**0**	**6**	**17**	**43**	**16**	**2**	**1**	**1**	**0**	**0**	**0**	**8**	**464**
08:45	**24**	**89**	**23**	**0**	**3**	**0**	**0**	**0**	**0**	**6**	**8**	**49**	**14**	**0**	**2**	**0**	**0**	**0**	**0**	**4**	**19**	**113**	**15**	**1**	**1**	**0**	**0**	**0**	**0**	**3**	**16**	**43**	**20**	**1**	**3**	**0**	**0**	**0**	**0**	**4**	**461**
09:00	**11**	**95**	**35**	**0**	**4**	**0**	**0**	**0**	**0**	**3**	**15**	**52**	**12**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**26**	**90**	**8**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**25**	**60**	**13**	**1**	**0**	**2**	**0**	**0**	**0**	**3**	**462**
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	**10**	**86**	**45**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**12**	**74**	**19**	**0**	**4**	**0**	**0**	**0**	**0**	**2**	**24**	**88**	**8**	**2**	**0**	**0**	**0**	**0**	**0**	**5**	**28**	**55**	**27**	**0**	**1**	**1**	**0**	**0**	**0**	**2**	**498**
12:00	**8**	**99**	**37**	**0**	**2**	**0**	**0**	**0**	**0**	**3**	**13**	**87**	**12**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**33**	**73**	**9**	**0**	**3**	**0**	**0**	**0**	**0**	**3**	**23**	**66**	**20**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**498**
12:15	**13**	**76**	**36**	**0**	**2**	**1**	**0**	**0**	**0**	**1**	**18**	**76**	**6**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**22**	**104**	**8**	**1**	**1**	**0**	**0**	**0**	**0**	**7**	**29**	**53**	**28**	**1**	**1**	**0**	**0**	**0**	**0**	**5**	**490**
12:30	**20**	**86**	**39**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**7**	**64**	**7**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**22**	**67**	**11**	**1**	**0**	**0**	**0**	**0**	**0**	**5**	**28**	**80**	**25**	**1**	**0**	**1**	**0**	**0**	**0**	**3**	**471**
12:45	9	70	29	0	0	0	0	0	0	4	13	67	13	0	0	0	0	0	0	3	30	88	7	1	0	0	0	0	0	8	27	50	22	0	3	1	0	0	0	4	449
13:00	20	83	33	1	1	1	0	0	0	2	11	61	14	0	0	0	0	0	0	2	23	82	10	0	1	0	0	0	0	4	25	69	23	1	0	1	0	0	0	5	473
13:15	15	76	41	0	1	0	0	0	0	2	10	67	8	0	1	0	0	0	0	1	33	98	4	3	0	0	0	0	0	1	32	51	18	1	2	0	0	0	0	1	466
13:30	11	100	40	0	0	1	0	0	0	2	3	65	9	0	1	0	0	0	0	3	29	82	10	0	2	0	0	0	0	3	39	75	30	0	0	2	0	0	0	1	508
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	17	125	27	0	4	0	0	0	0	2	16	78	13	0	2	0	0	0	0	4	35	141	21	2	0	0	0	0	0	5	29	83	33	0	4	1	0	0	0	0	642
15:30	15	118	31	0	3	0	0	0	0	11	11	66	17	1	4	0	0	0	0	13	29	107	15	1	7	0	0	0	0	9	40	80	31	0	3	2	0	0	0	12	626
15:45	11	87	37	1	2	0	0	0	0	3	15	61	9	0	1	1	0	0	0	5	31	117	14	2	1	1	0	0	0	7	24	75	37	0	2	0	0	0	0	2	546
16:00	14	103	24	0	0	1	0	0	0	5	12	82	10	0	3	3	0	0	0	0	30	119	15	1	2	0	0	0	0	2	32	78	35	2	0	4	0	0	0	6	583
16:15	12	117	42	1	1	0	0	0	0	2	11	74	9	0	2	0	0	0	0	3	34	119	13	1	0	0	0	0	0	2	29	88	23	0	1	0	0	0	0	1	585
16:30	17	84	32	0	1	0	0	0	0	2	7	64	15	0	1	0	0	0	0	2	30	125	15	1	1	0	0	0	0	4	35	88	29	0	0	1	0	0	0	2	556
16:45	18	103	30	0	1	0	0	0	0	2	10	74	15	1	1	0	0	0	0	2	39	93	20	1	0	0	0	0	0	3	27	79	39	1	1	1	0	0	0	2	563
17:00	21	108	37	0	1	0	0	0	0	1	14	68	17	0	0	0	0	0	0	1	33	107	12	0	1	0	0	0	0	1	29	83	40	0	0	1	0	0	0	0	575
17:15	**18**	**100**	**48**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**17**	**77**	**15**	**0**	**1**	**0**	**0**	**0**	**0**	**4**	**55**	**117**	**14**	**3**	**1**	**0**	**0**	**0**	**0**	**1**	**34**	**97**	**45**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**652**
17:30	**16**	**118**	**29**	**0**	**1**	**0**	**0**	**0**	**0**	**4**	**15**	**69**	**9**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**36**	**113**	**21**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**46**	**104**	**38**	**0**	**0**	**2**	**0**	**0**	**0**	**6**	**631**
17:45	**21**	**93**	**40**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**8**	**60**	**10**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**27**	**130**	**10**	**1**	**0**	**1**	**0**	**0**	**0**	**2**	**40**	**92**	**32**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**574**
18:00	**17**	**101**	**32**	**0**	**2**	**1**	**0**	**0**	**0**	**3**	**12**	**65**	**13**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**28**	**130**	**14**	**1**	**1**	**0**	**0**	**0**	**0**	**2**	**32**	**90**	**34**	**0**	**1**	**3**	**0**	**0**	**0**	**4**	**586**
18:15	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Centre (R.R.2A) @ Gibb St (R.R.59)

TMC No: 0023300000 **Intersection ID:** 7068 **Count ID:** 28522016167 **Count Date:** 06/15/2016, Wed

AM Peak 08:15

				0.65	0.81	0.67		Ped. 89			
				4%	7%	2%					
				3	29	1	0				
Ped. 18				72	411	47	0	Cars	Trucks	Trucks %	PHF
		11	324					0	0	0%	0.00
0.00	0%	0	0					252	8	3%	0.84
0.67	1%	2	147					16	0	0%	0.67
0.83	1%	2	137					194	3		
PHF	Trucks %	Trucks	Cars	564	0	0	0				40 Ped.
				31	0	0	0				
					0%	0%	0%				
			Ped. 45		0.00	0.00	0.00				

MD Peak 12:15

				0.87	0.96	0.66		Ped. 36			
				1%	3%	0%					
				1	21	0	0				
Ped. 31				93	644	45	0	Cars	Trucks	Trucks %	PHF
		2	336					0	0	0%	0.00
0.00	0%	0	0					243	1	0%	0.88
0.76	1%	1	161					18	0	0%	0.64
0.82	2%	3	165					206	1		
PHF	Trucks %	Trucks	Cars	827	0	0	0				15 Ped.
				24	0	0	0				
					0%	0%	0%				
			Ped. 21		0.00	0.00	0.00				

PM Peak 16:45

				0.76	0.91	0.63		Ped. 15			
				1%	2%	3%					
				1	18	1	0				
Ped. 21				105	830	34	0	Cars	Trucks	Trucks %	PHF
		2	365					0	0	0%	0.00
0.00	0%	0	0					260	1	0%	0.87
0.94	0%	0	248					25	0	0%	0.78
0.84	0%	0	202					282	1		
PHF	Trucks %	Trucks	Cars	1057	0	0	0				11 Ped.
				18	0	0	0				
					0%	0%	0%				
			Ped. 22		0.00	0.00	0.00				

Total Count -4 hours*

								Ped. 271			
				1%	4%	3%					
				9	182	7	0				
Ped. 156				594	4290	247	0	Cars	Trucks	Trucks %	PHF
		44	2345					0	0	0%	
	0%	0	0					1751	35	2%	
	1%	10	1279					105	2	2%	
	1%	12	1174					1526	17		
PHF	Trucks %	Trucks	Cars	5569	0	0	0				127 Ped.
				196	0	0	0				
					0%	0%	0%				
			Ped. 211								

TMC 15 Min Report

Centre (R.R.2A) @ Gibb St (R.R.59)

TMC No: 0023300000 **Intersection ID:** 7068 **Count ID:** 28522016167 **Count Date:** 06/15/2016, Wed

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH									
	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Total
Period 1																																								
06:00	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*	0*	0*	0*	0*	0*	0*
06:15	1	46	4	0	2	0	0	0	0	0	2	11	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	5	0	0	0	0	0	0	0	76
06:30	1	48	3	0	5	0	0	0	0	0	1	31	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	14	0	0	0	0	0	0	1	107
06:45	2	62	9	0	2	1	0	0	0	0	0	35	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	7	17	0	0	0	0	0	0	0	136
07:00	0	48	7	0	4	0	0	0	0	2	0	25	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	14	0	0	0	0	0	0	0	107
07:15	2	63	9	0	6	0	0	0	0	1	1	26	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	11	0	0	0	0	0	0	1	125
07:30	0	57	9	0	4	0	0	0	0	0	2	31	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	15	0	0	0	0	0	0	2	131
07:45	4	63	13	3	3	0	0	0	0	2	2	39	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	21	19	0	0	0	0	0	0	1	177
08:00	6	62	10	0	7	1	0	0	0	5	0	52	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	29	22	0	0	1	0	0	0	3	207
08:15	**7**	**71**	**13**	**0**	**5**	**0**	**0**	**0**	**0**	**1**	**3**	**61**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**29**	**28**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**227**
08:30	**10**	**103**	**14**	**1**	**9**	**2**	**0**	**0**	**0**	**22**	**2**	**53**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**30**	**30**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**315**
08:45	**18**	**108**	**28**	**0**	**8**	**1**	**0**	**0**	**0**	**23**	**5**	**76**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**22**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**18**	**0**	**55**	**41**	**0**	**1**	**1**	**0**	**0**	**0**	**6**	**412**
09:00	**12**	**129**	**17**	**0**	**7**	**0**	**0**	**0**	**0**	**43**	**6**	**62**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**33**	**38**	**0**	**0**	**1**	**0**	**0**	**0**	**4**	**365**
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																								
11:30	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*	0*	0*	0*	0*	0*	0*
11:45	8	144	19	1	7	0	0	0	0	11	4	59	0	0	1	0	0	0	0	7	0	0	0	0	0	0	0	0	0	14	0	47	42	0	0	0	0	0	0	11	375
12:00	5	135	18	0	6	0	0	0	0	5	6	64	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	9	0	48	42	0	1	0	0	0	0	6	348
12:15	**6**	**166**	**22**	**0**	**7**	**0**	**0**	**0**	**0**	**11**	**5**	**60**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**38**	**28**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**360**
12:30	**8**	**159**	**19**	**0**	**5**	**0**	**0**	**0**	**0**	**12**	**7**	**60**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**30**	**50**	**0**	**0**	**1**	**0**	**0**	**0**	**11**	**372**
12:45	**14**	**167**	**26**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**3**	**68**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**41**	**45**	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**382**
13:00	**17**	**152**	**26**	**0**	**7**	**1**	**0**	**0**	**0**	**11**	**3**	**55**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**52**	**42**	**0**	**1**	**0**	**0**	**0**	**0**	**13**	**385**
13:15	13	149	21	0	9	0	0	0	0	1	1	55	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	0	9	0	51	36	0	0	0	0	0	0	5	355
13:30	12	133	25	0	9	1	0	0	0	3	3	64	0	0	2	0	0	0	0	6	0	0	0	0	0	0	0	0	0	4	0	55	47	0	1	0	0	0	0	3	368
Period 3																																								
13:45	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*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*
15:15	7	172	17	0	7	0	0	0	0	43	3	68	0	0	0	0	0	0	0	22	0	0	0	0	0	0	0	0	0	28	0	55	63	0	2	0	0	0	0	18	505
15:30	13	168	26	1	10	1	0	0	0	25	8	59	0	0	2	0	0	0	0	7	0	0	0	0	0	0	0	0	0	7	0	62	56	0	0	2	0	0	0	4	451
15:45	9	180	28	0	4	0	0	0	0	3	2	61	0	0	1	0	0	0	0	3	0	0	0	0	0	0	0	0	0	5	0	55	42	0	0	0	0	0	0	3	396
16:00	8	152	26	0	10	0	0	0	0	15	6	70	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	5	0	54	39	0	1	3	0	0	0	9	400
16:15	7	188	23	0	4	0	0	0	0	5	1	70	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	0	61	45	0	0	0	0	0	0	6	421
16:30	6	206	26	0	3	0	0	0	0	1	2	54	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	53	48	0	1	1	0	0	0	6	414
16:45	**7**	**222**	**23**	**1**	**6**	**0**	**0**	**0**	**0**	**3**	**2**	**67**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**66**	**47**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**455**
17:00	**14**	**193**	**33**	**0**	**5**	**0**	**0**	**0**	**0**	**3**	**8**	**61**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**63**	**54**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**444**
17:15	**8**	**230**	**34**	**0**	**2**	**1**	**0**	**0**	**0**	**2**	**8**	**75**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**53**	**41**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**472**
17:30	**5**	**185**	**15**	**0**	**5**	**0**	**0**	**0**	**0**	**7**	**7**	**57**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**66**	**60**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**423**
17:45	8	162	15	0	7	0	0	0	0	5	1	65	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	0	56	43	0	1	0	0	0	0	4	376
18:00	9	167	16	0	5	0	0	0	0	4	1	57	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	10	0	46	50	0	0	0	0	0	0	3	375
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Simcoe St (R.R.02) @ Gibb St (R.R.59)

TMC No: 0021500000 **Intersection ID:** 7028 **Count ID:** 28462016168 **Count Date:** 06/16/2016, Thu

AM Peak 08:15

North leg (PHF / Trucks % / Trucks / Cars):

0.00	0%	0	0
0.00	0%	0	0
0.00	0%	0	0
↑		28	958

Ped. 64 (north crossing) | Ped. 31 (west crossing) | Ped. 71 (south crossing) | Ped. 33 (east crossing)

West approach:

PHF	Trucks %	Trucks	Cars	
	←	0	259	
0.69	1%	1	90	↰
0.80	0%	0	51	→
0.00	0%	0	0	↴

East approach:

	Cars	Trucks	Trucks %	PHF
	19	0	0%	0.59
←	94	0	0%	0.81
	0	0	0%	0.00
	65	0	→	

South leg:

Cars	Trucks	Trucks %	PHF
0	0	↓	
165	0	0%	0.83
849	27	3%	0.94
14	0	0%	0.58

MD Peak 12:30

North leg (PHF / Trucks % / Trucks / Cars):

0.00	0%	0	0
0.00	0%	0	0
0.00	0%	0	0
↑		25	891

Ped. 26 (north crossing) | Ped. 35 (west crossing) | Ped. 38 (south crossing) | Ped. 44 (east crossing)

West approach:

PHF	Trucks %	Trucks	Cars	
	←	2	286	
0.81	2%	2	118	↰
0.90	0%	0	90	→
0.00	0%	0	0	↴

East approach:

	Cars	Trucks	Trucks %	PHF
	17	0	0%	0.53
←	79	2	2%	0.63
	0	0	0%	0.00
	119	0	→	

South leg:

Cars	Trucks	Trucks %	PHF
0	0	↓	
207	0	0%	0.91
756	23	3%	0.92
29	0	0%	0.66

PM Peak 15:15

North leg (PHF / Trucks % / Trucks / Cars):

0.00	0%	0	0
0.00	0%	0	0
0.00	0%	0	0
↑		19	912

Ped. 96 (north crossing) | Ped. 59 (west crossing) | Ped. 64 (south crossing) | Ped. 79 (east crossing)

West approach:

PHF	Trucks %	Trucks	Cars	
	←	4	273	
0.83	2%	3	123	↰
0.78	1%	2	178	→
0.00	0%	0	0	↴

East approach:

	Cars	Trucks	Trucks %	PHF
	23	1	4%	0.75
←	72	0	0%	0.78
	0	0	0%	0.00
	208	2	→	

South leg:

Cars	Trucks	Trucks %	PHF
0	0	↓	
201	4	2%	0.93
766	15	2%	0.97
30	0	0%	0.75

Total Count -4 hours*

North leg (Trucks % / Trucks / Cars):

0%	0	0
0%	0	0
0%	0	0
↑	197	6330

Ped. 255 (north crossing) | Ped. 234 (west crossing) | Ped. 305 (south crossing) | Ped. 295 (east crossing)

West approach:

PHF	Trucks %	Trucks	Cars	
	←	24	1931	
	2%	11	711	↰
	1%	4	735	→
	0%	0	0	↴

East approach:

	Cars	Trucks	Trucks %	PHF
	137	1	1%	
←	651	3	0%	
	0	0	0%	
	914	5	→	

South leg:

Cars	Trucks	Trucks %
0	0	↓
1280	21	2%
5482	185	3%
179	1	1%

TMC 15 Min Report

Simcoe St (R.R.02) @ Gibb St (R.R.59)

TMC No: 0021500000 **Intersection ID:** 7028 **Count ID:** 28462016168 **Count Date:** 06/16/2016, Thu

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	0	0	0	0	0	0	0	0	0	0	0	4	2	0	0	0	0	0	0	2	11	51	2	2	6	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	81
06:30	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0	0	4	12	84	3	1	5	0	0	0	0	1	2	1	0	0	0	0	0	0	0	1	124
06:45	0	0	0	0	0	0	0	0	0	0	0	12	2	0	0	0	0	0	0	7	12	110	2	0	7	0	0	0	0	1	2	3	0	0	0	0	0	0	0	3	161
07:00	0	0	0	0	0	0	0	0	0	1	0	8	1	0	0	0	0	0	0	2	18	135	4	1	7	0	0	0	0	1	6	3	0	0	0	0	0	0	0	2	189
07:15	0	0	0	0	0	0	0	0	0	0	0	14	0	0	0	0	0	0	0	0	15	119	1	1	10	0	0	0	0	1	4	3	0	1	0	0	0	0	0	1	170
07:30	0	0	0	0	0	0	0	0	0	3	0	13	2	0	0	0	0	0	0	2	28	139	5	2	10	1	0	0	0	4	8	4	0	0	0	0	0	0	0	0	221
07:45	0	0	0	0	0	0	0	0	0	4	0	21	5	0	0	0	0	0	0	3	25	151	2	2	10	0	0	0	0	2	5	9	0	1	0	0	0	0	0	4	244
08:00	0	0	0	0	0	0	0	0	0	0	0	29	5	0	1	0	0	0	0	8	40	211	8	0	13	0	0	0	0	12	8	14	0	0	0	0	0	0	0	5	354
08:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**29**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**35**	**201**	**3**	**0**	**5**	**0**	**0**	**0**	**0**	**12**	**12**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**329**
08:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**20**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**37**	**209**	**5**	**0**	**8**	**0**	**0**	**0**	**0**	**15**	**17**	**9**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**5**	**351**
08:45	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**32**	**0**	**26**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**50**	**224**	**6**	**0**	**8**	**0**	**0**	**0**	**0**	**23**	**33**	**15**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**17**	**448**
09:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**19**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**43**	**215**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**21**	**28**	**16**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**381**
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	0	0	0	0	0	0	0	0	0	17	0	25	3	0	0	0	0	0	0	12	38	168	3	1	6	0	0	0	0	16	30	29	0	1	0	0	0	0	0	13	362
12:00	0	0	0	0	0	0	0	0	0	1	0	23	3	0	0	0	0	0	0	17	50	214	12	4	6	0	0	0	0	4	32	23	0	0	0	0	0	0	0	8	397
12:15	0	0	0	0	0	0	0	0	0	4	0	24	0	0	0	0	0	0	0	10	38	164	5	0	9	0	0	0	0	12	25	20	0	1	0	0	0	0	0	12	324
12:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**20**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**46**	**189**	**2**	**0**	**7**	**0**	**0**	**0**	**0**	**6**	**23**	**19**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**353**
12:45	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**32**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**57**	**185**	**10**	**0**	**3**	**0**	**0**	**0**	**0**	**12**	**36**	**25**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**11**	**384**
13:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**13**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**13**	**54**	**203**	**6**	**0**	**8**	**0**	**0**	**0**	**0**	**9**	**33**	**21**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**13**	**383**
13:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**14**	**5**	**0**	**1**	**0**	**0**	**0**	**0**	**15**	**50**	**179**	**11**	**0**	**5**	**0**	**0**	**0**	**0**	**11**	**26**	**25**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**346**
13:30	0	0	0	0	0	0	0	0	0	6	0	19	6	0	0	0	0	0	0	7	41	169	10	0	2	0	0	0	0	5	26	27	0	0	0	0	0	0	0	6	324
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**47**	**0**	**23**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**54**	**196**	**8**	**0**	**3**	**0**	**0**	**0**	**0**	**26**	**19**	**58**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**14**	**469**
15:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**41**	**0**	**18**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**41**	**44**	**197**	**6**	**1**	**5**	**0**	**0**	**0**	**0**	**12**	**37**	**49**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**34**	**491**
15:45	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**12**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**53**	**184**	**10**	**2**	**4**	**0**	**0**	**0**	**0**	**15**	**36**	**26**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**8**	**374**
16:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**19**	**7**	**0**	**0**	**1**	**0**	**0**	**0**	**13**	**50**	**189**	**6**	**1**	**3**	**0**	**0**	**0**	**0**	**11**	**31**	**45**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**382**
16:15	0	0	0	0	0	0	0	0	0	6	0	22	6	0	0	0	0	0	0	15	53	194	4	0	5	0	0	0	0	14	36	27	0	0	1	0	0	0	0	16	399
16:30	0	0	0	0	0	0	0	0	0	4	0	32	4	0	0	0	0	0	0	12	42	194	7	1	3	0	0	0	0	5	25	33	0	0	0	0	0	0	0	8	370
16:45	0	0	0	0	0	0	0	0	0	7	0	29	4	0	0	0	0	0	0	10	38	183	3	0	4	0	0	0	0	12	31	53	0	0	0	0	0	0	0	4	378
17:00	0	0	0	0	0	0	0	0	0	3	0	23	10	0	0	0	0	0	0	10	41	165	8	0	3	0	0	0	0	5	25	33	0	0	0	0	0	0	0	3	329
17:15	0	0	0	0	0	0	0	0	0	4	0	35	5	0	0	0	0	0	0	1	55	160	11	0	4	0	0	0	0	18	25	33	0	0	0	0	0	0	0	6	357
17:30	0	0	0	0	0	0	0	0	0	3	0	23	8	0	0	0	0	0	0	7	57	189	6	1	3	0	0	0	0	3	26	39	0	0	0	0	0	0	0	4	369
17:45	0	0	0	0	0	0	0	0	0	2	0	19	7	0	0	0	0	0	0	6	51	142	3	0	3	0	0	0	0	6	30	34	0	0	1	0	0	0	0	6	310
18:00	0	0	0	0	0	0	0	0	0	4	0	21	5	0	0	0	0	0	0	4	42	169	7	1	4	0	0	0	0	10	34	28	0	0	0	0	0	0	0	7	336
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Simcoe St (R.R.02) @ Olive Av (R.R.59)

TMC No: 0021600000 **Intersection ID:** 7176 **Count ID:** 29122016168 **Count Date:** 06/16/2016, Thu

AM Peak 08:15

North approach (PHF / Trucks % / Trucks / Cars):

↲	↓	↳	↑
0.00	0.87	0.84	
0%	4%	2%	
0	18	1	27
0	401	63	1047

Ped. 37 (west leg) · Ped. 14 (north leg)

East approach:

	Cars	Trucks	Trucks %	PHF
↰	161	0	0%	0.81
←	0	0	0%	0.00
↲	174	6	3%	0.83
↱	139	3	→	

West approach:

PHF	Trucks %	Trucks	Cars	
	←	0	0	↲
0.00	0%	0	0	↱
0.00	0%	0	0	→
0.00	0%	0	0	↳

South approach (Cars / Trucks / Trucks % / PHF):

↓	↰	↑	↱
575	0	886	76
24	0	27	2
	0%	3%	3%
	0.00	0.94	0.70

Ped. 44 (east leg) · Ped. 0 (south leg)

MD Peak 12:30

North approach (PHF / Trucks % / Trucks / Cars):

↲	↓	↳	↑
0.00	0.94	0.86	
0%	5%	1%	
0	32	1	24
0	651	109	958

Ped. 44 (west leg) · Ped. 21 (north leg)

East approach:

	Cars	Trucks	Trucks %	PHF
↰	147	1	1%	0.95
←	0	0	0%	0.00
↲	174	2	1%	0.94
↱	198	1	→	

West approach:

PHF	Trucks %	Trucks	Cars	
	←	0	0	↲
0.00	0%	0	0	↱
0.00	0%	0	0	→
0.00	0%	0	0	↳

South approach (Cars / Trucks / Trucks % / PHF):

↓	↰	↑	↱
825	0	811	89
34	0	23	0
	0%	3%	0%
	0.00	0.95	0.86

Ped. 34 (east leg) · Ped. 0 (south leg)

PM Peak 15:15

North approach (PHF / Trucks % / Trucks / Cars):

↲	↓	↳	↑
0.00	0.86	0.86	
0%	2%	2%	
0	15	3	19
0	777	163	970

Ped. 55 (west leg) · Ped. 28 (north leg)

East approach:

	Cars	Trucks	Trucks %	PHF
↰	160	2	1%	0.84
←	0	0	0%	0.00
↲	195	2	1%	0.88
↱	232	5	→	

West approach:

PHF	Trucks %	Trucks	Cars	
	←	0	0	↲
0.00	0%	0	0	↱
0.00	0%	0	0	→
0.00	0%	0	0	↳

South approach (Cars / Trucks / Trucks % / PHF):

↓	↰	↑	↱
972	0	810	69
17	0	17	2
	0%	2%	3%
	0.00	0.90	0.81

Ped. 83 (east leg) · Ped. 0 (south leg)

Total Count -4 hours*

North approach (Trucks % / Trucks / Cars):

↲	↓	↳	↑
0%	3%	1%	
0	156	7	204
0	4539	847	6694

Ped. 289 (west leg) · Ped. 129 (north leg)

East approach:

	Cars	Trucks	Trucks %	PHF
↰	1000	10	1%	
←	0	0	0%	
↲	1466	25	2%	
↱	1473	15	→	

West approach:

PHF	Trucks %	Trucks	Cars	
	←	0	0	↲
	0%	0	0	↱
	0%	0	0	→
	0%	0	0	↳

South approach (Cars / Trucks / Trucks %):

↓	↰	↑	↱
6005	0	5694	626
181	0	194	8
	0%	3%	1%

Ped. 296 (east leg) · Ped. 1 (south leg)

TMC 15 Min Report

Simcoe St (R.R.02) @ Olive Av (R.R.59)

TMC No: 0021600000 **Intersection ID:** 7176 **Count ID:** 29122016168 **Count Date:** 06/16/2016, Thu

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Total
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	3	64	0	0	1	0	0	0	0	3	51	0	8	0	0	1	0	0	0	5	0	52	10	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	207
06:30	4	51	0	0	5	0	0	0	0	0	47	0	10	0	0	1	0	0	0	1	0	90	12	0	4	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	228
06:45	4	78	0	0	1	0	0	0	0	2	35	0	10	0	0	0	0	0	0	3	0	105	5	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	252
07:00	13	61	0	0	2	0	0	0	0	2	33	0	15	0	0	0	0	0	0	5	0	144	11	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	300
07:15	6	62	0	0	4	0	0	0	0	1	47	0	13	0	0	0	0	0	0	2	0	126	12	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	285
07:30	3	59	0	0	5	0	0	0	0	2	39	0	21	1	0	2	0	0	0	3	0	149	6	0	11	1	0	0	0	0	0	0	0	0	0	0	0	0	0	4	306
07:45	10	91	0	0	5	0	0	0	0	0	43	0	22	1	0	0	0	0	0	2	0	151	16	0	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6	358
08:00	18	99	0	1	6	0	0	0	0	3	34	0	33	1	0	0	0	0	0	5	0	222	13	0	13	1	0	0	0	0	0	0	0	0	0	0	0	0	0	6	455
08:15	**15**	**76**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**35**	**0**	**42**	**2**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**203**	**16**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**407**
08:30	**13**	**105**	**0**	**1**	**4**	**0**	**0**	**0**	**0**	**3**	**40**	**0**	**29**	**2**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**232**	**16**	**0**	**8**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**474**
08:45	**19**	**104**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**4**	**53**	**0**	**40**	**1**	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**236**	**16**	**0**	**8**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**513**
09:00	**16**	**116**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**7**	**46**	**0**	**50**	**1**	**0**	**0**	**0**	**0**	**0**	**20**	**0**	**215**	**28**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**516**
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	21	129	0	0	7	0	0	0	0	2	31	0	27	0	0	1	0	0	0	11	0	182	19	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	442
12:00	20	164	0	0	3	0	0	0	0	3	37	0	34	1	0	2	0	0	0	5	0	227	19	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	535
12:15	21	132	0	0	6	0	0	0	0	5	33	0	24	2	0	0	0	0	0	7	0	178	12	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	19	449
12:30	**21**	**169**	**0**	**1**	**12**	**0**	**0**	**0**	**0**	**3**	**44**	**0**	**34**	**0**	**0**	**1**	**0**	**0**	**0**	**4**	**0**	**202**	**26**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**534**
12:45	**32**	**172**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**7**	**42**	**0**	**36**	**1**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**204**	**26**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**542**
13:00	**26**	**157**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**5**	**47**	**0**	**39**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**210**	**18**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**17**	**549**
13:15	**30**	**153**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**6**	**41**	**0**	**38**	**1**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**195**	**19**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**514**
13:30	23	144	0	0	6	0	0	0	0	4	50	0	45	0	0	0	0	0	0	11	0	169	27	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	490
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	**39**	**190**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**8**	**56**	**0**	**35**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**226**	**16**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**605**
15:30	**46**	**177**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**9**	**53**	**0**	**36**	**0**	**0**	**2**	**0**	**0**	**0**	**46**	**0**	**192**	**21**	**0**	**5**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**27**	**619**
15:45	**41**	**226**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**4**	**50**	**0**	**41**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**203**	**14**	**0**	**5**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**602**
16:00	**37**	**184**	**0**	**1**	**4**	**0**	**0**	**0**	**0**	**7**	**36**	**0**	**48**	**2**	**0**	**0**	**0**	**0**	**0**	**17**	**0**	**189**	**18**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**555**
16:15	48	197	0	0	5	0	0	0	0	6	49	0	37	2	0	0	0	0	0	11	0	202	34	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	605
16:30	52	190	0	0	5	0	0	0	0	3	47	0	31	1	0	0	0	0	0	6	0	196	43	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	583
16:45	42	203	0	0	6	0	0	0	0	5	60	0	26	0	0	0	0	0	0	11	0	182	17	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	567
17:00	49	204	0	0	6	0	0	0	0	6	56	0	35	2	0	0	0	0	0	14	0	169	31	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	586
17:15	46	221	0	1	3	0	0	0	0	4	69	0	31	1	0	0	0	0	0	5	0	188	36	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	615
17:30	49	206	0	0	6	0	0	0	0	6	54	0	40	1	0	0	0	0	0	13	0	189	20	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	602
17:45	33	191	0	0	3	0	0	0	0	4	51	0	35	1	0	0	0	0	0	6	0	151	29	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	12	521
18:00	47	164	0	0	6	0	0	0	0	5	57	0	35	1	0	0	0	0	0	9	0	115	20	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	471
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Simcoe St (R.R.02) @ Mill St

TMC No: 0021700000 **Intersection ID:** 7438 **Count ID:** 29972016168 **Count Date:** 06/16/2016, Thu

AM Peak 08:15

North approach (Ped. 18 ⇄; Ped. 25 ⇅ on west side)

	↩	↓	↪	↑
PHF	0.73	0.85	0.00	
Trucks %	8%	6%	0%	
Trucks	3	30	0	31
Cars	35	499	0	902

East approach

	Cars	Trucks	Trucks %	PHF
↰	0	0	0%	0.00
←	0	0	0%	0.00
↲	0	0	0%	0.00
→	0	0		

West approach

	PHF	Trucks %	Trucks	Cars
←			5	63
↱	0.84	0%	0	57
→	0.00	0%	0	0
↴	0.77	7%	3	43

South approach (Ped. 7 ⇄; Ped. 0 ⇅ on east side)

	↓	↰	↑	↱
Cars	542	28	845	0
Trucks	33	2	31	0
Trucks %		7%	4%	0%
PHF		0.68	0.95	0.00

MD Peak 12:30

North approach (Ped. 14 ⇄; Ped. 25 ⇅ on west side)

	↩	↓	↪	↑
PHF	0.77	0.90	0.00	
Trucks %	2%	4%	0%	
Trucks	1	33	0	20
Cars	42	757	0	843

East approach

	Cars	Trucks	Trucks %	PHF
↰	0	0	0%	0.00
←	0	0	0%	0.00
↲	0	0	0%	0.00
→	0	0		

West approach

	PHF	Trucks %	Trucks	Cars
←			1	77
↱	0.81	0%	0	55
→	0.00	0%	0	0
↴	0.90	2%	1	60

South approach (Ped. 10 ⇄; Ped. 0 ⇅ on east side)

	↓	↰	↑	↱
Cars	817	35	788	0
Trucks	34	0	20	0
Trucks %		0%	2%	0%
PHF		0.67	0.94	0.00

PM Peak 16:45

North approach (Ped. 21 ⇄; Ped. 18 ⇅ on west side)

	↩	↓	↪	↑
PHF	0.82	0.92	0.00	
Trucks %	0%	3%	0%	
Trucks	0	24	0	15
Cars	85	932	0	790

East approach

	Cars	Trucks	Trucks %	PHF
↰	0	0	0%	0.00
←	0	0	0%	0.00
↲	0	0	0%	0.00
→	0	0		

West approach

	PHF	Trucks %	Trucks	Cars
←			0	140
↱	0.74	0%	0	71
→	0.00	0%	0	0
↴	0.79	0%	0	82

South approach (Ped. 9 ⇄; Ped. 0 ⇅ on east side)

	↓	↰	↑	↱
Cars	1014	55	719	0
Trucks	24	0	15	0
Trucks %		0%	2%	0%
PHF		0.81	0.93	0.00

Total Count -5 hours*

North approach (Ped. 106 ⇄; Ped. 163 ⇅ on west side)

	↩	↓	↪	↑
Trucks %	2%	3%	0%	
Trucks	6	193	0	198
Cars	363	5409	0	6073

East approach

	Cars	Trucks	Trucks %	PHF
↰	0	0	0%	
←	0	0	0%	
↲	0	0	0%	
→	0	0		

West approach

	PHF	Trucks %	Trucks	Cars
←			14	639
↱		1%	4	399
→		0%	0	0
↴		2%	8	402

South approach (Ped. 58 ⇄; Ped. 0 ⇅ on east side)

	↓	↰	↑	↱
Cars	5811	276	5674	0
Trucks	201	8	194	0
Trucks %		3%	3%	0%

TMC 15 Min Report

Simcoe St (R.R.02) @ Mill St

TMC No: 0021700000 **Intersection ID:** 7438 **Count ID:** 29972016168 **Count Date:** 06/16/2016, Thu

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	0	116	8	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	67	0	0	6	0	0	0	0	2	5	0	10	0	0	0	0	0	0	0	218
06:30	0	105	2	0	5	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	8	89	0	0	4	0	0	0	0	0	11	0	1	0	0	0	0	0	0	1	227
06:45	0	116	5	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	116	0	0	8	0	0	0	0	0	4	0	9	0	0	0	0	0	0	0	261
07:00	0	95	4	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	123	0	0	9	0	0	0	0	0	11	0	7	0	0	0	0	0	0	2	254
07:15	0	116	3	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	129	0	0	12	0	0	0	0	0	7	0	5	0	0	0	0	0	0	2	280
07:30	0	92	4	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	142	0	1	8	0	0	0	0	1	5	0	4	2	0	0	0	0	0	2	267
07:45	0	112	8	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	156	0	1	9	0	0	0	0	0	8	0	8	0	0	1	0	0	0	0	313
08:00	0	108	8	0	7	1	0	0	0	5	0	0	0	0	0	0	0	0	0	0	8	214	0	0	12	0	0	0	0	3	10	0	8	0	0	0	0	0	0	6	390
08:15	**0**	**103**	**7**	**0**	**8**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**195**	**0**	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**14**	**0**	**5**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**345**
08:30	**0**	**121**	**8**	**0**	**6**	**3**	**0**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**213**	**0**	**0**	**13**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**12**	**0**	**0**	**1**	**0**	**0**	**0**	**9**	**412**
08:45	**0**	**128**	**13**	**0**	**8**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**215**	**0**	**1**	**6**	**0**	**0**	**0**	**0**	**3**	**14**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**425**
09:00	**0**	**147**	**7**	**0**	**8**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**222**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**4**	**17**	**0**	**14**	**0**	**0**	**1**	**0**	**0**	**0**	**4**	**444**
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	0	155	6	0	6	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	5	192	0	1	5	0	0	0	0	4	10	0	21	0	0	0	0	0	0	6	413
12:00	0	178	13	0	5	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	8	211	0	0	6	0	0	0	0	1	14	0	14	0	0	0	0	0	0	4	456
12:15	0	146	8	0	8	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	12	168	0	1	11	0	0	0	0	1	6	0	16	0	0	0	0	0	0	9	390
12:30	**0**	**207**	**10**	**0**	**12**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**192**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**1**	**14**	**0**	**17**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**471**
12:45	**0**	**201**	**9**	**0**	**8**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**212**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**2**	**17**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**481**
13:00	**0**	**175**	**14**	**0**	**6**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**194**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**4**	**12**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**446**
13:15	**0**	**174**	**9**	**0**	**7**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**190**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**3**	**12**	**0**	**16**	**0**	**0**	**1**	**0**	**0**	**0**	**10**	**443**
13:30	0	180	6	0	6	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	11	170	0	0	4	0	0	0	0	2	6	0	13	0	0	0	0	0	0	2	401
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	0	221	8	0	5	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	15	211	0	0	3	0	0	0	0	2	14	0	13	1	0	0	0	0	0	5	499
15:30	0	216	15	0	3	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	4	186	0	0	6	0	0	0	0	3	15	0	19	0	0	2	0	0	0	12	487
15:45	0	248	17	0	7	0	0	0	0	5	0	0	0	0	0	0	0	0	0	0	12	202	0	0	3	0	0	0	0	1	12	0	16	1	0	0	0	0	0	5	529
16:00	0	210	11	0	8	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	15	197	0	1	5	0	0	0	0	1	11	0	11	0	0	1	0	0	0	7	482
16:15	0	220	18	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	214	0	0	3	0	0	0	0	0	13	0	11	0	0	0	0	0	0	4	503
16:30	0	194	16	0	8	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	7	201	0	0	6	0	0	0	0	5	20	0	15	0	0	0	0	0	0	11	485
16:45	**0**	**232**	**22**	**0**	**6**	**0**	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**164**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**24**	**0**	**18**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**493**
17:00	**0**	**215**	**26**	**0**	**8**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**182**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**3**	**14**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**491**
17:15	**0**	**257**	**22**	**0**	**4**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**17**	**195**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**2**	**21**	**0**	**24**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**552**
17:30	**0**	**228**	**15**	**0**	**6**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**178**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**3**	**12**	**0**	**26**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**495**
17:45	0	220	18	0	4	0	0	0	0	11	0	0	0	0	0	0	0	0	0	0	12	151	0	1	3	0	0	0	0	5	16	0	8	0	0	0	0	0	0	12	461
18:00	0	173	23	0	9	0	0	0	0	9	0	0	0	0	0	0	0	0	0	0	15	183	0	0	5	0	0	0	0	1	18	0	8	0	0	0	0	0	0	5	449
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Simcoe St (R.R.02) @ First Av

TMC No: 0020800000 **Intersection ID:** 7553 **Count ID:** 35702016763 **Count Date:** 05/24/2017, Wed

AM Peak 08:15

North leg:

	↵	↓	↳	↑
PHF	0.00	0.92	0.75	
Trucks %	0%	7%	21%	
Trucks	0	31	10	39
Cars	0	435	38	856

East leg:

	Cars	Trucks	Trucks %	PHF
↰	194	13	6%	0.94
←	0	0	0%	0.00
↲	32	4	11%	0.75
→	47	11		

West leg:

	PHF	Trucks %	Trucks	Cars
←			0	0
↰	0.00	0%	0	0
→	0.00	0%	0	0
↴	0.00	0%	0	0

South leg:

	↓	↰	↑	↱
Cars	467	0	662	9
Trucks	35	0	26	1
Trucks %		0%	4%	16%
PHF		0.00	0.95	0.83

Ped.: NW ↑↓ 10; NE ⇄ 3; SE ↑↓ 11; SW ⇄ 3

MD Peak 12:30

North leg:

	↵	↓	↳	↑
PHF	0.00	0.96	0.92	
Trucks %	0%	3%	6%	
Trucks	0	19	5	31
Cars	0	661	76	773

East leg:

	Cars	Trucks	Trucks %	PHF
↰	141	6	4%	0.90
←	0	0	0%	0.00
↲	34	1	3%	0.67
→	92	8		

West leg:

	PHF	Trucks %	Trucks	Cars
←			0	0
↰	0.00	0%	0	0
→	0.00	0%	0	0
↴	0.00	0%	0	0

South leg:

	↓	↰	↑	↱
Cars	695	0	632	16
Trucks	20	0	25	3
Trucks %		0%	4%	16%
PHF		0.00	0.86	0.59

Ped.: NW ↑↓ 18; NE ⇄ 2; SE ↑↓ 24; SW ⇄ 5

PM Peak 16:15

North leg:

	↵	↓	↳	↑
PHF	0.00	0.92	0.79	
Trucks %	0%	2%	9%	
Trucks	0	18	5	13
Cars	0	910	52	748

East leg:

	Cars	Trucks	Trucks %	PHF
↰	130	7	5%	0.90
←	0	0	0%	0.00
↲	48	3	6%	0.80
→	79	6		

West leg:

	PHF	Trucks %	Trucks	Cars
←			0	0
↰	0.00	0%	0	0
→	0.00	0%	0	0
↴	0.00	0%	0	0

South leg:

	↓	↰	↑	↱
Cars	958	0	618	27
Trucks	21	0	6	1
Trucks %		0%	1%	4%
PHF		0.00	0.84	0.70

Ped.: NW ↑↓ 27; NE ⇄ 7; SE ↑↓ 16; SW ⇄ 11

Total Count 0 hours*

North leg:

	↵	↓	↳	↑
Trucks %	0%	3%	11%	
Trucks	0	163	50	214
Cars	1	4901	395	5548

East leg:

	Cars	Trucks	Trucks %	PHF
↰	1075	69	6%	
←	0	0	0%	
↲	326	16	5%	
→	504	62		

West leg:

	PHF	Trucks %	Trucks	Cars
←			0	1
↰		0%	0	0
→		0%	0	0
↴		0%	0	0

South leg:

	↓	↰	↑	↱
Cars	5227	0	4473	109
Trucks	179	0	145	12
Trucks %		0%	3%	10%

Ped.: NW ↑↓ 124; NE ⇄ 37; SE ↑↓ 103; SW ⇄ 36

TMC 15 Min Report

Simcoe St (R.R.02) @ First Av

TMC No: 0020800000 **Intersection ID:** 7553 **Count ID:** 35702016763 **Count Date:** 05/24/2017, Wed

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Total
Period 1																																									
06:15	5	109	0	1	3	0	0	0	0	0	8	0	10	0	0	0	0	0	0	1	0	42	1	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	186
06:30	5	104	0	2	4	0	0	0	0	2	13	0	26	0	0	3	0	0	0	2	0	71	0	0	5	1	0	0	0	1	0	0	0	0	0	0	0	0	0	1	240
06:45	9	103	0	0	4	0	0	0	0	1	10	0	32	0	0	2	0	0	0	0	0	75	0	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	240
07:00	11	95	0	1	3	0	0	0	0	1	9	0	21	0	0	2	0	0	0	0	0	68	1	0	5	0	0	0	0	4	0	0	0	0	0	0	0	0	0	1	222
07:15	3	85	0	1	4	0	0	0	0	0	13	0	22	0	0	1	0	0	0	1	0	88	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	225
07:30	6	95	0	2	6	0	0	0	0	3	9	0	43	0	0	2	0	0	0	3	0	101	2	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	281
07:45	9	89	0	1	5	0	0	0	0	1	7	0	43	0	0	2	0	0	0	5	0	123	1	0	9	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	296
08:00	8	103	0	1	4	0	0	0	0	0	9	0	56	0	0	3	0	0	0	0	0	160	4	0	6	1	0	0	0	0	0	0	0	0	0	0	0	0	0	3	358
08:15	**5**	**93**	**0**	**4**	**6**	**0**	**0**	**0**	**0**	**1**	**10**	**0**	**44**	**2**	**0**	**5**	**0**	**0**	**0**	**2**	**0**	**157**	**1**	**0**	**8**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**342**
08:30	**11**	**113**	**0**	**1**	**8**	**0**	**0**	**0**	**0**	**2**	**7**	**0**	**52**	**0**	**0**	**3**	**0**	**0**	**0**	**3**	**0**	**175**	**3**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**389**
08:45	**12**	**115**	**0**	**4**	**5**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**49**	**0**	**0**	**4**	**0**	**0**	**0**	**5**	**0**	**155**	**3**	**0**	**9**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**370**
09:00	**10**	**114**	**0**	**1**	**12**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**49**	**2**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**175**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**381**
09:15	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	1*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	1*
Period 2																																									
11:45	21	146	0	1	5	0	0	0	0	0	13	0	21	0	0	3	0	0	0	3	0	161	4	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	382
12:00	7	139	0	1	1	0	0	0	0	2	11	0	33	0	0	3	0	0	0	5	0	153	3	0	2	0	0	0	0	3	0	0	0	0	0	0	0	0	0	4	367
12:15	28	166	0	2	7	0	0	0	0	3	8	0	27	0	0	4	0	0	0	2	0	128	3	0	4	1	0	0	0	1	0	0	0	0	0	0	0	0	0	13	397
12:30	**17**	**172**	**0**	**1**	**6**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**32**	**1**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**155**	**6**	**0**	**4**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**418**
12:45	**19**	**158**	**0**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**39**	**0**	**0**	**2**	**0**	**0**	**0**	**8**	**0**	**141**	**3**	**0**	**8**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**394**
13:00	**20**	**162**	**0**	**1**	**7**	**0**	**0**	**0**	**0**	**2**	**5**	**0**	**35**	**0**	**0**	**1**	**0**	**0**	**0**	**7**	**0**	**182**	**2**	**0**	**9**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**440**
13:15	**20**	**169**	**0**	**2**	**3**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**35**	**0**	**0**	**2**	**0**	**0**	**0**	**6**	**0**	**154**	**5**	**0**	**4**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**416**
13:30	17	149	0	1	6	0	0	0	0	0	6	0	21	3	0	0	0	0	0	1	0	168	5	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	387
Period 3																																									
13:45	0*	1*	0*	0*	1*	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*	0*	2*
15:15	8	174	0	3	5	0	0	0	0	1	21	0	24	0	0	3	0	0	0	4	0	198	2	0	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	5	452
15:30	15	205	0	3	7	0	0	0	0	1	13	0	39	1	0	2	0	0	0	5	0	173	2	0	5	1	0	0	0	1	0	0	0	0	0	0	0	0	0	5	478
15:45	10	205	0	4	7	0	0	0	0	3	5	0	41	0	0	2	0	0	0	3	0	149	3	0	5	0	0	0	0	1	0	0	0	0	0	0	0	0	0	6	444
16:00	13	193	0	1	6	0	0	0	0	2	9	0	33	3	0	3	0	0	0	7	0	144	6	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	8	431
16:15	**12**	**212**	**0**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**27**	**2**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**182**	**4**	**0**	**3**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**468**
16:30	**16**	**223**	**0**	**2**	**8**	**0**	**0**	**0**	**0**	**2**	**12**	**0**	**37**	**1**	**0**	**1**	**0**	**0**	**0**	**4**	**0**	**143**	**8**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**466**
16:45	**12**	**249**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**4**	**16**	**0**	**36**	**0**	**0**	**1**	**0**	**0**	**0**	**5**	**0**	**147**	**6**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**495**
17:00	**12**	**226**	**0**	**1**	**5**	**0**	**0**	**0**	**0**	**1**	**9**	**0**	**30**	**0**	**0**	**2**	**0**	**0**	**0**	**5**	**0**	**146**	**9**	**0**	**1**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**457**
17:15	15	227	0	2	6	0	0	0	0	0	16	0	27	0	0	1	0	0	0	3	0	147	7	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	458
17:30	8	188	0	0	6	0	0	0	0	2	8	0	35	0	0	1	0	0	0	3	0	136	4	0	4	0	0	0	0	2	0	0	0	0	0	0	0	0	0	5	402
17:45	13	170	0	2	4	0	0	0	0	0	11	0	25	0	0	5	0	0	0	2	0	142	6	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	387
18:00	18	150	1	1	2	0	0	0	0	3	13	0	31	1	0	1	0	0	0	2	0	134	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	3	366
18:15	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*	0*	0*	0*	0*	0*	0*	0*

First Av @ Albert St

TMC No: 0803000000 **Intersection ID:** 7507 **Count ID:** 33502016168 **Count Date:** 06/16/2016, Thu

AM Peak 08:00

North leg (Ped. 1 ⇄; west leg Ped. 3 ⇅)

	↵	↓	↳	↑
PHF	0.64	0.64	0.58	
Trucks %	6%	0%	0%	
Trucks	1	0	0	2
Cars	17	18	14	180

East leg

	Cars	Trucks	Trucks %	PHF
↰	124	2	2%	0.75
←	235	9	4%	0.91
↲	12	0	0%	0.60
→	68	5		

West leg

PHF	Trucks %	Trucks	Cars	
		10	258	←
0.58	0%	0	7	↱
0.73	12%	5	36	→
0.67	0%	0	8	↴

South leg (Ped. 2 ⇄; east leg Ped. 1 ⇅)

	↓	↰	↑	↱
Cars	38	6	49	18
Trucks	0	0	0	0
Trucks %		0%	0%	0%
PHF		0.50	0.72	0.90

MD Peak 12:15

North leg (Ped. 3 ⇄; west leg Ped. 2 ⇅)

	↵	↓	↳	↑
PHF	0.48	0.75	0.58	
Trucks %	0%	0%	0%	
Trucks	0	0	0	1
Cars	19	33	14	86

East leg

	Cars	Trucks	Trucks %	PHF
↰	32	0	0%	0.80
←	137	5	4%	0.89
↲	9	0	0%	0.56
→	115	2		

West leg

PHF	Trucks %	Trucks	Cars	
		5	165	←
0.94	7%	1	14	↱
0.68	3%	2	77	→
0.67	0%	0	8	↴

South leg (Ped. 1 ⇄; east leg Ped. 4 ⇅)

	↓	↰	↑	↱
Cars	50	9	40	24
Trucks	0	0	0	0
Trucks %		0%	0%	0%
PHF		0.75	0.91	0.86

PM Peak 17:00

North leg (Ped. 3 ⇄; west leg Ped. 9 ⇅)

	↵	↓	↳	↑
PHF	0.81	0.59	0.92	
Trucks %	0%	0%	0%	
Trucks	0	0	0	0
Cars	26	33	22	137

East leg

	Cars	Trucks	Trucks %	PHF
↰	56	0	0%	0.82
←	149	3	2%	0.90
↲	9	0	0%	0.75
→	145	2		

West leg

PHF	Trucks %	Trucks	Cars	
		3	189	←
0.85	0%	0	17	↱
0.77	2%	2	90	→
0.65	0%	0	13	↴

South leg (Ped. 9 ⇄; east leg Ped. 4 ⇅)

	↓	↰	↑	↱
Cars	55	14	64	33
Trucks	0	0	0	0
Trucks %		0%	0%	0%
PHF		0.70	0.80	0.59

Total Count -5 hours*

North leg (Ped. 28 ⇄; west leg Ped. 42 ⇅)

	↵	↓	↳	↑
Trucks %	1%	0%	2%	
Trucks	1	0	2	5
Cars	149	233	126	899

East leg

	Cars	Trucks	Trucks %	PHF
↰	480	4	1%	
←	1253	38	3%	
↲	91	2	2%	
→	719	28		

West leg

PHF	Trucks %	Trucks	Cars	
		39	1453	←
	1%	1	78	↱
	5%	23	442	→
	1%	1	69	↴

South leg (Ped. 38 ⇄; east leg Ped. 19 ⇅)

	↓	↰	↑	↱
Cars	393	51	341	151
Trucks	3	0	0	3
Trucks %		0%	0%	2%

TMC 15 Min Report

First Av @ Albert St

TMC No: 0803000000 **Intersection ID:** 7507 **Count ID:** 33502016168 **Count Date:** 06/16/2016, Thu

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	1	5	1	0	0	0	0	0	0	0	10	32	7	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	4	2	0	1	0	0	0	0	0	66
06:30	0	3	2	0	0	0	0	0	0	0	4	26	11	0	1	0	0	0	0	0	1	6	3	0	0	0	0	0	0	0	1	5	2	0	0	0	0	0	0	0	65
06:45	1	0	1	0	0	0	0	0	0	0	1	29	13	0	1	0	0	0	0	0	0	2	1	0	0	0	0	0	0	2	0	1	1	0	1	0	0	0	0	1	55
07:00	0	8	3	0	0	0	0	0	0	0	2	39	17	0	1	0	0	0	0	0	0	3	2	0	0	0	0	0	0	1	0	2	3	0	0	0	0	0	0	1	82
07:15	3	5	0	0	0	0	0	0	0	0	6	23	10	0	0	0	0	0	0	0	0	3	4	0	0	0	0	0	0	0	1	6	1	0	1	0	0	0	0	0	63
07:30	1	4	1	0	0	0	0	0	0	0	4	40	26	0	2	0	0	0	0	1	1	7	3	0	0	0	0	0	0	0	0	5	1	0	1	0	0	0	0	1	98
07:45	0	8	5	1	0	0	0	0	0	1	7	57	16	0	1	1	0	0	0	2	1	12	4	0	0	1	0	0	0	1	3	9	0	0	1	0	0	0	0	1	132
08:00	**5**	**6**	**3**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**5**	**63**	**34**	**0**	**4**	**0**	**0**	**0**	**0**	**1**	**0**	**17**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**6**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**158**
08:15	**1**	**5**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**54**	**26**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**1**	**6**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**120**
08:30	**2**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**60**	**41**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**2**	**13**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**149**
08:45	**6**	**7**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**58**	**23**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	**13**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**13**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**141**
09:00	3	9	6	0	0	0	0	0	0	1	3	52	19	0	3	0	0	0	0	0	0	12	3	0	0	1	0	0	0	6	0	11	2	0	1	0	0	0	0	0	132
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	5	6	8	0	0	0	0	0	0	0	3	36	13	0	1	0	0	0	0	0	1	7	7	0	0	0	0	0	0	0	1	21	3	0	1	0	0	0	0	0	113
12:00	6	10	2	0	0	0	0	0	0	0	2	31	10	0	2	0	0	0	0	0	2	13	1	0	0	0	0	0	0	0	1	9	2	0	0	0	0	0	0	0	91
12:15	**6**	**7**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**38**	**7**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**3**	**8**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**15**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**107**
12:30	**2**	**11**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**	**29**	**6**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**10**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**29**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**116**
12:45	**4**	**8**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**32**	**9**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**2**	**11**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**21**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**107**
13:00	**2**	**7**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**38**	**10**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**3**	**11**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**12**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**104**
13:15	4	13	4	0	0	0	0	0	0	2	0	32	14	0	1	0	0	0	0	1	1	4	1	0	0	0	0	0	0	0	2	11	1	0	1	0	0	0	0	4	96
13:30	3	4	7	0	0	0	0	0	0	1	2	38	11	0	0	0	0	0	0	1	0	11	3	0	0	0	0	0	0	1	3	20	2	0	0	0	0	0	0	0	107
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	8	14	5	0	0	0	0	0	0	1	1	43	12	2	1	0	0	0	0	0	1	13	4	0	0	0	0	0	0	2	4	14	3	0	1	0	0	0	0	2	131
15:30	10	6	8	1	0	0	0	0	0	3	1	27	12	0	2	0	0	0	0	0	3	13	5	0	0	0	0	0	0	0	3	16	3	0	0	1	0	0	0	2	116
15:45	7	14	2	0	0	0	0	0	0	2	7	37	13	0	0	0	0	0	0	4	1	10	1	0	0	0	0	0	0	7	0	18	2	0	2	0	0	0	0	6	133
16:00	6	9	5	0	0	0	0	0	0	0	0	34	11	0	0	0	0	0	0	0	1	17	6	0	0	1	0	0	0	3	6	10	3	0	1	0	0	0	0	2	115
16:15	3	7	6	0	0	0	0	0	0	0	2	52	12	0	1	0	0	0	0	0	2	17	7	0	0	0	0	0	0	2	5	13	1	0	1	0	0	0	0	1	132
16:30	9	10	8	0	0	0	0	0	0	6	3	37	15	0	1	0	0	0	0	0	4	10	6	0	0	0	0	0	0	0	3	27	2	0	0	0	0	0	0	5	146
16:45	3	10	8	0	0	0	0	0	0	3	1	27	15	0	1	0	0	0	0	1	1	14	5	0	0	0	0	0	0	1	2	17	4	0	1	0	0	0	0	0	114
17:00	**4**	**6**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**36**	**17**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**4**	**20**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**4**	**19**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**135**
17:15	**6**	**14**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**35**	**11**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**3**	**12**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**4**	**25**	**5**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**137**
17:30	**6**	**7**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**36**	**17**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**2**	**18**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**4**	**30**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**148**
17:45	**6**	**6**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**42**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**14**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**16**	**4**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**136**
18:00	3	4	5	0	0	0	0	0	0	1	2	40	11	0	1	1	0	0	0	0	1	13	10	0	0	0	0	0	0	0	5	20	2	0	0	0	0	0	0	2	121
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Olive Av (R.R.59) @ Albert St

TMC No: 0591100000 **Intersection ID:** 7133 **Count ID:** 35702017810 **Count Date:** 10/17/2018, Wed

AM Peak 08:15

North approach (Ped. 5 ⇄; Ped. 6 ⇅)

	↲	↓	↳	↑ (out)
PHF	0.00	0.00	0.00	
Trucks %	0%	0%	0%	
Trucks	0	0	0	5
Cars	0	0	0	246

East approach

	Cars	Trucks	Trucks %	PHF
↰	101	3	3%	0.87
←	247	1	0%	0.86
↲	13	0	0%	0.54
↱ (out) →	140	1		

West approach

PHF	Trucks %	Trucks	Cars	
		2	257	← (out)
0.83	3%	1	29	↑
0.84	1%	1	126	→
0.48	0%	0	27	↓

South approach (Ped. 5 ⇄; Ped. 3 ⇅)

	↓ (out)	↰	↑	↱
Cars	40	10	116	14
Trucks	0	1	1	0
Trucks %		9%	1%	0%
PHF		0.69	0.84	0.70

MD Peak 12:45

North approach (Ped. 7 ⇄; Ped. 5 ⇅)

	↲	↓	↳	↑ (out)
PHF	0.00	0.00	0.00	
Trucks %	0%	0%	0%	
Trucks	0	0	0	5
Cars	0	0	0	109

East approach

	Cars	Trucks	Trucks %	PHF
↰	45	3	6%	0.80
←	198	2	1%	0.89
↲	11	1	8%	0.50
↱ (out) →	263	5		

West approach

PHF	Trucks %	Trucks	Cars	
		2	205	← (out)
0.61	5%	1	21	↑
0.85	2%	5	248	→
0.77	0%	0	34	↓

South approach (Ped. 2 ⇄; Ped. 4 ⇅)

	↓ (out)	↰	↑	↱
Cars	45	7	43	15
Trucks	1	0	1	0
Trucks %		0%	2%	0%
PHF		0.58	0.85	0.54

PM Peak 16:15

North approach (Ped. 3 ⇄; Ped. 2 ⇅)

	↲	↓	↳	↑ (out)
PHF	0.00	0.00	0.00	
Trucks %	0%	0%	0%	
Trucks	0	0	0	3
Cars	0	0	0	155

East approach

	Cars	Trucks	Trucks %	PHF
↰	66	3	4%	0.64
←	190	1	1%	0.88
↲	7	0	0%	0.58
↱ (out) →	452	5		

West approach

PHF	Trucks %	Trucks	Cars	
		1	197	← (out)
0.68	0%	0	38	↑
0.93	1%	5	418	→
0.91	0%	0	29	↓

South approach (Ped. 3 ⇄; Ped. 2 ⇅)

	↓ (out)	↰	↑	↱
Cars	36	7	51	34
Trucks	0	0	0	0
Trucks %		0%	0%	0%
PHF		0.88	0.75	0.71

Total Count -1 hours*

North approach (Ped. 24 ⇄; Ped. 33 ⇅)

	↲	↓	↳	↑ (out)
Trucks %	0%	0%	0%	
Trucks	0	0	0	31
Cars	0	0	0	1107

East approach

	Cars	Trucks	Trucks %	PHF
↰	484	19	4%	
←	1594	11	1%	
↲	99	1	1%	
↱ (out) →	1916	27		

West approach

PHF	Trucks %	Trucks	Cars	
		12	1639	← (out)
	2%	4	203	↑
	2%	27	1769	→
	0%	0	211	↓

South approach (Ped. 21 ⇄; Ped. 17 ⇅)

	↓ (out)	↰	↑	↱
Cars	310	45	420	147
Trucks	1	1	8	0
Trucks %		2%	2%	0%

TMC 15 Min Report

Olive Av (R.R.59) @ Albert St

TMC No: 0591100000 **Intersection ID:** 7133 **Count ID:** 35702017810 **Count Date:** 10/17/2018, Wed

	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH									
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	
Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Total
Period 1																																								
06:00	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*	0*	0*	0*	0*	0*	0*
06:15	0	0	0	0	0	0	0	0	0	0	4	34	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	11	3	0	1	0	0	0	0	2	63
06:30	0	0	0	0	0	0	0	0	0	0	3	31	7	0	0	1	0	0	0	0	0	3	1	0	0	0	0	0	0	0	1	13	6	0	0	0	0	0	0	0	66
06:45	0	0	0	0	0	0	0	0	0	0	0	52	7	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0	3	19	5	0	1	0	0	0	0	0	92
07:00	0	0	0	0	0	0	0	0	0	0	0	45	12	0	0	1	0	0	0	0	1	8	1	0	0	0	0	0	0	0	4	15	3	0	0	0	0	0	0	1	91
07:15	0	0	0	0	0	0	0	0	0	0	4	49	7	0	0	0	0	0	0	0	0	8	3	0	0	0	0	0	0	1	2	10	3	0	1	0	0	0	0	2	90
07:30	0	0	0	0	0	0	0	0	0	3	1	43	19	0	0	1	0	0	0	0	1	13	0	0	0	0	0	0	0	1	10	20	0	0	0	0	0	0	0	3	115
07:45	0	0	0	0	0	0	0	0	0	0	0	42	23	0	0	0	0	0	0	0	0	17	2	0	0	0	0	0	0	0	7	27	6	0	2	0	0	0	0	0	126
08:00	0	0	0	0	0	0	0	0	0	0	4	69	24	0	0	1	0	0	0	0	3	22	6	0	1	0	0	0	0	1	7	31	6	0	0	0	0	0	0	0	175
08:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**4**	**72**	**30**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**26**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**32**	**5**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**185**
08:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**51**	**26**	**0**	**1**	**1**	**0**	**0**	**0**	**2**	**4**	**35**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**8**	**21**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**158**
08:45	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**60**	**25**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**4**	**27**	**5**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**4**	**35**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**185**
09:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**6**	**64**	**20**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**28**	**3**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**9**	**38**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**182**
Period 2																																								
11:30	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*	0*	0*	0*	0*	0*	0*
11:45	0	0	0	0	0	0	0	0	0	0	3	36	14	0	1	1	0	0	0	2	1	12	2	0	1	0	0	0	0	2	7	34	6	0	1	0	0	0	0	2	125
12:00	0	0	0	0	0	0	0	0	0	0	1	45	13	0	1	0	0	0	0	0	3	9	2	0	0	0	0	0	0	2	7	56	12	1	0	0	0	0	0	0	152
12:15	0	0	0	0	0	0	0	0	0	1	7	49	11	0	1	1	0	0	0	1	3	12	7	0	0	0	0	0	0	0	2	58	9	0	1	0	0	0	0	0	163
12:30	0	0	0	0	0	0	0	0	0	0	4	50	9	0	0	1	0	0	0	3	1	9	6	0	0	0	0	0	0	1	7	43	4	0	0	0	0	0	0	0	138
12:45	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**2**	**56**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**9**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**54**	**8**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**157**
13:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**50**	**14**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**10**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**74**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**180**
13:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**45**	**13**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**2**	**12**	**4**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**4**	**66**	**11**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**167**
13:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**5**	**47**	**6**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**3**	**12**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**	**54**	**5**	**0**	**1**	**0**	**0**	**0**	**0**	**4**	**149**
Period 3																																								
13:45	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*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*
15:15	0	0	0	0	0	0	0	0	0	0	2	59	14	0	0	1	0	0	0	0	1	16	12	0	0	0	0	0	0	0	9	75	7	0	3	0	0	0	0	0	199
15:30	0	0	0	0	0	0	0	0	0	0	3	60	15	0	1	0	0	0	0	1	1	12	5	0	0	0	0	0	0	0	9	68	9	0	2	0	0	0	0	0	186
15:45	0	0	0	0	0	0	0	0	0	1	7	53	18	0	1	1	0	0	0	1	1	10	6	0	2	0	0	0	0	0	10	78	8	0	2	0	0	0	0	0	199
16:00	0	0	0	0	0	0	0	0	0	1	3	63	10	0	1	0	0	0	0	0	1	13	7	0	1	0	0	0	0	0	3	85	4	1	0	0	0	0	0	1	194
16:15	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**54**	**26**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**1**	**17**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**6**	**107**	**6**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**232**
16:30	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**38**	**9**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**2**	**15**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**97**	**7**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**197**
16:45	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**46**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**7**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**101**	**8**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**201**
17:00	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**52**	**17**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**12**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**11**	**113**	**8**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**229**
17:15	0	0	0	0	0	0	0	0	0	1	3	44	23	0	1	0	0	0	0	0	2	13	5	0	0	0	0	0	0	1	4	105	8	0	1	0	0	0	0	3	214
17:30	0	0	0	0	0	0	0	0	0	1	3	37	12	0	0	1	0	0	0	0	2	6	4	0	1	0	0	0	0	0	6	91	8	0	0	0	0	0	0	0	172
17:45	0	0	0	0	0	0	0	0	0	1	8	49	17	0	0	0	0	0	0	0	0	16	8	0	0	0	0	0	0	0	4	75	6	0	1	0	0	0	0	5	190
18:00	0	0	0	0	0	0	0	0	0	0	8	49	12	0	0	0	0	0	0	0	0	6	7	0	0	0	0	0	0	2	10	63	8	0	0	0	0	0	0	1	166
18:15	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*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Simcoe St (R.R.02) @ Bloor St (R.R.22)

