

Engineering

- Land/Site Development
- Municipal Infrastructure
- Environmental/Water Resources
- Traffic/Transportation
- Recreational

Planning

- Land/Site Development
- Planning Application Management
- Municipal Planning
- Urban Design
- Expert Witness (OLT)
- Wireless Industry

Landscape Architecture

- Streetscapes & Public Amenities
- Open Space, Parks & Recreation
- Community & Residential
- Commercial & Institutional
- Environmental Restoration

Proposed Mixed-Use Development 530 Brisebois Crescent and Part of 265 Centrum Boulevard

Transportation Impact Assessment

**Proposed Mixed-Use Development
530 Brisebois Crescent and Part of 265 Centrum Boulevard
Transportation Impact Assessment**

Prepared By:

NOVATECH
Suite 200, 240 Michael Cowpland Drive
Ottawa, Ontario
K2M 1P6

December 2025

Novatech File: 122170
Ref: R-2025-084

December 16, 2025

City of Ottawa
Planning, Development, and Building Services Department
110 Laurier Avenue West, 4th Floor
Ottawa, ON K1P 1J1

Attention: Mr. Mike Giampa
Senior Engineer, Infrastructure Approvals

Dear Mr. Giampa:

Reference: 530 Brisebois Crescent and Part of 265 Centrum Boulevard
Transportation Impact Assessment
Novatech File No. 122170

We are pleased to submit the following Transportation Impact Assessment (TIA), in support of a Zoning By-Law Amendment application at the above addresses, for your review and signoff. The structure and format of this report is in accordance with the City of Ottawa's *Revised Transportation Impact Assessment Guidelines* (June 2023).

If you have any questions or comments regarding this report, please feel free to contact Jennifer Luong, or the undersigned.

Yours truly,

NOVATECH



Joshua Audia, P.Eng.
Project Engineer | Transportation



Certification Form for Transportation Impact Assessment (TIA) Study Program Manager

TIA Plan Reports

On April 14, 2022, the Province's Bill 109 received Royal Assent providing legislative direction to implement the More Homes for Everyone Act, 2022 aiming to increase the supply of a range of housing options to make housing more affordable. Revisions have been made to the TIA guidelines to comply with Bill 109 and streamline the process for applicants and staff.

Individuals submitting TIA reports will be responsible for all aspects of development-related transportation assessment and reporting, and undertaking such work, in accordance and compliance with the City of Ottawa's Official Plan, the Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines.

By submitting the attached TIA report (and any associated documents) and signing this document, the individual acknowledges that they meet the four criteria listed below.

Certification

- I have reviewed and have a sound understanding of the objectives, needs and requirements of the City of Ottawa's Official Plan, Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines (Update Effective July 2023);
- I have a sound knowledge of industry standard practice with respect to the preparation of transportation impact assessment reports, including multi modal level of service review;
- I have substantial experience (more than 5 years) in undertaking and delivering transportation impact studies (analysis, reporting and geometric design) with strong background knowledge in transportation planning, engineering or traffic operations; and

City of Ottawa
Transportation Engineering Services
Planning, Real Estate and Economic Development
110 Laurier Avenue West, 4th fl.
Ottawa, ON K1P 1J1
Tel. : 613-580-2424
Fax: 613-560-6006

Revision Date: June, 2023

Transportation Impact Assessment Guidelines

I am either a licensed or registered¹ professional in good standing, whose field of expertise [check appropriate field(s)]:

is either transportation engineering

or transportation planning.

Dated at this day of , 20.

(City)

Name:

Professional Title:

Jennifer Luong

Signature of Individual certifier that they meet the above four criteria

Office Contact Information (Please Print)

Address:

City / Postal Code:

Telephone / Extension:

E-Mail Address:

Stamp



¹ License of registration body that oversees the profession is required to have a code of conduct and ethics guidelines that will ensure appropriate conduct and representation for transportation planning and/or transportation engineering works.

TABLE OF CONTENTS

EXECUTIVE SUMMARYI

1.0 SCREENING.....1

1.1 INTRODUCTION 1

1.2 PROPOSED DEVELOPMENT 2

1.3 SCREENING FORM 2

2.0 SCOPING.....3

2.1 EXISTING CONDITIONS 3

2.1.1 Roadways.....3

2.1.2 Intersections5

2.1.3 Driveways.....6

2.1.4 Pedestrian and Cycling Facilities7

2.1.5 Area Traffic Management8

2.1.6 Transit8

2.1.7 Existing Traffic Volumes9

2.1.8 Collision Records.....9

2.2 PLANNED CONDITIONS 12

2.2.1 Planned Transportation Projects.....12

2.2.2 Other Area Developments13

2.3 STUDY AREA AND TIME PERIODS 14

2.4 ACCESS DESIGN 14

2.5 DEVELOPMENT-GENERATED TRAVEL DEMAND..... 15

2.5.1 Trip Generation.....15

2.5.2 Trip Distribution.....20

2.5.3 Trip Assignment.....20

2.6 EXEMPTIONS REVIEW..... 25

3.0 FORECASTING26

3.1 OTHER AREA DEVELOPMENTS 26

3.2 GENERAL BACKGROUND GROWTH RATE 26

3.3 FUTURE TRAFFIC VOLUME FIGURES..... 27

3.4 DEMAND RATIONALIZATION..... 27

3.4.1 Existing Traffic Conditions27

3.4.2 2035 Background Traffic Conditions33

3.4.3 2040 Background Traffic Conditions33

4.0 ANALYSIS34

4.1 DEVELOPMENT DESIGN 34

4.1.1 Design for Sustainable Modes34

4.1.2 Circulation and Access34

4.2 PARKING 34

4.3 BOUNDARY STREETS 36

4.4 TRANSPORTATION DEMAND MANAGEMENT 36

4.4.1 Context for TDM36

4.4.2 Need and Opportunity.....36

4.4.3 TDM Program37

4.5 TRANSIT 37

4.5.1 Transit Route Capacity37

4.5.2 Transit Priority Requirements.....39

4.6 NETWORK CONCEPT 39

4.7 INTERSECTION DESIGN..... 40
 4.7.1 Intersection MMLoS40
 4.7.2 2035 Total Traffic Conditions42
 4.7.3 2040 Total Traffic Conditions42
5.0 CONCLUSIONS AND RECOMMENDATIONS43

Figures

Figure 1: View of the Subject Site 1
 Figure 2: Roadway Network 4
 Figure 3: Pedestrian and Cycling Network 7
 Figure 4: OC Transpo Bus Stop Locations 8
 Figure 5: Existing Traffic Volumes..... 10
 Figure 6: Other Area Developments..... 14
 Figure 7: Site-Generated Residential Traffic Volumes..... 22
 Figure 8: Site-Generated Retail and Community Centre Traffic Volumes 23
 Figure 9: Total Site-Generated Traffic Volumes 24
 Figure 10: Other Area Development-Generated Traffic Volumes 28
 Figure 11: 2035 Background Traffic Volumes 29
 Figure 12: 2040 Background Traffic Volumes 30
 Figure 13: 2035 Total Traffic Volumes 31
 Figure 14: 2040 Total Traffic Volumes 32
 Figure 15: Screenline Location..... 39

Tables

Table 1: OC Transpo Transit Stops..... 8
 Table 2: OC Transpo Route Information 9
 Table 3: Reported Collisions 11
 Table 4: Proposed Residential – Peak Period Trip Generation..... 16
 Table 5: Proposed Residential – Peak Period Trips by Mode Share 16
 Table 6: Proposed Residential – Peak Hour Trips by Mode Share 16
 Table 7: Proposed Retail/Community Centre – Peak Hour Trip Generation 17
 Table 8: Proposed Retail/Community Centre – Peak Hour Trips by Mode Share 18
 Table 9: Total Trip Generation by Mode Share..... 18
 Table 10: Internally Captured Trips – Proposed Development 19
 Table 11: TIA Exemptions 25
 Table 12: Existing Traffic Operations 27
 Table 13: 2035 Background Traffic Operations 33
 Table 14: 2040 Background Traffic Operations 33
 Table 15: Parking Requirements..... 35
 Table 16: Segment MMLoS Summary..... 36
 Table 17: Transit Distribution 37
 Table 18: Study Area Volumes and Performance..... 40
 Table 19: Intersection MMLoS Summary..... 41
 Table 20: 2035 Total Traffic Operations 42
 Table 21: 2040 Total Traffic Operations 42

Appendices

- Appendix A: Concept Plan
- Appendix B: TIA Screening Form
- Appendix C: OC Transpo Route Maps
- Appendix D: Traffic Count Data
- Appendix E: Collision Records
- Appendix F: St. Joseph Boulevard Cross-Sections
- Appendix G: Internal Capture Worksheets
- Appendix H: Other Area Developments
- Appendix I: Long-Range Model Snapshots
- Appendix J: Signal Timing Plans
- Appendix K: Existing Synchro Analysis
- Appendix L: Background Synchro Analysis
- Appendix M: MMLOS Analysis
- Appendix N: Total Synchro Analysis

EXECUTIVE SUMMARY

Novatech was retained by Forum Asset Management (Forum), c/o EP Real Estate Development Ltd., to prepare a Transportation Impact Assessment (TIA) in support of a Zoning By-Law Amendment application for the properties located at 530 Brisebois Crescent and Part of 265 Centrum Boulevard, as part of an ongoing P3 partnership between Forum and the City of Ottawa. The two properties are bisected by Brisebois Crescent.

The 265 Centrum Boulevard parcel is located at the northwest corner of Centrum Boulevard and Brisebois Crescent (East), and is approximately 0.36 hectares in area. The 530 Brisebois Crescent parcel is located on the north side of Brisebois Crescent between the two intersections with Centrum Boulevard, and is approximately 0.71 hectares in area. Both parcels are currently vacant.

The subject site is surrounded by the following:

- Ottawa Road 174 to the north,
- Centrum Boulevard, followed by vacant lands or residential buildings to the south,
- Brisebois Crescent, followed by the Cumberland Seniors Park to the east, and
- Community and City services or a Holiday Inn hotel to the west.

The proposed development concept includes the following:

- Building A (30 storeys, 530 Brisebois Crescent): 312 residential dwellings and 30 parking spaces within a single-level garage;
- Building B/C (35 and 40 storeys, 530 Brisebois Crescent): 818 residential dwellings and 75 parking spaces within a single-level garage;
- Community Centre (3 storeys, 265 Centrum Boulevard): 38,933 ft² and 34 parking spaces within a single-level garage;
- Building D (30 storeys, 265 Centrum Boulevard): 312 residential dwellings and 2,852 ft² gross floor area (GFA) of retail space;
- Building E (6 storeys, 265 Centrum Boulevard): 63 residential dwellings, 4,887 ft² GFA of retail space, and 31 parking spaces for Buildings D/E within a single-level garage.

In total, approximately 1,500 purpose-built rental residential dwellings, 6,135 ft² of retail space, and a 38,933 ft² community centre are conceptually proposed. The subject development will include three new driveways to Brisebois Crescent. The subject development will be constructed in multiple phases, with an expected buildout year of 2035.

The subject development is designated as 'Town Centre,' 'Hub,' and 'Evolving Neighbourhood' on Schedule B8 of the City of Ottawa's *Official Plan*. The implemented zoning for the subject parcels is 'Mixed-Use Centre – Orléans Town Centre Subzone' (MC14[1413] or MC14[1520]), and both parcels are located within the boundaries of the *Orléans Corridor Secondary Plan*. Per Schedule A of the *Secondary Plan*, the 265 Centrum Boulevard parcel is designated as 'Orléans Town Centre' and the 530 Brisebois Crescent parcel is designated as 'Station Area – Periphery' and 'Station Core.'

A zoning by-law amendment is required to allow more than 100 dwelling units at 530 Brisebois Crescent and more than 200 dwelling units at 265 Centrum Boulevard, as well as allowing building heights greater than 85m above sea level. The amendment is required to bring the zoning into conformance with the designated maximum height of 40 storeys per the *Orléans Corridor Secondary Plan*, and to facilitate the proposed residential and mixed-use development.

The study area for this report includes the boundary streets Centrum Boulevard and Brisebois Crescent, as well as the intersections at Place d'Orléans Drive/Centrum Boulevard, Centrum Boulevard/Brisebois Crescent (West), Centrum Boulevard/Prestone Drive, Centrum Boulevard/Brisebois Crescent (East), and St. Joseph Boulevard/Prestone Drive.

The selected time periods for this report are the weekday AM and PM peak hours, as they represent the 'worst case' combination of site generated traffic and adjacent street traffic. The ultimate buildout year 2035 and horizon year 2040 have been considered.

The conclusions and recommendations of this TIA can be summarized as follows:

Site-Generated Traffic

- The proposed development is projected to generate the following number of external peak hour trips:
 - 277 vehicle trips, 256 transit trips, and 76 non-auto trips during the AM peak hour;
 - 286 vehicle trips, 250 transit trips, and 79 non-auto trips during the PM peak hour.

Development Design and Parking

- It is anticipated that the minimum required stopping sight distance (SSD) will be provided at all accesses. The desired intersection sight distance (ISD) can be accommodated at the proposed accesses for Buildings A and B/C, provided that any future landscaping and building envelopes are designed appropriately and future vegetation is maintained. The desired ISD for left turns can be accommodated at the proposed access for Building D/E. The ISD for right turns is based on the future building envelope of the community centre. The community centre is a placeholder and will be subject to design from the City of Ottawa. Details are unknown at this time.
- Based on the concept plan, entrances to Buildings A and B/C, including townhouse entrances on the ground floor, will connect to the existing sidewalk on the north side of Brisebois Crescent. Entrances to Building D/E will connect to the existing sidewalks on the inside of Brisebois Crescent and north side of Centrum Boulevard.
- An open space is proposed between Buildings A and B/C to provide an active transportation connection to the future Orléans Town Centre O-Train Station. A pedestrian crossover (PXO) should be implemented at this location on Brisebois Crescent as part of the future station, aligning with the north-south pedestrian connection through the Bayview development to Centrum Boulevard. The existing tactile walking surface indicators (TWSIs) and curb depressions at the bend of Brisebois Crescent to the east should be removed when the new PXO is implemented.
- The concept plan identifies interior bike parking spaces on the ground floors and/or within the underground parking garages of each proposed building.

- It is anticipated that all proposed entrances will be within 400m walking distance of the future Orléans Town Centre LRT Station and existing bus stops on Centrum Boulevard and Prestone Drive, and within 600m walking distance of existing bus stops on Place d'Orléans Drive.
- The number of conceptual vehicle parking spaces in each proposed building meets the minimum requirements outlined in the City's ZBL. The number of vehicle parking, bicycle parking, loading spaces, and accessible parking spaces will be confirmed as part of future Site Plan Control applications.

Boundary Streets

- Centrum Boulevard and Brisebois Crescent achieve the target pedestrian level of service (PLOS) and bicycle level of service (BLOS) D.

Transit

- The proposed development does not include any driveways on a street that serves transit vehicles, and the majority of site transit traffic are anticipated to use O-Train Line 1.
- The addition of site-generated transit traffic that is expected to use a bus is anticipated to have marginal impacts to transit delays.

Network Concept

- There is residual capacity throughout the study area, both in existing and future conditions.

Intersection Multi-Modal Level of Service (MMLOS)

- The results of the intersections MMLOS analysis can be summarized as follows:
 - Neither study area intersection meets the target PLOS;
 - Neither study area intersection meets the target BLOS;
 - The study area intersections achieve a transit level of service (TLOS) C or E, but there is no target;
 - Both study area intersections meet the target truck level of service (TkLOS).
- At Place d'Orléans Drive/Centrum Boulevard and St. Joseph Boulevard/Prestone Drive, all approaches with a crosswalk have a cross-section equivalent to seven lanes crossed or more. There is limited opportunity in improving the PLOS at each approach without reducing the number of travel lanes or restricting turning movements. There is limited opportunity in improving the delay score for pedestrians without incurring major delays for vehicles.
- At Place d'Orléans Drive/Centrum Boulevard and St. Joseph Boulevard/Prestone Drive, a protected intersection design would be required for all approaches to meet the target BLOS. This is identified for the City's consideration.

Existing, Background, and Total Traffic Operations

- In all existing, background, and total traffic conditions, all study area intersections are projected to operate at an acceptable level of service. There are no queue lengths that extend into upstream intersections or exceed auxiliary lane storage lengths.
- All proposed accesses are projected to operate at an acceptable level of service.
- The proposed development is recommended from a transportation perspective.

1.0 SCREENING

1.1 Introduction

Novatech was retained by Forum Asset Management (Forum), c/o EP Real Estate Development Ltd., to prepare a Transportation Impact Assessment (TIA) in support of a Zoning By-Law Amendment application for the properties located at 530 Brisebois Crescent and Part of 265 Centrum Boulevard, as part of an ongoing P3 partnership between Forum and the City of Ottawa. The two properties are bisected by Brisebois Crescent.

The 265 Centrum Boulevard parcel is located at the northwest corner of Centrum Boulevard and Brisebois Crescent (East), and is approximately 0.36 hectares in area. The 530 Brisebois Crescent parcel is located on the north side of Brisebois Crescent between the two intersections with Centrum Boulevard, and is approximately 0.71 hectares in area. Both parcels are currently vacant.

The subject site is surrounded by the following:

- Ottawa Road 174 to the north,
- Centrum Boulevard, followed by vacant lands or residential buildings to the south,
- Brisebois Crescent, followed by the Cumberland Seniors Park to the east, and
- Community and City services or a Holiday Inn hotel to the west.

An aerial of the vicinity around the subject site is provided in **Figure 1**.

Figure 1: View of the Subject Site



1.2 Proposed Development

The proposed development concept includes the following:

- Building A (30 storeys, 530 Brisebois Crescent): 312 residential dwellings and 30 parking spaces within a single-level garage;
- Building B/C (35 and 40 storeys, 530 Brisebois Crescent): 818 residential dwellings and 75 parking spaces within a single-level garage;
- Community Centre (3 storeys, 265 Centrum Boulevard): 38,933 ft² and 34 parking spaces within a single-level garage;
- Building D (30 storeys, 265 Centrum Boulevard): 312 residential dwellings and 2,852 ft² gross floor area (GFA) of retail space;
- Building E (6 storeys, 265 Centrum Boulevard): 63 residential dwellings, 4,887 ft² GFA of retail space, and 31 parking spaces for Buildings D/E within a single-level garage.

In total, approximately 1,500 purpose-built rental residential dwellings, 6,135 ft² of retail space, and a 38,933 ft² community centre are conceptually proposed. The subject development will include three new driveways to Brisebois Crescent. The subject development will be constructed in multiple phases, with an expected buildout year of 2035.

The subject development is designated as 'Town Centre,' 'Hub', and 'Evolving Neighbourhood' on Schedule B8 of the City of Ottawa's *Official Plan*. The implemented zoning for the subject parcels is 'Mixed-Use Centre – Orléans Town Centre Subzone' (MC14[1413] or MC14[1520]), and both parcels are located within the boundaries of the *Orléans Corridor Secondary Plan*. Per Schedule A of the *Secondary Plan*, the 265 Centrum Boulevard parcel is designated as 'Orléans Town Centre' and the 530 Brisebois Crescent parcel is designated as 'Station Area – Periphery' and 'Station Core.'

A zoning by-law amendment is required to allow more than 100 dwelling units at 530 Brisebois Crescent and more than 200 dwelling units at 265 Centrum Boulevard, as well as allowing building heights greater than 85m above sea level. The amendment is required to bring the zoning into conformance with the designated maximum height of 40 storeys per the *Orléans Corridor Secondary Plan*, and to facilitate the proposed residential and mixed-use development. A copy of the concept plan is included in **Appendix A**.

1.3 Screening Form

The City's *Revised TIA Guidelines* identify three triggers for completing a TIA report, including trip generation, location, and safety. The criteria for each trigger are outlined in the City's TIA Screening Form, which is included in **Appendix B**. The trigger results are as follows:

- Trip Generation Trigger – The development is anticipated to generate over 60 peak hour person trips; further assessment is **required** based on this trigger.
- Location Triggers – The development is located within a Hub, Protected Major Transit Station Area (PMTSA), and Design Priority Area (DPA); further assessment is **required** based on this trigger.

- Safety Triggers – The existing curvature of Brisebois Crescent results in limited sight lines; further assessment is **required** based on this trigger.

2.0 SCOPING

2.1 Existing Conditions

2.1.1 Roadways

All roadways within the study area fall under the jurisdiction of the City of Ottawa.

Place d'Orléans Drive is an arterial roadway that runs on a curvilinear alignment between two intersections with St. Joseph Boulevard that are approximately 500m apart. At the eastern intersection with St. Joseph Boulevard, Place d'Orléans Drive continues south as Duford Drive. Within the study area, Place d'Orléans Drive has a posted speed limit of 60 km/h and generally has a four-lane undivided urban cross-section with sidewalks on both sides. Place d'Orléans Drive is classified as a truck route, allowing full loads. Street parking is not permitted.

St. Joseph Boulevard is an arterial roadway that generally runs on an east-west alignment between Ottawa Road 174 and Trim Road. West of Ottawa Road 174, the roadway continues as Montreal Road. East of Trim Road, the roadway continues as Old Montreal Road. Within the study area, St. Joseph Boulevard has a posted speed limit of 60 km/h east of Prestone Drive and 50 km/h west of Prestone Drive, and generally has a four-lane divided urban cross-section with sidewalks on both sides. St. Joseph Boulevard is classified as a truck route, allowing full loads. Street parking is not permitted.

Prestone Drive is a roadway that runs on a curvilinear alignment between Centrum Boulevard and Amiens Street. The sections of Prestone Drive from Centrum Boulevard to St. Joseph Boulevard and Tompkins Avenue to Amiens Street are designated as a collector roadway, and the section from St. Joseph Boulevard to Tompkins Avenue is designated as a major collector roadway. Within the study area, Prestone Drive has a posted speed limit of 40 km/h and sidewalks are provided on both sides. North of St. Joseph Boulevard, Prestone Drive has a four-lane divided urban cross-section. South of St. Joseph Boulevard, Prestone Drive generally has a two-lane undivided urban cross-section. Prestone Drive is not classified as a truck route. Street parking is not permitted.

Centrum Boulevard is a collector roadway that runs on an east-west alignment, starting at Place d'Orléans Drive and terminating approximately 670m to the east. Within the study area, Centrum Boulevard has a posted speed limit of 40 km/h, and generally has a two-lane undivided urban cross-section with sidewalks on both sides. Centrum Boulevard is not classified as a truck route. Street parking is designated in painted angle parking spaces on select areas of Centrum Boulevard.

Brisebois Crescent is a local roadway that runs on a curvilinear alignment between two intersections with Centrum Boulevard that are approximately 375m apart. Within the study area, Brisebois Crescent has an unposted regulatory speed limit of 50 km/h, and generally has a two-lane undivided urban cross-section with a sidewalk on one side. Brisebois Crescent is not classified as a truck route. Street parking is designated in painted perpendicular parking spaces on the south side of Brisebois Crescent.

The roadway network of the greater area surrounding the subject site is illustrated in **Figure 2**.

Figure 2: Roadway Network



2.1.2 Intersections

Place d'Orléans Drive/Centrum Boulevard

- Signalized four-legged intersection
- North Approach (Place d'Orléans Drive): one shared left turn/through lane and one shared through/right turn lane
- South Approach (Place d'Orléans Drive): one shared left turn/through lane and one shared through/right turn lane
- East Approach (Centrum Boulevard): one left turn lane, one through lane, and one right turn channel
- West Approach (access to Place d'Orléans Shopping Centre): one left turn lane, one through lane, and one channelized right turn lane
- Standard crosswalks on east/west approaches
- Zebra-striped crosswalks on north/south approaches



Centrum Boulevard/Brisebois Crescent (West)

- Unsignalized four-legged intersection
- Stop-controlled on north and south approaches
- North Approach (Brisebois Crescent): one shared left turn/through/right turn lane
- South Approach (access to 210-240 Centrum): one shared left turn/through/right turn lane
- East Approach (Centrum Boulevard): one shared left turn/through/right turn lane
- West Approach (Centrum Boulevard): one shared left turn/through/right turn lane
- Standard crosswalks on north approach



Centrum Boulevard/Prestone Drive

- Unsignalized three-legged intersection
- All-way stop-controlled
- South Approach (Prestone Drive): one left turn lane and one right turn lane
- East Approach (Centrum Boulevard): one shared left turn/through lane
- West Approach (Centrum Boulevard): one shared through/right turn lane
- Standard crosswalks on all approaches



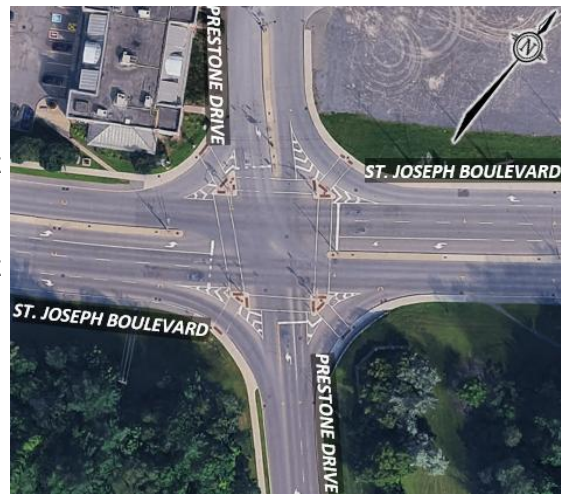
Centrum Boulevard/Brisebois Crescent (East)

- Unsignalized three-legged intersection
- Stop-controlled on north approach
- North Approach (Brisebois Crescent): one shared left turn/right turn lane
- East Approach (Centrum Boulevard): one shared through/right turn lane
- West Approach (Centrum Boulevard): one shared left turn/through lane



St. Joseph Boulevard/Prestone Drive

- Signalized four-legged intersection
- North Approach (Prestone Drive): one left turn lane, one through lane, and one right turn channel
- South Approach (Prestone Drive): one left turn lane, one through lane, and one right turn channel
- East Approach (St. Joseph Boulevard): one left turn lane, two through lanes, and one channelized right turn lane
- West Approach (St. Joseph Boulevard): one left turn lane, two through lanes, and one channelized right turn lane
- Standard crosswalks on all approaches



2.1.3 Driveways

In accordance with the *TIA Guidelines*, a review of the existing adjacent driveways along the boundary roads are provided as follows:

Brisebois Crescent, north side

- Three driveways serving the hotel at 500 Brisebois Crescent.