TMC No: 0020300000 **Intersection ID:** 7812 **Count ID:** 28422016168 **Count Date:** 06/16/2016, Thu

AM Peak 08:15

Ped. (NW) 9 · Ped. (NE) 9 · Ped. (SE) 6 · Ped. (SW) 9

North leg

Movement	Cars	Trucks	Trucks %	PHF
↲	88	9	9%	0.66
↓	215	6	3%	0.86
↳	75	3	4%	0.81
↑	813	26		

West leg

Movement	PHF	Trucks %	Trucks	Cars
←			20	539
↑	0.92	3%	13	374
→	0.81	6%	15	252
↴	0.82	7%	10	141

East leg

Movement	Cars	Trucks	Trucks %	PHF
↰	124	1	1%	0.82
←	398	11	3%	0.90
↙	72	0	0%	0.86
→	395	18		

South leg

Movement	Cars	Trucks	Trucks %	PHF
↓	428	16		
↰	53	0	0%	0.88
↑	315	12	4%	0.92
↱	68	0	0%	0.81

MD Peak 12:30

Ped. (NW) 14 · Ped. (NE) 8 · Ped. (SE) 20 · Ped. (SW) 18

North leg

Movement	Cars	Trucks	Trucks %	PHF
↲	89	3	3%	0.77
↓	281	8	3%	0.94
↳	131	1	1%	0.85
↑	865	20		

West leg

Movement	PHF	Trucks %	Trucks	Cars
←			6	439
↑	0.88	2%	6	333
→	0.92	2%	8	365
↴	0.84	4%	6	152

East leg

Movement	Cars	Trucks	Trucks %	PHF
↰	145	3	2%	0.73
←	295	1	0%	0.88
↙	77	1	1%	0.89
→	599	9		

South leg

Movement	Cars	Trucks	Trucks %	PHF
↓	510	15		
↰	55	2	4%	0.65
↑	387	11	3%	0.96
↱	103	0	0%	0.80

PM Peak 16:45

Ped. (NW) 19 · Ped. (NE) 8 · Ped. (SE) 15 · Ped. (SW) 11

North leg

Movement	Cars	Trucks	Trucks %	PHF
↲	97	9	8%	0.85
↓	316	10	3%	0.86
↳	166	0	0%	0.86
↑	836	9		

West leg

Movement	PHF	Trucks %	Trucks	Cars
←			12	425
↑	0.91	2%	5	312
→	0.86	0%	3	736
↴	0.84	2%	3	172

East leg

Movement	Cars	Trucks	Trucks %	PHF
↰	109	0	0%	0.85
←	249	3	1%	0.85
↙	64	0	0%	0.84
→	992	3		

South leg

Movement	Cars	Trucks	Trucks %	PHF
↓	552	13		
↰	79	0	0%	0.86
↑	415	4	1%	0.92
↱	90	0	0%	0.83

Total Count -4 hours*

Ped. (NW) 99 · Ped. (NE) 70 · Ped. (SE) 108 · Ped. (SW) 81

North leg

Movement	Cars	Trucks	Trucks %
↲	848	42	5%
↓	1898	48	2%
↳	940	14	1%
↑	6051	190	

West leg

Movement	Trucks %	Trucks	Cars
←		101	4331
↑	3%	85	2417
→	3%	102	3316
↴	4%	52	1154

East leg

Movement	Cars	Trucks	Trucks %
↰	894	13	1%
←	2949	52	2%
↙	511	5	1%
→	4890	118	

South leg

Movement	Cars	Trucks	Trucks %
↓	3563	105	
↰	534	7	1%
↑	2740	92	3%
↱	634	2	0%

TMC 15 Min Report

Simcoe St (R.R.02) @ Bloor St (R.R.22)

TMC No: 0020300000 **Intersection ID:** 7812 **Count ID:** 28422016168 **Count Date:** 06/16/2016, Thu

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Total
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	14	25	52	0	0	1	0	0	0	1	16	198	22	0	0	1	0	0	0	2	12	31	9	0	3	0	0	0	0	0	25	26	12	4	1	0	0	0	0	1	456
06:30	11	18	46	0	1	0	0	0	0	1	7	181	22	0	0	0	0	0	0	2	13	48	14	1	2	0	0	0	0	0	48	32	14	3	8	0	0	0	0	1	473
06:45	15	32	36	0	1	1	0	0	0	3	6	176	12	0	3	1	0	0	0	7	20	59	6	0	2	0	0	0	0	0	60	39	15	5	4	0	0	0	0	2	505
07:00	17	28	36	0	1	1	0	0	0	1	8	148	18	0	1	0	0	0	0	1	13	46	6	0	4	0	0	0	0	0	72	28	25	5	3	2	0	0	0	1	465
07:15	13	25	46	0	0	2	0	0	0	2	9	156	21	0	1	0	0	0	0	3	18	53	12	0	5	0	0	0	0	3	77	47	15	6	7	0	0	0	0	2	523
07:30	9	18	44	0	0	0	0	0	0	2	8	137	30	0	2	0	0	0	0	2	9	65	8	0	6	0	0	0	0	0	63	59	23	4	5	3	0	0	0	1	498
07:45	10	33	34	3	1	2	0	0	0	3	17	114	22	0	5	1	0	0	0	1	15	48	11	0	3	0	0	0	0	1	67	56	23	5	10	3	0	0	0	1	489
08:00	17	42	20	1	1	1	0	0	0	1	22	105	31	0	2	2	0	0	0	5	11	66	11	1	6	0	0	0	0	2	94	59	28	5	6	2	0	0	0	0	541
08:15	**20**	**37**	**16**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**19**	**111**	**23**	**0**	**2**	**1**	**0**	**0**	**0**	**1**	**10**	**73**	**21**	**0**	**3**	**0**	**0**	**0**	**0**	**5**	**85**	**46**	**28**	**2**	**2**	**1**	**0**	**0**	**0**	**2**	**512**
08:30	**24**	**64**	**18**	**0**	**0**	**2**	**0**	**0**	**0**	**4**	**15**	**95**	**28**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**15**	**82**	**16**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**95**	**62**	**30**	**5**	**7**	**1**	**0**	**0**	**0**	**3**	**572**
08:45	**15**	**57**	**19**	**0**	**4**	**2**	**0**	**0**	**0**	**3**	**17**	**99**	**35**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**15**	**84**	**13**	**0**	**5**	**0**	**0**	**0**	**0**	**1**	**92**	**79**	**42**	**3**	**3**	**3**	**0**	**0**	**0**	**1**	**596**
09:00	**16**	**57**	**35**	**3**	**2**	**2**	**0**	**0**	**0**	**1**	**21**	**93**	**38**	**0**	**5**	**0**	**0**	**0**	**0**	**3**	**13**	**76**	**18**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**102**	**65**	**41**	**3**	**3**	**5**	**0**	**0**	**0**	**3**	**608**
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	30	63	16	1	2	1	0	0	0	1	18	79	30	0	1	1	0	0	0	1	17	104	25	1	5	0	0	0	0	4	67	67	32	2	6	0	0	0	0	2	576
12:00	30	61	17	2	1	0	0	0	0	3	15	68	36	0	2	0	0	0	0	3	24	100	24	0	3	0	0	0	0	2	97	88	40	3	1	6	0	0	0	4	630
12:15	30	59	29	0	2	1	0	0	0	4	22	64	29	0	1	0	0	0	0	2	20	77	24	0	5	1	0	0	0	3	73	93	38	3	0	1	0	0	0	5	586
12:30	**34**	**67**	**20**	**0**	**1**	**1**	**0**	**0**	**0**	**2**	**22**	**83**	**49**	**0**	**1**	**2**	**0**	**0**	**0**	**3**	**9**	**103**	**24**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**69**	**96**	**37**	**2**	**1**	**0**	**0**	**0**	**0**	**3**	**632**
12:45	**29**	**71**	**19**	**1**	**2**	**0**	**0**	**0**	**0**	**2**	**18**	**77**	**34**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**16**	**99**	**32**	**0**	**3**	**0**	**0**	**0**	**0**	**6**	**92**	**97**	**27**	**1**	**4**	**2**	**0**	**0**	**0**	**3**	**637**
13:00	**29**	**75**	**22**	**0**	**2**	**0**	**0**	**0**	**0**	**3**	**22**	**66**	**29**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**8**	**98**	**26**	**1**	**3**	**0**	**0**	**0**	**0**	**3**	**77**	**94**	**42**	**2**	**2**	**3**	**0**	**0**	**0**	**3**	**612**
13:15	**39**	**68**	**28**	**0**	**3**	**2**	**0**	**0**	**0**	**1**	**15**	**69**	**33**	**1**	**0**	**1**	**0**	**0**	**0**	**13**	**22**	**87**	**21**	**0**	**4**	**0**	**0**	**0**	**0**	**8**	**95**	**78**	**46**	**1**	**1**	**1**	**0**	**0**	**0**	**5**	**642**
13:30	30	71	22	2	0	1	0	0	0	2	15	75	24	1	2	0	0	0	0	6	12	79	21	1	3	1	0	0	0	9	69	80	37	2	1	4	0	0	0	3	573
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	48	73	21	0	1	0	0	0	0	5	16	44	31	1	1	1	0	0	0	7	24	119	21	0	4	0	0	0	0	5	78	150	48	2	5	5	0	0	0	5	715
15:30	43	80	19	0	0	2	0	0	0	2	21	72	35	1	1	0	0	0	0	3	23	115	32	1	1	0	0	0	0	2	62	162	46	2	6	2	0	0	0	7	740
15:45	54	82	23	0	2	1	0	0	0	4	17	67	26	1	0	0	0	0	0	7	16	99	19	0	2	0	0	0	0	3	75	135	51	2	5	3	0	0	0	5	699
16:00	43	80	23	1	4	1	0	0	0	1	14	76	16	0	6	0	0	0	0	4	17	116	23	0	3	0	0	0	0	1	60	169	54	2	4	0	0	0	0	2	720
16:15	45	56	27	0	2	4	0	0	0	3	12	66	30	0	5	0	0	0	0	2	26	123	40	0	2	0	0	0	0	4	86	145	33	1	0	1	0	0	0	5	718
16:30	38	63	18	0	2	0	0	0	0	5	24	48	40	0	1	1	0	0	0	6	23	102	28	0	2	0	0	0	0	1	83	186	41	1	1	1	0	0	0	1	716
16:45	**48**	**78**	**23**	**0**	**1**	**3**	**0**	**0**	**0**	**2**	**16**	**72**	**22**	**0**	**2**	**0**	**0**	**0**	**0**	**5**	**21**	**110**	**27**	**0**	**2**	**0**	**0**	**0**	**0**	**3**	**65**	**159**	**41**	**0**	**0**	**1**	**0**	**0**	**0**	**8**	**709**
17:00	**43**	**73**	**20**	**0**	**5**	**2**	**0**	**0**	**0**	**2**	**19**	**67**	**32**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**23**	**113**	**20**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**76**	**177**	**34**	**3**	**1**	**0**	**0**	**0**	**0**	**3**	**720**
17:15	**48**	**73**	**30**	**0**	**1**	**1**	**0**	**0**	**0**	**3**	**15**	**61**	**25**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**18**	**95**	**21**	**0**	**1**	**0**	**0**	**0**	**0**	**4**	**85**	**187**	**50**	**1**	**0**	**2**	**0**	**0**	**0**	**5**	**728**
17:30	**27**	**92**	**24**	**0**	**3**	**3**	**0**	**0**	**0**	**1**	**14**	**49**	**30**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**17**	**97**	**22**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**86**	**213**	**47**	**1**	**2**	**0**	**0**	**0**	**0**	**3**	**738**
17:45	42	95	25	0	1	1	0	0	0	1	13	66	17	0	2	0	0	0	0	2	15	77	22	0	2	0	0	0	0	0	68	181	48	2	2	0	0	0	0	0	682
18:00	29	82	20	0	2	1	0	0	0	0	18	67	24	0	1	1	0	0	0	1	19	96	17	0	2	0	0	0	0	3	74	161	66	2	1	0	0	0	0	9	696
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

BLOOR ST (R.R.22) @ HWY 401 EB RAMP 416

TMC No. : 0226200000 **Intersection ID :** 7828 **Count ID:** 33142008106 **Count Date:** 4/15/2008

AM Peak: 7:30 am

Ped. 0

0.76	0.00	0.90	
3%	0%	1%	
3	0	3	17
114	0	515	257

Ped. 0 — Trucks %

Cars	Trucks		PHF
122	3	2%	0.83
707	39	5%	0.88
0	0	0%	0.00
801	37		

42	821		
0.78	9%	14	135
0.92	11%	34	286
0.00	0%	0	0

PHF	Trucks	Cars

Trucks % — Ped. 0

0	0	0
0	0	0
0	0%	0%
0	0.00	0.00

1 Ped.

MD Peak: 12:00 pm

Ped. 0

0.68	0.00	0.91	
5%	0%	2%	
6	0	5	27
111	0	305	286

Ped. 0 — Trucks %

Cars	Trucks		PHF
101	3	3%	0.81
571	26	4%	0.90
0	0	0%	0.00
763	36		

32	682		
0.79	11%	24	185
0.96	6%	31	458
0.00	0%	0	0

PHF	Trucks	Cars

Trucks % — Ped. 0

0	0	0
0	0	0
0	0%	0%
0	0.00	0.00

0 Ped.

PM Peak: 4:30 pm

Ped. 0

0.80	0.00	0.88	
0%	0%	2%	
0	0	9	9
176	0	469	746

Ped. 0 — Trucks %

Cars	Trucks		PHF
312	2	1%	0.67
558	13	2%	0.85
0	0	0%	0.00
973	22		

13	734		
0.85	2%	7	434
0.85	3%	13	504
0.00	0%	0	0

PHF	Trucks	Cars

Trucks % — Ped. 0

0	0	0
0	0	0
0	0%	0%
0	0.00	0.00

0 Ped.

Total Count 8 hours

Ped. 0

3%	0%	2%	
33	0	63	137
1060	0	3286	3430

Ped. 0 — Trucks %

Cars	Trucks	
1306	36	3%
4825	202	4%
0	0	0%
6371	260	

235	5885	
5%	101	2124
6%	197	3085
0%	0	0

	Trucks	Cars

Trucks % — Ped. 0

0	0	0
0	0	0
0	0%	0%

1 Ped.

Count Date: 4/15/2008

TMC 15 Min Report

BLOOR ST (R.R.22) @ HWY 401 EB RAMP 416

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										Total
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
6:15	97	0	40	1	0	2	0	0	0	0	0	172	48	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	83	66	0	0	1	0	1	0	0	0	512
6:30	99	0	30	2	0	0	3	0	0	0	0	200	31	0	5	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	34	55	0	0	3	0	1	0	0	0	464
6:45	82	0	15	1	0	0	1	0	1	0	0	260	24	0	5	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	37	63	0	1	1	0	1	4	0	0	498
7:00	101	0	11	1	0	0	1	0	0	0	0	211	18	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	33	62	0	0	3	0	4	3	0	0	452
7:15	86	0	12	0	0	0	2	0	1	0	0	203	15	0	6	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	34	67	0	1	3	0	2	5	0	0	442
7:30	**112**	**0**	**22**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**200**	**31**	**0**	**7**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**32**	**75**	**0**	**0**	**2**	**0**	**3**	**4**	**0**	**0**	**498**
7:45	**126**	**0**	**24**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**201**	**37**	**0**	**2**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**43**	**68**	**0**	**1**	**8**	**0**	**4**	**3**	**0**	**0**	**522**
8:00	**143**	**0**	**37**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**148**	**31**	**0**	**9**	**1**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**31**	**76**	**0**	**0**	**7**	**0**	**3**	**2**	**0**	**0**	**493**
8:15	**134**	**0**	**31**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**158**	**23**	**0**	**6**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**29**	**67**	**0**	**1**	**4**	**0**	**2**	**4**	**0**	**0**	**463**
8:30	142	0	40	2	0	2	0	0	1	0	0	157	23	0	5	1	0	3	1	0	0	0	0	0	0	0	0	0	0	0	31	76	0	2	5	0	1	2	0	0	494
8:45	105	0	33	7	0	2	1	0	0	0	0	121	14	0	7	2	0	6	1	0	0	0	0	0	0	0	0	0	0	0	36	91	0	0	12	0	1	2	0	0	441
9:00	123	0	30	1	0	1	0	0	1	0	0	117	21	0	5	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	23	61	0	4	4	0	3	7	0	0	404
Period 2																																									
11:45	51	0	34	3	0	0	2	0	3	0	0	163	30	0	6	0	0	5	1	0	0	0	0	0	0	0	0	0	0	0	40	79	0	0	6	0	3	3	0	0	429
12:00	**71**	**0**	**22**	**1**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**129**	**24**	**0**	**10**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**40**	**111**	**0**	**2**	**4**	**0**	**8**	**3**	**0**	**0**	**430**
12:15	**75**	**0**	**41**	**1**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**140**	**23**	**0**	**3**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**49**	**118**	**0**	**2**	**2**	**0**	**1**	**6**	**0**	**0**	**467**
12:30	**85**	**0**	**25**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**161**	**31**	**0**	**2**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**60**	**113**	**0**	**0**	**3**	**0**	**7**	**4**	**0**	**0**	**494**
12:45	**74**	**0**	**23**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**141**	**23**	**0**	**1**	**0**	**0**	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**36**	**116**	**0**	**1**	**8**	**0**	**3**	**1**	**0**	**0**	**435**
13:00	68	0	28	1	0	0	1	0	2	0	0	136	23	0	6	3	0	2	1	0	0	0	0	0	0	0	0	0	0	0	32	113	0	2	2	0	4	6	0	0	430
13:15	68	0	28	0	0	0	2	0	1	0	0	120	34	0	4	1	0	2	2	0	0	0	0	0	0	0	0	0	0	0	43	89	0	0	1	0	2	3	0	0	400
13:30	78	0	33	2	0	0	1	0	1	0	0	111	25	0	2	1	0	2	1	0	0	0	0	0	0	0	0	0	0	0	51	79	0	2	6	0	0	2	0	0	397
Period 3																																									
15:15	126	0	45	0	0	0	0	0	0	0	0	159	52	0	4	2	0	3	0	0	0	0	0	0	0	0	0	0	0	0	86	135	0	0	2	0	3	1	0	0	618
15:30	108	0	58	1	0	0	1	0	1	0	0	125	52	0	2	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	94	116	0	0	2	0	2	2	0	0	570
15:45	100	0	45	0	0	0	2	0	0	0	0	141	71	0	2	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	68	103	0	1	4	0	2	3	0	0	545
16:00	100	0	58	2	0	0	0	0	1	0	0	137	65	0	6	2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	104	102	0	4	3	0	4	3	0	0	592
16:15	100	0	42	1	0	0	0	0	2	0	0	137	75	0	1	3	0	2	0	0	0	0	0	0	0	0	0	0	0	0	91	104	0	0	3	0	2	0	0	0	563
16:30	**132**	**0**	**55**	**3**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**132**	**73**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**106**	**147**	**0**	**1**	**4**	**0**	**1**	**0**	**0**	**0**	**661**
16:45	**118**	**0**	**50**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**165**	**70**	**0**	**3**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**106**	**125**	**0**	**0**	**2**	**0**	**1**	**1**	**0**	**0**	**643**
17:00	**110**	**0**	**46**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**144**	**52**	**0**	**2**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**94**	**117**	**0**	**1**	**1**	**0**	**1**	**2**	**0**	**0**	**575**
17:15	**109**	**0**	**25**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**117**	**117**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**128**	**115**	**0**	**1**	**1**	**0**	**1**	**2**	**0**	**0**	**618**
17:30	125	0	12	1	0	0	1	0	0	0	0	103	59	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	150	117	0	0	6	0	1	1	0	0	579
17:45	109	0	33	0	0	0	0	0	2	0	0	112	53	0	5	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	149	119	0	0	2	0	1	1	0	0	587
18:00	129	0	32	1	0	0	1	0	0	0	0	104	38	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	151	140	0	1	2	0	0	0	0	0	603

TMC Tabular Report

Drew St @ First Av/Mcnaughton Av

TMC No: 0802100000 **Intersection ID:** 7401 **Count ID:** 35702016779 **Count Date:** 05/25/2017, Thu

AM Peak 08:00

North approach (Ped. 3 ⇄; west leg Ped. 1 ⇅)

	↵	↓	↳	↑
PHF	0.67	0.74	0.75	
Trucks %	0%	0%	11%	
Trucks	0	0	1	0
Cars	8	65	8	17

East approach

	Cars	Trucks	Trucks %	PHF
↰	5	0	0%	0.63
←	79	9	10%	0.73
↲	128	1	1%	0.83
→	227	13		

West approach

	PHF	Trucks %	Trucks	Cars
←			12	336
↱	0.75	0%	0	6
→	0.88	14%	11	66
↳	0.75	0%	0	9

South approach (east leg Ped. 1 ⇅; Ped. 1 ⇄)

	↓	↰	↑	↱
Cars	202	249	6	153
Trucks	1	3	0	1
Trucks %		1%	0%	1%
PHF		0.85	0.75	0.80

MD Peak 12:00

North approach (Ped. 2 ⇄; west leg Ped. 0 ⇅)

	↵	↓	↳	↑
PHF	0.75	0.65	0.25	
Trucks %	0%	0%	0%	
Trucks	0	0	0	1
Cars	3	13	1	8

East approach

	Cars	Trucks	Trucks %	PHF
↰	3	0	0%	0.75
←	66	5	7%	0.93
↲	59	2	3%	0.85
→	154	10		

West approach

	PHF	Trucks %	Trucks	Cars
←			5	186
↱	0.75	0%	0	3
→	0.84	9%	8	79
↳	0.68	0%	0	27

South approach (east leg Ped. 1 ⇅; Ped. 3 ⇄)

	↓	↰	↑	↱
Cars	99	117	2	74
Trucks	2	0	1	2
Trucks %		0%	33%	3%
PHF		0.79	0.75	0.76

PM Peak 16:45

North approach (Ped. 4 ⇄; west leg Ped. 0 ⇅)

	↵	↓	↳	↑
PHF	0.75	0.67	0.58	
Trucks %	0%	0%	0%	
Trucks	0	0	0	0
Cars	3	16	7	18

East approach

	Cars	Trucks	Trucks %	PHF
↰	4	0	0%	0.50
←	68	5	7%	0.91
↲	64	1	2%	0.71
→	216	5		

West approach

	PHF	Trucks %	Trucks	Cars
←			6	191
↱	0.38	0%	0	6
→	0.90	3%	4	115
↳	0.75	6%	1	17

South approach (east leg Ped. 0 ⇅; Ped. 2 ⇄)

	↓	↰	↑	↱
Cars	97	120	8	94
Trucks	2	1	0	1
Trucks %		1%	0%	1%
PHF		0.78	0.50	0.88

Total Count 0 hours*

North approach (Ped. 17 ⇄; west leg Ped. 4 ⇅)

	↵	↓	↳	↑
Trucks %	2%	0%	8%	
Trucks	1	0	3	1
Cars	47	199	33	87

East approach

	Cars	Trucks	Trucks %	PHF
↰	23	0	0%	
←	538	56	9%	
↲	667	23	3%	
→	1303	73		

West approach

	PHF	Trucks %	Trucks	Cars
←			73	1760
↱		0%	0	30
→		9%	58	575
↳		2%	2	114

South approach (east leg Ped. 6 ⇅; Ped. 16 ⇄)

	↓	↰	↑	↱
Cars	980	1175	34	695
Trucks	25	16	1	12
Trucks %		1%	3%	2%

TMC 15 Min Report

Drew St @ First Av/Mcnaughton Av

TMC No: 0802100000 **Intersection ID:** 7401 **Count ID:** 35702016779 **Count Date:** 05/25/2017, Thu

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:15	0	6	3	0	0	0	0	0	0	1	23	8	0	0	0	0	0	0	0	0	21	1	5	0	0	0	0	0	0	0	0	6	0	0	1	0	0	0	0	0	75
06:30	0	11	3	0	0	0	0	0	0	1	24	14	0	1	2	0	0	0	0	0	25	2	8	0	0	0	0	0	0	0	0	8	0	0	2	0	0	0	0	0	101
06:45	0	9	0	0	0	0	0	0	0	1	31	10	1	1	1	0	0	0	0	0	56	0	13	0	0	1	0	0	0	0	0	9	4	0	0	0	0	0	0	0	137
07:00	0	15	5	0	0	0	0	0	0	0	38	15	0	1	3	0	0	0	0	1	39	0	12	0	0	0	0	0	0	0	0	5	3	0	0	0	0	0	0	0	137
07:15	1	7	2	0	0	0	0	0	0	0	26	9	0	1	0	0	0	0	0	0	39	0	25	0	0	0	0	0	0	0	1	6	0	0	2	0	0	0	0	0	119
07:30	0	19	3	0	0	0	0	0	0	0	39	16	1	4	1	0	0	0	0	0	48	0	24	1	0	0	0	0	0	0	1	5	2	0	1	0	0	0	0	0	165
07:45	0	10	6	0	0	1	0	0	0	0	33	11	0	1	4	0	0	0	0	0	47	0	31	0	0	0	0	0	0	0	0	11	1	0	3	0	0	0	0	1	160
08:00	**0**	**22**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**34**	**12**	**1**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**62**	**1**	**47**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**20**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**211**
08:15	**3**	**16**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**30**	**22**	**2**	**0**	**4**	**0**	**0**	**0**	**0**	**1**	**58**	**2**	**31**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**12**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**196**
08:30	**3**	**13**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**39**	**18**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**73**	**1**	**44**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**17**	**3**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**217**
08:45	**2**	**14**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**25**	**27**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**56**	**2**	**31**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**17**	**3**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**190**
09:00	1	10	0	0	0	0	0	0	0	0	30	21	1	1	1	0	0	0	0	1	69	0	40	2	0	2	0	0	0	0	1	18	3	0	3	0	0	0	0	0	204
09:15	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	1*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	1*
Period 2																																									
11:45	0	2	2	0	0	0	0	0	0	0	16	12	0	0	3	0	0	0	0	0	30	1	17	3	0	2	0	0	0	0	0	20	10	0	2	1	0	0	0	0	121
12:00	**0**	**5**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**16**	**16**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**37**	**0**	**20**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**20**	**10**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**134**
12:15	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**17**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**29**	**1**	**19**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**20**	**3**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**108**
12:30	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**18**	**19**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**28**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**15**	**5**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**103**
12:45	**1**	**5**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**14**	**1**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**23**	**1**	**25**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**24**	**9**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**126**
13:00	3	1	1	0	0	0	0	0	0	2	17	26	1	1	1	0	0	0	0	0	21	5	20	0	0	0	0	0	0	0	0	16	3	0	2	0	0	0	0	0	120
13:15	1	1	1	0	0	0	0	0	0	0	15	27	1	0	3	0	0	0	0	0	30	0	17	2	0	0	0	0	0	0	0	11	5	0	2	0	0	0	0	0	116
13:30	0	3	1	0	0	0	0	0	0	1	9	25	0	1	1	0	0	0	0	0	25	2	13	0	0	0	0	0	0	0	0	18	5	0	1	0	0	0	0	0	105
Period 3																																									
13:45	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	1*	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*	1*
15:15	3	2	1	0	0	0	0	0	0	1	9	16	2	1	3	0	0	0	0	0	31	0	20	0	0	0	0	0	0	1	2	27	4	0	2	0	0	0	0	0	125
15:30	0	1	1	1	0	0	0	0	0	0	13	13	0	2	1	0	0	0	0	0	34	2	22	0	0	0	0	0	0	3	1	24	6	0	1	0	0	0	0	0	125
15:45	0	1	0	0	0	0	0	0	0	1	15	18	1	1	3	0	0	0	0	0	39	2	24	1	0	0	0	0	0	2	3	13	1	0	4	0	0	0	0	0	129
16:00	1	1	0	1	0	0	0	0	0	0	13	17	0	1	0	0	0	0	0	2	30	2	17	0	0	1	0	0	0	1	3	19	1	0	2	0	0	0	0	2	114
16:15	1	2	2	0	0	0	0	0	0	0	12	26	2	1	4	0	0	0	0	0	28	1	17	0	0	2	0	0	0	0	0	27	3	0	2	0	0	0	0	0	130
16:30	2	1	0	0	0	0	0	0	0	0	24	13	1	1	2	0	0	0	0	0	28	0	16	1	0	0	0	0	0	0	1	32	3	0	1	0	0	0	0	0	126
16:45	**1**	**3**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**23**	**17**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**27**	**0**	**21**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**32**	**5**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**134**
17:00	**1**	**6**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**10**	**14**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**28**	**2**	**20**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**24**	**5**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**122**
17:15	**2**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**18**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**26**	**4**	**27**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**29**	**4**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**133**
17:30	**3**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**18**	**19**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**39**	**2**	**26**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**30**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**152**
17:45	4	1	1	0	0	0	0	0	0	0	17	10	0	0	3	0	0	0	0	0	27	0	15	1	0	0	0	0	0	1	2	20	5	0	3	0	0	0	0	0	110
18:00	0	2	1	0	0	0	0	0	0	0	12	18	0	0	1	0	0	0	0	0	22	0	18	1	0	0	0	0	0	2	0	20	2	0	1	0	0	0	0	0	100
18:15	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*	0*	0*	0*	0*	0*	0*	0*

Ministry of Transportation
Ministère des Transports
2019

Intersection Layout Sheet

Version: 1.0 Feb 1, 2016

Contract # 9015-E-0009
Work Order # 211

Date: Sept 24/ Day: Tue / Hrs: 7 - 9 + 11 - 14 + 15 - 18

Location: Hwy 401 @ Ritson Rd IC-418-Rep Rd 16-Oshawa Ramps: NRT /

Reg/Mun: CR Town/City: Oshawa Area:

File Name: 1475870000 Device: (Gretch) / Jamar Unit # 18 / Interval 1: (AM) NN / PM

Observer: Juliya Tokmakova Weather: Clear / Clear Road Condition: Dry / Dry

LHRS & O/S: 47587 0.00

GPS: G-STAR IV

Datum: WGS 84 (Y) / N

Lat: 43.884289

Long: -78.849649

Comments:

SIGNALIZED Y / (N)

If intersection is unsignalized;

Sign Type: (Stop) / Yield

Sign Size: 60 cm x 60 cm

Sign Condition:

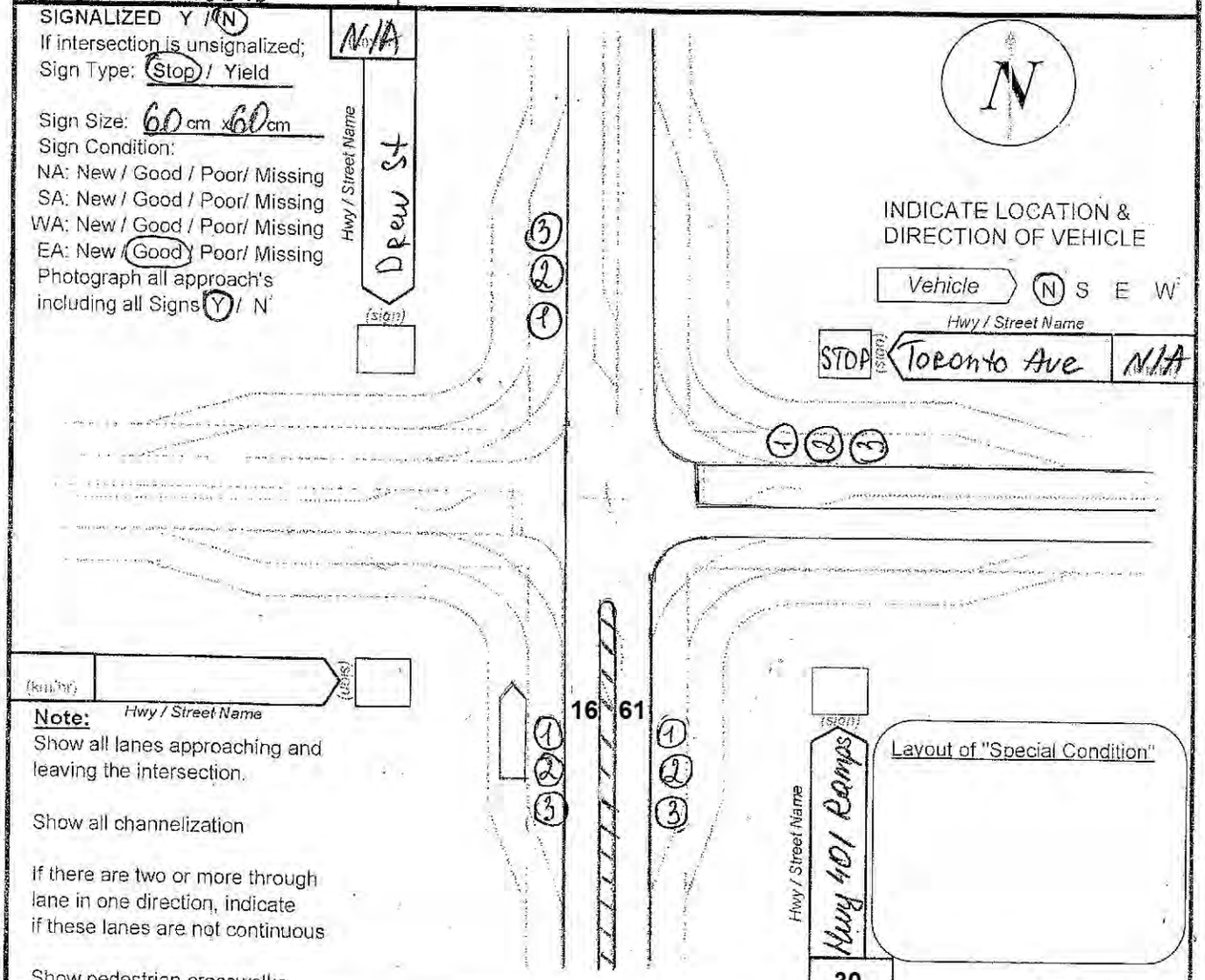
NA: New / Good / Poor/ Missing

SA: New / Good / Poor/ Missing

WA: New / Good / Poor/ Missing

EA: New / (Good) / Poor/ Missing

Photograph all approach's including all Signs (Y) / N



Note:

Show all lanes approaching and leaving the intersection.

Show all channelization

If there are two or more through lane in one direction, indicate if these lanes are not continuous

Show pedestrian crosswalks

30

Ontario

Ministry of Transportation

TVIS II - Traffic Volume Information System

AdHoc Turning Movement Total Count and Peak Summary Report

Description: HWY 401 @ REG RD 16 - RITSON RD (NRT)

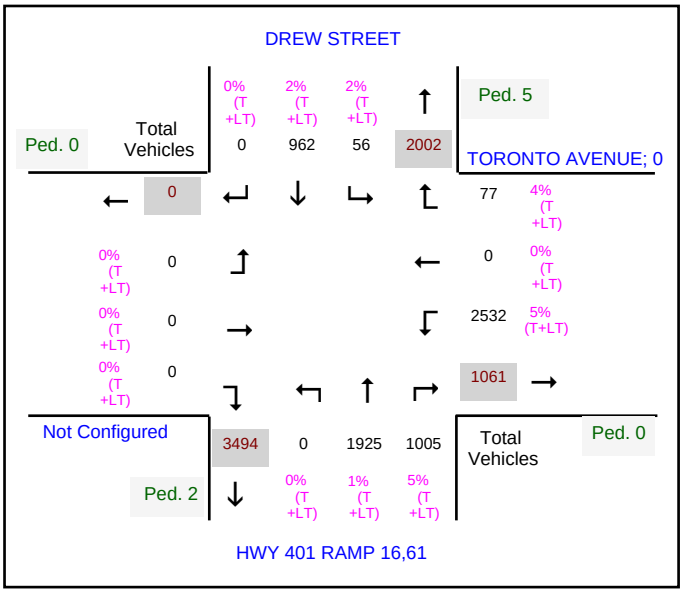
Region: CENTRAL | **Survey Type:** TM – Interchange | **Hwy:** 401

Start Date: 24-Sep-2019 (Tue) | **I/C Side:** N | **LHRS:** 47587

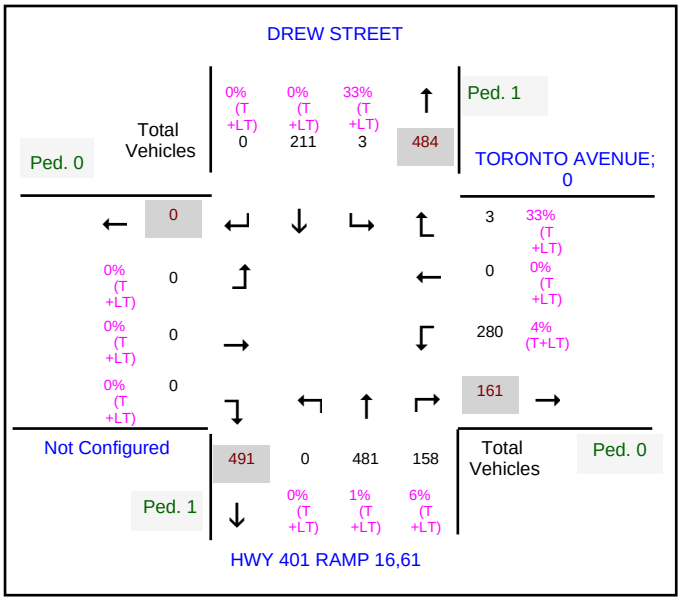
End Date: 24-Sep-2019 (Tue) | **Int. Type:** T - E | **Offset:** 0

Schedule Summary: TUES-THURS, 07:00-09:00, 11:00-14:00, 15:00-18:00

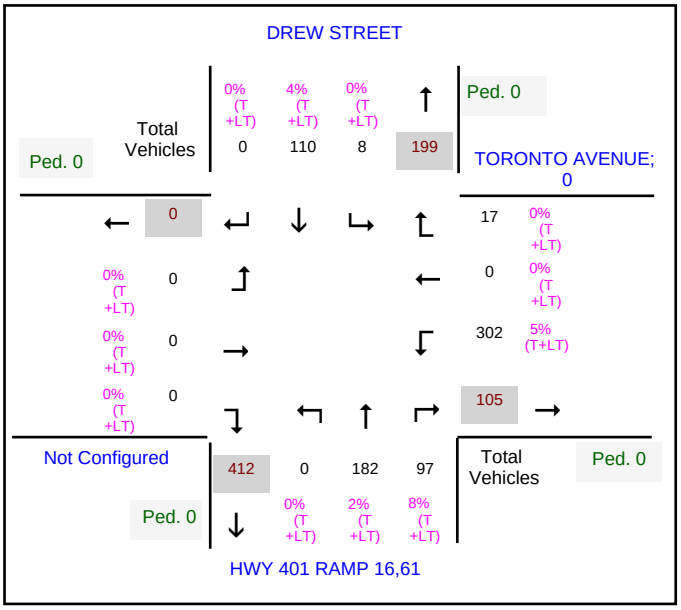
Total Count — Number of hours: 8



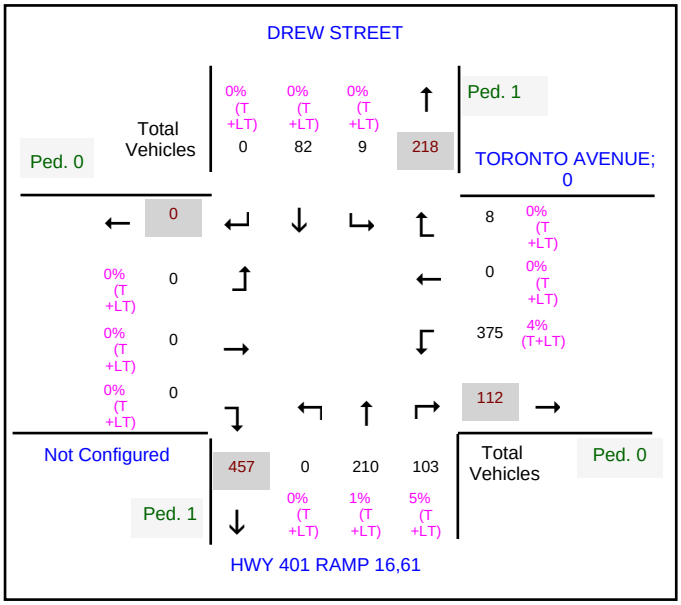
AM Peak Hour Report — Start Time: 08:00



Midday Peak Hour Report — Start Time: 11:45



PM Peak Hour Report — Start Time: 16:15



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TVIS II - Traffic Volume Information System

Turning Movement 15 Minute Report

Description: HWY 401 @ REG RD 16 - RITSON RD (NRT)
Region: CENTRAL **Survey Type:** TM – Interchange **Hwy:** 401
Start Date: 24-Sep-2019 (Tue) **I/C Side:** N **LHRS:** 47587
End Date: 24-Sep-2019 (Tue) **Int. Type:** T - E **Offset:** 0
Schedule Summary: TUES-THURS, 07:00-09:00, 11:00-14:00, 15:00-18:00

	Major Road Approaches																					Minor Road Approaches																				
	North DREW STREET										South HWY 401 RAMP 16,61											East TORONTO AVENUE: Ramp(s): 0											Not Configured									
Start Time	Cars			Trucks			Long Trucks			Ped	Cars			Trucks			Long Trucks			Ped		Cars			Trucks			Long Trucks			Ped		Cars			Trucks			Long Trucks			Ped	Total Veh.
	←	↑	→	←	↑	→	←	↑	→		←	↑	→	←	↑	→	←	↑	→			←	↑	→	←	↑	→	←	↑	→			←	↑	→	←	↑	→	←	↑	→		
Period 1																																												
07:00	2	42	0	0	2	0	0	0	0	0	0	69	78	0	2	0	0	0	0	0		69	0	3	3	0	0	0	0	0	0												**270**
07:15	0	48	0	0	3	0	0	0	0	0	0	69	34	0	0	0	0	0	0	0		72	0	2	2	0	0	1	0	0	0												**231**
07:30	1	55	0	0	0	0	0	0	0	1	0	92	40	0	0	1	0	0	0	0		62	0	1	4	0	0	1	0	0	0												**257**
07:45	1	55	0	0	2	0	0	0	0	0	0	114	59	0	1	0	0	0	1	0		68	0	1	2	0	0	0	0	0	0												**304**
08:00	1	47	0	0	0	0	0	0	0	0	0	115	48	0	0	3	0	1	2	0		61	0	0	1	0	0	0	0	0	0												**279**
08:15	0	55	0	1	0	0	0	0	0	1	0	125	37	0	1	1	0	0	1	0		42	0	2	1	0	0	0	0	0	0												**266**
08:30	0	55	0	0	0	0	0	0	0	0	0	112	25	0	3	0	0	0	1	1		80	0	0	3	0	1	2	0	0	0												**282**
08:45	1	54	0	0	0	0	0	0	0	0	0	123	39	0	1	1	0	0	0	0		85	0	0	5	0	0	0	0	0	0												**309**
Period 2																																												
11:00	2	27	0	0	1	0	0	0	0	1	0	35	27	0	2	2	0	0	0	0		68	0	2	0	0	0	0	0	0	0												**166**
11:15	4	24	0	0	1	0	0	0	0	0	0	45	23	0	2	0	0	0	1	0		61	0	2	3	0	0	0	0	0	0												**166**
11:30	3	21	0	0	0	0	0	0	0	0	0	48	19	0	3	3	0	0	1	0		68	0	1	3	0	0	1	0	0	0												**171**
11:45	2	16	0	0	0	0	0	0	0	0	0	53	27	0	1	3	0	0	0	0		81	0	5	6	0	0	3	0	0	0												**197**
12:00	0	24	0	0	0	0	0	0	0	0	0	41	16	0	2	1	0	0	1	0		74	0	6	3	0	0	2	0	0	0												**170**
12:15	5	35	0	0	2	0	0	1	0	0	0	37	22	0	0	2	0	0	0	0		62	0	4	0	0	0	0	0	0	0												**170**
12:30	1	31	0	0	1	0	0	0	0	0	0	48	24	0	0	0	0	0	1	0		69	0	2	1	0	0	1	0	0	0												**179**
12:45	2	24	0	0	1	0	0	0	0	0	0	50	23	0	1	0	0	0	0	0		90	0	2	2	0	0	0	0	0	0												**195**
13:00	3	25	0	0	0	0	0	0	0	0	0	27	18	0	0	2	0	1	0	0		71	0	1	1	0	1	1	0	0	0												**151**
13:15	2	25	0	0	0	0	0	0	0	0	0	42	15	0	1	3	0	0	1	0		66	0	2	2	0	0	6	0	0	0												**165**
13:30	3	23	0	0	0	0	0	0	0	0	0	41	18	0	0	0	0	0	0	0		83	0	2	4	0	0	3	0	0	0												**177**
13:45	1	23	0	0	1	0	0	0	0	0	0	41	37	0	2	3	0	0	1	0		76	0	4	8	0	0	1	0	0	0												**198**

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TVIS II - Traffic Volume Information System

Turning Movement 15 Minute Report

Description: HWY 401 @ REG RD 16 - RITSON RD (NRT)

Region: CENTRAL | **Survey Type:** TM – Interchange | **Hwy:** 401

Start Date: 24-Sep-2019 (Tue) | **I/C Side:** N | **LHRS:** 47587

End Date: 24-Sep-2019 (Tue) | **Int. Type:** T - E | **Offset:** 0

Schedule Summary: TUES-THURS, 07:00-09:00, 11:00-14:00, 15:00-18:00

	Major Road Approaches																					Minor Road Approaches																				
	North DREW STREET										South HWY 401 RAMP 16,61										East TORONTO AVENUE: Ramp(s): 0										Not Configured									
Start	Cars			Trucks			Long Trucks			Ped	Cars			Trucks			Long Trucks			Ped	Cars			Trucks			Long Trucks			Ped	Cars			Trucks			Long Trucks			Ped	Total
Time	←	↑	→	←	↑	→	←	↑	→		←	↑	→	←	↑	→	←	↑	→		←	↑	→	←	↑	→	←	↑	→		←	↑	→	←	↑	→	←	↑	→		Veh.
Period 3																																										
15:00	2	14	0	0	2	0	0	0	0	0	0	41	21	0	0	1	0	0	1	0	84	0	6	6	0	0	0	0	0	0												**178**
15:15	2	15	0	0	0	0	0	0	0	0	0	48	36	0	1	0	0	0	1	0	88	0	2	7	0	0	0	0	0	0												**200**
15:30	0	17	0	0	0	0	0	0	0	0	0	53	31	0	0	1	0	0	0	0	82	0	7	4	0	0	2	0	0	0												**197**
15:45	2	27	0	0	0	0	0	1	0	0	0	44	30	0	0	2	0	0	0	0	84	0	3	1	0	1	0	0	0	0												**195**
16:00	0	18	0	0	1	0	0	1	0	1	0	41	27	0	0	1	0	0	0	0	83	0	2	2	0	0	1	0	0	0												**177**
16:15	5	24	0	0	0	0	0	0	0	1	0	56	19	0	2	3	0	0	0	1	99	0	1	0	0	0	3	0	0	0												**212**
16:30	0	17	0	0	0	0	0	0	0	0	0	54	25	0	0	0	0	0	0	0	89	0	3	3	0	0	1	0	0	0												**192**
16:45	1	26	0	0	0	0	0	0	0	0	0	48	23	0	0	0	0	0	1	0	76	0	1	2	0	0	2	0	0	0												**180**
17:00	3	15	0	0	0	0	0	0	0	0	0	50	31	0	0	1	0	0	0	0	97	0	3	3	0	0	0	0	0	0												**203**
17:15	4	18	0	0	1	0	0	0	0	0	0	68	27	0	0	1	0	0	1	0	75	0	1	0	0	0	2	0	0	0												**198**
17:30	1	17	0	0	0	0	0	0	0	0	0	37	28	0	0	0	0	0	0	0	69	0	1	1	0	0	0	0	0	0												**154**
17:45	1	24	0	0	0	0	0	0	0	0	0	31	27	0	0	1	0	0	0	0	77	0	2	4	0	0	1	0	0	0												**168**

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Ministry of Transportation
Ministère des Transports
2017

Version: 1.0 Feb 1, 2016

Intersection Layout Sheet

Contract # 9015-E-0009
Work Order # 568

Date: February / 22 Day: Wen / Hrs: 6 - 10 + 15 - 19 + - 15, 51

Location: HWY 401 @ RITSON RD IC-418-REG RD 16-OSHAWA Ramps: South /

Reg/Mun: CR Town/City: OSHAWA Area:

File Name: 1475870000 Device: Gretch / Jamar Unit # 7 / Interval 1: (AM) / NN / PM

Observer: Alena Mariyskaya Weather: Fog / Clear Road Condition: Wet / Dry

LHRS & O/S: 47587 0

GPS: G - Star IV

Datum: WGS 84 (Y) / N

Lat: 43.882003

Long: -78.848890

Comments:

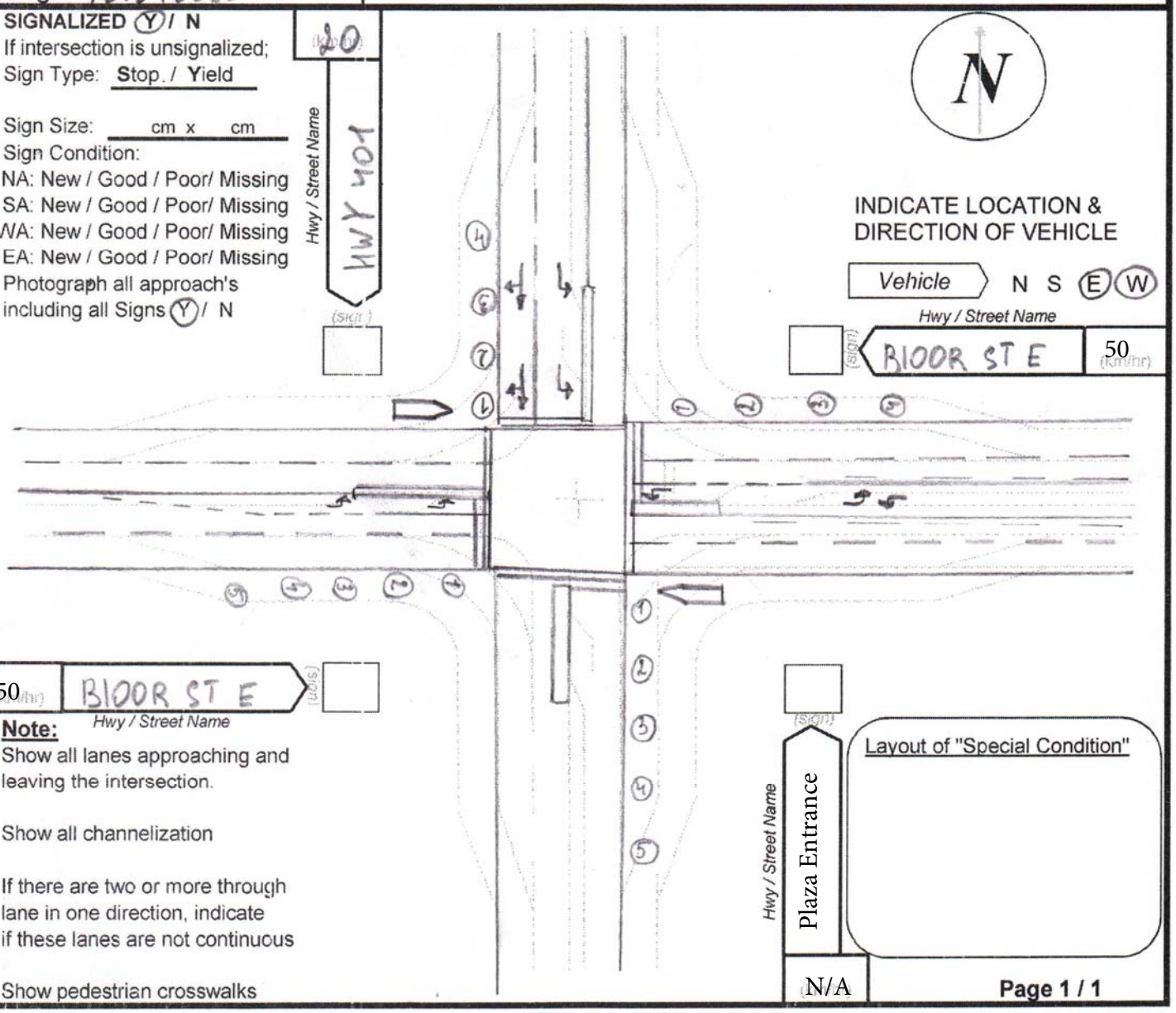
SIGNALIZED (Y) / N

If intersection is unsignalized;
Sign Type: Stop. / Yield

Sign Size: cm x cm

Sign Condition:
NA: New / Good / Poor/ Missing
SA: New / Good / Poor/ Missing
WA: New / Good / Poor/ Missing
EA: New / Good / Poor/ Missing

Photograph all approach's including all Signs (Y) / N



Note:
Show all lanes approaching and leaving the intersection.