Brisebois Crescent, south side

- Four driveways serving the Shenkman Arts Centre (245 Centrum Boulevard) or Peter D. Clark Place (255 Centrum Boulevard);
- Two driveways serving the Ruddy Family YMCA (265 Centrum Boulevard).

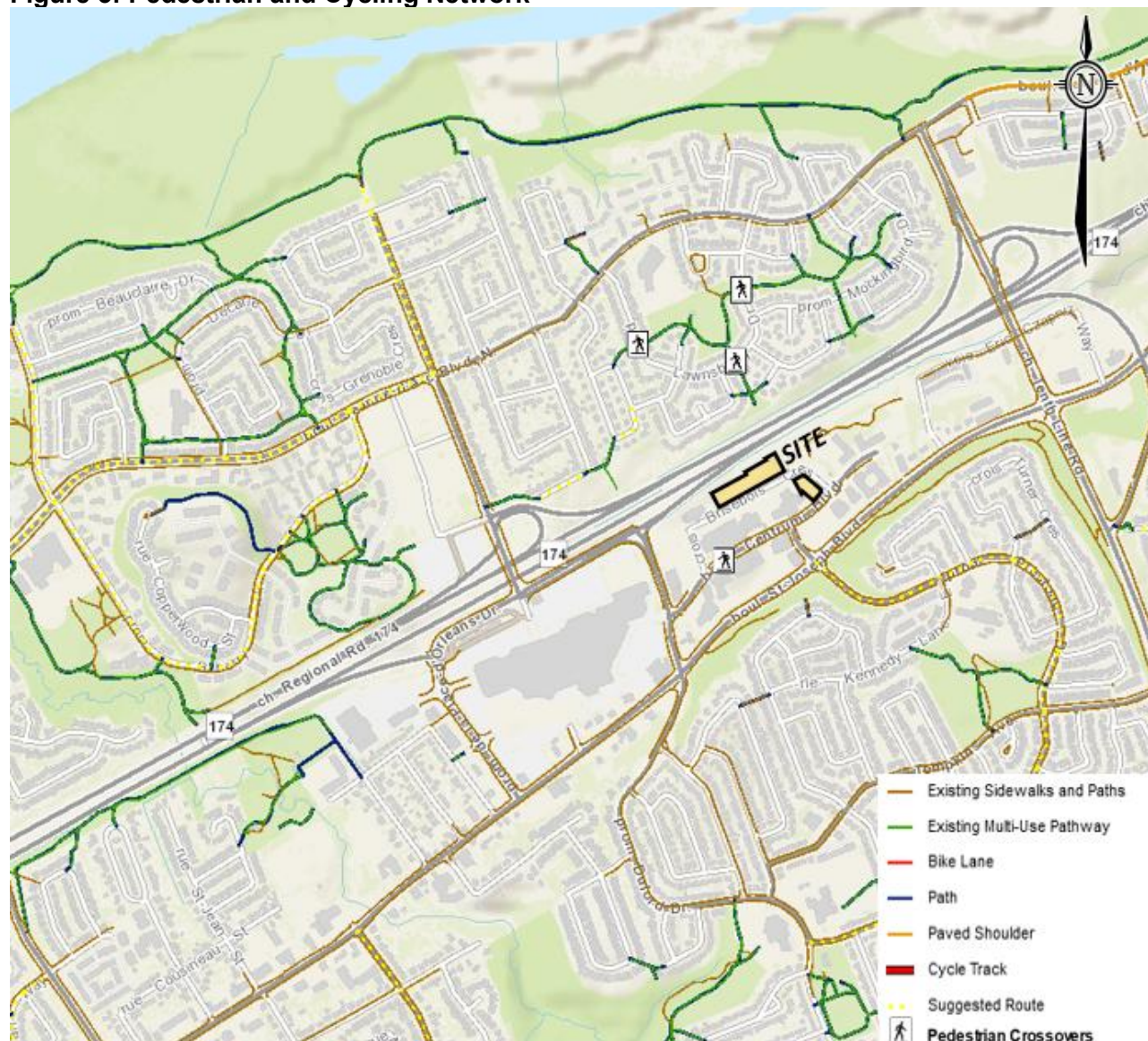
2.1.4 Pedestrian and Cycling Facilities

Within the study area, sidewalks are provided on both sides of Place d’Orléans Drive, Centrum Boulevard, Prestone Drive, and St. Joseph Boulevard. On Brisebois Crescent, a sidewalk is provided on the inside of the two north-south sections, and on the north side of the east-west section. A Type D Pedestrian Crossover (PXO) is provided on Centrum Boulevard east of the intersection with Brisebois Crescent (West).

Within the study area, St. Joseph Boulevard is identified in the Crosstown Bikeway Network. There are no cycling facilities on any study area roadways.

The pedestrian and cycling network of the greater area surrounding the subject site is illustrated in Figure 3.

Figure 3: Pedestrian and Cycling Network



2.1.5 Area Traffic Management

Within the study area, there are no Neighbourhood Traffic Calming studies that are in progress. Bulbouts along Centrum Boulevard are provided to delineate angle parking areas on both sides of the roadway.

2.1.6 Transit

The locations of OC Transpo bus stops relevant to the subject site are described in **Table 1**, and are shown in **Figure 4**. A summary of the various routes which serve the study area is included in **Table 2**. Detailed route information and an excerpt from the OC Transpo System Map are included in **Appendix C**.

Table 1: OC Transpo Transit Stops

Stop	Location	Routes Served
#2627	South side of Centrum Boulevard, west of Prestone Drive	35, 36, 302
#5637	East side of Place d'Orléans Drive, south of Centrum Boulevard	33, 234
#5924	North side of Centrum Boulevard, west of Prestone Drive	35, 36, 302
#5925	North side of Centrum Boulevard, west of Brisebois Crescent	35, 36, 302
#5926	East side of Prestone Drive, north of St. Joseph Boulevard	36, 302
#7845	West side of Prestone Drive, south of Centrum Boulevard	35, 36, 302
#8532	West side of Place d'Orléans Drive, south of Place d'Orléans Mall	33, 234
#8893	South side of Centrum Boulevard, west of Brisebois Crescent	35, 36, 302

Figure 4: OC Transpo Bus Stop Locations



Table 2: OC Transpo Route Information

Route	From ↔ To	Frequency
33	Portobello ↔ Blair	All day service, seven days a week; 15- to 30-min headways
35	Avalon ↔ Blair	All day service, seven days a week; 30- to 60-min headways
36	Innes ↔ Place d’Orléans	All day service, seven days a week; 30- to 60-min headways
234	Blair ↔ Tenth Line	Peak period service, weekdays; 30-min headways
302	St-Laurent / Place d’Orléans ↔ Cumberland	Village shopping route, Tuesdays only during select times

2.1.7 Existing Traffic Volumes

Weekday traffic counts completed by the City of Ottawa or coordinated by CGH Transportation have been used to determine the existing pedestrian, cyclist, and vehicular traffic volumes at the study area intersections. These counts were completed on the dates listed below:

- Place d’Orléans Drive/Centrum Boulevard June 18, 2024 (City)
- Centrum Boulevard/Brisebois Crescent (West) March 12, 2020 (CGH)
- Centrum Boulevard/Prestone Drive February 14, 2023 (CGH)
- Centrum Boulevard/Brisebois Crescent (East) February 8, 2023 (CGH)
- St. Joseph Boulevard/Prestone Drive October 29, 2024 (City)

Excluding the traffic count at Place d’Orléans Drive/Centrum Boulevard, it is noted that active transportation volumes observed may be lower than typical conditions, as the other counts were conducted outside of the warmest months. Based on the traffic count data, the average annual daily traffic (AADT) of Centrum Boulevard is approximated as follows:

- Centrum Boulevard: 3,580 vehicles per day (at Brisebois Crescent West);
1,020 vehicles per day (at Brisebois Crescent East);
- Brisebois Crescent West: 500 vehicles per day
- Brisebois Crescent East: 120 vehicles per day.

All traffic count data previously discussed are included in **Appendix D**. Traffic volumes within the study area are shown in **Figure 5**.

2.1.8 Collision Records

Historical collision data from the last five full years available was obtained from the City’s Public Works and Service Department for the study area intersections and midblock segments. Copies of the collision summary reports are included in **Appendix E**.

The collision data has been evaluated to determine if there are any identifiable collision patterns, which are defined in the *Revised TIA Guidelines* as ‘more than six collisions in five years’ for any one movement. The number of collisions at each intersection from 2019 to 2022 and 2024 is summarized in **Table 3**.

Figure 5: Existing Traffic Volumes

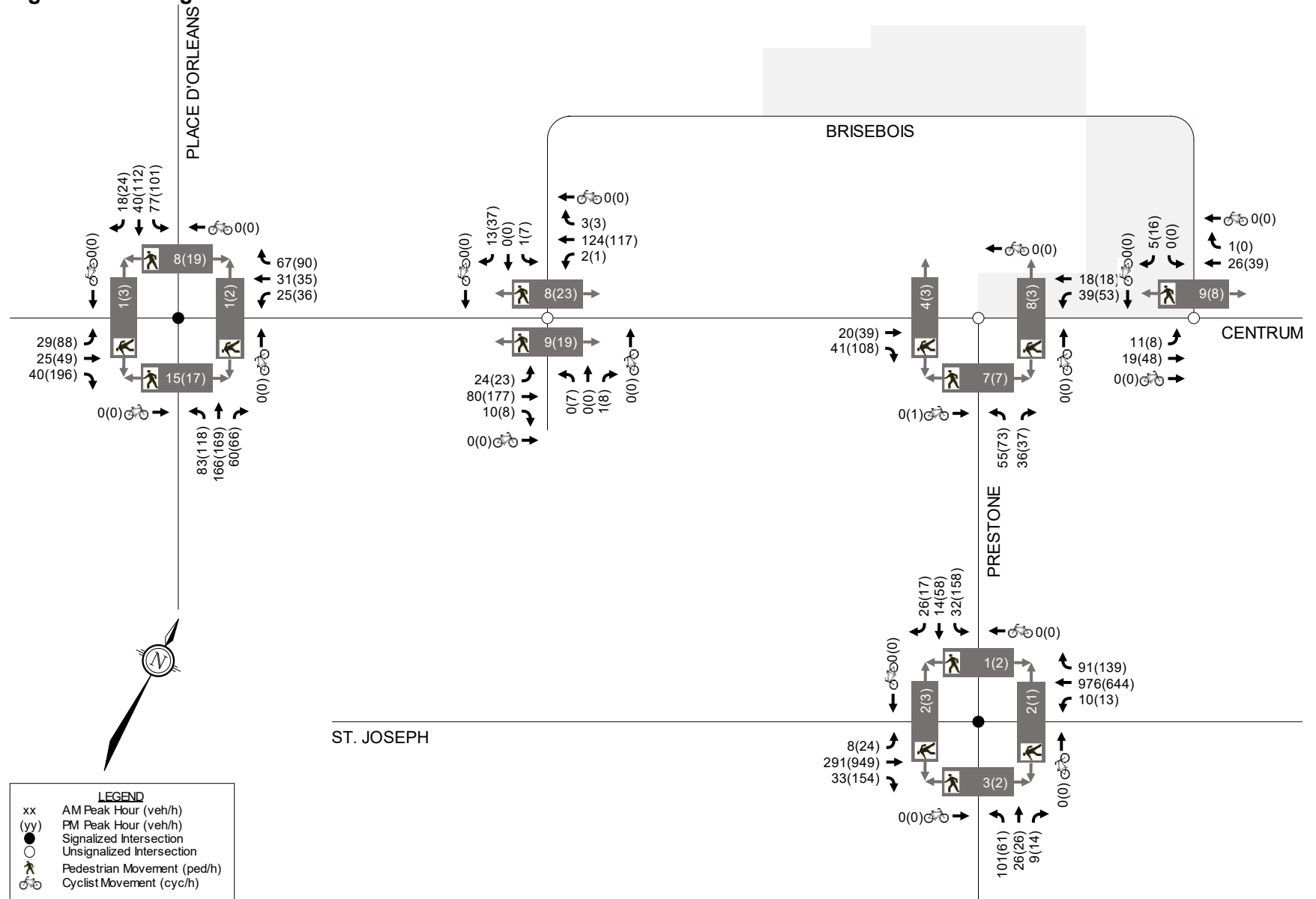


Table 3: Reported Collisions

Location	Impact Types						Total
	Approach	Angle	Rear End	Sideswipe	Turning Movement	SMV ⁽¹⁾ / Other	
Place d'Orléans Dr/ Centrum Blvd	-	3	1	-	-	-	4
Centrum Blvd/ Brisebois Cres W	-	-	-	-	-	-	0
Centrum Blvd/ Prestone Dr	-	-	1	-	-	-	1
Centrum Blvd/ Brisebois Cres E	-	-	-	-	-	-	0
St. Joseph Blvd/ Prestone Dr	-	6	1	-	-	4	11
Centrum Blvd btwn Place d'Orléans Dr & Brisebois Cres W	1	-	-	-	-	-	1
Centrum Blvd btwn Brisebois Cres W & Prestone Dr	-	2	-	-	-	-	2
Centrum Blvd btwn Prestone Dr & Brisebois Cres E	-	-	-	-	-	-	0
Centrum Blvd btwn Brisebois Cres E & end of road	-	-	-	-	-	-	0
Prestone Dr btwn Centrum Blvd & St. Joseph Blvd	-	-	1	-	-	-	1
Brisebois Cres btwn Centrum Blvd & Centrum Blvd	-	-	-	-	-	-	0

1. SMV = Single Motor Vehicle

Place d'Orléans Drive/Centrum Boulevard

A total of four collisions were reported at this intersection, consisting of three angle impacts and one rear-end impact. No collisions resulted in injuries or fatalities. One of the four collisions (25%) occurred in poor driving conditions. No collisions involved pedestrians or cyclists.

Centrum Boulevard/Prestone Drive

One collision was reported at this intersection, which was a rear-end impact that did not result in injuries or fatalities. This collision occurred in poor driving conditions, and did not involve pedestrians or cyclists.

St. Joseph Boulevard/Prestone Drive

A total of 11 collisions were reported at this intersection, consisting of six angle impacts, one rear-end impact, and four single vehicle/other impacts. Two collisions resulted in injuries, and no collisions resulted in fatalities. Six of the 11 collisions (54%) occurred in poor driving conditions. One collision involved a pedestrian, and no collisions involved cyclists.

Centrum Boulevard between Place d'Orléans Drive & Brisebois Crescent (West)

One collision was reported along this segment, which was an approaching impact that did not result in injuries or fatalities. This collision occurred in fair driving conditions, and did not involve pedestrians or cyclists.

Centrum Boulevard between Brisebois Crescent (West) & Prestone Drive

Two collisions were reported along this segment, which were both angle impacts that did not result in injuries or fatalities. Both collisions occurred in poor driving conditions, and neither involved pedestrians or cyclists.

Prestone Drive between Centrum Boulevard & St. Joseph Boulevard

One collision was reported along this segment, which was a rear-end impact that did not result in injuries or fatalities. This collision occurred in poor driving conditions, and did not involve pedestrians or cyclists.

2.2 Planned Conditions

2.2.1 Planned Transportation Projects

Transit Projects

Within the study area, the City's 2025 *Transportation Master Plan (TMP)* identifies the O-Train Line 1 extension from Blair Station to Trim Station as 'existing rapid transit,' as construction is ongoing at the time of this report. Revenue service is planned for 2026. Of the stations being constructed, the closest is Place d'Orléans Station, which is located north of Place d'Orléans Shopping Centre and immediately west of Champlain Street. Pedestrian bridges will connect transit riders to the Park and Ride north of Highway 174 and the shopping centre south of Highway 417 and Place d'Orléans Drive.

A future O-Train station is identified adjacent to the subject development in the Needs-Based Transit Network, and is referred to as 'Orléans Town Centre Station.' To our knowledge, there are no design plans available for this station. The Needs-Based and Priority Transit Networks also identify Tenth Line Road (east of the study area) as a transit priority corridor from Ottawa Road 174 to Charlemagne Boulevard.

Roadway Projects

Within the study area, the City's 2025 *TMP* does not identify any roadway projects in its Needs-Based or Priority Networks. West of the study area, the 2025 *TMP* identifies a Phase 1 Mainstreet Improvement project on St. Joseph Boulevard (from Jeanne d'Arc Boulevard to Belcourt Boulevard).

Active Transportation Projects

Within the study area, the City's 2025 *TMP* identifies a Phase 1 prioritization cycling project on St. Joseph Boulevard (from Forest Valley Drive to Tenth Line Road). The City's *Orléans Corridor Secondary Plan* (passed by City Council in September 2022) outlines improvements to the St. Joseph Boulevard corridor.

Between the western intersection with Place d'Orléans Drive and Prestone Drive, the existing divided cross-section of St. Joseph Boulevard will be reduced to an interim condition with two through lanes, a two-way left-turn lane (TWLTL), buffered on-road bike lanes, and 2.0m-wide sidewalks on both sides of the roadway. In the ultimate condition, St. Joseph Boulevard will include one through lane in each direction and a TWLTL, 4.0m- to 5.0m-wide inner boulevards, 2.0m-wide cycle tracks, 2.5m- to 3.0m-wide outer boulevards, and 3.0m-wide sidewalks on both sides of the roadway.

Between Prestone Drive and Tenth Line Road, the existing cross-section of St. Joseph Boulevard will be reduced to an interim condition with one 3.75m-wide vehicle lane, a 1.85m-wide buffer zone, raised shoulders, and a 2.0m-bike lane in each direction, with the approximately 5.0m-wide median being maintained. In the ultimate condition, the median will be removed, and St. Joseph Boulevard will include one 4.0m-wide vehicle lane in each direction, with 4.0m-wide boulevards, 2.0m-wide cycle tracks, and 2.0m-wide sidewalks on both sides of the roadway. Cross-section renderings of the existing, interim, and ultimate conditions prepared by Parsons in July 2022 are included in **Appendix F**.

2.2.2 Other Area Developments

Based on a review of the City's Development Application Search Tool, there are multiple other developments that were significant enough to include traffic projections, and are in proximity of the subject site that are under construction, approved, or are in the approval process. These developments are summarized as follows.

211 Centrum Boulevard

A TIA was prepared by CGH Transportation in April 2021, in support of a retirement home with 397 units and accesses to Brisebois Crescent. The TIA identifies an estimated buildout year of 2024, but development has not occurred at the time of this report.

265 Centrum Boulevard (Bayview)

This site is adjacent to the subject 265 Centrum Boulevard parcel, and is referred to as the 'Bayview Development' throughout this report. A TIA was prepared by CGH Transportation in February 2024, in support of a mixed-use development with 1,127 residential dwellings, 8,967 ft² of retail space, 31,570 ft² of office space, and accesses to Brisebois Crescent. The TIA identifies a buildout year of 2028 for this development.

3030 St. Joseph Boulevard

A TIA was prepared by CGH Transportation in March 2024, in support of a mixed-use development with 206 residential dwellings, 2,050 ft² of retail space, and access to St. Joseph Boulevard. The TIA identifies an estimated buildout year of 2025, but development has not occurred at the time of this report.

3277 St. Joseph Boulevard

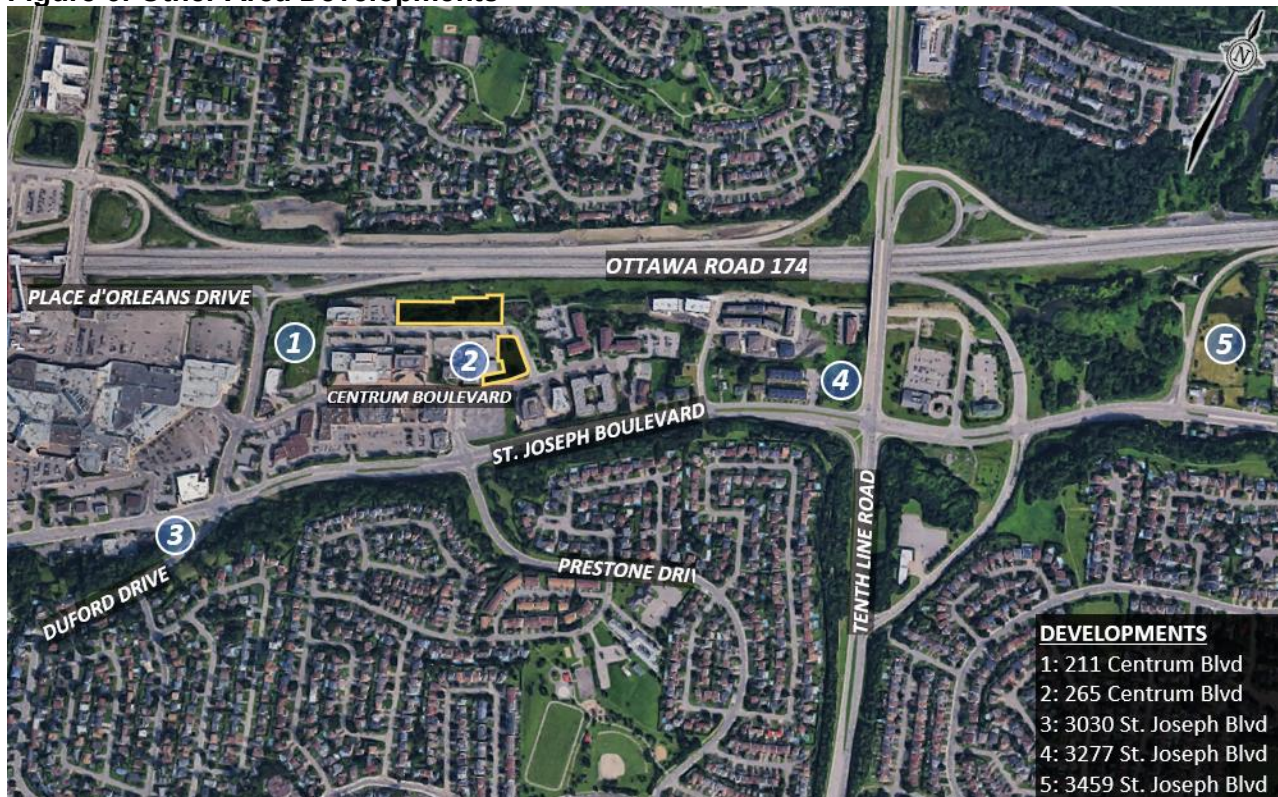
A TIA was prepared by Novatech in January 2023, in support of a residential development with 273 dwellings and access to St. Joseph Boulevard and Lionel-Rheo Private. The TIA identifies an estimated buildout year of 2024, but development has not occurred at the time of this report.

3459-3479 St. Joseph Boulevard

A TIA was prepared by Novatech in December 2024, in support of a residential development with 326 dwellings and access to St. Joseph Boulevard and the eastbound Ottawa Road 174 on-ramp. The TIA identifies an estimated buildout year of 2025, but development has not occurred at the time of this report.

A map indicating the approximate location of each development is included in **Figure 6**.

Figure 6: Other Area Developments



2.3 Study Area and Time Periods

The study area for this report includes the boundary streets Centrum Boulevard and Brisebois Crescent, as well as the intersections at Place d’Orléans Drive/Centrum Boulevard, Centrum Boulevard/Brisebois Crescent (West), Centrum Boulevard/Prestone Drive, Centrum Boulevard/Brisebois Crescent (East), and St. Joseph Boulevard/Prestone Drive.

The selected time periods for this report are the weekday AM and PM peak hours, as they represent the ‘worst case’ combination of site generated traffic and adjacent street traffic. The ultimate buildout year 2035 and horizon year 2040 have been considered.

2.4 Access Design

The proposed development includes three new full-movement accesses to Brisebois Crescent. Two new accesses to the 530 Brisebois Crescent parcel are proposed along the east-west section of Brisebois Crescent, and one new access to the 265 Centrum Boulevard parcel is proposed along the eastern north-south section of Brisebois Crescent. Based on Section 25(1)(a) of the City’s *Private Approach By-Law*, a minimum of 35m of frontage is required to permit two private approaches to that frontage. This requirement is met, as both subject parcels have more than 35m of frontage to Brisebois Crescent.

The design of each proposed access (including parameters such as width, grade, etc.) will be evaluated as part of future Site Plan Control applications. The location of each proposed access from a sightlines perspective has been evaluated in this TIA.

A review of stopping sight distance (SSD) and intersection sight distance (ISD) requirements at the proposed access locations has been conducted, in accordance with the minimum requirements outlined in the Transportation Association of Canada (TAC)'s *Geometric Design Guide for Canadian Roads*. The centreline radius of Brisebois Crescent's eastern curve is approximately 16m. This centreline radius is consistent for roadways with a design speed less than 30 km/h. In the interest of maintaining a conservative review, a design speed of 30 km/h on Brisebois Crescent has been considered in selecting the SSD and ISD requirements, which are:

- SSD: 35m required;
- ISD, looking right to turn left out of access: 65m desired;
- ISD, looking left to turn right out of access: 55m desired.

It is anticipated that the minimum required SSD will be provided at all accesses. The desired ISD can be accommodated at the proposed accesses for Buildings A and B/C, provided that any future landscaping and building envelopes are designed appropriately and future vegetation is maintained. The desired ISD for left turns can be accommodated at the proposed access for Building D/E. The ISD for right turns is based on the future building envelope of the community centre. The community centre is a placeholder and will be subject to design from the City of Ottawa. Details are unknown at this time. Sight distances will be reviewed at the Site Plan Control application stage, once detailed building designs are known.

2.5 Development-Generated Travel Demand

2.5.1 Trip Generation

Proposed Residential Trip Generation

The number of peak hour person trips generated by the proposed development has been estimated using the *TRANS Trip Generation Manual*, which present peak period trip generation rates and mode shares for different types of housing for the AM and PM peak periods. The data is divided into trip generation rates and mode shares for Single-Family Detached Housing, Low-Rise Multifamily Housing (one or two storeys), and High-Rise Multifamily Housing (three or more storeys). For the High-Rise Multifamily Housing land use, the process of converting the trip generation estimates from peak period to peak hour is shown below.

The *TRANS Trip Generation Manual* identifies the subject site as being located within the Orléans district, which has the following observed mode shares for high-rise multifamily housing during the peak periods:

- Auto Driver: 54% in AM peak, 61% in PM peak;
- Auto Passenger: 7% in AM peak, 13% in PM peak;
- Transit: 29% in AM peak, 21% in PM peak;
- Cyclist: 0% in AM peak, 0% in PM peak;
- Pedestrian: 10% in AM peak, 6% in PM peak.

The mode shares for the proposed residential component are assumed to generally follow the high-rise residential mode shares observed in the Orléans district, with a 15% increase in the transit share to reflect the proximity to the future Orléans Town Centre Station. This approach is consistent with the TIA prepared in support of the Bayview development at 265 Centrum Boulevard (i.e. immediately west of the proposed Buildings D and E). The assumed residential mode shares can be summarized as: 40% driver, 10% passenger, 40% transit, 0% cyclist, and 10% pedestrian. If Orléans Town Centre Station were not constructed, a 55% driver share and 25% transit share would be anticipated.

The process of converting the trip generation estimates from peak period to peak hour is shown in the following tables. The estimated number of person trips generated by the proposed development during the AM and PM peak periods are shown in **Table 4**. A breakdown of these trips by mode share is shown in **Table 5**.

Table 4: Proposed Residential – Peak Period Trip Generation

Land Use	TRANS Rate	Units	AM Peak Period (ppp ⁽¹⁾)			PM Peak Period (ppp)		
			IN	OUT	TOT	IN	OUT	TOT
High-Rise Multifamily Housing	AM: 0.80 PM: 0.90	1,505 units	373	831	1,204	786	569	1,355

1. ppp: Person Trips per Peak Period

Table 5: Proposed Residential – Peak Period Trips by Mode Share

Travel Mode	Mode Share	AM Peak Period			PM Peak Period		
		IN	OUT	TOT	IN	OUT	TOT
Residential Trips		373	831	1,204	786	569	1,355
Auto Driver	40%	150	332	482	314	228	542
Auto Passenger	10%	37	83	120	79	57	136
Transit	40%	150	332	482	314	228	542
Cyclist	0%	-	-	0	-	-	0
Pedestrian	10%	36	84	120	79	56	135

A cyclist share of 0% has been considered based on the current pattern and infrastructure. Planned active transportation projects are noted in Section 2.2.1. It is acknowledged that a higher cycling share may be achieved. Anticipated on-site provisions for sustainable modes are described in Section 4.1.1 and will be reviewed as part of future Site Plan Control applications.

Table 4 of the *TRANS Trip Generation Manual* includes adjustment factors to convert the estimated number of trips generated for each mode from peak period to peak hour. A breakdown of the peak hour trips by mode is shown in **Table 6**.

Table 6: Proposed Residential – Peak Hour Trips by Mode Share

Travel Mode	Adj. Factor		AM Peak Hour			PM Peak Hour		
	AM	PM	IN	OUT	TOT	IN	OUT	TOT
Auto Driver	0.48	0.44	72	160	232	138	100	238
Auto Passenger	0.48	0.44	18	40	58	35	25	60
Transit	0.55	0.47	82	183	265	148	107	255
Cyclist	0.58	0.48	-	-	0	-	-	0
Pedestrian	0.58	0.52	22	48	70	41	30	71
Peak Hour Person Trips			194	431	625	362	262	624

From the previous table, the proposed residential component is estimated to generate 625 person trips (including 232 vehicle trips) during the AM peak hour, and 624 person trips (including 238 vehicle trips) during the PM peak hour. If the Orléans Town Centre is not constructed and a 55% driver share were achieved, this would result in an additional 180 to 200 residential vehicle trips during the peak hours.

Proposed Retail and Community Centre Trip Generation

The number of person trips generated by the proposed ground-floor retail spaces and community centre has been estimated using the trip generation rates in the *ITE Trip Generation Manual, 11th Edition*. Retail trips have been estimated using the Shopping Centre (code 820) land use rates, and community centre trips have been estimated using the Recreational Community Center (code 495) land use rates. The *TRANS Trip Generation Manual* identifies the following observed mode shares for retail developments within Orléans during the weekday peak hours. It is assumed to be applicable to both of the proposed retail and community centre uses.

- Auto Driver: 77% in AM peak, 71% in PM peak;
- Auto Passenger: 14% in AM peak, 20% in PM peak;
- Transit: 3% in AM peak, 2% in PM peak;
- Cyclist: 0% in AM peak, 1% in PM peak;
- Pedestrian: 6% in AM peak, 5% in PM peak.

The mode shares for the proposed retail and community centre components are assumed to generally follow the retail mode shares observed in the Orléans district, with a 10% increase in the transit share to reflect the proximity to the future Orléans Town Centre Station and a 10% increase in the pedestrian share to reflect that the subject site is adjacent or in close proximity to the existing residential/hotel uses, as well as future planned residential development. The assumed retail/community centre mode shares can be summarized as: 55% driver, 20% passenger, 10% transit, 0% cyclist, and 15% pedestrian. If Orléans Town Centre Station were not constructed, a 65% driver share and 0% transit share would be anticipated.

The estimated number of person trips generated by the proposed retail and community centre uses are shown in **Table 7**, and broken down by mode share in **Table 8**.

Table 7: Proposed Retail/Community Centre – Peak Hour Trip Generation

Land Use	ITE Code	GFA	AM Peak Hour (pph ⁽¹⁾)			PM Peak Hour (pph)		
			IN	OUT	TOT	IN	OUT	TOT
Shopping Centre	820	6,135 ft ²	4	2	6	13	14	27
Rec Community Centre	495	38,933 ft ²	63	32	95	58	66	124
Total			67	34	101	71	80	151

1. pph: Person Trips per Peak Hour – Calculated using an ITE Trip to Person Trip factor of 1.28, consistent with the *TIA Guidelines*

Table 8: Proposed Retail/Community Centre – Peak Hour Trips by Mode Share

Travel Mode	Mode Share	AM Peak Hour			PM Peak Hour		
		IN	OUT	TOT	IN	OUT	TOT
Retail Trips		4	2	6	13	14	27
Auto Driver	55%	2	1	3	7	7	14
Auto Passenger	20%	1	-	1	3	3	6
Transit	10%	-	1	1	1	2	3
Cyclist	0%	-	-	0	-	-	0
Pedestrian	15%	1	-	1	2	2	4
Community Centre Trips		63	32	95	58	66	124
Auto Driver	55%	34	18	52	32	36	68
Auto Passenger	20%	13	6	19	12	13	25
Transit	10%	7	3	10	6	6	12
Cyclist	0%	-	-	0	-	-	0
Pedestrian	15%	9	5	14	8	11	19

From the previous tables, the proposed retail component is estimated to generate six person trips (including three vehicle trips) during the AM peak hour, and 27 person trips (including 14 vehicle trips) during the PM peak hour. The proposed community centre is estimated to generate 95 person trips (including 52 vehicle trips) during the AM peak hour, and 124 person trips (including 68 vehicle trips) during the PM peak hour. If the Orléans Town Centre is not constructed and a 65% driver share were achieved, this would result in an additional one to four retail vehicle trips and ten to 13 community centre vehicle trips during the peak hours.

The estimated number of person trips generated by all components of the proposed development is shown in **Table 9**.

Table 9: Total Trip Generation by Mode Share

Travel Mode	AM Peak Hour			PM Peak Hour		
	IN	OUT	TOT	IN	OUT	TOT
Total Person Trips	261	465	726	433	342	775
Auto Driver	108	179	287	177	143	320
Auto Passenger	32	46	78	50	41	91
Transit	89	187	276	155	115	270
Cyclist	-	-	0	-	-	0
Pedestrian	32	53	85	51	43	94

In total, the proposed development is estimated to generate the following number of trips:

- 726 person trips (including 287 vehicle trips) during the AM peak hour;
- 775 person trips (including 320 vehicle trips) during the PM peak hour.

Pass-by Trips

The subject site is not anticipated to generate any pass-by trips, as Brisebois Crescent is a loop with two connections to Centrum Boulevard, and Centrum Boulevard is a dead-end roadway east of the study area (i.e. the number of drivers ‘passing by’ and stopping at the subject site is anticipated to be zero). A reduction in external trips has been applied to account for internally captured trips, as described below.

Internally Captured Trips

It is anticipated that some trips generated by the proposed development may be internally captured (i.e. residents may travel downstairs to the ground-floor retail spaces or the community centre). The *ITE Trip Generation Handbook* identifies internal trip rates between residential and retail land uses, and these rates have been used to estimate the number of internally captured trips at buildout of the proposed development. Internally captured trips between the proposed land uses have been estimated using the methodology outlined in the *ITE Trip Generation Handbook* and the *NCHRP Report 684 Estimator* spreadsheet tool (developed by the Texas A&M Transportation Institute in 2010). As the tool does not specifically have a Community Centre land use, community centre trips have been added to the retail trips. Person trips have been entered directly into the spreadsheet where required, as the tool’s method of estimating person trips is incompatible with the results shown in the previous tables. The internal capture worksheets are included in **Appendix G**.

Internally captured trip estimates by the proposed development is presented in **Table 10**.

Table 10: Internally Captured Trips – Proposed Development

Trip Type		AM Peak Hour			PM Peak Hour		
		IN	OUT	TOT	IN	OUT	TOT
Residential Trips	Vehicle	72	160	232	138	100	238
	Transit	82	183	265	148	107	255
	Non-Auto	22	48	70	41	30	71
Internal Adjustment	Vehicle	-2	-2	-4	-10	-3	-13
	Transit	-6	-12	-18	-12	-5	-17
	Non-Auto	-3	-5	-8	-7	-4	-11
External Trips	Vehicle	70	158	228	128	97	225
	Transit	76	171	247	136	102	238
	Non-Auto	19	43	62	34	26	60
Retail and Community Centre Trips	Vehicle	36	19	55	39	43	82
	Transit	7	4	11	7	8	15
	Non-Auto	10	5	15	10	13	23
Internal Adjustment	Vehicle	-3	-3	-6	-5	-16	-21
	Transit	-1	-1	-2	-1	-2	-3
	Non-Auto	-1	-	-1	-	-4	-4
External Trips	Vehicle	33	16	49	34	27	61
	Transit	6	3	9	6	6	12
	Non-Auto	9	5	14	10	9	19
Total External Trips	Vehicle	103	174	277	162	124	286
	Transit	82	174	256	142	108	250
	Non-Auto	28	48	76	44	35	79

From the previous table, the proposed development is projected to generate the following number of external peak hour trips:

- 277 vehicle trips, 256 transit trips, and 76 non-auto trips during the AM peak hour;
- 286 vehicle trips, 250 transit trips, and 79 non-auto trips during the PM peak hour.

It is noted that there is a disconnect between the estimated vehicle trip generation and the proposed number of parking spaces on-site at full buildout. The proposed parking supply at buildout includes approximately 135 residential parking spaces and 30 community centre parking spaces. Buildout will be considered relative to construction of the Orléans Town Centre LRT Station, which will be located north of Building A. The timing for this station and the Tenth Line LRT station is unknown as they are not included in the Priority Transit Network. The provision of surface parking will be considered to meet interim parking demands as needed for the initial buildings, which will be replaced when the later buildings are constructed. The estimated vehicle trip generation exceeds the ultimate parking supply by 100 vehicles during each peak hour. The assumed driver shares of 40% (for residential trips) and 55% (for retail/community centre trips) will likely be lower, as the adjacent future transit stations are constructed. Updated plans, projections, and studies will be required as part of future Site Plan Control applications. The trip generation projections within this TIA are considered conservative.

2.5.2 Trip Distribution

The assumed distribution of residential trips has been estimated by generally considering the typical commuter patterns (i.e. outbound volumes during the AM peak hour and inbound volumes during the PM peak hour), with a large increase to trips to/from the north to reflect trips using Ottawa Road 174. The assumed distribution of retail and community centre trips has been estimated by considering the two-way midday peak hour volumes. The assumed distributions are summarized as follows:

Residential Distribution

- 60% to/from the north via Place d'Orléans Dr;
- 10% to/from the south via Place d'Orléans Dr;
- 5% to/from the south via Prestone Dr;
- 15% to/from the east via St. Joseph Blvd;
- 10% to/from the west via St. Joseph Blvd.

Retail and Community Centre Distribution

- 10% to/from the north via Place d'Orléans Dr;
- 15% to/from the south via Place d'Orléans Dr;
- 5% to/from the south via Prestone Dr;
- 35% to/from the east via St. Joseph Blvd;
- 35% to/from the west via St. Joseph Blvd.

2.5.3 Trip Assignment

Residential trips have been assigned to the three proposed accesses, based on the number of units closest to each driveway. For example, Buildings B and C are closest to the westernmost access, and trips generated by those 809 dwellings are assigned to that access.

It is recognized that some retail and community centre trips will park in existing parking spaces along Centrum Boulevard or Brisebois Crescent. For the purposes of this report, all retail and community centre trips have conservatively been assigned to the Building D/E access.

Therefore, the trip assignment at each proposed access is summarized as follows:

Western Access to Brisebois Crescent (within Building B/C)

- 55% of all residential trips
 - Trips to/from Place d'Orléans Drive are assumed to enter and exit via Centrum Boulevard/Brisebois Crescent (West);
 - Trips to/from Prestone Drive and St. Joseph Boulevard are assumed to enter and exit via Centrum Boulevard/Brisebois Crescent (East).

Central Access to Brisebois Crescent (within Building A)

- 20% of all residential trips
 - Trips to/from Place d'Orléans Drive are assumed to enter and exit via Centrum Boulevard/Brisebois Crescent (West);
 - Trips to/from Prestone Drive and St. Joseph Boulevard are assumed to enter and exit via Centrum Boulevard/Brisebois Crescent (East).

Eastern Access to Brisebois Crescent (within Building D)

- 25% of all residential trips
 - Trips to/from Place d'Orléans are assumed to be split evenly between the two Centrum Boulevard/Brisebois Crescent intersections;
 - Trips to/from Prestone Drive and St. Joseph Boulevard are assumed to enter and exit via Centrum Boulevard/Brisebois Crescent (East).

- 100% of all retail and community centre trips
 - Trips to/from Place d'Orléans are assumed to be split evenly between the two Centrum Boulevard/Brisebois Crescent intersections;
 - Trips to/from Prestone Drive and St. Joseph Boulevard are assumed to enter and exit via Centrum Boulevard/Brisebois Crescent (East).

Based on the above, the distribution of site-generated traffic volumes to the study area intersections are shown in the following figures:

- Site-generated residential traffic volumes are shown in **Figure 7**;
- Site-generated retail and community centre traffic volumes are shown in **Figure 8**;
- Total site-generated traffic volumes are shown in **Figure 9**.

Figure 7: Site-Generated Residential Traffic Volumes

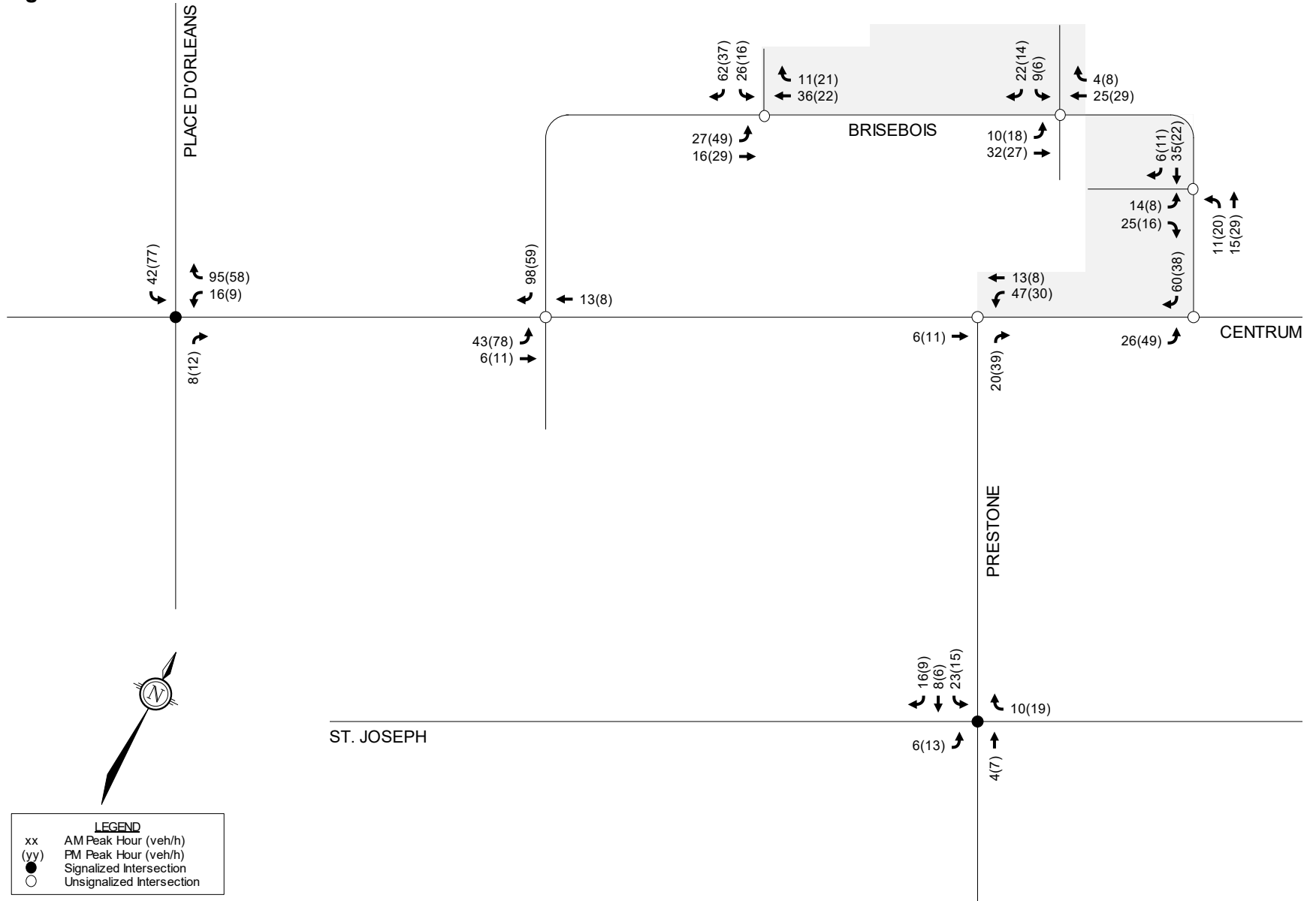


Figure 8: Site-Generated Retail and Community Centre Traffic Volumes

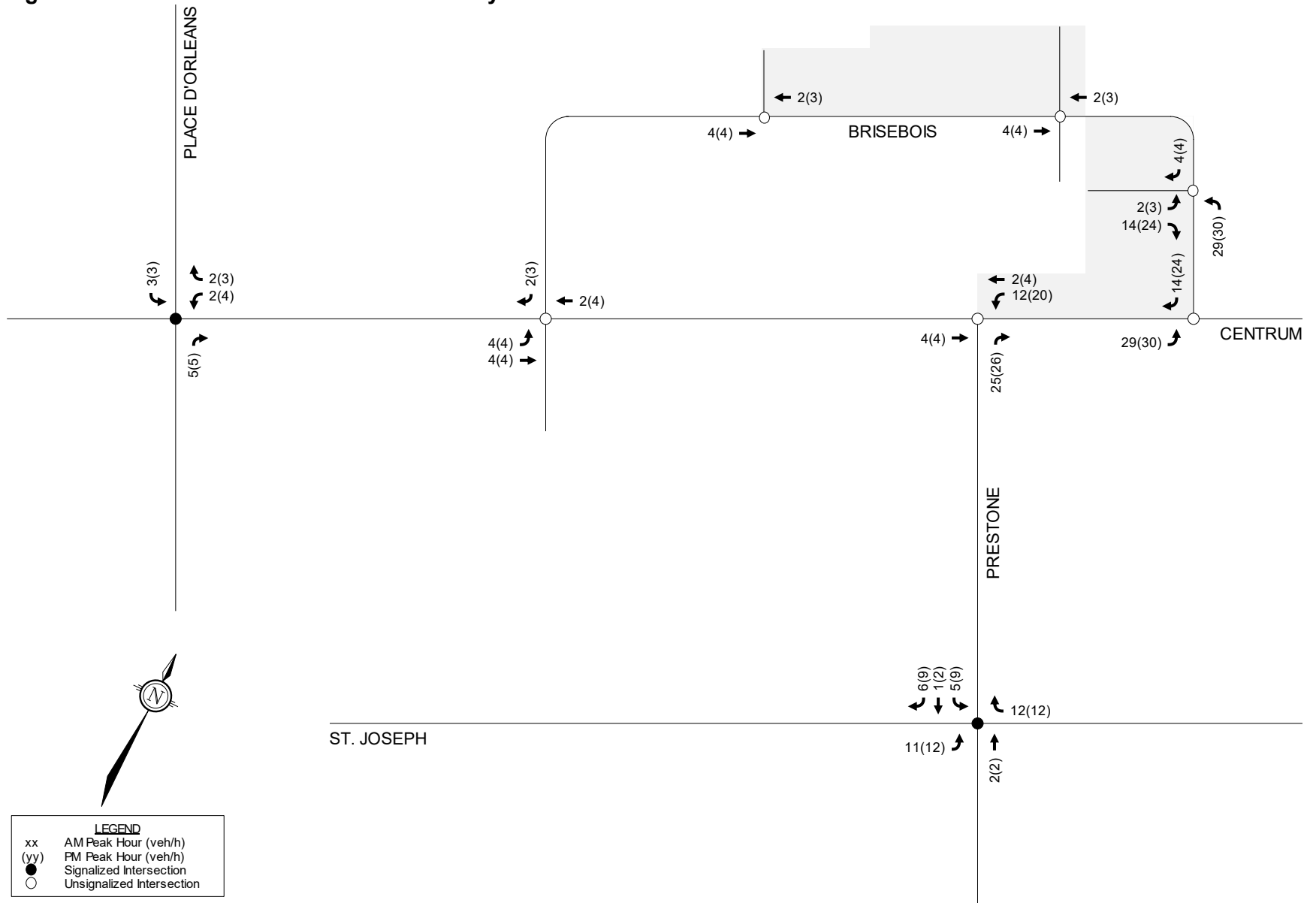
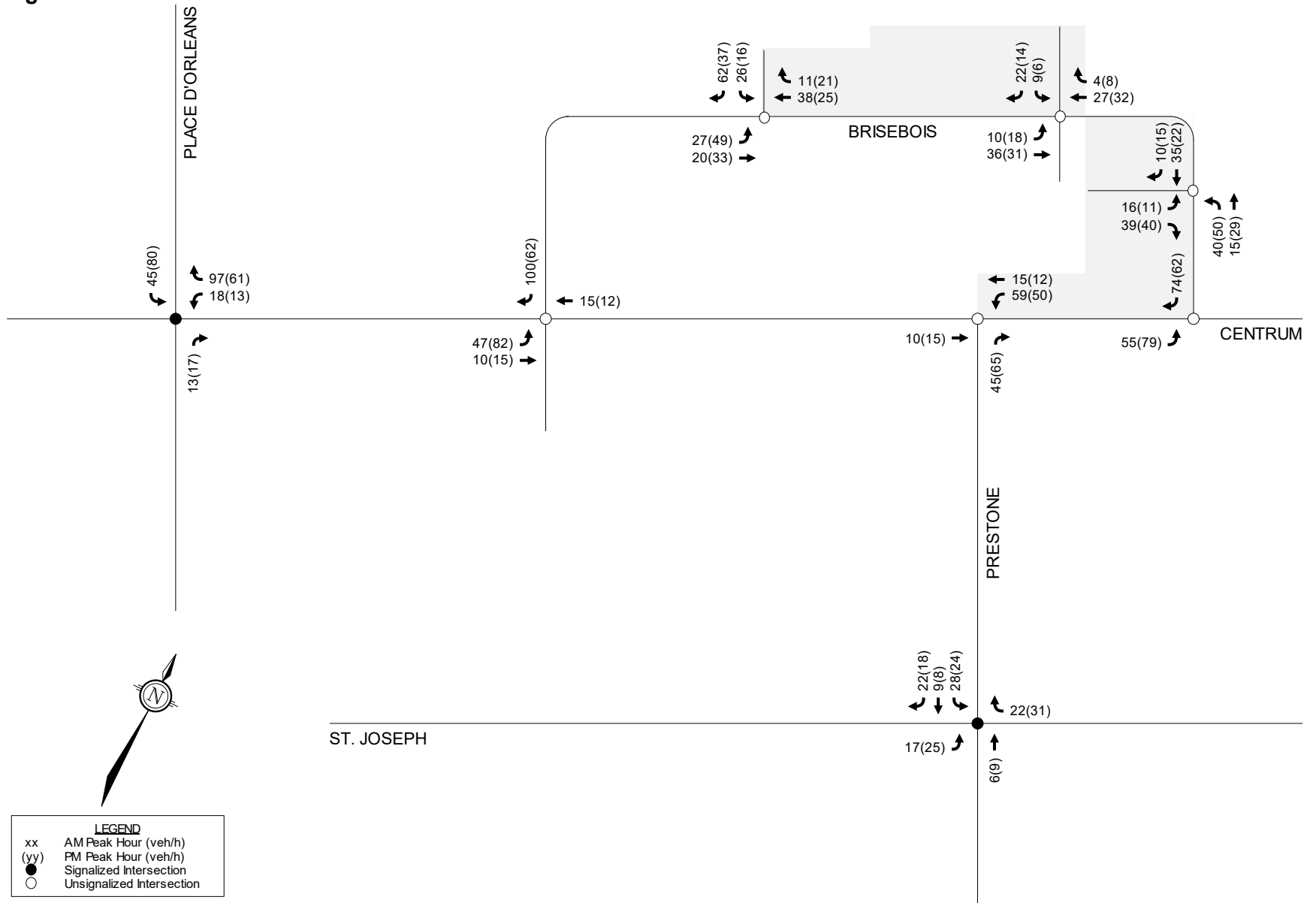


Figure 9: Total Site-Generated Traffic Volumes



2.6 Exemptions Review

This module reviews possible exemptions from the final TIA, as outlined in the *Revised TIA Guidelines*. The applicable exemptions for this site are shown in **Table 11**.