Show all channelization

If there are two or more through lane in one direction, indicate if these lanes are not continuous

Show pedestrian crosswalks

Layout of "Special Condition"

N/A

Ontario

Ministry of Transportation

TVIS II - Traffic Volume Information System

AdHoc Turning Movement Total Count and Peak Summary Report

Description: HWY 401 @ CTY RD 16 - RITSON RD (SRT)

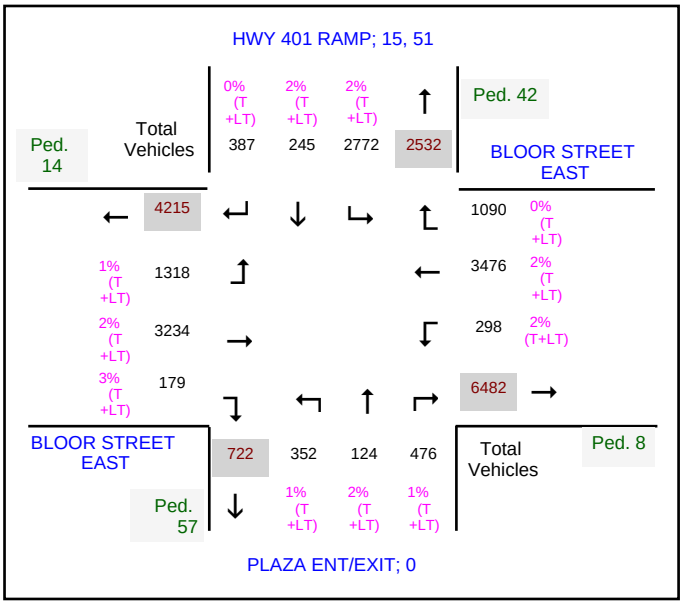
Region: CENTRAL | **Survey Type:** TM – Interchange | **Hwy:** 401

Start Date: 22-Feb-2017 (Wed) | **I/C Side:** S | **LHRS:** 47587

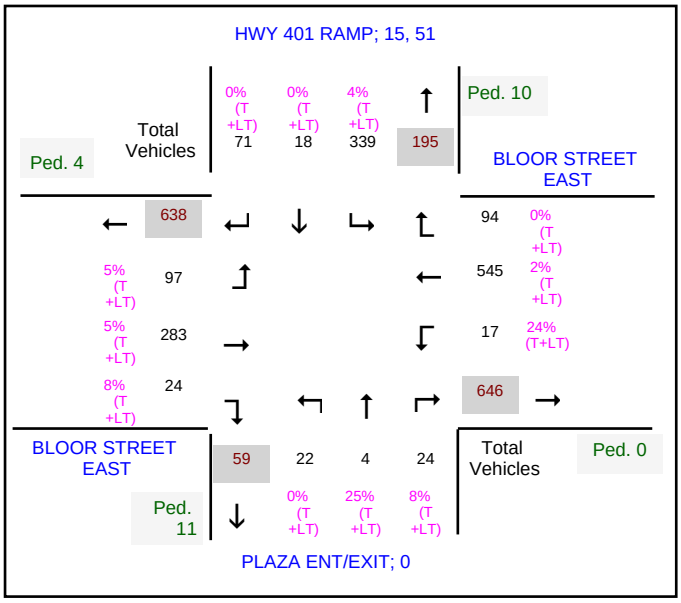
End Date: 22-Feb-2017 (Wed) | **Int. Type:** Four Leg | **Offset:** 0

Schedule Summary: TUES-THURS, 06:00-10:00, 15:00-19:00

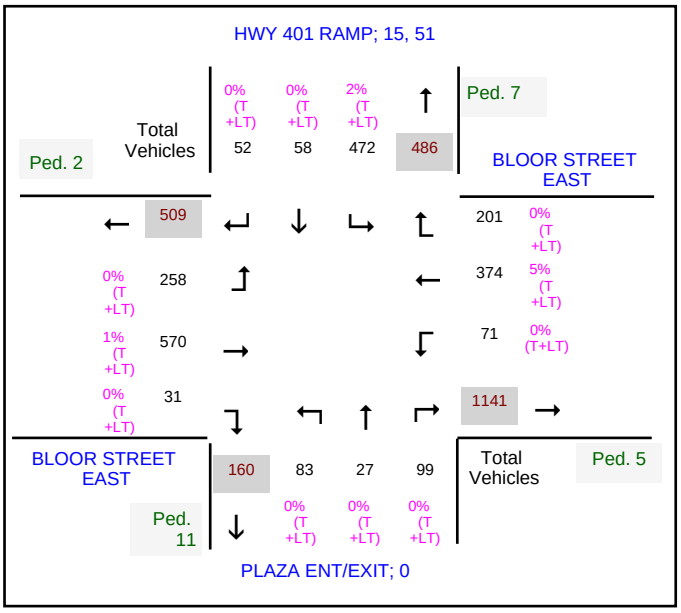
Total Count — Number of hours: 8



AM Peak Hour Report — Start Time: 08:00



PM Peak Hour Report — Start Time: 15:30



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Ministry of Transportation

TVIS II - Traffic Volume Information System

Turning Movement 15 Minute Report

Description: HWY 401 @ CTY RD 16 - RITSON RD (SRT)
Region: CENTRAL **Survey Type:** TM – Interchange **Hwy:** 401
Start Date: 22-Feb-2017 (Wed) **I/C Side:** S **LHRS:** 47587
End Date: 22-Feb-2017 (Wed) **Int. Type:** Four Leg **Offset:** 0
Schedule Summary: TUES-THURS, 06:00-10:00, 15:00-19:00

	Major Road Approaches																					Minor Road Approaches																		
	East BLOOR STREET EAST										West BLOOR STREET EAST										North HWY 401 RAMP: Ramp(s): 15, 51										South PLAZA ENT/EXIT: Ramp(s): 0										
Start Time	Cars			Trucks			Long Trucks			Ped	Cars			Trucks			Long Trucks			Ped	Cars			Trucks			Long Trucks			Ped	Cars			Trucks			Long Trucks			Ped	Total Veh.
	←	↑	→	←	↑	→	←	↑	→		←	↑	→	←	↑	→	←	↑	→		←	↑	→	←	↑	→	←	↑	→		←	↑	→	←	↑	→	←	↑	→		
Period 1																																								
06:00	1	156	22	0	1	0	0	1	1	0	26	28	2	0	1	0	0	0	0	0	13	0	3	0	0	0	1	0	0	1	3	0	2	0	0	0	0	0	0	0	261
06:15	1	142	33	0	0	0	0	1	0	0	34	23	7	0	0	0	0	1	0	0	26	0	6	0	1	0	0	0	0	2	2	2	3	0	0	0	0	0	0	0	282
06:30	1	154	34	0	1	0	0	0	0	0	40	38	2	1	0	0	0	1	0	0	40	2	5	0	0	0	3	0	0	1	1	2	5	0	0	1	0	0	0	0	331
06:45	2	176	23	0	0	0	0	1	0	0	30	40	0	0	0	1	0	0	1	0	44	2	3	2	0	0	0	0	0	0	1	1	2	0	0	1	0	0	0	0	330
07:00	0	170	25	0	0	0	0	1	1	0	27	53	5	0	1	0	1	3	0	0	62	5	10	0	0	0	4	0	0	1	3	0	0	0	0	0	0	0	0	1	371
07:15	0	163	29	0	0	0	0	2	0	0	33	66	2	0	0	0	1	7	1	0	65	5	14	1	0	0	2	0	0	0	13	3	1	0	0	0	0	0	0	1	408
07:30	0	154	32	0	0	0	0	5	0	1	20	48	4	0	0	0	0	10	0	0	57	1	15	0	0	0	0	1	0	0	2	1	5	0	0	0	0	1	0	0	356
07:45	2	135	27	0	1	0	0	3	0	0	28	72	2	0	0	0	0	3	0	0	77	3	21	1	0	0	0	0	0	1	2	2	4	0	0	0	0	0	1	0	384
08:00	3	145	33	0	1	0	2	2	0	0	16	66	3	0	0	0	0	3	0	0	75	1	16	0	0	0	1	0	0	4	3	0	7	0	0	0	0	0	0	1	377
08:15	1	128	21	0	0	0	0	3	0	0	25	62	3	2	0	1	1	2	0	3	89	2	16	0	0	0	2	0	0	4	7	0	4	0	0	0	0	0	1	5	370
08:30	3	128	22	0	0	0	1	2	0	0	31	67	10	0	0	0	1	4	1	0	75	7	20	0	0	0	5	0	0	0	7	2	4	0	0	0	0	1	0	2	391
08:45	6	131	18	1	2	0	0	3	0	0	20	75	6	0	1	0	1	3	0	1	85	8	19	0	0	0	7	0	0	2	5	1	7	0	0	0	0	0	1	3	400
09:00	12	109	19	0	0	1	0	2	0	0	25	80	8	1	1	1	1	1	0	0	64	4	13	1	0	0	4	0	0	2	8	0	11	0	0	1	0	0	1	1	368
09:15	7	103	15	0	0	0	0	1	0	0	25	73	4	0	0	0	0	0	0	0	59	7	12	0	1	0	1	0	0	0	15	2	7	1	0	0	0	0	0	1	333
09:30	10	83	18	0	1	0	1	0	0	0	25	79	4	0	2	0	0	0	0	1	61	5	7	2	0	0	0	0	0	2	7	3	12	0	0	0	0	0	0	4	320
09:45	15	81	18	0	0	0	0	0	0	0	27	79	7	2	2	0	1	1	0	4	58	6	13	1	0	0	2	0	0	5	9	0	11	0	0	0	0	0	0	7	333
Period 2																																								
15:00	9	75	48	0	0	0	0	1	0	1	60	124	10	0	0	0	0	5	0	1	112	20	15	0	0	0	3	0	0	2	9	8	24	1	0	0	0	0	0	2	524
15:15	16	88	34	0	0	0	0	2	1	0	67	124	7	0	0	0	0	1	0	0	109	9	17	1	0	0	2	0	0	2	22	7	28	0	0	0	0	0	0	0	535
15:30	17	97	45	0	1	0	0	5	0	1	49	139	10	0	0	0	1	1	0	0	137	20	15	1	0	0	1	0	0	6	18	5	16	0	0	0	0	0	0	4	578
15:45	19	84	44	0	0	0	0	5	0	0	59	139	10	0	0	0	0	1	0	1	114	13	13	0	0	0	3	0	0	1	19	7	26	0	0	0	0	0	0	2	556
16:00	19	94	62	0	0	0	0	5	0	2	71	138	6	0	0	0	0	3	0	0	99	10	12	1	0	0	4	0	0	0	24	5	30	0	0	0	0	0	0	0	583

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Ministry of Transportation

TVIS II - Traffic Volume Information System

Turning Movement 15 Minute Report

Description: HWY 401 @ CTY RD 16 - RITSON RD (SRT)

Region: CENTRAL | **Survey Type:** TM – Interchange | **Hwy:** 401

Start Date: 22-Feb-2017 (Wed) | **I/C Side:** S | **LHRS:** 47587

End Date: 22-Feb-2017 (Wed) | **Int. Type:** Four Leg | **Offset:** 0

Schedule Summary: TUES-THURS, 06:00-10:00, 15:00-19:00

	Major Road Approaches																					Minor Road Approaches																		
	East										West										North										South									
	BLOOR STREET EAST										BLOOR STREET EAST										HWY 401 RAMP: Ramp(s): 15, 51										PLAZA ENT/EXIT: Ramp(s): 0									
Start	Cars			Trucks			Long Trucks				Cars			Trucks			Long Trucks				Cars			Trucks			Long Trucks				Cars			Trucks			Long Trucks				Total
Time	←	↑	→	←	↑	→	←	↑	→	Ped	←	↑	→	←	↑	→	←	↑	→	Ped	←	↑	→	←	↑	→	←	↑	→	Ped	←	↑	→	←	↑	→	←	↑	→	Ped	Veh.
16:15	16	80	50	0	0	0	0	3	0	2	78	149	5	0	0	0	0	0	0	1	111	15	12	0	0	0	1	0	0	0	22	10	27	0	0	0	0	0	0	5	**579**
16:30	15	86	41	0	0	0	0	1	0	0	87	135	10	0	0	0	0	1	0	0	121	11	16	0	0	0	3	0	0	0	17	8	33	0	0	0	0	0	0	1	**585**
16:45	17	73	57	0	0	0	0	1	0	0	75	127	6	0	0	0	0	0	0	0	90	9	14	0	0	0	1	0	0	1	16	7	30	0	0	0	0	0	0	3	**523**
17:00	22	88	64	0	0	0	0	1	0	0	51	162	5	0	0	0	0	2	0	0	121	10	12	1	0	0	1	0	0	0	17	12	22	0	0	0	0	0	0	2	**591**
17:15	21	82	67	0	0	0	0	0	0	0	54	182	10	0	0	0	1	0	0	0	102	14	12	1	0	0	2	0	0	2	25	9	23	0	0	0	0	0	0	0	**605**
17:30	13	78	35	0	0	0	0	2	0	0	38	175	5	0	1	0	0	1	0	1	110	12	8	1	0	0	1	0	0	0	16	10	21	0	0	0	0	0	0	3	**527**
17:45	13	74	34	0	0	0	0	0	0	1	41	128	5	0	0	0	0	0	0	0	131	10	13	0	0	0	0	0	0	0	16	1	23	0	0	0	0	0	0	2	**489**
18:00	5	68	31	0	0	0	0	2	0	0	42	147	4	0	0	0	0	1	0	0	127	12	14	0	0	0	0	0	0	0	16	9	22	0	0	0	0	0	0	0	**500**
18:15	14	67	31	0	0	0	0	1	0	0	37	137	4	0	0	0	0	0	0	1	110	11	9	0	0	0	0	1	0	0	16	2	18	0	0	0	0	0	0	6	**458**
18:30	6	69	27	0	0	0	0	1	0	0	39	124	4	0	0	0	0	1	0	0	91	5	9	0	0	0	0	0	0	1	5	3	21	0	0	0	0	0	0	0	**405**
18:45	7	50	26	0	0	1	0	0	0	0	21	90	3	0	0	0	2	0	0	0	69	2	3	0	0	0	0	0	0	2	4	0	20	0	0	0	0	0	0	1	**298**

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TMC Tabular Report

Bloor St (R.R.22) @ Drew St/Hwy 401 Eb Ramp

TMC No:	0226500000	Intersection ID:	20294	Count ID:	35702017790	Count Date:	10/10/2018

AM Peak 8:15 am				0.71	0.46	0.89		Ped. ↔			
↕				3%	9%	4%	↑	9			
Ped.				2	1	15	13				
2				63	10	340	200	Cars	Trucks	ruck %	PHF
	←	16	522	←	↓	→	↑	88	6	6%	0.67
0.82	4%	5	107	↑			←	440	13	3%	0.86
0.88	3%	8	259	→			↓	24	2	8%	0.5
0.75	0%	0	18	↓	←	↑	→	614	24	→	
PHF	ruck %	Trucks	Cars	52	19	5	15				0
				3	1	2	1				Ped.
			Ped. ↔	↓	5%	29%	6%				↕
			7		0.56	0.58	0.44				

MD Peak 12:00 pm				0.79	0.61	0.84		Ped. ↔			
↕				0%	0%	5%	↑	27			
Ped.				0	0	13	6				
9				60	17	258	251	Cars	Trucks	ruck %	PHF
	←	13	409	←	↓	→	↑	105	2	2%	0.74
0.86	3%	4	134	↑			←	305	11	3%	0.91
0.91	3%	8	290	→			↓	50	2	4%	0.68
0.58	3%	1	29	↓	←	↑	→	628	22	→	
PHF	ruck %	Trucks	Cars	96	44	12	80				4
				3	2	0	1				Ped.
			Ped. ↔	↓	4%	0%	1%				↕
			10		0.72	0.5	0.88				

PM Peak 5:00 pm				0.55	0.88	0.93		Ped. ↔			
↕				0%	0%	1%	↑	12			
Ped.				0	0	2	2				
8				31	35	396	468	Cars	Trucks	ruck %	PHF
	←	10	359	←	↓	→	↑	202	0	0%	0.74
0.83	1%	2	230	↑			←	286	9	3%	0.92
0.93	2%	9	550	→			↓	54	0	0%	0.68
0.63	5%	1	19	↓	←	↑	→	1021	11	→	
PHF	ruck %	Trucks	Cars	108	42	36	75				3
				1	1	0	0				Ped.
			Ped. ↔	↓	2%	0%	0%				↕
			6		0.77	0.75	0.75				

Total Count 8 hours*								Ped. ↔			
↕				1%	3%	4%	↑	78			
Ped.				3	5	92	64				
24				360	180	2502	2614	Cars	Trucks	ruck %	PHF
	←	85	3462	←	↓	→	↑	1196	32	3%	
	2%	26	1288	↑			←	2848	76	3%	
	3%	75	2423	→			↓	293	6	2%	
	3%	5	143	↓	←	↑	→	5354	175	→	
PHF	ruck %	Trucks	Cars	616	254	130	429				18
				16	6	6	8				Ped.
			Ped. ↔	↓	2%	4%	2%				↕
			52								

TMC Tabular Report

Ritson Rd (R.R.16) @ Bloor St (R.R.22)

TMC No: 0161500000 **Intersection ID:** 7652 **Count ID:** 35672016355 **Count Date:** 10/18/2016, Tue

AM Peak 08:15

				0.86	0.95	0.79		Ped. 2			
				0%	5%	11%					
				1	23	4	32				
Ped. 0				259	401	34	622	Cars	Trucks	Trucks %	PHF
		14	675					61	3	5%	0.76
0.89	4%	11	300					350	11	3%	0.88
0.76	4%	7	178					74	1	1%	0.69
0.70	9%	16	155					269	11		
PHF	Trucks %	Trucks	Cars	630	66	261	57				25 Ped.
				40	2	18	0				
					3%	6%	0%				
			Ped. 6		0.71	0.82	0.75				

MD Peak 12:45

				0.93	0.83	0.81		Ped. 9			
				2%	4%	3%					
				6	9	2	30				
Ped. 4				262	237	69	643	Cars	Trucks	Trucks %	PHF
		13	539					63	2	3%	0.74
0.85	4%	15	350					236	3	1%	0.87
0.92	4%	11	269					46	3	6%	0.88
0.83	7%	8	111					379	15		
PHF	Trucks %	Trucks	Cars	394	41	230	41				140 Ped.
				20	4	13	2				
					9%	5%	5%				
			Ped. 17		0.70	0.84	0.83				

PM Peak 16:00

				0.86	0.93	0.83		Ped. 13			
				4%	9%	8%					
				16	24	5	22				
Ped. 10				340	255	61	965	Cars	Trucks	Trucks %	PHF
		31	589					91	5	5%	0.83
0.97	1%	6	481					205	15	7%	0.89
0.91	1%	4	565					46	1	2%	0.73
0.83	19%	24	102					703	11		
PHF	Trucks %	Trucks	Cars	403	44	393	77				13 Ped.
				49	0	11	2				
					0%	3%	3%				
			Ped. 4		0.85	0.91	0.82				

Total Count -6 hours*

								Ped. 73			
				2%	4%	5%					
				47	93	21	252				
Ped. 32				2426	2136	407	5361	Cars	Trucks	Trucks %	PHF
		127	5126					542	38	7%	
	3%	87	2754					2353	64	3%	
	3%	74	2593					388	10	3%	
	8%	77	833					3396	110		
PHF	Trucks %	Trucks	Cars	3357	347	2065	396				313 Ped.
				180	16	127	15				
					4%	6%	4%				
			Ped. 49								

TMC 15 Min Report

Ritson Rd (R.R.16) @ Bloor St (R.R.22)

TMC No: 0161500000 **Intersection ID:** 7652 **Count ID:** 35672016355 **Count Date:** 10/18/2016, Tue

	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH									
Time	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																								
06:15	4	29	129	0	0	3	0	0	0	2	11	123	3	0	1	0	0	0	0	0	6	22	0	0	1	0	0	0	0	0	23	20	9	0	1	0	0	0	0	0	387
06:30	3	33	80	0	2	1	0	0	0	1	6	109	6	0	1	3	0	0	0	1	12	22	7	0	7	0	0	0	0	1	30	20	12	2	1	0	0	0	0	0	360
06:45	7	59	98	1	1	2	0	0	0	1	9	121	8	0	1	2	0	0	0	1	13	36	4	3	6	0	0	0	0	0	40	25	20	4	2	1	0	0	0	0	465
07:00	8	57	73	0	1	0	0	0	0	0	8	107	9	0	3	0	0	0	0	0	13	23	8	0	13	2	0	0	0	1	35	40	20	7	3	0	0	0	0	0	431
07:15	5	41	78	0	0	0	0	0	0	1	5	96	12	0	0	2	0	0	0	0	9	29	3	3	10	0	0	0	0	0	60	41	24	10	5	2	0	0	0	1	437
07:30	8	53	80	0	2	1	0	0	0	3	4	106	7	2	2	3	0	0	0	2	3	40	5	1	10	0	0	0	0	0	54	45	18	5	4	2	0	0	0	0	460
07:45	9	75	80	0	2	1	0	0	0	0	16	93	23	0	2	2	0	0	0	0	7	47	13	0	4	2	0	0	0	0	66	35	18	5	10	3	0	0	0	0	513
08:00	13	99	83	1	3	3	0	0	0	3	7	107	14	0	3	0	0	0	0	1	10	51	11	1	3	1	0	0	0	0	88	40	24	2	2	3	0	0	0	1	574
08:15	**4**	**104**	**76**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**26**	**100**	**11**	**1**	**3**	**2**	**0**	**0**	**0**	**3**	**12**	**49**	**8**	**1**	**9**	**0**	**0**	**0**	**0**	**2**	**67**	**30**	**29**	**5**	**3**	**3**	**0**	**0**	**0**	**0**	**552**
08:30	**11**	**108**	**66**	**1**	**3**	**1**	**0**	**0**	**0**	**1**	**14**	**79**	**14**	**0**	**3**	**0**	**0**	**0**	**0**	**8**	**16**	**57**	**11**	**0**	**4**	**0**	**0**	**0**	**0**	**3**	**66**	**39**	**35**	**2**	**1**	**2**	**0**	**0**	**0**	**0**	**545**
08:45	**8**	**105**	**52**	**1**	**4**	**0**	**0**	**0**	**0**	**1**	**14**	**86**	**16**	**0**	**5**	**0**	**0**	**0**	**0**	**8**	**14**	**73**	**19**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**80**	**50**	**57**	**4**	**1**	**4**	**0**	**0**	**0**	**0**	**605**
09:00	**11**	**84**	**65**	**1**	**13**	**0**	**0**	**0**	**0**	**0**	**20**	**85**	**20**	**0**	**0**	**1**	**0**	**0**	**0**	**6**	**24**	**82**	**19**	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**87**	**59**	**34**	**0**	**2**	**7**	**0**	**0**	**0**	**0**	**624**
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																								
11:45	6	48	49	0	1	0	0	0	0	0	8	58	12	0	3	0	0	0	0	9	8	73	9	1	3	0	0	0	0	2	85	61	23	2	1	2	0	0	0	0	464
12:00	13	53	62	2	3	2	0	0	0	4	13	62	16	0	0	2	0	0	0	30	7	53	6	0	5	0	0	0	0	3	71	76	27	7	2	0	0	0	0	1	520
12:15	13	59	66	0	3	2	0	0	0	1	15	59	20	0	0	2	0	0	0	29	13	77	10	0	4	0	0	0	0	0	79	78	32	1	4	0	0	0	0	1	568
12:30	10	79	56	0	2	1	0	0	0	5	8	65	17	0	1	0	0	0	0	0	12	64	5	1	4	0	0	0	0	0	89	81	26	1	1	0	0	0	0	0	528
12:45	**17**	**60**	**62**	**0**	**3**	**0**	**0**	**0**	**0**	**2**	**13**	**62**	**21**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**11**	**68**	**8**	**1**	**4**	**0**	**0**	**0**	**0**	**2**	**94**	**73**	**25**	**5**	**3**	**1**	**0**	**0**	**0**	**0**	**537**
13:00	**17**	**54**	**66**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**11**	**46**	**21**	**3**	**2**	**1**	**0**	**0**	**0**	**4**	**12**	**50**	**10**	**0**	**3**	**0**	**0**	**0**	**0**	**4**	**102**	**71**	**34**	**5**	**2**	**1**	**0**	**0**	**0**	**0**	**521**
13:15	**14**	**70**	**63**	**1**	**4**	**3**	**0**	**0**	**0**	**3**	**13**	**59**	**13**	**0**	**0**	**0**	**0**	**0**	**0**	**86**	**14**	**60**	**12**	**2**	**3**	**1**	**0**	**0**	**0**	**3**	**74**	**60**	**21**	**2**	**3**	**1**	**0**	**0**	**0**	**2**	**587**
13:30	**21**	**53**	**71**	**1**	**2**	**1**	**0**	**0**	**0**	**4**	**9**	**69**	**8**	**0**	**0**	**1**	**0**	**0**	**0**	**49**	**4**	**52**	**11**	**1**	**3**	**1**	**0**	**0**	**0**	**8**	**80**	**65**	**31**	**3**	**3**	**5**	**0**	**0**	**0**	**2**	**558**
Period 3																																								
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:15	11	65	76	1	3	0	0	0	0	6	13	52	13	3	0	3	0	0	0	36	14	92	35	0	4	2	0	0	0	4	134	109	40	1	4	3	0	0	0	5	729
15:30	18	69	76	1	4	1	0	0	0	4	12	50	25	0	2	1	0	0	0	4	7	103	21	0	3	3	0	0	0	1	128	110	35	1	2	2	0	0	0	1	684
15:45	20	69	103	1	3	3	0	0	0	2	11	62	24	0	6	0	0	0	0	5	17	93	9	0	2	1	0	0	0	0	111	120	31	2	2	3	0	0	0	1	701
16:00	**14**	**65**	**79**	**2**	**10**	**6**	**0**	**0**	**0**	**3**	**5**	**47**	**16**	**0**	**3**	**4**	**0**	**0**	**0**	**3**	**11**	**93**	**16**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**124**	**115**	**17**	**1**	**2**	**7**	**0**	**0**	**0**	**4**	**651**
16:15	**16**	**57**	**97**	**2**	**7**	**7**	**0**	**0**	**0**	**5**	**16**	**44**	**21**	**0**	**5**	**0**	**0**	**0**	**0**	**6**	**13**	**107**	**20**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**118**	**139**	**31**	**0**	**1**	**7**	**0**	**0**	**0**	**0**	**723**
16:30	**19**	**66**	**77**	**1**	**5**	**1**	**0**	**0**	**0**	**3**	**12**	**57**	**25**	**1**	**5**	**1**	**0**	**0**	**0**	**2**	**8**	**88**	**23**	**0**	**4**	**1**	**0**	**0**	**0**	**2**	**119**	**154**	**26**	**5**	**1**	**8**	**0**	**0**	**0**	**3**	**717**
16:45	**12**	**67**	**87**	**0**	**2**	**2**	**0**	**0**	**0**	**2**	**13**	**57**	**29**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**12**	**105**	**18**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**120**	**157**	**28**	**0**	**0**	**2**	**0**	**0**	**0**	**3**	**722**
17:00	24	75	85	0	1	2	0	0	0	2	20	48	23	0	3	1	0	0	0	3	10	71	13	0	1	0	0	0	0	1	90	92	16	0	0	2	0	0	0	1	584
17:15	22	65	105	1	2	0	0	0	0	3	11	81	39	0	0	0	0	0	0	10	13	105	21	0	2	0	0	0	0	4	82	118	23	0	2	2	0	0	0	1	712
17:30	16	66	67	0	2	0	0	0	0	6	18	42	18	0	5	1	0	0	0	1	11	72	15	0	1	0	0	0	0	2	125	168	24	2	0	3	0	0	0	1	666
17:45	13	68	70	1	2	1	0	0	0	0	12	61	13	0	0	0	0	0	0	2	3	57	12	0	2	0	0	0	0	3	116	166	24	2	2	0	0	0	0	0	630
18:00	20	81	49	1	0	1	0	0	0	5	15	60	25	0	2	6	0	0	0	1	8	51	14	0	0	0	0	0	0	0	117	136	19	1	4	1	0	0	0	4	621
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Ritson Rd (R.R.16) @ Dean Av/Mcnaughton Av

TMC No: 0161400000 **Intersection ID:** 7361 **Count ID:** 35702018513 **Count Date:** 11/05/2020, Thu

AM Peak 08:15

				0.91	0.92	0.60		Ped. 1			
				16%	24%	32%					
				12	151	10	174				
Ped. 1				61	490	21	571	Cars	Trucks	Trucks %	PHF
		37	141					10	12	55%	0.79
0.92	24%	31	98					65	24	27%	0.77
0.58	34%	12	23					133	39	23%	0.88
0.70	50%	7	7					93	42		
PHF	Trucks %	Trucks	Cars	630	15	463	49				9 Ped.
				197	1	131	20				
					6%	22%	29%				
			Ped. 7		0.67	0.78	0.82				

MD Peak 12:45

				0.78	0.99	0.88		Ped. 2			
				21%	19%	29%					
				10	140	10	159				
Ped. 2				37	590	25	691	Cars	Trucks	Trucks %	PHF
		23	108					25	11	31%	0.64
0.96	28%	25	63					58	12	17%	0.83
0.64	24%	12	37					123	27	18%	0.77
0.65	23%	9	30					135	35		
PHF	Trucks %	Trucks	Cars	743	13	603	73				16 Ped.
				176	1	123	13				
					7%	17%	15%				
			Ped. 2		0.88	0.89	0.90				

PM Peak 15:15

				0.81	0.86	0.78		Ped. 8			
				20%	21%	26%					
				14	168	12	228				
Ped. 7				57	616	35	844	Cars	Trucks	Trucks %	PHF
		48	210					38	13	25%	0.85
0.96	22%	19	69					125	30	19%	0.67
0.88	24%	18	56					149	29	16%	0.87
0.64	25%	9	27					201	52		
PHF	Trucks %	Trucks	Cars	792	28	737	110				18 Ped.
				206	4	196	22				
					13%	21%	17%				
			Ped. 12		0.53	0.97	0.94				

Total Count 3 hours*

								Ped. 47			
				21%	19%	28%					
				92	1068	86	1289				
Ped. 33				353	4532	217	5037	Cars	Trucks	Trucks %	PHF
		299	1046					149	73	33%	
	22%	158	573					587	182	24%	
	22%	89	307					944	235	20%	
	30%	55	131					1122	304		
PHF	Trucks %	Trucks	Cars	5607	106	4315	598				85 Ped.
				1358	25	1058	129				
					19%	20%	18%				
			Ped. 42								

TMC 15 Min Report

Ritson Rd (R.R.16) @ Dean Av/Mcnaughton Av

TMC No: 0161400000 **Intersection ID:** 7361 **Count ID:** 35702018513 **Count Date:** 11/05/2020, Thu

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										Total
	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	7	117	12	4	20	1	0	0	0	1	16	12	2	6	6	1	0	0	0	2	1	34	6	0	7	2	0	0	0	2	3	3	0	2	1	0	0	0	0	0	268
06:30	8	126	7	5	30	4	0	0	0	1	20	14	0	12	8	1	0	0	0	2	1	45	9	0	12	1	0	0	0	0	8	4	1	3	1	0	0	0	0	0	323
06:45	6	132	7	3	29	0	0	0	0	1	18	17	1	11	9	1	0	0	0	0	0	49	3	0	13	1	0	0	0	0	16	5	1	1	0	0	0	0	0	0	324
07:00	0	145	10	1	42	1	0	0	0	0	19	14	2	10	8	1	0	0	0	0	0	63	10	0	17	4	0	0	0	0	6	4	0	5	2	0	0	0	0	0	364
07:15	4	152	10	4	34	3	0	0	0	0	23	10	0	9	7	3	0	0	0	1	0	63	7	0	28	2	0	0	0	0	15	1	3	4	1	0	0	0	0	0	384
07:30	3	148	13	2	31	7	0	0	0	0	37	20	1	6	9	1	0	0	0	2	1	70	9	0	31	2	0	0	0	1	17	5	0	4	6	0	0	0	0	0	426
07:45	2	132	10	1	39	4	0	0	0	2	38	26	1	4	6	2	0	0	0	3	0	93	9	0	35	4	0	0	0	1	27	7	1	4	2	1	0	0	0	0	454
08:00	6	140	11	2	42	3	0	0	0	0	30	23	3	10	11	3	0	0	0	2	0	86	16	2	33	5	0	0	0	2	23	11	4	6	2	0	0	0	0	0	476
08:15	**9**	**109**	**13**	**4**	**25**	**3**	**0**	**0**	**0**	**1**	**29**	**16**	**2**	**8**	**4**	**2**	**0**	**0**	**0**	**2**	**3**	**97**	**11**	**0**	**31**	**4**	**0**	**0**	**0**	**0**	**26**	**4**	**1**	**9**	**2**	**3**	**0**	**0**	**0**	**0**	**418**
08:30	**2**	**129**	**17**	**2**	**37**	**2**	**0**	**0**	**0**	**0**	**32**	**11**	**3**	**11**	**2**	**4**	**0**	**0**	**0**	**1**	**1**	**91**	**9**	**1**	**26**	**6**	**0**	**0**	**0**	**0**	**23**	**7**	**1**	**6**	**3**	**1**	**0**	**0**	**0**	**0**	**428**
08:45	**3**	**125**	**16**	**3**	**42**	**4**	**0**	**0**	**0**	**0**	**38**	**22**	**0**	**11**	**7**	**5**	**0**	**0**	**0**	**1**	**6**	**119**	**13**	**0**	**40**	**5**	**0**	**0**	**0**	**4**	**25**	**3**	**1**	**10**	**1**	**2**	**0**	**0**	**0**	**0**	**506**
09:00	**7**	**127**	**15**	**1**	**47**	**3**	**0**	**0**	**0**	**0**	**34**	**16**	**5**	**9**	**11**	**1**	**0**	**0**	**0**	**5**	**5**	**156**	**16**	**0**	**34**	**5**	**0**	**0**	**0**	**3**	**24**	**9**	**4**	**6**	**6**	**1**	**0**	**0**	**0**	**1**	**551**
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	8	127	15	3	29	3	0	0	0	1	40	17	1	7	8	1	0	0	0	9	4	134	26	1	36	8	0	0	0	0	13	5	5	4	4	3	0	0	0	1	513
12:00	5	129	8	3	31	2	0	0	0	3	27	17	6	6	5	1	0	0	0	6	8	134	20	2	40	2	0	0	0	0	12	12	4	2	3	3	0	0	0	4	495
12:15	8	135	7	2	27	4	0	0	0	0	29	11	2	7	3	1	0	0	0	0	3	137	20	0	29	3	0	0	0	0	25	14	7	0	4	4	0	0	0	0	482
12:30	10	150	7	2	30	2	0	0	0	3	17	22	4	8	4	0	0	0	0	1	6	140	20	1	25	3	0	0	0	0	13	10	8	6	2	3	0	0	0	1	498
12:45	**5**	**145**	**6**	**2**	**35**	**2**	**0**	**0**	**0**	**0**	**42**	**18**	**10**	**7**	**2**	**4**	**0**	**0**	**0**	**2**	**4**	**144**	**14**	**0**	**35**	**3**	**0**	**0**	**0**	**1**	**17**	**14**	**12**	**6**	**4**	**3**	**0**	**0**	**0**	**1**	**538**
13:00	**6**	**144**	**12**	**3**	**38**	**3**	**0**	**0**	**0**	**2**	**33**	**16**	**5**	**6**	**5**	**4**	**0**	**0**	**0**	**10**	**2**	**139**	**18**	**1**	**34**	**5**	**0**	**0**	**0**	**0**	**14**	**7**	**6**	**9**	**3**	**3**	**0**	**0**	**0**	**1**	**529**
13:15	**6**	**153**	**12**	**3**	**31**	**2**	**0**	**0**	**0**	**0**	**21**	**15**	**5**	**4**	**3**	**2**	**0**	**0**	**0**	**1**	**4**	**147**	**21**	**0**	**24**	**1**	**0**	**0**	**0**	**0**	**16**	**2**	**6**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**483**
13:30	**8**	**148**	**7**	**2**	**36**	**3**	**0**	**0**	**0**	**0**	**27**	**9**	**5**	**10**	**2**	**1**	**0**	**0**	**0**	**3**	**3**	**173**	**20**	**0**	**30**	**4**	**0**	**0**	**0**	**1**	**16**	**14**	**6**	**7**	**5**	**2**	**0**	**0**	**0**	**0**	**542**
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	**11**	**155**	**16**	**4**	**39**	**4**	**0**	**0**	**0**	**1**	**37**	**31**	**8**	**7**	**11**	**5**	**0**	**0**	**0**	**2**	**14**	**185**	**26**	**1**	**52**	**4**	**0**	**0**	**0**	**3**	**17**	**14**	**7**	**3**	**5**	**1**	**0**	**0**	**0**	**1**	**664**
15:30	**5**	**183**	**19**	**2**	**46**	**3**	**0**	**0**	**0**	**1**	**41**	**50**	**8**	**10**	**8**	**2**	**0**	**0**	**0**	**6**	**4**	**189**	**27**	**1**	**51**	**6**	**0**	**0**	**0**	**3**	**15**	**9**	**10**	**8**	**5**	**4**	**0**	**0**	**0**	**5**	**721**
15:45	**11**	**126**	**12**	**2**	**46**	**5**	**0**	**0**	**0**	**5**	**43**	**22**	**11**	**8**	**4**	**4**	**0**	**0**	**0**	**7**	**7**	**194**	**26**	**1**	**43**	**8**	**0**	**0**	**0**	**4**	**17**	**17**	**5**	**5**	**4**	**2**	**0**	**0**	**0**	**0**	**639**
16:00	**8**	**152**	**10**	**4**	**37**	**2**	**0**	**0**	**0**	**1**	**28**	**22**	**11**	**4**	**7**	**2**	**0**	**0**	**0**	**3**	**3**	**169**	**31**	**1**	**50**	**4**	**0**	**0**	**0**	**2**	**20**	**16**	**5**	**3**	**4**	**2**	**0**	**0**	**0**	**1**	**602**
16:15	7	136	11	2	39	6	0	0	0	4	38	18	6	7	4	5	0	0	0	0	4	178	22	2	52	7	0	0	0	0	24	10	7	7	5	2	0	0	0	2	605
16:30	5	140	10	1	36	3	0	0	0	8	28	18	3	9	3	4	0	0	0	3	3	189	32	0	54	9	0	0	0	2	18	15	3	5	0	1	0	0	0	0	602
16:45	9	150	9	5	41	3	0	0	0	6	30	20	5	5	6	1	0	0	0	7	2	180	29	1	41	3	0	0	0	8	16	16	5	9	4	3	0	0	0	6	620
17:00	12	156	7	6	25	2	0	0	0	4	21	12	10	2	8	4	0	0	0	1	2	189	34	5	46	4	0	0	0	2	24	25	5	3	3	2	0	0	0	4	618
17:15	9	184	11	1	36	2	0	0	0	0	30	14	8	8	5	3	0	0	0	0	1	220	12	3	38	7	0	0	0	1	26	8	4	7	0	0	0	0	0	2	640
17:30	8	155	11	3	15	0	0	0	0	2	28	18	8	4	3	0	0	0	0	1	3	178	22	2	3	2	0	0	0	0	26	20	2	3	4	4	0	0	0	1	526
17:45	8	155	11	3	20	2	0	0	0	0	22	21	11	6	3	1	0	0	0	2	6	184	40	0	37	2	0	0	0	1	16	7	2	6	0	2	0	0	0	0	568
18:00	11	127	11	1	13	4	0	0	0	0	28	15	2	3	0	3	0	0	0	0	5	146	20	0	31	3	0	0	0	1	15	9	5	2	3	2	0	0	0	2	462
18:15	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

RITSON RD (R.R. 16) @ VIOLA ST

TMC No. : 0162300000 **Intersection ID :** 7234 **Count ID:** 30392007305 **Count Date:** 11/1/2007

AM Peak: 8:15 am

Ped. (north leg): 0 | Ped. (east leg): 0 | Ped. (west leg): 0 | Ped. (south leg): 35

North approach (southbound):

PHF	Trucks %	Trucks	Cars
0.00	0%	0	0
0.96	5%	44	837
0.46	0%	0	22

Northbound exiting: Trucks 32, Cars 617

East approach (westbound):

Cars	Trucks	Trucks %	PHF
8	0	0%	0.67
0	0	0%	0.00
5	0	0%	0.63
36	2		

West approach (eastbound):

PHF	Trucks %	Trucks	Cars
		0	0
0.00	0%	0	0
0.00	0%	0	0
0.00	0%	0	0

South approach (northbound):

Cars	Trucks	Trucks %	PHF
14	2	13%	0.80
609	32	5%	0.89
0	0	0%	0.00

Southbound exiting: Cars 842, Trucks 44

MD Peak: 12:45 pm

Ped. (north leg): 0 | Ped. (east leg): 0 | Ped. (west leg): 0 | Ped. (south leg): 17

North approach (southbound):

PHF	Trucks %	Trucks	Cars
0.00	0%	0	0
0.94	4%	32	738
0.58	13%	3	20

Northbound exiting: Trucks 27, Cars 634

East approach (westbound):

Cars	Trucks	Trucks %	PHF
32	2	6%	0.65
0	0	0%	0.00
32	1	3%	0.83
54	5		

West approach (eastbound):

PHF	Trucks %	Trucks	Cars
		0	0
0.00	0%	0	0
0.00	0%	0	0
0.00	0%	0	0

South approach (northbound):

Cars	Trucks	Trucks %	PHF
34	2	6%	0.69
602	25	4%	0.94
0	0	0%	0.00

Southbound exiting: Cars 770, Trucks 33

PM Peak: 4:30 pm

Ped. (north leg): 0 | Ped. (east leg): 0 | Ped. (west leg): 0 | Ped. (south leg): 32

North approach (southbound):

PHF	Trucks %	Trucks	Cars
0.00	0%	0	0
0.90	3%	25	829
0.86	3%	1	37

Northbound exiting: Trucks 22, Cars 1093

East approach (westbound):

Cars	Trucks	Trucks %	PHF
74	1	1%	0.82
0	0	0%	0.00
53	3	5%	0.61
104	4		

West approach (eastbound):

PHF	Trucks %	Trucks	Cars
		0	0
0.00	0%	0	0
0.00	0%	0	0
0.00	0%	0	0

South approach (northbound):

Cars	Trucks	Trucks %	PHF
67	3	4%	0.67
1019	21	2%	0.91
0	0	0%	0.00

Southbound exiting: Cars 882, Trucks 28

Total Count 8 hours

Ped. (north leg): 0 | Ped. (east leg): 0 | Ped. (west leg): 0 | Ped. (south leg): 220

North approach (southbound):

Trucks %	Trucks	Cars
0%	0	0
4%	224	6088
2%	4	178

Northbound exiting: Trucks 239, Cars 5667

East approach (westbound):

Cars	Trucks	Trucks %
259	4	2%
0	0	0%
203	8	4%
470	13	

West approach (eastbound):

Trucks %	Trucks	Cars
	0	0
0%	0	0
0%	0	0
0%	0	0

South approach (northbound):

Cars	Trucks	Trucks %
292	9	3%
5408	235	4%
0	0	0%

Southbound exiting: Cars 6291, Trucks 232

Count Date: 11/1/2007

TMC 15 Min Report

RITSON RD (R.R. 16) @ VIOLA ST

	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
Time	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
6:15	0	210	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	60	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	276
6:30	0	185	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	251
6:45	0	200	0	0	4	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	0	102	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	315
7:00	0	207	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	90	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	305
7:15	0	185	0	0	4	0	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	93	1	0	25	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	313
7:30	3	188	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	0	102	3	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	321
7:45	1	201	0	0	8	0	0	0	0	0	0	0	3	0	0	0	0	0	0	2	0	127	2	0	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	359
8:00	5	218	0	0	6	0	0	0	0	0	0	0	2	0	0	0	0	0	0	1	0	113	7	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	363
8:15	**12**	**205**	**0**	**0**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**129**	**4**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**371**
8:30	**3**	**216**	**0**	**0**	**13**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**0**	**165**	**1**	**0**	**10**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**429**
8:45	**6**	**218**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**172**	**5**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**428**
9:00	**1**	**198**	**0**	**0**	**13**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**0**	**143**	**4**	**0**	**9**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**380**
Period 2																																									
11:45	6	158	0	0	9	0	0	0	0	0	4	0	6	1	0	0	0	0	0	19	0	147	4	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	362
12:00	9	162	0	0	5	0	0	0	0	0	4	0	5	0	0	0	0	0	0	4	0	172	9	0	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	379
12:15	4	166	0	0	5	0	0	0	0	0	11	0	8	1	0	0	0	0	0	10	0	159	11	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	378
12:30	6	152	0	0	13	0	0	0	0	0	4	0	3	0	0	0	0	0	0	7	0	139	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	330
12:45	**6**	**191**	**0**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**5**	**0**	**0**	**1**	**0**	**0**	**0**	**5**	**0**	**143**	**6**	**0**	**7**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**379**
13:00	**5**	**188**	**0**	**1**	**7**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**160**	**13**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**398**
13:15	**1**	**164**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**160**	**8**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**368**
13:30	**8**	**195**	**0**	**2**	**10**	**0**	**0**	**0**	**0**	**0**	**9**	**0**	**12**	**1**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**139**	**7**	**0**	**7**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**395**
Period 3																																									
15:15	4	190	0	0	8	0	0	0	0	0	13	0	16	0	0	0	0	0	0	18	0	247	17	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	518
15:30	12	205	0	0	11	0	0	0	0	0	10	0	10	1	0	0	0	0	0	17	0	223	17	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	512
15:45	5	208	0	0	15	0	0	0	0	0	9	0	15	0	0	0	0	0	0	7	0	239	11	0	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	517
16:00	5	156	0	0	10	0	0	0	0	0	6	0	11	1	0	0	0	0	0	10	0	210	17	0	16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	442
16:15	9	184	0	0	10	0	0	0	0	0	13	0	11	0	0	0	0	0	0	10	0	230	16	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	490
16:30	**8**	**193**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**8**	**0**	**16**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**264**	**16**	**0**	**10**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**536**
16:45	**10**	**190**	**0**	**0**	**9**	**0**	**0**	**0**	**0**	**0**	**13**	**0**	**23**	**2**	**0**	**0**	**0**	**0**	**0**	**12**	**0**	**282**	**24**	**0**	**5**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**572**
17:00	**10**	**212**	**0**	**1**	**7**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**19**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**221**	**10**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**498**
17:15	**9**	**234**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**22**	**0**	**16**	**1**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**252**	**17**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**559**
17:30	9	200	0	0	1	0	0	0	0	0	16	0	18	0	0	0	0	0	0	8	0	232	21	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	507
17:45	13	148	0	0	4	0	0	0	0	0	10	0	20	0	0	1	0	0	0	8	0	219	23	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	446
18:00	8	161	0	0	3	0	0	0	0	0	9	0	16	0	0	0	0	0	0	6	0	216	14	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	435

TMC Tabular Report

Ritson Rd (R.R.16) @ Olive Av (R.R.59)

TMC No: 0160200000 **Intersection ID:** 6982 **Count ID:** 35702018511 **Count Date:** 11/05/2020, Thu

AM Peak 08:15

				0.63	0.95	0.73		Ped. 9			
				18%	12%	13%					
				6	71	4	92				
Ped. 1				27	504	28	606	Cars	Trucks	Trucks %	PHF
		47	235					63	9	13%	0.78
0.50	40%	4	6					184	37	17%	0.91
0.76	11%	9	70					160	36	18%	0.84
0.77	21%	7	27					171	28		
PHF	Trucks %	Trucks	Cars	691	24	537	73				5 Ped.
				114	4	79	15				
					14%	13%	17%				
			Ped. 2		0.64	0.81	0.73				

MD Peak 12:45

				0.71	0.90	0.80		Ped. 8			
				8%	17%	20%					
				3	104	9	103				
Ped. 0				37	525	36	692	Cars	Trucks	Trucks %	PHF
		31	228					53	6	10%	0.92
0.86	17%	4	20					157	24	13%	0.81
0.76	9%	16	154					129	28	18%	0.93
0.80	15%	7	41					305	47		
PHF	Trucks %	Trucks	Cars	695	34	619	115				11 Ped.
				139	4	93	22				
					11%	13%	16%				
			Ped. 3		0.79	0.92	0.73				

PM Peak 15:15

				0.80	0.96	0.76		Ped. 4			
				9%	14%	13%					
				4	90	9	128				
Ped. 10				41	548	61	828	Cars	Trucks	Trucks %	PHF
		68	386					61	8	12%	0.86
0.73	20%	7	28					305	60	16%	0.84
0.86	13%	31	202					154	47	23%	0.70
0.83	13%	7	46					426	87		
PHF	Trucks %	Trucks	Cars	748	40	739	163				8 Ped.
				144	4	113	47				
					9%	13%	22%				
			Ped. 13		0.79	0.94	0.95				

Total Count 8 hours*

								Ped. 46			
				11%	15%	17%					
				25	730	70	838				
Ped. 18				204	4182	337	4940	Cars	Trucks	Trucks %	PHF
		317	1814					386	56	13%	
	22%	35	127					1402	260	16%	
	12%	147	1131					1123	242	18%	
	12%	37	279					2359	400		
PHF	Trucks %	Trucks	Cars	5584	208	4427	891				54 Ped.
				1009	32	747	183				
					13%	14%	17%				
			Ped. 27								

TMC 15 Min Report

Ritson Rd (R.R.16) @ Olive Av (R.R.59)

TMC No: 0160200000 **Intersection ID:** 6982 **Count ID:** 35702018511 **Count Date:** 11/05/2020, Thu

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	0	118	2	0	14	0	0	0	0	1	35	10	7	8	5	1	0	0	0	0	2	28	3	0	8	2	0	0	0	0	1	7	2	0	0	0	0	0	0	0	254
06:30	0	106	0	1	17	0	0	0	0	0	33	21	1	7	1	0	0	0	0	1	0	49	6	0	10	0	0	0	0	0	3	3	5	0	1	1	0	0	0	0	266
06:45	2	121	1	0	19	0	0	0	0	0	47	32	11	9	5	0	0	0	0	0	1	65	7	0	8	1	0	0	0	1	0	15	3	1	1	0	0	0	0	0	350
07:00	2	107	2	2	35	1	0	0	0	0	38	20	5	10	10	1	0	0	0	2	1	59	9	1	11	5	0	0	0	0	0	7	5	1	1	0	0	0	0	0	335
07:15	4	149	2	1	28	1	0	0	0	1	32	25	8	8	5	1	0	0	0	0	0	70	7	0	28	2	0	0	0	0	0	12	2	1	2	1	0	0	0	0	390
07:30	4	139	5	0	37	1	0	0	0	0	36	18	3	6	5	4	0	0	0	1	3	70	11	0	29	3	0	0	0	0	1	10	3	0	2	1	0	0	0	0	392
07:45	10	146	4	2	27	0	0	0	0	2	54	43	15	11	8	2	0	0	0	2	1	103	20	1	27	4	0	0	0	0	1	11	6	0	1	1	0	0	0	0	502
08:00	9	127	5	1	24	1	0	0	0	0	61	58	13	8	6	3	0	0	0	1	3	105	13	1	28	4	0	0	0	2	4	28	2	1	3	0	0	0	0	0	511
08:15	**5**	**123**	**5**	**1**	**22**	**3**	**0**	**0**	**0**	**0**	**44**	**34**	**18**	**0**	**11**	**0**	**0**	**0**	**0**	**0**	**3**	**117**	**16**	**0**	**19**	**4**	**0**	**0**	**0**	**1**	**3**	**14**	**10**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**456**
08:30	**10**	**120**	**4**	**1**	**15**	**2**	**0**	**0**	**0**	**4**	**33**	**48**	**15**	**8**	**7**	**0**	**0**	**0**	**0**	**2**	**4**	**123**	**10**	**0**	**19**	**3**	**0**	**0**	**0**	**0**	**1**	**14**	**6**	**1**	**1**	**2**	**0**	**0**	**0**	**0**	**453**
08:45	**6**	**129**	**12**	**1**	**15**	**1**	**0**	**0**	**0**	**1**	**40**	**48**	**11**	**18**	**12**	**5**	**0**	**0**	**0**	**2**	**8**	**127**	**21**	**2**	**21**	**4**	**0**	**0**	**0**	**0**	**0**	**21**	**4**	**0**	**1**	**2**	**0**	**0**	**0**	**1**	**513**
09:00	**7**	**132**	**6**	**1**	**19**	**0**	**0**	**0**	**0**	**4**	**43**	**54**	**19**	**10**	**7**	**4**	**0**	**0**	**0**	**1**	**9**	**170**	**26**	**2**	**20**	**4**	**0**	**0**	**0**	**1**	**2**	**21**	**7**	**3**	**5**	**2**	**0**	**0**	**0**	**0**	**579**
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	10	118	11	1	22	2	0	0	0	1	21	42	13	8	8	0	0	0	0	2	12	127	27	0	28	4	0	0	0	1	1	29	13	2	1	3	0	0	0	0	507
12:00	10	110	5	4	25	1	0	0	0	0	36	46	8	2	4	1	0	0	0	5	10	142	14	2	23	4	0	0	0	1	6	33	7	0	8	0	0	0	0	0	507
12:15	12	124	6	3	16	1	0	0	0	3	21	35	16	3	9	2	0	0	0	3	8	137	27	4	19	5	0	0	0	0	2	34	13	1	6	1	0	0	0	1	512
12:30	12	136	0	1	26	0	0	0	0	3	36	33	10	8	9	1	0	0	0	1	5	122	40	0	25	5	0	0	0	0	7	46	14	0	4	2	0	0	0	0	546
12:45	**9**	**122**	**5**	**1**	**25**	**1**	**0**	**0**	**0**	**1**	**35**	**30**	**14**	**5**	**6**	**0**	**0**	**0**	**0**	**0**	**12**	**145**	**35**	**0**	**21**	**12**	**0**	**0**	**0**	**0**	**5**	**33**	**12**	**1**	**4**	**2**	**0**	**0**	**0**	**0**	**536**
13:00	**11**	**130**	**12**	**3**	**23**	**1**	**0**	**0**	**0**	**3**	**35**	**39**	**11**	**7**	**6**	**3**	**0**	**0**	**0**	**6**	**8**	**142**	**30**	**0**	**25**	**3**	**0**	**0**	**0**	**2**	**5**	**51**	**12**	**1**	**5**	**3**	**0**	**0**	**0**	**0**	**577**
13:15	**5**	**147**	**7**	**3**	**28**	**0**	**0**	**0**	**0**	**4**	**25**	**49**	**14**	**8**	**7**	**2**	**0**	**0**	**0**	**4**	**7**	**180**	**23**	**2**	**13**	**1**	**0**	**0**	**0**	**0**	**5**	**37**	**11**	**0**	**4**	**1**	**0**	**0**	**0**	**0**	**587**
13:30	**11**	**126**	**13**	**2**	**28**	**1**	**0**	**0**	**0**	**0**	**34**	**39**	**14**	**8**	**5**	**1**	**0**	**0**	**0**	**1**	**7**	**152**	**27**	**2**	**34**	**6**	**0**	**0**	**0**	**1**	**5**	**33**	**6**	**2**	**3**	**1**	**0**	**0**	**0**	**0**	**562**
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	**15**	**142**	**8**	**1**	**24**	**0**	**0**	**0**	**0**	**3**	**32**	**87**	**18**	**14**	**19**	**2**	**0**	**0**	**0**	**3**	**13**	**174**	**40**	**1**	**30**	**14**	**0**	**0**	**0**	**4**	**10**	**48**	**14**	**2**	**2**	**2**	**0**	**0**	**0**	**3**	**725**
15:30	**12**	**150**	**10**	**3**	**16**	**2**	**0**	**0**	**0**	**0**	**54**	**91**	**15**	**18**	**18**	**0**	**0**	**0**	**0**	**2**	**8**	**196**	**37**	**1**	**31**	**10**	**0**	**0**	**0**	**5**	**3**	**54**	**9**	**0**	**8**	**0**	**0**	**0**	**0**	**3**	**756**
15:45	**15**	**127**	**9**	**1**	**35**	**2**	**0**	**0**	**0**	**0**	**34**	**74**	**15**	**8**	**13**	**5**	**0**	**0**	**0**	**0**	**13**	**182**	**41**	**1**	**29**	**13**	**0**	**0**	**0**	**2**	**6**	**58**	**12**	**4**	**10**	**1**	**0**	**0**	**0**	**2**	**712**
16:00	**19**	**129**	**14**	**4**	**15**	**0**	**0**	**0**	**0**	**1**	**34**	**53**	**13**	**7**	**10**	**1**	**0**	**0**	**0**	**3**	**6**	**187**	**45**	**1**	**23**	**10**	**0**	**0**	**0**	**2**	**9**	**42**	**11**	**1**	**11**	**4**	**0**	**0**	**0**	**2**	**657**
16:15	16	132	15	1	29	1	0	0	0	7	24	48	9	8	16	4	0	0	0	2	8	179	47	1	39	8	0	0	0	2	5	67	11	0	9	1	0	0	0	0	689
16:30	21	122	4	4	25	1	0	0	0	1	30	60	9	4	8	3	0	0	0	0	11	195	49	2	32	11	0	0	0	1	9	50	15	3	9	0	0	0	0	0	679
16:45	17	141	7	2	35	1	0	0	0	0	30	46	14	7	9	1	0	0	0	0	5	182	40	3	30	6	0	0	0	0	5	56	10	2	10	0	0	0	0	0	659
17:00	26	146	5	3	21	1	0	0	0	4	41	47	18	5	8	0	0	0	0	2	7	178	58	1	31	7	0	0	0	1	5	67	15	0	10	4	0	0	0	2	713
17:15	17	166	7	7	26	0	0	0	0	1	23	42	15	6	7	2	0	0	0	0	10	190	44	2	35	7	0	0	0	0	4	54	11	1	5	0	0	0	0	3	685
17:30	12	136	11	7	14	0	0	0	0	1	29	46	14	3	6	1	0	0	0	1	5	198	35	0	21	8	0	0	0	0	8	73	6	2	11	0	0	0	0	0	648
17:45	13	155	4	3	15	0	0	0	0	0	30	43	10	2	5	3	0	0	0	2	8	188	44	1	21	8	0	0	0	0	7	53	13	4	4	0	0	0	0	0	636
18:00	15	106	3	5	10	0	0	0	0	0	23	41	10	8	5	3	0	0	0	5	10	145	39	1	9	5	0	0	0	0	4	50	9	1	3	1	0	0	0	1	512
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Wilson Rd (R.R.35) @ Olive Av (R.R.59)

TMC No: 0350600000 **Intersection ID:** 6792 **Count ID:** 35702018353 **Count Date:** 09/16/2020, Wed

AM Peak 08:15

Ped. (NW) ↑↓: 4 — Ped. (N) ⇄: 4 — Ped. (E) ↑↓: 14 — Ped. (S) ⇄: 17

North approach:

	↵	↓	↳	↑
PHF	0.75	0.75	0.64	
Trucks %	21%	15%	26%	
Trucks	8	27	6	61
Cars	31	152	17	221

West approach:

PHF	Trucks %	Trucks	Cars	
	←	76	278	
0.82	35%	8	15	↱
0.81	16%	18	92	→
0.83	24%	8	25	↴

East approach:

	Cars	Trucks	Trucks %	PHF
↰	44	9	17%	0.74
←	214	61	22%	0.84
↲	46	14	23%	0.75
↱	145	33	→	

South approach:

	↴	↰	↑	↱
Cars	223	33	162	36
Trucks	49	7	44	9
Trucks %	↓	18%	21%	20%
PHF		0.63	0.83	0.80

MD Peak 12:45

Ped. (NW) ↑↓: 4 — Ped. (N) ⇄: 5 — Ped. (E) ↑↓: 11 — Ped. (S) ⇄: 10

North approach:

	↵	↓	↳	↑
PHF	0.86	0.98	0.73	
Trucks %	8%	18%	5%	
Trucks	4	38	2	48
Cars	44	170	36	274

West approach:

PHF	Trucks %	Trucks	Cars	
	←	41	247	
0.73	9%	3	32	↱
0.79	19%	33	144	→
0.83	12%	4	29	↴

East approach:

	Cars	Trucks	Trucks %	PHF
↰	48	2	4%	0.69
←	168	31	16%	0.82
↲	54	19	26%	0.70
↱	228	48	→	

South approach:

	↴	↰	↑	↱
Cars	253	35	194	48
Trucks	61	6	43	13
Trucks %	↓	15%	18%	21%
PHF		0.79	0.74	0.80

PM Peak 16:30

Ped. (NW) ↑↓: 6 — Ped. (N) ⇄: 4 — Ped. (E) ↑↓: 9 — Ped. (S) ⇄: 11

North approach:

	↵	↓	↳	↑
PHF	0.61	0.90	0.83	
Trucks %	13%	23%	7%	
Trucks	5	53	4	92
Cars	34	182	56	464

West approach:

PHF	Trucks %	Trucks	Cars	
	←	35	249	
0.77	14%	5	32	↱
0.93	13%	42	282	→
0.93	15%	8	44	↴

East approach:

	Cars	Trucks	Trucks %	PHF
↰	58	8	12%	0.75
←	186	24	11%	0.97
↲	56	18	24%	0.77
↱	415	68	→	

South approach:

	↴	↰	↑	↱
Cars	282	29	374	77
Trucks	79	6	79	22
Trucks %	↓	17%	17%	22%
PHF		0.88	0.85	0.92

Total Count 3 hours*

Ped. (NW) ↑↓: 30 — Ped. (N) ⇄: 33 — Ped. (E) ↑↓: 75 — Ped. (S) ⇄: 81

North approach:

	↵	↓	↳	↑
Trucks %	18%	20%	11%	
Trucks	64	314	29	483
Cars	296	1279	237	2252

West approach:

PHF	Trucks %	Trucks	Cars	
	←	395	1884	
	16%	32	168	↱
	16%	228	1184	→
	22%	65	233	↴

East approach:

	Cars	Trucks	Trucks %	PHF
↰	356	44	11%	
←	1363	282	17%	
↲	403	104	21%	
↱	1841	351	→	

South approach:

	↴	↰	↑	↱
Cars	1915	225	1728	420
Trucks	483	49	407	94
Trucks %	↓	18%	19%	18%

TMC 15 Min Report

Wilson Rd (R.R.35) @ Olive Av (R.R.59)

TMC No: 0350600000 **Intersection ID:** 6792 **Count ID:** 35702018353 **Count Date:** 09/16/2020, Wed

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Total
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	2	27	5	0	12	1	0	0	0	0	8	14	6	1	5	1	0	0	0	0	3	11	1	1	1	2	0	0	0	0	1	6	3	0	1	0	0	0	0	0	112
06:30	1	46	9	0	6	0	0	0	0	0	8	17	5	1	8	1	0	0	0	0	3	14	5	0	6	0	0	0	0	0	0	4	1	0	4	1	0	0	0	0	140
06:45	2	32	13	1	13	4	0	0	0	0	8	26	8	0	9	1	0	0	0	0	3	17	3	1	6	1	0	0	0	0	1	14	2	0	2	0	0	0	0	0	167
07:00	4	29	12	1	7	2	0	0	0	0	12	30	7	5	14	0	0	0	0	0	5	17	5	0	3	3	0	0	0	1	2	8	2	0	4	2	0	0	0	0	175
07:15	4	25	6	0	7	1	0	0	0	0	10	27	6	2	5	1	0	0	0	0	1	20	8	0	9	2	0	0	0	1	4	13	3	0	5	1	0	0	0	0	161
07:30	3	45	7	2	9	4	0	0	0	0	13	42	5	2	6	1	0	0	0	0	2	26	4	0	6	0	0	0	0	0	1	18	5	1	7	2	0	0	0	0	211
07:45	2	49	16	1	11	2	0	0	0	0	9	57	6	7	8	1	0	0	0	0	3	12	7	1	11	1	0	0	0	0	3	22	11	1	3	3	0	0	0	0	247
08:00	8	50	11	0	11	2	0	0	0	0	14	46	10	8	14	1	0	0	0	0	13	35	8	6	13	2	0	0	0	1	1	17	12	0	1	6	0	0	0	0	290
08:15	**5**	**33**	**4**	**0**	**6**	**2**	**0**	**0**	**0**	**2**	**16**	**44**	**15**	**4**	**11**	**3**	**0**	**0**	**0**	**0**	**12**	**39**	**10**	**4**	**10**	**4**	**0**	**0**	**0**	**1**	**4**	**20**	**10**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**262**
08:30	**4**	**33**	**8**	**0**	**6**	**3**	**0**	**0**	**0**	**0**	**12**	**64**	**9**	**5**	**18**	**2**	**0**	**0**	**0**	**2**	**7**	**30**	**11**	**2**	**9**	**1**	**0**	**0**	**0**	**2**	**1**	**19**	**1**	**2**	**5**	**6**	**0**	**0**	**0**	**1**	**263**
08:45	**3**	**35**	**11**	**2**	**6**	**2**	**0**	**0**	**0**	**0**	**11**	**59**	**10**	**3**	**12**	**1**	**0**	**0**	**0**	**7**	**10**	**52**	**8**	**1**	**10**	**4**	**0**	**0**	**0**	**9**	**6**	**25**	**9**	**1**	**9**	**1**	**0**	**0**	**0**	**2**	**309**
09:00	**5**	**51**	**8**	**4**	**9**	**1**	**0**	**0**	**0**	**2**	**7**	**47**	**10**	**2**	**20**	**3**	**0**	**0**	**0**	**5**	**4**	**41**	**7**	**0**	**15**	**0**	**0**	**0**	**0**	**5**	**4**	**28**	**5**	**2**	**4**	**1**	**0**	**0**	**0**	**1**	**291**
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	4	42	11	1	7	2	0	0	0	2	11	32	11	1	4	1	0	0	0	2	9	57	11	2	11	4	0	0	0	3	5	30	6	0	8	2	0	0	0	2	281
12:00	5	38	9	1	10	3	0	0	0	0	14	44	11	2	8	4	0	0	0	1	6	53	12	1	10	0	0	0	0	0	1	22	8	0	7	2	0	0	0	1	273
12:15	3	43	6	0	8	3	0	0	0	0	11	42	6	3	7	1	0	0	0	2	6	43	8	1	16	1	0	0	0	3	4	41	5	1	6	3	0	0	0	0	273
12:30	6	27	12	0	10	2	0	0	0	0	17	60	5	4	8	0	0	0	0	1	9	50	13	4	10	1	0	0	0	3	7	33	5	1	4	0	0	0	0	3	295
12:45	**8**	**42**	**11**	**1**	**11**	**1**	**0**	**0**	**0**	**1**	**20**	**37**	**18**	**6**	**7**	**0**	**0**	**0**	**0**	**2**	**11**	**32**	**10**	**2**	**9**	**1**	**0**	**0**	**0**	**3**	**9**	**43**	**7**	**0**	**13**	**1**	**0**	**0**	**0**	**0**	**306**
13:00	**13**	**43**	**12**	**0**	**10**	**0**	**0**	**0**	**0**	**2**	**12**	**52**	**10**	**3**	**9**	**0**	**0**	**0**	**0**	**0**	**10**	**48**	**14**	**1**	**10**	**3**	**0**	**0**	**0**	**3**	**6**	**35**	**9**	**1**	**6**	**1**	**0**	**0**	**0**	**0**	**313**
13:15	**7**	**42**	**12**	**1**	**8**	**2**	**0**	**0**	**0**	**0**	**7**	**32**	**8**	**6**	**6**	**2**	**0**	**0**	**0**	**4**	**7**	**62**	**10**	**2**	**18**	**4**	**0**	**0**	**0**	**4**	**10**	**38**	**7**	**2**	**9**	**1**	**0**	**0**	**0**	**2**	**313**
13:30	**8**	**43**	**9**	**0**	**9**	**1**	**0**	**0**	**0**	**2**	**15**	**47**	**12**	**4**	**9**	**0**	**0**	**0**	**0**	**5**	**7**	**52**	**14**	**1**	**6**	**5**	**0**	**0**	**0**	**0**	**7**	**28**	**6**	**0**	**5**	**1**	**0**	**0**	**0**	**2**	**298**
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	8	42	3	2	10	2	0	0	0	0	16	37	14	3	9	2	0	0	0	4	12	95	22	1	15	1	0	0	0	8	12	53	4	2	6	2	0	0	0	1	386
15:30	11	41	14	2	20	4	0	0	0	4	12	38	17	0	13	2	0	0	0	2	7	69	18	3	20	4	0	0	0	3	6	49	10	2	10	4	0	0	0	2	387
15:45	11	44	12	0	7	3	0	0	0	4	15	73	18	3	13	2	0	0	0	4	7	85	18	3	15	3	0	0	0	6	2	53	11	4	4	3	0	0	0	1	424
16:00	11	41	2	1	10	3	0	0	0	3	14	42	13	6	7	2	0	0	0	13	9	86	19	0	21	5	0	0	0	9	8	63	8	0	11	3	0	0	0	0	410
16:15	12	33	8	2	12	5	0	0	0	0	14	46	14	1	11	0	0	0	0	3	8	85	37	3	21	5	0	0	0	0	8	73	12	0	14	3	0	0	0	1	431
16:30	**10**	**40**	**5**	**1**	**16**	**2**	**0**	**0**	**0**	**0**	**13**	**45**	**18**	**4**	**9**	**1**	**0**	**0**	**0**	**0**	**7**	**101**	**19**	**1**	**20**	**8**	**0**	**0**	**0**	**2**	**8**	**74**	**9**	**1**	**11**	**3**	**0**	**0**	**0**	**3**	**431**
16:45	**11**	**46**	**9**	**2**	**12**	**0**	**0**	**0**	**0**	**0**	**11**	**47**	**11**	**4**	**7**	**0**	**0**	**0**	**0**	**1**	**8**	**83**	**22**	**2**	**16**	**5**	**0**	**0**	**0**	**3**	**9**	**66**	**13**	**1**	**8**	**1**	**0**	**0**	**0**	**1**	**399**
17:00	**18**	**51**	**14**	**0**	**14**	**2**	**0**	**0**	**0**	**1**	**14**	**44**	**11**	**4**	**4**	**3**	**0**	**0**	**0**	**4**	**10**	**84**	**17**	**0**	**16**	**1**	**0**	**0**	**0**	**0**	**10**	**74**	**12**	**2**	**4**	**0**	**0**	**0**	**0**	**0**	**414**
17:15	**17**	**45**	**6**	**1**	**11**	**1**	**0**	**0**	**0**	**3**	**18**	**50**	**18**	**6**	**4**	**4**	**0**	**0**	**0**	**4**	**4**	**106**	**19**	**3**	**27**	**8**	**0**	**0**	**0**	**6**	**5**	**68**	**10**	**1**	**19**	**4**	**0**	**0**	**0**	**2**	**470**
17:30	14	33	9	0	6	0	0	0	0	1	13	47	18	1	3	2	0	0	0	2	9	79	24	0	13	5	0	0	0	0	8	61	8	1	13	2	0	0	0	0	372
17:45	10	36	12	2	10	2	0	0	0	1	14	38	15	2	8	1	0	0	0	2	5	77	21	3	20	6	0	0	0	1	6	51	8	1	10	4	0	0	0	3	369
18:00	7	52	10	1	10	2	0	0	0	5	14	37	11	1	6	1	0	0	0	5	8	67	15	0	14	4	0	0	0	4	9	35	11	2	15	2	0	0	0	2	350
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Shakespeare Av @ Wilson Rd S

TMC No:	351300000	Intersection ID:	7069	Count ID:	35702018352	Count Date:	09/16/2020

AM Peak 8:00 am				0	0.8	0.65		Ped. ↔			
↕				0%	17%	35%	↑	0			
Ped.				0	45	9	78				
15				0	216	17	231	Cars	Trucks	ruck %	PHF
	←	0	0	←	↓	→	↑	39	12	24%	0.71
0.39	55%	6	5	↑			←	0	0	0%	0
0	0%	0	0	→			↓	17	2	11%	0.48
0.44	43%	3	4	↓	←	↑	→	40	13	→	
PHF	ruck %	Trucks	Cars	237	0	187	23				0
				50	0	60	4				Ped.
			Ped. ↔	↓	0%	24%	15%				↕
			133		0	0.82	0.45				

MD Peak 12:45 pm				0	0.89	0.69		Ped. ↔			
↕				0%	20%	12%	↑	0			
Ped.				0	55	4	72				
12				0	217	29	265	Cars	Trucks	ruck %	PHF
	←	0	0	←	↓	→	↑	37	7	16%	0.61
0	0%	0	0	↑			←	0	0	0%	0
0	0%	0	0	→			↓	8	3	27%	0.55
0.25	0%	0	1	↓	←	↑	→	42	10	→	
PHF	ruck %	Trucks	Cars	226	0	228	13				0
				58	0	65	6				Ped.
			Ped. ↔	↓	0%	22%	32%				↕
			0		0	0.81	0.59				

PM Peak 4:30 pm				0	0.89	0.84		Ped. ↔			
↕				0%	20%	12%	↑	0			
Ped.				0	56	7	121				
11				0	221	50	470	Cars	Trucks	ruck %	PHF
	←	0	0	←	↓	→	↑	34	9	21%	0.9
0.5	0%	0	4	↑			←	0	0	0%	0
0.25	100%	1	0	→			↓	10	4	29%	0.44
0.5	0%	0	2	↓	←	↑	→	73	17	→	
PHF	ruck %	Trucks	Cars	233	0	432	23				0
				60	0	112	9				Ped.
			Ped. ↔	↓	0%	21%	28%				↕
			2		0	0.87	0.62				

Total Count 8 hours*								Ped. ↔			
↕				0%	19%	18%	↑	1			
Ped.				0	390	44	591				
68				0	1677	194	2377	Cars	Trucks	ruck %	PHF
	←	0	0	←	↓	→	↑	246	61	20%	
	28%	7	18	↑			←	0	0	0%	
	67%	2	1	→			↓	96	26	21%	
	27%	6	16	↓	←	↑	→	317	87	→	
PHF	ruck %	Trucks	Cars	1789	0	2113	122				0
				422	0	523	41				Ped.
			Ped. ↔	↓	0%	20%	25%				↕
			160								

TMC Tabular Report

Wilson Rd (R.R.35) @ Dean Av

TMC No: 0350800000 **Intersection ID:** 7207 **Count ID:** 35702018354 **Count Date:** 09/15/2020, Tue

AM Peak 07:45

Approach	Movement	Cars	Trucks	Trucks %	PHF
North	Right ↵	71	12	14%	0.67
North	Through ↓	207	43	17%	0.82
North	Left ↳	4	0	0%	0.50
North	Exit ↑	179	38		
East	U-turn ↰	7	3	30%	0.50
East	Through ←	15	2	12%	0.53
East	Left ↲	9	3	25%	0.60
East	Exit →	15	7		
South	Exit ↓	226	55		
South	Left ↰	10	6	38%	0.57
South	Through ↑	144	29	17%	0.65
South	Right ↱	6	5	45%	0.46
West	Exit ←	96	20		
West	↱	28	6	18%	0.61
West	Through →	5	2	29%	0.44
West	↴	10	9	47%	0.68

Ped.: NW 20, NE 6, SE 9, SW 3

MD Peak 12:45

Approach	Movement	Cars	Trucks	Trucks %	PHF
North	Right ↵	63	9	13%	0.95
North	Through ↓	157	51	25%	0.95
North	Left ↳	9	2	18%	0.55
North	Exit ↑	238	63		
East	U-turn ↰	11	1	8%	0.75
East	Through ←	8	3	27%	0.69
East	Left ↲	6	0	0%	0.50
East	Exit →	40	6		
South	Exit ↓	184	55		
South	Left ↰	7	4	36%	0.55
South	Through ↑	189	50	21%	0.73
South	Right ↱	17	2	11%	0.79
West	Exit ←	78	16		
West	↱	38	12	24%	0.83
West	Through →	14	2	13%	0.67
West	↴	21	4	16%	0.78

Ped.: NW 8, NE 6, SE 6, SW 11

PM Peak 15:45

Approach	Movement	Cars	Trucks	Trucks %	PHF
North	Right ↵	38	6	14%	0.58
North	Through ↓	181	54	23%	0.85
North	Left ↳	16	4	20%	0.56
North	Exit ↑	465	108		
East	U-turn ↰	6	3	33%	0.45
East	Through ←	14	1	7%	0.63
East	Left ↲	8	0	0%	0.40
East	Exit →	39	12		
South	Exit ↓	206	58		
South	Left ↰	10	4	29%	0.58
South	Through ↑	426	98	19%	0.91
South	Right ↱	16	7	30%	0.82
West	Exit ←	62	11		
West	↱	33	7	18%	0.71
West	Through →	7	1	13%	0.50
West	↴	17	4	19%	0.66

Ped.: NW 14, NE 7, SE 3, SW 2

Total Count 3 hours*

Approach	Movement	Cars	Trucks	Trucks %
North	Right ↵	404	70	15%
North	Through ↓	1323	350	21%
North	Left ↳	62	13	17%
North	Exit ↑	2172	519	
East	U-turn ↰	60	18	23%
East	Through ←	73	14	16%
East	Left ↲	51	7	12%
East	Exit →	243	49	
South	Exit ↓	1510	399	
South	Left ↰	85	46	35%
South	Through ↑	1884	450	19%
South	Right ↱	117	26	18%
West	Exit ←	562	130	
West	↱	228	51	18%
West	Through →	64	10	14%
West	↴	136	42	24%

Ped.: NW 49, NE 42, SE 30, SW 28

TMC 15 Min Report

Wilson Rd (R.R.35) @ Dean Av

TMC No: 0350800000 **Intersection ID:** 7207 **Count ID:** 35702018354 **Count Date:** 09/15/2020, Tue

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	0	36	8	0	7	1	0	0	0	0	2	0	2	0	0	0	0	0	0	0	3	10	2	1	2	0	0	0	0	0	3	0	0	1	0	0	0	0	0	0	78
06:30	1	31	18	0	8	3	0	0	0	1	1	2	2	0	0	0	0	0	0	0	0	10	0	0	3	0	0	0	0	0	2	0	1	0	0	2	0	0	0	0	85
06:45	3	52	11	0	4	2	0	0	0	0	3	1	2	0	0	0	0	0	0	1	2	19	0	1	7	1	0	0	0	0	0	0	3	2	0	1	0	0	0	0	115
07:00	0	45	9	0	14	2	0	0	0	2	2	3	0	0	2	0	0	0	0	0	3	20	0	1	5	1	0	0	0	0	0	0	6	0	0	1	0	0	0	0	116
07:15	0	19	9	0	9	3	0	0	0	1	0	0	0	0	2	1	0	0	0	0	1	27	2	2	8	1	0	0	0	0	0	1	2	2	0	2	0	0	0	0	92
07:30	0	43	14	0	9	3	0	0	0	1	0	1	0	0	0	1	0	0	0	1	1	30	1	3	8	0	0	0	0	0	4	0	4	0	0	0	0	0	0	0	124
07:45	**1**	**52**	**20**	**0**	**10**	**3**	**0**	**0**	**0**	**0**	**3**	**2**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**23**	**2**	**2**	**5**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**135**
08:00	**0**	**60**	**13**	**0**	**16**	**4**	**0**	**0**	**0**	**1**	**1**	**3**	**3**	**1**	**0**	**2**	**0**	**0**	**0**	**4**	**1**	**53**	**1**	**1**	**14**	**5**	**0**	**0**	**0**	**0**	**12**	**2**	**5**	**2**	**0**	**2**	**0**	**0**	**0**	**10**	**216**
08:15	**2**	**45**	**28**	**0**	**14**	**3**	**0**	**0**	**0**	**5**	**1**	**3**	**2**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**2**	**32**	**3**	**3**	**7**	**0**	**0**	**0**	**0**	**1**	**6**	**2**	**2**	**2**	**2**	**3**	**0**	**0**	**0**	**8**	**179**
08:30	**1**	**50**	**10**	**0**	**3**	**2**	**0**	**0**	**0**	**0**	**4**	**7**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**7**	**36**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**2**	**8**	**1**	**1**	**1**	**0**	**2**	**0**	**0**	**0**	**2**	**144**
08:45	0	39	7	0	10	2	0	0	0	0	0	2	1	1	1	0	0	0	0	1	2	38	1	1	7	1	0	0	0	1	6	1	9	1	0	0	0	0	0	1	133
09:00	1	44	10	0	9	3	0	0	0	0	0	3	3	1	0	0	0	0	0	1	3	49	2	2	20	0	0	0	0	0	11	1	12	3	0	3	0	0	0	0	181
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	2	30	12	3	5	2	0	0	0	1	1	3	0	0	0	2	0	0	0	1	2	38	1	1	5	0	0	0	0	2	10	7	4	2	1	2	0	0	0	0	137
12:00	5	28	14	0	10	2	0	0	0	3	0	2	3	0	0	2	0	0	0	2	8	53	5	2	12	1	0	0	0	2	8	0	6	1	0	2	0	0	0	0	171
12:15	3	37	14	1	11	0	0	0	0	0	1	3	3	0	0	0	0	0	0	0	4	42	3	2	13	0	0	0	0	2	9	3	3	1	1	2	0	0	0	1	159
12:30	2	39	12	0	5	1	0	0	0	0	3	4	6	0	0	0	0	0	0	2	2	40	4	0	12	0	0	0	0	0	4	2	6	1	0	1	0	0	0	1	147
12:45	**1**	**38**	**17**	**1**	**17**	**2**	**0**	**0**	**0**	**2**	**2**	**1**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**3**	**33**	**6**	**2**	**10**	**0**	**0**	**0**	**0**	**0**	**6**	**5**	**8**	**3**	**1**	**0**	**0**	**0**	**0**	**4**	**167**
13:00	**5**	**40**	**16**	**0**	**12**	**3**	**0**	**0**	**0**	**1**	**0**	**3**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**36**	**4**	**1**	**17**	**0**	**0**	**0**	**0**	**0**	**13**	**3**	**2**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**162**
13:15	**2**	**40**	**12**	**1**	**10**	**4**	**0**	**0**	**0**	**1**	**1**	**2**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**3**	**65**	**3**	**1**	**17**	**2**	**0**	**0**	**0**	**7**	**9**	**3**	**5**	**3**	**1**	**2**	**0**	**0**	**0**	**0**	**200**
13:30	**1**	**39**	**18**	**0**	**12**	**0**	**0**	**0**	**0**	**2**	**3**	**2**	**4**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**1**	**55**	**4**	**0**	**6**	**0**	**0**	**0**	**0**	**4**	**10**	**3**	**6**	**4**	**0**	**1**	**0**	**0**	**0**	**4**	**182**
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	2	34	11	0	17	1	0	0	0	1	2	2	7	0	2	2	0	0	0	1	2	97	7	3	18	0	0	0	0	0	19	3	0	1	3	1	0	0	0	0	236
15:30	2	39	9	0	16	3	0	0	0	2	3	3	0	0	0	0	0	0	0	0	1	84	7	2	23	0	0	0	0	0	5	3	5	2	0	1	0	0	0	0	210
15:45	**8**	**58**	**8**	**1**	**11**	**4**	**0**	**0**	**0**	**3**	**1**	**3**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**99**	**4**	**3**	**24**	**2**	**0**	**0**	**0**	**1**	**7**	**2**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**5**	**251**
16:00	**2**	**42**	**5**	**1**	**10**	**0**	**0**	**0**	**0**	**3**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**95**	**4**	**0**	**22**	**0**	**0**	**0**	**0**	**0**	**12**	**1**	**3**	**2**	**1**	**2**	**0**	**0**	**0**	**4**	**214**
16:15	**4**	**45**	**7**	**1**	**16**	**1**	**0**	**0**	**0**	**1**	**5**	**3**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**112**	**7**	**1**	**28**	**0**	**0**	**0**	**0**	**0**	**7**	**4**	**6**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**257**
16:30	**2**	**36**	**18**	**1**	**17**	**1**	**0**	**0**	**0**	**0**	**1**	**5**	**3**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**6**	**120**	**1**	**0**	**24**	**5**	**0**	**0**	**0**	**1**	**7**	**0**	**7**	**4**	**0**	**1**	**0**	**0**	**0**	**2**	**265**
16:45	4	40	12	0	14	4	0	0	0	1	1	1	1	1	0	1	0	0	0	0	4	87	4	3	23	1	0	0	0	0	12	3	7	1	0	2	0	0	0	1	228
17:00	1	45	13	0	8	2	0	0	0	1	1	2	2	0	0	0	0	0	0	0	7	95	7	2	19	2	0	0	0	0	7	2	3	3	0	1	0	0	0	1	224
17:15	2	40	12	0	12	2	0	0	0	3	1	2	2	0	0	1	0	0	0	0	1	122	4	1	29	1	0	0	0	3	3	4	4	0	0	1	0	0	0	0	250
17:30	2	53	14	2	11	2	0	0	0	3	2	1	1	1	0	1	0	0	0	1	3	104	9	1	23	1	0	0	0	0	8	3	2	2	0	3	0	0	0	0	253
17:45	1	33	10	1	10	1	0	0	0	1	4	0	0	0	0	0	0	0	0	1	5	80	11	3	22	2	0	0	0	2	8	2	5	1	0	0	0	0	0	1	204
18:00	2	51	13	0	13	4	0	0	0	2	1	1	1	0	1	0	0	0	0	0	4	80	8	1	14	0	0	0	0	0	10	3	6	2	0	0	0	0	0	1	218
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

Bloor St (R.R.22) @ Wilson Rd (R.R.35)

TMC No: 0226700000 **Intersection ID:** 7457 **Count ID:** 35702017788 **Count Date:** 10/10/2018, Wed

AM Peak 08:00

Leg	Movement	Cars	Trucks	Trucks %	PHF
North	↵	110	4	4%	0.79
North	↓	172	4	2%	0.81
North	↳	85	4	4%	0.97
North	↑	267	12		
East	↰	80	5	6%	0.82
East	←	299	12	4%	0.90
East	↲	26	2	7%	0.58
East	→	253	13		
South	↓	247	10		
South	↰	49	4	8%	0.74
South	↑	111	4	3%	0.90
South	↱	41	2	5%	0.60
West	←	458	20		
West	↱	76	3	4%	0.71
West	→	127	7	5%	0.88
West	↴	49	4	8%	0.78

Ped. ⇄ (north): 1; Ped. ⇅ (west): 9; Ped. ⇅ (east): 6; Ped. ⇄ (south): 22

MD Peak 11:45

Leg	Movement	Cars	Trucks	Trucks %	PHF
North	↵	75	0	0%	0.89
North	↓	112	1	1%	0.91
North	↳	51	1	2%	0.87
North	↑	277	7		
East	↰	87	4	4%	0.88
East	←	173	7	4%	0.88
East	↲	34	5	13%	0.54
East	→	250	13		
South	↓	185	8		
South	↰	59	1	2%	0.79
South	↑	119	2	2%	0.74
South	↱	41	3	7%	0.79
West	←	307	8		
West	↱	71	1	1%	0.75
West	→	158	9	5%	0.84
West	↴	39	2	5%	0.79

Ped. ⇄ (north): 4; Ped. ⇅ (west): 0; Ped. ⇅ (east): 9; Ped. ⇄ (south): 2

PM Peak 16:45

Leg	Movement	Cars	Trucks	Trucks %	PHF
North	↵	77	0	0%	0.84
North	↓	116	1	1%	0.73
North	↳	81	0	0%	0.84
North	↑	653	4		
East	↰	202	2	1%	0.93
East	←	195	6	3%	0.80
East	↲	30	0	0%	0.63
East	→	450	6		
South	↓	188	2		
South	↰	50	2	4%	0.72
South	↑	269	2	1%	0.73
South	↱	46	0	0%	0.72
West	←	322	8		
West	↱	182	0	0%	0.69
West	→	323	6	2%	0.88
West	↴	42	1	2%	0.77

Ped. ⇄ (north): 5; Ped. ⇅ (west): 2; Ped. ⇅ (east): 6; Ped. ⇄ (south): 3

Total Count -0 hours*

Leg	Movement	Cars	Trucks	Trucks %	PHF
North	↵	653	8	1%	
North	↓	1051	16	1%	
North	↳	558	16	3%	
North	↑	2838	64		
East	↰	925	32	3%	
East	←	1669	65	4%	
East	↲	240	14	6%	
East	→	2319	84		
South	↓	1575	47		
South	↰	311	15	5%	
South	↑	1099	21	2%	
South	↱	267	9	3%	
West	←	2633	88		
West	↱	814	11	1%	
West	→	1494	59	4%	
West	↴	284	17	6%	

Ped. ⇄ (north): 16; Ped. ⇅ (west): 25; Ped. ⇅ (east): 45; Ped. ⇄ (south): 37

TMC 15 Min Report

Bloor St (R.R.22) @ Wilson Rd (R.R.35)

TMC No: 0226700000 **Intersection ID:** 7457 **Count ID:** 35702017788 **Count Date:** 10/10/2018, Wed

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										Total
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	19	38	32	0	0	0	0	0	0	0	2	62	11	0	6	2	0	0	0	0	4	10	0	0	1	0	0	0	0	1	5	8	2	1	2	0	0	0	0	4	210
06:30	10	19	11	1	0	0	0	0	0	0	4	53	10	0	0	1	0	0	0	0	3	5	0	0	1	0	0	0	0	0	9	20	2	0	0	0	0	0	0	0	149
06:45	11	29	22	0	0	0	0	0	0	0	2	71	11	0	3	0	0	0	0	0	2	11	1	0	1	0	0	0	0	1	5	22	5	0	2	0	0	0	0	1	200
07:00	24	44	17	1	0	0	0	0	0	0	10	60	15	0	2	2	0	0	0	5	3	14	5	1	3	0	0	0	0	1	8	18	7	0	0	7	0	0	0	0	247
07:15	15	27	14	0	1	1	0	0	0	1	5	57	19	0	2	2	0	0	0	2	6	15	5	1	0	0	0	0	0	1	10	22	8	0	0	0	0	0	0	0	214
07:30	17	32	30	2	2	0	0	0	0	0	3	52	31	1	0	2	0	0	0	0	5	17	2	0	1	0	0	0	0	0	15	29	3	1	3	0	0	0	0	0	248
07:45	25	46	26	1	0	0	0	0	0	0	4	57	23	1	1	1	0	0	0	2	3	16	2	0	0	0	0	0	0	2	24	28	5	2	4	0	0	0	0	4	277
08:00	**22**	**46**	**21**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	**85**	**25**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**4**	**18**	**6**	**2**	**2**	**1**	**0**	**0**	**0**	**2**	**27**	**28**	**12**	**1**	**2**	**0**	**0**	**0**	**0**	**4**	**316**
08:15	**22**	**39**	**34**	**1**	**1**	**2**	**0**	**0**	**0**	**0**	**12**	**71**	**25**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**16**	**30**	**17**	**2**	**2**	**1**	**0**	**0**	**0**	**2**	**18**	**29**	**7**	**1**	**3**	**1**	**0**	**0**	**0**	**5**	**345**
08:30	**20**	**53**	**22**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**5**	**67**	**14**	**1**	**1**	**3**	**0**	**0**	**0**	**1**	**14**	**32**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**16**	**34**	**15**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**321**
08:45	**21**	**34**	**33**	**2**	**1**	**2**	**0**	**0**	**0**	**0**	**6**	**76**	**16**	**1**	**9**	**1**	**0**	**0**	**0**	**1**	**15**	**31**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**15**	**36**	**15**	**1**	**2**	**1**	**0**	**0**	**0**	**0**	**336**
09:00	15	31	18	2	1	0	0	0	0	0	8	61	24	0	1	1	0	0	0	1	8	22	10	0	1	0	0	0	0	0	16	30	10	0	2	0	0	0	0	0	262
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	**14**	**26**	**19**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**9**	**44**	**18**	**0**	**1**	**0**	**0**	**0**	**0**	**5**	**8**	**30**	**7**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**11**	**38**	**9**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**245**
12:00	**15**	**31**	**21**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**36**	**24**	**4**	**3**	**1**	**0**	**0**	**0**	**1**	**16**	**25**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**20**	**36**	**13**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**276**
12:15	**15**	**31**	**15**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**7**	**51**	**21**	**1**	**0**	**1**	**0**	**0**	**0**	**2**	**18**	**41**	**13**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**17**	**48**	**10**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**299**
12:30	**7**	**24**	**20**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**	**42**	**24**	**0**	**3**	**2**	**0**	**0**	**0**	**1**	**17**	**23**	**10**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**23**	**36**	**7**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**250**
12:45	12	28	15	1	0	0	0	0	0	0	6	40	19	0	3	0	0	0	0	2	9	23	4	0	0	0	0	0	0	2	17	38	13	0	1	0	0	0	0	0	233
13:00	10	26	18	1	0	0	0	0	0	1	6	37	13	1	2	0	0	0	0	1	3	24	9	1	0	0	0	0	0	0	21	32	16	0	3	0	0	0	0	0	225
13:15	13	31	17	0	1	0	0	0	0	0	8	43	16	0	0	1	0	0	0	0	12	40	6	0	0	0	0	0	0	1	20	41	9	2	2	0	0	0	0	1	264
13:30	15	40	12	0	0	0	0	0	0	1	5	44	18	1	0	2	0	0	0	0	8	23	5	0	0	0	0	0	0	0	17	48	11	0	2	1	0	0	0	0	253
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	22	30	18	0	0	0	0	0	0	0	13	57	45	1	5	1	0	0	0	1	9	57	13	1	1	0	0	0	0	0	39	67	10	0	7	0	0	0	0	0	397
15:30	17	22	13	0	0	1	0	0	0	0	9	44	46	0	1	1	0	0	0	2	13	51	11	1	0	1	0	0	0	0	29	54	12	0	2	0	0	0	0	1	331
15:45	22	45	24	0	1	1	0	0	0	0	10	44	32	1	1	0	0	0	0	1	16	48	14	0	0	0	0	0	0	0	32	70	6	0	2	0	0	0	0	0	370
16:00	23	36	21	0	0	1	0	0	0	1	11	42	35	1	2	0	0	0	0	5	12	40	10	2	1	1	0	0	0	0	41	55	11	0	1	1	0	0	0	1	354
16:15	26	30	18	1	2	0	0	0	0	1	12	42	60	0	5	2	0	0	0	1	12	59	10	0	1	1	0	0	0	0	32	69	9	0	1	0	0	0	0	0	394
16:30	15	42	19	0	1	0	0	0	0	1	13	51	35	0	3	1	0	0	0	0	10	48	11	1	1	0	0	0	0	1	37	58	7	1	0	0	0	0	0	1	357
16:45	**24**	**28**	**23**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**12**	**61**	**53**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**16**	**59**	**13**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**30**	**72**	**12**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**410**
17:00	**14**	**26**	**17**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**5**	**43**	**49**	**0**	**1**	**1**	**0**	**0**	**0**	**4**	**12**	**69**	**11**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**51**	**77**	**14**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**399**
17:15	**20**	**40**	**15**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**42**	**55**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**17**	**93**	**16**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**35**	**92**	**9**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**445**
17:30	**23**	**22**	**22**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**7**	**49**	**45**	**0**	**1**	**1**	**0**	**0**	**0**	**2**	**5**	**48**	**6**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**66**	**82**	**7**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**395**
17:45	12	28	20	1	1	0	0	0	0	0	10	41	47	0	1	1	0	0	0	1	6	41	10	0	1	0	0	0	0	0	55	93	2	0	2	1	0	0	0	1	375
18:00	18	27	26	0	0	0	0	0	0	0	9	44	46	0	2	1	0	0	0	0	9	36	11	0	0	1	0	0	0	0	53	84	6	0	1	0	0	0	0	0	374
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Bloor St (R.R.22) @ Farewell St (R.R.56)/401 EB Ramp

TMC No: 0226600000 **Intersection ID:** 7372 **Count ID:** 35702017789 **Count Date:** 10/10/2018, Wed

AM Peak 07:30

Ped. (NW): 1 · Ped. (NE): 2 · Ped. (SW): 1 · Ped. (SE): 0

North leg (Cars / Trucks / Trucks % / PHF):

Cars	Trucks	Trucks %	PHF
82	1	1%	0.83
287	17	6%	0.84
413	20	5%	0.84
276	16		

West leg:

PHF	Trucks %	Trucks	Cars
		7	373
0.69	10%	7	65
0.83	8%	8	92
0.76	4%	3	64

East leg:

Cars	Trucks	Trucks %	PHF
163	2	1%	0.83
270	2	1%	0.85
513	7	1%	0.87
560	37		

South leg:

Cars	Trucks	Trucks %	PHF
864	27		
21	4	16%	0.63
48	7	13%	0.60
55	9	14%	0.43

MD Peak 12:00

Ped. (NW): 0 · Ped. (NE): 0 · Ped. (SW): 0 · Ped. (SE): 2

North leg:

Cars	Trucks	Trucks %	PHF
75	8	10%	0.83
68	16	19%	0.84
477	5	1%	0.85
229	38		

West leg:

PHF	Trucks %	Trucks	Cars
		17	288
0.86	6%	4	58
0.82	3%	4	143
0.75	13%	6	42

East leg:

Cars	Trucks	Trucks %	PHF
100	11	10%	0.71
163	4	2%	0.91
205	23	10%	0.85
856	30		

South leg:

Cars	Trucks	Trucks %	PHF
315	45		
50	5	9%	0.81
71	23	24%	0.81
236	21	8%	0.85

PM Peak 16:30

Ped. (NW): 0 · Ped. (NE): 1 · Ped. (SW): 0 · Ped. (SE): 2

North leg:

Cars	Trucks	Trucks %	PHF
156	0	0%	0.89
38	10	21%	0.71
1210	9	1%	0.94
482	13		

West leg:

PHF	Trucks %	Trucks	Cars
		10	415
0.80	1%	1	114
0.82	1%	3	270
0.58	10%	2	19

East leg:

Cars	Trucks	Trucks %	PHF
137	3	2%	0.92
201	6	3%	0.89
181	27	13%	0.83
2015	32		

South leg:

Cars	Trucks	Trucks %	PHF
238	39		
58	4	6%	0.62
231	9	4%	0.92
535	20	4%	0.84

Total Count -1 hours*

Ped. (NW): 6 · Ped. (NE): 6 · Ped. (SW): 2 · Ped. (SE): 5

North leg:

Cars	Trucks	Trucks %
752	18	2%
861	101	10%
5380	85	2%
2568	144	

West leg:

PHF	Trucks %	Trucks	Cars
		102	2715
	3%	19	621
	3%	43	1334
	8%	25	273

East leg:

Cars	Trucks	Trucks %	PHF
1069	38	3%	
1700	41	2%	
2073	134	6%	
8670	270		

South leg:

Cars	Trucks	Trucks %
3207	260	
263	43	14%
878	87	9%
1956	142	7%

TMC 15 Min Report

Bloor St (R.R.22) @ Farewell St (R.R.56)/401 EB Ramp

TMC No: 0226600000 **Intersection ID:** 7372 **Count ID:** 35702017789 **Count Date:** 10/10/2018, Wed

	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
Time	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	25	13	7	7	0	1	0	0	0	0	132	61	34	3	1	0	0	0	0	0	3	8	4	6	1	4	0	0	0	0	15	6	5	0	2	1	0	0	0	0	339
06:30	49	13	7	2	2	0	0	0	0	0	58	57	40	0	0	0	0	0	0	0	0	15	15	1	3	6	0	0	0	0	7	11	7	0	1	0	0	0	0	0	294
06:45	61	33	8	4	4	0	0	0	0	1	92	65	55	2	2	0	0	0	0	0	2	12	25	1	3	8	0	0	0	1	15	17	3	0	1	1	0	0	0	1	417
07:00	54	34	13	4	2	1	0	0	0	0	117	63	42	2	1	2	0	0	0	0	0	14	25	2	3	9	0	0	0	0	13	21	11	0	0	0	0	0	0	1	434
07:15	104	43	11	5	3	1	0	0	0	0	75	67	40	3	1	1	0	0	0	0	1	8	16	2	1	12	0	0	0	0	16	20	7	0	2	0	0	0	0	1	440
07:30	**119**	**56**	**25**	**10**	**3**	**0**	**0**	**0**	**0**	**0**	**117**	**57**	**46**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**17**	**22**	**2**	**6**	**4**	**0**	**0**	**0**	**0**	**10**	**16**	**21**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**539**
07:45	**108**	**59**	**17**	**3**	**4**	**1**	**0**	**0**	**0**	**1**	**138**	**55**	**48**	**3**	**1**	**2**	**0**	**0**	**0**	**0**	**9**	**9**	**32**	**1**	**0**	**5**	**0**	**0**	**0**	**1**	**12**	**26**	**15**	**3**	**4**	**0**	**0**	**0**	**0**	**0**	**557**
08:00	**95**	**88**	**16**	**2**	**3**	**0**	**0**	**0**	**0**	**0**	**148**	**78**	**29**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**14**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**18**	**23**	**17**	**2**	**1**	**1**	**0**	**0**	**0**	**0**	**543**
08:15	**91**	**84**	**24**	**5**	**7**	**0**	**0**	**0**	**0**	**1**	**110**	**80**	**40**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**8**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**25**	**27**	**11**	**1**	**2**	**1**	**0**	**0**	**0**	**1**	**525**
08:30	83	94	15	3	0	2	0	0	0	0	67	61	20	2	2	1	0	0	0	0	6	6	0	0	1	0	0	0	0	0	14	21	13	0	1	0	0	0	0	1	413
08:45	77	75	16	2	4	1	0	0	0	0	35	70	32	1	6	2	0	0	0	0	1	7	0	3	0	0	0	0	0	0	15	35	17	0	2	1	0	0	0	0	402
09:00	0	0	0	3	0	0	0	0	0	0	25	69	30	1	1	2	0	0	0	0	4	11	0	0	2	0	0	0	0	0	9	30	15	1	0	2	0	0	0	0	400
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	107	21	18	5	6	0	0	0	0	0	34	38	16	7	1	1	0	0	0	0	4	13	49	0	7	4	0	0	0	0	9	37	3	1	3	0	0	0	0	0	384
12:00	**141**	**22**	**21**	**1**	**3**	**4**	**0**	**0**	**0**	**0**	**62**	**45**	**22**	**5**	**1**	**1**	**0**	**0**	**0**	**0**	**13**	**17**	**55**	**3**	**6**	**2**	**0**	**0**	**0**	**0**	**17**	**37**	**9**	**1**	**2**	**3**	**0**	**0**	**0**	**0**	**493**
12:15	**121**	**16**	**21**	**2**	**3**	**1**	**0**	**0**	**0**	**0**	**49**	**42**	**16**	**6**	**0**	**2**	**0**	**0**	**0**	**2**	**17**	**22**	**68**	**0**	**7**	**8**	**0**	**0**	**0**	**0**	**14**	**44**	**11**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**474**
12:30	**108**	**15**	**15**	**0**	**6**	**3**	**0**	**0**	**0**	**0**	**47**	**37**	**27**	**4**	**1**	**4**	**0**	**0**	**0**	**0**	**13**	**13**	**56**	**1**	**5**	**9**	**0**	**0**	**0**	**0**	**14**	**31**	**15**	**2**	**1**	**1**	**0**	**0**	**0**	**0**	**428**
12:45	**107**	**15**	**18**	**2**	**4**	**0**	**0**	**0**	**0**	**0**	**47**	**39**	**35**	**8**	**2**	**4**	**0**	**0**	**0**	**0**	**7**	**19**	**57**	**1**	**5**	**2**	**0**	**0**	**0**	**0**	**13**	**31**	**7**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**425**
13:00	129	19	7	1	2	1	0	0	0	0	45	35	21	5	2	0	0	0	0	0	9	14	36	0	3	2	0	0	0	0	10	33	10	1	0	3	0	0	0	0	388
13:15	136	12	19	2	6	0	0	0	0	0	38	43	18	7	0	3	0	0	0	1	6	17	60	1	5	5	0	0	0	0	13	34	7	0	0	1	0	0	0	0	434
13:30	119	24	14	6	5	0	0	0	0	1	60	45	26	4	0	2	0	0	0	0	7	14	45	2	5	6	0	0	0	0	22	37	8	1	0	0	0	0	0	0	453
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	271	16	37	2	3	0	0	0	0	0	62	61	39	4	6	2	0	0	0	0	13	83	137	1	4	3	0	0	0	0	31	73	7	1	3	1	0	0	0	0	860
15:30	248	16	38	4	5	0	0	0	0	1	48	55	48	5	1	2	0	0	0	0	13	43	89	1	3	9	0	0	0	0	28	42	9	1	4	2	0	0	0	1	716
15:45	290	11	35	0	3	1	0	0	0	0	49	46	35	6	1	1	0	0	0	0	11	46	100	0	1	6	0	0	0	0	31	52	6	0	0	0	0	0	0	0	731
16:00	260	14	30	1	5	1	0	0	0	0	59	47	37	10	0	0	0	0	0	0	9	52	97	2	4	5	0	0	0	0	21	50	7	0	3	0	0	0	0	0	714
16:15	284	8	46	0	2	0	0	0	0	0	38	41	27	5	1	2	0	0	0	0	19	63	161	5	1	7	0	0	0	0	37	76	1	1	2	0	0	0	0	0	827
16:30	**291**	**11**	**35**	**1**	**3**	**0**	**0**	**0**	**0**	**1**	**53**	**55**	**27**	**10**	**3**	**2**	**0**	**0**	**0**	**0**	**3**	**54**	**116**	**1**	**3**	**6**	**0**	**0**	**0**	**0**	**23**	**60**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**762**
16:45	**291**	**13**	**33**	**3**	**4**	**0**	**0**	**0**	**0**	**0**	**44**	**55**	**34**	**6**	**2**	**1**	**0**	**0**	**0**	**0**	**25**	**60**	**155**	**0**	**1**	**6**	**0**	**0**	**0**	**0**	**31**	**58**	**8**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**831**
17:00	**308**	**7**	**44**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**39**	**46**	**38**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**61**	**99**	**1**	**4**	**7**	**0**	**0**	**0**	**0**	**24**	**71**	**5**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**775**
17:15	**320**	**7**	**44**	**3**	**1**	**0**	**0**	**0**	**0**	**0**	**45**	**45**	**38**	**6**	**1**	**0**	**0**	**0**	**2**	**21**	**56**	**165**	**2**	**1**	**1**	**0**	**0**	**0**	**0**	**36**	**81**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**879**
17:30	314	5	37	0	2	0	0	0	0	0	41	48	29	3	1	0	0	0	0	0	10	40	101	0	1	3	0	0	0	0	20	70	2	0	1	0	0	0	0	0	728
17:45	359	7	37	0	3	0	0	0	0	0	49	47	40	2	1	0	0	0	0	0	12	35	106	1	0	3	0	0	0	0	33	75	6	0	1	2	0	0	0	0	819
18:00	310	10	44	0	1	0	0	0	0	0	50	47	40	5	1	1	0	0	0	0	4	27	64	2	0	0	0	0	0	0	25	89	4	0	2	0	0	0	0	0	726
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Harmony Rd (R.R.33)/Hwy 401 Wb Ramp @ Bloor St (R.R.22)

TMC No: 0226800000 **Intersection ID:** 7140 **Count ID:** 35702018054 **Count Date:** 06/20/2019, Thu

AM Peak 07:30

Ped. (north) 1; Ped. (west) 0; Ped. (east) 0; Ped. (south) 0

Leg	Movement	Cars	Trucks	Trucks %	PHF
North	↵	429	90	17%	0.84
North	↓	551	50	8%	0.87
North	↳	7	6	46%	0.41
North	↑ (exit)	454	80		
West	← (exit)	849	187		
West	↗	285	51	15%	0.93
West	→	192	34	15%	0.82
West	↘	37	24	39%	0.95
East	↰	31	3	9%	0.71
East	←	257	42	14%	0.85
East	↙	490	30	6%	0.91
East	→ (exit)	204	46		
South	↓ (exit)	1078	104		
South	↰	163	55	25%	0.92
South	↑	138	26	16%	0.77
South	↱	5	6	55%	0.69

MD Peak 12:00

Ped. (north) 1; Ped. (west) 0; Ped. (east) 0; Ped. (south) 0

Leg	Movement	Cars	Trucks	Trucks %	PHF
North	↵	206	53	20%	0.88
North	↓	417	61	13%	0.95
North	↳	32	9	22%	0.73
North	↑ (exit)	1226	69		
West	← (exit)	413	124		
West	↗	1018	36	3%	0.37
West	→	334	11	3%	0.97
West	↘	148	25	14%	0.50
East	↰	67	12	15%	0.90
East	←	136	34	20%	0.90
East	↙	173	26	13%	0.69
East	→ (exit)	383	23		
South	↓ (exit)	738	112		
South	↰	71	37	34%	0.84
South	↑	141	21	13%	0.90
South	↱	17	3	15%	0.83

PM Peak 15:15

Ped. (north) 6; Ped. (west) 0; Ped. (east) 0; Ped. (south) 0

Leg	Movement	Cars	Trucks	Trucks %	PHF
North	↵	255	66	21%	0.91
North	↓	343	48	12%	0.93
North	↳	33	2	6%	0.88
North	↑ (exit)	1040	107		
West	← (exit)	480	132		
West	↗	769	36	4%	0.91
West	→	1254	26	2%	0.41
West	↘	169	22	12%	0.90
East	↰	62	13	17%	0.94
East	←	155	32	17%	0.75
East	↙	232	36	13%	0.83
East	→ (exit)	1309	39		
South	↓ (exit)	744	106		
South	↰	70	34	33%	0.90
South	↑	209	58	22%	0.93
South	↱	22	11	33%	0.63

Total Count 8 hours*

Ped. (north) 15; Ped. (west) 0; Ped. (east) 0; Ped. (south) 0

Leg	Movement	Cars	Trucks	Trucks %
North	↵	2407	492	17%
North	↓	3311	462	12%
North	↳	220	46	17%
North	↑ (exit)	6386	638	
West	← (exit)	4535	1105	
West	↗	4738	277	6%
West	→	3942	160	4%
West	↘	798	149	16%
East	↰	394	91	19%
East	←	1380	296	18%
East	↙	2386	265	10%
East	→ (exit)	4292	252	
South	↓ (exit)	6495	876	
South	↰	748	317	30%
South	↑	1254	270	18%
South	↱	130	46	26%

TMC 15 Min Report

Harmony Rd (R.R.33)/Hwy 401 Wb Ramp @ Bloor St (R.R.22)

TMC No: 0226800000 **Intersection ID:** 7140 **Count ID:** 35702018054 **Count Date:** 06/20/2019, Thu

	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
Time	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	0	118	89	0	26	17	0	0	0	0	105	65	2	12	21	0	0	0	0	0	31	13	1	17	4	0	0	0	0	0	25	13	7	12	7	3	0	0	0	0	588
06:30	2	128	69	2	12	13	0	0	0	1	96	52	2	23	11	1	0	0	0	0	21	12	1	14	2	0	0	0	0	0	33	10	3	8	7	10	0	0	0	0	533
06:45	0	136	92	2	21	23	0	0	0	0	111	58	2	14	13	3	0	0	0	0	31	18	3	11	10	2	0	0	0	0	46	29	2	16	9	0	0	0	0	0	652
07:00	2	124	104	1	16	20	0	0	0	1	108	47	2	1	10	12	0	0	0	0	37	14	2	18	6	2	0	0	0	0	54	23	7	15	10	4	0	0	0	0	640
07:15	1	157	94	1	12	16	0	0	0	1	120	51	4	8	11	1	0	0	0	0	24	29	1	14	6	0	0	0	0	0	43	35	5	26	16	6	0	0	0	0	682
07:30	**1**	**162**	**91**	**1**	**10**	**17**	**0**	**0**	**0**	**0**	**115**	**60**	**4**	**11**	**9**	**2**	**0**	**0**	**0**	**0**	**38**	**28**	**2**	**10**	**2**	**1**	**0**	**0**	**0**	**0**	**65**	**38**	**8**	**21**	**13**	**8**	**0**	**0**	**0**	**0**	**717**
07:45	**0**	**130**	**126**	**1**	**14**	**22**	**0**	**0**	**0**	**0**	**129**	**71**	**4**	**14**	**17**	**0**	**0**	**0**	**0**	**0**	**38**	**38**	**0**	**16**	**2**	**1**	**0**	**0**	**0**	**0**	**67**	**38**	**12**	**15**	**10**	**4**	**0**	**0**	**0**	**0**	**769**
08:00	**2**	**132**	**122**	**0**	**14**	**33**	**0**	**0**	**0**	**0**	**123**	**69**	**11**	**4**	**13**	**1**	**0**	**0**	**0**	**0**	**42**	**44**	**1**	**15**	**9**	**3**	**0**	**0**	**0**	**0**	**76**	**58**	**8**	**14**	**11**	**5**	**0**	**0**	**0**	**0**	**810**
08:15	**4**	**127**	**90**	**4**	**12**	**18**	**0**	**0**	**0**	**1**	**123**	**57**	**12**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**45**	**28**	**2**	**14**	**13**	**1**	**0**	**0**	**0**	**0**	**77**	**58**	**9**	**1**	**0**	**7**	**0**	**0**	**0**	**0**	**707**
08:30	5	136	117	1	18	20	0	0	0	0	85	52	3	6	5	3	0	0	0	0	39	50	10	11	8	0	0	0	0	0	68	63	8	3	2	3	0	0	0	0	716
08:45	1	139	93	0	9	14	0	0	0	0	114	51	16	9	10	0	0	0	0	0	31	40	6	12	4	1	0	0	0	0	75	58	3	7	1	7	0	0	0	0	701
09:00	0	0	0	0	15	17	0	0	0	0	0	0	0	10	7	2	0	0	0	0	0	0	0	14	9	0	0	0	0	0	0	0	0	7	0	7	0	0	0	0	621
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	14	95	55	2	16	8	0	0	0	0	61	26	13	10	8	8	0	0	0	0	25	27	5	9	3	0	0	0	0	0	101	56	12	12	2	5	0	0	0	0	573
12:00	**4**	**100**	**44**	**2**	**18**	**14**	**0**	**0**	**0**	**0**	**51**	**33**	**14**	**4**	**1**	**2**	**0**	**0**	**0**	**0**	**19**	**34**	**4**	**13**	**5**	**1**	**0**	**0**	**0**	**0**	**703**	**86**	**14**	**11**	**1**	**3**	**0**	**0**	**0**	**0**	**1181**
12:15	**8**	**112**	**49**	**0**	**14**	**10**	**0**	**0**	**0**	**0**	**49**	**31**	**18**	**9**	**15**	**3**	**0**	**0**	**0**	**0**	**23**	**37**	**3**	**8**	**4**	**0**	**0**	**0**	**0**	**0**	**126**	**84**	**79**	**9**	**5**	**7**	**0**	**0**	**0**	**0**	**703**
12:30	**10**	**106**	**55**	**4**	**14**	**13**	**0**	**0**	**0**	**1**	**11**	**31**	**16**	**3**	**12**	**6**	**0**	**0**	**0**	**0**	**13**	**32**	**5**	**6**	**5**	**1**	**0**	**0**	**0**	**0**	**108**	**82**	**35**	**11**	**4**	**7**	**0**	**0**	**0**	**0**	**591**
12:45	**10**	**99**	**58**	**3**	**15**	**16**	**0**	**0**	**0**	**0**	**62**	**41**	**19**	**10**	**6**	**1**	**0**	**0**	**0**	**0**	**16**	**38**	**5**	**10**	**7**	**1**	**0**	**0**	**0**	**0**	**81**	**82**	**20**	**5**	**1**	**8**	**0**	**0**	**0**	**0**	**614**
13:00	8	88	62	6	5	9	0	0	0	0	59	39	13	9	9	6	0	0	0	0	19	38	2	10	11	4	0	0	0	0	107	118	11	6	3	3	0	0	0	0	645
13:15	6	97	68	2	13	14	0	0	0	1	64	36	15	8	4	2	0	0	0	0	16	29	0	9	5	2	0	0	0	0	112	93	14	11	2	5	0	0	0	0	628
13:30	14	90	58	1	18	19	0	0	0	0	51	36	14	8	6	4	0	0	0	0	19	40	5	8	8	0	0	0	0	0	170	100	20	5	7	3	0	0	0	0	704
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	**6**	**72**	**62**	**1**	**11**	**26**	**0**	**0**	**0**	**3**	**58**	**51**	**18**	**8**	**11**	**2**	**0**	**0**	**0**	**0**	**17**	**49**	**6**	**12**	**18**	**1**	**0**	**0**	**0**	**0**	**213**	**769**	**40**	**8**	**10**	**7**	**0**	**0**	**0**	**0**	**1479**
15:30	**9**	**84**	**65**	**1**	**16**	**10**	**0**	**0**	**0**	**1**	**42**	**22**	**13**	**6**	**5**	**4**	**0**	**0**	**0**	**0**	**24**	**49**	**8**	**5**	**12**	**1**	**0**	**0**	**0**	**0**	**180**	**180**	**45**	**11**	**5**	**8**	**0**	**0**	**0**	**0**	**806**
15:45	**8**	**90**	**67**	**0**	**13**	**11**	**0**	**0**	**0**	**0**	**63**	**45**	**15**	**10**	**9**	**4**	**0**	**0**	**0**	**0**	**19**	**54**	**6**	**8**	**18**	**7**	**0**	**0**	**0**	**0**	**190**	**161**	**45**	**5**	**6**	**3**	**0**	**0**	**0**	**0**	**857**
16:00	**10**	**97**	**61**	**0**	**8**	**19**	**0**	**0**	**0**	**2**	**69**	**37**	**16**	**12**	**7**	**3**	**0**	**0**	**0**	**0**	**10**	**57**	**2**	**9**	**10**	**2**	**0**	**0**	**0**	**0**	**186**	**144**	**39**	**12**	**5**	**4**	**0**	**0**	**0**	**0**	**821**
16:15	11	81	71	0	19	13	0	0	0	0	58	32	13	8	15	3	0	0	0	0	18	51	7	11	13	2	0	0	0	0	228	210	57	4	4	3	0	0	0	0	932
16:30	14	80	73	3	17	18	0	0	0	2	58	35	24	11	7	3	0	0	0	0	15	51	6	7	10	1	0	0	0	0	258	213	17	5	5	7	0	0	0	0	940
16:45	5	81	74	2	17	13	0	0	0	0	64	39	22	9	7	1	0	0	0	0	16	76	6	5	14	0	0	0	0	0	241	215	71	1	0	7	0	0	0	0	986
17:00	14	102	66	0	14	7	0	0	0	1	54	32	14	4	10	6	0	0	0	0	10	51	7	4	13	1	0	0	0	0	223	217	40	3	1	3	0	0	0	0	897
17:15	16	72	72	1	17	8	0	0	0	0	81	44	24	12	7	1	0	0	0	0	17	61	2	7	7	0	0	0	0	0	270	207	67	7	6	2	0	0	0	0	1008
17:30	12	90	83	2	12	14	0	0	0	0	74	52	10	5	7	3	0	0	0	0	23	74	5	4	14	3	0	0	0	0	145	193	37	3	5	0	0	0	0	0	870
17:45	11	88	93	0	10	7	0	0	0	0	69	39	19	2	12	2	0	0	0	0	33	43	8	3	11	4	0	0	0	0	242	309	37	3	2	0	0	0	0	0	1047
18:00	12	98	84	3	16	13	0	0	0	0	59	46	22	4	8	2	0	0	0	0	19	49	9	3	7	4	0	0	0	0	225	0	26	0	0	0	0	0	0	0	709
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

Harmony Rd (R.R.33)/Hwy 401 Wb Ramp @ Bloor St (R.R.22)

TMC No: 0226800000 **Intersection ID:** 7140 **Count ID:** 35702018053 **Count Date:** 06/22/2019, Sat

Weekend
11:30

				0.85	0.74	0.70		Ped. 1			
				18%	12%	24%					
				67	64	11	111				
Ped. 0				296	465	34	742	Cars	Trucks	Trucks %	PHF
		130	640					115	29	20%	0.78
0.98	10%	51	465					222	38	15%	0.76
0.87	8%	35	390					358	43	11%	0.84
0.57	24%	13	42					441	51		
PHF	Trucks %	Trucks	Cars	865	122	162	17				0 Ped.
				120	25	31	5				
					17%	16%	23%				
			Ped. 0		0.67	0.59	0.79				

Total Count
3 hours*

				15%	10%	18%		Ped. 2			
				188	236	33	357				
Ped. 0				1098	2024	150	2693	Cars	Trucks	Trucks %	PHF
		385	2106					334	62	16%	
	10%	194	1816					745	131	15%	
	10%	169	1509					1247	164	12%	
	18%	31	139					1735	222		
PHF	Trucks %	Trucks	Cars	3410	263	543	76				0 Ped.
				431	66	101	20				
					20%	16%	21%				
			Ped. 0								

Harmony Rd (R.R.33)/Hwy 401 Wb Ramp @ Bloor St (R.R.22)

TMC No: 0226800000 **Intersection ID:** 7140 **Count ID:** 35702018053 **Count Date:** 06/22/2019, Sat

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										Total
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
10:00	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	0	0	0	0	0	0	0
10:15	2	156	54	1	25	12	0	0	0	0	65	23	20	8	7	2	0	0	0	0	12	36	4	4	4	0	0	0	0	0	99	88	13	2	3	3	0	0	0	0	643
10:30	12	134	70	4	19	8	0	0	0	0	69	42	18	9	5	1	0	0	0	0	14	22	6	6	10	0	0	0	0	0	79	73	6	24	11	1	0	0	0	0	643
10:45	10	129	59	3	17	8	0	0	0	1	89	39	14	13	15	5	0	0	0	0	5	18	6	4	2	1	0	0	0	0	106	91	8	15	13	5	0	0	0	0	676
11:00	10	152	64	0	12	13	0	0	0	0	70	31	15	8	5	5	0	0	0	0	3	24	2	3	8	0	0	0	0	0	98	82	5	10	15	2	0	0	0	0	637
11:15	11	151	68	1	6	15	0	0	0	0	111	79	22	10	8	4	0	0	0	0	10	16	3	1	3	1	0	0	0	0	77	59	5	11	16	2	0	0	0	0	690
11:30	**11**	**157**	**85**	**1**	**22**	**14**	**0**	**0**	**0**	**0**	**106**	**64**	**30**	**13**	**12**	**12**	**0**	**0**	**0**	**0**	**10**	**15**	**2**	**2**	**6**	**1**	**0**	**0**	**0**	**0**	**112**	**93**	**18**	**16**	**7**	**6**	**0**	**0**	**0**	**0**	**815**
11:45	**5**	**123**	**63**	**3**	**14**	**11**	**0**	**0**	**0**	**0**	**107**	**52**	**23**	**10**	**7**	**4**	**0**	**0**	**0**	**0**	**28**	**27**	**4**	**7**	**5**	**1**	**0**	**0**	**0**	**0**	**122**	**81**	**9**	**9**	**8**	**4**	**0**	**0**	**0**	**0**	**727**
12:00	**8**	**84**	**90**	**1**	**17**	**17**	**0**	**0**	**0**	**0**	**82**	**72**	**37**	**14**	**14**	**9**	**0**	**0**	**0**	**0**	**48**	**50**	**6**	**7**	**8**	**1**	**0**	**0**	**0**	**0**	**119**	**105**	**9**	**9**	**9**	**3**	**0**	**0**	**0**	**0**	**819**
12:15	**10**	**101**	**58**	**6**	**11**	**25**	**0**	**0**	**0**	**1**	**63**	**34**	**25**	**6**	**5**	**4**	**0**	**0**	**0**	**0**	**36**	**70**	**5**	**9**	**12**	**2**	**0**	**0**	**0**	**0**	**112**	**111**	**6**	**17**	**11**	**0**	**0**	**0**	**0**	**0**	**740**
12:30	12	125	66	2	15	9	0	0	0	0	65	39	15	6	11	7	0	0	0	0	21	30	6	6	11	2	0	0	0	0	119	86	7	13	13	0	0	0	0	0	686
12:45	11	141	68	1	9	13	0	0	0	0	71	35	18	12	8	1	0	0	0	0	14	44	4	2	6	2	0	0	0	0	141	122	5	13	15	1	0	0	0	0	757
13:00	8	105	77	2	9	8	0	0	0	0	63	47	16	12	6	2	0	0	0	0	13	32	6	2	5	4	0	0	0	0	79	61	4	9	7	0	0	0	0	0	577
13:15	9	115	53	2	11	6	0	0	0	0	76	55	22	14	7	0	0	0	0	0	7	35	5	3	7	1	0	0	0	0	142	105	10	9	18	1	0	0	0	0	713
13:30	13	87	71	3	14	17	0	0	0	0	80	50	25	9	5	1	0	0	0	0	10	36	3	3	4	2	0	0	0	0	136	127	13	18	12	1	0	0	0	0	740
13:45	6	123	72	2	18	6	0	0	0	0	59	38	14	8	11	2	0	0	0	0	13	49	5	1	5	2	0	0	0	0	125	112	13	12	8	2	0	0	0	0	706
14:00	12	141	80	1	17	6	0	0	0	0	71	45	20	12	5	3	0	0	0	0	19	39	9	6	5	0	0	0	0	0	150	113	8	7	3	0	0	0	0	0	772
14:15	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*	0*	0*	0*	0*	0*	0*	0*
14:30	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*	0*	0*	0*	0*	0*	0*	0*

Harmony Rd (R.R.33)/Hwy 401 Wb Ramp @ Bloor St (R.R.22)

TMC No: 0226800000 **Intersection ID:** 7140 **Count ID:** 35702018518 **Count Date:** 11/03/2020, Tue

AM Peak 07:30

North approach

Movement	Cars	Trucks	Trucks %	PHF
↩ (Right)	255	51	17%	0.79
↓ (Thru)	531	87	14%	0.95
↪ (Left)	8	3	27%	0.92
↑ (Departing)	390	102		

West approach

Movement	PHF	Trucks %	Trucks	Cars
← (Departing)			136	514
↱ (Left)	0.77	24%	70	227
→ (Thru)	0.76	26%	57	160
↴ (Right)	0.78	44%	40	50

East approach

Movement	Cars	Trucks	Trucks %	PHF
↰ (Right)	27	11	29%	0.73
← (Thru)	137	31	18%	0.91
↲ (Left)	433	80	16%	0.94
→ (Departing)	172	63		

South approach

Movement	Cars	Trucks	Trucks %	PHF
↓ (Departing)	1014	207		
↰ (Left)	122	54	31%	0.68
↑ (Thru)	136	21	13%	0.84
↱ (Right)	4	3	43%	0.88

Pedestrians

Crossing	Ped.
West leg (⇅)	0
North leg (⇄)	0
East leg (⇅)	0
South leg (⇄)	0

MD Peak 12:45

North approach

Movement	Cars	Trucks	Trucks %	PHF
↩ (Right)	177	42	19%	0.93
↓ (Thru)	323	55	15%	0.92
↪ (Left)	52	6	10%	0.85
↑ (Departing)	517	134		

West approach

Movement	PHF	Trucks %	Trucks	Cars
← (Departing)			108	303
↱ (Left)	0.86	23%	105	355
→ (Thru)	0.90	18%	57	267
↴ (Right)	0.78	44%	32	40

East approach

Movement	Cars	Trucks	Trucks %	PHF
↰ (Right)	55	9	14%	0.84
← (Thru)	108	30	22%	0.65
↲ (Left)	212	37	15%	0.84
→ (Departing)	327	65		

South approach

Movement	Cars	Trucks	Trucks %	PHF
↓ (Departing)	575	124		
↰ (Left)	18	36	67%	0.71
↑ (Thru)	107	20	16%	0.88
↱ (Right)	8	2	20%	0.42

Pedestrians

Crossing	Ped.
West leg (⇅)	0
North leg (⇄)	0
East leg (⇅)	0
South leg (⇄)	0

PM Peak 16:45

North approach

Movement	Cars	Trucks	Trucks %	PHF
↩ (Right)	211	46	18%	0.80
↓ (Thru)	384	79	17%	0.93
↪ (Left)	40	3	7%	0.72
↑ (Departing)	1074	210		

West approach

Movement	PHF	Trucks %	Trucks	Cars
← (Departing)			95	325
↱ (Left)	0.93	16%	153	775
→ (Thru)	0.90	17%	127	639
↴ (Right)	0.74	21%	27	101

East approach

Movement	Cars	Trucks	Trucks %	PHF
↰ (Right)	59	8	12%	0.76
← (Thru)	101	27	21%	0.86
↲ (Left)	281	43	13%	0.90
→ (Departing)	699	132		

South approach

Movement	Cars	Trucks	Trucks %	PHF
↓ (Departing)	766	149		
↰ (Left)	13	22	63%	0.80
↑ (Thru)	240	49	17%	0.86
↱ (Right)	20	2	9%	0.61

Pedestrians

Crossing	Ped.
West leg (⇅)	0
North leg (⇄)	3
East leg (⇅)	0
South leg (⇄)	0

Total Count 8 hours*

North approach

Movement	Cars	Trucks	Trucks %
↩ (Right)	1636	356	18%
↓ (Thru)	3356	596	15%
↪ (Left)	244	40	14%
↑ (Departing)	4900	1098	

West approach

Movement	Trucks %	Trucks	Cars
← (Departing)		832	2891
↱ (Left)	19%	816	3459
→ (Thru)	18%	584	2681
↴ (Right)	42%	295	408

East approach

Movement	Cars	Trucks	Trucks %
↰ (Right)	354	67	16%
← (Thru)	854	190	18%
↲ (Left)	2319	405	15%
→ (Departing)	3007	641	

South approach

Movement	Cars	Trucks	Trucks %
↓ (Departing)	6083	1296	
↰ (Left)	401	286	42%
↑ (Thru)	1087	215	17%
↱ (Right)	82	17	17%

Pedestrians

Crossing	Ped.
West leg (⇅)	0
North leg (⇄)	7
East leg (⇅)	0
South leg (⇄)	0

TMC 15 Min Report

Harmony Rd (R.R.33)/Hwy 401 Wb Ramp @ Bloor St (R.R.22)

TMC No: 0226800000 **Intersection ID:** 7140 **Count ID:** 35702018518 **Count Date:** 11/03/2020, Tue

	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
Time	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	1	139	45	0	19	4	0	0	0	0	91	26	0	23	4	0	0	0	0	0	25	13	0	8	2	0	0	0	0	0	18	14	4	2	1	7	0	0	0	0	446
06:30	3	134	42	0	22	3	0	0	0	0	93	30	19	4	4	0	0	0	0	0	18	19	1	5	1	0	0	0	0	0	21	16	6	9	2	4	0	0	0	0	456
06:45	1	120	72	1	19	9	0	0	0	0	110	27	1	21	3	0	0	0	0	0	25	23	0	12	2	0	0	0	0	0	40	29	6	11	6	5	0	0	0	0	543
07:00	7	106	78	0	30	22	0	0	0	0	89	29	2	19	5	1	0	0	0	0	34	13	1	17	2	0	0	0	0	0	46	27	0	18	10	6	0	0	0	0	562
07:15	3	134	45	0	28	5	0	0	0	0	107	23	5	22	3	2	0	0	0	0	30	60	0	14	6	0	0	0	0	0	2	23	2	15	10	11	0	0	0	0	550
07:30	**1**	**142**	**51**	**2**	**21**	**12**	**0**	**0**	**0**	**0**	**94**	**31**	**4**	**24**	**12**	**3**	**0**	**0**	**0**	**0**	**28**	**40**	**1**	**16**	**7**	**1**	**0**	**0**	**0**	**0**	**44**	**30**	**15**	**8**	**20**	**14**	**0**	**0**	**0**	**0**	**621**
07:45	**2**	**135**	**59**	**1**	**26**	**17**	**0**	**0**	**0**	**0**	**118**	**42**	**5**	**18**	**4**	**3**	**0**	**0**	**0**	**0**	**22**	**38**	**0**	**14**	**7**	**2**	**0**	**0**	**0**	**0**	**56**	**24**	**11**	**12**	**15**	**7**	**0**	**0**	**0**	**0**	**638**
08:00	**2**	**122**	**85**	**0**	**22**	**12**	**0**	**0**	**0**	**0**	**108**	**39**	**11**	**20**	**6**	**2**	**0**	**0**	**0**	**0**	**49**	**28**	**1**	**16**	**6**	**0**	**0**	**0**	**0**	**0**	**58**	**48**	**9**	**22**	**9**	**7**	**0**	**0**	**0**	**0**	**682**
08:15	**3**	**132**	**60**	**0**	**18**	**10**	**0**	**0**	**0**	**0**	**113**	**25**	**7**	**18**	**9**	**3**	**0**	**0**	**0**	**0**	**23**	**30**	**2**	**8**	**1**	**0**	**0**	**0**	**0**	**0**	**69**	**58**	**15**	**28**	**13**	**12**	**0**	**0**	**0**	**0**	**657**
08:30	2	153	54	3	23	16	0	0	0	0	74	29	7	10	3	6	0	0	0	0	24	20	4	8	7	1	0	0	0	0	82	45	9	14	12	14	0	0	0	0	620
08:45	4	129	47	3	21	8	0	0	0	1	104	27	5	13	7	1	0	0	0	0	20	24	2	16	7	0	0	0	0	0	53	40	6	14	17	11	0	0	0	0	580
09:00	8	128	56	1	31	7	0	0	0	0	63	21	10	18	4	2	0	0	0	0	18	35	2	9	3	0	0	0	0	0	70	51	7	21	11	7	0	0	0	0	583
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	8	98	23	1	20	8	0	0	0	0	46	21	16	4	4	2	0	0	0	0	0	26	2	9	10	1	0	0	0	0	68	49	11	21	23	16	0	0	0	0	487
12:00	3	99	38	0	19	14	0	0	0	0	53	25	14	13	6	3	0	0	0	0	3	17	2	8	6	0	0	0	0	0	66	59	15	17	15	10	0	0	0	0	505
12:15	9	90	47	2	15	12	0	0	0	1	55	23	15	8	2	1	0	0	0	0	1	18	2	5	9	1	0	0	0	0	111	72	12	16	22	16	0	0	0	0	565
12:30	6	80	50	1	23	15	0	0	0	1	51	28	12	7	7	2	0	0	0	0	4	17	2	7	5	0	0	0	0	0	103	73	11	19	9	13	0	0	0	0	546
12:45	**13**	**71**	**45**	**0**	**16**	**7**	**0**	**0**	**0**	**0**	**51**	**16**	**12**	**8**	**4**	**1**	**0**	**0**	**0**	**0**	**6**	**30**	**1**	**13**	**6**	**0**	**0**	**0**	**0**	**0**	**72**	**71**	**12**	**18**	**11**	**8**	**0**	**0**	**0**	**0**	**492**
13:00	**15**	**86**	**45**	**2**	**9**	**13**	**0**	**0**	**0**	**0**	**61**	**26**	**12**	**11**	**7**	**3**	**0**	**0**	**0**	**0**	**4**	**28**	**2**	**9**	**3**	**0**	**0**	**0**	**0**	**0**	**79**	**76**	**11**	**28**	**14**	**4**	**0**	**0**	**0**	**0**	**548**
13:15	**10**	**80**	**41**	**3**	**13**	**9**	**0**	**0**	**0**	**0**	**61**	**43**	**16**	**13**	**10**	**3**	**0**	**0**	**0**	**0**	**2**	**21**	**4**	**7**	**3**	**2**	**0**	**0**	**0**	**0**	**96**	**53**	**8**	**33**	**15**	**6**	**0**	**0**	**0**	**0**	**552**
13:30	**14**	**86**	**46**	**1**	**17**	**13**	**0**	**0**	**0**	**0**	**39**	**23**	**15**	**5**	**9**	**2**	**0**	**0**	**0**	**0**	**6**	**28**	**1**	**7**	**8**	**0**	**0**	**0**	**0**	**0**	**108**	**67**	**9**	**26**	**17**	**14**	**0**	**0**	**0**	**0**	**561**
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	8	78	52	2	9	14	0	0	0	0	38	33	20	7	8	1	0	0	0	0	8	28	5	9	13	1	0	0	0	0	135	120	13	48	34	15	0	0	0	0	699
15:30	7	95	48	1	15	17	0	0	0	0	68	16	10	10	5	4	0	0	0	0	6	52	3	8	8	1	0	0	0	0	167	130	20	52	29	11	0	0	0	0	783
15:45	14	102	71	2	18	17	0	0	0	1	52	27	11	15	9	5	0	0	0	0	8	48	3	10	16	0	0	0	0	0	163	118	29	42	30	13	0	0	0	0	824
16:00	18	67	64	3	14	16	0	0	0	0	61	20	21	5	3	3	0	0	0	0	5	33	2	7	4	0	0	0	0	0	169	123	9	38	25	11	0	0	0	0	721
16:15	6	81	39	2	11	10	0	0	0	0	62	33	19	13	8	2	0	0	0	0	5	20	7	5	10	0	0	0	0	0	209	143	2	46	29	8	0	0	0	0	770
16:30	14	94	43	3	16	16	0	0	0	0	59	27	12	11	15	4	0	0	0	0	8	56	8	8	11	3	0	0	0	0	178	179	16	39	30	8	0	0	0	0	858
16:45	**10**	**103**	**43**	**0**	**22**	**15**	**0**	**0**	**0**	**0**	**80**	**21**	**18**	**10**	**6**	**4**	**0**	**0**	**0**	**0**	**4**	**46**	**3**	**4**	**9**	**0**	**0**	**0**	**0**	**0**	**190**	**178**	**25**	**44**	**34**	**7**	**0**	**0**	**0**	**0**	**876**
17:00	**13**	**83**	**65**	**1**	**19**	**15**	**0**	**0**	**0**	**1**	**69**	**27**	**11**	**10**	**7**	**2**	**0**	**0**	**0**	**0**	**2**	**69**	**3**	**7**	**15**	**1**	**0**	**0**	**0**	**0**	**190**	**138**	**25**	**48**	**35**	**5**	**0**	**0**	**0**	**0**	**861**
17:15	**4**	**105**	**47**	**0**	**17**	**13**	**0**	**0**	**0**	**0**	**61**	**23**	**15**	**8**	**7**	**1**	**0**	**0**	**0**	**0**	**4**	**58**	**8**	**7**	**16**	**1**	**0**	**0**	**0**	**0**	**174**	**170**	**29**	**32**	**37**	**14**	**0**	**0**	**0**	**0**	**851**
17:30	**13**	**93**	**56**	**2**	**21**	**3**	**0**	**0**	**0**	**2**	**71**	**30**	**15**	**15**	**7**	**1**	**0**	**0**	**0**	**0**	**3**	**67**	**6**	**4**	**9**	**0**	**0**	**0**	**0**	**0**	**221**	**153**	**22**	**29**	**21**	**1**	**0**	**0**	**0**	**0**	**865**
17:45	11	105	50	0	15	1	0	0	0	0	54	22	12	13	0	0	0	0	0	0	4	36	1	4	3	1	0	0	0	0	213	152	20	26	15	5	0	0	0	0	763
18:00	11	86	29	3	7	3	0	0	0	0	63	21	2	9	2	0	0	0	0	0	2	46	3	5	0	1	0	0	0	0	188	152	19	20	13	5	0	0	0	0	690
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