Table 11: TIA Exemptions

Module	Element	Exemption Criteria	Status
4.1 Development Design	4.1.2 Circulation and Access	<ul style="list-style-type: none"> Required for site plan control and zoning by-law amendment applications 	Not Exempt
	4.1.3 New Street Networks	<ul style="list-style-type: none"> Required for draft plan of subdivision applications 	Exempt
4.2 Parking	<i>All elements</i>	<ul style="list-style-type: none"> Required for site plan control and zoning by-law amendment applications 	Not Exempt
4.6 Neighbourhood Traffic Calming	<i>All elements</i>	<ul style="list-style-type: none"> If all of the following criteria are met: <ol style="list-style-type: none"> Access is provided to a collector or local roadway Application is for zoning by-law amendment or draft plan of subdivision Development generates more than 75 vehicle trips Site trip infiltration is expected, and site-generated traffic will increase peak volumes by 50% or more along the route between the site and an arterial The subject street segment is adjacent to two or more of the following significant sensitive land uses: <ul style="list-style-type: none"> School (within 250m walking distance) Park Retirement/older adult facility Licensed child care centre Community centre 50+% of adjacent properties along the route(s) are occupied by residential lands and at least ten dwellings are occupied 	Exempt
4.7 Transit	4.7.1 Transit Route Capacity	<ul style="list-style-type: none"> Required when proposed development generates more than 75 transit trips 	Not Exempt
	4.7.2 Transit Priority Requirements	<ul style="list-style-type: none"> Required when proposed development generates more than 75 vehicle trips 	Not Exempt
4.8 Network Concept	<i>All elements</i>	<ul style="list-style-type: none"> Required when proposed development generates more than 200 peak hour person trips in excess of the equivalent volume permitted by the established zoning 	Not Exempt
4.9 Intersection Design	<i>All elements</i>	<ul style="list-style-type: none"> Required when proposed development generates more than 75 vehicle trips 	Not Exempt

Based on the foregoing, the following modules are included in the TIA report:

- Module 4.1: Development Design
- Module 4.2: Parking
- Module 4.3: Boundary Streets
- Module 4.4: Access Design
- Module 4.5: Transportation Demand Management
- Module 4.7: Transit
- Module 4.8: Network Concept
- Module 4.9: Intersection Design

3.0 FORECASTING

3.1 Other Area Developments

As first discussed in Section 2.2.2, the following developments are in proximity of the subject site, and transportation studies with projections were prepared in support of those applications. Relevant excerpts of the studies are included in **Appendix H**.

211 Centrum Boulevard

The development includes 397 retirement units and accesses to Brisebois Crescent. The TIA identifies an estimated buildout year of 2024, but development has not occurred at the time of this report. Projected volumes generated by this development have been added to the 2035 and 2040 background conditions.

265 Centrum Boulevard (Bayview)

The development includes 1,127 residential dwellings, 8,967 ft² of retail space, 31,570 ft² of office space, and accesses to Brisebois Crescent. The TIA identifies a buildout year of 2028. Projected volumes generated by this development have been added to the 2035 and 2040 background conditions.

3030 St. Joseph Boulevard

The development includes 206 residential dwellings, 2,050 ft² of retail space, and access to St. Joseph Boulevard. The TIA identifies an estimated buildout year of 2025, but development has not occurred at the time of this report. Projected volumes generated by this development have been added to the 2035 and 2040 background conditions.

3277 St. Joseph Boulevard

The development includes 273 residential dwellings and access to St. Joseph Boulevard and Lionel-Rheo Private. The TIA identifies an estimated buildout year of 2024, but development has not occurred at the time of this report. Projected volumes generated by this development have been added to the 2035 and 2040 background conditions.

3459-3479 St. Joseph Boulevard

The development includes 326 residential dwellings and access to St. Joseph Boulevard and the eastbound Ottawa Road 174 on-ramp. The TIA identifies an estimated buildout year of 2025, but development has not occurred at the time of this report. Projected volumes generated by this development have been added to the 2035 and 2040 background conditions.

3.2 General Background Growth Rate

A review of the City's *Strategic Long-Range Model* (comparing snapshots of 2022 and 2046 AM peak hour volumes) has been conducted. The snapshots are included in **Appendix I**. A review of the long-range snapshots estimate annual growth rates of -1% to 1% on Place d'Orléans Drive, Centrum Boulevard, and Prestone Drive, and annual growth rates of 2% to 4% on St. Joseph Boulevard. A 2% per annum growth rate has been applied to through volumes on St. Joseph Boulevard, and a 0% per annum growth rate has been applied to all other movements.

3.3 Future Traffic Volume Figures

The figures below present the following traffic conditions:

- Other area development-generated traffic volumes in 2035/2040 are shown in **Figure 10**;
- Background traffic volumes in 2035 are shown in **Figure 11**;
- Background traffic volumes in 2040 are shown in **Figure 12**;
- Total traffic volumes in 2035 are shown in **Figure 13**;
- Total traffic volumes in 2040 are shown in **Figure 14**.

3.4 Demand Rationalization

A review of the existing and background intersection operations has been conducted to determine where traffic volumes exceed capacity within the study area, using Synchro 11 software. The intersection parameters used in the analysis are consistent with the *TIA Guidelines* (Saturated Flow Rate: 1,800 vphpl, Peak Hour Factor: 0.9 in existing conditions and 1.0 in future conditions). Signal timing plans have been obtained from the City, and are included in **Appendix J**.

Per Exhibit 22 of the *Multi-Modal Level of Service (MMLOS) Guidelines*, the City’s target vehicular level of service (Auto LOS) at Place d’Orléans Drive/Centrum Boulevard and Centrum Boulevard/Brisebois Crescent (West) is an Auto LOS E, as they are within 600m of a rapid transit station. This equates to a vehicle-to-capacity (v/c) ratio of 1.00 at signalized intersections, and a maximum delay of 50 seconds at unsignalized intersections. The target Auto LOS at all other intersections (including future site accesses) is an Auto LOS D, as they are located within a Mixed-Use Centre.

3.4.1 Existing Traffic Conditions

Intersection capacity analysis of the AM and PM peak hours has been conducted for the existing traffic conditions. The results of the analysis are summarized in **Table 12**. Detailed Synchro reports are included in **Appendix K**.

Table 12: Existing Traffic Operations

Intersection	AM Peak Hour			PM Peak Hour		
	Max v/c or Delay	LOS	Mvmt	Max v/c or Delay	LOS	Mvmt
Place d’Orléans Drive/ Centrum Boulevard ⁽¹⁾	0.33	A	WBT/R	0.50	A	EBR
Centrum Boulevard/ Brisebois Crescent (West) ⁽²⁾	10 sec	A	NBL/T/R	11 sec	B	NBL/T/R
Centrum Boulevard/ Prestone Drive ⁽²⁾	8 sec	A	NBL	8 sec	A	NBL
Centrum Boulevard/ Brisebois Crescent (East) ⁽²⁾	9 sec	A	SBR	9 sec	A	SBR
St. Joseph Boulevard/ Prestone Drive ⁽¹⁾	0.46	A	NBL	0.64	B	SBL

1. Signalized intersection
2. Unsignalized intersection

From the previous table, all study area intersections operate at an acceptable level of service. There are no queue lengths that extend into upstream intersections or exceed auxiliary lane storage lengths.

Figure 10: Other Area Development-Generated Traffic Volumes

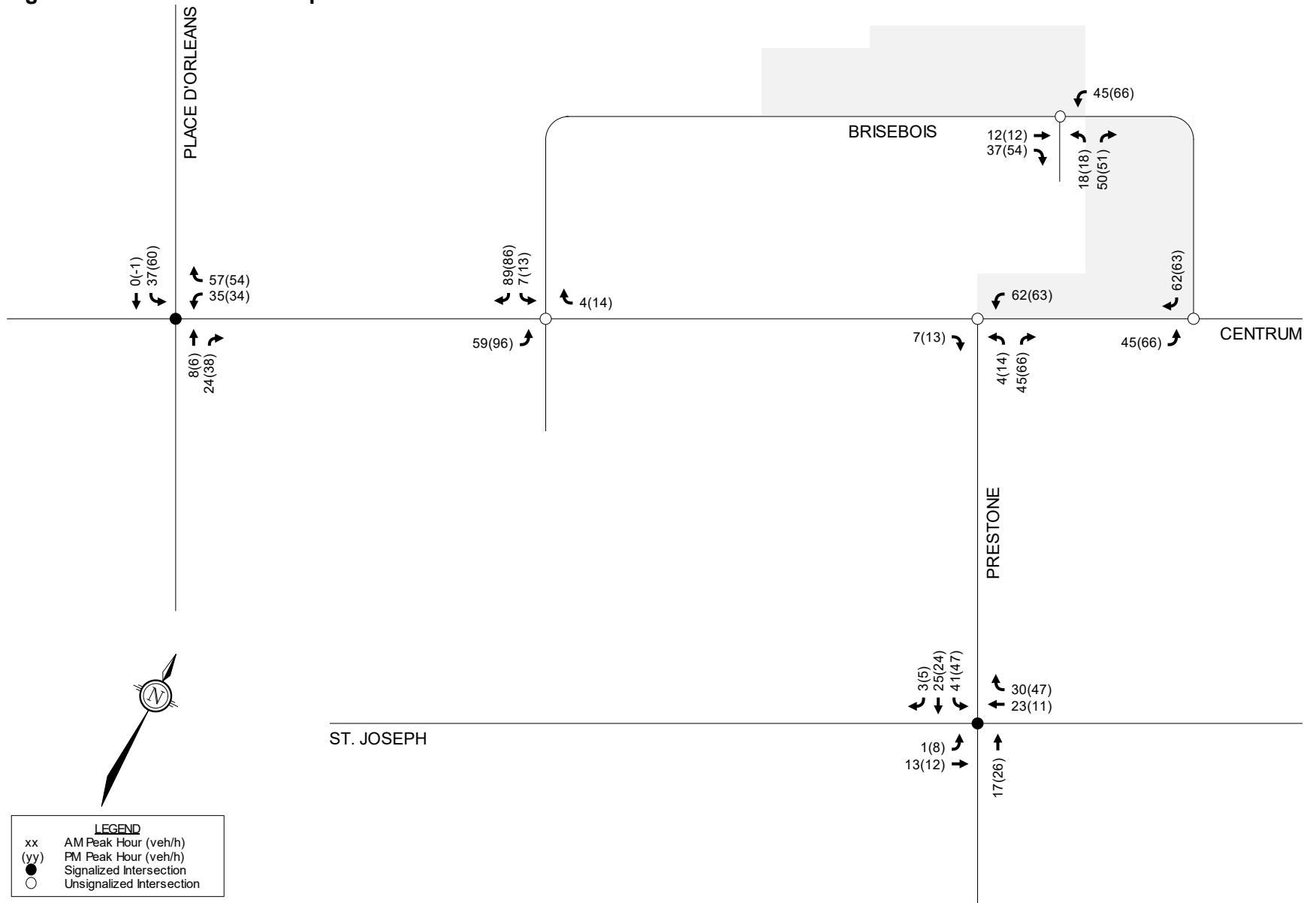


Figure 11: 2035 Background Traffic Volumes

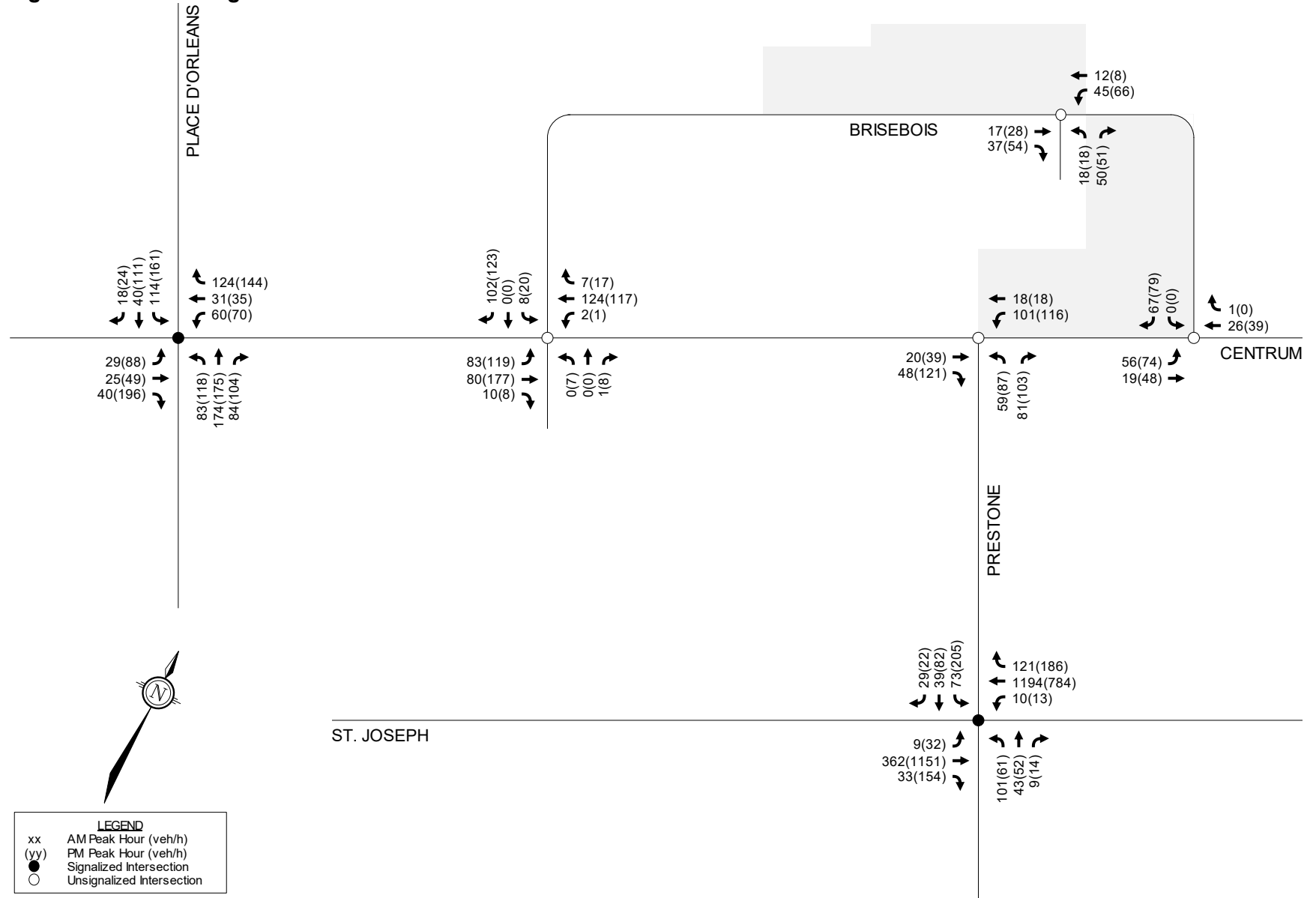


Figure 12: 2040 Background Traffic Volumes

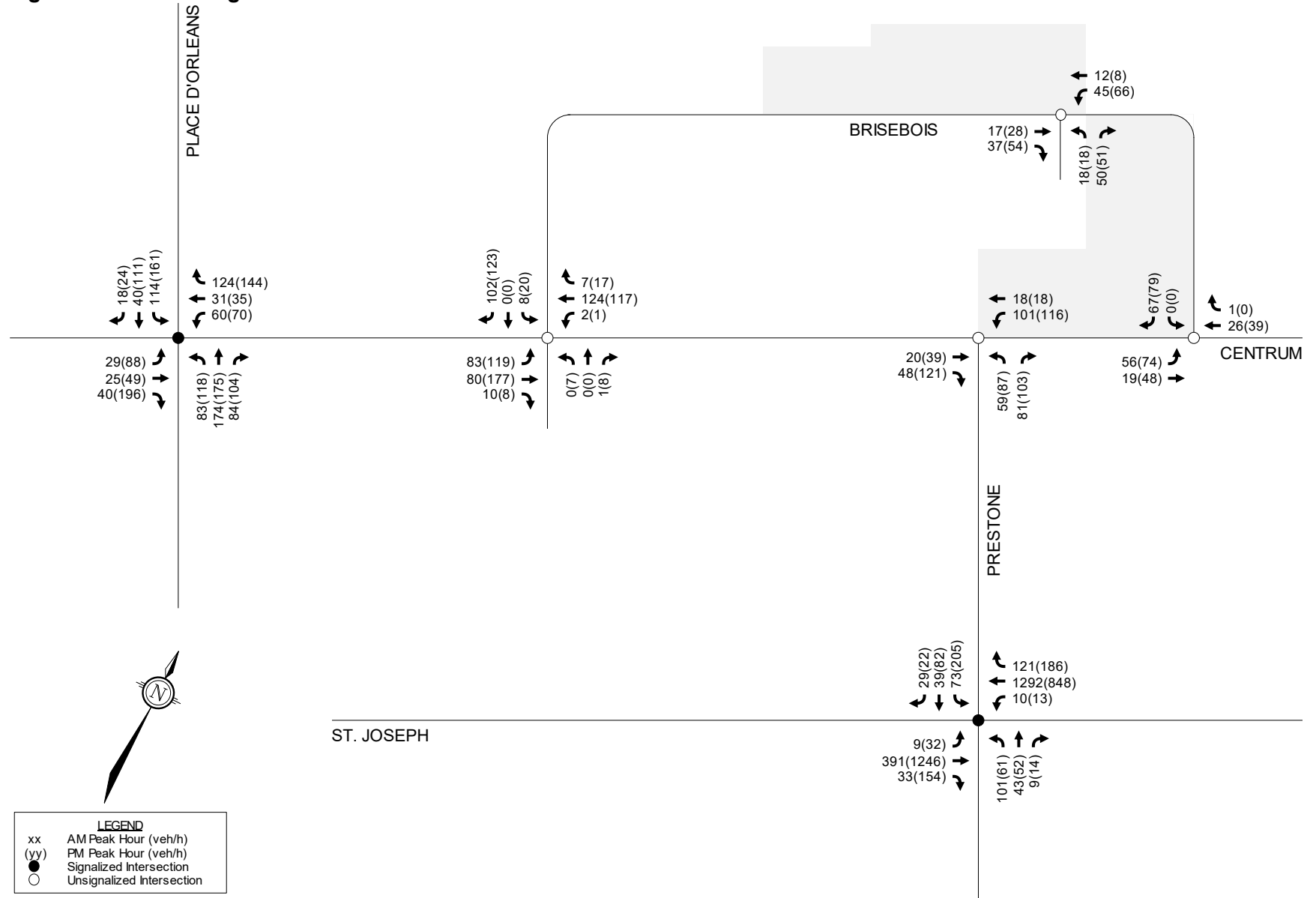


Figure 13: 2035 Total Traffic Volumes

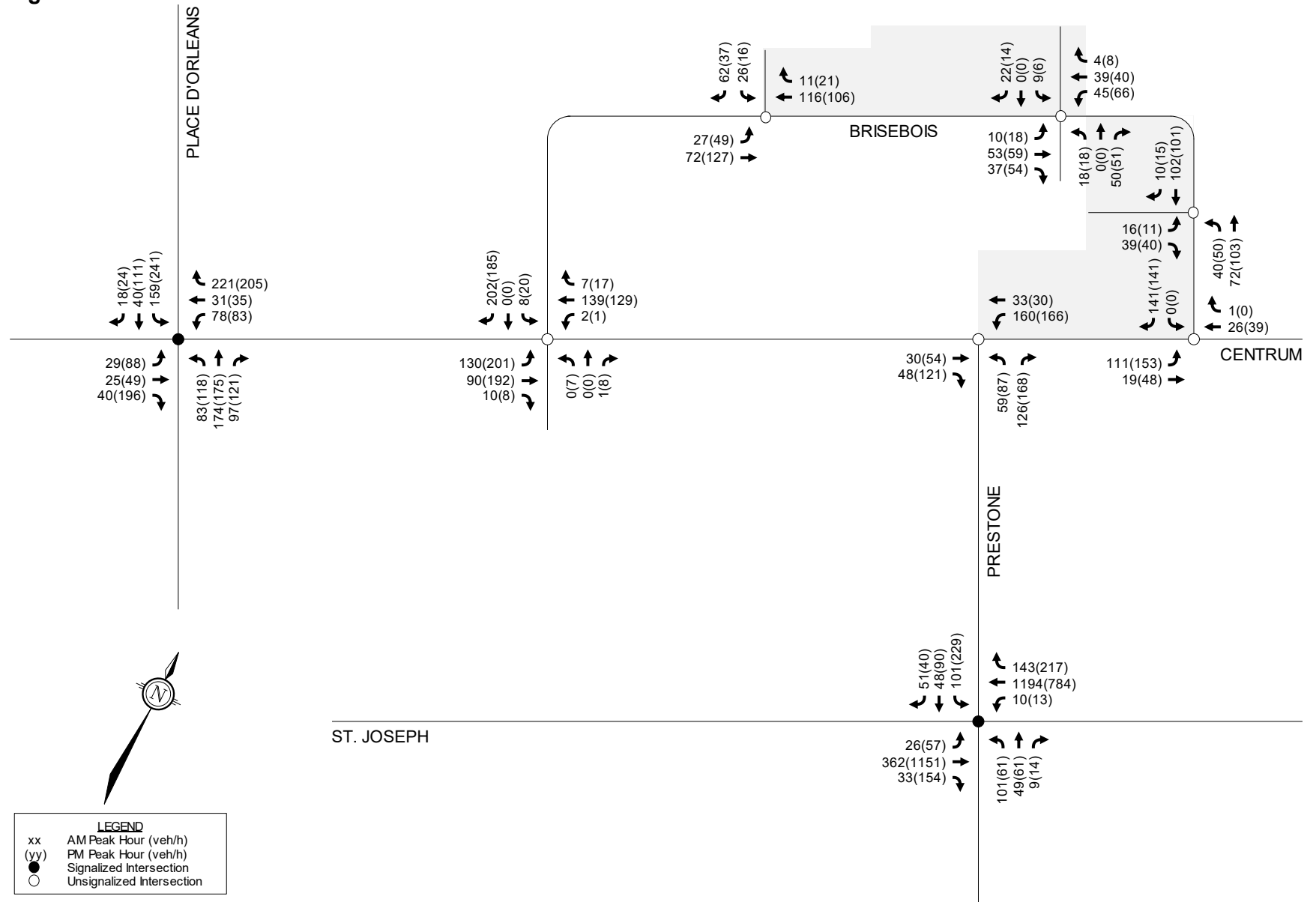
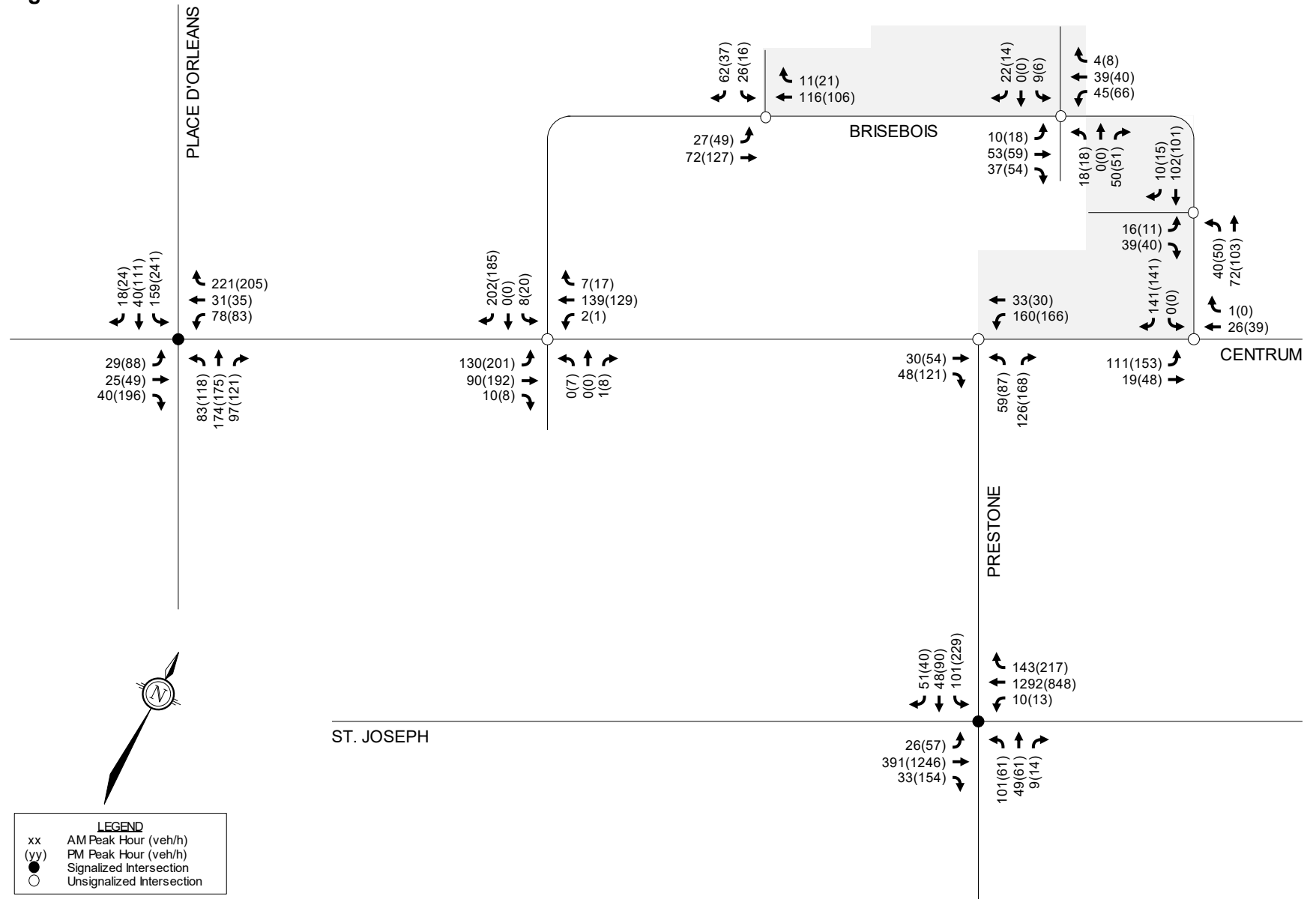


Figure 14: 2040 Total Traffic Volumes



3.4.2 2035 Background Traffic Conditions

Intersection capacity analysis of the AM and PM peak hours has been conducted for the 2035 background traffic conditions. The results of the analysis are summarized in **Table 13**. Detailed Synchro reports are included in **Appendix L**.