Harmony Rd (R.R.33)/Hwy 401 Wb Ramp @ Bloor St (R.R.22)

TMC No: 0226800000 **Intersection ID:** 7140 **Count ID:** 35702018590 **Count Date:** 11/21/2020, Sat

Weekend
13:00

				0.95	0.86	0.70		Ped. 2			
				19%	9%	14%					
				45	49	9	109				
Ped. 0				198	487	55	676	Cars	Trucks	Trucks %	PHF
		86	358					73	17	19%	0.83
0.96	12%	60	453					117	20	15%	0.95
0.93	12%	60	430					326	44	12%	0.85
0.85	16%	10	51					505	71		
PHF	Trucks %	Trucks	Cars	864	43	150	20				0 Ped.
				103	21	32	2				
					33%	18%	9%				
			Ped. 0		0.76	0.91	0.69				

Total Count
3 hours*

				18%	10%	17%		Ped. 7			
				169	201	42	407				
Ped. 0				763	1882	205	2401	Cars	Trucks	Trucks %	PHF
		336	1452					287	69	19%	
	12%	221	1607					513	86	14%	
	12%	189	1403					1365	179	12%	
	22%	49	178					1680	240		
PHF	Trucks %	Trucks	Cars	3425	176	507	72				0 Ped.
				429	81	117	9				
					32%	19%	11%				
			Ped. 0								

Harmony Rd (R.R.33)/Hwy 401 Wb Ramp @ Bloor St (R.R.22)

TMC No: 0226800000 **Intersection ID:** 7140 **Count ID:** 35702018590 **Count Date:** 11/21/2020, Sat

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										Total
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
10:00	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	0	0	0	0	0	0	0
10:15	10	107	37	3	12	9	0	0	0	0	67	20	13	10	8	1	0	0	0	0	9	16	3	0	5	0	0	0	0	0	68	50	9	11	8	0	0	0	0	0	476
10:30	12	123	40	4	13	10	0	0	0	0	78	28	8	11	5	3	0	0	0	0	9	28	6	2	7	0	0	0	0	0	80	71	7	12	8	0	0	0	0	0	565
10:45	13	120	42	2	9	10	0	0	0	0	88	22	17	6	6	5	0	0	0	0	15	20	5	8	7	1	0	0	0	0	83	65	8	9	10	1	0	0	0	0	572
11:00	12	114	51	3	15	12	0	0	0	0	108	50	15	15	8	3	0	0	0	0	19	35	4	7	8	1	0	0	0	0	95	71	11	14	5	4	0	0	0	0	680
11:15	13	132	54	3	10	12	0	0	0	1	80	40	21	10	5	7	0	0	0	0	11	33	6	4	7	0	0	0	0	0	78	86	9	10	12	5	0	0	0	0	649
11:30	15	90	48	2	7	10	0	0	0	2	79	38	17	12	3	3	0	0	0	0	10	29	4	5	7	0	0	0	0	0	88	85	8	13	10	6	0	0	0	0	591
11:45	8	115	47	0	11	5	0	0	0	0	87	35	21	9	6	5	0	0	0	0	10	40	4	7	8	1	0	0	0	0	90	99	20	11	13	5	0	0	0	0	657
12:00	9	130	50	3	16	10	0	0	0	0	93	31	18	16	6	5	0	0	0	0	7	40	3	4	7	1	0	0	0	0	110	80	10	23	11	3	0	0	0	0	686
12:15	13	133	57	2	11	11	0	0	0	0	80	25	19	11	5	6	0	0	0	0	11	33	5	7	6	2	0	0	0	0	120	90	11	13	10	4	0	0	0	0	685
12:30	11	111	40	3	13	13	0	0	0	0	91	40	21	10	6	7	0	0	0	0	16	22	3	4	7	0	0	0	0	0	108	80	15	15	13	5	0	0	0	0	654
12:45	17	109	48	4	23	15	0	0	0	0	95	38	25	12	4	5	0	0	0	0	8	31	3	4	9	0	0	0	0	0	101	95	4	20	11	3	0	0	0	0	684
13:00	**14**	**110**	**50**	**2**	**18**	**12**	**0**	**0**	**0**	**0**	**96**	**29**	**22**	**12**	**5**	**5**	**0**	**0**	**0**	**0**	**8**	**42**	**7**	**6**	**8**	**1**	**0**	**0**	**0**	**0**	**116**	**100**	**17**	**12**	**15**	**1**	**0**	**0**	**0**	**0**	**708**
13:15	**8**	**112**	**51**	**2**	**11**	**13**	**0**	**0**	**0**	**2**	**70**	**30**	**15**	**8**	**6**	**5**	**0**	**0**	**0**	**0**	**10**	**42**	**6**	**4**	**8**	**1**	**0**	**0**	**0**	**0**	**105**	**115**	**15**	**20**	**14**	**2**	**0**	**0**	**0**	**0**	**675**
13:30	**20**	**144**	**47**	**3**	**12**	**8**	**0**	**0**	**0**	**0**	**65**	**28**	**18**	**10**	**4**	**4**	**0**	**0**	**0**	**0**	**16**	**28**	**2**	**5**	**11**	**0**	**0**	**0**	**0**	**0**	**124**	**115**	**10**	**10**	**17**	**3**	**0**	**0**	**0**	**0**	**704**
13:45	**13**	**121**	**50**	**2**	**8**	**12**	**0**	**0**	**0**	**0**	**95**	**30**	**18**	**14**	**5**	**3**	**0**	**0**	**0**	**0**	**9**	**38**	**5**	**6**	**5**	**0**	**0**	**0**	**0**	**0**	**108**	**100**	**9**	**18**	**14**	**4**	**0**	**0**	**0**	**0**	**687**
14:00	17	111	51	4	12	7	0	0	0	2	93	29	19	13	4	2	0	0	0	0	8	30	6	8	7	1	0	0	0	0	133	101	15	10	18	3	0	0	0	0	704
14:15	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*	0*	0*	0*	0*	0*	0*	0*
14:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Harmony Rd (R.R. 33) @ Tennyson Av

TMC No: 0330500000 **Intersection ID:** 6958 **Count ID:** 35702018497 **Count Date:** 11/03/2020, Tue

AM Peak 07:45

North approach

0.69	27%	3	8
0.95	16%	145	787
0.75	33%	1	2
↑		107	409

Ped. 0 (north crossing) — Ped. 0 (west crossing)

Cars	Trucks	Trucks %	PHF
4	1	20%	0.63
2	0	0%	0.50
2	0	0%	0.50
3	1	→	

PHF	Trucks %	Trucks	Cars
←		6	15
1.00	0%	0	4
0.00	0%	0	0
0.54	14%	4	24

South approach

813	149	↓	
5	3	38%	0.33
401	106	21%	0.93
1	0	0%	0.25

Ped. 2 (east crossing) — Ped. 0 (south crossing)

MD Peak 12:45

North approach

0.73	14%	4	25
0.92	16%	96	522
0.50	50%	1	1
↑		131	511

Ped. 0 (north crossing) — Ped. 1 (west crossing)

Cars	Trucks	Trucks %	PHF
2	0	0%	0.25
1	0	0%	0.25
1	0	0%	0.25
7	2	→	

PHF	Trucks %	Trucks	Cars
←		9	45
0.56	11%	2	16
0.38	0%	0	3
0.80	26%	9	26

South approach

549	105	↓	
19	5	21%	0.75
493	129	21%	0.88
3	1	25%	0.50

Ped. 1 (east crossing) — Ped. 0 (south crossing)

PM Peak 16:45

North approach

0.83	27%	9	24
0.98	16%	119	606
0.50	0%	0	6
↑		209	1064

Ped. 0 (north crossing) — Ped. 0 (west crossing)

Cars	Trucks	Trucks %	PHF
12	1	8%	0.65
0	0	0%	0.00
3	0	0%	0.38
16	0	→	

PHF	Trucks %	Trucks	Cars
←		9	48
0.75	7%	1	14
0.25	0%	0	1
0.73	25%	8	24

South approach

633	127	↓	
24	0	0%	0.67
1038	207	17%	0.95
9	0	0%	0.75

Ped. 1 (east crossing) — Ped. 0 (south crossing)

Total Count 8 hours*

North approach

20%	34	134
16%	942	5054
14%	6	38
↑	1084	4879

Ped. 2 (north crossing) — Ped. 6 (west crossing)

Cars	Trucks	Trucks %	PHF
35	8	19%	
6	1	14%	
23	5	18%	
74	12	→	

PHF	Trucks %	Trucks	Cars
←		61	237
	14%	11	68
	10%	1	9
	23%	47	158

South approach

5235	994	↓
97	26	21%
4776	1065	18%
27	5	16%

Ped. 4 (east crossing) — Ped. 0 (south crossing)

TMC 15 Min Report

Harmony Rd (R.R. 33) @ Tennyson Av

TMC No: 0330500000 **Intersection ID:** 6958 **Count ID:** 35702018497 **Count Date:** 11/03/2020, Tue

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										Total
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	1	185	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	31	0	0	2	0	0	0	0	0	1	0	2	0	0	4	0	0	0	0	247
06:30	1	172	0	0	26	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	1	56	0	0	9	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	270
06:45	0	187	0	0	29	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	65	0	0	13	0	0	0	0	0	0	0	3	0	0	1	0	0	0	0	300
07:00	3	187	0	0	49	0	0	0	0	0	1	0	2	0	0	1	0	0	0	0	1	61	1	0	24	0	0	0	0	0	0	0	3	0	0	1	0	0	0	0	334
07:15	0	176	1	0	31	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	68	0	0	22	0	0	0	0	0	2	0	6	0	0	2	0	0	0	0	311
07:30	0	195	1	0	33	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	91	0	0	19	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	342
07:45	**0**	**192**	**1**	**1**	**44**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**97**	**1**	**0**	**20**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**5**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**368**
08:00	**1**	**204**	**2**	**0**	**33**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**4**	**91**	**0**	**2**	**29**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**376**
08:15	**1**	**185**	**2**	**0**	**28**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**107**	**0**	**0**	**29**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**12**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**369**
08:30	**0**	**206**	**3**	**0**	**40**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**106**	**0**	**1**	**28**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**4**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**392**
08:45	1	171	2	0	31	0	0	0	0	0	0	0	2	0	1	0	0	0	0	0	1	84	0	1	19	0	0	0	0	0	1	0	5	0	0	2	0	0	0	0	321
09:00	1	186	3	0	38	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	3	109	1	0	27	1	0	0	0	0	3	0	5	2	0	0	0	0	0	0	383
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	1	128	4	0	26	2	0	0	0	0	1	0	1	0	0	0	0	0	0	0	4	110	1	0	30	0	0	0	0	0	5	0	3	0	0	1	0	0	0	0	317
12:00	1	131	8	0	32	1	0	0	0	0	1	0	1	1	0	0	0	0	0	0	4	89	2	2	25	0	0	0	0	0	5	1	8	1	1	2	0	0	0	0	316
12:15	3	140	6	1	25	0	0	0	0	0	2	0	3	2	0	1	0	0	0	0	2	140	3	1	25	0	0	0	0	0	3	1	5	1	0	0	0	0	0	0	364
12:30	0	127	1	0	38	3	0	0	0	0	1	1	0	0	0	1	0	0	0	0	2	129	0	2	22	1	0	0	0	0	1	0	6	1	0	3	0	0	0	0	339
12:45	**0**	**119**	**6**	**0**	**23**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**107**	**1**	**1**	**25**	**1**	**0**	**0**	**0**	**0**	**3**	**0**	**6**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**302**
13:00	**1**	**143**	**9**	**0**	**19**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**114**	**0**	**0**	**32**	**0**	**0**	**0**	**0**	**0**	**8**	**2**	**6**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**346**
13:15	**0**	**121**	**4**	**0**	**25**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**128**	**0**	**2**	**39**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**9**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**341**
13:30	**0**	**139**	**6**	**1**	**29**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**144**	**2**	**2**	**33**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**5**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**372**
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	1	136	3	0	21	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	179	0	0	59	1	0	0	0	0	0	0	1	0	0	1	0	0	0	2	407
15:30	0	148	6	0	32	1	0	0	0	1	1	0	1	0	0	0	0	0	0	0	5	224	0	3	60	0	0	0	0	0	0	1	2	1	0	2	0	0	0	0	488
15:45	2	184	5	0	35	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	217	1	0	65	0	0	0	0	0	0	0	4	0	0	1	0	0	0	0	520
16:00	2	138	9	0	33	1	0	0	0	0	2	0	1	0	0	1	0	0	0	0	6	221	1	2	45	0	0	0	0	0	2	0	5	0	0	1	0	0	0	1	471
16:15	2	123	14	2	19	2	0	0	0	0	1	0	1	1	0	0	0	0	0	0	1	244	1	1	54	1	0	0	0	0	3	0	6	1	0	0	0	0	0	0	477
16:30	2	147	7	1	35	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	5	240	0	3	52	0	0	0	0	0	1	1	4	1	0	1	0	0	0	2	506
16:45	**0**	**145**	**7**	**0**	**35**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**3**	**248**	**1**	**0**	**57**	**0**	**0**	**0**	**0**	**0**	**4**	**1**	**8**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**519**
17:00	**2**	**154**	**3**	**0**	**31**	**2**	**0**	**0**	**0**	**0**	**2**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**265**	**3**	**0**	**62**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**7**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**546**
17:15	**1**	**151**	**8**	**0**	**30**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**235**	**3**	**0**	**50**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**3**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**498**
17:30	**3**	**156**	**6**	**0**	**23**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**290**	**2**	**0**	**38**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**6**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**544**
17:45	4	164	2	0	17	0	0	0	0	1	0	1	1	0	0	0	0	0	0	0	7	253	3	1	30	0	0	0	0	0	3	1	3	0	0	0	0	0	0	0	491
18:00	4	114	5	0	12	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	2	233	0	2	21	0	0	0	0	0	3	0	10	0	0	3	0	0	0	0	411
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Harmony Rd (R.R.33) @ Olive Av (R.R.59)

TMC No: 0330200000 **Intersection ID:** 6608 **Count ID:** 35702016612 **Count Date:** 05/24/2017, Wed

AM Peak 07:15

Ped. ⇄ 1

0.79	0.94	0.69	
8%	3%	9%	↑
6	22	5	28
70	697	53	584

⇅ Ped. 2

PHF	Trucks %	Trucks	Cars		Cars	Trucks	Trucks %	PHF
	←	16	455	↵ ↓ ↳ ↰	120	3	2%	0.88
0.93	5%	2	35	↰ ←	331	8	2%	0.88
0.73	0%	0	116	→ ↲	346	3	1%	0.94
0.58	13%	7	49	↴ ↰ ↑ ↱	287	7	→	

1092	54	429	118
32	2	23	2
↓	4%	5%	2%
	0.67	0.92	0.79

3 Ped. ⇅

⇄ Ped. 5

MD Peak 12:45

Ped. ⇄ 5

0.86	0.90	0.90	
3%	5%	11%	↑
2	26	8	51
70	516	64	650

⇅ Ped. 5

PHF	Trucks %	Trucks	Cars		Cars	Trucks	Trucks %	PHF
	←	6	340	↵ ↓ ↳ ↰	72	11	13%	0.69
0.79	5%	2	39	↰ ←	239	4	2%	0.86
0.85	0%	0	203	→ ↲	239	9	4%	0.77
0.78	3%	1	30	↴ ↰ ↑ ↱	455	13	→	

785	31	539	188
36	0	38	5
↓	0%	7%	3%
	0.86	0.80	0.79

3 Ped. ⇅

⇄ Ped. 5

PM Peak 16:30

Ped. ⇄ 4

0.81	0.94	0.93	
3%	3%	4%	↑
3	21	4	16
88	621	107	1098

⇅ Ped. 3

PHF	Trucks %	Trucks	Cars		Cars	Trucks	Trucks %	PHF
	←	5	381	↵ ↓ ↳ ↰	126	1	1%	0.86
0.63	2%	2	93	↰ ←	251	1	0%	0.90
0.62	0%	0	489	→ ↲	202	0	0%	0.84
0.75	0%	0	36	↴ ↰ ↑ ↱	983	5	→	

859	42	879	387
21	1	13	1
↓	2%	1%	0%
	0.72	0.94	0.88

4 Ped. ⇅

⇄ Ped. 4

Total Count 1 hours*

Ped. ⇄ 23

6%	4%	7%	↑
29	185	36	213
440	4321	500	5213

⇅ Ped. 16

PHF	Trucks %	Trucks	Cars		Cars	Trucks	Trucks %	PHF
	←	54	2623	↵ ↓ ↳ ↰	714	29	4%	
	4%	13	316	↰ ←	1869	21	1%	
	0%	5	1635	→ ↲	1760	31	2%	
	6%	18	271	↴ ↰ ↑ ↱	3699	66	→	

6352	314	4183	1564
234	4	171	25
↓	1%	4%	2%

14 Ped. ⇅

⇄ Ped. 24

TMC 15 Min Report

Harmony Rd (R.R.33) @ Olive Av (R.R.59)

TMC No: 0330200000 **Intersection ID:** 6608 **Count ID:** 35702016612 **Count Date:** 05/24/2017, Wed

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Total
Period 1																																									
06:15	5	173	11	1	2	1	0	0	0	0	81	67	21	0	0	1	0	0	0	0	3	81	18	0	11	3	0	0	0	1	11	12	8	0	0	1	0	0	0	0	512
06:30	7	189	8	1	4	0	0	0	0	0	77	66	22	1	0	2	0	0	0	1	11	119	26	0	4	2	0	0	0	0	4	8	11	0	1	1	0	0	0	0	565
06:45	10	178	18	3	2	1	0	0	0	1	89	67	24	1	1	3	0	0	0	1	5	110	37	0	9	3	0	0	0	0	8	15	9	0	1	0	0	0	0	0	596
07:00	7	173	18	0	5	0	0	0	0	0	95	97	32	2	1	0	0	0	0	0	13	116	26	0	11	0	0	0	0	1	7	26	15	0	0	1	0	0	0	2	648
07:15	**11**	**160**	**12**	**1**	**6**	**1**	**0**	**0**	**0**	**0**	**92**	**91**	**29**	**1**	**2**	**1**	**0**	**0**	**0**	**0**	**13**	**103**	**38**	**0**	**4**	**0**	**0**	**0**	**0**	**1**	**9**	**32**	**9**	**1**	**0**	**2**	**0**	**0**	**0**	**1**	**620**
07:30	**8**	**175**	**16**	**2**	**4**	**2**	**0**	**0**	**0**	**1**	**93**	**81**	**30**	**0**	**3**	**1**	**0**	**0**	**0**	**0**	**9**	**106**	**26**	**0**	**8**	**1**	**0**	**0**	**0**	**1**	**9**	**22**	**14**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**614**
07:45	**13**	**174**	**18**	**2**	**8**	**3**	**0**	**0**	**0**	**0**	**81**	**65**	**26**	**1**	**1**	**1**	**0**	**0**	**0**	**2**	**19**	**122**	**24**	**2**	**1**	**0**	**0**	**0**	**0**	**1**	**10**	**22**	**21**	**0**	**0**	**3**	**0**	**0**	**0**	**1**	**621**
08:00	**21**	**188**	**24**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**80**	**94**	**35**	**1**	**2**	**0**	**0**	**0**	**0**	**1**	**13**	**98**	**30**	**0**	**10**	**1**	**0**	**0**	**0**	**2**	**7**	**40**	**5**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**657**
08:15	9	113	8	1	7	2	0	0	0	0	54	70	28	1	1	1	0	0	0	0	10	97	25	0	10	0	0	0	0	0	4	36	11	0	0	0	0	0	0	1	489
08:30	14	156	12	0	10	1	0	0	0	2	68	62	21	1	0	0	0	0	0	0	9	91	36	0	4	1	0	0	0	1	7	33	8	0	0	1	0	0	0	0	538
08:45	11	132	12	1	6	3	0	0	0	0	70	54	20	1	0	1	0	0	0	0	8	89	25	0	8	0	0	0	0	1	4	32	9	1	0	0	0	0	0	0	488
09:00	15	138	10	1	6	0	0	0	0	0	48	56	28	1	0	0	0	0	0	0	12	97	40	0	6	1	0	0	0	0	7	33	5	0	0	2	0	0	0	0	506
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:45	21	110	11	1	13	1	0	0	0	1	49	52	19	3	3	2	0	0	0	0	8	112	35	0	1	1	0	0	0	0	8	44	6	0	0	1	0	0	0	0	502
12:00	13	141	8	0	5	1	0	0	0	2	48	56	19	1	1	0	0	0	0	0	11	95	47	0	6	1	0	0	0	0	5	43	9	0	1	0	0	0	0	0	513
12:15	14	125	7	3	10	1	0	0	0	2	41	62	23	0	0	1	0	0	0	0	6	114	40	0	8	3	0	0	0	1	6	42	6	0	0	1	0	0	0	0	516
12:30	15	123	14	1	7	0	0	0	0	0	40	49	12	3	0	0	0	0	0	0	8	116	39	1	2	1	0	0	0	0	11	57	14	0	1	1	0	0	0	0	515
12:45	**14**	**124**	**16**	**3**	**7**	**1**	**0**	**0**	**0**	**0**	**48**	**43**	**21**	**1**	**1**	**2**	**0**	**0**	**0**	**1**	**9**	**106**	**39**	**0**	**7**	**2**	**0**	**0**	**0**	**0**	**10**	**42**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**504**
13:00	**17**	**117**	**14**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**57**	**67**	**9**	**5**	**0**	**2**	**0**	**0**	**0**	**0**	**7**	**141**	**46**	**0**	**10**	**1**	**0**	**0**	**0**	**0**	**9**	**43**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**562**
13:15	**16**	**133**	**20**	**2**	**3**	**1**	**0**	**0**	**0**	**3**	**79**	**69**	**25**	**2**	**2**	**5**	**0**	**0**	**0**	**1**	**7**	**120**	**43**	**0**	**12**	**1**	**0**	**0**	**0**	**3**	**12**	**60**	**9**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**631**
13:30	**17**	**142**	**20**	**3**	**9**	**0**	**0**	**0**	**0**	**2**	**55**	**60**	**17**	**1**	**1**	**2**	**0**	**0**	**0**	**1**	**8**	**172**	**60**	**0**	**9**	**1**	**0**	**0**	**0**	**2**	**8**	**58**	**5**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	**657**
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:15	26	126	11	2	10	4	0	0	0	3	45	51	24	1	0	0	0	0	0	0	10	217	103	0	4	0	0	0	0	3	21	87	6	1	0	1	0	0	0	1	757
15:30	33	157	14	0	10	1	0	0	0	0	34	60	20	0	1	0	0	0	0	0	12	218	89	0	2	0	0	0	0	0	9	85	13	3	0	0	0	0	0	1	762
15:45	18	155	16	2	4	1	0	0	0	2	45	56	24	1	0	1	0	0	0	1	24	206	89	0	6	1	0	0	0	2	13	74	8	1	0	0	0	0	0	1	751
16:00	33	161	14	0	8	0	0	0	0	0	47	66	27	2	0	0	0	0	0	1	20	205	101	0	1	0	0	0	0	0	15	101	10	0	1	0	0	0	0	0	813
16:15	25	137	20	2	7	1	0	0	0	0	42	57	32	0	0	2	0	0	0	0	17	253	95	0	4	0	0	0	0	0	9	99	8	1	0	0	0	0	0	0	811
16:30	**30**	**157**	**15**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**45**	**69**	**29**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**15**	**195**	**96**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**17**	**104**	**12**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**803**
16:45	**27**	**152**	**20**	**2**	**4**	**2**	**0**	**0**	**0**	**2**	**60**	**69**	**36**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**11**	**225**	**89**	**0**	**3**	**1**	**0**	**0**	**0**	**2**	**19**	**84**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**816**
17:00	**26**	**147**	**28**	**1**	**3**	**0**	**0**	**0**	**0**	**1**	**47**	**52**	**29**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**10**	**236**	**92**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**20**	**104**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**806**
17:15	**24**	**165**	**25**	**1**	**6**	**1**	**0**	**0**	**0**	**1**	**50**	**61**	**32**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**6**	**223**	**110**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**37**	**197**	**12**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**958**
17:30	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	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	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
18:00	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	0	0	0	0	0	0	0
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Olive Av (R.R.59) @ Grandview St

TMC No: 0591000000 **Intersection ID:** 6460 **Count ID:** 35702018358 **Count Date:** 09/16/2020, Wed

AM Peak 08:00

North leg (Ped. 29 ⇄; Ped. 17 ⇅ on west side)

	Cars	Trucks	Trucks %	PHF
↵	28	8	22%	0.69
↓	23	5	18%	0.50
↳	9	0	0%	0.32
↑	54	11		

East leg (Ped. 58 ⇅)

	Cars	Trucks	Trucks %	PHF
↰	5	0	0%	0.42
←	257	55	18%	0.94
↲	45	8	15%	0.66
→	189	28		

West leg

	PHF	Trucks %	Trucks	Cars
←			91	430
↱	0.81	23%	3	10
→	0.85	12%	17	122
↴	0.68	20%	16	66

South leg (Ped. 21 ⇄)

	Cars	Trucks	Trucks %	PHF
↓	134	29		
↰	145	28	16%	0.85
↑	39	8	17%	0.59
↱	58	11	16%	0.82

MD Peak 12:45

North leg (Ped. 0 ⇄; Ped. 8 ⇅ on west side)

	Cars	Trucks	Trucks %	PHF
↵	25	2	7%	0.68
↓	43	8	16%	0.61
↳	3	0	0%	0.75
↑	45	8		

East leg (Ped. 4 ⇅)

	Cars	Trucks	Trucks %	PHF
↰	8	1	11%	0.45
←	194	41	17%	0.93
↲	93	9	9%	0.91
→	276	29		

West leg

	PHF	Trucks %	Trucks	Cars
←			71	338
↱	0.71	24%	4	13
→	0.93	10%	20	180
↴	0.94	17%	23	116

South leg (Ped. 1 ⇄)

	Cars	Trucks	Trucks %	PHF
↓	252	40		
↰	119	28	19%	0.88
↑	24	3	11%	0.61
↱	93	9	9%	0.75

PM Peak 16:45

North leg (Ped. 4 ⇄; Ped. 8 ⇅ on west side)

	Cars	Trucks	Trucks %	PHF
↵	15	1	6%	0.50
↓	55	5	8%	0.94
↳	4	0	0%	0.50
↑	72	7		

East leg (Ped. 3 ⇅)

	Cars	Trucks	Trucks %	PHF
↰	4	1	20%	0.42
←	233	39	14%	0.96
↲	115	17	13%	0.79
→	497	83		

West leg

	PHF	Trucks %	Trucks	Cars
←			56	359
↱	0.84	19%	5	22
→	0.93	14%	65	385
↴	0.90	14%	34	214

South leg (Ped. 1 ⇄)

	Cars	Trucks	Trucks %	PHF
↓	384	56		
↰	111	16	13%	0.91
↑	46	1	2%	0.90
↱	108	18	14%	0.81

Total Count 3 hours*

North leg (Ped. 47 ⇄; Ped. 50 ⇅ on west side)

	Cars	Trucks	Trucks %	PHF
↵	148	30	17%	
↓	280	38	12%	
↳	32	3	9%	
↑	440	64		

East leg (Ped. 87 ⇅)

	Cars	Trucks	Trucks %	PHF
↰	35	6	15%	
←	1717	352	17%	
↲	596	85	12%	
→	2358	398		

West leg

	PHF	Trucks %	Trucks	Cars
←			517	2767
↱		19%	28	122
→		15%	306	1683
↴		14%	148	892

South leg (Ped. 38 ⇄)

	Cars	Trucks	Trucks %	PHF
↓	1768	271		
↰	902	135	13%	
↑	283	30	10%	
↱	643	89	12%	

TMC 15 Min Report

Olive Av (R.R.59) @ Grandview St

TMC No: 0591000000 **Intersection ID:** 6460 **Count ID:** 35702018358 **Count Date:** 09/16/2020, Wed

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	0	1	3	0	0	0	0	0	0	0	3	44	1	0	17	0	0	0	0	0	10	0	2	0	0	1	0	0	0	0	2	9	3	0	5	1	0	0	0	2	104
06:30	0	0	1	0	0	2	0	0	0	1	5	41	2	1	13	0	0	0	0	1	13	4	7	3	0	0	0	0	0	0	0	17	2	1	5	0	0	0	0	0	119
06:45	0	2	6	0	1	1	0	0	0	0	4	55	0	1	16	0	0	0	0	1	21	3	6	4	1	3	0	0	0	0	2	11	6	1	4	0	0	0	0	0	149
07:00	0	1	1	0	0	1	0	0	0	1	6	57	0	1	12	0	0	0	0	1	12	1	8	4	0	1	0	0	0	0	1	21	4	0	4	1	0	0	0	0	138
07:15	0	1	3	0	0	1	0	0	0	0	3	49	1	0	15	0	0	0	0	0	12	10	10	0	0	1	0	0	0	1	5	23	11	1	7	3	0	0	0	0	157
07:30	0	6	12	0	2	0	0	0	0	0	6	72	1	1	13	1	0	0	0	0	31	10	16	4	2	3	0	0	0	1	6	20	10	1	6	1	0	0	0	0	225
07:45	1	6	5	1	2	0	0	0	0	1	6	71	4	0	16	0	0	0	0	2	32	7	9	1	0	3	0	0	0	1	5	32	12	0	6	4	0	0	0	0	227
08:00	**2**	**8**	**7**	**0**	**1**	**2**	**0**	**0**	**0**	**7**	**4**	**71**	**1**	**1**	**11**	**0**	**0**	**0**	**0**	**31**	**33**	**18**	**15**	**5**	**2**	**4**	**0**	**0**	**0**	**9**	**3**	**37**	**14**	**1**	**4**	**4**	**0**	**0**	**0**	**3**	**298**
08:15	**7**	**12**	**10**	**0**	**2**	**3**	**0**	**0**	**0**	**15**	**10**	**55**	**3**	**2**	**13**	**0**	**0**	**0**	**0**	**27**	**40**	**11**	**17**	**11**	**5**	**4**	**0**	**0**	**0**	**11**	**3**	**30**	**8**	**0**	**1**	**2**	**0**	**0**	**0**	**12**	**314**
08:30	**0**	**1**	**5**	**0**	**1**	**2**	**0**	**0**	**0**	**5**	**14**	**64**	**1**	**2**	**15**	**0**	**0**	**0**	**0**	**0**	**32**	**3**	**15**	**7**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**25**	**25**	**1**	**6**	**5**	**0**	**0**	**0**	**1**	**233**
08:45	**0**	**2**	**6**	**0**	**1**	**1**	**0**	**0**	**0**	**2**	**17**	**67**	**0**	**3**	**16**	**0**	**0**	**0**	**0**	**0**	**40**	**7**	**11**	**5**	**1**	**2**	**0**	**0**	**0**	**0**	**3**	**30**	**19**	**1**	**6**	**5**	**0**	**0**	**0**	**1**	**246**
09:00	0	3	3	0	1	2	0	0	0	0	15	51	0	2	13	0	0	0	0	0	54	7	23	8	0	2	0	0	0	0	2	47	15	0	2	7	0	0	0	2	259
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	1	8	1	0	0	0	0	0	0	0	19	45	2	3	5	0	0	0	0	1	21	3	20	2	1	2	0	0	0	0	5	34	18	1	12	4	0	0	0	0	208
12:00	1	10	5	0	0	4	0	0	0	0	10	49	1	4	12	0	0	0	0	1	33	10	15	4	3	2	0	0	0	3	2	56	20	1	11	3	0	0	0	0	260
12:15	1	9	2	0	0	0	0	0	0	0	24	44	3	2	4	0	0	0	0	0	25	8	15	3	0	3	0	0	0	0	2	44	22	0	10	1	0	0	0	1	223
12:30	1	13	3	1	0	1	0	0	0	2	20	55	1	0	9	0	0	0	0	3	23	14	15	1	3	0	0	0	0	1	1	48	29	0	7	2	0	0	0	1	254
12:45	**1**	**7**	**4**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**27**	**55**	**1**	**1**	**8**	**1**	**0**	**0**	**0**	**0**	**35**	**10**	**16**	**7**	**1**	**5**	**0**	**0**	**0**	**0**	**5**	**37**	**25**	**1**	**3**	**11**	**0**	**0**	**0**	**1**	**263**
13:00	**0**	**10**	**4**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**20**	**53**	**1**	**2**	**9**	**0**	**0**	**0**	**0**	**1**	**27**	**4**	**32**	**10**	**0**	**2**	**0**	**0**	**0**	**0**	**4**	**45**	**32**	**2**	**9**	**2**	**0**	**0**	**0**	**0**	**272**
13:15	**1**	**17**	**8**	**0**	**4**	**1**	**0**	**0**	**0**	**0**	**22**	**43**	**1**	**2**	**10**	**0**	**0**	**0**	**0**	**3**	**26**	**7**	**23**	**6**	**1**	**1**	**0**	**0**	**0**	**1**	**3**	**49**	**28**	**1**	**5**	**4**	**0**	**0**	**0**	**0**	**267**
13:30	**1**	**9**	**9**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**24**	**43**	**5**	**4**	**14**	**0**	**0**	**0**	**0**	**0**	**31**	**3**	**22**	**5**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**49**	**31**	**0**	**3**	**6**	**0**	**0**	**0**	**7**	**270**
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	0	7	4	0	1	4	0	0	0	0	32	49	0	3	12	1	0	0	0	0	26	9	27	2	0	3	0	0	0	0	6	71	34	1	16	4	0	0	0	0	312
15:30	2	17	5	0	2	1	0	0	0	1	21	47	1	5	11	0	0	0	0	1	27	14	27	4	1	7	0	0	0	0	5	72	48	0	15	9	0	0	0	5	348
15:45	4	10	8	0	0	2	0	0	0	0	37	58	0	9	6	1	0	0	0	0	31	16	28	7	1	2	0	0	0	2	8	80	36	3	17	4	0	0	0	0	370
16:00	1	11	3	0	2	0	0	0	0	3	33	37	0	5	12	1	0	0	0	4	25	13	30	7	0	4	0	0	0	0	6	79	39	1	15	6	0	0	0	0	337
16:15	1	14	4	0	4	0	0	0	0	2	25	50	0	5	8	0	0	0	0	1	43	16	27	0	3	5	0	0	0	3	7	84	50	0	21	5	0	0	0	1	379
16:30	2	8	3	1	2	0	0	0	0	2	27	51	0	5	8	0	0	0	0	3	33	8	31	3	2	3	0	0	0	2	4	108	54	2	14	8	0	0	0	5	389
16:45	**0**	**10**	**8**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**25**	**59**	**3**	**4**	**10**	**0**	**0**	**0**	**0**	**1**	**27**	**13**	**26**	**0**	**0**	**4**	**0**	**0**	**0**	**1**	**5**	**99**	**51**	**1**	**16**	**6**	**0**	**0**	**0**	**2**	**374**
17:00	**2**	**15**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**24**	**49**	**0**	**2**	**12**	**1**	**0**	**0**	**0**	**1**	**29**	**10**	**22**	**6**	**1**	**7**	**0**	**0**	**0**	**0**	**7**	**90**	**60**	**1**	**13**	**8**	**0**	**0**	**0**	**5**	**369**
17:15	**1**	**16**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**28**	**57**	**1**	**7**	**14**	**0**	**0**	**0**	**0**	**1**	**27**	**11**	**35**	**5**	**0**	**4**	**0**	**0**	**0**	**0**	**5**	**105**	**43**	**1**	**16**	**11**	**0**	**0**	**0**	**1**	**394**
17:30	**1**	**14**	**0**	**0**	**2**	**1**	**0**	**0**	**0**	**2**	**38**	**68**	**0**	**4**	**3**	**0**	**0**	**0**	**0**	**0**	**28**	**12**	**25**	**5**	**0**	**3**	**0**	**0**	**0**	**0**	**5**	**91**	**60**	**2**	**20**	**9**	**0**	**0**	**0**	**0**	**393**
17:45	0	15	3	0	1	0	0	0	0	1	24	54	0	2	7	0	0	0	0	3	26	9	41	2	0	2	0	0	0	0	3	80	47	2	11	5	0	0	0	0	338
18:00	1	17	5	0	2	0	0	0	0	0	23	54	1	2	8	0	0	0	0	0	29	12	27	4	1	4	0	0	0	1	5	60	36	1	16	7	0	0	0	0	316
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Bloor St. (R.R.22) @ Grandview St.

TMC No: 0226100000 **Intersection ID:** 6993 **Count ID:** 35702018519 **Count Date:** 11/03/2020, Tue

AM Peak 07:45

North leg (Ped. 3 ⇄; Ped. 8 ⇅)

	↲	↓	↳	↑ / ↰
PHF	0.82	0.86	0.91	
Trucks %	23%	13%	22%	
Trucks	13	4	11	41
Cars	43	27	40	126

West leg

	PHF	Trucks %	Trucks	Cars
←			124	551
↱	0.64	33%	6	12
→	0.90	19%	36	151
↴	0.75	0%	0	18

East leg

	Cars	Trucks	Trucks %	PHF
↰	51	18	26%	0.86
←	434	99	19%	0.87
↲	1	1	50%	0.50
→	197	48		

South leg (Ped. 5 ⇅; Ped. 2 ⇄)

	↓ / ↴	↶	↑	↱
Cars	46	74	63	6
Trucks	5	12	17	1
Trucks %		14%	21%	14%
PHF		0.77	0.80	0.58

MD Peak 12:30

North leg (Ped. 4 ⇄; Ped. 5 ⇅)

	↲	↓	↳	↑ / ↰
PHF	0.58	0.90	0.79	
Trucks %	7%	8%	19%	
Trucks	3	6	15	16
Cars	43	66	64	108

West leg

	PHF	Trucks %	Trucks	Cars
←			74	363
↱	0.65	16%	5	26
→	0.77	12%	36	260
↴	0.75	0%	0	33

East leg

	Cars	Trucks	Trucks %	PHF
↰	40	5	11%	0.70
←	256	64	20%	0.83
↲	3	2	40%	0.63
→	325	51		

South leg (Ped. 1 ⇅; Ped. 2 ⇄)

	↓ / ↴	↶	↑	↱
Cars	102	64	42	1
Trucks	8	7	6	0
Trucks %		10%	13%	0%
PHF		0.81	0.80	0.25

PM Peak 16:30

North leg (Ped. 1 ⇄; Ped. 7 ⇅)

	↲	↓	↳	↑ / ↰
PHF	0.79	0.90	0.90	
Trucks %	13%	14%	10%	
Trucks	5	16	12	34
Cars	33	95	114	213

West leg

	PHF	Trucks %	Trucks	Cars
←			78	398
↱	0.83	14%	13	83
→	0.96	10%	54	514
↴	0.78	4%	3	81

East leg

	Cars	Trucks	Trucks %	PHF
↰	61	13	18%	0.93
←	308	65	17%	0.84
↲	6	2	25%	0.50
→	635	67		

South leg (Ped. 1 ⇅; Ped. 1 ⇄)

	↓ / ↴	↶	↑	↱
Cars	182	57	69	7
Trucks	21	8	8	1
Trucks %		12%	10%	13%
PHF		0.74	0.77	0.29

Total Count 3 hours*

North leg (Ped. 15 ⇄; Ped. 37 ⇅)

	↲	↓	↳	↑ / ↰
Trucks %	12%	10%	14%	
Trucks	42	50	88	176
Cars	321	474	547	1052

West leg

	PHF	Trucks %	Trucks	Cars
←			673	3347
↱		13%	45	307
→		12%	306	2162
↴		6%	23	356

East leg

	Cars	Trucks	Trucks %	PHF
↰	345	75	18%	
←	2542	551	18%	
↲	22	10	31%	
→	2738	397		

South leg (Ped. 16 ⇅; Ped. 7 ⇄)

	↓ / ↴	↶	↑	↱
Cars	852	484	400	29
Trucks	83	80	56	3
Trucks %		14%	12%	9%

TMC 15 Min Report

Bloor St. (R.R.22) @ Grandview St.

TMC No: 0226100000 **Intersection ID:** 6993 **Count ID:** 35702018519 **Count Date:** 11/03/2020, Tue

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	4	2	8	0	0	0	0	0	0	0	0	84	5	0	16	0	0	0	0	0	21	3	0	1	0	0	0	0	0	0	2	10	2	0	1	0	0	0	0	0	159
06:30	6	4	12	0	0	1	0	0	0	1	0	96	5	0	11	2	0	0	0	1	13	7	2	2	0	0	0	0	0	0	0	17	3	0	0	0	0	0	0	0	183
06:45	3	3	16	0	0	1	0	0	0	0	0	93	7	0	19	1	0	0	0	0	30	4	0	6	0	0	0	0	0	0	3	26	1	0	2	0	0	0	0	0	215
07:00	9	5	11	1	1	0	0	0	0	0	0	94	8	0	24	2	0	0	0	2	15	9	0	4	0	0	0	0	0	0	2	26	0	1	5	0	0	0	0	0	219
07:15	6	3	16	4	0	1	0	0	0	0	0	102	7	0	19	3	0	0	0	0	21	7	0	6	1	1	0	0	0	1	2	29	3	0	3	0	0	0	0	1	236
07:30	2	3	9	5	0	3	0	0	0	0	0	101	2	0	24	0	0	0	0	0	19	13	1	6	0	0	0	0	0	0	2	20	5	2	12	1	0	0	0	1	231
07:45	**12**	**8**	**12**	**2**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**125**	**13**	**0**	**28**	**1**	**0**	**0**	**0**	**0**	**23**	**16**	**1**	**5**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**28**	**4**	**3**	**8**	**0**	**0**	**0**	**0**	**2**	**298**
08:00	**12**	**4**	**7**	**2**	**2**	**6**	**0**	**0**	**0**	**0**	**1**	**113**	**17**	**0**	**19**	**2**	**0**	**0**	**0**	**3**	**18**	**18**	**2**	**4**	**5**	**0**	**0**	**0**	**0**	**0**	**2**	**40**	**4**	**0**	**9**	**0**	**0**	**0**	**0**	**2**	**292**
08:15	**5**	**7**	**12**	**5**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**104**	**9**	**0**	**31**	**7**	**0**	**0**	**0**	**1**	**17**	**19**	**1**	**2**	**6**	**0**	**0**	**0**	**0**	**2**	**6**	**38**	**6**	**0**	**12**	**0**	**0**	**0**	**0**	**4**	**299**
08:30	**11**	**8**	**12**	**2**	**1**	**0**	**0**	**0**	**0**	**3**	**0**	**92**	**12**	**1**	**21**	**8**	**0**	**0**	**0**	**1**	**16**	**10**	**2**	**1**	**2**	**1**	**0**	**0**	**0**	**0**	**4**	**45**	**4**	**3**	**7**	**0**	**0**	**0**	**0**	**0**	**267**
08:45	6	7	16	2	1	0	0	0	0	0	3	89	8	1	20	2	0	0	0	0	11	18	1	3	1	0	0	0	0	0	6	39	6	2	10	1	0	0	0	3	256
09:00	12	6	10	3	1	1	0	0	0	0	1	70	14	1	22	2	0	0	0	0	16	13	1	1	4	0	0	0	0	0	5	45	8	0	9	0	0	0	0	0	245
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	19	12	6	2	2	1	0	0	0	0	0	78	5	0	21	4	0	0	0	1	5	13	0	1	0	0	0	0	0	0	10	38	12	2	12	0	0	0	0	0	244
12:00	19	14	8	5	0	2	0	0	0	0	1	66	9	0	15	3	0	0	0	0	8	11	0	3	0	0	0	0	0	0	3	55	6	2	8	0	0	0	0	0	238
12:15	14	16	9	7	2	0	0	0	0	1	1	59	10	0	10	2	0	0	0	1	9	12	0	1	3	0	0	0	0	0	9	67	7	0	13	0	0	0	0	0	253
12:30	**18**	**18**	**6**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**61**	**14**	**0**	**19**	**2**	**0**	**0**	**0**	**0**	**16**	**15**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**55**	**4**	**2**	**6**	**0**	**0**	**0**	**0**	**0**	**250**
12:45	**20**	**12**	**11**	**5**	**4**	**0**	**0**	**0**	**0**	**2**	**0**	**52**	**8**	**2**	**10**	**2**	**0**	**0**	**0**	**0**	**11**	**9**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**10**	**54**	**11**	**2**	**2**	**0**	**0**	**0**	**0**	**2**	**232**
13:00	**13**	**18**	**9**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**68**	**8**	**0**	**14**	**1**	**0**	**0**	**0**	**0**	**17**	**10**	**0**	**3**	**4**	**0**	**0**	**0**	**0**	**0**	**7**	**70**	**8**	**1**	**13**	**0**	**0**	**0**	**0**	**2**	**271**
13:15	**13**	**18**	**17**	**4**	**2**	**3**	**0**	**0**	**0**	**0**	**1**	**75**	**10**	**0**	**21**	**0**	**0**	**0**	**0**	**1**	**20**	**8**	**1**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**81**	**10**	**0**	**15**	**0**	**0**	**0**	**0**	**1**	**306**
13:30	14	14	5	3	1	0	0	0	0	0	1	49	9	1	13	4	0	0	0	1	18	15	3	1	0	0	0	0	0	0	1	56	11	1	6	4	0	0	0	1	232
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	25	22	11	3	0	0	0	0	0	0	0	74	12	0	12	3	0	0	0	1	9	10	1	3	0	0	0	0	0	0	13	95	22	1	17	3	0	0	0	2	339
15:30	32	25	12	3	0	1	0	0	0	1	0	69	14	1	10	1	0	0	0	0	6	12	1	5	5	0	0	0	0	1	14	93	24	4	16	3	0	0	0	2	355
15:45	16	18	11	5	8	3	0	0	0	1	0	65	14	0	22	2	0	0	0	0	16	15	1	2	3	0	0	0	0	0	19	96	11	2	12	2	0	0	0	0	344
16:00	27	16	7	1	3	2	0	0	0	0	0	70	16	1	9	1	0	0	0	0	12	14	0	2	5	0	0	0	0	0	19	91	20	2	12	4	0	0	0	3	337
16:15	21	22	10	3	2	4	0	0	0	2	0	74	18	0	19	3	0	0	0	0	17	15	0	2	2	0	0	0	0	0	15	94	23	1	23	0	0	0	0	1	371
16:30	**26**	**25**	**9**	**3**	**5**	**1**	**0**	**0**	**0**	**0**	**1**	**69**	**15**	**1**	**23**	**3**	**0**	**0**	**0**	**0**	**17**	**15**	**6**	**5**	**2**	**1**	**0**	**0**	**0**	**0**	**26**	**132**	**17**	**3**	**15**	**1**	**0**	**0**	**0**	**1**	**422**
16:45	**29**	**31**	**10**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**94**	**16**	**0**	**17**	**2**	**0**	**0**	**0**	**0**	**12**	**18**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**17**	**135**	**18**	**6**	**13**	**0**	**0**	**0**	**0**	**2**	**427**
17:00	**27**	**16**	**10**	**3**	**7**	**2**	**0**	**0**	**0**	**0**	**3**	**73**	**15**	**1**	**12**	**5**	**0**	**0**	**0**	**1**	**12**	**21**	**0**	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**22**	**113**	**20**	**4**	**15**	**1**	**0**	**0**	**0**	**2**	**390**
17:15	**32**	**23**	**4**	**3**	**4**	**1**	**0**	**0**	**0**	**1**	**1**	**72**	**15**	**0**	**13**	**3**	**0**	**0**	**0**	**0**	**16**	**15**	**1**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**18**	**134**	**26**	**0**	**11**	**1**	**0**	**0**	**0**	**2**	**399**
17:30	38	34	14	0	1	0	0	0	0	1	1	79	14	0	19	2	0	0	0	0	7	11	1	2	1	0	0	0	0	0	21	120	28	1	10	2	0	0	0	1	408
17:45	31	40	3	1	2	0	0	0	0	0	2	68	9	0	8	0	0	0	0	0	20	16	1	1	0	0	0	0	0	0	23	104	17	0	3	0	0	0	0	1	350
18:00	25	20	8	2	0	1	0	0	0	0	2	64	7	0	10	2	0	0	0	2	16	8	2	1	0	0	0	0	0	0	17	116	15	0	6	0	0	0	0	1	325
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Bloor St (R.R.22) @ Prestonvale Rd

TMC No: 0228200000 **Intersection ID:** 6821 **Count ID:** 35702017870 **Count Date:** 05/16/2019, Thu

AM Peak 08:15

Ped. (NW) ⇅ 0 | Ped. (N) ⇄ 0 | Ped. (E) ⇅ 0 | Ped. (S) ⇄ 0

North leg

	↲	↓	↳	↑
PHF	0.75	0.81	0.42	
Trucks %	17%	28%	24%	
Trucks	3	11	16	16
Cars	15	28	50	85

West leg

	PHF	Trucks %	Trucks	Cars
←			35	206
↱	0.53	29%	6	15
→	0.60	19%	27	118
↴	0.63	10%	1	9

East leg

	Cars	Trucks	Trucks %	PHF
↰	50	4	7%	0.68
←	180	30	14%	0.75
↲	18	3	14%	0.58
→	198	50		

South leg

	↓	↰	↑	↱
Cars	55	11	20	30
Trucks	15	2	6	7
Trucks %		15%	23%	19%
PHF		0.65	0.72	0.51

MD Peak 12:45

Ped. (NW) ⇅ 1 | Ped. (N) ⇄ 1 | Ped. (E) ⇅ 0 | Ped. (S) ⇄ 0

North leg

	↲	↓	↳	↑
PHF	0.84	0.86	0.53	
Trucks %	11%	8%	6%	
Trucks	3	2	1	15
Cars	24	22	16	82

West leg

	PHF	Trucks %	Trucks	Cars
←			26	190
↱	0.80	19%	6	26
→	0.85	19%	25	104
↴	0.94	13%	2	13

East leg

	Cars	Trucks	Trucks %	PHF
↰	25	6	19%	0.86
←	146	20	12%	0.94
↲	19	3	14%	0.69
→	143	32		

South leg

	↓	↰	↑	↱
Cars	54	20	31	23
Trucks	7	3	3	6
Trucks %		13%	9%	21%
PHF		0.58	0.85	0.60

PM Peak 17:15

Ped. (NW) ⇅ 0 | Ped. (N) ⇄ 0 | Ped. (E) ⇅ 0 | Ped. (S) ⇄ 0

North leg

	↲	↓	↳	↑
PHF	0.66	0.86	0.77	
Trucks %	7%	18%	12%	
Trucks	2	10	4	34
Cars	27	45	30	151

West leg

	PHF	Trucks %	Trucks	Cars
←			58	263
↱	0.78	19%	9	38
→	0.81	17%	42	207
↴	0.71	20%	4	16

East leg

	Cars	Trucks	Trucks %	PHF
↰	50	13	21%	0.88
←	194	43	18%	0.97
↲	50	16	24%	0.83
→	279	55		

South leg

	↓	↰	↑	↱
Cars	111	42	63	42
Trucks	30	13	12	9
Trucks %		24%	16%	18%
PHF		0.63	0.78	0.64

Total Count 8 hours*

Ped. (NW) ⇅ 20 | Ped. (N) ⇄ 2 | Ped. (E) ⇅ 0 | Ped. (S) ⇄ 0

North leg

	↲	↓	↳	↑
Trucks %	12%	20%	16%	
Trucks	26	72	52	167
Cars	194	281	275	629

West leg

	PHF	Trucks %	Trucks	Cars
←			285	1479
↱		23%	50	170
→		17%	213	1041
↴		16%	22	117

East leg

	Cars	Trucks	Trucks %	PHF
↰	234	52	18%	
←	1150	218	16%	
↲	184	50	21%	
→	1503	315		

South leg

	↓	↰	↑	↱
Cars	582	135	225	187
Trucks	144	41	65	50
Trucks %		23%	22%	21%

TMC 15 Min Report

Bloor St (R.R.22) @ Prestonvale Rd

TMC No: 0228200000 **Intersection ID:** 6821 **Count ID:** 35702017870 **Count Date:** 05/16/2019, Thu

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Total
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	4	1	1	1	2	0	0	0	0	0	0	20	2	0	7	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	1	11	0	0	2	0	0	0	0	0	54
06:30	4	3	2	3	1	1	0	0	0	0	1	14	1	0	4	0	0	0	0	0	2	0	0	0	1	0	0	0	0	0	0	13	1	0	5	0	0	0	0	1	57
06:45	5	4	4	1	2	0	0	0	0	0	4	33	2	4	7	1	0	0	0	0	1	0	2	0	0	2	0	0	0	0	0	23	2	0	7	0	0	0	0	0	104
07:00	7	6	3	0	2	0	0	0	0	0	1	32	1	1	4	2	0	0	0	0	3	1	3	0	2	2	0	0	0	0	1	14	8	0	10	1	0	0	0	1	105
07:15	11	3	3	3	5	0	0	0	0	0	3	25	1	1	4	0	0	0	0	0	1	3	5	1	0	2	0	0	0	0	0	12	4	0	6	2	0	0	0	1	96
07:30	12	3	4	1	1	0	0	0	0	0	4	30	4	1	5	0	0	0	0	0	1	4	5	0	2	2	0	0	0	0	0	26	0	2	1	0	0	0	0	0	108
07:45	13	6	2	3	3	1	0	0	0	0	6	28	3	2	5	0	0	0	0	0	0	5	3	0	3	1	0	0	0	0	1	24	2	0	2	0	0	0	0	1	114
08:00	12	3	2	2	2	1	0	0	0	0	5	29	1	0	7	1	0	0	0	0	3	8	9	0	4	3	0	0	0	0	0	18	3	1	4	1	0	0	0	0	119
08:15	**31**	**5**	**5**	**8**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	**48**	**18**	**1**	**4**	**2**	**0**	**0**	**0**	**0**	**3**	**4**	**15**	**1**	**2**	**3**	**0**	**0**	**0**	**0**	**2**	**50**	**2**	**0**	**10**	**1**	**0**	**0**	**0**	**0**	**219**
08:30	**8**	**8**	**4**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**8**	**54**	**12**	**1**	**16**	**2**	**0**	**0**	**0**	**0**	**1**	**2**	**5**	**0**	**3**	**1**	**0**	**0**	**0**	**0**	**1**	**22**	**1**	**1**	**8**	**0**	**0**	**0**	**0**	**0**	**162**
08:45	**7**	**9**	**5**	**2**	**1**	**1**	**0**	**0**	**0**	**0**	**3**	**36**	**12**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**3**	**6**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**21**	**2**	**2**	**5**	**0**	**0**	**0**	**0**	**0**	**132**
09:00	**4**	**6**	**1**	**5**	**6**	**2**	**0**	**0**	**0**	**0**	**4**	**42**	**8**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**4**	**8**	**6**	**1**	**1**	**3**	**0**	**0**	**0**	**0**	**7**	**25**	**4**	**3**	**4**	**0**	**0**	**0**	**0**	**0**	**147**
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	5	5	11	0	1	1	0	0	0	0	4	34	3	1	6	1	0	0	0	0	0	6	7	0	2	1	0	0	0	0	6	20	3	0	2	1	0	0	0	2	122
12:00	8	5	5	1	1	1	0	0	0	0	5	27	5	0	3	0	0	0	0	0	2	7	2	0	1	0	0	0	0	0	5	20	3	1	6	0	0	0	0	1	109
12:15	7	6	6	0	1	1	0	0	0	0	3	24	7	0	8	1	0	0	0	0	1	6	7	2	4	0	0	0	0	0	3	23	4	0	5	0	0	0	0	0	119
12:30	5	7	8	1	0	1	0	0	0	0	1	20	6	0	4	1	0	0	0	0	0	3	1	1	0	2	0	0	0	0	6	26	6	3	9	0	0	0	0	2	113
12:45	**8**	**7**	**5**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**6**	**39**	**7**	**2**	**5**	**2**	**0**	**0**	**0**	**0**	**4**	**5**	**11**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**8**	**25**	**3**	**2**	**6**	**1**	**0**	**0**	**0**	**0**	**150**
13:00	**1**	**6**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**5**	**37**	**5**	**0**	**5**	**1**	**0**	**0**	**0**	**0**	**9**	**10**	**7**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**6**	**27**	**4**	**1**	**6**	**0**	**0**	**0**	**0**	**0**	**142**
13:15	**3**	**4**	**6**	**1**	**1**	**2**	**0**	**0**	**0**	**0**	**5**	**36**	**7**	**0**	**5**	**1**	**0**	**0**	**0**	**0**	**2**	**8**	**2**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**8**	**29**	**3**	**1**	**9**	**0**	**0**	**0**	**0**	**1**	**136**
13:30	**4**	**5**	**6**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	**34**	**6**	**1**	**5**	**2**	**0**	**0**	**0**	**0**	**5**	**8**	**3**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**4**	**23**	**3**	**2**	**4**	**1**	**0**	**0**	**0**	**0**	**123**
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	6	10	12	2	6	0	0	0	0	0	6	41	12	2	10	5	0	0	0	0	2	6	5	1	1	2	0	0	0	0	6	37	0	3	7	1	0	0	0	2	185
15:30	6	16	16	0	4	2	0	0	0	1	7	48	15	0	8	2	0	0	0	0	7	11	1	3	6	1	0	0	0	0	11	36	6	5	5	1	0	0	0	1	219
15:45	12	34	24	4	7	4	0	0	0	0	7	33	6	1	4	4	0	0	0	0	2	5	2	1	4	0	0	0	0	0	15	48	4	4	5	2	0	0	0	3	235
16:00	27	11	4	0	2	0	0	0	0	0	7	37	10	5	6	3	0	0	0	0	11	4	9	3	4	3	0	0	0	0	7	41	7	1	11	2	0	0	0	1	216
16:15	6	12	4	3	2	4	0	0	0	0	5	38	7	2	9	0	0	0	0	0	11	13	4	4	3	2	0	0	0	0	7	59	5	1	12	1	0	0	0	0	214
16:30	12	23	5	2	3	0	0	0	0	0	11	39	8	3	7	4	0	0	0	0	5	5	7	3	2	3	0	0	0	0	8	53	8	3	7	1	0	0	0	2	224
16:45	10	14	11	3	1	1	0	0	0	0	9	41	7	3	7	3	0	0	0	0	6	12	11	4	3	1	0	0	0	0	6	54	7	2	5	1	0	0	0	1	223
17:00	7	14	1	1	3	0	0	0	0	0	8	37	8	2	10	1	0	0	0	0	4	12	7	0	2	1	0	0	0	0	8	54	6	3	8	1	0	0	0	0	198
17:15	**6**	**10**	**9**	**1**	**4**	**1**	**0**	**0**	**0**	**0**	**6**	**47**	**12**	**4**	**11**	**2**	**0**	**0**	**0**	**0**	**16**	**21**	**9**	**6**	**3**	**3**	**0**	**0**	**0**	**0**	**10**	**65**	**4**	**2**	**12**	**1**	**0**	**0**	**0**	**0**	**265**
17:30	**6**	**12**	**1**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**17**	**51**	**14**	**3**	**9**	**4**	**0**	**0**	**0**	**0**	**12**	**18**	**8**	**4**	**4**	**2**	**0**	**0**	**0**	**0**	**11**	**41**	**3**	**4**	**12**	**1**	**0**	**0**	**0**	**0**	**240**
17:45	**7**	**10**	**6**	**2**	**1**	**1**	**0**	**0**	**0**	**0**	**15**	**49**	**12**	**5**	**12**	**3**	**0**	**0**	**0**	**0**	**8**	**17**	**7**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**8**	**49**	**3**	**1**	**8**	**1**	**0**	**0**	**0**	**0**	**229**
18:00	**11**	**13**	**11**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**12**	**47**	**12**	**4**	**11**	**4**	**0**	**0**	**0**	**0**	**6**	**7**	**18**	**3**	**3**	**2**	**0**	**0**	**0**	**0**	**9**	**52**	**6**	**2**	**10**	**1**	**0**	**0**	**0**	**0**	**247**
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Bloor St (R.R.22) @ Trulls Rd (S. Leg)

TMC No: 0228300000 **Intersection ID:** 6576 **Count ID:** 35702017928 **Count Date:** 05/28/2019, Tue

AM Peak 07:45

Ped. ⇄ 0 (north leg) · Ped. ⇅ 0 (west leg) · Ped. ⇅ 0 (east leg) · Ped. ⇄ 0 (south leg)

North leg:

PHF	0.68	0.55	0.81	
Trucks %	9%	55%	13%	↑
Trucks	7	6	11	22
Cars	72	5	73	93
	↵	↓	↳	↰

West / East legs:

PHF	Trucks %	Trucks	Cars			Cars	Trucks	Trucks %	PHF
	←	35	254	↵ ↓ ↳	↰	44	10	19%	0.90
0.56	19%	10	44	↗	←	181	27	13%	0.71
0.64	13%	30	197	→	↙	1	0	0%	0.25
0.63	40%	2	3	↴	↰ ↑ ↱	271	41	→	

South leg:

Cars	9	1	5	1
Trucks	8	1	2	0
Trucks %	↓	50%	29%	0%
PHF		0.50	0.44	0.25

MD Peak 11:45

Ped. ⇄ 0 (north leg) · Ped. ⇅ 0 (west leg) · Ped. ⇅ 0 (east leg) · Ped. ⇄ 0 (south leg)

North leg:

PHF	0.61	0.54	0.73	
Trucks %	22%	23%	14%	↑
Trucks	6	3	4	15
Cars	21	10	25	54
	↵	↓	↳	↰

West / East legs:

PHF	Trucks %	Trucks	Cars			Cars	Trucks	Trucks %	PHF
	←	37	139	↵ ↓ ↳	↰	25	5	17%	0.83
0.67	22%	7	25	↗	←	116	28	19%	0.77
0.82	14%	17	107	→	↙	1	0	0%	0.25
0.33	100%	4	0	↴	↰ ↑ ↱	134	23	→	

South leg:

Cars	11	2	4	2
Trucks	7	3	3	2
Trucks %	↓	60%	43%	50%
PHF		0.42	0.58	0.50

PM Peak 17:00

Ped. ⇄ 0 (north leg) · Ped. ⇅ 0 (west leg) · Ped. ⇅ 0 (east leg) · Ped. ⇄ 0 (south leg)

North leg:

PHF	0.89	0.75	0.72	
Trucks %	7%	0%	26%	↑
Trucks	5	0	11	40
Cars	66	6	32	205
	↵	↓	↳	↰

West / East legs:

PHF	Trucks %	Trucks	Cars			Cars	Trucks	Trucks %	PHF
	←	37	257	↵ ↓ ↳	↰	87	23	21%	0.71
0.65	11%	14	109	↗	←	186	30	14%	0.86
0.57	17%	40	201	→	↙	0	3	100%	0.25
0.58	14%	1	6	↴	↰ ↑ ↱	235	52	→	

South leg:

Cars	12	5	9	2
Trucks	4	2	3	1
Trucks %	↓	29%	25%	33%
PHF		0.58	0.60	0.38

Total Count 8 hours*

Ped. ⇄ 0 (north leg) · Ped. ⇅ 0 (west leg) · Ped. ⇅ 0 (east leg) · Ped. ⇄ 2 (south leg)

North leg:

Trucks %	13%	36%	13%	↑
Trucks	60	30	56	176
Cars	418	53	360	826
	↵	↓	↳	↰

West / East legs:

PHF	Trucks %	Trucks	Cars			Cars	Trucks	Trucks %	PHF
	←	268	1523	↵ ↓ ↳	↰	357	68	16%	
	15%	77	421	↗	←	1093	195	15%	
	15%	198	1144	→	↙	6	6	50%	
	43%	13	17	↴	↰ ↑ ↱	1511	263	→	

South leg:

Cars	76	12	48	7
Trucks	49	13	31	9
Trucks %	↓	52%	39%	56%

TMC 15 Min Report

Bloor St (R.R.22) @ Trulls Rd (S. Leg)

TMC No: 0228300000 **Intersection ID:** 6576 **Count ID:** 35702017928 **Count Date:** 05/28/2019, Tue