Table 13: 2035 Background Traffic Operations

Intersection	AM Peak Hour			PM Peak Hour		
	Max v/c or Delay	LOS	Mvmt	Max v/c or Delay	LOS	Mvmt
Place d'Orléans Drive/ Centrum Boulevard ⁽¹⁾	0.42	A	WBT/R	0.51	A	EBL
Centrum Boulevard/ Brisebois Crescent (West) ⁽²⁾	10 sec	A	NBL/T/R	14 sec	B	NBL/T/R
Centrum Boulevard/ Prestone Drive ⁽²⁾	8 sec	A	WBL/T	9 sec	A	WBL/T
Centrum Boulevard/ Brisebois Crescent (East) ⁽²⁾	9 sec	A	SBR	9 sec	A	SBR
St. Joseph Boulevard/ Prestone Drive ⁽¹⁾	0.48	A	WBT	0.71	C	SBL

- 1. Signalized intersection
- 2. Unsignalized intersection

From the previous table, all study area intersections are projected to operate at an acceptable level of service. There are no queue lengths that extend into upstream intersections or exceed auxiliary lane storage lengths.

3.4.3 2040 Background Traffic Conditions

Intersection capacity analysis of the AM and PM peak hours has been conducted for the 2040 background traffic conditions. The results of the analysis are summarized in **Table 14**. Detailed Synchro reports are included in **Appendix L**.

Table 14: 2040 Background Traffic Operations

Intersection	AM Peak Hour			PM Peak Hour		
	Max v/c or Delay	LOS	Mvmt	Max v/c or Delay	LOS	Mvmt
Place d'Orléans Drive/ Centrum Boulevard ⁽¹⁾	0.42	A	WBT/R	0.51	A	EBL
Centrum Boulevard/ Brisebois Crescent (West) ⁽²⁾	10 sec	A	NBL/T/R	14 sec	B	NBL/T/R
Centrum Boulevard/ Prestone Drive ⁽²⁾	8 sec	A	WBL/T	9 sec	A	WBL/T
Centrum Boulevard/ Brisebois Crescent (East) ⁽²⁾	9 sec	A	SBR	9 sec	A	SBR
St. Joseph Boulevard/ Prestone Drive ⁽¹⁾	0.52	A	WBT	0.71	C	SBL

- 1. Signalized intersection
- 2. Unsignalized intersection

From the previous table, all study area intersections are projected to operate at an acceptable level of service. There are no queue lengths that extend into upstream intersections or exceed auxiliary lane storage lengths.

4.0 ANALYSIS

4.1 Development Design

4.1.1 Design for Sustainable Modes

Based on the concept plan, entrances to Buildings A and B/C, including townhouse entrances on the ground floor, will connect to the existing sidewalk on the north side of Brisebois Crescent. Entrances to Building D/E will connect to the existing sidewalks on the inside of Brisebois Crescent and north side of Centrum Boulevard.

An open space is proposed between Buildings A and B/C to provide an active transportation connection to the future Orléans Town Centre O-Train Station. A PXO should be implemented at this location on Brisebois Crescent as part of the future station, aligning with the north-south pedestrian connection through the Bayview development to Centrum Boulevard. The existing tactile walking surface indicators (TWSIs) and curb depressions at the bend of Brisebois Crescent to the east should be removed when the new PXO is implemented.

The concept plan identifies interior bike parking spaces on the ground floors and/or within the underground parking garages of each proposed building. The specific locations of interior and exterior bike parking spaces, as well as any other on-site bike infrastructure, will be confirmed as part of future Site Plan Control applications.

OC Transpo's service design guideline for peak period service is to provide service within a five-minute (400m) walk of home, work, or school for 95% of urban residents. It is anticipated that all proposed entrances will be within 400m walking distance of the future Orléans Town Centre LRT Station. Additionally, it is anticipated that all proposed entrances will be within 400m walking distance of existing bus stops on Centrum Boulevard and Prestone Drive (served by routes 35, 36, and 302), and within 600m walking distance of existing bus stops on Place d'Orléans Drive (served by routes 33 and 234).

A review of the *Transportation Demand Management (TDM)-Supportive Development Design and Infrastructure Checklist* will be conducted in subsequent Site Plan Control applications.

4.1.2 Circulation and Access

It is recognized that the Exemptions Review (included in Section 2.6) identifies that this module is not exempt. However, a review of garbage truck, fire truck, and loading vehicle turning movements will be reviewed at the Site Plan Control application stage, once more site plan details are known.

4.2 Parking

The subject site is located in Area C of Schedule 1 and Area Z of Schedule 1A of the City's ZBL. Minimum vehicle parking rates, accessible parking rates, bicycle parking rates, and loading space rates for the proposed development, plus maximum vehicle parking rates, are identified in Section 101, 102, 111, and 113 of the ZBL, or the City's *Accessibility Design Standards*. The parking requirements for these different criteria are summarized as follows.

Minimum vehicle parking (per Section 101/102 of the ZBL)

- Residential (resident): no minimum requirement
- Residential (visitor): 0.1 spaces per dwelling after the first 12, to a max of 30 per building
- Retail: no minimum requirement
- Community centre: no minimum requirement

Maximum vehicle parking (per Section 103 of the ZBL)

- Residential: 1.75 spaces per dwelling (combined resident/visitor requirement)
- Retail: 4.0 spaces per 100 m² GFA
- Community centre: no maximum requirement

Minimum bicycle parking (per Section 111 of the ZBL)

- Residential: 0.5 spaces per dwelling
- Retail: 1.0 spaces per 250 m² GFA
- Community centre: 1.0 spaces per 1,500 m² GFA

Minimum loading (per Section 113 of the ZBL)

- Residential: no minimum requirement
- Retail: no minimum when use is less than 1,000 m² GFA
- Community centre: 2 spaces when use is 2,000 to 4,999 m² GFA

Minimum accessible parking (per Section 3.1 of the City's Accessibility Design Standards)

- 2 parking spaces required when total parking is 26 to 50 (1 Type A + 1 Type B)
- 3 parking spaces required when total parking is 51 to 75 (1 Type A + 2 Type B)

The parking requirements for each building is shown in **Table 15**.

Table 15: Parking Requirements

Bldg	Dwellings, GFA, or Parking Supply	Parking Requirement				
		Minimum Vehicle	Maximum Vehicle	Minimum Bicycle	Minimum Loading	Minimum Accessible
A	312 dwellings	30	546	156	-	2
	30 parking spaces					
	156 bicycle spaces					
B/C	818 dwellings	30	1,432	409	-	3
	75 parking spaces					
	409 bicycle spaces					
D/E	375 dwellings	30	679	192	2	3
	570 m ² retail					
	3,616 m ² community					
	65 parking spaces					
	188 bicycle spaces					

The number of conceptual vehicle parking spaces in each proposed building meets the minimum requirements outlined in the City's ZBL. The number of vehicle parking, bicycle parking, loading spaces, and accessible parking spaces will be confirmed as part of future Site Plan Control applications.

4.3 Boundary Streets

This section provides a review of the boundary frontages to Centrum Boulevard and Brisebois Crescent, using complete streets principles. The *Multi-Modal Level of Service (MMLOS) Guidelines*, produced by IBI Group in October 2015, were used to evaluate the levels of service for each alternative mode of transportation on the boundary streets. The MMLOS review has been conducted based on existing conditions.

Based on Exhibit 22 of the *MMLOS Guidelines*, Centrum Boulevard and Brisebois Crescent have been evaluated using the Mixed Use Centre targets. A detailed MMLOS review of the boundary streets is included in **Appendix M**. A summary of the segment MMLOS results is provided in **Table 16**. Neither boundary street is a rapid transit/transit priority route or truck route. However, Centrum Boulevard has still been evaluated for transit level of service (TLOS) and truck level of service (TkLOS), as Centrum Boulevard is an existing transit route.

Table 16: Segment MMLOS Summary

Segment	PLOS		BLOS		TLOS		TkLOS	
	Actual	Target	Actual	Target	Actual	Target	Actual	Target
Centrum Boulevard	C	C	D	D	F	-	B	-
Brisebois Crescent	B	C	D	D	-	-	-	-

From the previous table, Centrum Boulevard and Brisebois Crescent achieve the target pedestrian level of service (PLOS) and bicycle level of service (BLOS) D.

4.4 Transportation Demand Management

4.4.1 Context for TDM

In total, the proposed development conceptually includes approximately 1,500 dwellings, 6,135 ft² of retail space, and a 38,933 ft² community centre. Based on the conceptual unit counts, a preliminary breakdown of the residential dwellings by unit type (i.e. studio, one-bedroom, two-bedroom, etc.) is summarized as follows:

- 128 studio units (8%);
- 571 one-bedroom units (38%);
- 647 two-bedroom units (43%);
- 159 three-bedroom units (11%).

4.4.2 Need and Opportunity

The subject development is designated as ‘Town Centre,’ ‘Hub’, and ‘Evolving Neighbourhood’ on Schedule B8 of the City of Ottawa’s *Official Plan*. The implemented zoning for the subject parcels is ‘Mixed-Use Centre – Orléans Town Centre Subzone’ (MC14[1413] or MC14[1520]). In the *Orléans Corridor Secondary Plan*, the 265 Centrum Boulevard parcel is designated as ‘Orléans Town Centre’ and the 530 Brisebois Crescent parcel is designated as ‘Station Area – Periphery’ and ‘Station Core.’

As discussed in Section 2.5.1, the weekday peak hour driver shares within the Orléans district are 54% to 61% for residential generators and 71% to 77% for commercial generators. It is anticipated that the mode share targets specified in Section 2.5.1 (40% for the proposed residential and 55% for the proposed commercial) are attainable. Most sites within Orléans are not currently or planned to be adjacent to rapid transit, whereas the proposed development is within walking distance of the future Orléans Town Centre Station. The Place d'Orléans Shopping Centre is immediately west of the study area, and there are other commercial areas and parks/recreation amenities within the study area. Additionally, the number of proposed parking spaces is anticipated to result in lower driver shares than assumed in this TIA.

4.4.3 TDM Program

A review of the City's *TDM Measures Checklist* will be conducted by the proponent as part of future Site Plan Control applications.

4.5 Transit

4.5.1 Transit Route Capacity

Based on the trip generation estimates presented in Section 2.5.1, the conceptual development is anticipated to generate the following number of external transit trips:

- AM peak: 247 residential trips (76 in, 171 out) and 9 retail/community trips (6 in, 3 out);
- PM peak: 238 residential trips (136 in, 102 out) and 12 retail/community trips (6 in, 6 out);

A significant majority of site-generated transit trips are anticipated to use O-Train Line 1 (Algonquin–Trim), which is anticipated to be in operation prior to completion of the proposed development. A small proportion are anticipated to board and alight buses at stops #2627 and #5924 (for routes 35 or 36), and at stops #5637 and #8532 (for route 33). No site transit trips were assumed to use Route 234 due to the availability of Line 1. Route 302 does not serve the study area during the peak hours.

Data from the *2011 TRANS O-D Survey Report* suggests that approximately 60% of trips originating in Orléans remain within the district, approximately 40% of trips are destined for districts west of Orléans, and a negligible number of trips are destined for the eastern rural districts. For the purposes of this study, all transit trips to/from districts west of Orléans have been assigned to use the LRT, and transit trips within Orléans have been split evenly between the LRT and OC Routes 33, 35, and 36.

A summary of the assumed transit distributions is included in **Table 17**.

Table 17: Transit Distribution

Route, Terminus	Stop	Distribution		AM Peak Hour			PM Peak Hour		
		IN	OUT	IN	OUT	TOT	IN	OUT	TOT
Line 1, east (Trim)	Orléans Town Centre	60%	10%	45	17	62	81	10	91
Line 1, west (Algonquin)	Orléans Town Centre	10%	60%	7	103	110	13	62	75
Route 33, east (Portobello)	#8532	10%	0%	-	17	17	-	10	10
Route 33, west (Blair)	#5637	0%	10%	8	-	8	14	-	14

Route, Terminus	Stop	Distribution		AM Peak Hour			PM Peak Hour		
		IN	OUT	IN	OUT	TOT	IN	OUT	TOT
Route 35, east (Avalon)	#2627	10%	0%	-	17	17	-	10	10
Route 35, west (Blair)	#5924	0%	10%	8	-	8	14	-	14
Route 36, east (Innes)	#2627	10%	0%	-	17	17	-	10	10
Route 36, west (Place d'Orléans)	#5924	0%	10%	8	-	8	14	-	14

O-Train Line 1 (east to/from Trim)

During the peak hours, the proposed development is projected to generate an additional 17 AM boarding trips, 45 AM alighting trips, 10 PM boarding trips, and 81 PM alighting trips at Orléans Town Centre Station. Assuming Line 1 runs on five-minute headways during weekday peak hours (consistent with existing LRT schedules), this averages to an addition of two AM boardings, four AM alightings, one PM boarding, and seven PM alightings per train.

O-Train Line 1 (west to/from Algonquin)

During the peak hours, the proposed development is projected to generate an additional 103 AM boarding trips, seven AM alighting trips, 62 PM boarding trips, and 13 PM alighting trips at Orléans Town Centre Station. Assuming five-minute headways, this averages to an addition of nine AM boardings, one AM alighting, five PM boardings, and one PM alighting per train.

OC Route 33 (east to Portobello)

During the peak hours, the proposed development is projected to generate 17 AM boarding trips and eight PM boarding trips at stop #8532. Assuming 15-minute headways, this averages to an addition of five AM boardings and two PM boardings per bus.

OC Route 33 (west to Blair)

During the peak hours, the proposed development is projected to generate eight AM alighting trips and 14 PM alighting trips at stop #5637. Assuming 15-minute headways, this averages to an addition of two AM alightings and four PM alightings per bus.

OC Route 35 (east to Avalon)

During the peak hours, the proposed development is projected to generate 17 AM boarding trips and eight PM boarding trips at stop #2627. Assuming 30-minute headways, this averages to an addition of nine AM boardings and four PM boardings per bus.

OC Route 35 (west to Blair)

During the peak hours, the proposed development is projected to generate eight AM alighting trips and 14 PM alighting trips at stop #5924. Assuming 30-minute headways, this averages to an addition of four AM alightings and seven PM alightings per bus.

OC Route 36 (east to Innes)

During the peak hours, the proposed development is projected to generate 17 AM boarding trips and eight PM boarding trips at stop #2627. Assuming 30-minute headways, this averages to an addition of nine AM boardings and four PM boardings per bus.

OC Route 36 (west to Place d’Orléans)

During the peak hours, the proposed development is projected to generate eight AM alighting trips and 14 PM alighting trips at stop #5924. Assuming 30-minute headways, this averages to an addition of four AM alightings and seven PM alightings per bus.

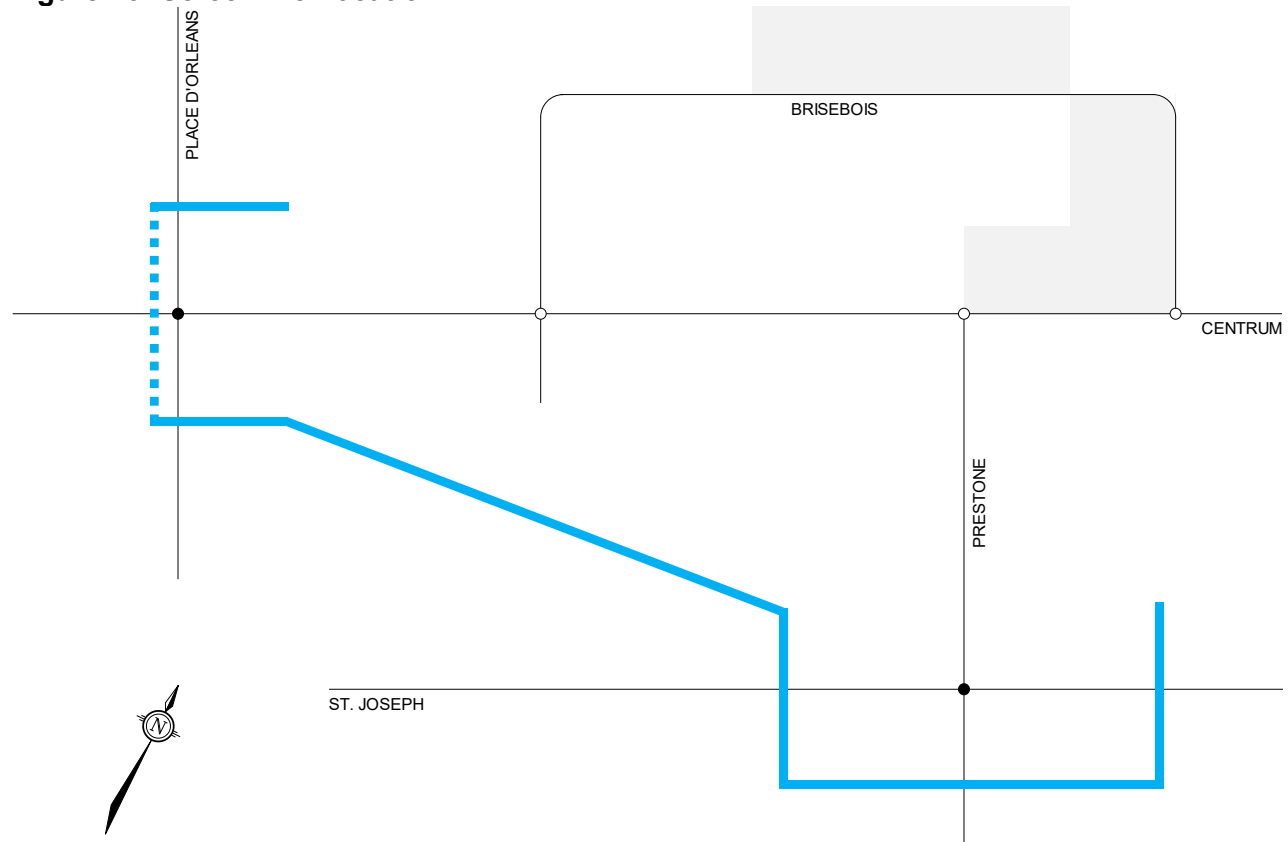
4.5.2 Transit Priority Requirements

The proposed development does not include any driveways on a street that serves transit vehicles, and the majority of site-generated transit traffic are anticipated to use O-Train Line 1. The addition of site-generated transit traffic that is expected to use a bus is anticipated to have marginal impacts to transit delays. As discussed in Section 2.2.1, there are no other transit priority measures that are identified within the study area in the *2025 TMP*.

4.6 Network Concept

A review of the future lane capacities at the boundaries of the study area (i.e. screenline) has been conducted. The location of the screenline is shown in **Figure 15**.

Figure 15: Screenline Location



The directional capacities for Place d’Orléans Drive, St. Joseph Boulevard, and Prestone Drive have been estimated using the City’s TRANS road capacities for arterial or major collector roadways in suburban areas. The assumed lane capacities are 1,000 passenger car equivalents (PCEs) per hour per lane for arterial roadways (Place d’Orléans Drive and St. Joseph Boulevard) and 800 passenger car equivalents per hour per lane for major collector roadways (Prestone Drive).

The existing peak direction volumes, 2040 background peak direction volumes, and 2040 total peak direction volumes have been reviewed. Traffic volumes have been converted into PCEs by increasing the volumes by the percentage of heavy vehicles for each direction. The results are shown in **Table 18**.

Table 18: Study Area Volumes and Performance

Roadway	Capacity (vph) ⁽¹⁾	Directional Volumes		Directional PCEs		v/c Ratio and LOS		Deficiencies	
		AM	PM	AM	PM	AM	PM	AM	PM
<i>Existing Traffic Volumes</i>									
Place d'Orléans Dr (N)	2,000	262	347	283	368	0.14 [A]	0.18 [A]	-	-
Place d'Orléans Dr (S)	2,000	309	353	324	364	0.16 [A]	0.18 [A]	-	-
St. Joseph Blvd (E)	2,000	1,077	1,121	1,099	1,132	0.55 [A]	0.57 [A]	-	-
St. Joseph Blvd (W)	2,000	1,103	1,127	1,125	1,138	0.56 [A]	0.57 [A]	-	-
Prestone Dr (S)	800	136	225	141	230	0.18 [A]	0.29 [A]	-	-
Overall	8,800	2,887	3,173	2,972	3,232	0.34 [A]	0.37 [A]	-	-
<i>2040 Background Volumes</i>									
Place d'Orléans Dr (N)	2,000	327	407	353	431	0.18 [A]	0.22 [A]	-	-
Place d'Orléans Dr (S)	2,000	341	397	358	409	0.18 [A]	0.20 [A]	-	-
St. Joseph Blvd (E)	2,000	1,423	1,465	1,451	1,480	0.72 [C]	0.74 [C]	-	-
St. Joseph Blvd (W)	2,000	1,422	1,432	1,450	1,446	0.72 [C]	0.72 [C]	-	-
Prestone Dr (S)	800	153	249	159	254	0.20 [A]	0.32 [A]	-	-
Overall	8,800	3,666	3,950	3,771	4,020	0.43 [A]	0.46 [A]	-	-
<i>2040 Total Volumes</i>									
Place d'Orléans Dr (N)	2,000	424	468	458	496	0.23 [A]	0.25 [A]	-	-
Place d'Orléans Dr (S)	2,000	354	414	372	426	0.19 [A]	0.21 [A]	-	-
St. Joseph Blvd (E)	2,000	1,445	1,489	1,474	1,504	0.74 [C]	0.75 [C]	-	-
St. Joseph Blvd (W)	2,000	1,444	1,457	1,472	1,472	0.74 [C]	0.74 [C]	-	-
Prestone Dr (S)	800	159	257	165	262	0.21 [A]	0.33 [A]	-	-
Overall	8,800	3,826	4,085	3,941	4,160	0.45 [A]	0.47 [A]	-	-

1. vph: vehicle trips per hour

As shown in the previous table, there is residual capacity throughout the study area, both in existing and future conditions.

4.7 Intersection Design

4.7.1 Intersection MMLOS

This section provides a review of the signalized study area intersections using complete streets principles. All intersections within the study area have been evaluated for PLOS, BLOS, TLOS, and TkLOS. The targets associated with intersections 'within 600m of a rapid transit station' has been applied to Place d'Orléans Drive/Centrum Boulevard, and the targets associated with intersections within Mixed-Use Centres has been applied to St. Joseph Boulevard/Prestone Drive. The full intersection MMLOS analysis is included in **Appendix M**. A summary of the results is shown in **Table 19**.

Table 19: Intersection MMLOS Summary

Intersection	PLOS		BLOS		TLOS		TkLOS	
	Actual	Target	Actual	Target	Actual	Target	Actual	Target
Place d'Orléans Drive/ Centrum Boulevard	F	A	F	D	C	-	C	D
St. Joseph Boulevard/ Prestone Drive	F	C	F	A	E		C	

The results of the intersections MMLOS analysis can be summarized as follows:

- Neither study area intersection meets the target PLOS;
- Neither study area intersection meets the target BLOS;
- The study area intersections achieve a TLOS C or E, but there is no target;
- Both study area intersections meet the target TkLOS.

Place d'Orléans Drive/Centrum Boulevard

The intersection does not meet the target PLOS A or BLOS D.

All approaches with a crosswalk have a divided cross-section with a width equivalent to seven lanes crossed or more (assuming a lane width equals 3.5m, per the *MMLOS Guidelines*). There is limited opportunity in improving the PLOS at each approach without reducing the number of travel lanes or restricting turning movements. The east and west approaches do not meet the City's vehicle/pedestrian conflict threshold for zebra-striped crosswalks (greater than 400,000 vehicle/pedestrian conflicts over an eight-hour period). There is limited opportunity in improving the delay score for pedestrians without incurring major delays for vehicles.

The north and south approaches do not meet the target BLOS based on left turn characteristics. A protected intersection design would be required for all approaches to meet the target BLOS. This is identified for the City's consideration.

St. Joseph Boulevard/Prestone Drive

The intersection does not meet the target PLOS C or BLOS A.

All approaches with a crosswalk have a divided cross-section with a width equivalent to eight lanes crossed or more. There is limited opportunity in improving the PLOS at each approach without reducing the number of travel lanes or restricting turning movements. No approaches meet the City's vehicle/pedestrian conflict threshold for zebra-striped crosswalks. There is limited opportunity in improving the delay score for pedestrians without incurring major delays for vehicles.

All approaches do not meet the target BLOS based on left turn characteristics, and the east and west approaches do not meet the target BLOS based on right turn characteristics. A protected intersection design would be required for all approaches to meet the target BLOS. This is identified for the City's consideration as the St. Joseph Boulevard corridor is reconstructed.