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	19	1	15	2	1	5	0	0	0	0	0	19	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	16	0	0	0	0	0	0	0	0	85
06:30	18	0	9	3	1	1	0	0	0	0	0	8	1	0	3	1	0	0	0	0	0	0	0	1	0	0	0	0	0	0	3	11	0	0	5	0	0	0	0	0	65
06:45	18	3	23	6	4	1	0	0	0	0	0	21	3	0	3	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	21	0	1	3	0	0	0	0	0	111
07:00	17	1	24	3	1	2	0	0	0	0	0	15	4	1	4	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	33	1	1	8	0	0	0	0	0	123
07:15	23	2	10	3	2	2	0	0	0	0	0	2	4	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	28	0	0	3	0	0	0	0	0	91
07:30	25	3	10	2	3	1	0	0	0	0	1	19	4	1	7	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	8	25	0	0	4	0	0	0	0	0	115
07:45	**24**	**0**	**17**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**25**	**12**	**0**	**11**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**38**	**1**	**1**	**6**	**0**	**0**	**0**	**0**	**0**	**148**
08:00	**17**	**2**	**14**	**3**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**43**	**9**	**0**	**3**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**10**	**50**	**1**	**6**	**5**	**0**	**0**	**0**	**0**	**0**	**172**
08:15	**17**	**2**	**17**	**2**	**3**	**1**	**0**	**0**	**0**	**0**	**0**	**68**	**13**	**0**	**5**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**22**	**78**	**1**	**2**	**11**	**0**	**0**	**0**	**0**	**0**	**245**
08:30	**15**	**1**	**24**	**4**	**1**	**5**	**0**	**0**	**0**	**0**	**0**	**45**	**10**	**0**	**8**	**1**	**0**	**0**	**0**	**0**	**1**	**4**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**31**	**0**	**1**	**8**	**2**	**0**	**0**	**0**	**0**	**168**
08:45	14	2	18	1	2	4	0	0	0	0	0	35	2	0	6	2	0	0	0	0	1	2	0	0	2	2	0	0	0	0	6	38	0	1	5	0	0	0	0	0	143
09:00	14	0	15	1	1	1	0	0	0	0	1	29	6	0	9	0	0	0	0	0	0	3	0	0	1	0	0	0	0	0	10	31	0	4	5	0	0	0	0	0	131
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	**8**	**1**	**7**	**2**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**23**	**8**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**6**	**29**	**0**	**1**	**9**	**0**	**0**	**0**	**0**	**0**	**106**
12:00	**10**	**5**	**4**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**39**	**4**	**0**	**8**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**9**	**33**	**0**	**3**	**2**	**0**	**0**	**0**	**0**	**0**	**122**
12:15	**1**	**2**	**3**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**28**	**7**	**0**	**11**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**21**	**0**	**2**	**3**	**1**	**0**	**0**	**0**	**0**	**90**
12:30	**6**	**2**	**7**	**1**	**0**	**4**	**0**	**0**	**0**	**0**	**1**	**26**	**6**	**0**	**4**	**2**	**0**	**0**	**0**	**0**	**2**	**1**	**1**	**1**	**2**	**1**	**0**	**0**	**0**	**0**	**4**	**24**	**0**	**1**	**3**	**3**	**0**	**0**	**0**	**0**	**102**
12:45	4	1	8	1	1	1	0	0	0	0	0	24	2	0	4	1	0	0	0	0	0	2	0	2	7	0	0	0	0	0	10	30	1	2	4	0	0	0	0	0	105
13:00	4	1	3	1	0	1	0	0	0	0	0	34	6	0	4	4	0	0	0	0	0	2	1	1	0	0	0	0	0	0	11	27	1	0	6	0	0	0	0	0	107
13:15	0	4	12	0	1	3	0	0	0	0	0	29	6	0	3	0	0	0	0	0	1	3	0	1	0	0	0	0	0	0	9	15	1	3	3	0	0	0	0	0	94
13:30	4	3	7	0	0	2	0	0	0	0	0	34	5	0	3	1	0	0	0	0	0	2	0	0	1	0	0	0	0	0	8	23	0	4	6	0	0	0	0	0	103
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	4	3	15	1	1	1	0	0	0	0	0	48	21	0	4	2	0	0	0	0	1	2	0	0	0	0	0	0	0	0	15	41	2	2	5	0	0	0	0	0	168
15:30	5	0	12	1	0	2	0	0	0	0	0	36	15	0	7	1	0	0	0	0	0	1	0	0	0	1	0	0	0	0	18	37	1	1	13	3	0	0	0	0	154
15:45	7	0	15	0	1	1	0	0	0	0	1	42	20	0	9	1	0	0	0	0	1	1	0	0	3	0	0	0	0	0	22	38	0	3	7	0	0	0	0	0	172
16:00	12	2	12	2	0	3	0	0	0	0	0	46	19	0	2	2	0	0	0	0	0	2	0	0	1	0	0	0	0	0	24	50	0	2	8	1	0	0	0	0	188
16:15	12	2	11	0	0	2	0	0	0	0	1	44	20	0	9	4	0	0	0	0	0	5	0	2	1	2	0	0	0	0	25	47	0	9	7	0	0	0	0	0	203
16:30	14	3	12	0	0	3	0	0	0	0	0	45	25	1	8	3	0	0	0	0	0	4	1	0	1	0	0	0	0	0	19	36	0	5	10	1	0	0	0	0	191
16:45	9	0	13	1	1	2	0	0	0	0	0	34	22	0	11	0	0	0	0	0	0	1	0	0	4	1	0	0	0	2	19	51	1	4	8	1	0	0	0	0	185
17:00	**4**	**2**	**17**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**37**	**19**	**0**	**7**	**7**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**26**	**43**	**1**	**3**	**4**	**1**	**0**	**0**	**0**	**0**	**176**
17:15	**9**	**2**	**15**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**44**	**19**	**3**	**7**	**2**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**24**	**30**	**1**	**6**	**8**	**0**	**0**	**0**	**0**	**0**	**180**
17:30	**5**	**1**	**19**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**49**	**18**	**0**	**9**	**6**	**0**	**0**	**0**	**0**	**2**	**4**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**17**	**40**	**1**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**186**
17:45	**14**	**1**	**15**	**1**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**56**	**31**	**0**	**7**	**8**	**0**	**0**	**0**	**0**	**1**	**3**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**42**	**88**	**3**	**5**	**18**	**0**	**0**	**0**	**0**	**0**	**300**
18:00	7	1	15	2	1	4	0	0	0	0	0	46	15	0	7	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	18	41	0	4	1	0	0	0	0	0	165
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

Bloor St (R.R.22) @ Trulls Rd (S. Leg)

TMC No: 0228300000 **Intersection ID:** 6576 **Count ID:** 35702018128 **Count Date:** 09/19/2019, Thu

AM Peak 07:45

Ped. 0 (all four legs)

North leg:

	Right	Through	Left	Exit (↑)
PHF	0.82	0.83	0.64	
Trucks %	10%	40%	7%	
Trucks	10	4	7	27
Cars	88	6	90	104

West leg:

Movement	PHF	Trucks %	Trucks	Cars
Exit (←)			45	278
Left	0.71	22%	15	53
Through	0.74	13%	31	207
Right	0.40	38%	3	5

East leg:

Movement	Cars	Trucks	Trucks %	PHF
Right	47	7	13%	0.90
Through	187	35	16%	0.87
Left	0	2	100%	0.25
Exit (→)	297	38		

South leg:

	Exit (↓)	Left	Through	Right
Cars	11	3	4	0
Trucks	9	0	5	0
Trucks %		0%	56%	0%
PHF		0.38	0.56	0.00

MD Peak 12:15

Ped. 0 (all four legs)

North leg:

	Right	Through	Left	Exit (↑)
PHF	0.81	0.81	0.88	
Trucks %	19%	23%	18%	
Trucks	8	3	5	19
Cars	34	10	23	80

West leg:

Movement	PHF	Trucks %	Trucks	Cars
Exit (←)			35	152
Left	0.68	17%	8	38
Through	0.93	21%	41	159
Right	0.58	29%	2	5

East leg:

Movement	Cars	Trucks	Trucks %	PHF
Right	31	6	16%	0.77
Through	113	26	19%	0.87
Left	1	1	50%	0.25
Exit (→)	183	49		

South leg:

	Exit (↓)	Left	Through	Right
Cars	16	5	11	1
Trucks	6	1	5	3
Trucks %		17%	31%	75%
PHF		0.38	0.67	0.50

PM Peak 17:00

Ped. 0 (all four legs)

North leg:

	Right	Through	Left	Exit (↑)
PHF	0.81	0.50	0.71	
Trucks %	15%	17%	18%	
Trucks	10	1	9	46
Cars	55	5	42	199

West leg:

Movement	PHF	Trucks %	Trucks	Cars
Exit (←)			73	411
Left	0.85	12%	13	99
Through	0.87	15%	40	228
Right	0.50	0%	0	2

East leg:

Movement	Cars	Trucks	Trucks %	PHF
Right	83	25	23%	0.71
Through	353	62	15%	0.91
Left	2	0	0%	0.50
Exit (→)	272	49		

South leg:

	Exit (↓)	Left	Through	Right
Cars	9	3	17	2
Trucks	1	1	8	0
Trucks %		25%	32%	0%
PHF		0.50	0.78	0.25

Total Count 8 hours*

Ped. 0 (all four legs)

North leg:

	Right	Through	Left	Exit (↑)
Trucks %	13%	36%	13%	
Trucks	63	36	61	228
Cars	427	63	397	843

West leg:

Movement	Trucks %	Trucks	Cars
Exit (←)		347	1769
Left	18%	92	428
Through	17%	277	1321
Right	29%	9	22

East leg:

Movement	Cars	Trucks	Trucks %
Right	347	94	21%
Through	1323	279	17%
Left	14	6	30%
Exit (→)	1732	344	

South leg:

	Exit (↓)	Left	Through	Right
Cars	99	19	68	14
Trucks	51	5	42	6
Trucks %		21%	38%	30%

TMC 15 Min Report

Bloor St (R.R.22) @ Trulls Rd (S. Leg)

TMC No: 0228300000 **Intersection ID:** 6576 **Count ID:** 35702018128 **Count Date:** 09/19/2019, Thu

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Left	Cars Thru	Right	Left	Trucks Thru	Right	Left	Heavies Thru	Right	Ped	Total
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	22	2	20	0	0	3	0	0	0	0	0	9	1	0	4	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	4	22	1	1	2	0	0	0	0	0	93
06:30	17	3	3	1	1	1	0	0	0	0	1	12	3	0	2	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	15	0	2	5	0	0	0	0	0	69
06:45	17	5	16	2	2	2	0	0	0	0	1	16	0	0	5	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	3	24	1	1	8	1	0	0	0	0	105
07:00	12	2	13	5	1	3	0	0	0	0	0	18	4	1	3	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	25	1	0	5	0	0	0	0	0	98
07:15	30	4	10	2	4	1	0	0	0	0	0	13	1	0	7	1	0	0	0	0	0	0	1	0	2	0	0	0	0	0	6	20	0	0	7	0	0	0	0	0	109
07:30	26	2	14	4	0	4	0	0	0	0	0	19	10	0	3	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	34	1	2	5	0	0	0	0	0	134
07:45	**36**	**0**	**16**	**2**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**32**	**12**	**0**	**9**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**47**	**2**	**1**	**12**	**0**	**0**	**0**	**0**	**0**	**189**
08:00	**19**	**3**	**21**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**45**	**10**	**2**	**11**	**4**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**11**	**66**	**0**	**7**	**11**	**0**	**0**	**0**	**0**	**0**	**217**
08:15	**15**	**2**	**26**	**1**	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**54**	**14**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**18**	**75**	**2**	**6**	**5**	**3**	**0**	**0**	**0**	**0**	**236**
08:30	**20**	**1**	**25**	**2**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**56**	**11**	**0**	**8**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**11**	**19**	**1**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**167**
08:45	9	0	22	1	1	2	0	0	0	0	2	30	4	0	6	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	7	32	0	3	8	0	0	0	0	0	130
09:00	13	4	15	0	1	1	0	0	0	0	0	33	9	0	4	2	0	0	0	0	0	0	0	0	1	0	0	0	0	0	9	43	0	7	6	0	0	0	0	0	148
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	7	0	8	0	0	0	0	0	0	0	0	29	5	0	5	2	0	0	0	0	0	3	0	0	1	0	0	0	0	0	9	36	0	0	10	0	0	0	0	0	115
12:00	6	0	2	2	0	0	0	0	0	0	1	29	13	0	4	4	0	0	0	0	1	2	1	0	2	0	0	0	0	0	8	30	0	3	9	0	0	0	0	0	117
12:15	**7**	**3**	**8**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**1**	**33**	**10**	**1**	**7**	**0**	**0**	**0**	**0**	**0**	**4**	**4**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**6**	**39**	**1**	**2**	**7**	**0**	**0**	**0**	**0**	**0**	**139**
12:30	**6**	**2**	**10**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**30**	**9**	**0**	**6**	**1**	**0**	**0**	**0**	**0**	**1**	**2**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**8**	**39**	**2**	**3**	**7**	**1**	**0**	**0**	**0**	**0**	**134**
12:45	**5**	**2**	**10**	**1**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**25**	**5**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**15**	**38**	**1**	**2**	**16**	**0**	**0**	**0**	**0**	**0**	**133**
13:00	**5**	**3**	**6**	**3**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**25**	**7**	**0**	**6**	**5**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**9**	**43**	**1**	**1**	**11**	**1**	**0**	**0**	**0**	**0**	**134**
13:15	5	2	11	2	3	2	0	0	0	0	0	22	5	1	7	4	0	0	0	0	0	1	0	1	1	0	0	0	0	0	8	26	0	4	10	0	0	0	0	0	115
13:30	10	1	8	1	3	0	0	0	0	0	2	28	7	0	7	2	0	0	0	0	0	0	1	0	0	2	0	0	0	0	7	36	1	1	9	2	0	0	0	0	128
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	6	3	17	5	3	2	0	0	0	0	0	55	13	1	9	1	0	0	0	0	1	6	2	0	0	0	0	0	0	0	22	39	0	3	9	1	0	0	0	0	198
15:30	10	3	8	1	3	3	0	0	0	0	0	45	19	0	16	6	0	0	0	0	0	3	2	0	0	0	0	0	0	0	13	52	0	6	7	0	0	0	0	0	197
15:45	14	3	12	2	2	2	0	0	0	0	1	37	17	0	10	3	0	0	0	0	1	3	1	0	4	0	0	0	0	0	23	36	0	3	12	0	0	0	0	0	186
16:00	9	2	18	2	0	2	0	0	0	0	0	40	15	0	5	4	0	0	0	0	0	4	0	0	0	0	0	0	0	0	29	60	0	4	12	0	0	0	0	0	206
16:15	6	2	10	4	1	1	0	0	0	0	1	39	18	0	11	5	0	0	0	0	0	2	1	0	4	0	0	0	0	0	18	54	1	6	14	0	0	0	0	0	198
16:30	6	2	16	3	1	1	0	0	0	0	1	73	11	0	17	5	0	0	0	0	0	4	0	1	5	0	0	0	0	0	17	47	1	6	8	0	0	0	0	0	225
16:45	13	1	12	2	1	3	0	0	0	0	0	85	11	0	18	3	0	0	0	0	4	4	2	0	1	0	0	0	0	0	26	52	1	1	9	0	0	0	0	0	249
17:00	**10**	**1**	**9**	**3**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**77**	**17**	**0**	**24**	**5**	**0**	**0**	**0**	**0**	**2**	**3**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**28**	**56**	**1**	**5**	**10**	**0**	**0**	**0**	**0**	**0**	**255**
17:15	**9**	**3**	**15**	**1**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**102**	**17**	**0**	**12**	**8**	**0**	**0**	**0**	**0**	**1**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**	**65**	**1**	**7**	**12**	**0**	**0**	**0**	**0**	**0**	**285**
17:30	**9**	**0**	**17**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**80**	**30**	**0**	**18**	**8**	**0**	**0**	**0**	**0**	**0**	**4**	**2**	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**31**	**46**	**0**	**1**	**11**	**0**	**0**	**0**	**0**	**0**	**267**
17:45	**14**	**1**	**14**	**4**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**94**	**19**	**0**	**8**	**4**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**20**	**61**	**0**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**253**
18:00	4	1	15	1	1	2	0	0	0	0	1	38	20	0	13	8	0	0	0	0	0	3	0	1	1	0	0	0	0	0	16	44	2	3	10	0	0	0	0	0	184
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Bloor St (R.R.22) @ Trulls Rd (S. Leg)

TMC No: 0228300000 **Intersection ID:** 6576 **Count ID:** 35702018313 **Count Date:** 09/16/2020, Wed

AM Peak 07:45

North leg (Ped. 0):

	↲	↓	↳	↑
PHF	0.75	0.75	0.88	
Trucks %	13%	58%	19%	
Trucks	11	7	12	27
Cars	73	5	51	75

East leg (Ped. 0):

Movement	Cars	Trucks	Trucks %	PHF
↰	33	11	25%	0.50
←	146	30	17%	0.54
↲	1	2	67%	0.75
→	229	43		

West leg (Ped. 0):

Movement	PHF	Trucks %	Trucks	Cars
←			43	219
↱	0.68	24%	13	41
→	0.79	15%	31	175
↴	0.33	12%	2	15

South leg (Ped. 0):

	↓	↰	↑	↱
Cars	21	0	1	3
Trucks	11	2	3	0
Trucks %		100%	75%	0%
PHF		0.50	0.50	0.75

MD Peak 12:45

North leg (Ped. 0):

	↲	↓	↳	↑
PHF	0.86	0.68	0.70	
Trucks %	11%	21%	18%	
Trucks	6	4	5	18
Cars	49	15	23	80

East leg (Ped. 0):

Movement	Cars	Trucks	Trucks %	PHF
↰	27	8	23%	0.88
←	96	25	21%	0.86
↲	0	0	0%	0.00
→	143	31		

West leg (Ped. 0):

Movement	PHF	Trucks %	Trucks	Cars
←			32	148
↱	0.74	14%	7	43
→	0.90	18%	26	118
↴	0.50	25%	1	3

South leg (Ped. 0):

	↓	↰	↑	↱
Cars	18	3	10	2
Trucks	5	1	3	0
Trucks %		25%	23%	0%
PHF		0.50	0.54	0.25

PM Peak 16:15

North leg (Ped. 0):

	↲	↓	↳	↑
PHF	0.70	0.54	0.68	
Trucks %	8%	46%	13%	
Trucks	5	6	4	41
Cars	57	7	26	162

East leg (Ped. 0):

Movement	Cars	Trucks	Trucks %	PHF
↰	71	23	24%	0.87
←	200	35	15%	0.84
↲	2	0	0%	0.50
→	218	30		

West leg (Ped. 0):

Movement	PHF	Trucks %	Trucks	Cars
←			42	259
↱	0.87	16%	15	79
→	0.92	12%	25	192
↴	0.50	0%	0	2

South leg (Ped. 0):

	↓	↰	↑	↱
Cars	11	2	12	0
Trucks	6	2	3	1
Trucks %		50%	20%	100%
PHF		0.33	0.54	0.25

Total Count 8 hours*

North leg (Ped. 0):

	↲	↓	↳	↑
Trucks %	13%	39%	16%	
Trucks	57	36	53	189
Cars	395	56	281	720

East leg (Ped. 0):

Movement	Cars	Trucks	Trucks %	PHF
↰	300	81	21%	
←	938	197	17%	
↲	8	7	47%	
→	1398	251		

West leg (Ped. 0):

Movement	PHF	Trucks %	Trucks	Cars
←			267	1349
↱		17%	76	365
→		15%	194	1105
↴		19%	8	34

South leg (Ped. 0):

	↓	↰	↑	↱
Cars	98	16	55	12
Trucks	51	13	32	4
Trucks %		45%	37%	25%

TMC 15 Min Report

Bloor St (R.R.22) @ Trulls Rd (S. Leg)

TMC No: 0228300000 **Intersection ID:** 6576 **Count ID:** 35702018313 **Count Date:** 09/16/2020, Wed

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	9	1	15	2	1	2	0	0	0	0	0	10	1	0	2	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	1	11	0	0	2	0	0	0	0	0	59
06:30	16	3	13	0	1	1	0	0	0	0	0	12	2	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	13	0	0	1	0	0	0	0	0	68
06:45	8	0	12	0	2	3	0	0	0	0	0	12	2	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	17	0	1	1	0	0	0	0	0	66
07:00	14	2	11	2	0	4	0	0	0	0	0	5	2	0	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	1	29	0	0	6	0	0	0	0	0	80
07:15	17	4	10	3	4	1	0	0	0	0	0	13	3	1	2	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	6	33	1	1	0	0	0	0	0	0	100
07:30	15	2	14	4	1	1	0	0	0	0	0	15	10	1	5	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	4	30	2	2	3	0	0	0	0	0	110
07:45	**15**	**2**	**18**	**3**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**17**	**6**	**1**	**7**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**35**	**11**	**3**	**12**	**2**	**0**	**0**	**0**	**0**	**148**
08:00	**11**	**1**	**17**	**1**	**3**	**4**	**0**	**0**	**0**	**0**	**0**	**14**	**5**	**0**	**7**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**13**	**58**	**2**	**7**	**7**	**0**	**0**	**0**	**0**	**0**	**156**
08:15	**17**	**0**	**13**	**1**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**70**	**18**	**1**	**12**	**4**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**14**	**52**	**2**	**2**	**5**	**0**	**0**	**0**	**0**	**0**	**219**
08:30	**8**	**2**	**25**	**7**	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**45**	**4**	**0**	**4**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**30**	**0**	**1**	**7**	**0**	**0**	**0**	**0**	**0**	**145**
08:45	14	2	8	4	0	3	0	0	0	0	1	26	5	0	5	3	0	0	0	0	0	1	1	1	3	1	0	0	0	0	6	31	0	1	8	0	0	0	0	0	124
09:00	10	0	9	2	1	3	0	0	0	0	0	19	5	0	4	0	0	0	0	0	1	0	0	1	1	0	0	0	0	0	6	26	0	0	6	0	0	0	0	0	94
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	1	1	4	1	1	0	0	0	0	0	0	26	8	0	3	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	9	20	1	1	7	1	0	0	0	0	87
12:00	6	2	8	1	2	1	0	0	0	0	1	27	6	1	5	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	6	30	2	1	9	0	0	0	0	0	111
12:15	7	1	11	1	1	2	0	0	0	0	0	22	12	1	10	1	0	0	0	0	1	1	0	0	3	0	0	0	0	0	9	25	0	3	7	2	0	0	0	0	120
12:30	0	2	9	0	0	3	0	0	0	0	0	15	6	0	9	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0	8	25	2	3	4	1	0	0	0	0	90
12:45	**9**	**3**	**11**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**24**	**9**	**0**	**3**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**32**	**0**	**3**	**6**	**0**	**0**	**0**	**0**	**0**	**120**
13:00	**5**	**6**	**11**	**0**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**23**	**7**	**0**	**7**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**7**	**30**	**0**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**115**
13:15	**4**	**4**	**12**	**2**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**27**	**7**	**0**	**8**	**2**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**14**	**30**	**2**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**125**
13:30	**5**	**2**	**15**	**2**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**22**	**4**	**0**	**7**	**3**	**0**	**0**	**0**	**0**	**2**	**3**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**26**	**1**	**3**	**7**	**1**	**0**	**0**	**0**	**0**	**115**
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	13	1	10	1	0	1	0	0	0	0	2	31	12	0	13	2	0	0	0	0	0	5	0	1	1	0	0	0	0	0	25	36	1	2	6	0	0	0	0	0	163
15:30	9	0	15	2	1	1	0	0	0	0	0	41	10	0	5	2	0	0	0	0	0	3	1	0	1	0	0	0	0	0	14	41	0	4	8	1	0	0	0	0	159
15:45	4	1	11	1	2	2	0	0	0	0	0	35	17	0	10	7	0	0	0	0	2	9	0	0	2	0	0	0	0	0	18	62	2	1	8	0	0	0	0	0	194
16:00	7	2	14	3	2	1	0	0	0	0	1	38	9	1	4	5	0	0	0	0	2	2	1	1	4	0	0	0	0	0	12	43	0	6	4	0	0	0	0	0	162
16:15	**4**	**3**	**21**	**1**	**3**	**1**	**0**	**0**	**0**	**0**	**0**	**37**	**20**	**0**	**7**	**4**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**23**	**53**	**0**	**4**	**6**	**0**	**0**	**0**	**0**	**0**	**194**
16:30	**4**	**2**	**15**	**0**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**56**	**17**	**0**	**13**	**10**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**24**	**42**	**1**	**3**	**5**	**0**	**0**	**0**	**0**	**0**	**198**
16:45	**9**	**1**	**14**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**60**	**17**	**0**	**10**	**4**	**0**	**0**	**0**	**0**	**2**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**52**	**1**	**4**	**4**	**0**	**0**	**0**	**0**	**0**	**197**
17:00	**9**	**1**	**7**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**47**	**17**	**0**	**5**	**5**	**0**	**0**	**0**	**0**	**0**	**5**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**21**	**45**	**0**	**4**	**10**	**0**	**0**	**0**	**0**	**0**	**180**
17:15	8	1	3	2	0	1	0	0	0	0	0	41	17	0	6	6	0	0	0	0	0	4	0	1	4	0	0	0	0	0	20	42	1	5	5	0	0	0	0	0	167
17:30	5	2	12	1	0	4	0	0	0	0	0	42	9	0	7	2	0	0	0	0	1	1	0	1	0	0	0	0	0	0	21	38	1	7	8	0	0	0	0	0	162
17:45	9	0	13	1	0	1	0	0	0	0	0	37	18	0	4	3	0	0	0	0	0	0	1	0	0	0	0	0	0	0	17	29	0	0	6	0	0	0	0	0	139
18:00	9	2	14	1	0	0	0	0	0	0	0	29	15	0	4	4	0	0	0	0	3	4	1	1	1	0	0	0	0	0	12	39	1	3	13	0	0	0	0	0	156
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

Bloor St (R.R.22) @ Trulls Rd (S. Leg)

TMC No: 0228300000 **Intersection ID:** 6576 **Count ID:** 35702018749 **Count Date:** 04/07/2021, Wed

AM Peak 08:00

North leg (NW Ped. 0; NE Ped. 0)

	↵	↓	↳	↑
PHF	0.69	0.64	0.68	
Trucks %	3%	6%	4%	
Trucks	2	1	2	11
Cars	72	17	52	115

West leg

PHF	Trucks %	Trucks	Cars	
		11	247	←
0.81	9%	5	50	↗
0.73	1%	3	207	→
0.38	33%	1	2	↘

East leg

	Cars	Trucks	Trucks %	PHF
↰	53	6	10%	0.61
←	171	9	5%	0.61
↲	3	2	40%	0.63
→	262	5		

South leg (SW Ped. 0; SE Ped. 0)

	↓	↶	↑	↱
Cars	22	4	12	3
Trucks	4	0	0	0
Trucks %		0%	0%	0%
PHF		0.50	0.50	0.38

MD Peak 11:45

North leg (NW Ped. 0; NE Ped. 0)

	↵	↓	↳	↑
PHF	0.79	0.79	0.65	
Trucks %	4%	5%	3%	
Trucks	2	1	1	0
Cars	52	18	30	88

West leg

PHF	Trucks %	Trucks	Cars	
		5	178	←
0.80	0%	0	45	↗
0.91	2%	4	163	→
0.50	0%	0	4	↘

East leg

	Cars	Trucks	Trucks %	PHF
↰	30	0	0%	0.83
←	120	3	2%	0.70
↲	1	0	0%	0.25
→	193	5		

South leg (SW Ped. 0; SE Ped. 0)

	↓	↶	↑	↱
Cars	23	6	13	0
Trucks	1	0	0	0
Trucks %		0%	0%	0%
PHF		0.38	0.81	0.00

PM Peak 16:30

North leg (NW Ped. 0; NE Ped. 0)

	↵	↓	↳	↑
PHF	0.64	0.58	0.74	
Trucks %	0%	7%	4%	
Trucks	0	1	2	2
Cars	59	13	48	224

West leg

PHF	Trucks %	Trucks	Cars	
		2	256	←
0.87	2%	2	102	↗
0.82	1%	2	211	→
0.25	0%	0	2	↘

East leg

	Cars	Trucks	Trucks %	PHF
↰	102	0	0%	0.77
←	192	2	1%	0.85
↲	3	0	0%	0.38
→	262	4		

South leg (SW Ped. 0; SE Ped. 0)

	↓	↶	↑	↱
Cars	18	5	20	3
Trucks	1	0	0	0
Trucks %		0%	0%	0%
PHF		0.42	0.56	0.38

Total Count 8 hours*

North leg (NW Ped. 2; NE Ped. 0)

	↵	↓	↳	↑
Trucks %	1%	5%	2%	
Trucks	6	5	7	24
Cars	474	106	331	930

West leg

PHF	Trucks %	Trucks	Cars	
		37	1518	←
	2%	11	439	↗
	2%	28	1262	→
	8%	2	24	↘

East leg

	Cars	Trucks	Trucks %	PHF
↰	400	11	3%	
←	1015	27	3%	
↲	15	2	12%	
→	1609	35		

South leg (SW Ped. 1; SE Ped. 0)

	↓	↶	↑	↱
Cars	145	29	91	16
Trucks	9	4	2	0
Trucks %		12%	2%	0%

TMC 15 Min Report

Bloor St (R.R.22) @ Trulls Rd (S. Leg)

TMC No: 0228300000 **Intersection ID:** 6576 **Count ID:** 35702018749 **Count Date:** 04/07/2021, Wed

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	13	1	21	0	0	0	0	0	0	0	0	5	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	0	0	50
06:30	17	1	19	0	0	0	0	0	0	0	0	9	2	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	22	0	0	0	0	0	0	0	0	73
06:45	15	2	16	0	0	0	0	0	0	0	0	17	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	26	0	0	0	0	0	0	0	0	80
07:00	15	5	12	0	0	0	0	0	0	0	0	9	1	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	4	28	0	0	0	1	0	0	0	0	76
07:15	14	7	9	0	0	0	0	0	0	0	0	15	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	26	0	0	1	0	0	0	0	0	77
07:30	13	5	14	0	0	0	0	0	0	0	0	13	5	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	8	29	0	0	1	0	0	0	0	0	90
07:45	5	3	13	0	0	0	0	0	0	0	0	13	10	0	3	1	0	0	0	0	0	1	1	0	2	0	0	0	0	0	7	34	1	1	0	0	0	0	0	0	95
08:00	**20**	**7**	**15**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**20**	**8**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**50**	**1**	**3**	**1**	**0**	**0**	**0**	**0**	**0**	**145**
08:15	**9**	**6**	**15**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**47**	**17**	**1**	**4**	**1**	**0**	**0**	**0**	**0**	**2**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**71**	**1**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**202**
08:30	**12**	**1**	**27**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**74**	**20**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**1**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**57**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**219**
08:45	**11**	**3**	**15**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**30**	**8**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**29**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**111**
09:00	7	3	12	0	0	0	0	0	0	0	0	28	4	0	0	0	0	0	0	0	3	2	1	0	0	0	0	0	0	0	8	33	1	0	1	0	0	0	0	0	103
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	**8**	**5**	**16**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**18**	**9**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**42**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**114**
12:00	**11**	**2**	**6**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**33**	**8**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**39**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**121**
12:15	**6**	**5**	**15**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**43**	**7**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**4**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**45**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**145**
12:30	**5**	**6**	**15**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**26**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**37**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**113**
12:45	10	4	8	0	0	0	0	0	0	0	1	20	7	0	0	1	0	0	0	0	1	2	0	0	0	0	0	0	0	0	9	30	2	0	3	0	0	0	0	0	98
13:00	8	3	9	0	0	0	0	0	0	0	0	27	8	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	14	34	3	0	0	0	0	0	0	0	109
13:15	12	2	11	0	0	0	0	0	0	0	2	31	16	0	0	0	0	0	0	0	0	3	1	1	0	0	0	0	0	0	12	33	1	1	1	0	0	0	0	0	127
13:30	5	1	9	0	0	1	0	0	0	0	0	29	13	0	1	0	0	0	0	0	1	2	0	1	0	0	0	0	0	0	15	30	1	1	0	0	0	0	0	0	110
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	8	3	17	1	0	0	0	0	0	0	1	27	9	0	3	1	0	0	0	0	3	4	1	1	0	0	0	0	0	0	14	43	2	0	0	0	0	0	0	0	138
15:30	15	4	16	0	1	0	0	0	0	0	0	39	22	0	2	1	0	0	0	0	0	5	1	0	0	0	0	0	0	0	21	43	0	0	1	0	0	0	0	0	171
15:45	12	3	21	0	0	0	0	0	0	0	2	41	16	0	1	1	0	0	0	0	1	6	0	0	0	0	0	0	0	1	21	51	2	0	1	0	0	0	0	2	182
16:00	2	1	17	0	0	1	0	0	0	0	1	43	16	0	1	0	0	0	0	0	1	3	1	0	0	0	0	0	0	0	15	54	0	1	5	0	0	0	0	0	162
16:15	6	3	15	0	1	0	0	0	0	0	1	49	22	0	0	0	0	0	0	0	0	8	1	0	0	0	0	0	0	0	15	45	1	0	1	0	0	0	0	0	168
16:30	**10**	**6**	**10**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**44**	**33**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**29**	**50**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**198**
16:45	**10**	**3**	**23**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**51**	**20**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**29**	**49**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**192**
17:00	**16**	**1**	**15**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**57**	**19**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**26**	**65**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**204**
17:15	**12**	**3**	**11**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**40**	**30**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**5**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**18**	**47**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**175**
17:30	8	4	13	0	0	0	0	0	0	0	0	46	28	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	29	40	0	0	1	0	0	0	0	0	176
17:45	8	2	23	0	0	0	0	0	0	0	0	37	18	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	20	36	1	0	2	0	0	0	0	0	148
18:00	8	1	16	1	0	0	0	0	0	0	0	34	14	0	0	0	0	0	0	0	1	1	2	0	0	0	0	0	0	0	22	36	1	0	1	0	0	0	0	0	138
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Bloor St (R.R.22) @ Courtice Rd (R.R.34)

TMC No: 0228000000 **Intersection ID:** 6352 **Count ID:** 35702017786 **Count Date:** 10/10/2018, Wed

AM Peak 07:30

North approach (Ped. 0 / Ped. 1):

	↲	↓	↳	↑
PHF	0.41	0.81	0.75	
Trucks %	4%	8%	3%	
Trucks	3	29	1	13
Cars	78	326	32	300

West approach:

PHF	Trucks %	Trucks	Cars	
		13	243	←
0.52	3%	3	91	↱
0.77	2%	2	127	→
0.75	0%	0	123	↴

East approach:

	Cars	Trucks	Trucks %	PHF
↰	36	0	0%	0.69
←	103	4	4%	0.84
↲	30	2	6%	0.73
→	175	6		

South approach (Ped. 0 / Ped. 1):

	↓	↰	↑	↱
Cars	479	62	173	16
Trucks	31	6	10	3
Trucks %		9%	5%	16%
PHF		0.68	0.97	0.79

MD Peak 12:00

North approach (Ped. 0 / Ped. 0):

	↲	↓	↳	↑
PHF	0.88	0.88	0.81	
Trucks %	2%	13%	8%	
Trucks	1	25	1	12
Cars	41	165	12	184

West approach:

PHF	Trucks %	Trucks	Cars	
		4	148	←
0.63	5%	2	38	↱
0.73	1%	1	78	→
0.80	0%	0	45	↴

East approach:

	Cars	Trucks	Trucks %	PHF
↰	18	0	0%	0.90
←	73	1	1%	0.88
↲	41	3	7%	0.69
→	129	12		

South approach (Ped. 0 / Ped. 0):

	↓	↰	↑	↱
Cars	251	34	128	39
Trucks	28	2	10	10
Trucks %		6%	7%	20%
PHF		0.82	0.91	0.88

PM Peak 16:45

North approach (Ped. 0 / Ped. 0):

	↲	↓	↳	↑
PHF	0.86	0.91	0.77	
Trucks %	4%	5%	2%	
Trucks	2	11	1	8
Cars	46	199	45	459

West approach:

PHF	Trucks %	Trucks	Cars	
		5	298	←
0.55	0%	0	59	↱
0.89	0%	0	177	→
0.65	0%	0	31	↴

East approach:

	Cars	Trucks	Trucks %	PHF
↰	44	1	2%	0.75
←	145	2	1%	0.85
↲	12	1	8%	0.54
→	284	2		

South approach (Ped. 0 / Ped. 0):

	↓	↰	↑	↱
Cars	242	107	356	62
Trucks	12	1	7	1
Trucks %		1%	2%	2%
PHF		0.75	0.85	0.66

Total Count 1 hours*

North approach (Ped. 0 / Ped. 1):

	↲	↓	↳	↑
Trucks %	4%	8%	3%	
Trucks	14	161	8	75
Cars	349	1734	232	2177

West approach:

PHF	Trucks %	Trucks	Cars	
		44	1590	←
	2%	9	379	↱
	1%	11	934	→
	1%	6	479	↴

East approach:

	Cars	Trucks	Trucks %	PHF
↰	221	3	1%	
←	754	16	2%	
↲	196	15	7%	
→	1451	61		

South approach (Ped. 0 / Ped. 1):

	↓	↰	↑	↱
Cars	2409	487	1577	285
Trucks	182	14	63	42
Trucks %		3%	4%	13%

TMC 15 Min Report

Bloor St (R.R.22) @ Courtice Rd (R.R.34)

TMC No: 0228000000 **Intersection ID:** 6352 **Count ID:** 35702017786 **Count Date:** 10/10/2018, Wed

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	2	79	1	0	2	0	0	0	0	0	1	10	1	0	0	0	0	0	0	0	5	15	2	0	2	0	0	0	0	0	2	17	24	0	0	0	0	0	0	0	163
06:30	7	85	3	0	0	0	0	0	0	0	8	11	0	1	0	0	0	0	0	0	7	21	0	0	0	0	0	0	0	0	2	10	25	0	0	0	0	0	0	0	180
06:45	9	101	2	0	0	0	0	0	0	0	11	12	2	0	0	0	0	0	0	0	6	24	5	0	2	0	0	0	0	0	5	23	27	0	0	0	0	0	0	0	229
07:00	3	94	7	0	1	0	0	0	0	0	11	12	4	0	0	0	0	0	0	0	4	27	1	1	4	0	0	0	0	0	7	14	23	0	0	1	0	0	0	0	214
07:15	6	107	5	0	3	0	0	0	0	0	9	11	5	1	0	1	0	0	0	0	8	26	5	1	2	3	0	0	0	0	5	21	29	0	1	0	0	0	0	0	249
07:30	**8**	**83**	**4**	**0**	**8**	**1**	**0**	**0**	**0**	**0**	**9**	**18**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**38**	**3**	**1**	**5**	**1**	**0**	**0**	**0**	**0**	**12**	**24**	**41**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**266**
07:45	**10**	**99**	**4**	**0**	**10**	**2**	**0**	**0**	**0**	**0**	**6**	**27**	**13**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**21**	**45**	**5**	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**9**	**31**	**30**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**321**
08:00	**4**	**64**	**20**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**4**	**30**	**10**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**19**	**45**	**5**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**25**	**42**	**25**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**307**
08:15	**10**	**80**	**50**	**1**	**5**	**0**	**0**	**0**	**0**	**0**	**11**	**28**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**45**	**3**	**0**	**2**	**1**	**0**	**0**	**0**	**1**	**45**	**30**	**27**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**368**
08:30	3	70	13	0	7	2	0	0	0	0	6	30	5	1	1	0	0	0	0	0	18	32	4	0	0	2	0	0	0	0	9	26	19	0	1	1	0	0	0	0	250
08:45	3	54	12	0	7	0	0	0	0	0	11	19	9	1	2	0	0	0	0	0	10	32	2	2	1	3	0	0	0	0	11	26	13	0	0	0	0	0	0	0	218
09:00	9	52	6	2	8	0	0	0	0	0	5	24	8	0	0	0	0	0	0	0	10	34	2	0	2	3	0	0	0	0	7	19	15	0	1	0	0	0	0	0	207
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	7	29	9	0	6	0	0	0	0	0	1	24	2	0	1	0	0	0	0	0	6	33	9	0	1	4	0	0	0	0	8	23	6	0	1	0	0	0	0	0	170
12:00	**3**	**35**	**10**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**9**	**19**	**5**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**10**	**31**	**14**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**15**	**24**	**14**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**200**
12:15	**4**	**44**	**12**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**10**	**19**	**4**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**35**	**10**	**0**	**3**	**1**	**0**	**0**	**0**	**0**	**4**	**26**	**8**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**195**
12:30	**2**	**41**	**9**	**0**	**5**	**1**	**0**	**0**	**0**	**0**	**7**	**14**	**5**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**29**	**9**	**0**	**3**	**5**	**0**	**0**	**0**	**0**	**4**	**14**	**10**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**166**
12:45	**3**	**45**	**10**	**1**	**9**	**0**	**0**	**0**	**0**	**0**	**15**	**21**	**4**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**33**	**6**	**2**	**1**	**4**	**0**	**0**	**0**	**0**	**15**	**14**	**13**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**207**
13:00	5	41	11	0	10	1	0	0	0	0	14	15	7	0	1	0	0	0	0	0	11	27	7	0	6	2	0	0	0	0	13	21	6	0	0	0	0	0	0	0	198
13:15	2	28	12	0	7	0	0	0	0	0	6	18	4	0	0	0	0	0	0	0	8	38	10	0	1	1	0	0	0	0	4	17	6	0	0	0	0	0	0	0	162
13:30	0	0	0	0	7	0	0	0	0	0	3	18	7	1	0	0	0	0	0	0	9	31	13	0	4	0	0	0	0	0	15	23	5	0	0	0	0	0	0	0	185
Period 3																																									
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	9	42	12	1	11	1	0	0	0	0	4	17	11	0	1	0	0	0	0	0	14	66	15	0	3	2	0	0	0	0	18	22	10	1	1	1	0	0	0	0	262
15:30	8	37	16	0	4	1	0	0	0	0	5	24	6	3	0	1	0	0	0	0	23	77	16	0	0	3	0	0	0	0	11	38	10	1	0	2	0	0	0	0	286
15:45	10	41	13	0	4	0	0	0	0	0	6	25	5	1	0	0	0	0	0	0	25	61	15	0	3	4	0	0	0	0	16	41	10	0	0	0	0	0	0	0	280
16:00	13	43	12	0	5	0	0	0	0	0	4	33	9	0	0	0	0	0	0	0	15	67	13	1	0	0	0	0	0	0	14	39	6	0	2	0	0	0	0	0	276
16:15	17	32	15	1	7	1	0	0	0	0	2	32	13	0	2	0	0	0	0	0	23	77	21	0	1	1	0	0	0	0	15	57	18	0	0	0	0	0	0	0	335
16:30	10	44	15	1	1	2	0	0	0	0	1	32	7	0	1	0	0	0	0	0	32	88	12	0	3	0	0	0	0	0	10	43	14	1	1	0	0	0	0	0	318
16:45	**8**	**50**	**12**	**1**	**3**	**2**	**0**	**0**	**0**	**0**	**5**	**40**	**9**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**23**	**106**	**13**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**5**	**50**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**335**
17:00	**9**	**43**	**11**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**4**	**28**	**13**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**35**	**66**	**6**	**1**	**3**	**1**	**0**	**0**	**0**	**0**	**12**	**39**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**279**
17:15	**13**	**56**	**12**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**43**	**14**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**25**	**95**	**24**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**27**	**49**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**377**
17:30	**15**	**50**	**11**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**1**	**34**	**8**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**24**	**89**	**19**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**15**	**39**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**319**
17:45	6	34	9	0	4	0	0	0	0	0	1	35	10	0	0	0	0	0	0	0	27	86	8	0	0	0	0	0	0	0	7	41	6	1	0	1	0	0	0	0	276
18:00	14	31	11	0	2	0	0	0	0	0	4	31	8	0	0	0	0	0	0	0	23	58	8	0	1	0	0	0	0	0	12	31	8	0	0	0	0	0	0	0	242
18:15	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*	0*	0*	0*	0*	0*	0*	0*

Courtice Rd (R.R. 34) @ Baseline Rd

TMC No: 0340100000 **Intersection ID:** 7626 **Count ID:** 35702018209 **Count Date:** 11/20/2019, Wed

AM Peak 07:30

Approach	Movement	Cars	Trucks	Trucks %	PHF
North	Right ↵	22	9	29%	0.65
North	Through ↓	416	88	17%	0.82
North	Left ↳	14	9	39%	0.72
North	Exit ↑	228	73		
East	↰	4	3	43%	0.58
East	←	0	1	100%	0.25
East	↲	6	11	65%	0.47
East	Exit →	40	26		
West	Exit ←	63	39		
West	↱	6	9	60%	0.75
West	→	1	0	0%	0.25
West	↴	62	30	33%	0.68
South	Exit ↓	484	129		
South	↰	41	29	41%	0.73
South	↑	218	61	22%	0.88
South	↱	25	17	40%	0.70

Ped. ↑↓ (west): 0; Ped. ⇄ (north): 0; Ped. ↑↓ (east): 0; Ped. ⇄ (south): 0

MD Peak 12:00

Approach	Movement	Cars	Trucks	Trucks %	PHF
North	Right ↵	21	4	16%	0.78
North	Through ↓	153	46	23%	0.87
North	Left ↳	14	12	46%	0.93
North	Exit ↑	153	53		
East	↰	14	8	36%	0.92
East	←	2	3	60%	0.63
East	↲	9	10	53%	0.68
East	Exit →	29	32		
West	Exit ←	59	28		
West	↱	17	5	23%	0.50
West	→	5	6	55%	0.69
West	↴	32	14	30%	0.72
South	Exit ↓	194	70		
South	↰	36	21	37%	0.75
South	↑	122	40	25%	0.83
South	↱	10	14	58%	0.67

Ped. ↑↓ (west): 0; Ped. ⇄ (north): 0; Ped. ↑↓ (east): 0; Ped. ⇄ (south): 1

PM Peak 16:45

Approach	Movement	Cars	Trucks	Trucks %	PHF
North	Right ↵	10	3	23%	0.54
North	Through ↓	200	37	16%	0.94
North	Left ↳	6	8	57%	0.58
North	Exit ↑	485	109		
East	↰	20	10	33%	0.68
East	←	3	1	25%	0.50
East	↲	24	10	29%	0.71
East	Exit →	12	11		
West	Exit ←	67	25		
West	↱	31	8	21%	0.54
West	→	0	0	0%	0.00
West	↴	97	14	13%	0.66
South	Exit ↓	321	61		
South	↰	54	21	28%	0.75
South	↑	434	91	17%	0.92
South	↱	6	3	33%	0.75

Ped. ↑↓ (west): 0; Ped. ⇄ (north): 0; Ped. ↑↓ (east): 0; Ped. ⇄ (south): 0

Total Count 3 hours*

Approach	Movement	Cars	Trucks	Trucks %
North	Right ↵	120	46	28%
North	Through ↓	1988	385	16%
North	Left ↳	87	73	46%
North	Exit ↑	1949	565	
East	↰	85	61	42%
East	←	9	12	57%
East	↲	121	77	39%
East	Exit →	219	173	
West	Exit ←	476	225	
West	↱	108	60	36%
West	→	28	14	33%
West	↴	414	154	27%
South	Exit ↓	2523	616	
South	↰	347	167	32%
South	↑	1756	444	20%
South	↱	104	86	45%

Ped. ↑↓ (west): 0; Ped. ⇄ (north): 1; Ped. ↑↓ (east): 0; Ped. ⇄ (south): 2

TMC 15 Min Report

Courtice Rd (R.R. 34) @ Baseline Rd

TMC No: 0340100000 **Intersection ID:** 7626 **Count ID:** 35702018209 **Count Date:** 11/20/2019, Wed

	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
Time	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	1	109	1	0	10	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	2	11	3	3	2	2	0	0	0	0	1	0	11	0	0	4	0	0	0	0	161
06:30	1	96	4	0	12	0	0	0	0	0	1	0	1	2	0	0	0	0	0	0	6	20	6	1	4	2	0	0	0	0	0	1	13	1	0	1	0	0	0	0	172
06:45	5	119	3	2	17	0	0	0	0	0	1	0	1	2	0	0	0	0	0	0	8	24	4	0	8	2	0	0	0	0	0	0	13	3	0	3	0	0	0	0	215
07:00	7	108	3	5	5	1	0	0	0	1	1	0	2	2	0	0	0	0	0	0	9	18	8	6	7	2	0	0	0	0	0	2	12	1	1	9	0	0	0	0	210
07:15	5	106	2	3	12	2	0	0	0	0	0	0	1	1	0	1	0	0	0	0	6	28	7	3	9	4	0	0	0	0	0	1	5	1	2	5	0	0	0	0	204
07:30	**2**	**126**	**1**	**1**	**28**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**5**	**40**	**8**	**7**	**22**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**2**	**0**	**7**	**0**	**0**	**0**	**0**	**275**
07:45	**5**	**97**	**7**	**3**	**20**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**7**	**60**	**6**	**12**	**17**	**4**	**0**	**0**	**0**	**0**	**1**	**0**	**20**	**3**	**0**	**14**	**0**	**0**	**0**	**0**	**282**
08:00	**5**	**108**	**9**	**2**	**22**	**3**	**0**	**0**	**0**	**0**	**4**	**0**	**2**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**66**	**8**	**9**	**13**	**4**	**0**	**0**	**0**	**0**	**2**	**1**	**16**	**2**	**0**	**5**	**0**	**0**	**0**	**0**	**301**
08:15	**2**	**85**	**5**	**3**	**18**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**14**	**52**	**3**	**1**	**9**	**2**	**0**	**0**	**0**	**0**	**3**	**0**	**13**	**2**	**0**	**4**	**0**	**0**	**0**	**0**	**224**
08:30	1	90	4	2	29	0	0	0	0	0	3	0	4	0	1	0	0	0	0	0	9	43	1	6	5	3	0	0	0	0	5	1	18	3	1	4	0	0	0	0	233
08:45	3	48	5	3	18	4	0	0	0	0	0	0	0	4	0	1	0	0	0	0	13	40	5	6	8	0	0	0	0	0	2	0	10	1	0	5	0	0	0	0	176
09:00	2	50	10	4	12	2	0	0	0	0	5	0	0	3	0	1	0	0	0	0	16	37	11	4	9	2	0	0	0	0	1	3	7	5	2	4	0	0	0	0	190
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	0	46	2	5	9	0	0	0	0	0	1	0	2	2	0	4	0	0	0	0	8	38	0	6	11	4	0	0	0	0	4	1	7	1	0	4	0	0	0	0	155
12:00	**2**	**35**	**7**	**5**	**12**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**1**	**1**	**3**	**0**	**0**	**0**	**0**	**8**	**35**	**3**	**4**	**11**	**3**	**0**	**0**	**0**	**0**	**3**	**2**	**3**	**1**	**2**	**2**	**0**	**0**	**0**	**0**	**148**
12:15	**6**	**43**	**6**	**1**	**14**	**1**	**0**	**0**	**0**	**0**	**3**	**1**	**2**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**3**	**27**	**1**	**6**	**11**	**3**	**0**	**0**	**0**	**0**	**9**	**1**	**8**	**2**	**1**	**2**	**0**	**0**	**0**	**0**	**156**
12:30	**3**	**35**	**2**	**4**	**12**	**1**	**0**	**0**	**0**	**0**	**2**	**1**	**5**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**12**	**20**	**3**	**5**	**9**	**2**	**0**	**0**	**0**	**1**	**2**	**0**	**12**	**0**	**3**	**3**	**0**	**0**	**0**	**0**	**140**
12:45	**3**	**40**	**6**	**2**	**8**	**1**	**0**	**0**	**0**	**0**	**2**	**0**	**5**	**5**	**2**	**1**	**0**	**0**	**0**	**0**	**13**	**40**	**3**	**6**	**9**	**6**	**0**	**0**	**0**	**0**	**3**	**2**	**9**	**2**	**0**	**7**	**0**	**0**	**0**	**0**	**175**
13:00	4	35	6	1	15	2	0	0	0	0	4	0	3	3	1	1	0	0	0	0	6	26	1	6	10	1	0	0	0	0	2	0	8	1	1	3	0	0	0	0	140
13:15	3	38	2	2	11	1	0	0	0	0	6	0	4	5	1	3	0	0	0	0	6	32	2	7	9	4	0	0	0	0	4	1	6	3	0	8	0	0	0	0	158
13:30	2	26	3	5	4	1	0	0	0	0	4	0	0	6	1	5	0	0	0	0	7	28	4	8	13	6	0	0	0	0	1	0	8	2	0	2	0	0	0	0	136
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	5	48	2	3	10	1	0	0	0	0	5	0	2	3	0	2	0	0	0	0	6	33	2	1	17	3	0	0	0	0	5	2	14	2	0	4	0	0	0	0	170
15:30	1	42	2	2	8	2	0	0	0	0	5	0	3	2	0	3	0	0	0	0	17	77	3	4	22	3	0	0	0	0	3	1	5	1	0	8	0	0	0	0	214
15:45	5	38	4	3	11	1	0	0	0	0	9	0	5	3	1	2	0	0	0	0	16	70	0	8	22	6	0	0	0	0	4	2	16	3	0	5	0	0	0	0	234
16:00	2	55	3	1	6	4	0	0	0	0	5	1	5	0	1	4	0	0	0	0	17	91	1	10	31	2	0	0	0	0	1	3	10	1	1	8	0	0	0	0	263
16:15	3	39	5	2	10	2	0	0	0	0	7	2	5	3	0	3	0	0	0	0	19	89	2	5	21	3	0	0	0	0	6	3	20	6	0	11	0	0	0	0	266
16:30	2	35	3	1	6	6	0	0	0	0	13	0	4	2	1	2	0	0	0	0	18	80	1	6	24	3	0	0	0	1	9	1	14	2	0	4	0	0	0	0	238
16:45	**3**	**53**	**5**	**3**	**10**	**1**	**0**	**0**	**0**	**0**	**6**	**1**	**4**	**3**	**1**	**4**	**0**	**0**	**0**	**0**	**16**	**89**	**0**	**9**	**24**	**3**	**0**	**0**	**0**	**0**	**16**	**0**	**41**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**295**
17:00	**2**	**45**	**4**	**0**	**10**	**1**	**0**	**0**	**0**	**0**	**6**	**0**	**3**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**13**	**104**	**1**	**6**	**24**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**10**	**3**	**0**	**6**	**0**	**0**	**0**	**0**	**243**
17:15	**0**	**44**	**1**	**4**	**13**	**1**	**0**	**0**	**0**	**0**	**8**	**1**	**10**	**4**	**0**	**1**	**0**	**0**	**0**	**0**	**7**	**119**	**3**	**3**	**24**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**32**	**3**	**0**	**6**	**0**	**0**	**0**	**0**	**295**
17:30	**1**	**58**	**0**	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**4**	**1**	**3**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**18**	**122**	**2**	**3**	**19**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**14**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**258**
17:45	1	49	3	0	4	0	0	0	0	0	9	0	1	1	0	4	0	0	0	0	13	101	2	4	12	0	0	0	0	0	5	0	13	0	0	1	0	0	0	0	223
18:00	0	42	0	0	5	1	0	0	0	0	3	0	4	2	0	4	0	0	0	0	14	96	0	2	8	0	0	0	0	0	1	0	13	1	0	3	0	0	0	0	199
18:15	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Highway 2 @ Maple Grove Rd

TMC No: 0705200000 **Intersection ID:** 4827 **Count ID:** 35702017514 **Count Date:** 05/17/2018, Thu

AM Peak 08:15

Ped. (NW): 0 · Ped. (NE): 0 · Ped. (SW): 0 · Ped. (SE): 0

North leg (southbound)

	Right ↵	Thru ↓	Left ↳	Exiting ↑
PHF	0.40	0.81	0.75	
Trucks %	13%	8%	0%	
Trucks	1	1	0	6
Cars	7	12	12	29

West leg (eastbound)

	PHF	Trucks %	Trucks	Cars
Exiting ←			16	668
Left ↱	0.63	20%	2	8
Thru →	0.91	4%	22	563
Right ↴	0.61	9%	2	20

East leg (westbound)

	Cars	Trucks	Trucks %	PHF
Right ↰	12	2	14%	0.58
Thru ←	652	15	2%	0.93
Left ↲	91	1	1%	0.68
Exiting →	670	22		

South leg (northbound)

	Exiting ↓	Left ↰	Thru ↑	Right ↱
Cars	123	9	9	95
Trucks	4	0	2	0
Trucks %		0%	18%	0%
PHF		0.56	0.55	0.95

MD Peak 12:00

Ped. (NW): 1 · Ped. (NE): 0 · Ped. (SW): 0 · Ped. (SE): 0

North leg (southbound)

	Right ↵	Thru ↓	Left ↳	Exiting ↑
PHF	0.64	0.50	0.96	
Trucks %	4%	25%	0%	
Trucks	1	1	0	2
Cars	22	3	46	49

West leg (eastbound)

	PHF	Trucks %	Trucks	Cars
Exiting ←			15	656
Left ↱	0.88	0%	0	21
Thru →	0.91	2%	15	765
Right ↴	0.56	11%	1	8

East leg (westbound)

	Cars	Trucks	Trucks %	PHF
Right ↰	18	1	5%	0.59
Thru ←	625	14	2%	0.90
Left ↲	96	2	2%	0.79
Exiting →	944	19		

South leg (northbound)

	Exiting ↓	Left ↰	Thru ↑	Right ↱
Cars	107	9	10	133
Trucks	4	0	1	4
Trucks %		0%	9%	3%
PHF		0.56	0.69	0.90

PM Peak 17:00

Ped. (NW): 1 · Ped. (NE): 1 · Ped. (SW): 0 · Ped. (SE): 0

North leg (southbound)

	Right ↵	Thru ↓	Left ↳	Exiting ↑
PHF	0.71	0.39	0.59	
Trucks %	0%	9%	3%	
Trucks	0	1	1	2
Cars	20	10	39	47

West leg (eastbound)

	PHF	Trucks %	Trucks	Cars
Exiting ←			13	765
Left ↱	0.79	0%	0	19
Thru →	0.90	2%	19	1146
Right ↴	0.94	13%	2	13

East leg (westbound)

	Cars	Trucks	Trucks %	PHF
Right ↰	14	1	7%	0.75
Thru ←	738	13	2%	0.93
Left ↲	96	2	2%	0.77
Exiting →	1434	22		

South leg (northbound)

	Exiting ↓	Left ↰	Thru ↑	Right ↱
Cars	119	7	14	249
Trucks	5	0	1	2
Trucks %		0%	7%	1%
PHF		0.44	0.75	0.79

Total Count 5 hours*

Ped. (NW): 2 · Ped. (NE): 1 · Ped. (SW): 1 · Ped. (SE): 1

North leg (southbound)

	Right ↵	Thru ↓	Left ↳	Exiting ↑
Trucks %	5%	14%	1%	
Trucks	6	11	2	21
Cars	120	67	243	327

West leg (eastbound)

	PHF	Trucks %	Trucks	Cars
Exiting ←			116	5163
Left ↱		3%	4	118
Thru →		2%	127	5698
Right ↴		12%	13	93

East leg (westbound)

	Cars	Trucks	Trucks %	PHF
Right ↰	127	9	7%	
Thru ←	4976	103	2%	
Left ↲	811	15	2%	
Exiting →	7083	151		

South leg (northbound)

	Exiting ↓	Left ↰	Thru ↑	Right ↱
Cars	971	67	82	1142
Trucks	39	7	8	22
Trucks %		9%	9%	2%

TMC 15 Min Report

Highway 2 @ Maple Grove Rd

TMC No: 0705200000 **Intersection ID:** 4827 **Count ID:** 35702017514 **Count Date:** 05/17/2018, Thu

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH									
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																								
06:15	1	3	1	0	0	0	0	0	0	0	17	51	0	0	1	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	31	3	0	2	0	0	0	0	0	113
06:30	2	3	1	0	0	0	0	0	0	0	32	80	1	0	2	0	0	0	0	0	1	0	7	0	0	1	0	0	0	0	0	37	1	0	1	0	0	0	0	0	169
06:45	1	0	0	0	0	0	0	0	0	0	25	104	1	0	2	0	0	0	0	0	0	2	11	0	0	0	0	0	0	0	1	56	1	0	0	0	0	0	0	0	204
07:00	2	3	1	0	0	0	0	0	0	0	28	75	6	1	2	0	0	0	0	0	0	1	14	0	0	0	0	0	0	0	5	85	4	1	4	0	0	0	0	0	232
07:15	0	2	3	0	0	0	0	0	0	0	32	112	0	0	4	0	0	0	0	0	2	2	15	1	0	0	0	0	0	0	0	78	1	0	1	1	0	0	0	0	254
07:30	2	2	0	0	4	0	0	0	0	0	30	129	1	1	5	0	0	0	0	0	4	2	22	0	2	2	0	0	0	0	0	82	4	0	6	1	0	0	0	0	299
07:45	2	3	3	1	0	0	0	0	0	0	41	185	4	0	3	0	0	0	0	0	3	1	18	0	1	0	0	0	0	0	1	112	2	0	4	1	0	0	0	0	385
08:00	5	3	0	0	0	1	0	0	0	0	30	154	0	1	2	0	0	0	0	0	2	2	22	0	0	1	0	0	0	0	1	106	4	1	1	0	0	0	0	0	336
08:15	**2**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**34**	**171**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**2**	**2**	**22**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**123**	**2**	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**374**
08:30	**4**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**22**	**175**	**6**	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**1**	**4**	**24**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**151**	**8**	**0**	**9**	**1**	**0**	**0**	**0**	**0**	**414**
08:45	**3**	**4**	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**18**	**146**	**3**	**0**	**5**	**1**	**0**	**0**	**0**	**0**	**4**	**2**	**25**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**136**	**6**	**0**	**4**	**1**	**0**	**0**	**0**	**0**	**365**
09:00	**3**	**3**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**17**	**160**	**1**	**0**	**3**	**1**	**0**	**0**	**0**	**0**	**2**	**1**	**24**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**153**	**4**	**1**	**5**	**0**	**0**	**0**	**0**	**0**	**385**
09:15	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*	0*	0*	0*	0*	0*	0*	0*
09:30	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																								
11:45	9	0	3	0	1	0	0	0	0	0	20	140	2	0	3	0	0	0	0	0	1	1	41	0	1	1	0	0	0	0	5	186	0	0	3	0	0	0	0	0	417
12:00	**12**	**0**	**5**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**31**	**171**	**4**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**24**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**3**	**211**	**2**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**479**
12:15	**11**	**1**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**	**159**	**8**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**4**	**3**	**37**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**6**	**180**	**0**	**0**	**8**	**0**	**0**	**0**	**0**	**1**	**449**
12:30	**11**	**1**	**3**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**21**	**148**	**3**	**1**	**6**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	**36**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**6**	**179**	**3**	**0**	**4**	**1**	**0**	**0**	**0**	**0**	**429**
12:45	**12**	**1**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**24**	**147**	**3**	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**3**	**1**	**36**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**6**	**195**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**440**
13:00	9	2	6	0	1	0	0	0	0	0	26	176	4	0	4	1	0	0	0	0	1	3	28	0	0	0	0	0	0	0	12	161	4	0	5	0	0	0	0	0	443
13:15	10	0	6	0	0	0	0	0	0	0	25	152	3	0	5	1	0	0	0	0	0	3	35	1	0	0	0	0	0	0	4	200	3	0	6	0	0	0	0	0	454
13:30	13	3	5	0	0	2	0	0	0	0	19	163	8	0	2	0	0	0	0	0	2	1	22	0	0	0	0	0	0	0	9	170	6	0	4	0	0	0	0	0	429
Period 3																																								
13:45	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*	0*	0*	0*	0*	0*	0*	0*
14:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	15	3	0	0	0	0	0	0	0	0	23	170	4	2	2	0	0	0	0	1	5	3	51	0	0	0	0	0	0	0	2	192	4	0	4	2	0	0	0	0	483
15:30	9	0	8	0	1	0	0	0	0	0	17	169	3	0	4	0	0	0	0	0	0	2	48	0	0	3	0	0	0	0	5	222	2	0	4	2	0	0	0	0	499
15:45	18	3	8	0	1	0	0	0	0	0	28	195	9	1	2	0	0	0	0	0	9	4	56	1	0	1	0	0	0	0	5	260	4	0	5	1	0	0	0	0	611
16:00	11	3	5	0	0	0	0	0	0	0	28	183	12	1	6	1	0	0	0	0	6	6	50	1	0	2	0	0	0	0	6	259	0	0	3	0	0	0	0	0	583
16:15	11	2	8	0	0	1	0	0	0	0	31	205	7	1	4	1	0	0	0	0	2	3	54	0	0	2	0	0	0	0	3	249	1	0	7	0	0	0	0	0	592
16:30	7	4	3	0	0	0	0	0	0	0	21	182	7	2	3	1	0	0	0	0	0	7	58	1	0	1	0	0	0	1	5	248	3	0	3	0	0	0	0	0	557
16:45	13	0	8	0	0	0	0	0	0	0	31	164	5	0	3	0	0	0	0	0	2	4	60	1	0	1	0	0	0	0	2	236	2	0	4	0	0	0	0	0	536
17:00	**7**	**1**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**32**	**182**	**2**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**4**	**3**	**48**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**5**	**319**	**2**	**0**	**6**	**2**	**0**	**0**	**0**	**0**	**624**
17:15	**16**	**6**	**7**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**13**	**173**	**4**	**1**	**2**	**1**	**0**	**0**	**0**	**0**	**1**	**3**	**71**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**288**	**4**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**602**
17:30	**9**	**1**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**31**	**198**	**5**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**4**	**78**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**274**	**3**	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**622**
17:45	**7**	**2**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**	**185**	**3**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**4**	**52**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**6**	**265**	**4**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**561**
18:00	6	3	2	0	0	0	0	0	0	0	24	172	6	0	2	0	0	0	0	0	2	2	50	1	0	1	0	0	0	0	4	254	3	0	4	0	0	0	0	0	536
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Highway 2 @ Boswell Dr

TMC No: 0704500000 **Intersection ID:** 14310 **Count ID:** 35702016756 **Count Date:** 05/18/2017, Thu

AM Peak 08:00

North leg:

PHF	0.79	0.65	0.84	
Trucks %	5%	8%	15%	↑
Trucks	4	1	7	8
Cars	84	12	40	133

Ped. 2 (NW) — Ped. 2 (NE)

West leg:

PHF	Trucks %	Trucks	Cars
	←	43	811
0.88	5%	4	84
0.86	4%	22	592
0.64	17%	6	30

East leg:

Cars	Trucks	Trucks %	PHF
32	4	11%	0.82
619	34	5%	0.83
37	1	3%	0.79
669	37	→	

South leg:

Cars	79	108	17	37
Trucks	8	5	0	8
Trucks %	↓	4%	0%	18%
PHF		0.78	0.71	0.80

Ped. 3 (SW) — Ped. 4 (SE)

MD Peak 12:30

North leg:

PHF	0.80	0.85	0.84	
Trucks %	3%	6%	3%	↑
Trucks	2	1	3	6
Cars	68	16	95	239

Ped. 3 (NW) — Ped. 6 (NE)

West leg:

PHF	Trucks %	Trucks	Cars
	←	24	738
0.77	3%	4	149
0.93	3%	21	672
0.87	3%	2	57

East leg:

Cars	Trucks	Trucks %	PHF
75	2	3%	0.92
626	22	3%	0.93
42	1	2%	0.83
792	26	→	

South leg:

Cars	115	44	15	25
Trucks	4	0	0	2
Trucks %	↓	0%	0%	7%
PHF		0.65	0.94	0.68

Ped. 3 (SW) — Ped. 6 (SE)

PM Peak 16:15

North leg:

PHF	0.87	0.82	0.85	
Trucks %	3%	8%	1%	↑
Trucks	3	3	1	4
Cars	91	33	94	294

Ped. 6 (NW) — Ped. 3 (NE)

West leg:

PHF	Trucks %	Trucks	Cars
	←	36	920
0.83	1%	2	188
0.95	1%	14	1102
0.84	2%	2	119

East leg:

Cars	Trucks	Trucks %	PHF
81	2	2%	0.74
761	30	4%	0.95
76	4	5%	0.91
1235	21	→	

South leg:

Cars	228	68	25	39
Trucks	9	3	0	6
Trucks %	↓	4%	0%	13%
PHF		0.77	0.78	0.87

Ped. 12 (SW) — Ped. 15 (SE)

Total Count 1 hours*

North leg:

Trucks %	3%	5%	4%	↑
Trucks	18	7	20	40
Cars	585	142	527	1631

Ped. 19 (NW) — Ped. 21 (NE)

West leg:

PHF	Trucks %	Trucks	Cars
	←	231	6016
	2%	27	1057
	2%	134	5484
	4%	22	529

East leg:

Cars	Trucks	Trucks %	PHF
444	12	3%	
4868	194	4%	
365	12	3%	
6233	195	→	

South leg:

Cars	1036	563	130	222
Trucks	41	19	1	41
Trucks %	↓	3%	1%	16%

Ped. 45 (SW) — Ped. 53 (SE)

TMC 15 Min Report

Highway 2 @ Boswell Dr

TMC No: 0704500000 **Intersection ID:** 14310 **Count ID:** 35702016756 **Count Date:** 05/18/2017, Thu

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:15	3	0	13	0	0	0	0	0	0	0	3	64	2	0	2	0	0	0	0	0	23	1	1	1	0	0	0	0	0	0	4	34	3	1	1	0	0	0	0	0	156
06:30	1	1	10	0	0	0	0	0	0	0	5	81	5	0	2	0	0	0	0	0	19	2	2	0	0	1	0	0	0	0	8	53	5	0	2	0	0	0	0	0	197
06:45	2	1	12	1	0	0	0	0	0	1	4	107	8	1	2	0	0	0	0	0	26	1	1	1	0	1	0	0	0	0	6	66	4	2	0	2	0	0	0	0	249
07:00	2	3	15	0	0	0	0	0	0	0	7	118	7	0	4	1	0	0	0	0	22	2	3	0	0	2	0	0	0	1	14	81	8	0	3	0	0	0	0	0	293
07:15	3	4	19	0	0	1	0	0	0	0	6	124	4	0	7	0	0	0	0	0	27	1	5	3	0	0	0	0	0	1	22	77	6	3	2	3	0	0	0	0	318
07:30	6	1	22	1	0	0	0	0	0	1	4	144	10	0	6	0	0	0	0	2	31	2	7	1	0	1	0	0	0	0	19	94	10	1	0	0	0	0	0	0	363
07:45	5	3	24	3	1	0	0	0	0	0	8	163	13	2	11	2	0	0	0	1	35	1	5	0	0	2	0	0	0	0	17	101	11	3	5	2	0	0	0	0	418
08:00	**11**	**4**	**28**	**2**	**0**	**0**	**0**	**0**	**0**	**1**	**11**	**189**	**9**	**1**	**8**	**0**	**0**	**0**	**0**	**1**	**29**	**4**	**10**	**1**	**0**	**2**	**0**	**0**	**0**	**1**	**23**	**117**	**9**	**1**	**6**	**1**	**0**	**0**	**0**	**2**	**471**
08:15	**9**	**2**	**23**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**9**	**159**	**7**	**0**	**9**	**1**	**0**	**0**	**0**	**0**	**34**	**5**	**7**	**2**	**0**	**2**	**0**	**0**	**0**	**0**	**20**	**142**	**5**	**2**	**4**	**0**	**0**	**0**	**0**	**0**	**445**
08:30	**13**	**2**	**19**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**10**	**132**	**9**	**0**	**10**	**2**	**0**	**0**	**0**	**2**	**28**	**2**	**11**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**17**	**170**	**10**	**0**	**8**	**4**	**0**	**0**	**0**	**0**	**455**
08:45	**7**	**4**	**14**	**2**	**1**	**3**	**0**	**0**	**0**	**0**	**7**	**139**	**7**	**0**	**7**	**1**	**0**	**0**	**0**	**1**	**17**	**6**	**9**	**1**	**0**	**1**	**0**	**0**	**0**	**2**	**24**	**163**	**6**	**1**	**4**	**1**	**0**	**0**	**0**	**0**	**428**
09:00	9	5	11	1	1	2	0	0	0	0	7	121	11	1	5	0	0	0	0	2	21	4	10	1	0	2	0	0	0	0	27	145	4	1	6	2	0	0	0	1	400
09:15	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	0*	1*	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*	1*
Period 2																																									
11:45	19	3	9	1	0	0	0	0	0	0	10	128	12	0	5	0	0	0	0	1	10	4	2	0	1	2	0	0	0	0	27	132	7	0	4	0	0	0	0	0	377
12:00	25	4	13	0	0	1	0	0	0	1	11	137	17	0	3	0	0	0	0	0	9	3	4	1	0	2	0	0	0	1	35	141	13	1	2	1	0	0	0	0	425
12:15	21	2	17	0	0	1	0	0	0	3	9	145	25	1	7	0	0	0	0	1	12	3	7	0	0	0	0	0	0	0	43	148	10	0	7	0	0	0	0	1	463
12:30	**18**	**3**	**22**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**7**	**154**	**18**	**0**	**5**	**1**	**0**	**0**	**0**	**2**	**8**	**4**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**48**	**155**	**12**	**2**	**5**	**0**	**0**	**0**	**0**	**0**	**472**
12:45	**26**	**5**	**18**	**1**	**0**	**2**	**0**	**0**	**0**	**2**	**12**	**142**	**21**	**0**	**4**	**0**	**0**	**0**	**0**	**2**	**5**	**4**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**36**	**172**	**15**	**1**	**4**	**0**	**0**	**0**	**0**	**0**	**479**
13:00	**28**	**5**	**13**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**10**	**161**	**16**	**1**	**7**	**0**	**0**	**0**	**0**	**2**	**14**	**3**	**5**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**31**	**179**	**17**	**0**	**8**	**0**	**0**	**0**	**0**	**2**	**505**
13:15	**23**	**3**	**15**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	**13**	**169**	**20**	**0**	**6**	**1**	**0**	**0**	**0**	**0**	**17**	**4**	**9**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**34**	**166**	**13**	**1**	**4**	**2**	**0**	**0**	**0**	**1**	**506**
13:30	19	4	19	0	0	0	0	0	0	1	10	158	18	0	8	0	0	0	0	2	12	6	8	1	0	2	0	0	0	1	31	145	12	0	3	0	0	0	0	0	460
Period 3																																									
13:45	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*	2*	0*	0*	0*	0*	0*	0*	0*	0*	0*	2*
15:15	28	5	21	2	0	1	0	0	0	0	15	159	23	0	6	0	0	0	0	4	9	3	9	0	0	1	0	0	0	2	47	201	17	2	7	1	0	0	0	0	563
15:30	34	8	26	0	0	1	0	0	0	1	16	173	19	0	5	1	0	0	0	1	11	4	8	0	0	2	0	0	0	1	51	196	23	1	4	0	0	0	0	0	586
15:45	26	4	23	0	0	1	0	0	0	0	23	165	16	0	7	0	0	0	0	4	14	5	8	1	0	0	0	0	0	2	44	222	27	2	7	0	0	0	0	1	602
16:00	23	6	19	0	0	0	0	0	0	0	19	188	20	0	4	0	0	0	0	3	12	8	5	0	0	3	0	0	0	5	46	217	24	0	3	1	0	0	0	1	607
16:15	**20**	**4**	**24**	**0**	**2**	**2**	**0**	**0**	**0**	**2**	**20**	**194**	**26**	**1**	**8**	**2**	**0**	**0**	**0**	**5**	**16**	**6**	**10**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**49**	**245**	**25**	**0**	**3**	**0**	**0**	**0**	**0**	**2**	**671**
16:30	**22**	**8**	**27**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**22**	**203**	**23**	**0**	**6**	**0**	**0**	**0**	**0**	**4**	**21**	**7**	**7**	**2**	**0**	**2**	**0**	**0**	**0**	**4**	**56**	**288**	**31**	**1**	**2**	**1**	**0**	**0**	**0**	**0**	**737**
16:45	**25**	**11**	**21**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**16**	**176**	**18**	**1**	**7**	**0**	**0**	**0**	**0**	**4**	**20**	**4**	**10**	**1**	**0**	**1**	**0**	**0**	**0**	**3**	**44**	**279**	**28**	**0**	**5**	**0**	**0**	**0**	**0**	**3**	**679**
17:00	**27**	**10**	**19**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**18**	**188**	**14**	**2**	**9**	**0**	**0**	**0**	**0**	**2**	**11**	**8**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**39**	**290**	**35**	**1**	**4**	**1**	**0**	**0**	**0**	**1**	**696**
17:15	21	7	22	0	0	0	0	0	0	0	13	193	10	1	4	0	0	0	0	0	10	5	9	0	0	0	0	0	0	6	55	256	40	0	7	0	0	0	0	0	659
17:30	17	9	18	0	0	1	0	0	0	1	15	176	9	0	4	0	0	0	0	4	8	3	9	0	0	2	0	0	0	3	42	283	33	0	4	0	0	0	0	2	643
17:45	19	5	13	0	0	0	0	0	0	0	11	167	12	0	7	0	0	0	0	1	17	4	7	1	0	1	0	0	0	2	48	275	37	0	6	0	0	0	0	2	635
18:00	15	6	16	0	0	0	0	0	0	1	14	151	15	0	9	0	0	0	0	2	15	11	11	0	0	1	0	0	0	2	50	251	29	0	4	0	0	0	0	0	603
18:15	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Rhighway 2 @ Green Rd

TMC No: 0704400000 **Intersection ID:** 4914 **Count ID:** 35702016749 **Count Date:** 05/18/2017, Thu

AM Peak 08:15

North leg:

	↵	↓	↳	↑
PHF	0.82	0.75	0.73	
Trucks %	9%	11%	1%	
Trucks	2	6	1	8
Cars	21	51	78	206

West leg:

	PHF	Trucks %	Trucks	Cars
←			22	742
↰	0.76	3%	2	56
→	0.93	4%	20	550
↴	0.82	2%	1	55

East leg:

	Cars	Trucks	Trucks %	PHF
↰	55	2	4%	0.62
←	639	15	2%	0.89
↲	33	2	6%	0.63
→	657	21		

South leg:

	↓	↰	↑	↱
Cars	139	82	95	29
Trucks	9	5	4	0
Trucks %		6%	4%	0%
PHF		0.84	0.54	0.81

Ped.: NW 9 (↑↓), NE 19 (⇄), SW 7 (⇄), SE 5 (↑↓)

MD Peak 11:45

North leg:

	↵	↓	↳	↑
PHF	0.80	0.85	0.93	
Trucks %	6%	0%	1%	
Trucks	2	0	2	3
Cars	30	132	237	323

West leg:

	PHF	Trucks %	Trucks	Cars
←			13	814
↰	0.75	0%	0	69
→	0.82	2%	16	659
↴	0.96	0%	0	65

East leg:

	Cars	Trucks	Trucks %	PHF
↰	144	2	1%	0.76
←	683	8	1%	0.92
↲	38	0	0%	0.59
→	927	19		

South leg:

	↓	↰	↑	↱
Cars	235	101	110	31
Trucks	0	3	1	1
Trucks %		3%	1%	3%
PHF		0.76	0.77	0.73

Ped.: NW 5 (↑↓), NE 4 (⇄), SW 10 (⇄), SE 5 (↑↓)

PM Peak 16:15

North leg:

	↵	↓	↳	↑
PHF	0.62	0.87	0.88	
Trucks %	5%	2%	1%	
Trucks	2	3	2	4
Cars	35	160	227	355

West leg:

	PHF	Trucks %	Trucks	Cars
←			17	923
↰	0.90	2%	2	128
→	0.91	2%	15	944
↴	0.82	1%	1	110

East leg:

	Cars	Trucks	Trucks %	PHF
↰	104	1	1%	0.80
←	756	11	1%	0.90
↲	52	1	2%	0.88
→	1219	17		

South leg:

	↓	↰	↑	↱
Cars	322	132	123	48
Trucks	5	4	1	0
Trucks %		3%	1%	0%
PHF		0.92	0.91	0.60

Ped.: NW 4 (↑↓), NE 11 (⇄), SW 16 (⇄), SE 8 (↑↓)

Total Count 1 hours*

North leg:

	↵	↓	↳	↑
Trucks %	5%	2%	1%	
Trucks	11	17	15	43
Cars	206	859	1286	2061

West leg:

	PHF	Trucks %	Trucks	Cars
←			121	6149
↰		2%	12	590
→		2%	100	4931
↴		2%	10	532

East leg:

	Cars	Trucks	Trucks %	PHF
↰	717	16	2%	
←	5096	86	2%	
↲	300	5	2%	
→	6469	120		

South leg:

	↓	↰	↑	↱
Cars	1691	847	754	252
Trucks	32	24	15	5
Trucks %		3%	2%	2%

Ped.: NW 31 (↑↓), NE 68 (⇄), SW 56 (⇄), SE 42 (↑↓)

TMC 15 Min Report

Rhighway 2 @ Green Rd

TMC No: 0704400000 **Intersection ID:** 4914 **Count ID:** 35702016749 **Count Date:** 05/18/2017, Thu

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:15	5	4	1	0	0	0	0	0	0	0	5	54	0	0	1	0	0	0	0	0	9	5	2	0	0	0	0	0	0	0	4	29	2	0	0	0	0	0	0	0	121
06:30	4	1	4	0	0	0	0	0	0	0	0	71	3	0	3	0	0	0	0	0	11	1	4	0	0	1	0	0	0	0	2	42	5	0	0	0	0	0	0	0	152
06:45	7	1	2	0	0	0	0	0	0	0	4	101	2	0	3	0	0	0	0	0	10	5	3	0	0	0	0	0	0	0	1	49	3	0	2	0	0	0	0	0	193
07:00	3	2	2	1	0	0	0	0	0	0	4	118	11	0	1	1	0	0	0	0	20	8	4	1	0	0	0	0	0	0	9	79	9	0	3	0	0	0	0	0	276
07:15	4	6	1	1	0	0	0	0	0	0	5	102	5	0	3	1	0	0	0	0	18	5	7	0	0	0	0	0	0	0	4	59	7	0	2	0	0	0	0	0	230
07:30	1	5	6	1	0	0	0	0	0	0	6	126	7	0	9	0	0	0	0	0	22	16	3	2	0	0	0	0	0	0	4	77	8	0	2	0	0	0	0	0	295
07:45	14	10	5	2	0	0	0	0	0	1	6	127	9	2	5	2	0	0	0	0	23	16	2	0	0	0	0	0	0	1	3	89	9	1	2	3	0	0	0	1	333
08:00	14	6	8	1	2	0	0	0	0	11	6	167	7	0	2	1	0	0	0	3	20	24	3	1	3	0	0	0	0	1	12	101	11	0	2	2	0	0	0	1	409
08:15	**12**	**10**	**6**	**0**	**0**	**1**	**0**	**0**	**0**	**13**	**8**	**157**	**7**	**0**	**2**	**0**	**0**	**0**	**0**	**2**	**25**	**44**	**9**	**1**	**2**	**0**	**0**	**0**	**0**	**5**	**18**	**129**	**7**	**1**	**4**	**1**	**0**	**0**	**0**	**4**	**468**
08:30	**21**	**19**	**6**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**8**	**180**	**10**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**14**	**25**	**4**	**2**	**1**	**0**	**0**	**0**	**0**	**1**	**14**	**143**	**17**	**0**	**10**	**0**	**0**	**0**	**0**	**3**	**485**
08:45	**18**	**9**	**5**	**0**	**2**	**1**	**0**	**0**	**0**	**2**	**12**	**168**	**21**	**2**	**5**	**2**	**0**	**0**	**0**	**2**	**19**	**11**	**7**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**14**	**135**	**16**	**0**	**4**	**0**	**0**	**0**	**0**	**2**	**459**
09:00	**27**	**13**	**4**	**0**	**4**	**0**	**0**	**0**	**0**	**2**	**5**	**134**	**17**	**0**	**4**	**0**	**0**	**0**	**0**	**1**	**24**	**15**	**9**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**10**	**143**	**15**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**432**
09:15	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*	0*	0*	0*	0*	0*	0*	0*
09:30	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:45	**54**	**30**	**6**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**9**	**170**	**29**	**0**	**2**	**1**	**0**	**0**	**0**	**0**	**22**	**24**	**7**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**23**	**201**	**17**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**604**
12:00	**64**	**39**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**9**	**149**	**38**	**0**	**2**	**1**	**0**	**0**	**0**	**4**	**18**	**28**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**12**	**150**	**16**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**561**
12:15	**58**	**25**	**6**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**179**	**48**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**34**	**35**	**10**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**16**	**160**	**16**	**0**	**3**	**0**	**0**	**0**	**0**	**1**	**613**
12:30	**61**	**38**	**9**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**4**	**185**	**29**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**27**	**23**	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**4**	**18**	**148**	**16**	**0**	**5**	**0**	**0**	**0**	**0**	**4**	**580**
12:45	58	31	13	0	0	0	0	0	0	2	10	169	30	0	2	0	0	0	0	0	34	24	7	0	0	0	0	0	0	0	13	154	13	0	3	0	0	0	0	1	564
13:00	62	33	3	0	1	1	0	0	0	3	10	149	20	0	2	1	0	0	0	1	33	30	7	0	1	1	0	0	0	1	11	152	21	0	3	0	0	0	0	1	547
13:15	61	36	4	1	0	0	0	0	0	1	13	182	37	0	1	0	0	0	0	6	28	26	13	1	0	0	0	0	0	5	17	145	13	0	1	0	0	0	0	0	591
13:30	49	22	6	0	0	0	0	0	0	2	10	188	46	0	1	0	0	0	0	1	28	19	5	1	0	0	0	0	0	0	19	137	13	0	4	0	0	0	0	0	551
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:15	60	37	6	1	0	0	0	0	0	4	7	187	22	0	3	2	0	0	0	1	26	27	10	0	1	0	0	0	0	2	33	178	18	2	3	1	0	0	0	1	632
15:30	50	30	5	2	1	2	0	0	0	0	12	196	30	0	5	1	0	0	0	0	26	33	5	2	0	1	0	0	0	1	29	199	33	1	5	0	0	0	0	1	670
15:45	51	38	5	0	0	2	0	0	0	0	7	163	42	0	4	1	0	0	0	2	36	27	9	0	2	1	0	0	0	3	34	193	24	2	1	2	0	0	0	0	649
16:00	61	45	10	0	2	0	0	0	0	2	11	192	28	0	0	1	0	0	0	0	38	27	10	0	1	0	0	0	0	2	29	212	27	0	6	0	0	0	0	1	705
16:15	**57**	**40**	**13**	**0**	**1**	**2**	**0**	**0**	**0**	**7**	**14**	**211**	**33**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**35**	**26**	**8**	**1**	**1**	**0**	**0**	**0**	**0**	**3**	**33**	**214**	**18**	**1**	**6**	**0**	**0**	**0**	**0**	**0**	**728**
16:30	**64**	**37**	**8**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**12**	**174**	**21**	**0**	**3**	**1**	**0**	**0**	**0**	**2**	**36**	**30**	**13**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	**35**	**233**	**31**	**1**	**5**	**0**	**0**	**0**	**0**	**2**	**715**
16:45	**62**	**46**	**7**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**12**	**179**	**20**	**0**	**5**	**0**	**0**	**0**	**0**	**2**	**33**	**33**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**30**	**263**	**33**	**0**	**1**	**1**	**0**	**0**	**0**	**2**	**740**
17:00	**44**	**37**	**7**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**14**	**192**	**30**	**1**	**2**	**0**	**0**	**0**	**0**	**1**	**28**	**34**	**20**	**2**	**0**	**0**	**0**	**0**	**0**	**8**	**30**	**234**	**28**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**718**
17:15	52	60	10	0	1	0	0	0	0	3	21	197	29	0	1	0	0	0	0	2	34	36	11	1	1	0	0	0	0	2	20	198	24	0	2	0	0	0	0	2	707
17:30	61	42	9	0	0	0	0	0	0	4	14	188	24	0	1	0	0	0	0	4	45	33	12	2	0	0	0	0	0	1	23	224	14	0	1	0	0	0	0	4	706
17:45	68	61	11	0	0	0	0	0	0	0	17	154	33	0	2	0	0	0	0	1	27	29	14	0	0	0	0	0	0	0	38	223	29	1	4	0	0	0	0	0	712
18:00	59	46	9	0	1	0	0	0	0	1	9	187	29	0	3	0	0	0	0	3	44	35	13	1	0	0	0	0	0	4	32	238	19	1	3	0	0	0	0	0	737
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Bowmanville Av (R.R.57) @ Aspen Springs Dr

TMC No:	0570600000	**Intersection ID:**	5157	**Count ID:**	35702018202	**Count Date:**	11/20/2019, Wed

AM Peak 08:00

North approach (Ped. 9 west side; Ped. 0 east side)

	↵	↓	↳	↑
PHF	0.75	0.94	0.00	
Trucks %	23%	19%	0%	
Trucks	18	126	0	93
Cars	60	542	0	408

West approach

Movement	PHF	Trucks %	Trucks	Cars
←			25	116
↗	0.74	6%	7	112
→	0.00	0%	0	0
↘	0.65	8%	7	76

East approach

Movement	Cars	Trucks	Trucks %	PHF
↰	0	0	0%	0.00
←	0	0	0%	0.00
↙	0	0	0%	0.00
→	0	0		

South approach (Ped. 0 west side; Ped. 0 east side)

	↓	↰	↑	↱
Cars	618	56	296	0
Trucks	133	7	86	0
Trucks %		11%	23%	0%
PHF		0.83	0.88	0.00

MD Peak 12:30

North approach (Ped. 3 west side; Ped. 0 east side)

	↵	↓	↳	↑
PHF	0.84	0.91	0.00	
Trucks %	10%	25%	0%	
Trucks	8	119	0	95
Cars	69	348	0	369

West approach

Movement	PHF	Trucks %	Trucks	Cars
←			14	102
↗	0.75	13%	12	81
→	0.00	0%	0	0
↘	0.84	8%	3	34

East approach

Movement	Cars	Trucks	Trucks %	PHF
↰	0	0	0%	0.00
←	0	0	0%	0.00
↙	0	0	0%	0.00
→	0	0		

South approach (Ped. 0 west side; Ped. 0 east side)

	↓	↰	↑	↱
Cars	382	33	288	0
Trucks	122	6	83	0
Trucks %		15%	22%	0%
PHF		0.89	0.97	0.00

PM Peak 16:45

North approach (Ped. 1 west side; Ped. 0 east side)

	↵	↓	↳	↑
PHF	0.89	0.90	0.00	
Trucks %	10%	15%	0%	
Trucks	12	88	0	120
Cars	109	487	0	625

West approach

Movement	PHF	Trucks %	Trucks	Cars
←			22	186
↗	0.86	14%	21	127
→	0.00	0%	0	0
↘	0.68	11%	9	72

East approach

Movement	Cars	Trucks	Trucks %	PHF
↰	0	0	0%	0.00
←	0	0	0%	0.00
↙	0	0	0%	0.00
→	0	0		

South approach (Ped. 3 west side; Ped. 0 east side)

	↓	↰	↑	↱
Cars	559	77	498	0
Trucks	97	10	99	0
Trucks %		11%	17%	0%
PHF		0.87	0.95	0.00

Total Count 8 hours*

North approach (Ped. 31 west side; Ped. 0 east side)

	↵	↓	↳	↑
Trucks %	13%	19%	0%	
Trucks	85	810	0	736
Cars	551	3421	1	3208

West approach

Movement	PHF	Trucks %	Trucks	Cars
←			149	902
↗		12%	100	705
→		0%	0	1
↘		12%	58	439

East approach

Movement	Cars	Trucks	Trucks %	PHF
↰	0	0	0%	
←	0	0	0%	
↙	0	0	0%	
→	3	0		

South approach (Ped. 7 west side; Ped. 0 east side)

	↓	↰	↑	↱
Cars	3860	351	2503	1
Trucks	868	64	636	0
Trucks %		15%	20%	0%

TMC 15 Min Report

Bowmanville Av (R.R.57) @ Aspen Springs Dr

TMC No: 0570600000 **Intersection ID:** 5157 **Count ID:** 35702018202 **Count Date:** 11/20/2019, Wed

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										Total
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	0	113	2	0	15	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	23	0	2	12	0	0	0	0	0	1	0	15	0	0	0	0	0	0	2	189
06:30	0	98	0	0	22	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	27	0	1	10	0	0	0	0	0	4	0	12	0	0	2	0	0	0	0	179
06:45	1	117	4	0	29	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	35	0	1	11	0	0	0	0	0	6	0	12	5	0	1	0	0	0	0	227
07:00	0	97	8	0	25	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	40	0	0	13	0	0	0	0	0	15	0	14	4	0	1	0	0	0	0	226
07:15	0	111	4	0	14	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	40	0	1	11	0	0	0	0	0	11	0	17	1	0	3	0	0	0	0	221
07:30	0	105	9	0	33	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	44	0	2	22	0	0	0	0	0	12	0	14	1	0	3	0	0	0	1	255
07:45	0	127	9	0	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	53	0	2	9	0	0	0	0	0	16	0	19	4	0	2	0	0	0	2	289
08:00	**0**	**136**	**16**	**0**	**28**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**82**	**0**	**0**	**20**	**0**	**0**	**0**	**0**	**0**	**29**	**0**	**20**	**3**	**0**	**1**	**0**	**0**	**0**	**3**	**357**
08:15	**0**	**146**	**4**	**0**	**32**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**78**	**0**	**1**	**30**	**0**	**0**	**0**	**0**	**0**	**39**	**0**	**29**	**1**	**0**	**3**	**0**	**0**	**0**	**5**	**383**
08:30	**0**	**144**	**21**	**0**	**32**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**67**	**0**	**4**	**20**	**0**	**0**	**0**	**0**	**0**	**26**	**0**	**12**	**2**	**0**	**2**	**0**	**0**	**0**	**1**	**347**
08:45	**0**	**116**	**19**	**0**	**34**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**17**	**69**	**0**	**2**	**16**	**0**	**0**	**0**	**0**	**0**	**18**	**0**	**15**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**315**
09:00	0	93	22	0	21	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	64	0	3	20	0	0	0	0	0	23	0	12	4	0	2	0	0	0	1	278
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	0	77	16	0	19	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	68	0	0	27	0	0	0	0	0	20	0	9	1	0	1	0	0	0	0	253
12:00	0	87	11	0	22	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	71	0	0	14	0	0	0	0	0	22	0	9	4	0	0	0	0	0	0	247
12:15	0	91	9	0	26	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	68	1	3	19	0	0	0	0	0	18	1	11	5	0	0	0	0	0	1	259
12:30	**0**	**95**	**17**	**0**	**33**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**74**	**0**	**0**	**17**	**0**	**0**	**0**	**0**	**0**	**10**	**0**	**8**	**4**	**0**	**2**	**0**	**0**	**0**	**0**	**269**
12:45	**0**	**80**	**20**	**0**	**20**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**62**	**0**	**0**	**27**	**0**	**0**	**0**	**0**	**0**	**27**	**0**	**10**	**4**	**0**	**1**	**0**	**0**	**0**	**1**	**263**
13:00	**0**	**91**	**17**	**0**	**28**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**74**	**0**	**3**	**21**	**0**	**0**	**0**	**0**	**0**	**22**	**0**	**9**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**279**
13:15	**0**	**82**	**15**	**0**	**38**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**8**	**78**	**0**	**3**	**18**	**0**	**0**	**0**	**0**	**0**	**22**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**276**
13:30	0	81	16	0	35	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	66	0	1	18	0	0	0	0	1	14	0	11	2	0	4	0	0	0	2	258
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	0	104	26	0	20	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	87	0	5	22	0	0	0	0	1	20	0	8	2	0	2	0	0	0	1	308
15:30	0	93	31	0	28	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	79	0	1	21	0	0	0	0	0	20	0	9	3	0	4	0	0	0	1	308
15:45	0	84	24	0	24	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	102	0	3	25	0	0	0	0	0	27	0	17	6	0	3	0	0	0	4	335
16:00	0	119	19	0	28	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	21	114	0	5	22	0	0	0	0	1	41	0	13	7	0	5	0	0	0	0	401
16:15	0	144	20	0	31	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	15	90	0	5	28	0	0	0	0	0	31	0	14	0	0	2	0	0	0	0	383
16:30	0	93	32	0	24	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	130	0	2	30	0	0	0	0	1	32	0	15	3	0	2	0	0	0	1	382
16:45	**0**	**121**	**27**	**0**	**31**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**20**	**126**	**0**	**3**	**27**	**0**	**0**	**0**	**0**	**1**	**34**	**0**	**13**	**6**	**0**	**2**	**0**	**0**	**0**	**1**	**415**
17:00	**0**	**103**	**23**	**0**	**27**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**21**	**126**	**0**	**4**	**31**	**0**	**0**	**0**	**0**	**0**	**36**	**0**	**26**	**7**	**0**	**4**	**0**	**0**	**0**	**0**	**408**
17:15	**0**	**117**	**28**	**0**	**16**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**15**	**113**	**0**	**0**	**28**	**0**	**0**	**0**	**0**	**0**	**26**	**0**	**14**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**366**
17:30	**0**	**146**	**31**	**0**	**14**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**21**	**133**	**0**	**3**	**13**	**0**	**0**	**0**	**0**	**2**	**31**	**0**	**19**	**6**	**0**	**2**	**0**	**0**	**0**	**0**	**424**
17:45	0	110	22	0	14	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	130	0	3	25	0	0	0	0	0	26	0	8	3	0	1	0	0	0	1	359
18:00	0	100	29	0	9	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	90	0	1	9	0	0	0	0	0	26	0	18	5	0	1	0	0	0	1	305
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Baseline Rd @ Green Rd

TMC No: 0811000000 **Intersection ID:** 6476 **Count ID:** 35702018610 **Count Date:** 11/17/2020, Tue

AM Peak 07:30

Ped. (all legs): 0

Leg	Movement	Cars	Trucks	Trucks %	PHF
North	↵	149	29	16%	0.81
North	↓	2	2	50%	0.25
North	↳	50	13	21%	0.88
North	↑ (exit)	71	27		
East	↰	34	14	29%	0.80
East	←	91	26	22%	0.71
East	↲	1	0	0%	0.25
East	→ (exit)	94	18		
West	← (exit)	240	55		
West	↱	37	13	26%	0.52
West	→	43	5	10%	0.67
West	↴	0	0	0%	0.00
South	↓ (exit)	3	2		
South	↰	0	0	0%	0.00
South	↑	0	0	0%	0.00
South	↱	1	0	0%	0.25

MD Peak 12:15

Ped. (all legs): 0

Leg	Movement	Cars	Trucks	Trucks %	PHF
North	↵	60	11	15%	0.89
North	↓	1	1	50%	0.25
North	↳	77	12	13%	0.72
North	↑ (exit)	133	24		
East	↰	73	14	16%	0.73
East	←	84	29	26%	0.78
East	↲	1	0	0%	0.25
East	→ (exit)	171	31		
West	← (exit)	144	41		
West	↱	56	10	15%	0.92
West	→	94	19	17%	0.78
West	↴	2	1	33%	0.75
South	↓ (exit)	4	2		
South	↰	0	1	100%	0.25
South	↑	4	0	0%	0.50
South	↱	0	0	0%	0.00

PM Peak 16:00

Ped. (all legs): 0

Leg	Movement	Cars	Trucks	Trucks %	PHF
North	↵	82	10	11%	0.77
North	↓	1	1	50%	0.25
North	↳	89	21	19%	0.95
North	↑ (exit)	277	50		
East	↰	117	26	18%	0.97
East	←	106	23	18%	0.81
East	↲	0	1	100%	0.25
East	→ (exit)	318	76		
West	← (exit)	188	33		
West	↱	159	24	13%	0.76
West	→	229	55	19%	0.90
West	↴	1	0	0%	0.25
South	↓ (exit)	2	2		
South	↰	0	0	0%	0.00
South	↑	1	0	0%	0.25
South	↱	0	0	0%	0.00

Total Count 8 hours*

Ped. (all legs): 0

Leg	Movement	Cars	Trucks	Trucks %
North	↵	650	125	16%
North	↓	6	7	54%
North	↳	490	98	17%
North	↑ (exit)	1249	241	
East	↰	542	109	17%
East	←	598	198	25%
East	↲	6	4	40%
East	→ (exit)	1402	267	
West	← (exit)	1253	326	
West	↱	697	130	16%
West	→	905	169	16%
West	↴	9	1	10%
South	↓ (exit)	21	12	
South	↰	5	3	38%
South	↑	10	2	17%
South	↱	7	0	0%

TMC 15 Min Report

Baseline Rd @ Green Rd

TMC No: 0811000000 **Intersection ID:** 6476 **Count ID:** 35702018610 **Count Date:** 11/17/2020, Tue

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	2	0	27	0	0	7	0	0	0	0	2	11	10	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	0	3	1	0	0	0	0	0	70
06:30	6	0	28	0	0	5	0	0	0	0	0	21	2	0	10	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	6	2	0	0	0	0	0	0	0	0	82
06:45	2	0	40	0	0	6	0	0	0	0	0	14	2	0	5	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	8	0	0	0	0	0	0	0	0	88
07:00	8	0	22	0	0	5	0	0	0	0	0	10	4	0	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	6	0	4	0	0	0	0	0	0	81
07:15	10	0	29	1	0	8	0	0	0	0	0	8	7	0	4	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	8	9	0	2	0	0	0	0	0	0	88
07:30	**11**	**0**	**39**	**5**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**13**	**9**	**0**	**8**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**9**	**0**	**8**	**1**	**0**	**0**	**0**	**0**	**0**	**131**
07:45	**12**	**0**	**44**	**2**	**0**	**11**	**0**	**0**	**0**	**0**	**1**	**36**	**11**	**0**	**5**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**10**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**146**
08:00	**14**	**2**	**34**	**1**	**2**	**8**	**0**	**0**	**0**	**0**	**0**	**23**	**9**	**0**	**6**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**15**	**0**	**3**	**3**	**0**	**0**	**0**	**0**	**0**	**131**
08:15	**13**	**0**	**32**	**5**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**19**	**5**	**0**	**7**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	**9**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**102**
08:30	15	1	27	2	1	3	0	0	0	0	0	16	3	1	4	3	0	0	0	0	1	3	0	0	0	0	0	0	0	0	12	29	1	1	3	0	0	0	0	0	126
08:45	10	0	25	3	0	1	0	0	0	0	0	22	9	0	9	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	12	0	7	5	0	0	0	0	0	117
09:00	0	0	0	4	0	1	0	0	0	0	0	0	0	2	10	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	17	0	0	0	0	0	0	0	0	122
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	11	1	18	5	2	9	0	0	0	0	0	19	17	0	9	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	13	19	0	3	4	0	0	0	0	0	132
12:00	18	0	12	1	0	1	0	0	0	0	0	15	13	0	9	7	0	0	0	0	0	0	1	0	0	0	0	0	0	0	17	21	1	2	6	0	0	0	0	0	124
12:15	**14**	**0**	**16**	**5**	**0**	**4**	**0**	**0**	**0**	**0**	**1**	**28**	**29**	**0**	**8**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**16**	**28**	**0**	**2**	**8**	**0**	**0**	**0**	**0**	**0**	**160**
12:30	**17**	**1**	**13**	**3**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**17**	**12**	**0**	**7**	**5**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**23**	**0**	**4**	**0**	**1**	**0**	**0**	**0**	**0**	**122**
12:45	**19**	**0**	**17**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**25**	**11**	**0**	**11**	**3**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**22**	**1**	**1**	**6**	**0**	**0**	**0**	**0**	**0**	**134**
13:00	**27**	**0**	**14**	**4**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**14**	**21**	**0**	**3**	**5**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**13**	**21**	**1**	**3**	**5**	**0**	**0**	**0**	**0**	**0**	**134**
13:15	12	0	18	3	0	1	0	0	0	0	0	17	27	0	3	7	0	0	0	0	0	0	1	0	0	0	0	0	0	0	6	28	0	1	2	0	0	0	0	0	126
13:30	16	0	16	2	0	4	0	0	0	0	0	14	11	0	7	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	14	3	3	4	0	0	0	0	0	107
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	20	0	10	6	0	2	0	0	0	0	0	20	27	0	9	3	0	0	0	0	1	0	0	0	0	0	0	0	0	0	32	34	0	7	12	0	0	0	0	0	183
15:30	20	0	11	6	0	1	0	0	0	0	0	18	17	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55	59	0	8	11	0	0	0	0	0	212
15:45	14	0	12	6	0	3	0	0	0	0	0	26	24	0	3	3	0	0	0	0	0	1	1	0	0	0	0	0	0	0	44	44	1	9	11	0	0	0	0	0	202
16:00	**21**	**0**	**28**	**6**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**24**	**25**	**0**	**5**	**10**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**37**	**64**	**0**	**3**	**15**	**0**	**0**	**0**	**0**	**0**	**240**
16:15	**22**	**0**	**17**	**5**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**34**	**34**	**1**	**6**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**37**	**62**	**0**	**8**	**13**	**0**	**0**	**0**	**0**	**0**	**246**
16:30	**21**	**0**	**19**	**6**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**19**	**32**	**0**	**9**	**5**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**33**	**47**	**0**	**5**	**13**	**0**	**0**	**0**	**0**	**0**	**212**
16:45	**25**	**1**	**18**	**4**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**29**	**26**	**0**	**3**	**8**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**52**	**56**	**1**	**8**	**14**	**0**	**0**	**0**	**0**	**0**	**248**
17:00	28	0	17	2	0	6	0	0	0	0	0	16	29	0	9	3	0	0	0	0	0	1	0	1	1	0	0	0	0	0	34	50	0	7	9	0	0	0	0	0	213
17:15	21	0	11	1	0	2	0	0	0	0	0	28	35	0	4	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	39	50	0	11	7	0	0	0	0	0	218
17:30	25	0	13	6	0	4	0	0	0	0	0	21	29	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	35	49	0	5	6	0	0	0	0	0	199
17:45	21	0	11	3	0	2	0	0	0	0	1	12	27	0	1	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	45	49	0	6	4	0	0	0	0	0	184
18:00	15	0	12	1	0	4	0	0	0	0	1	9	25	0	4	5	0	0	0	0	1	0	1	0	0	0	0	0	0	0	45	35	0	4	5	0	0	0	0	0	167
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

Highway 2 @ Clarington Bv

TMC No: 0703500000 **Intersection ID:** 4878 **Count ID:** 35702018624 **Count Date:** 11/17/2020, Tue

AM Peak 08:15

Ped. 13 (west) · Ped. 2 (north) · Ped. 5 (south) · Ped. 0 (east)

North approach

	↵	↓	↪	↑ (exit)
PHF	0.42	0.52	0.40	
Trucks %	26%	16%	37%	
Trucks	9	12	36	36
Cars	26	61	62	109

East approach

	Cars	Trucks	Trucks %	PHF
↰	47	19	29%	0.72
←	481	57	11%	0.78
↲	205	27	12%	0.95
→ (exit)	591	107		

West approach

	PHF	Trucks %	Trucks	Cars
← (exit)			71	526
↱	0.59	27%	9	24
→	0.82	11%	51	399
↴	0.56	7%	2	25

South approach

	↓ (exit)	↰	↑	↱
Cars	291	19	38	130
Trucks	41	5	8	20
Trucks %		21%	17%	13%
PHF		0.67	0.72	0.87

MD Peak 12:30

Ped. 4 (west) · Ped. 1 (north) · Ped. 4 (south) · Ped. 0 (east)

North approach

	↵	↓	↪	↑ (exit)
PHF	0.75	0.89	0.94	
Trucks %	21%	11%	22%	
Trucks	7	8	30	46
Cars	26	63	106	209

East approach

	Cars	Trucks	Trucks %	PHF
↰	100	23	19%	0.83
←	638	113	15%	0.92
↲	207	31	13%	0.79
→ (exit)	898	164		

West approach

	PHF	Trucks %	Trucks	Cars
← (exit)			131	710
↱	0.92	24%	17	53
→	0.85	14%	101	640
↴	0.68	35%	16	30

South approach

	↓ (exit)	↰	↑	↱
Cars	300	46	56	152
Trucks	55	11	6	33
Trucks %		19%	10%	18%
PHF		0.79	0.70	0.89

PM Peak 16:15

Ped. 4 (west) · Ped. 5 (north) · Ped. 0 (south) · Ped. 0 (east)

North approach

	↵	↓	↪	↑ (exit)
PHF	0.77	0.73	0.88	
Trucks %	11%	18%	22%	
Trucks	4	12	31	32
Cars	33	55	107	146

East approach

	Cars	Trucks	Trucks %	PHF
↰	56	18	24%	0.80
←	617	103	14%	0.95
↲	202	31	13%	0.92
→ (exit)	884	173		

West approach

	PHF	Trucks %	Trucks	Cars
← (exit)			120	695
↱	0.87	19%	11	48
→	0.93	15%	113	658
↴	0.75	21%	9	33

South approach

	↓ (exit)	↰	↑	↱
Cars	290	45	42	119
Trucks	52	13	3	29
Trucks %		22%	7%	20%
PHF		0.73	0.87	0.90

Total Count 8 hours*

Ped. 52 (west) · Ped. 18 (north) · Ped. 20 (south) · Ped. 0 (east)

North approach

	↵	↓	↪	↑ (exit)
Trucks %	21%	16%	22%	
Trucks	43	70	177	249
Cars	162	364	624	1035

East approach

	Cars	Trucks	Trucks %	PHF
↰	466	130	22%	
←	4036	662	14%	
↲	1443	247	15%	
→ (exit)	5500	994		

West approach

	PHF	Trucks %	Trucks	Cars
← (exit)			775	4475
↱		23%	80	267
→		13%	616	3955
↴		21%	48	182

South approach

	↓ (exit)	↰	↑	↱
Cars	1989	277	302	921
Trucks	365	70	39	201
Trucks %		20%	11%	18%

TMC 15 Min Report

Highway 2 @ Clarington Bv

TMC No: 0703500000 **Intersection ID:** 4878 **Count ID:** 35702018624 **Count Date:** 11/17/2020, Tue

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	3	0	0	0	0	0	0	0	0	0	17	37	0	6	4	1	0	0	0	0	5	0	8	0	0	3	0	0	0	0	0	20	0	0	2	0	0	0	0	2	108
06:30	0	1	1	0	2	2	0	0	0	0	20	49	3	7	13	0	0	0	0	0	3	3	9	0	1	1	0	0	0	0	2	24	0	1	5	0	0	0	0	0	147
06:45	1	2	2	0	0	1	0	0	0	0	20	58	0	10	9	0	0	0	0	0	3	1	11	0	0	4	0	0	0	0	2	47	1	1	6	0	0	0	0	0	179
07:00	3	2	0	0	0	0	0	0	0	0	27	66	7	8	10	0	0	0	0	0	9	2	17	1	0	6	0	0	0	1	1	54	3	0	11	1	0	0	0	2	231
07:15	0	1	0	0	0	1	0	0	0	0	30	70	6	7	18	1	0	0	0	0	6	2	9	2	2	3	0	0	0	0	1	45	0	0	11	0	0	0	0	0	215
07:30	6	3	0	4	0	1	0	0	0	0	38	63	6	9	10	3	0	0	0	0	6	0	17	2	3	6	0	0	0	0	5	59	2	1	21	0	0	0	0	1	266
07:45	9	3	2	2	3	2	0	0	0	0	38	115	5	13	24	3	0	0	0	0	4	7	31	1	0	6	0	0	0	2	2	92	2	2	12	1	0	0	0	1	382
08:00	7	10	5	1	5	3	0	0	0	1	37	117	9	5	23	5	0	0	0	0	5	7	21	3	2	7	0	0	0	1	4	102	2	3	20	0	0	0	0	2	407
08:15	**43**	**32**	**16**	**18**	**3**	**5**	**0**	**0**	**0**	**0**	**46**	**99**	**10**	**7**	**21**	**13**	**0**	**0**	**0**	**0**	**3**	**15**	**29**	**2**	**1**	**8**	**0**	**0**	**0**	**4**	**8**	**80**	**1**	**6**	**18**	**1**	**0**	**0**	**0**	**8**	**497**
08:30	**13**	**20**	**9**	**11**	**5**	**3**	**0**	**0**	**0**	**0**	**50**	**128**	**10**	**10**	**18**	**3**	**0**	**0**	**0**	**0**	**3**	**6**	**36**	**2**	**3**	**7**	**0**	**0**	**0**	**1**	**5**	**115**	**4**	**0**	**22**	**1**	**0**	**0**	**0**	**2**	**487**
08:45	**6**	**9**	**1**	**4**	**2**	**1**	**0**	**0**	**0**	**0**	**51**	**154**	**12**	**10**	**18**	**3**	**0**	**0**	**0**	**0**	**4**	**10**	**28**	**1**	**4**	**5**	**0**	**0**	**0**	**0**	**4**	**97**	**8**	**3**	**11**	**0**	**0**	**0**	**0**	**3**	**449**
09:00	**0**	**0**	**0**	**3**	**2**	**0**	**0**	**0**	**0**	**2**	**58**	**100**	**15**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**9**	**7**	**37**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**7**	**107**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**461**
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	28	20	6	7	5	3	0	0	0	2	48	142	22	8	26	7	0	0	0	0	11	12	27	5	1	5	0	0	0	1	7	148	4	3	17	0	0	0	0	8	573
12:00	22	16	7	7	4	1	0	0	0	4	55	155	28	7	30	5	0	0	0	0	9	14	26	4	0	7	0	0	0	0	9	156	1	4	26	0	0	0	0	9	606
12:15	32	10	4	12	5	3	0	0	0	0	51	143	31	11	29	8	0	0	0	0	6	8	38	1	1	8	0	0	0	0	12	153	6	3	20	1	0	0	0	1	597
12:30	**27**	**13**	**6**	**8**	**5**	**2**	**0**	**0**	**0**	**0**	**41**	**155**	**28**	**7**	**31**	**7**	**0**	**0**	**0**	**0**	**14**	**14**	**42**	**4**	**1**	**9**	**0**	**0**	**0**	**1**	**15**	**177**	**11**	**4**	**20**	**6**	**0**	**0**	**0**	**0**	**648**
12:45	**23**	**17**	**5**	**8**	**1**	**3**	**0**	**0**	**0**	**0**	**50**	**146**	**13**	**10**	**25**	**3**	**0**	**0**	**0**	**0**	**10**	**14**	**36**	**2**	**1**	**6**	**0**	**0**	**0**	**1**	**11**	**147**	**4**	**5**	**24**	**2**	**0**	**0**	**0**	**1**	**568**
13:00	**28**	**14**	**10**	**6**	**1**	**1**	**0**	**0**	**0**	**1**	**48**	**169**	**30**	**7**	**34**	**7**	**0**	**0**	**0**	**0**	**15**	**8**	**44**	**2**	**2**	**8**	**0**	**0**	**0**	**1**	**15**	**184**	**8**	**4**	**35**	**5**	**0**	**0**	**0**	**2**	**689**
13:15	**28**	**19**	**5**	**8**	**1**	**1**	**0**	**0**	**0**	**0**	**68**	**168**	**29**	**7**	**23**	**6**	**0**	**0**	**0**	**0**	**7**	**20**	**30**	**3**	**2**	**10**	**0**	**0**	**0**	**1**	**12**	**132**	**7**	**4**	**22**	**3**	**0**	**0**	**0**	**1**	**617**
13:30	0	0	0	3	1	3	0	0	0	0	47	144	15	5	30	5	0	0	0	0	18	17	24	3	1	6	0	0	0	0	11	175	8	0	16	4	0	0	0	1	593
Period 3																																									
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	29	12	2	7	3	0	0	0	0	2	43	151	20	9	16	5	0	0	0	0	13	10	30	2	1	8	0	0	0	2	11	146	7	2	14	2	0	0	0	1	548
15:30	31	23	7	6	0	0	0	0	0	1	51	135	15	8	33	3	0	0	0	0	13	13	45	2	2	7	0	0	0	1	13	138	7	5	34	2	0	0	0	1	596
15:45	26	18	6	5	1	0	0	0	0	0	48	147	17	9	34	5	0	0	0	0	9	15	30	3	0	5	0	0	0	2	14	133	9	2	30	1	0	0	0	2	571
16:00	37	11	8	7	2	1	0	0	0	0	59	154	17	8	20	5	0	0	0	0	10	11	29	1	0	8	0	0	0	1	8	151	9	1	31	2	0	0	0	0	591
16:15	**28**	**14**	**7**	**7**	**2**	**1**	**0**	**0**	**0**	**0**	**56**	**162**	**18**	**7**	**27**	**5**	**0**	**0**	**0**	**0**	**10**	**12**	**36**	**3**	**1**	**5**	**0**	**0**	**0**	**0**	**6**	**158**	**5**	**2**	**40**	**3**	**0**	**0**	**0**	**0**	**615**
16:30	**23**	**10**	**10**	**7**	**2**	**2**	**0**	**0**	**0**	**4**	**48**	**143**	**12**	**8**	**28**	**6**	**0**	**0**	**0**	**0**	**8**	**10**	**29**	**2**	**2**	**7**	**0**	**0**	**0**	**0**	**15**	**156**	**4**	**2**	**17**	**3**	**0**	**0**	**0**	**2**	**560**
16:45	**26**	**17**	**8**	**8**	**6**	**1**	**0**	**0**	**0**	**1**	**48**	**157**	**11**	**7**	**30**	**5**	**0**	**0**	**0**	**0**	**16**	**11**	**30**	**4**	**0**	**10**	**0**	**0**	**0**	**0**	**13**	**164**	**12**	**4**	**29**	**2**	**0**	**0**	**0**	**2**	**622**
17:00	**30**	**14**	**8**	**9**	**2**	**0**	**0**	**0**	**0**	**0**	**50**	**155**	**15**	**9**	**18**	**2**	**0**	**0**	**0**	**0**	**11**	**9**	**24**	**4**	**0**	**7**	**0**	**0**	**0**	**0**	**14**	**180**	**12**	**3**	**27**	**1**	**0**	**0**	**0**	**0**	**604**
17:15	28	17	8	3	3	1	0	0	0	0	61	144	20	8	19	3	0	0	0	0	11	14	38	3	2	5	0	0	0	0	11	153	7	2	21	1	0	0	0	0	583
17:30	29	14	15	4	1	0	0	0	0	0	50	150	15	5	15	6	0	0	0	0	9	6	32	2	2	8	0	0	0	0	11	164	12	4	22	4	0	0	0	0	580
17:45	27	11	3	7	1	0	0	0	0	0	41	125	15	7	17	2	0	0	0	0	8	17	38	3	2	8	0	0	0	0	12	178	9	6	18	2	0	0	0	0	557
18:00	31	11	1	5	2	1	0	0	0	0	48	135	12	8	9	3	0	0	0	0	9	7	40	3	2	8	0	0	0	0	6	120	5	3	14	0	0	0	0	0	483
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Bowmanville Av (R.R.57) @ Highway 2

TMC No: 0570200000 **Intersection ID:** 4718 **Count ID:** 35702018206 **Count Date:** 11/20/2019, Wed

AM Peak 08:00

Ped. ⇄ 2 (north leg) · Ped. ⇅ 15 (west leg) · Ped. ⇅ 3 (east leg) · Ped. ⇄ 10 (south leg)

North leg:

	↵	↓	↳	↑
PHF	0.86	0.95	0.75	
Trucks %	16%	20%	26%	
Trucks	38	88	7	87
Cars	193	345	20	331

West leg:

	PHF	Trucks %	Trucks	Cars
←			167	896
↱	0.79	15%	20	110
→	0.92	16%	88	452
↴	0.75	18%	32	149

East leg:

	Cars	Trucks	Trucks %	PHF
↰	32	12	27%	0.79
←	562	99	15%	0.91
↲	118	21	15%	0.81
→	543	102		

South leg:

	↓	↰	↑	↱
Cars	612	141	189	71
Trucks	141	30	55	7
Trucks %		18%	23%	9%
PHF		0.95	0.74	0.75

MD Peak 12:15

Ped. ⇄ 3 (north leg) · Ped. ⇅ 1 (west leg) · Ped. ⇅ 0 (east leg) · Ped. ⇄ 1 (south leg)

North leg:

	↵	↓	↳	↑
PHF	0.89	0.97	0.83	
Trucks %	17%	27%	17%	
Trucks	26	55	12	90
Cars	130	151	58	324

West leg:

	PHF	Trucks %	Trucks	Cars
←			181	964
↱	0.90	20%	35	144
→	0.97	16%	126	670
↴	0.81	21%	43	165

East leg:

	Cars	Trucks	Trucks %	PHF
↰	41	5	11%	0.77
←	693	119	15%	0.85
↲	97	15	13%	0.76
→	806	153		

South leg:

	↓	↰	↑	↱
Cars	413	141	139	78
Trucks	113	36	50	15
Trucks %		20%	26%	16%
PHF		0.82	0.91	0.75

PM Peak 16:00

Ped. ⇄ 6 (north leg) · Ped. ⇅ 2 (west leg) · Ped. ⇅ 1 (east leg) · Ped. ⇄ 0 (south leg)

North leg:

	↵	↓	↳	↑
PHF	0.84	0.86	0.78	
Trucks %	14%	20%	16%	
Trucks	28	59	13	126
Cars	171	236	68	558

West leg:

	PHF	Trucks %	Trucks	Cars
←			159	1019
↱	0.87	16%	41	214
→	0.95	14%	139	869
↴	0.90	17%	48	230

East leg:

	Cars	Trucks	Trucks %	PHF
↰	47	12	20%	0.82
←	673	102	13%	0.96
↲	110	15	12%	0.84
→	1054	171		

South leg:

	↓	↰	↑	↱
Cars	576	175	297	117
Trucks	122	29	73	19
Trucks %		14%	20%	14%
PHF		0.91	0.88	0.87

Total Count 8 hours*

Ped. ⇄ 40 (north leg) · Ped. ⇅ 30 (west leg) · Ped. ⇅ 16 (east leg) · Ped. ⇄ 31 (south leg)

North leg:

	↵	↓	↳	↑
Trucks %	18%	21%	18%	
Trucks	260	522	77	744
Cars	1213	1924	347	2971

West leg:

	PHF	Trucks %	Trucks	Cars
←			1206	6893
↱		18%	253	1159
→		14%	806	4771
↴		16%	250	1287

East leg:

	Cars	Trucks	Trucks %	PHF
↰	289	54	16%	
←	4578	732	14%	
↲	763	129	14%	
→	5695	961		

South leg:

	↓	↰	↑	↱
Cars	3974	1102	1523	577
Trucks	901	214	437	78
Trucks %		16%	22%	12%

TMC 15 Min Report

Bowmanville Av (R.R.57) @ Highway 2

TMC No: 0570200000 **Intersection ID:** 4718 **Count ID:** 35702018206 **Count Date:** 11/20/2019, Wed

	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
Time	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	1	75	22	1	14	11	0	0	0	0	18	34	0	3	5	0	0	0	0	0	6	13	5	3	5	1	0	0	0	0	7	26	16	0	2	1	0	0	0	0	269
06:30	3	74	32	0	16	7	0	0	0	0	12	50	6	4	13	0	0	0	0	0	11	18	1	3	7	0	0	0	0	1	16	28	14	1	8	2	0	0	0	1	328
06:45	2	85	35	0	22	8	0	0	0	1	17	68	8	3	14	0	0	0	0	0	15	21	6	1	15	0	0	0	0	0	14	48	18	3	4	4	0	0	0	1	413
07:00	3	77	40	0	22	10	0	0	0	0	16	63	5	5	12	0	0	0	0	0	13	29	13	6	9	2	0	0	0	0	19	54	16	8	15	0	0	0	0	0	437
07:15	4	77	41	0	12	7	0	0	0	0	17	87	6	1	14	0	0	0	0	0	16	25	8	2	12	0	0	0	0	0	15	53	23	4	12	2	0	0	0	0	438
07:30	5	69	36	3	20	13	0	0	0	0	25	95	8	6	19	2	0	0	0	0	27	23	9	8	13	2	0	0	0	1	19	57	20	7	14	10	0	0	0	0	511
07:45	4	91	76	2	27	17	0	0	0	1	21	108	4	4	20	4	0	0	0	0	20	38	12	4	12	0	0	0	0	1	29	60	22	2	18	8	0	0	0	0	605
08:00	**5**	**92**	**56**	**1**	**20**	**11**	**0**	**0**	**0**	**0**	**34**	**105**	**8**	**9**	**19**	**5**	**0**	**0**	**0**	**1**	**38**	**63**	**10**	**7**	**12**	**1**	**0**	**0**	**0**	**8**	**24**	**103**	**26**	**4**	**18**	**1**	**0**	**0**	**0**	**10**	**691**
08:15	**6**	**89**	**52**	**3**	**25**	**10**	**0**	**0**	**0**	**0**	**28**	**148**	**9**	**3**	**31**	**5**	**0**	**0**	**0**	**1**	**36**	**60**	**18**	**8**	**22**	**1**	**0**	**0**	**0**	**2**	**28**	**104**	**39**	**5**	**24**	**7**	**0**	**0**	**0**	**3**	**767**
08:30	**6**	**87**	**54**	**1**	**21**	**12**	**0**	**0**	**0**	**1**	**29**	**150**	**11**	**6**	**26**	**1**	**0**	**0**	**0**	**1**	**33**	**37**	**19**	**6**	**15**	**3**	**0**	**0**	**0**	**0**	**35**	**120**	**49**	**6**	**24**	**11**	**0**	**0**	**0**	**1**	**765**
08:45	**3**	**77**	**31**	**2**	**22**	**5**	**0**	**0**	**0**	**1**	**27**	**159**	**4**	**3**	**23**	**1**	**0**	**0**	**0**	**0**	**34**	**29**	**24**	**9**	**6**	**2**	**0**	**0**	**0**	**0**	**23**	**125**	**35**	**5**	**22**	**13**	**0**	**0**	**0**	**1**	**686**
09:00	10	52	48	3	15	9	0	0	0	0	29	133	12	6	29	1	0	0	0	0	33	34	23	8	12	3	0	0	0	1	33	132	31	9	13	5	0	0	0	0	684
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	10	34	35	1	10	5	0	0	0	1	24	186	14	2	28	1	0	0	0	0	42	29	16	10	16	3	0	0	0	1	30	162	35	6	23	11	0	0	0	1	736
12:00	11	34	31	4	12	8	0	0	0	2	24	179	11	1	24	3	0	0	0	1	37	41	16	8	6	2	0	0	0	1	28	179	41	5	27	11	0	0	0	0	747
12:15	**16**	**38**	**31**	**3**	**14**	**6**	**0**	**0**	**0**	**0**	**19**	**209**	**9**	**1**	**31**	**2**	**0**	**0**	**0**	**0**	**29**	**39**	**22**	**9**	**13**	**3**	**0**	**0**	**0**	**0**	**26**	**178**	**42**	**4**	**27**	**10**	**0**	**0**	**0**	**0**	**781**
12:30	**11**	**36**	**36**	**1**	**14**	**8**	**0**	**0**	**0**	**1**	**28**	**165**	**11**	**2**	**18**	**0**	**0**	**0**	**0**	**0**	**35**	**32**	**15**	**10**	**11**	**3**	**0**	**0**	**0**	**0**	**37**	**165**	**44**	**13**	**31**	**13**	**0**	**0**	**0**	**0**	**740**
12:45	**14**	**41**	**29**	**4**	**10**	**4**	**0**	**0**	**0**	**1**	**30**	**172**	**14**	**7**	**36**	**1**	**0**	**0**	**0**	**0**	**41**	**33**	**14**	**13**	**12**	**5**	**0**	**0**	**0**	**0**	**42**	**166**	**26**	**7**	**36**	**9**	**0**	**0**	**0**	**1**	**768**
13:00	**17**	**36**	**34**	**4**	**17**	**8**	**0**	**0**	**0**	**1**	**20**	**147**	**7**	**5**	**34**	**2**	**0**	**0**	**0**	**0**	**36**	**35**	**27**	**4**	**14**	**4**	**0**	**0**	**0**	**1**	**39**	**161**	**53**	**11**	**32**	**11**	**0**	**0**	**0**	**0**	**760**
13:15	13	45	30	7	17	9	0	0	0	2	17	170	6	7	30	1	0	0	0	1	47	35	15	5	9	1	0	0	0	1	31	177	36	8	26	19	0	0	0	1	766
13:30	13	35	27	2	16	8	0	0	0	1	18	150	8	5	26	2	0	0	0	2	34	28	19	5	14	1	0	0	0	2	41	175	42	6	30	16	0	0	0	2	728
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	10	56	24	4	14	3	0	0	0	4	25	158	8	3	23	2	0	0	0	1	37	54	16	3	17	2	0	0	0	3	42	201	54	10	36	4	0	0	0	1	815
15:30	7	42	28	3	17	7	0	0	0	6	26	161	6	7	28	5	0	0	0	1	36	53	10	3	17	5	0	0	0	4	50	229	55	15	41	10	0	0	0	3	875
15:45	19	35	24	2	19	5	0	0	0	6	14	164	14	5	26	2	0	0	0	4	50	60	21	7	23	1	0	0	0	1	39	185	57	16	42	6	0	0	0	0	847
16:00	**20**	**68**	**43**	**6**	**18**	**7**	**0**	**0**	**0**	**1**	**20**	**168**	**13**	**4**	**22**	**4**	**0**	**0**	**0**	**0**	**49**	**77**	**24**	**7**	**17**	**5**	**0**	**0**	**0**	**0**	**51**	**236**	**52**	**8**	**30**	**10**	**0**	**0**	**0**	**1**	**961**
16:15	**11**	**67**	**51**	**3**	**16**	**8**	**0**	**0**	**0**	**1**	**31**	**158**	**16**	**3**	**25**	**2**	**0**	**0**	**0**	**0**	**41**	**55**	**27**	**6**	**21**	**3**	**0**	**0**	**0**	**0**	**52**	**209**	**64**	**12**	**38**	**13**	**0**	**0**	**0**	**1**	**934**
16:30	**17**	**43**	**32**	**2**	**8**	**7**	**0**	**0**	**0**	**0**	**32**	**170**	**7**	**5**	**30**	**3**	**0**	**0**	**0**	**1**	**43**	**85**	**34**	**5**	**20**	**4**	**0**	**0**	**0**	**0**	**60**	**212**	**51**	**13**	**44**	**13**	**0**	**0**	**0**	**0**	**941**
16:45	**20**	**58**	**45**	**2**	**17**	**6**	**0**	**0**	**0**	**4**	**27**	**177**	**11**	**3**	**25**	**3**	**0**	**0**	**0**	**0**	**42**	**80**	**32**	**11**	**15**	**7**	**0**	**0**	**0**	**0**	**51**	**212**	**63**	**8**	**27**	**12**	**0**	**0**	**0**	**0**	**958**
17:00	18	49	35	3	18	14	0	0	0	2	25	170	15	3	15	0	0	0	0	0	46	87	29	8	24	6	0	0	0	1	60	212	49	9	33	6	0	0	0	1	938
17:15	18	56	36	4	11	8	0	0	0	0	32	166	12	5	20	2	0	0	0	0	44	80	15	13	14	4	0	0	0	1	51	200	59	9	19	6	0	0	0	1	886
17:30	23	84	36	2	12	4	0	0	0	0	30	167	10	3	20	0	0	0	0	0	53	89	22	4	13	1	0	0	0	0	57	197	67	15	29	0	0	0	0	0	938
17:45	8	58	39	2	17	8	0	0	0	3	29	179	11	2	10	0	0	0	0	0	46	81	31	12	13	3	0	0	0	0	55	204	43	16	30	3	0	0	0	0	903
18:00	19	64	44	2	9	7	0	0	0	0	19	162	5	3	36	0	0	0	0	2	32	60	24	6	8	0	0	0	0	1	55	201	45	8	31	3	0	0	0	0	846
18:15	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*	0*	0*	0*	0*	0*	0*	0*