4.7.2 2035 Total Traffic Conditions

Intersection capacity analysis of the AM and PM peak hours has been conducted for the 2035 total traffic conditions. The results of the analysis are summarized in **Table 20**. Detailed Synchro reports are included in **Appendix N**.

Table 20: 2035 Total Traffic Operations

Intersection	AM Peak Hour			PM Peak Hour		
	Max v/c or Delay	LOS	Mvmt	Max v/c or Delay	LOS	Mvmt
Place d'Orléans Drive/ Centrum Boulevard ⁽¹⁾	0.57	A	WBT/R	0.68	B	EBL
Centrum Boulevard/ Brisebois Crescent (West) ⁽²⁾	11 sec	B	SBL/T/R	19 sec	C	NBL/T/R
Centrum Boulevard/ Prestone Drive ⁽²⁾	9 sec	A	WBL/T	10 sec	A	WBL/T
Centrum Boulevard/ Brisebois Crescent (East) ⁽²⁾	9 sec	A	SBR	9 sec	A	SBR
St. Joseph Boulevard/ Prestone Drive ⁽¹⁾	0.48	A	WBT	0.76	C	SBL
Site Access to Buildings B/C ⁽²⁾	10 sec	A	SBL/R	10 sec	A	SBL/R
Site Access to Building A/Bayview ⁽²⁾	10 sec	A	NBL/R	10 sec	A	SBL/R
Site Access to Buildings D/E ⁽²⁾	10 sec	A	EBL/R	9 sec	A	EBL/R

- 1. Signalized intersection
- 2. Unsignalized intersection

From the previous table, all study area intersections and proposed accesses are projected to operate at an acceptable level of service. There are no queue lengths that extend into upstream intersections or exceed auxiliary lane storage lengths.

4.7.3 2040 Total Traffic Conditions

Intersection capacity analysis of the AM and PM peak hours has been conducted for the 2040 total traffic conditions. The results of the analysis are summarized in **Table 21**. Detailed Synchro reports are included in **Appendix N**.

Table 21: 2040 Total Traffic Operations

Intersection	AM Peak Hour			PM Peak Hour		
	Max v/c or Delay	LOS	Mvmt	Max v/c or Delay	LOS	Mvmt
Place d'Orléans Drive/ Centrum Boulevard ⁽¹⁾	0.57	A	WBT/R	0.72	C	EBL
Centrum Boulevard/ Brisebois Crescent (West) ⁽²⁾	11 sec	B	SBL/T/R	19 sec	C	NBL/T/R
Centrum Boulevard/ Prestone Drive ⁽²⁾	9 sec	A	WBL/T	10 sec	A	WBL/T
Centrum Boulevard/ Brisebois Crescent (East) ⁽²⁾	9 sec	A	SBR	9 sec	A	SBR
St. Joseph Boulevard/ Prestone Drive ⁽¹⁾	0.52	A	WBT	0.76	C	SBL

Intersection	AM Peak Hour			PM Peak Hour		
	Max v/c or Delay	LOS	Mvmt	Max v/c or Delay	LOS	Mvmt
Site Access to Buildings B/C ⁽²⁾	10 sec	A	SBL/R	10 sec	A	SBL/R
Site Access to Building A/Bayview ⁽²⁾	10 sec	A	NBL/R	10 sec	A	SBL/R
Site Access to Buildings D/E ⁽²⁾	10 sec	A	EBL/R	9 sec	A	EBL/R

- 1. Signalized intersection
- 2. Unsignalized intersection

From the previous table, all study area intersections and proposed accesses are projected to operate at an acceptable level of service. There are no queue lengths that extend into upstream intersections or exceed auxiliary lane storage lengths.

5.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the foregoing, the conclusions and recommendations of this TIA can be summarized as follows:

Site-Generated Traffic

- The proposed development is projected to generate the following number of external peak hour trips:
 - 277 vehicle trips, 256 transit trips, and 76 non-auto trips during the AM peak hour;
 - 286 vehicle trips, 250 transit trips, and 79 non-auto trips during the PM peak hour.

Development Design and Parking

- It is anticipated that the minimum required stopping sight distance (SSD) will be provided at all accesses. The desired intersection sight distance (ISD) can be accommodated at the proposed accesses for Buildings A and B/C, provided that any future landscaping and building envelopes are designed appropriately and future vegetation is maintained. The desired ISD for left turns can be accommodated at the proposed access for Building D/E. The ISD for right turns is based on the future building envelope of the community centre. The community centre is a placeholder and will be subject to design from the City of Ottawa. Details are unknown at this time.
- Based on the concept plan, entrances to Buildings A and B/C, including townhouse entrances on the ground floor, will connect to the existing sidewalk on the north side of Brisebois Crescent. Entrances to Building D/E will connect to the existing sidewalks on the inside of Brisebois Crescent and north side of Centrum Boulevard.
- An open space is proposed between Buildings A and B/C to provide an active transportation connection to the future Orléans Town Centre O-Train Station. A pedestrian crossover (PXO) should be implemented at this location on Brisebois Crescent as part of the future station, aligning with the north-south pedestrian connection through the Bayview development to Centrum Boulevard. The existing tactile walking surface indicators (TWSIs) and curb depressions at the bend of Brisebois Crescent to the east should be removed when the new PXO is implemented.

- The concept plan identifies interior bike parking spaces on the ground floors and/or within the underground parking garages of each proposed building.
- It is anticipated that all proposed entrances will be within 400m walking distance of the future Orléans Town Centre LRT Station and existing bus stops on Centrum Boulevard and Prestone Drive, and within 600m walking distance of existing bus stops on Place d'Orléans Drive.
- The number of conceptual vehicle parking spaces in each proposed building meets the minimum requirements outlined in the City's ZBL. The number of vehicle parking, bicycle parking, loading spaces, and accessible parking spaces will be confirmed as part of future Site Plan Control applications.

Boundary Streets

- Centrum Boulevard and Brisebois Crescent achieve the target pedestrian level of service (PLOS) and bicycle level of service (BLOS) D.

Transit

- The proposed development does not include any driveways on a street that serves transit vehicles, and the majority of site transit traffic are anticipated to use O-Train Line 1.
- The addition of site-generated transit traffic that is expected to use a bus is anticipated to have marginal impacts to transit delays.

Network Concept

- There is residual capacity throughout the study area, both in existing and future conditions.

Intersection Multi-Modal Level of Service (MMLOS)

- The results of the intersections MMLOS analysis can be summarized as follows:
 - Neither study area intersection meets the target PLOS;
 - Neither study area intersection meets the target BLOS;
 - The study area intersections achieve a transit level of service (TLOS) C or E, but there is no target;
 - Both study area intersections meet the target truck level of service (TkLOS).
- At Place d'Orléans Drive/Centrum Boulevard and St. Joseph Boulevard/Prestone Drive, all approaches with a crosswalk have a cross-section equivalent to seven lanes crossed or more. There is limited opportunity in improving the PLOS at each approach without reducing the number of travel lanes or restricting turning movements. There is limited opportunity in improving the delay score for pedestrians without incurring major delays for vehicles.
- At Place d'Orléans Drive/Centrum Boulevard and St. Joseph Boulevard/Prestone Drive, a protected intersection design would be required for all approaches to meet the target BLOS. This is identified for the City's consideration.

Existing, Background, and Total Traffic Operations

- In all existing, background, and total traffic conditions, all study area intersections are projected to operate at an acceptable level of service. There are no queue lengths that extend into upstream intersections or exceed auxiliary lane storage lengths.
- All proposed accesses are projected to operate at an acceptable level of service.

Based on the foregoing, the proposed development is recommended from a transportation perspective.

NOVATECH

Prepared by:

Reviewed by:



Joshua Audia, P.Eng.
Project Engineer | Transportation



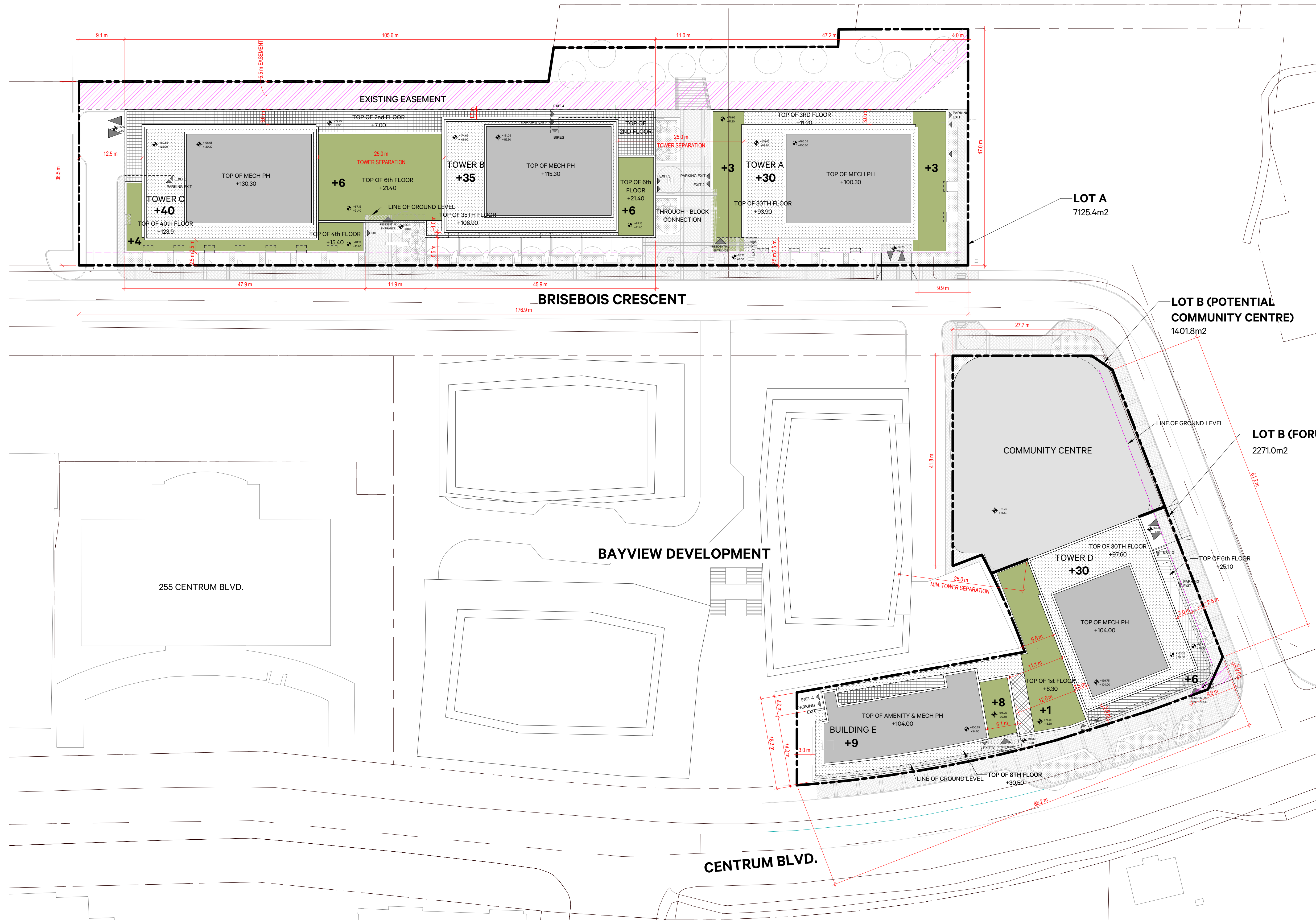
Jennifer Luong, P.Eng.
Senior Project Manager | Transportation

APPENDIX A

Concept Plan

NO.	DATE	REVISION/COMMENT
1	2025-12-10	Issued for ZBA

NOTES



530 Brisebois
Part of 265 Centrum Blvd (Forum Lands)

Forum Asset Management

OVERALL SITE PLAN

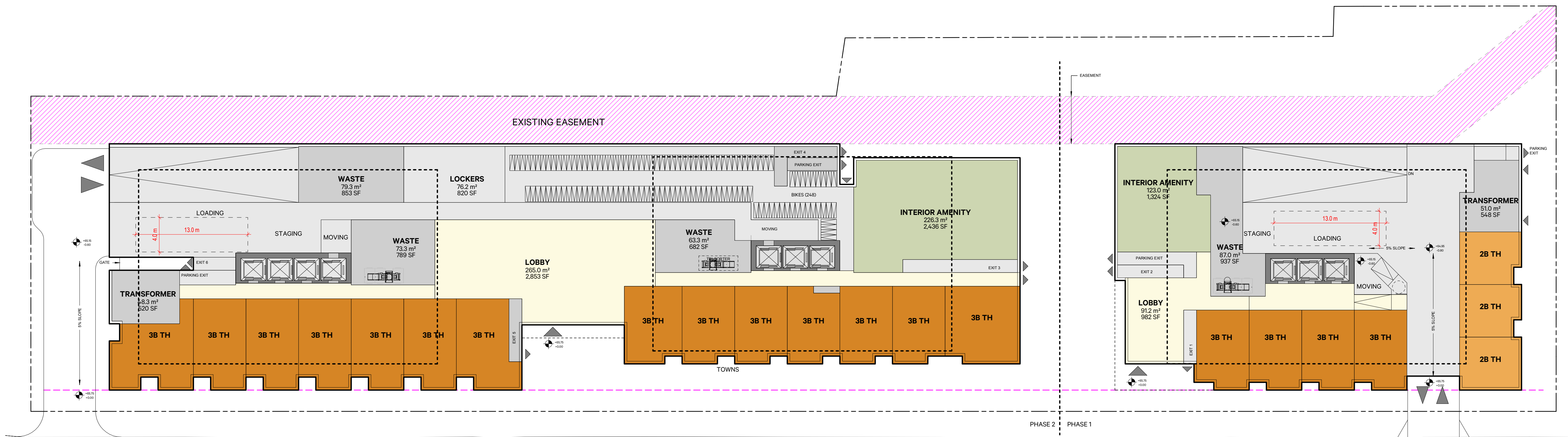
PROJECT	42355	DRAWN	MC
SCALE	1:400	CHECKED	RN
DATE	20/11/25		

0-A101

NO.	DATE	REVISION/COMMENT
1	2025-12-10	Issued for ZBA

NOTES

- RETAIL
- RESIDENTIAL COMMON AREAS
- STUDIO UNIT
- 1B UNIT
- 2B UNIT
- 3B UNIT
- RESIDENTIAL INDOOR AMENITY
- RESIDENTIAL OUTDOOR AMENITY
- SERVICE AREAS AND EXITS



BRISEBOIS CRESCENT

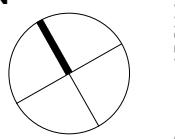


110 Adelaide St. E.
Toronto, ON M5C 1K9
info@svn-agg.com
416.593.6499

530 Brisebois
Part of 265 Centrum Blvd (Forum Lands)

Forum Asset Management

LOT A - GROUND FLOOR PLAN



PROJECT	42305	DRAWN	MC
SCALE	As Indicated	CHECKED	RN
DATE	20/11/25		

1-A200

COPYRIGHT RESERVED. THIS DESIGN AND DRAWINGS ARE THE EXCLUSIVE PROPERTY OF THE DESIGNER AND CANNOT BE USED FOR ANY PURPOSE WITHOUT THE WRITTEN CONSENT OF THE DESIGNER.

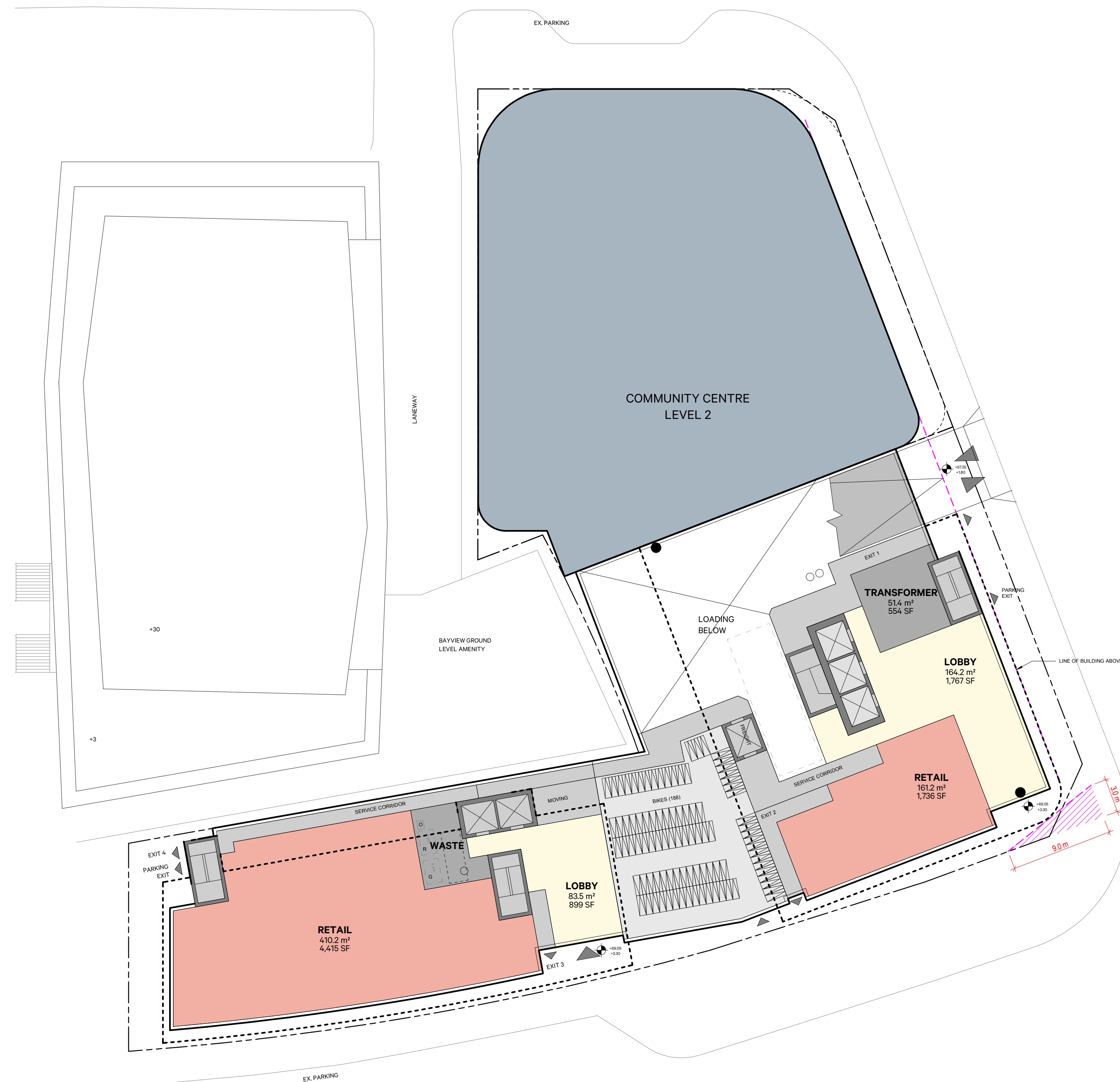
THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNTIL ISSUED FOR THAT PURPOSE BY THE DESIGNER.

PRIOR TO COMMENCEMENT OF THE WORK THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, DATUMS AND LEVELS TO IDENTIFY ANY ERRORS AND OMISSIONS, ASCERTAIN ANY DISCREPANCIES BETWEEN THIS DRAWING AND THE FULL CONTRACT DOCUMENTS, AND BRING THESE ITEMS TO THE ATTENTION OF THE OWNER FOR CLARIFICATION.

NO. DATE REVISION/COMMENT

NOTES

- POTENTIAL COMMUNITY CENTRE
- RETAIL
- RESIDENTIAL COMMON AREAS
- STUDIO UNIT
- 1B UNIT
- 2B UNIT
- 3B UNIT
- RESIDENTIAL INDOOR AMENITY
- RESIDENTIAL OUTDOOR AMENITY
- SERVICE AREAS AND EXITS

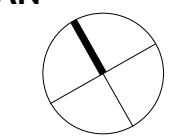


110 Adelaide St. E. Toronto, ON M5C 1K9 info@svn-arch.com +1(416)363-6499

530 Brisebois
Part of 265 Centum Blvd (Forum Lands)

Forum Asset Management

LOT B - GROUND FLOOR PLAN



PROJECT 42305 DRAWN Author
SCALE As Indicated CHECKED Checker
DATE 20/11/25

2-A200

12/5/2025 1:26:46 PM

APPENDIX B

TIA Screening Form

City of Ottawa 2017 TIA Guidelines TIA Screening

1. Description of Proposed Development

Municipal Address	265 Centrum Blvd & 530 Brisebois Cres
Description of Location	NW of Brisebois/Centrum and north of Brisebois
Land Use Classification	Residential, Retail, & Community Centre
Development Size (units)	1,505 residential units
Development Size square metre (m ²)	570 m2 retail // 3,617 m2 community centre
Number of Accesses and Locations	3 to Brisebois
Phase of Development	
Buildout Year	2035

If available, please attach a sketch of the development or site plan to this form.

2. Trip Generation Trigger

Considering the Development’s Land Use type and Size (as filled out in the previous section), please refer to the Trip Generation Trigger checks below.

Table notes:

1. Table 2, Table 3 & Table 4 TRANS Trip Generation Manual
2. Institute of Transportation Engineers (ITE) Trip Generation Manual 11.1 Ed.

Land Use Type	Minimum Development Size
Single-family homes	60 units
Multi-Use Family (Low-Rise) ¹	90 units
Multi-Use Family (High-Rise) ¹	150 units
Office ²	1,400 m ²
Industrial ²	7,000 m ²
Fast-food restaurant or coffee shop ²	110 m ²
Destination retail ²	1,800 m ²
Gas station or convenience market ²	90 m ²

Transportation Impact Assessment Guidelines

If the proposed development size is equal to or greater than the sizes identified above, the Trip Generation Trigger is satisfied.

3. Location Triggers

	Yes	No
Does the development propose a new driveway to a boundary street that is designated as part of the Transit Priority Network, Rapid Transit network or Cross-Town Bikeways?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is the development in a Hub, a Protected Major Transit Station Area (PMTSA), or a Design Priority Area (DPA)? ²	<input checked="" type="checkbox"/>	<input type="checkbox"/>

If any of the above questions were answered with ‘Yes,’ the Location Trigger is satisfied.

4. Safety Triggers

	Yes	No
Are posted speed limits on a boundary street are 80 kilometers per hour (km/h) or greater?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Are there any horizontal/vertical curvatures on a boundary street limits sight lines at a proposed driveway?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Is the proposed driveway within the area of influence of an adjacent traffic signal or roundabout (i.e. within 300 metre [m] of intersection in rural conditions, or within 150 m of intersection in urban/ suburban conditions)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is the proposed driveway within auxiliary lanes of an intersection?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the proposed driveway make use of an existing median break that serves an existing site?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

² Hubs are identified in Schedules B1 to B8 of the City of Ottawa Official Plan. PMTSAs are identified in Schedule C1 of the Official Plan. DPAs are identified in Schedule C7A and C7B of the Official. See Chapter 4 for a list of City of Ottawa Planning and Engineering documents that support the completion of TIA.

Transportation Impact Assessment Guidelines

	Yes	No
Is there is a documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the development include a drive-thru facility?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If any of the above questions were answered with 'Yes,' the Safety Trigger is satisfied.

5. Summary

Results of Screening	Yes	No
Does the development satisfy the Trip Generation Trigger?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does the development satisfy the Location Trigger?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Does the development satisfy the Safety Trigger?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

If none of the triggers are satisfied, the TIA Study is complete. If one or more of the triggers is satisfied, the TIA Study must continue into the next stage (Screening and Scoping).

APPENDIX C

OC Transpo Route Maps

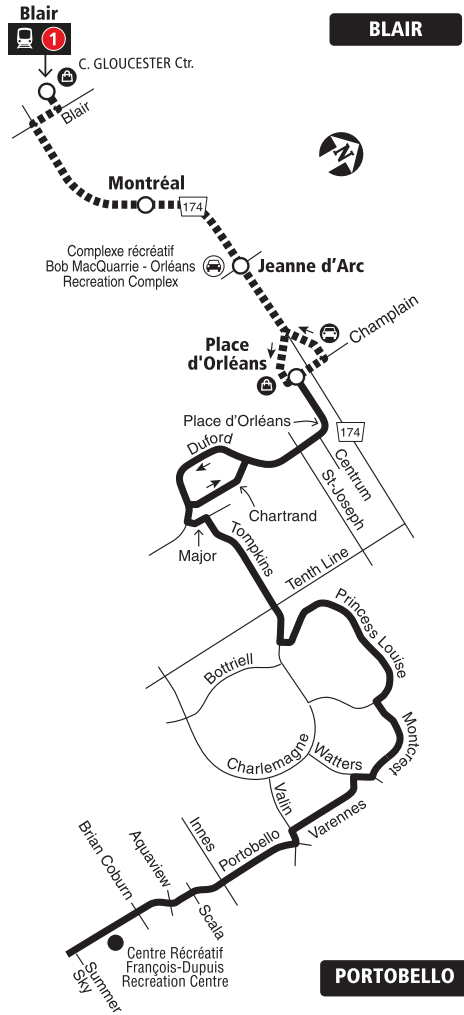


33 PLACE D'ORLÉANS BLAIR PORTOBELLO

Local

7 days a week / 7 jours par semaine

All day service
Service toute la journée



04.2025

- Station
- Peak period and select midday trips / Périodes de pointe et trajets sélectionnés en mi-journée
- Park & Ride / Parc relais
- Shopping Centre / Centre commercial

2025.04

This route starts on April 27, 2025 when the New Ways to Bus network comes into effect.

Ce circuit sera mis en service le 27 avril 2025, lorsque le réseau L'autobus réinventé entrera en vigueur.

Customer Service / Service à la clientèle **613-560-5000**

Security / Sécurité **613-741-2478**

octranspo.com



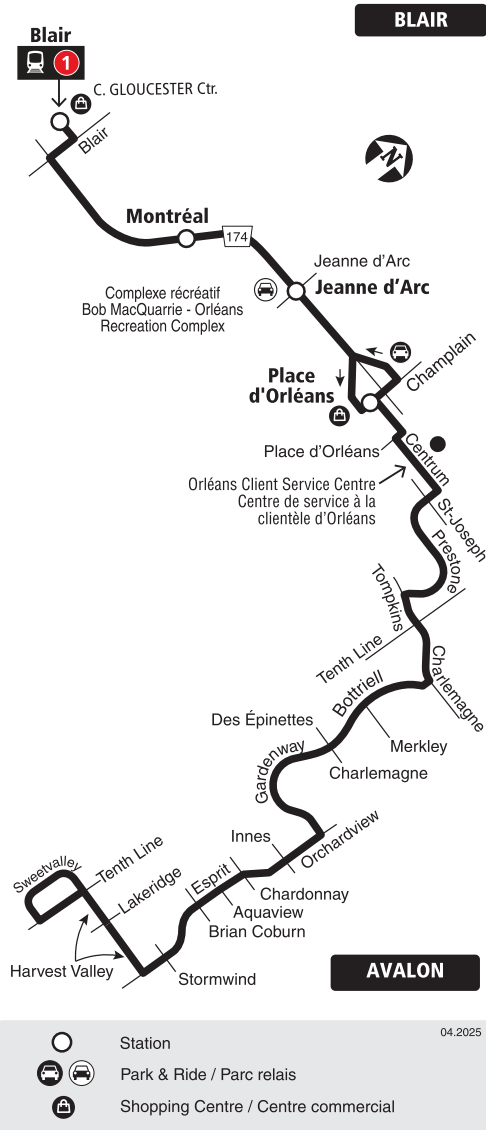
35

AVALON BLAIR

Local

7 days a week / 7 jours par semaine

All day service
Service toute la journée



2025.04

This route starts on **April 27, 2025** when the New Ways to Bus network comes into effect.

Ce circuit sera mis en service le **27 avril 2025**, lorsque le réseau L'autobus réinventé entrera en vigueur.



Customer Service /
Service à la clientèle **613-560-5000**

Security / Sécurité **613-741-2478**



octranspo.com



36

INNES PLACE D'ORLÉANS

Local

7 days a week / 7 jours par semaine

All day service
Service toute la journée



**PLACE
D'ORLÉANS**

INNES

- Station
 - Park & Ride / Parc relais
 - Shopping Centre / Centre commercial
- 04.2025

2025.04

This route starts on April 27, 2025 when the New Ways to Bus network comes into effect.

Ce circuit sera mis en service le 27 avril 2025, lorsque le réseau L'autobus réinventé entrera en vigueur.



Customer Service /
Service à la clientèle **613-560-5000**

Security / Sécurité **613-741-2478**



octranspo.com

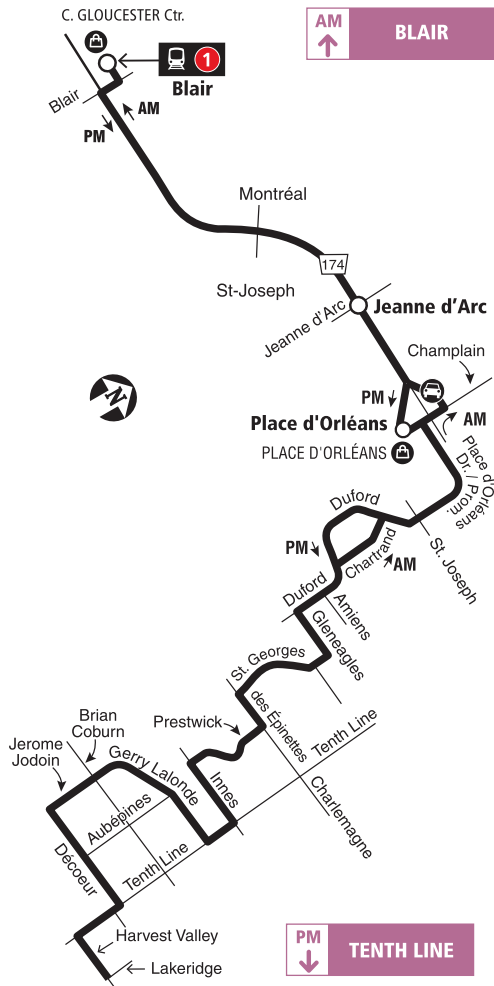


234

BLAIR TENTH LINE

Connexion

Monday to Friday / Lundi au vendredi
Peak periods only
Périodes de pointe seulement



04.2025

- Station
- Park & Ride / Parc relais
- Shopping Centre / Centre commercial

2025.04

This route starts on April 27, 2025 when the New Ways to Bus network comes into effect.

Ce circuit sera mis en service le 27 avril 2025, lorsque le réseau L'autobus réinventé entrera en vigueur.



Customer Service / Service à la clientèle **613-560-5000**

Security / Sécurité **613-741-2478**



octranspo.com



302

ST-LAURENT CUMBERLAND, SARSFIELD, NAVAN

Local

Tuesday only / Mardi seulement

Selected time periods
Périodes sélectionnées

AM
↑
ST-LAURENT



**FREE
GRATUIT**

PM
↓
CUMBERLAND

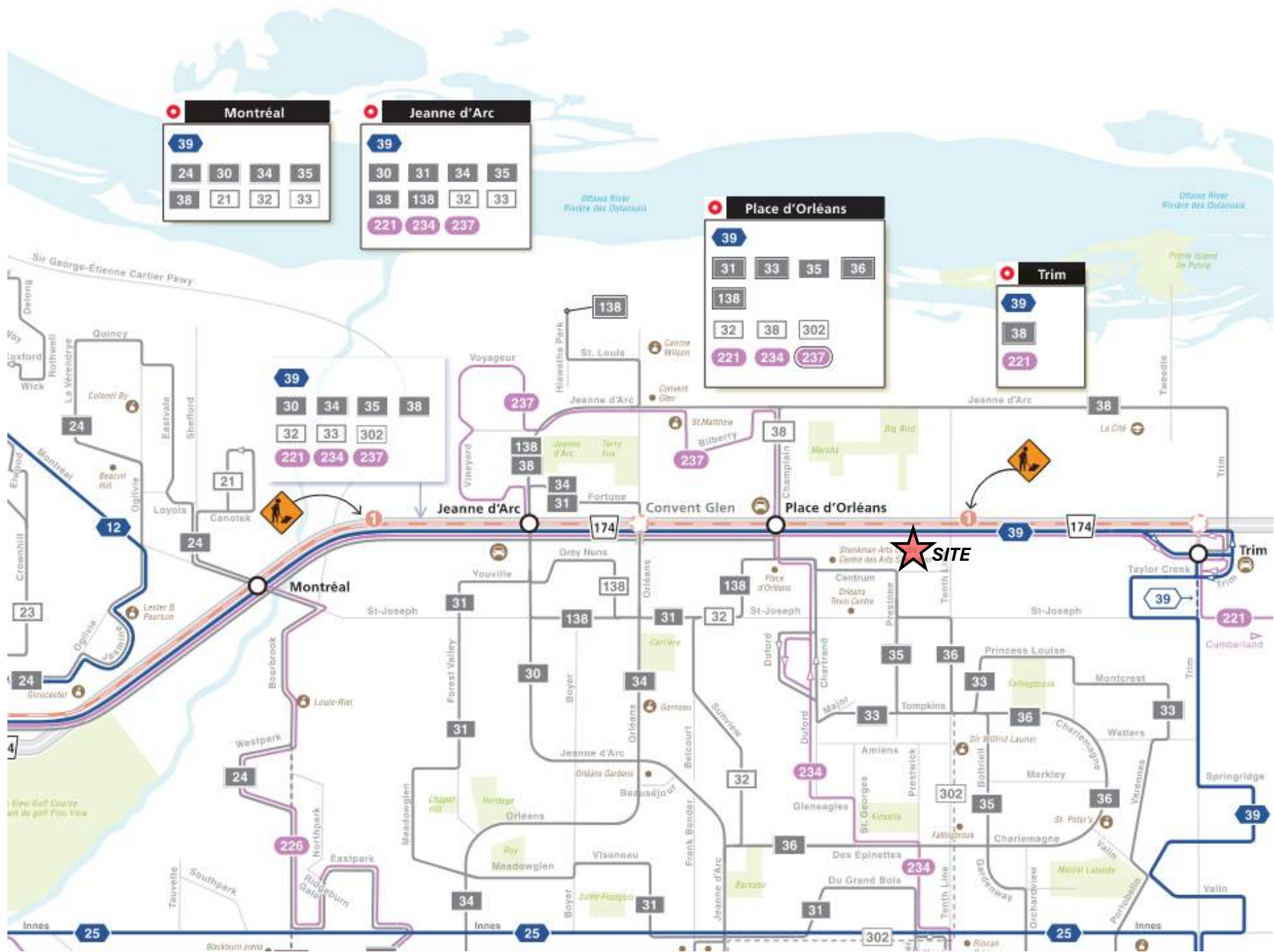
- Station
 - Park & Ride / Parc relais
 - Shopping Centre / Centre commercial
- 04.2025

2019.08

Schedule / Horaire..... 613-560-1000
Text / Texto 560560
plus your four digit bus stop number / plus votre numéro d'arrêt à quatre chiffres

Customer Relations
 Service à la clientèle **613-560-5000**
 Lost and Found / Objets perdus..... **613-563-4011**
 Security / Sécurité **613-741-2478**

**Effective December 25, 2016
En vigueur 25 décembre 2016**



Montréal

39			
24	30	34	35
38	21	32	33

Jeanne d'Arc

39			
30	31	34	35
38	138	32	33
221	234	237	

Place d'Orléans

39			
31	33	35	36
138			
32	38	302	
221	234	237	

Trim

39
38
221

39			
30	34	35	38
32	33	302	
221	234	237	

SITE

APPENDIX D

Traffic Count Data

Turning Movement Count - Study Results

PLACE D'ORLEANS DR @ CENTRUM BLVD/PLACE D'ORLEANS SC

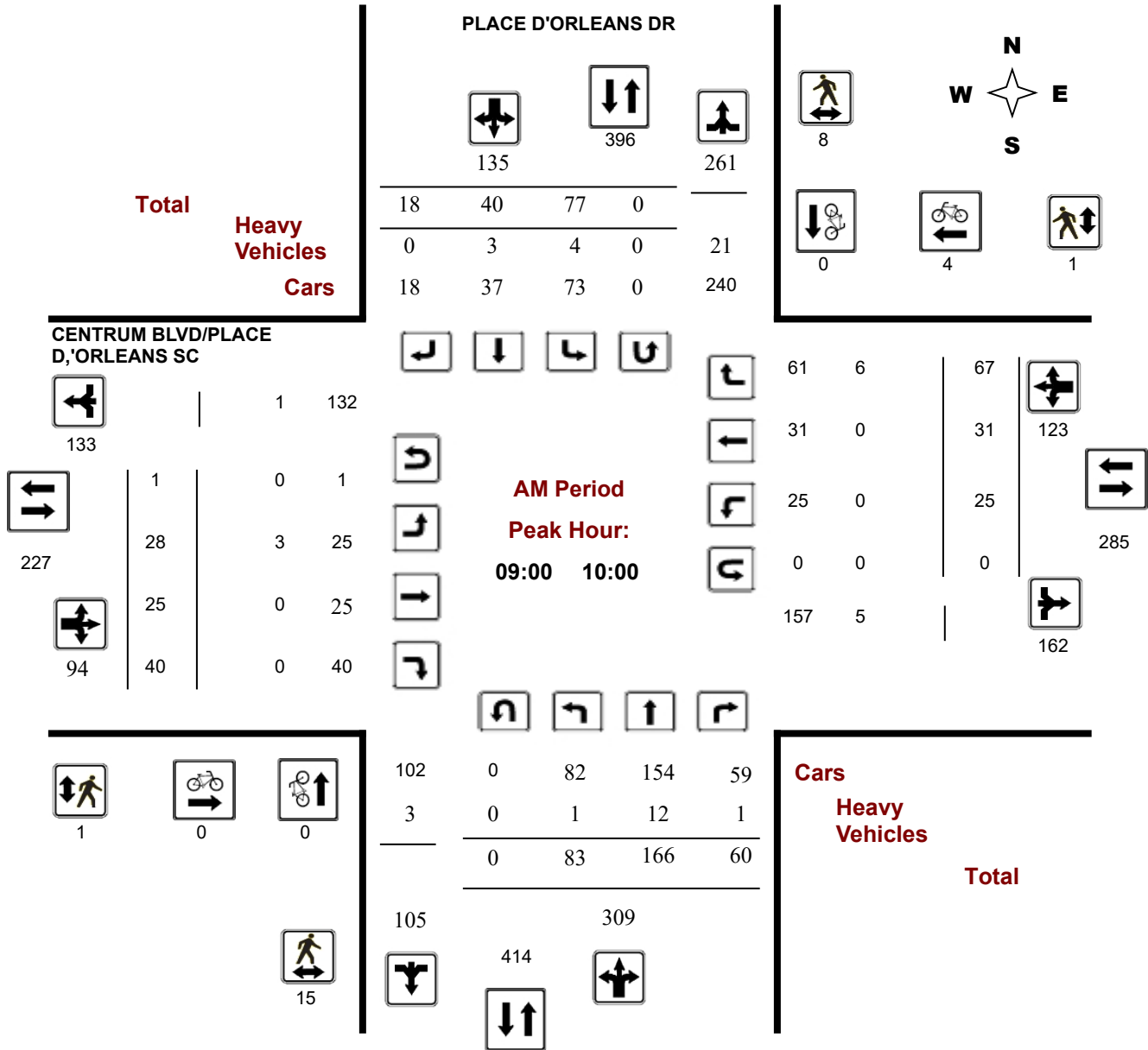
Survey Date: Tuesday, June 18, 2024

WO No: 41945

Start Time: 07:00

Device: Miovision

AM Period Peak Hour Diagram



Turning Movement Count - Study Results

PLACE D'ORLEANS DR @ CENTRUM BLVD/PLACE D'ORLEANS SC

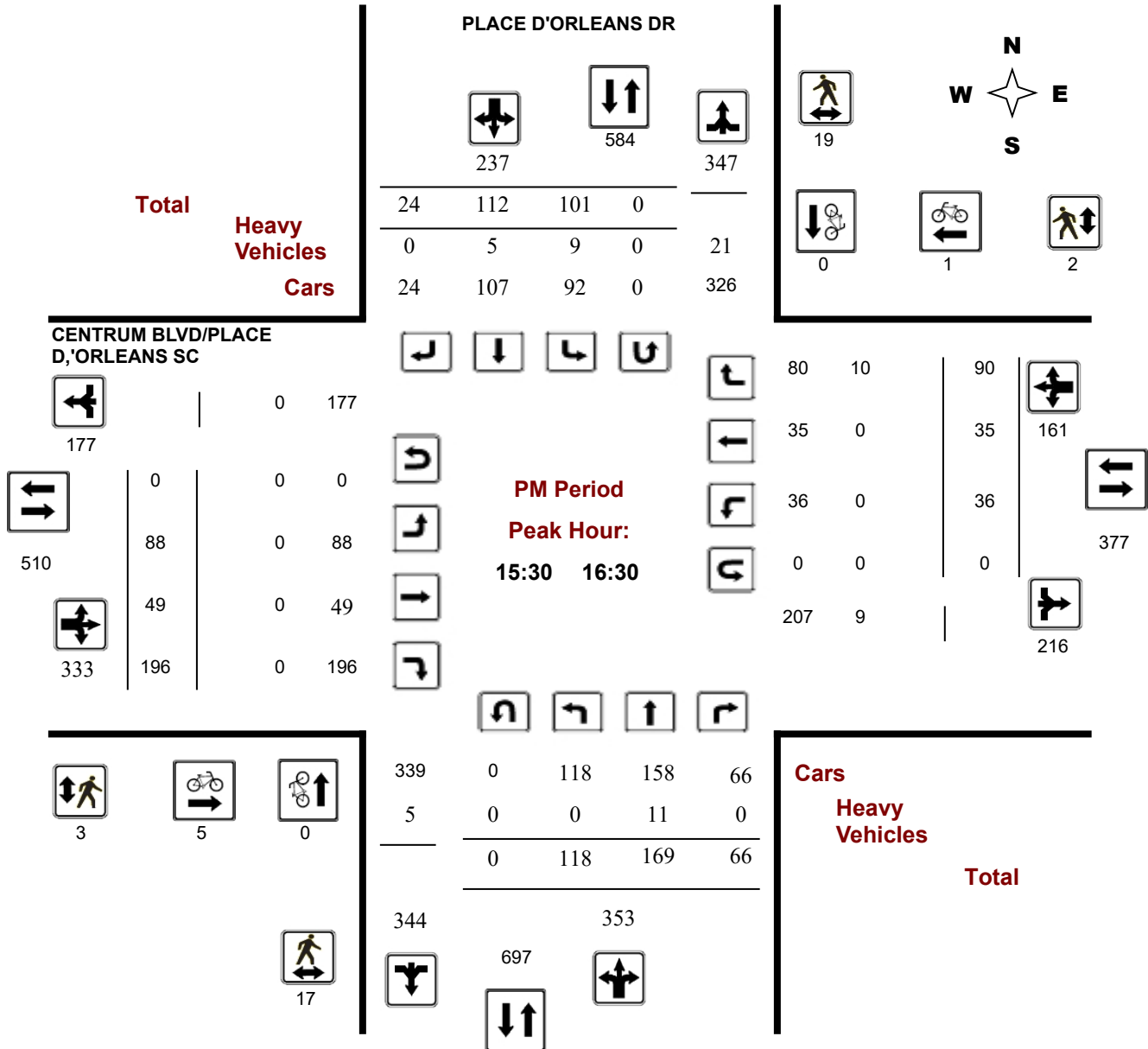
Survey Date: Tuesday, June 18, 2024

WO No: 41945

Start Time: 07:00

Device: Miovision

PM Period Peak Hour Diagram

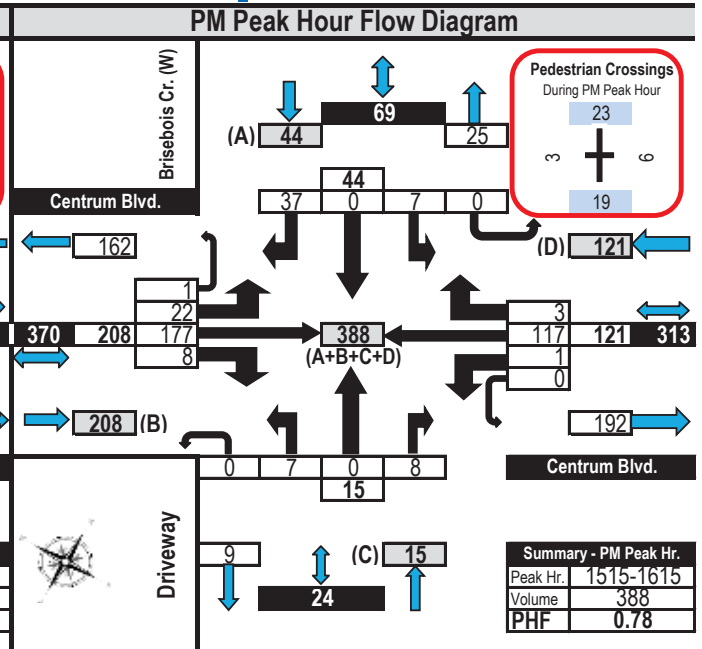
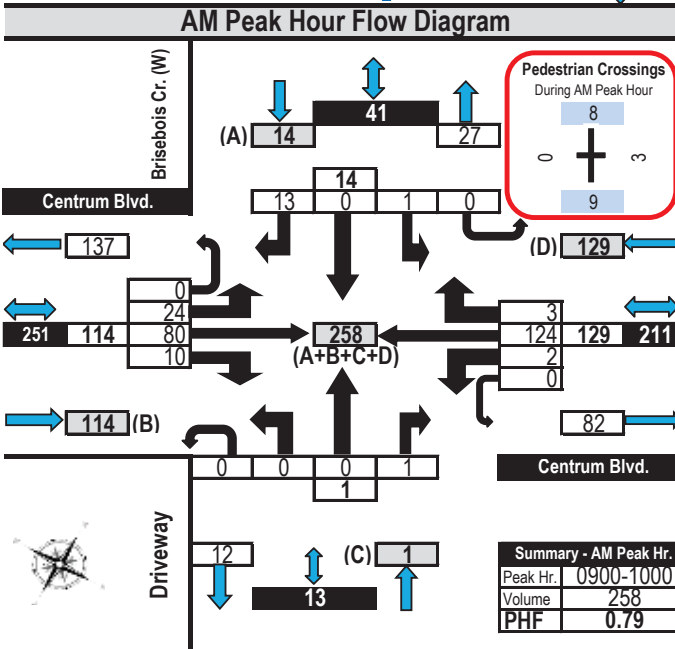
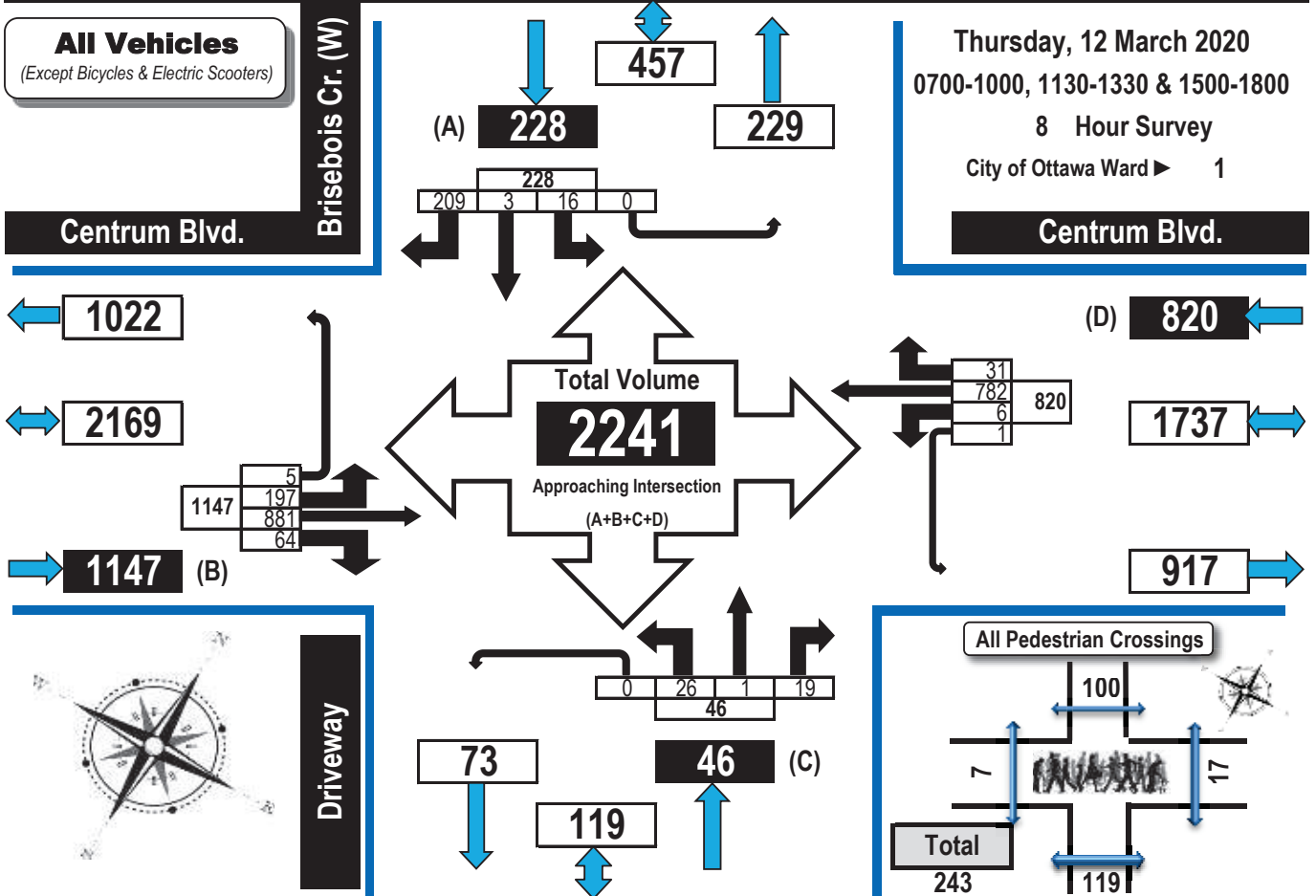




Turning Movement Count Summary, AM and PM Peak Hour Flow Diagrams

Automobiles, Taxis, Light Trucks, Vans, SUV's, Motorcycles, Heavy Trucks, Buses, and School Buses