Bowmanville Av (R.R.57) @ Highway 2

TMC No: 0570200000 **Intersection ID:** 4718 **Count ID:** 35702018625 **Count Date:** 11/17/2020, Tue

AM Peak 08:00

				0.95	0.88	0.82		Ped. 3			
				16%	25%	28%					
				12	67	34	58				
Ped. 1				64	198	87	535	Cars	Trucks	Trucks %	PHF
		45	450					93	15	14%	0.75
0.86	3%	3	97					356	33	8%	0.86
0.89	7%	38	471					130	32	20%	0.88
0.80	2%	1	44					768	93		
PHF	Trucks %	Trucks	Cars	372	30	345	210				7 Ped.
				100	0	40	21				
					0%	10%	9%				
			Ped. 1		0.68	0.89	0.86				

MD Peak 12:45

				0.83	0.82	0.87		Ped. 0			
				11%	29%	15%					
				8	60	25	29				
Ped. 0				62	150	139	436	Cars	Trucks	Trucks %	PHF
		52	690					144	8	5%	0.86
0.84	2%	2	99					568	43	7%	0.87
0.87	2%	11	705					116	28	19%	0.73
0.92	0%	0	48					992	37		
PHF	Trucks %	Trucks	Cars	314	60	193	148				0 Ped.
				88	1	19	1				
					2%	9%	1%				
			Ped. 0		0.85	0.85	0.91				

PM Peak 16:00

				0.80	0.87	0.83		Ped. 3			
				4%	9%	10%					
				5	39	20	65				
Ped. 1				113	373	185	572	Cars	Trucks	Trucks %	PHF
		60	774					184	22	11%	0.86
0.86	4%	4	109					587	53	8%	0.93
0.91	9%	54	574					194	37	16%	0.83
0.78	3%	2	57					927	86		
PHF	Trucks %	Trucks	Cars	624	74	279	168				0 Ped.
				78	2	39	12				
					3%	12%	7%				
			Ped. 1		0.76	0.89	0.88				

Total Count 8 hours*

								Ped. 11			
				7%	18%	17%					
				47	385	193	386				
Ped. 5				586	1777	960	3870	Cars	Trucks	Trucks %	PHF
		346	4539					1006	101	9%	
	3%	23	778					3535	289	8%	
	7%	318	4114					967	195	17%	
	3%	11	348					6363	594		
PHF	Trucks %	Trucks	Cars	3092	418	2086	1289				15 Ped.
				591	10	262	83				
					2%	11%	6%				
			Ped. 5								

TMC 15 Min Report

Bowmanville Av (R.R.57) @ Highway 2

TMC No: 0570200000 **Intersection ID:** 4718 **Count ID:** 35702018625 **Count Date:** 11/17/2020, Tue

Time	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	8	14	4	4	7	0	0	0	0	0	6	20	9	0	2	1	0	0	0	0	1	64	24	0	4	0	0	0	0	0	16	32	2	0	6	0	0	0	0	0	224
06:30	6	20	1	4	6	0	0	0	0	0	4	23	8	1	1	3	0	0	0	0	0	80	26	0	5	0	0	0	0	0	16	40	7	0	4	0	0	0	0	0	255
06:45	10	29	5	3	16	0	0	0	0	0	6	28	20	1	6	0	0	0	0	0	6	80	33	0	9	2	0	0	0	0	19	54	8	0	9	0	0	0	0	0	344
07:00	11	27	9	4	16	0	0	0	0	0	10	51	17	4	10	1	0	0	0	0	4	74	34	0	5	4	0	0	0	0	20	56	2	1	5	0	0	0	0	0	365
07:15	11	27	6	6	22	1	0	0	0	1	13	38	10	6	3	2	0	0	0	1	6	76	35	0	6	4	0	0	0	0	18	70	6	1	6	0	0	0	0	0	375
07:30	12	32	12	6	19	1	0	0	0	0	19	46	17	9	7	7	0	0	0	1	4	92	40	0	11	4	0	0	0	1	20	51	4	1	9	1	0	0	0	0	426
07:45	20	46	10	14	26	4	0	0	0	1	28	67	10	7	2	3	0	0	0	1	5	94	54	0	11	5	0	0	0	0	22	96	10	0	17	0	0	0	0	0	553
08:00	**21**	**52**	**14**	**7**	**20**	**2**	**0**	**0**	**0**	**1**	**31**	**83**	**19**	**5**	**8**	**3**	**0**	**0**	**0**	**4**	**8**	**94**	**50**	**0**	**8**	**5**	**0**	**0**	**0**	**1**	**17**	**107**	**13**	**2**	**7**	**0**	**0**	**0**	**0**	**0**	**582**
08:15	**22**	**57**	**18**	**11**	**18**	**2**	**0**	**0**	**0**	**0**	**37**	**79**	**29**	**8**	**8**	**7**	**0**	**0**	**0**	**1**	**3**	**100**	**55**	**0**	**8**	**4**	**0**	**0**	**0**	**0**	**23**	**106**	**13**	**1**	**8**	**1**	**0**	**0**	**0**	**0**	**619**
08:30	**14**	**53**	**17**	**9**	**9**	**3**	**0**	**0**	**0**	**0**	**37**	**106**	**24**	**9**	**7**	**3**	**0**	**0**	**0**	**0**	**8**	**78**	**61**	**0**	**12**	**6**	**0**	**0**	**0**	**0**	**29**	**130**	**12**	**0**	**13**	**0**	**0**	**0**	**0**	**1**	**641**
08:45	**30**	**36**	**15**	**7**	**20**	**5**	**0**	**0**	**0**	**2**	**25**	**88**	**21**	**10**	**10**	**2**	**0**	**0**	**0**	**2**	**11**	**73**	**44**	**0**	**12**	**6**	**0**	**0**	**0**	**0**	**28**	**128**	**6**	**0**	**10**	**0**	**0**	**0**	**0**	**0**	**591**
09:00	23	27	25	10	10	4	0	0	0	0	29	103	28	4	10	2	0	0	0	0	4	67	50	0	9	7	0	0	0	1	39	100	7	2	19	2	0	0	0	0	582
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	24	31	12	4	12	2	0	0	0	0	31	124	12	2	10	1	0	0	0	1	15	35	36	1	2	1	0	0	0	0	24	180	10	0	18	1	0	0	0	0	589
12:00	40	36	16	10	13	0	0	0	0	0	23	128	27	8	10	1	0	0	0	0	17	45	39	1	7	1	0	0	0	0	29	165	14	1	10	2	0	0	0	0	643
12:15	29	31	20	9	8	3	0	0	0	0	17	121	39	8	13	2	0	0	0	0	17	43	39	0	15	4	0	0	0	0	18	182	12	1	1	0	0	0	0	0	632
12:30	32	35	17	8	5	2	0	0	0	0	38	126	17	3	13	1	0	0	0	0	19	41	40	1	6	1	0	0	0	0	24	193	13	0	3	1	0	0	0	0	639
12:45	**29**	**42**	**20**	**4**	**14**	**1**	**0**	**0**	**0**	**0**	**30**	**133**	**23**	**6**	**8**	**2**	**0**	**0**	**0**	**0**	**18**	**38**	**34**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**29**	**155**	**12**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**604**
13:00	**35**	**37**	**17**	**5**	**18**	**4**	**0**	**0**	**0**	**0**	**40**	**152**	**40**	**9**	**10**	**4**	**0**	**0**	**0**	**0**	**16**	**53**	**38**	**1**	**6**	**0**	**0**	**0**	**0**	**0**	**24**	**201**	**13**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**727**
13:15	**37**	**28**	**12**	**10**	**7**	**2**	**0**	**0**	**0**	**0**	**23**	**120**	**42**	**6**	**12**	**1**	**0**	**0**	**0**	**0**	**13**	**55**	**41**	**0**	**7**	**0**	**0**	**0**	**0**	**0**	**24**	**177**	**11**	**1**	**5**	**0**	**0**	**0**	**0**	**0**	**634**
13:30	**38**	**43**	**13**	**6**	**21**	**1**	**0**	**0**	**0**	**0**	**23**	**163**	**39**	**7**	**13**	**1**	**0**	**0**	**0**	**0**	**13**	**47**	**35**	**0**	**3**	**1**	**0**	**0**	**0**	**0**	**22**	**172**	**12**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**673**
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	41	60	23	5	16	1	0	0	0	3	30	123	53	8	7	4	0	0	0	0	28	60	30	0	15	4	0	0	0	0	28	160	18	4	13	0	0	0	0	2	736
15:30	37	91	23	5	10	0	0	0	0	0	29	143	50	6	12	3	0	0	0	0	19	67	45	1	7	6	0	0	0	1	35	150	16	0	18	0	0	0	0	1	775
15:45	44	87	28	6	8	0	0	0	0	0	32	126	33	8	12	3	0	0	0	2	25	65	44	0	12	5	0	0	0	0	19	150	6	0	25	1	0	0	0	0	741
16:00	**56**	**110**	**35**	**6**	**9**	**2**	**0**	**0**	**0**	**1**	**46**	**140**	**41**	**13**	**13**	**4**	**0**	**0**	**0**	**0**	**17**	**70**	**38**	**0**	**5**	**4**	**0**	**0**	**0**	**0**	**25**	**130**	**17**	**2**	**15**	**2**	**0**	**0**	**0**	**1**	**802**
16:15	**50**	**95**	**32**	**5**	**13**	**2**	**0**	**0**	**0**	**2**	**51**	**165**	**42**	**5**	**7**	**9**	**0**	**0**	**0**	**0**	**20**	**74**	**39**	**1**	**15**	**3**	**0**	**0**	**0**	**0**	**33**	**156**	**11**	**0**	**14**	**0**	**0**	**0**	**0**	**0**	**844**
16:30	**49**	**89**	**23**	**3**	**7**	**0**	**0**	**0**	**0**	**0**	**38**	**135**	**45**	**8**	**16**	**5**	**0**	**0**	**0**	**0**	**13**	**65**	**47**	**0**	**8**	**4**	**0**	**0**	**0**	**0**	**32**	**126**	**11**	**1**	**14**	**0**	**0**	**0**	**0**	**0**	**739**
16:45	**30**	**79**	**23**	**6**	**10**	**1**	**0**	**0**	**0**	**0**	**59**	**147**	**56**	**11**	**17**	**4**	**0**	**0**	**0**	**0**	**24**	**70**	**44**	**1**	**11**	**1**	**0**	**0**	**0**	**1**	**19**	**162**	**18**	**1**	**11**	**0**	**0**	**0**	**0**	**0**	**806**
17:00	42	92	32	3	9	2	0	0	0	0	50	152	46	7	12	3	0	0	0	0	21	64	41	1	8	0	0	0	0	0	32	142	11	0	15	0	0	0	0	0	785
17:15	45	105	24	4	4	1	0	0	0	0	41	160	45	5	8	5	0	0	0	0	12	64	35	1	6	0	0	0	0	0	21	167	13	0	12	0	0	0	0	0	778
17:30	44	88	29	2	5	0	0	0	0	0	38	148	50	4	8	6	0	0	0	0	17	45	43	1	11	1	0	0	0	0	26	146	9	2	9	0	0	0	0	0	732
17:45	26	98	24	4	4	1	0	0	0	0	48	158	63	4	10	4	0	0	0	2	15	58	30	0	8	0	0	0	0	0	25	120	15	1	8	0	0	0	0	0	726
18:00	44	80	27	3	3	0	0	0	0	0	35	139	31	3	4	4	0	0	0	0	19	55	45	0	7	0	0	0	0	0	22	110	16	0	8	0	0	0	0	0	655
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

TMC Tabular Report

Bowmanville Av (R.R.57) @ Baseline Rd

TMC No: 0570300000 **Intersection ID:** 6164 **Count ID:** 35702018207 **Count Date:** 11/19/2019, Tue

AM Peak 07:45

Ped.: NW 1, NE 3, SE 2, SW 3

Leg	Movement	Cars	Trucks	Trucks %	PHF
North	↵ (U-turn / right)	70	26	27%	0.86
North	↓	652	105	14%	0.91
North	↳ (left)	41	15	27%	0.82
North	↑ (exit)	376	133		
West	← (exit)	288	101		
West	↱	54	31	36%	0.56
West	→	80	15	16%	0.72
West	↴	196	38	16%	0.82
East	↰	37	28	43%	0.81
East	←	106	37	26%	0.83
East	↲	79	24	23%	0.76
East	→ (exit)	135	43		
South	↓ (exit)	927	167		
South	↰	112	38	25%	0.94
South	↑	285	74	21%	0.99
South	↱	14	13	48%	0.52

MD Peak 11:45

Ped.: NW 1, NE 2, SE 2, SW 2

Leg	Movement	Cars	Trucks	Trucks %	PHF
North	↵ (U-turn / right)	71	23	24%	0.84
North	↓	284	76	21%	0.87
North	↳ (left)	71	24	25%	0.79
North	↑ (exit)	382	101		
West	← (exit)	348	96		
West	↱	66	25	27%	0.84
West	→	116	34	23%	0.89
West	↴	123	40	25%	0.93
East	↰	56	10	15%	0.75
East	←	143	45	24%	0.90
East	↲	42	20	32%	0.78
East	→ (exit)	212	69		
South	↓ (exit)	449	136		
South	↰	134	28	17%	0.81
South	↑	260	66	20%	0.93
South	↱	25	11	31%	0.90

PM Peak 16:45

Ped.: NW 2, NE 2, SE 1, SW 7

Leg	Movement	Cars	Trucks	Trucks %	PHF
North	↵ (U-turn / right)	102	19	16%	0.86
North	↓	368	82	18%	0.87
North	↳ (left)	64	16	20%	0.77
North	↑ (exit)	749	190		
West	← (exit)	426	88		
West	↱	116	40	26%	0.83
West	→	165	44	21%	0.89
West	↴	154	41	21%	0.80
East	↰	73	14	16%	0.78
East	←	186	42	18%	0.89
East	↲	43	8	16%	0.75
East	→ (exit)	284	80		
South	↓ (exit)	565	131		
South	↰	138	27	16%	0.83
South	↑	560	136	20%	0.93
South	↱	55	20	27%	0.78

Total Count 8 hours*

Ped.: NW 14, NE 21, SE 15, SW 24

Leg	Movement	Cars	Trucks	Trucks %
North	↵ (U-turn / right)	599	159	21%
North	↓	3307	647	16%
North	↳ (left)	421	137	25%
North	↑ (exit)	3466	977	
West	← (exit)	2587	682	
West	↱	531	204	28%
West	→	892	221	20%
West	↴	1217	310	20%
East	↰	419	134	24%
East	←	1093	278	20%
East	↲	419	137	25%
East	→ (exit)	1545	450	
South	↓ (exit)	4943	1094	
South	↰	895	245	21%
South	↑	2516	639	20%
South	↱	232	92	28%

TMC 15 Min Report

Bowmanville Av (R.R.57) @ Baseline Rd

TMC No: 0570300000 **Intersection ID:** 6164 **Count ID:** 35702018207 **Count Date:** 11/19/2019, Tue

	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
Time	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period 1																																									
06:00	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*	0*	0*	0*	0*	0*	0*	0*
06:15	5	129	9	2	18	2	0	0	0	0	13	16	4	5	6	0	0	0	0	0	8	25	1	12	3	0	0	0	0	0	3	3	31	4	1	18	0	0	0	0	318
06:30	8	135	12	0	23	3	0	0	0	0	15	15	4	10	7	2	0	0	0	0	9	22	2	5	13	0	0	0	0	0	6	5	34	0	5	15	0	0	0	0	350
06:45	5	147	10	0	25	3	0	0	0	0	15	25	6	7	4	2	0	0	0	0	10	24	1	8	12	1	0	0	0	0	2	18	59	1	3	24	0	0	0	0	412
07:00	13	152	9	0	21	3	0	0	0	0	10	21	11	2	5	6	0	0	0	0	17	33	2	5	14	0	0	0	0	0	8	17	40	4	7	10	0	0	0	0	410
07:15	7	126	14	0	15	1	0	0	0	0	16	26	5	4	7	3	0	0	0	0	15	29	3	4	10	2	0	0	0	0	5	16	40	0	4	16	0	0	0	0	368
07:30	8	132	8	4	27	2	0	0	0	1	15	15	10	4	5	10	0	0	0	0	22	41	5	8	20	3	0	0	0	0	5	8	67	3	5	12	0	0	0	0	440
07:45	**9**	**177**	**16**	**2**	**30**	**2**	**0**	**0**	**0**	**1**	**27**	**16**	**7**	**7**	**9**	**5**	**0**	**0**	**0**	**2**	**27**	**69**	**3**	**13**	**21**	**2**	**0**	**0**	**0**	**3**	**9**	**14**	**48**	**7**	**4**	**15**	**0**	**0**	**0**	**0**	**545**
08:00	**11**	**152**	**15**	**3**	**23**	**8**	**0**	**0**	**0**	**1**	**17**	**26**	**12**	**4**	**9**	**6**	**0**	**0**	**0**	**0**	**31**	**69**	**2**	**8**	**22**	**3**	**0**	**0**	**0**	**0**	**11**	**18**	**65**	**7**	**3**	**6**	**0**	**0**	**0**	**0**	**532**
08:15	**12**	**154**	**14**	**5**	**33**	**13**	**0**	**0**	**0**	**0**	**23**	**33**	**7**	**5**	**10**	**8**	**0**	**0**	**0**	**0**	**31**	**74**	**5**	**9**	**17**	**8**	**0**	**0**	**0**	**0**	**5**	**21**	**37**	**8**	**2**	**6**	**0**	**0**	**0**	**0**	**540**
08:30	**9**	**169**	**25**	**5**	**19**	**3**	**0**	**0**	**0**	**1**	**12**	**31**	**11**	**8**	**9**	**9**	**0**	**0**	**0**	**0**	**23**	**73**	**4**	**8**	**14**	**0**	**0**	**0**	**0**	**0**	**29**	**27**	**46**	**9**	**6**	**11**	**0**	**0**	**0**	**1**	**562**
08:45	10	128	22	3	26	9	0	0	0	0	14	42	10	5	6	7	0	0	0	1	31	54	3	2	9	2	0	0	0	1	13	19	41	6	7	6	0	0	0	1	478
09:00	10	81	20	2	26	6	0	0	0	1	12	41	12	8	6	6	0	0	0	0	26	77	7	7	16	1	0	0	0	0	13	22	34	7	4	9	0	0	0	1	455
09:15	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*	0*	0*	0*	0*	0*	0*	0*
Period 2																																									
11:30	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*	0*	0*	0*	0*	0*	0*	0*
11:45	**15**	**74**	**21**	**7**	**20**	**7**	**0**	**0**	**0**	**1**	**14**	**38**	**16**	**6**	**10**	**6**	**0**	**0**	**0**	**0**	**26**	**70**	**4**	**7**	**17**	**4**	**0**	**0**	**0**	**0**	**21**	**23**	**31**	**5**	**14**	**10**	**0**	**0**	**0**	**0**	**467**
12:00	**16**	**51**	**14**	**5**	**16**	**6**	**0**	**0**	**0**	**0**	**11**	**33**	**13**	**6**	**9**	**1**	**0**	**0**	**0**	**2**	**36**	**73**	**6**	**6**	**15**	**3**	**0**	**0**	**0**	**2**	**18**	**37**	**27**	**7**	**5**	**9**	**0**	**0**	**0**	**0**	**427**
12:15	**17**	**87**	**20**	**5**	**17**	**6**	**0**	**0**	**0**	**1**	**7**	**37**	**12**	**3**	**15**	**2**	**0**	**0**	**0**	**0**	**42**	**55**	**7**	**8**	**22**	**3**	**0**	**0**	**0**	**0**	**10**	**29**	**35**	**3**	**5**	**7**	**0**	**0**	**0**	**1**	**456**
12:30	**23**	**72**	**16**	**7**	**23**	**4**	**0**	**0**	**0**	**0**	**10**	**35**	**15**	**5**	**11**	**1**	**0**	**0**	**0**	**0**	**30**	**62**	**8**	**7**	**12**	**1**	**0**	**0**	**0**	**0**	**17**	**27**	**30**	**10**	**10**	**14**	**0**	**0**	**0**	**0**	**450**
12:45	15	71	17	7	20	6	0	0	0	1	15	42	16	4	9	7	0	0	0	0	30	68	5	6	11	3	0	0	0	0	22	36	22	6	9	8	0	0	0	0	456
13:00	22	75	20	10	26	4	0	0	0	1	12	29	12	3	11	6	0	0	0	0	24	59	5	9	18	3	0	0	0	1	10	27	30	2	5	6	0	0	0	2	432
13:15	17	76	21	5	16	7	0	0	0	0	9	22	16	3	17	6	0	0	0	0	28	35	3	5	9	1	0	0	0	0	26	31	30	8	9	8	0	0	0	0	408
13:30	9	59	16	6	15	5	0	0	0	1	12	29	13	3	7	7	0	0	0	0	21	69	6	11	19	2	0	0	0	1	16	33	23	9	10	8	0	0	0	3	413
Period 3																																									
13:45	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*	0*	0*	0*	0*	0*	0*	0*
15:00	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*	0*	0*	0*	0*	0*	0*	0*
15:15	9	76	26	6	20	4	0	0	0	0	10	35	10	5	7	5	0	0	0	0	32	81	11	11	21	4	0	0	0	0	19	26	34	8	10	7	0	0	0	0	477
15:30	11	83	19	7	10	3	0	0	0	1	11	37	13	3	8	1	0	0	0	2	39	86	14	9	22	4	0	0	0	2	13	35	33	12	6	10	0	0	0	1	495
15:45	20	65	24	5	8	8	0	0	0	1	10	40	22	1	6	1	0	0	0	1	36	110	11	2	35	8	0	0	0	0	21	45	33	6	7	9	0	0	0	0	535
16:00	13	85	22	3	20	11	0	0	0	1	14	45	15	6	8	5	0	0	0	1	30	96	15	10	24	2	0	0	0	1	23	42	49	7	11	8	0	0	0	0	567
16:15	15	106	21	6	19	2	0	0	0	1	17	47	15	4	12	2	0	0	0	1	34	124	12	9	29	2	0	0	0	1	31	48	41	8	4	4	0	0	0	0	615
16:30	19	97	22	9	18	7	0	0	0	2	10	39	17	2	6	3	0	0	0	1	32	144	11	5	33	3	0	0	0	0	19	38	37	9	9	8	0	0	0	1	601
16:45	**19**	**82**	**20**	**7**	**22**	**4**	**0**	**0**	**0**	**1**	**8**	**47**	**7**	**2**	**8**	**8**	**0**	**0**	**0**	**1**	**39**	**128**	**11**	**5**	**30**	**8**	**0**	**0**	**0**	**1**	**21**	**40**	**37**	**12**	**16**	**9**	**0**	**0**	**0**	**1**	**594**
17:00	**12**	**80**	**23**	**6**	**23**	**8**	**0**	**0**	**0**	**1**	**7**	**48**	**15**	**2**	**10**	**2**	**0**	**0**	**0**	**0**	**32**	**141**	**18**	**5**	**38**	**6**	**0**	**0**	**0**	**4**	**28**	**35**	**36**	**7**	**6**	**9**	**0**	**0**	**0**	**1**	**603**
17:15	**11**	**109**	**30**	**2**	**20**	**5**	**0**	**0**	**0**	**0**	**15**	**48**	**25**	**0**	**16**	**3**	**0**	**0**	**0**	**0**	**26**	**144**	**14**	**8**	**44**	**4**	**0**	**0**	**0**	**0**	**29**	**47**	**46**	**12**	**12**	**15**	**0**	**0**	**0**	**0**	**685**
17:30	**22**	**97**	**29**	**1**	**17**	**2**	**0**	**0**	**0**	**0**	**13**	**43**	**26**	**4**	**8**	**1**	**0**	**0**	**0**	**0**	**41**	**147**	**12**	**9**	**24**	**2**	**0**	**0**	**0**	**2**	**38**	**43**	**35**	**9**	**10**	**8**	**0**	**0**	**0**	**0**	**643**
17:45	13	106	23	3	16	3	0	0	0	0	17	47	30	3	8	0	0	0	0	2	37	138	11	7	26	5	0	0	0	5	18	22	29	4	7	4	0	0	0	0	584
18:00	16	74	21	4	15	2	0	0	0	3	8	45	12	3	9	3	0	0	0	1	30	96	10	17	19	2	0	0	0	0	22	40	37	4	5	1	0	0	0	1	500
18:15	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*	0*	0*	0*	0*	0*	0*	0*
18:30	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*	0*	0*	0*	0*	0*	0*	0*

Appendix D
DRTPM Documents

Population and Employment Estimates by 2013 Durham Transportation Zone

			2017 (2017 Transit DC)		Hybrid 2031 Forecast	
Durham Transportation Zone (DTZ) 2013	DTZ 2013 Number in Model	Municipality	Population	Employment	Population	Employment
6011	2001	Pickering	218	53	260	49
6012	2002	Pickering	372	91	349	80
6020	2003	Pickering	1,071	142	1,146	126
6030	2004	Pickering	946	268	895	279
6040	2005	Pickering	6	0	6	1,360
6050	2006	Pickering	33	61	31	65
6060	2007	Pickering	18	1	17	0
6070	2008	Pickering	97	8	89	7
6081	2009	Pickering	122	4	112	3
6082	2010	Pickering	21	1	20	1
6091	2011	Pickering	15	1	15	1,099
6092	2012	Pickering	12	0	12	3,627
6101	2013	Pickering	3	0	3	2,187
6102	2014	Pickering	0	0	0	3,473
6111	2015	Pickering	15	1	15	971
6112	2016	Pickering	9	0	9	232
6113	2017	Pickering	204	22	190	20
6114	2018	Pickering	0	0	0	25
6121	2019	Pickering	12	25	11	25
6122	2020	Pickering	240	13	226	11
6123	2021	Pickering	27	11	34	11
6124	2022	Pickering	24	11	28	11
6131	2023	Pickering	3	0	3,865	1,325
6132	2024	Pickering	3	0	1,815	2,611
6133	2025	Pickering	40	1	3,970	816
6141	2026	Pickering	3	0	681	1,249
6142	2027	Pickering	3	0	4,112	813
6143	2028	Pickering	6	0	1,245	1,069
6144	2029	Pickering	8	0	3,208	634
6151	2030	Pickering	12	0	4,507	892
6152	2031	Pickering	12	0	1,043	547
6161	2032	Pickering	12	0	2,418	713
6162	2033	Pickering	12	0	805	169
6170	2034	Pickering	367	78	341	78
6180	2035	Pickering	137	60	210	59
6190	2036	Pickering	131	24	210	25
6201	2037	Pickering	0	0	485	96
6202	2038	Pickering	21	1	5,906	906
6211	2039	Pickering	9	0	4,579	952
6212	2040	Pickering	18	1	4,537	1,050
6221	2041	Pickering	43	1	3,774	766
6222	2042	Pickering	6	0	1,019	212
6231	2043	Pickering	32	1	853	408
6232	2044	Pickering	21	1	311	130
6241	2045	Pickering	3	0	3	0
6242	2046	Pickering	222	18	218	16
6243	2047	Pickering	24	1	28	1
6244	2048	Pickering	40	6	36	6
6245	2049	Pickering	12	0	11	0
6246	2050	Pickering	15	26	14	25
6251	2051	Pickering	40	1	36	1
6252	2052	Pickering	67	22	64	22
6253	2053	Pickering	6	0	6	0
6261	2054	Pickering	44	2	115	23
6262	2055	Pickering	0	0	1,791	373
6263	2056	Pickering	0	0	2,029	478
6264	2057	Pickering	0	0	1,538	264
6265	2058	Pickering	0	0	1,474	307
6271	2059	Pickering	0	0	2,083	296
6272	2060	Pickering	6	0	374	73
6273	2061	Pickering	9	0	684	150
6281	2062	Pickering	1,001	80	2,481	124
6282	2063	Pickering	30	1	1,230	0
6283	2064	Pickering	17	24	3,412	0
6291	2065	Pickering	260	79	1,332	0
6292	2066	Pickering	671	81	2,418	14
6293	2067	Pickering	400	126	0	0
6294	2068	Pickering	66	6	618	12
6301	2069	Pickering	1,280	110	1,432	0
6302	2070	Pickering	1,404	129	1,334	107
6310	2071	Pickering	3,731	429	3,517	364
6320	2072	Pickering	6,578	526	7,538	63
6331	2073	Pickering	1,388	275	2,381	114
6332	2074	Pickering	416	52	417	258

			2017 (2017 Transit DC)		Hybrid 2031 Forecast	
Durham Transportation Zone (DTZ) 2013	DTZ 2013 Number in Model	Municipality	Population	Employment	Population	Employment
6341	2075	Pickering	290	53	405	49
6342	2076	Pickering	4,865	352	4,772	291
6351	2077	Pickering	2,204	214	2,139	182
6352	2078	Pickering	857	64	1,073	12
6353	2079	Pickering	3,275	220	3,114	177
6354	2080	Pickering	1,538	389	2,074	991
6361	2081	Pickering	1,667	131	1,817	112
6362	2082	Pickering	2,307	211	2,505	70
6371	2083	Pickering	2,731	224	2,974	40
6372	2084	Pickering	1,742	133	1,655	111
6381	2085	Pickering	2,336	219	2,744	0
6382	2086	Pickering	3,524	248	3,525	205
6383	2087	Pickering	119	12	105	0
6391	2088	Pickering	2,287	233	2,175	197
6392	2089	Pickering	2,818	220	2,675	179
6393	2090	Pickering	766	185	694	187
6394	2091	Pickering	381	106	363	91
6395	2092	Pickering	536	246	1,219	110
6396	2093	Pickering	357	136	1,776	141
6401	2094	Pickering	1,410	118	1,719	106
6402	2095	Pickering	813	206	2,298	96
6403	2096	Pickering	249	209	2,035	271
6410	2097	Pickering	3	444	6,218	1,121
6420	2098	Pickering	2	2,865	8,478	7,928
6431	2099	Pickering	4,281	684	5,510	1,456
6432	2100	Pickering	2,217	219	3,067	291
6440	2101	Pickering	3,496	274	2,323	78
6451	2102	Pickering	459	1,138	9,189	5,281
6452	2103	Pickering	1,340	398	3,126	189
6461	2104	Pickering	1,926	178	1,831	150
6462	2105	Pickering	1,219	119	1,272	101
6463	2106	Pickering	804	325	2,587	592
6464	2107	Pickering	1,085	103	1,032	85
6465	2108	Pickering	228	368	8,528	884
6471	2109	Pickering	2,711	270	2,726	231
6472	2110	Pickering	0	1,006	223	2,420
6473	2111	Pickering	64	288	84	255
6480	2112	Pickering	771	827	4,647	781
6491	2113	Pickering	3,106	211	3,229	180
6492	2114	Pickering	988	96	1,426	175
6493	2115	Pickering	3,211	264	3,123	224
6501	2116	Pickering	1,772	149	3,597	403
6502	2117	Pickering	1,827	197	4,051	245
6511	2118	Pickering	14	481	5,292	2,552
6512	2119	Pickering	0	619	5,104	793
6513	2120	Pickering	0	422	0	836
6521	2121	Pickering	690	94	726	75
6522	2122	Pickering	4,251	447	4,409	385
6531	2123	Pickering	5	89	3	168
6532	2124	Pickering	0	2,028	0	1,264
6533	2125	Pickering	49	436	48	766
6541	2126	Pickering	210	1,172	10	434
6542	2127	Pickering	0	805	0	2,090
6551	2128	Pickering	0	1,688	0	1,683
6552	2129	Pickering	0	2,829	0	3,091
6553	2130	Pickering	0	1,726	0	1,457
6554	2131	Pickering	0	863	0	1,183
6561	2132	Pickering	0	2,419	0	3,455
6562	2133	Pickering	0	1,483	0	128
6570	2134	Ajax	164	36	165	41
6580	2135	Ajax	128	8	129	8
6590	2136	Ajax	278	246	293	284
6601	2137	Ajax	806	28	1,395	320
6602	2138	Ajax	1,288	479	2,177	799
6603	2139	Ajax	961	225	3,114	949
6604	2140	Ajax	886	112	1,946	226
6605	2141	Ajax	1,611	84	1,659	9
6606	2142	Ajax	2,967	211	3,779	225
6611	2143	Ajax	2,256	226	3,029	169
6612	2144	Ajax	5,089	347	5,423	204
6613	2145	Ajax	25	715	21	633
6621	2146	Ajax	1,286	115	2,167	367
6622	2147	Ajax	742	57	1,174	127
6631	2148	Ajax	2,012	281	1,885	397
6632	2149	Ajax	1,901	301	3,003	0
6633	2150	Ajax	859	48	1,348	56

			2017 (2017 Transit DC)		Hybrid 2031 Forecast	
Durham Transportation Zone (DTZ) 2013	DTZ 2013 Number in Model	Municipality	Population	Employment	Population	Employment
6634	2151	Ajax	1,427	69	2,006	97
6640	2152	Ajax	557	484	783	532
6650	2153	Ajax	2,478	224	2,965	304
6661	2154	Ajax	6	0	6	0
6662	2155	Ajax	13	4	15	4
6670	2156	Ajax	1,929	306	1,940	361
6681	2157	Ajax	2,738	197	2,878	247
6682	2158	Ajax	3,442	233	3,401	52
6690	2159	Ajax	6,445	738	6,910	264
6700	2160	Ajax	0	441	0	1,062
6710	2161	Ajax	13	75	0	1,530
6720	2162	Ajax	4,643	564	5,372	913
6730	2163	Ajax	40	130	39	149
6741	2164	Ajax	3,248	302	3,540	260
6742	2165	Ajax	441	282	580	401
6751	2166	Ajax	3,307	326	3,598	0
6752	2167	Ajax	275	51	582	75
6753	2168	Ajax	3,469	269	3,657	63
6754	2169	Ajax	1,453	97	1,509	0
6755	2170	Ajax	683	71	488	1
6761	2171	Ajax	3,617	437	3,914	303
6762	2172	Ajax	0	273	2,574	269
6763	2173	Ajax	1,482	456	3,111	353
6771	2174	Ajax	0	115	0	452
6772	2175	Ajax	0	1,740	10,105	4,113
6781	2176	Ajax	343	10	0	351
6782	2177	Ajax	694	359	5,696	2,277
6790	2178	Ajax	0	230	0	847
6801	2179	Ajax	1,070	200	1,115	198
6802	2180	Ajax	0	327	0	400
6811	2181	Ajax	253	108	545	164
6812	2182	Ajax	1,853	167	1,929	4
6813	2183	Ajax	382	27	417	35
6821	2184	Ajax	724	110	908	36
6822	2185	Ajax	1,628	157	1,782	263
6823	2186	Ajax	1,380	138	1,432	2
6824	2187	Ajax	1,844	135	1,821	158
6825	2188	Ajax	0	82	560	79
6826	2189	Ajax	831	86	851	57
6831	2190	Ajax	136	250	931	5
6832	2191	Ajax	1,138	392	2,057	378
6841	2192	Ajax	642	63	646	6
6842	2193	Ajax	1,314	115	1,651	73
6851	2194	Ajax	996	115	1,701	16
6852	2195	Ajax	346	213	480	712
6860	2196	Ajax	3	25	0	1,087
6870	2197	Ajax	13	4	15	4
6881	2198	Ajax	0	910	5,675	1,308
6882	2199	Ajax	335	2,054	1,720	5,820
6883	2200	Ajax	747	1,535	11,339	1,762
6890	2201	Ajax	6,142	659	4,931	351
6901	2202	Ajax	0	164	0	445
6902	2203	Ajax	0	121	0	2,504
6910	2204	Ajax	44	63	45	73
6921	2205	Ajax	0	925	0	541
6922	2206	Ajax	0	4,195	1,342	5,532
6930	2207	Ajax	4,166	679	4,207	803
6940	2208	Ajax	2,362	1,807	6,422	2,595
6951	2209	Ajax	3,864	547	2,534	349
6952	2210	Ajax	3,426	208	2,096	56
6953	2211	Ajax	2,968	262	2,941	130
6961	2212	Ajax	5,328	331	5,336	386
6962	2213	Ajax	3,873	273	3,743	312
6971	2214	Ajax	3,129	247	4,027	122
6972	2215	Ajax	932	89	1,063	107
6973	2216	Ajax	7,689	825	8,199	262
6980	2217	Ajax	134	129	150	149
6991	2218	Whitby	209	106	196	111
6992	2219	Whitby	100	102	94	108
7001	2220	Whitby	397	65	354	63
7002	2221	Whitby	225	46	241	52
7011	2222	Whitby	126	4	112	4
7012	2223	Whitby	97	16	86	16
7021	2224	Whitby	83	23	254	48
7022	2225	Whitby	160	44	3,637	429
7031	2226	Whitby	102	148	5,780	747

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Durham Transportation Zone (DTZ) 2013	DTZ 2013 Number in Model	Municipality	Population	Employment	Population	Employment
7032	2227	Whitby	0	0	64	2
7033	2228	Whitby	102	148	6,428	858
7041	2229	Whitby	0	1	1,508	53
7042	2230	Whitby	9	132	54	621
7051	2231	Whitby	13	2	279	29
7052	2232	Whitby	113	22	889	207
7061	2233	Whitby	2,380	282	3,829	660
7062	2234	Whitby	4,539	525	6,116	455
7063	2235	Whitby	1,206	140	947	521
7064	2236	Whitby	1,281	167	1,391	481
7065	2237	Whitby	3,705	347	4,471	220
7071	2238	Whitby	1,730	87	1,719	0
7072	2239	Whitby	4,065	372	5,504	191
7073	2240	Whitby	15	1	13	0
7074	2241	Whitby	3	17	3	22
7081	2242	Whitby	3	0	3	0
7082	2243	Whitby	71	2	64	2
7091	2244	Whitby	46	2	43	1
7092	2245	Whitby	237	29	241	30
7093	2246	Whitby	42	5	0	2,180
7101	2247	Whitby	373	38	878	888
7102	2248	Whitby	494	50	1,873	955
7103	2249	Whitby	1,863	338	1,914	555
7111	2250	Whitby	303	30	667	1,598
7112	2251	Whitby	3	90	3	315
7113	2252	Whitby	22	1	21	915
7120	2253	Whitby	15	41	10	1,225
7131	2254	Whitby	9	50	11	612
7132	2255	Whitby	18	1	16	1,390
7140	2256	Whitby	9	0	8	0
7151	2257	Whitby	20	68	760	0
7152	2258	Whitby	9	29	806	117
7153	2259	Whitby	68	227	2,472	42
7161	2260	Whitby	1,858	106	1,602	62
7162	2261	Whitby	0	845	2,502	2,585
7171	2262	Whitby	2,362	496	2,548	7
7172	2263	Whitby	654	56	647	0
7173	2264	Whitby	2,491	302	2,450	296
7174	2265	Whitby	124	26	2,506	2,803
7175	2266	Whitby	0	1,089	2,961	3,741
7181	2267	Whitby	6	69	5	551
7182	2268	Whitby	1,864	537	1,346	327
7183	2269	Whitby	15	11	13	735
7184	2270	Whitby	774	112	603	1,204
7190	2271	Whitby	15	1	13	0
7201	2272	Whitby	5	14	0	1,085
7202	2273	Whitby	8	1	1,343	0
7203	2274	Whitby	13	1	3,830	152
7211	2275	Whitby	5,768	407	6,081	59
7212	2276	Whitby	2,940	352	2,890	358
7221	2277	Whitby	1,723	401	1,593	44
7222	2278	Whitby	2,675	206	2,737	48
7223	2279	Whitby	213	73	297	633
7231	2280	Whitby	550	53	1,176	529
7232	2281	Whitby	4,030	387	4,579	145
7233	2282	Whitby	3,465	460	4,120	1,187
7241	2283	Whitby	2,271	481	2,562	225
7242	2284	Whitby	2,848	370	2,914	384
7243	2285	Whitby	2,190	259	1,939	46
7244	2286	Whitby	2,274	278	3,214	311
7251	2287	Whitby	3,500	327	3,599	106
7252	2288	Whitby	3,881	465	3,836	474
7253	2289	Whitby	1,273	98	1,917	191
7254	2290	Whitby	2,010	153	1,963	158
7260	2291	Whitby	62	17	50	727
7271	2292	Whitby	0	63	3	799
7272	2293	Whitby	17	4	1,484	67
7273	2294	Whitby	20	5	1,478	0
7281	2295	Whitby	3,701	290	3,632	298
7282	2296	Whitby	77	184	78	186
7291	2297	Whitby	2,514	174	2,437	172
7292	2298	Whitby	222	184	641	372
7301	2299	Whitby	1,612	174	1,602	177
7302	2300	Whitby	894	285	937	296
7303	2301	Whitby	557	91	1,281	6
7304	2302	Whitby	374	124	376	65

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7310	2303	Whitby	1,792	909	1,855	1,158
7321	2304	Whitby	1,142	228	852	0
7322	2305	Whitby	145	35	688	157
7323	2306	Whitby	143	70	395	66
7324	2307	Whitby	523	1,122	804	1,148
7325	2308	Whitby	1,365	127	1,294	124
7326	2309	Whitby	177	28	171	27
7330	2310	Whitby	1,376	1,021	3,876	908
7341	2311	Whitby	2,324	284	2,408	294
7342	2312	Whitby	2,070	168	2,046	169
7351	2313	Whitby	1,947	396	1,886	404
7352	2314	Whitby	774	61	368	1
7353	2315	Whitby	276	87	990	229
7354	2316	Whitby	1,960	186	1,896	186
7355	2317	Whitby	199	374	1,879	1,304
7361	2318	Whitby	2,053	193	2,014	194
7362	2319	Whitby	745	64	857	66
7371	2320	Whitby	1,256	98	1,224	99
7372	2321	Whitby	439	455	1,204	886
7373	2322	Whitby	306	174	593	303
7380	2323	Whitby	268	83	268	96
7390	2324	Whitby	254	143	280	549
7401	2325	Whitby	1,224	188	2,358	362
7402	2326	Whitby	3,019	316	2,981	320
7410	2327	Whitby	1,336	1,054	2,270	1,430
7420	2328	Whitby	2,144	252	2,140	156
7430	2329	Whitby	1,787	1,151	3,013	996
7441	2330	Whitby	613	50	592	50
7442	2331	Whitby	1,199	394	1,533	593
7451	2332	Whitby	588	92	540	22
7452	2333	Whitby	1,664	136	1,612	152
7453	2334	Whitby	0	459	0	572
7454	2335	Whitby	655	613	3,839	2,390
7455	2336	Whitby	984	63	1,176	2
7460	2337	Whitby	0	3,816	0	4,305
7471	2338	Whitby	428	1,050	3,008	2,946
7472	2339	Whitby	3,337	239	3,011	234
7473	2340	Whitby	132	30	387	273
7474	2341	Whitby	848	93	911	99
7480	2342	Whitby	0	941	0	1,564
7490	2343	Whitby	40	221	35	233
7500	2344	Whitby	40	14	35	14
7510	2345	Whitby	3	1,455	5,422	4,364
7520	2346	Whitby	257	143	2,410	760
7531	2347	Whitby	5,021	1,090	6,140	2,194
7532	2348	Whitby	2,728	526	4,362	944
7541	2349	Whitby	6	1,446	5	1,035
7542	2350	Whitby	12	1,338	1,580	1,538
7543	2351	Whitby	6	1,834	5	4,152
7551	2352	Whitby	3	790	0	1,002
7552	2353	Whitby	0	1,239	0	1,451
7553	2354	Whitby	74	1,815	72	2,030
7561	2355	Oshawa	269	35	262	45
7562	2356	Oshawa	154	24	144	32
7571	2357	Oshawa	55	45	50	57
7572	2358	Oshawa	48	73	45	95
7573	2359	Oshawa	46	1	45	1
7574	2360	Oshawa	102	31	102	41
7581	2361	Oshawa	8	0	7	0
7582	2362	Oshawa	15	0	14	0
7591	2363	Oshawa	10	20	678	107
7592	2364	Oshawa	50	1	770	101
7601	2365	Oshawa	3	0	954	130
7602	2366	Oshawa	102	13	820	111
7603	2367	Oshawa	0	0	144	18
7604	2368	Oshawa	8	5	758	109
7610	2369	Oshawa	120	27	120	36
7621	2370	Oshawa	8	0	7	0
7622	2371	Oshawa	10	0	9	0
7623	2372	Oshawa	0	5	284	64
7630	2373	Oshawa	78	7	293	36
7641	2374	Oshawa	81	2	475	60
7642	2375	Oshawa	6	0	227	30
7651	2376	Oshawa	8	0	7	0
7652	2377	Oshawa	6	0	5	0
7660	2378	Oshawa	21	1	38	39

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Durham Transportation Zone (DTZ) 2013	DTZ 2013 Number in Model	Municipality	Population	Employment	Population	Employment
7671	2379	Oshawa	7	0	12	0
7672	2380	Oshawa	16	23	14	38
7680	2381	Oshawa	39	9	38	10
7690	2382	Oshawa	28	43	28	55
7701	2383	Oshawa	0	0	0	75
7702	2384	Oshawa	141	44	137	338
7703	2385	Oshawa	44	13	553	241
7704	2386	Oshawa	0	0	0	631
7711	2387	Oshawa	181	75	1,490	611
7712	2388	Oshawa	265	110	1,531	0
7713	2389	Oshawa	157	65	725	0
7714	2390	Oshawa	0	0	0	15
7721	2391	Oshawa	483	114	0	1,668
7722	2392	Oshawa	262	61	1,759	24
7723	2393	Oshawa	634	147	1,823	0
7724	2394	Oshawa	1,801	65	2,315	58
7731	2395	Oshawa	1,009	65	1,406	297
7732	2396	Oshawa	798	48	921	58
7741	2397	Oshawa	13	8	87	24
7742	2398	Oshawa	16	24	14	33
7751	2399	Oshawa	134	3	1,427	214
7752	2400	Oshawa	63	7	1,668	233
7753	2401	Oshawa	0	8	2,254	781
7754	2402	Oshawa	0	2	2,351	627
7761	2403	Oshawa	4	0	5	0
7762	2404	Oshawa	3	10	2	12
7771	2405	Oshawa	0	9	2,426	591
7772	2406	Oshawa	0	6	1,829	446
7773	2407	Oshawa	0	0	1,269	302
7774	2408	Oshawa	0	0	2,159	515
7781	2409	Oshawa	17	9	17	375
7782	2410	Oshawa	25	16	13	423
7783	2411	Oshawa	6	3	7	139
7784	2412	Oshawa	41	26	34	927
7785	2413	Oshawa	70	50	83	1,775
7791	2414	Oshawa	737	550	0	4,720
7792	2415	Oshawa	900	673	3,324	68
7793	2416	Oshawa	1,092	67	1,500	5
7801	2417	Oshawa	1,071	49	1,952	123
7802	2418	Oshawa	1,419	66	1,455	93
7803	2419	Oshawa	1,453	233	1,028	90
7804	2420	Oshawa	347	56	1,231	32
7805	2421	Oshawa	369	59	1,380	119
7811	2422	Oshawa	2,346	159	2,353	185
7812	2423	Oshawa	2,457	181	3,703	278
7813	2424	Oshawa	129	33	579	78
7814	2425	Oshawa	2,146	150	3,138	80
7815	2426	Oshawa	2,108	306	3,996	1,203
7821	2427	Oshawa	3,832	981	2,953	1,689
7822	2428	Oshawa	0	248	4,119	4,110
7823	2429	Oshawa	156	17	266	0
7824	2430	Oshawa	3,472	481	3,355	550
7825	2431	Oshawa	1,435	108	2,054	164
7831	2432	Oshawa	0	4	0	17
7832	2433	Oshawa	1,648	109	1,538	126
7840	2434	Oshawa	3	201	3	974
7851	2435	Oshawa	1,087	252	992	295
7852	2436	Oshawa	1,757	140	1,649	162
7861	2437	Oshawa	931	228	1,207	180
7862	2438	Oshawa	1,009	215	962	259
7863	2439	Oshawa	675	166	4,009	561
7864	2440	Oshawa	932	199	2,205	90
7871	2441	Oshawa	3,390	314	2,599	432
7872	2442	Oshawa	807	147	1,292	74
7873	2443	Oshawa	3,390	314	2,872	233
7874	2444	Oshawa	1,883	101	1,833	120
7881	2445	Oshawa	187	278	1,791	1,161
7882	2446	Oshawa	748	136	806	743
7883	2447	Oshawa	3,947	264	5,219	342
7884	2448	Oshawa	1,499	191	5,103	873
7885	2449	Oshawa	3,127	178	4,211	78
7891	2450	Oshawa	1,650	105	3,782	1,354
7892	2451	Oshawa	1,449	108	1,953	0
7893	2452	Oshawa	3,014	438	3,958	401
7894	2453	Oshawa	1,833	404	2,103	480
7901	2454	Oshawa	1,693	134	1,604	156

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7902	2455	Oshawa	2,752	366	2,717	426
7911	2456	Oshawa	850	76	1,545	101
7912	2457	Oshawa	709	131	1,393	69
7920	2458	Oshawa	2,965	219	2,930	252
7931	2459	Oshawa	2,365	288	3,258	355
7932	2460	Oshawa	163	458	3,396	643
7941	2461	Oshawa	944	96	1,040	141
7942	2462	Oshawa	683	1,608	818	3,679
7950	2463	Oshawa	756	107	871	39
7960	2464	Oshawa	1,373	1,256	2,837	1,361
7971	2465	Oshawa	1,537	224	1,497	143
7972	2466	Oshawa	2,499	473	2,315	552
7981	2467	Oshawa	444	107	825	65
7982	2468	Oshawa	1,133	68	1,237	684
7990	2469	Oshawa	1,161	1,259	4,904	1,279
8001	2470	Oshawa	2,775	158	2,575	177
8002	2471	Oshawa	2,915	294	3,698	294
8011	2472	Oshawa	1,474	93	1,441	110
8012	2473	Oshawa	529	53	594	109
8013	2474	Oshawa	773	43	883	0
8014	2475	Oshawa	237	159	1,091	783
8015	2476	Oshawa	914	51	1,242	1
8016	2477	Oshawa	272	43	261	27
8021	2478	Oshawa	1,577	88	2,210	0
8022	2479	Oshawa	3,019	164	2,946	183
8031	2480	Oshawa	1,185	106	1,354	115
8032	2481	Oshawa	300	28	382	117
8033	2482	Oshawa	474	217	576	269
8034	2483	Oshawa	245	388	944	766
8041	2484	Oshawa	166	121	295	175
8042	2485	Oshawa	1,189	130	1,167	153
8043	2486	Oshawa	2,088	126	3,218	419
8044	2487	Oshawa	0	135	359	168
8045	2488	Oshawa	495	120	1,159	132
8050	2489	Oshawa	0	2,680	1,328	3,649
8060	2490	Oshawa	1,378	453	2,194	734
8071	2491	Oshawa	0	153	0	315
8072	2492	Oshawa	3,371	290	3,827	347
8081	2493	Oshawa	96	2,224	382	1,754
8082	2494	Oshawa	1,259	1,370	3,078	1,903
8083	2495	Oshawa	90	30	503	0
8084	2496	Oshawa	555	30	510	33
8091	2497	Oshawa	1,903	297	1,627	352
8092	2498	Oshawa	1,339	138	2,943	821
8093	2499	Oshawa	1,551	107	6,541	47
8101	2500	Oshawa	342	37	420	13
8102	2501	Oshawa	3,519	233	3,556	269
8103	2502	Oshawa	108	124	381	235
8104	2503	Oshawa	2,320	175	3,504	145
8105	2504	Oshawa	77	2	93	0
8106	2505	Oshawa	279	23	364	3
8111	2506	Oshawa	318	20	405	0
8112	2507	Oshawa	2,284	133	3,003	56
8113	2508	Oshawa	452	31	638	0
8114	2509	Oshawa	279	35	482	162
8115	2510	Oshawa	1,693	114	1,701	135
8120	2511	Oshawa	3	1,141	12,710	17,535
8130	2512	Oshawa	3,025	257	2,965	296
8141	2513	Oshawa	678	57	865	73
8142	2514	Oshawa	1,155	371	10,740	1,841
8151	2515	Oshawa	1,611	157	3,043	395
8152	2516	Oshawa	1,363	82	1,708	0
8161	2517	Oshawa	113	19	172	0
8162	2518	Oshawa	1,360	151	2,003	311
8163	2519	Oshawa	1,841	146	2,589	103
8171	2520	Oshawa	18	707	151	767
8172	2521	Oshawa	0	956	0	1,577
8173	2522	Oshawa	0	2,387	0	3,196
8180	2523	Oshawa	0	11,781	0	14,056
8191	2524	Oshawa	1,187	151	1,088	203
8192	2525	Oshawa	3,746	198	3,029	52
8200	2526	Oshawa	5,510	307	5,599	357
8210	2527	Oshawa	2,430	1,049	4,253	1,616
8221	2528	Oshawa	1,216	107	1,158	120
8222	2529	Oshawa	2,819	320	2,788	376
8230	2530	Oshawa	928	983	2,352	1,162

			2017 (2017 Transit DC)		Hybrid 2031 Forecast	
Durham Transportation Zone (DTZ) 2013	DTZ 2013 Number in Model	Municipality	Population	Employment	Population	Employment
8240	2531	Oshawa	531	2,488	673	4,532
8250	2532	Oshawa	0	6,292	5	7,772
8261	2533	Clarington	112	20	107	21
8262	2534	Clarington	1,035	97	988	102
8270	2535	Clarington	464	54	469	54
8281	2536	Clarington	195	19	188	19
8282	2537	Clarington	557	48	533	47
8283	2538	Clarington	358	20	407	21
8290	2539	Clarington	866	110	828	115
8301	2540	Clarington	152	22	145	22
8302	2541	Clarington	100	64	94	70
8310	2542	Clarington	852	232	814	241
8321	2543	Clarington	63	6	80	6
8322	2544	Clarington	63	33	80	33
8323	2545	Clarington	43	5	43	5
8331	2546	Clarington	915	142	876	148
8332	2547	Clarington	72	19	83	21
8340	2548	Clarington	691	205	659	213
8351	2549	Clarington	166	62	158	68
8352	2550	Clarington	135	13	129	13
8353	2551	Clarington	180	54	174	54
8361	2552	Clarington	236	51	236	52
8362	2553	Clarington	86	25	86	25
8363	2554	Clarington	0	0	0	0
8364	2555	Clarington	23	23	32	23
8371	2556	Clarington	1,950	174	2,033	197
8372	2557	Clarington	739	267	1,934	1,265
8381	2558	Clarington	2,949	192	3,142	204
8382	2559	Clarington	346	50	443	27
8383	2560	Clarington	1,678	171	1,787	193
8384	2561	Clarington	796	90	704	304
8390	2562	Clarington	103	60	102	66
8400	2563	Clarington	1,380	139	1,769	13
8411	2564	Clarington	6	131	920	438
8412	2565	Clarington	1,052	85	2,137	0
8413	2566	Clarington	4,235	334	5,184	171
8414	2567	Clarington	644	72	1,652	87
8415	2568	Clarington	4,426	279	4,367	353
8416	2569	Clarington	381	43	1,184	384
8421	2570	Clarington	40	62	750	977
8422	2571	Clarington	533	187	918	218
8423	2572	Clarington	2,322	317	2,723	329
8424	2573	Clarington	37	10	2,431	968
8431	2574	Clarington	1,502	137	5,230	409
8432	2575	Clarington	0	61	1,251	59
8433	2576	Clarington	282	26	711	78
8434	2577	Clarington	94	9	508	26
8441	2578	Clarington	43	45	3,875	426
8442	2579	Clarington	26	1	1,703	336
8443	2580	Clarington	54	150	11,198	11,076
8444	2581	Clarington	120	440	4,600	18,791
8451	2582	Clarington	89	64	4,931	1,325
8452	2583	Clarington	0	0	59	2
8460	2584	Clarington	31	10	38	10
8470	2585	Clarington	9	646	1,718	1,027
8481	2586	Clarington	6	0	5	0
8482	2587	Clarington	11	1,104	11	2,368
8483	2588	Clarington	0	13	0	49
8491	2589	Clarington	132	21	126	22
8492	2590	Clarington	644	147	616	154
8501	2591	Clarington	109	3	102	3
8502	2592	Clarington	9	0	8	0
8503	2593	Clarington	369	73	354	78
8504	2594	Clarington	140	91	134	98
8510	2595	Clarington	69	813	64	1,590
8520	2596	Clarington	0	2,753	0	2,850
8531	2597	Clarington	1,556	180	2,465	399
8532	2598	Clarington	2,275	342	3,670	756
8533	2599	Clarington	117	13	2,058	1,716
8534	2600	Clarington	149	140	2,176	1,513
8541	2601	Clarington	179	28	529	307
8542	2602	Clarington	1,194	81	1,197	81
8543	2603	Clarington	79	230	6,621	1,732
8544	2604	Clarington	4,638	546	7,041	718
8545	2605	Clarington	39	450	257	592
8550	2606	Clarington	6	131	5	175

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8561	2607	Clarington	1,477	382	4,506	659
8562	2608	Clarington	80	125	1,910	274
8570	2609	Clarington	206	15	565	75
8581	2610	Clarington	4,340	468	4,340	592
8582	2611	Clarington	366	50	922	131
8583	2612	Clarington	3,520	315	3,560	340
8584	2613	Clarington	0	4	565	627
8591	2614	Clarington	1,913	169	2,357	238
8592	2615	Clarington	2,594	212	2,807	252
8601	2616	Clarington	417	61	429	62
8602	2617	Clarington	1,129	144	1,152	152
8603	2618	Clarington	972	780	1,107	1,581
8611	2619	Clarington	2,044	164	2,156	174
8612	2620	Clarington	1,439	276	1,527	302
8613	2621	Clarington	608	141	1,792	609
8614	2622	Clarington	1,652	157	1,709	169
8615	2623	Clarington	855	88	1,058	11
8616	2624	Clarington	17	10	193	87
8617	2625	Clarington	46	40	1,231	21
8621	2626	Clarington	107	7	719	0
8622	2627	Clarington	3,410	286	4,252	265
8631	2628	Clarington	783	296	887	575
8632	2629	Clarington	1,131	196	1,393	235
8641	2630	Clarington	249	335	1,783	784
8642	2631	Clarington	2,249	176	2,463	64
8650	2632	Clarington	43	1,960	41	2,218
8660	2633	Clarington	235	42	308	45
8670	2634	Clarington	518	688	1,339	1,093
8681	2635	Clarington	3	0	3	0
8682	2636	Clarington	6	0	8	0
8683	2637	Clarington	29	10	54	11
8691	2638	Clarington	3	0	2,684	383
8692	2639	Clarington	47	4	2,513	358
8693	2640	Clarington	93	8	919	129
8700	2641	Clarington	57	41	56	42
8710	2642	Clarington	47	54	25	618
8720	2643	Clarington	6	205	5	378
8730	2644	Clarington	11	4	21	5
8741	2645	Clarington	40	228	3,024	443
8742	2646	Clarington	1,049	77	1,380	87
8750	2647	Clarington	470	211	501	222
8760	2648	Clarington	57	2	67	2
8770	2649	Clarington	458	88	496	96
8780	2650	Clarington	603	80	576	85
8791	2651	Clarington	189	63	182	69
8792	2652	Clarington	1,679	214	2,004	286
8801	2653	Clarington	706	236	750	248
8802	2654	Clarington	155	97	174	104
8803	2655	Clarington	461	106	504	114
8811	2656	Clarington	504	42	482	42
8812	2657	Clarington	501	38	576	40
8820	2658	Clarington	239	56	228	56
8831	2659	Clarington	186	6	179	5
8832	2660	Clarington	87	25	94	25
8840	2661	Clarington	378	16	3,196	488
8850	2662	Clarington	40	10	40	10
8861	2663	Clarington	191	6	1,808	275
8862	2664	Clarington	93	33	155	49
8863	2665	Clarington	791	69	1,259	240
8864	2666	Clarington	1,699	132	1,886	147
8871	2667	Clarington	1,377	113	1,385	123
8872	2668	Clarington	179	115	470	328
8873	2669	Clarington	398	95	500	296
8874	2670	Clarington	2,031	182	2,651	289
8880	2671	Clarington	1,346	103	1,345	131
8890	2672	Clarington	2,382	311	2,732	452
8901	2673	Clarington	577	145	804	159
8902	2674	Clarington	3	44	3	45
8911	2675	Clarington	163	40	190	42
8912	2676	Clarington	90	29	129	31
8921	2677	Clarington	106	12	99	12
8922	2678	Clarington	94	29	110	30
8930	2679	Scugog	779	126	718	131
8941	2680	Scugog	1,173	149	1,081	156
8942	2681	Scugog	229	45	209	45
8943	2682	Scugog	16	1	16	1

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8950	2683	Scugog	1,016	168	936	175
8960	2684	Scugog	30	1,482	30	1,542
8970	2685	Scugog	166	22	152	22
8980	2686	Scugog	337	93	333	127
8990	2687	Scugog	2,644	1,207	2,706	1,498
9000	2688	Scugog	3,704	914	4,014	981
9011	2689	Scugog	453	91	457	100
9012	2690	Scugog	768	154	783	208
9020	2691	Scugog	1,093	806	1,175	858
9030	2692	Scugog	890	820	952	909
9040	2693	Scugog	2,738	1,141	2,659	1,183
9050	2694	Scugog	2,477	233	2,420	256
9060	2695	Scugog	752	97	694	103
9070	2696	Scugog	423	86	389	90
9080	2697	Scugog	181	192	176	192
9090	2698	Scugog	1,333	166	1,229	174
9100	2699	Scugog	1,097	117	1,011	124
9110	2700	Uxbridge	1,123	254	1,068	240
9120	2701	Uxbridge	1,412	223	1,341	216
9130	2702	Uxbridge	1,545	465	1,480	440
9140	2703	Uxbridge	1,631	1,391	1,550	1,885
9150	2704	Uxbridge	839	373	882	463
9160	2705	Uxbridge	572	150	544	138
9170	2706	Uxbridge	5,467	1,367	7,123	1,601
9181	2707	Uxbridge	51	43	50	40
9182	2708	Uxbridge	6,804	2,955	7,068	2,912
9191	2709	Uxbridge	77	95	164	91
9192	2710	Uxbridge	594	129	646	125
9200	2711	Uxbridge	1,171	247	1,115	230
9210	2712	Uxbridge	514	151	489	139
9220	2713	Brock	11	1	13	1
9230	2714	Brock	235	24	250	27
9240	2715	Brock	732	89	725	98
9250	2716	Brock	3,335	1,603	4,608	2,052
9260	2717	Brock	883	90	870	102
9270	2718	Brock	261	44	254	49
9280	2719	Brock	988	269	1,006	317
9290	2720	Brock	322	56	312	62
9300	2721	Brock	1,849	920	2,277	1,072
9310	2722	Brock	671	102	665	110
9320	2723	Brock	1,064	463	1,349	556
9330	2724	Brock	758	120	758	129
9340	2725	Brock	689	107	682	115
Total		**Durham Total**	**673,560**	**210,747**	**1,149,005**	**423,078**