Brisebois Crescent (West) & Centrum Boulevard Orléans, ON





Turning Movement Count Summary, AM and PM Peak Hour Flow Diagrams

All Vehicles Except Bicycles

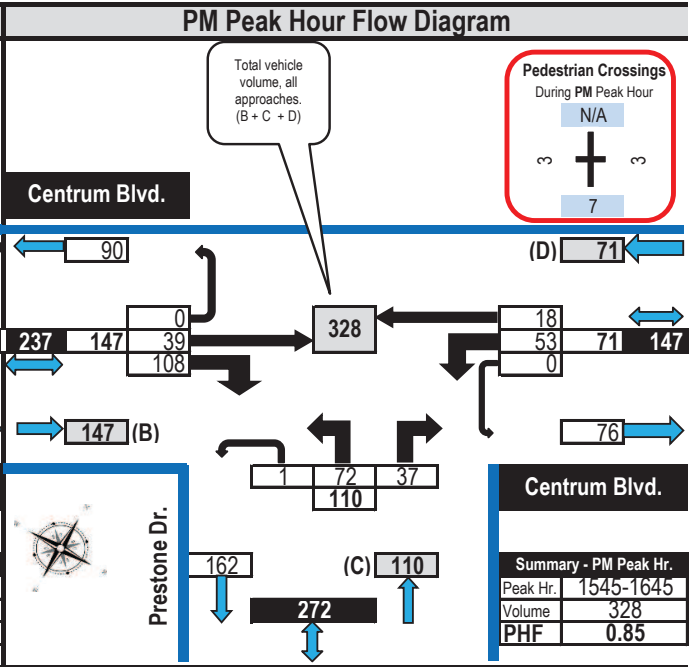
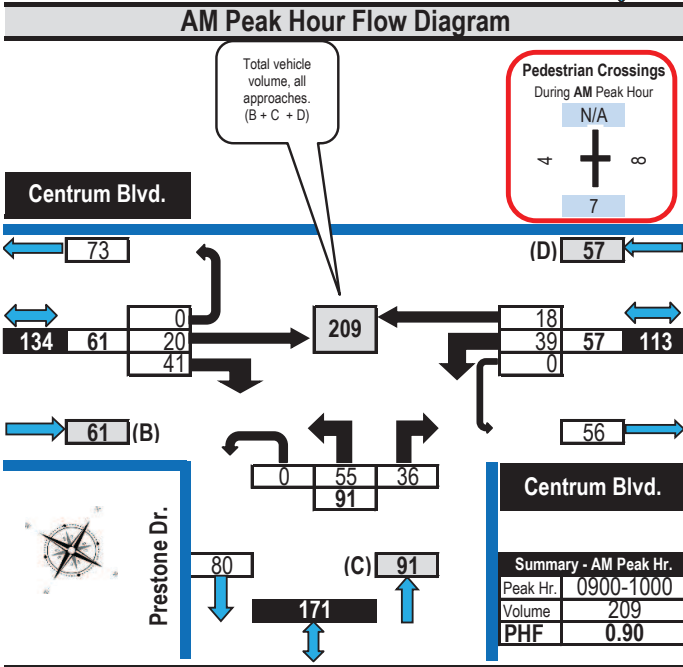
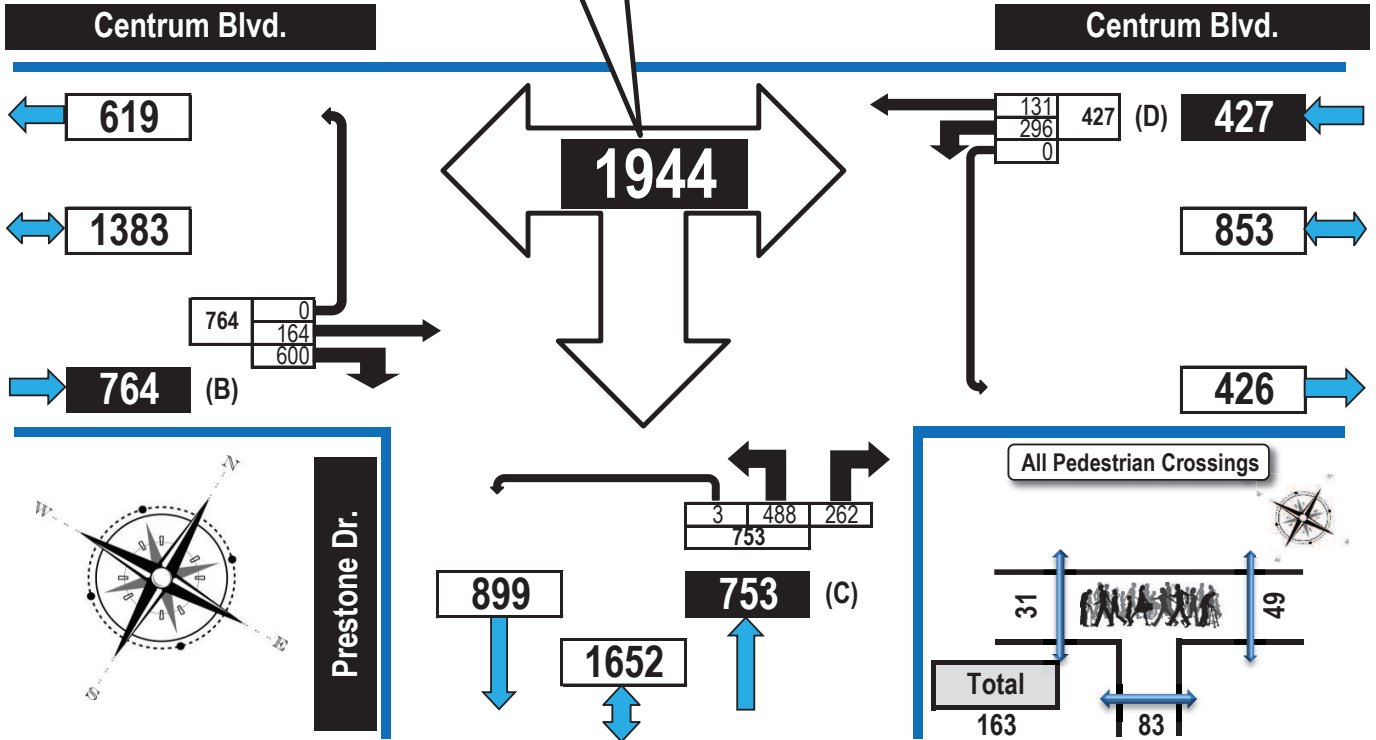


Centrum Boulevard & Prestone Drive Orléans, ON

All Vehicles
(Except Bicycles & Electric Scooters)

Total vehicle volume,
all approaches.
(B + C + D)

Tuesday, February 14, 2023
0700-1000, 1130-1330 & 1500-1800
8 Hour Survey
City of Ottawa Ward ► 1





Turning Movement Count Summary, AM and PM Peak Hour Flow Diagrams All Vehicles Except Bicycles



Brisebois Crescent East & Centrum Boulevard Orléans, ON

All Vehicles
(Except Bicycles & Electric Scooters)

Wednesday, February 08, 2023

0700-1000, 1130-1330 & 1500-1800

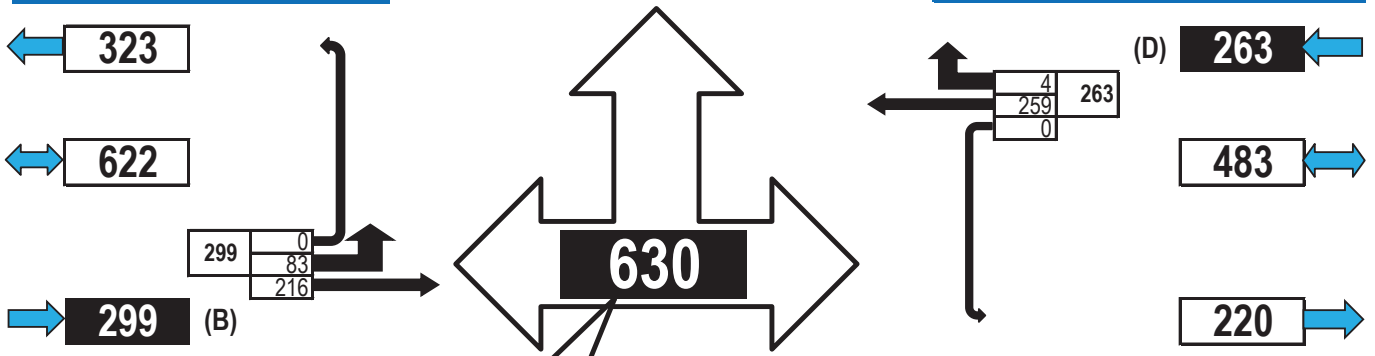
8 Hour Survey

City of Ottawa Ward 1

Centrum Blvd.

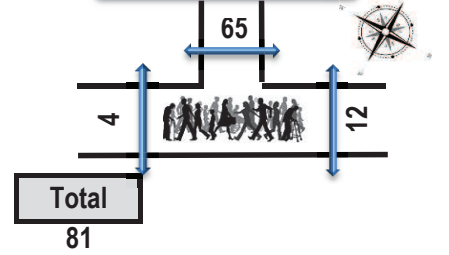
Brisebois Cr. (E)

Centrum Blvd.

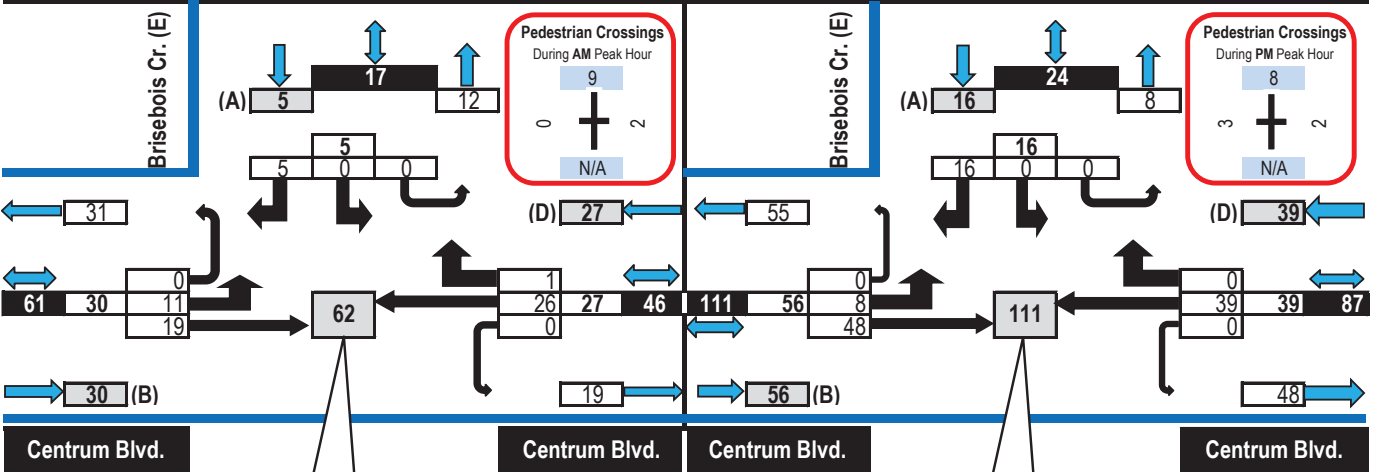


Total vehicle volume,
all approaches.
(A + B + D)

All Pedestrian Crossings



AM Peak Hour Flow Diagram PM Peak Hour Flow Diagram



Total AM Peak Hour
vehicle volume, all
approaches.
(A + B + D)

Total PM Peak Hour
vehicle volume, all
approaches.
(A + B + D)

Summary - AM Peak Hr.	
Peak Hr.	0800-0900
Volume	62
PHF	0.78

Summary - PM Peak Hr.	
Peak Hr.	1600-1700
Volume	111
PHF	0.93

Turning Movement Count - Study Results

PRESTONE DR @ ST. JOSEPH BLVD

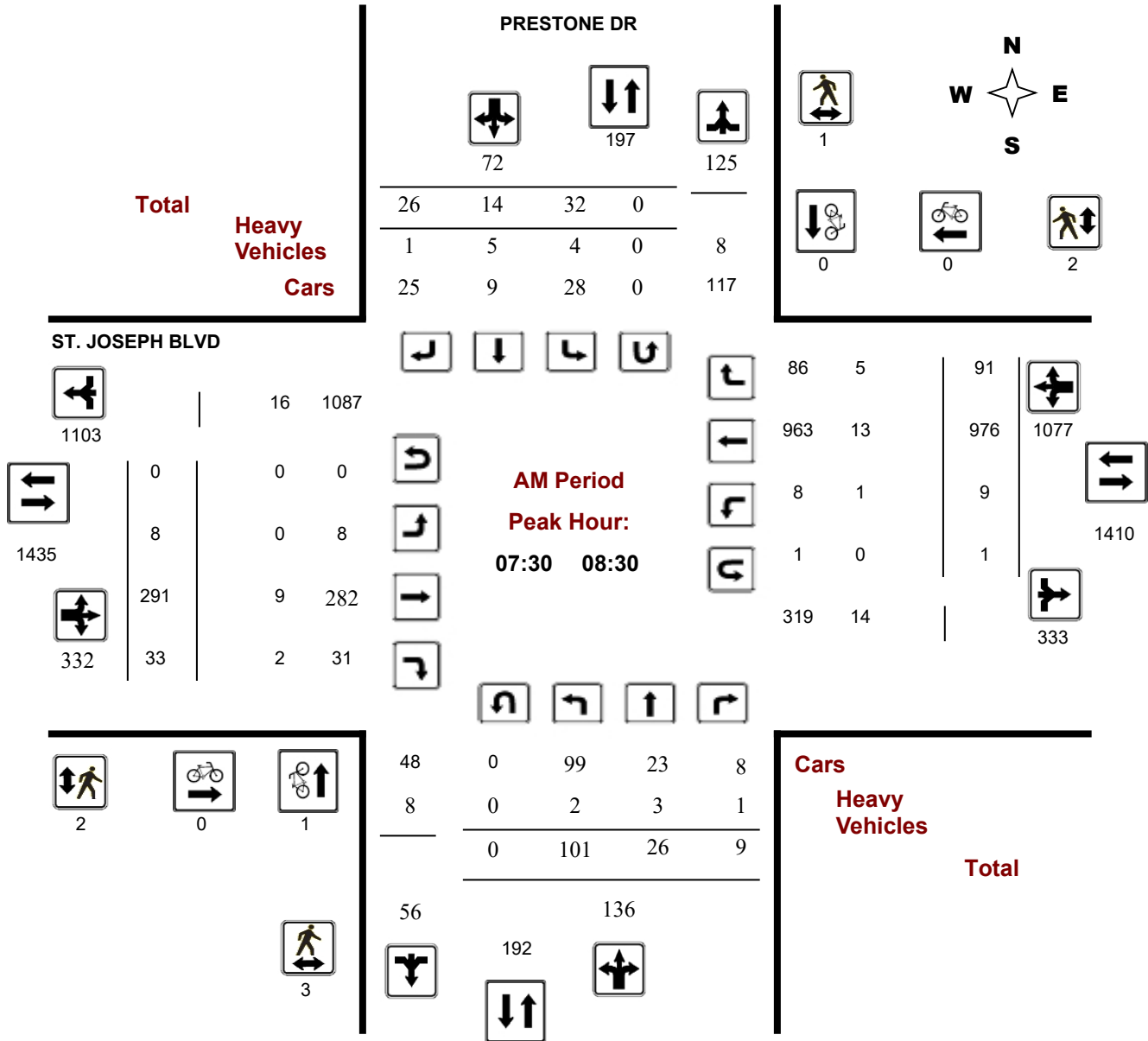
Survey Date: Tuesday, October 29, 2024

WO No: 42342

Start Time: 07:00

Device: Miovision

AM Period Peak Hour Diagram



Turning Movement Count - Study Results

PRESTONE DR @ ST. JOSEPH BLVD

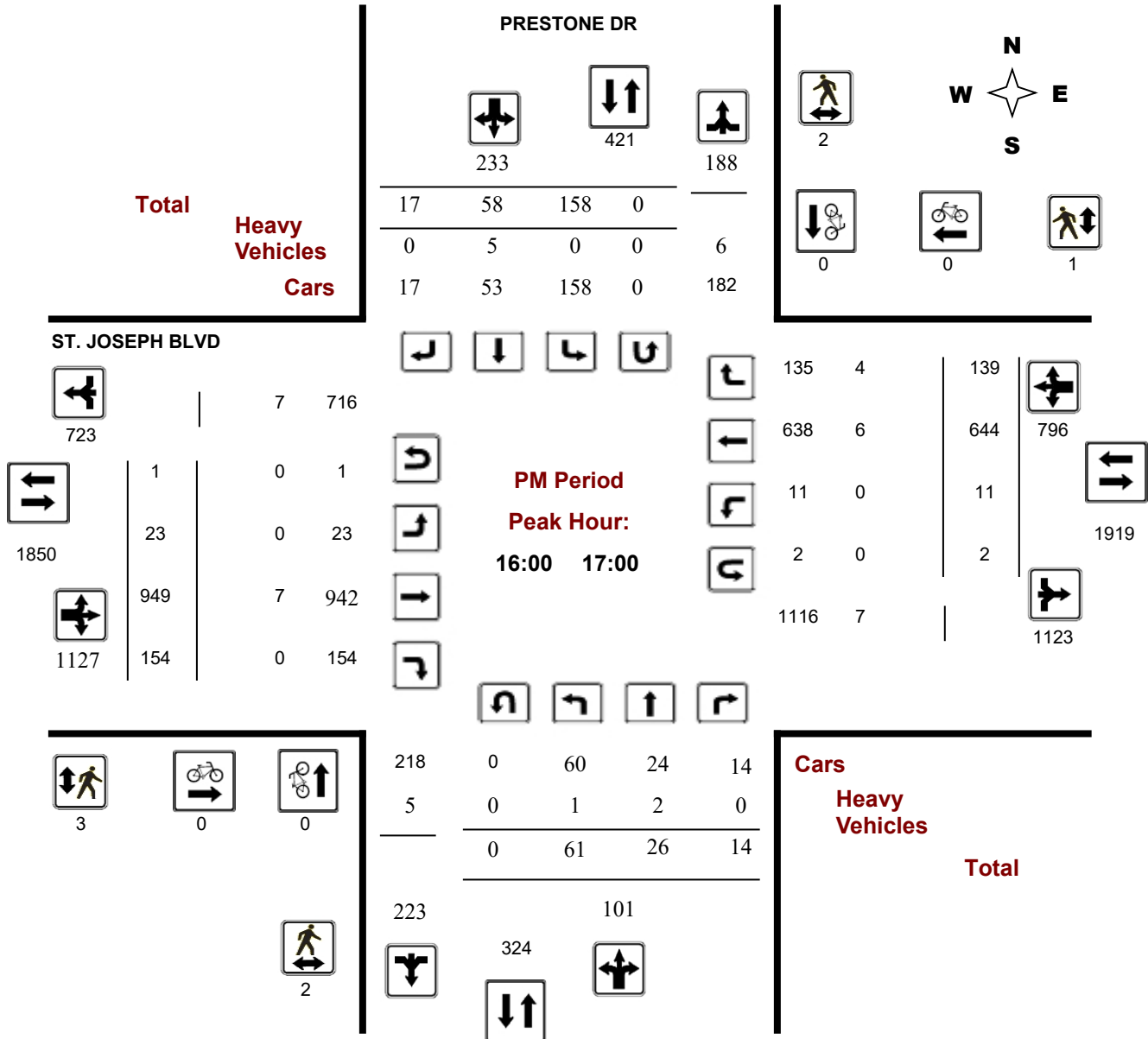
Survey Date: Tuesday, October 29, 2024

WO No: 42342

Start Time: 07:00

Device: Miovision

PM Period Peak Hour Diagram



APPENDIX E

Collision Records



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2019 **To:** December 31, 2024

Location: CENTRUM BLVD @ PRESTONE DR

Traffic Control: Stop sign

Total Collisions: 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Feb-02, Sat,10:11	Snow	Rear end	P.D. only	Packed snow	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	

Location: CENTRUM BLVD btwn BRISEBOIS CRES & PRESTONE DR

Traffic Control: No control

Total Collisions: 2

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Nov-12, Tue,10:30	Snow	Angle	P.D. only	Loose snow	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Dec-04, Wed,11:46	Freezing Rain	Angle	P.D. only	Loose snow	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: CENTRUM BLVD btwn PLACE D'ORLEANS DR & BRISEBOIS CRES

Traffic Control: No control

Total Collisions: 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2020-Feb-05, Wed,09:35	Clear	Approaching	P.D. only	Dry	West	Stopped	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	

Location: PLACE D'ORLEANS DR @ CENTRUM BLVD/PLACE D'ORLEANS SC

Traffic Control: Traffic signal

Total Collisions: 4

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Jan-31, Thu,13:44	Clear	Angle	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Turning left	Automobile, station wagon	Other motor vehicle	
2021-Feb-18, Thu,16:25	Clear	Rear end	P.D. only	Wet	North	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2019 To: December 31, 2024

Location: PLACE D'ORLEANS DR @ CENTRUM BLVD/PLACE D'ORLEANS SC

Traffic Control: Traffic signal

Total Collisions: 4

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2022-Nov-19, Sat,15:15	Snow	Angle	P.D. only	Wet	West	Stopped	Passenger van	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2024-Feb-24, Sat,15:00	Clear	Angle	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: PRESTONE DR @ ST. JOSEPH BLVD

Traffic Control: Traffic signal

Total Collisions: 11

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2019-Jan-23, Wed,12:18	Snow	Angle	Non-fatal injury	Loose snow	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jan-27, Sun,05:30	Snow	SMV other	P.D. only	Loose snow	East	Going ahead	Automobile, station wagon	Curb	0
2019-Feb-19, Tue,10:34	Clear	Angle	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Passenger van	Other motor vehicle	
2020-Jan-17, Fri,09:13	Clear	SMV other	Non-fatal injury	Dry	South	Turning left	Automobile, station wagon	Pedestrian	1
2021-Jan-13, Wed,16:08	Snow	SMV other	P.D. only	Slush	West	Turning right	Pick-up truck	Skidding/sliding	0
2021-Feb-22, Mon,16:12	Snow	Angle	P.D. only	Slush	West	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Municipal transit bus	Other motor vehicle	
2021-Nov-16, Tue,15:00	Clear	Angle	P.D. only	Dry	East	Turning right	Unknown	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2022-Jan-14, Fri,17:55	Clear	SMV other	P.D. only	Dry	South	Turning left	Automobile, station wagon	Pole (utility, power)	0
2022-Mar-26, Sat,19:23	Clear	Angle	P.D. only	Dry	East	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2024-Dec-03, Tue,09:20	Clear	Rear end	P.D. only	Wet	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2019 To: December 31, 2024

Location: PRESTONE DR @ ST. JOSEPH BLVD

Traffic Control: Traffic signal

Total Collisions: 11

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2024-Dec-09, Mon, 14:00	Clear	Angle	P.D. only	Ice	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: PRESTONE DR btwn CENTRUM BLVD & ST. JOSEPH BLVD

Traffic Control: No control

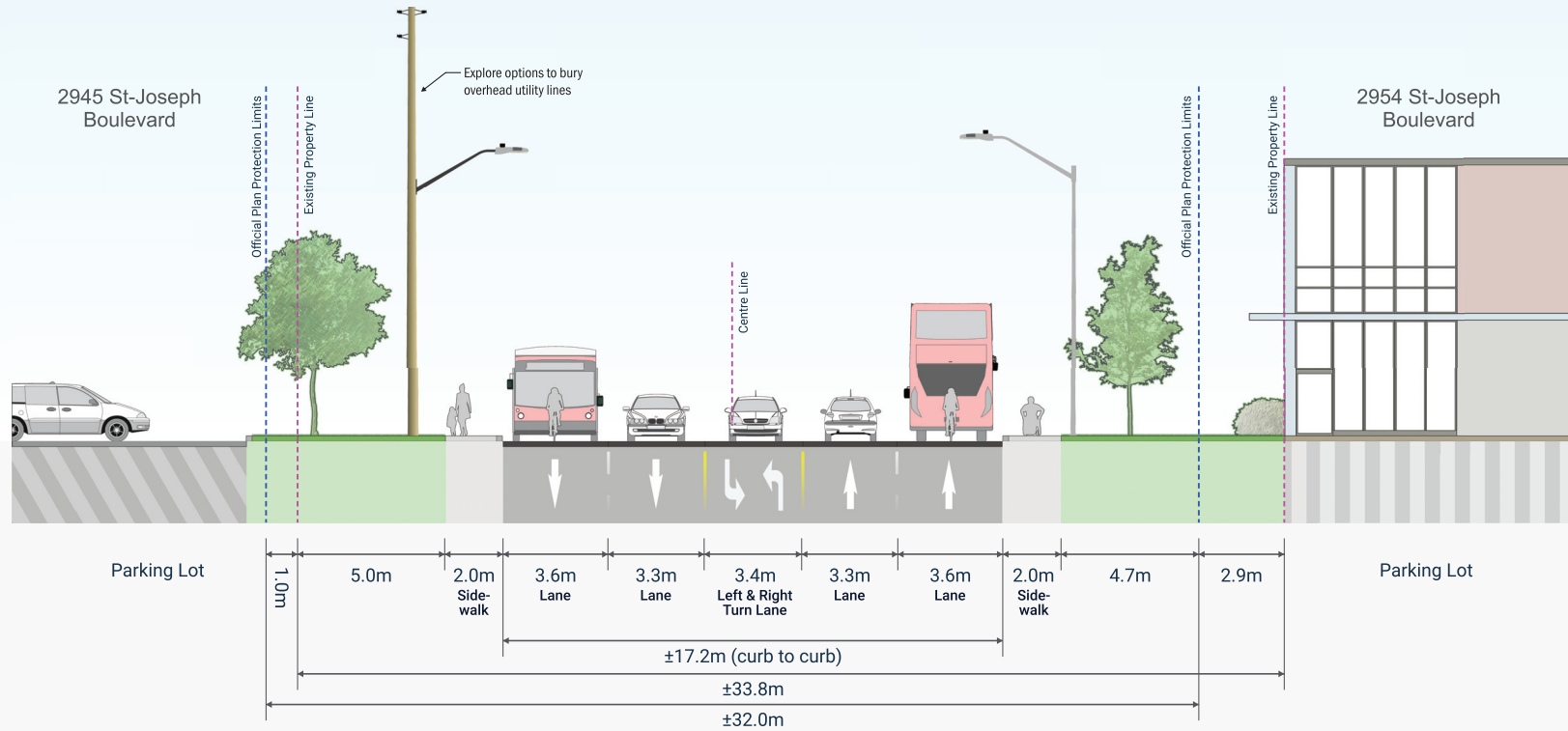
Total Collisions: 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2024-Nov-12, Tue, 20:05	Clear	Rear end	P.D. only	Other	East	Stopped	Automobile, station wagon	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	

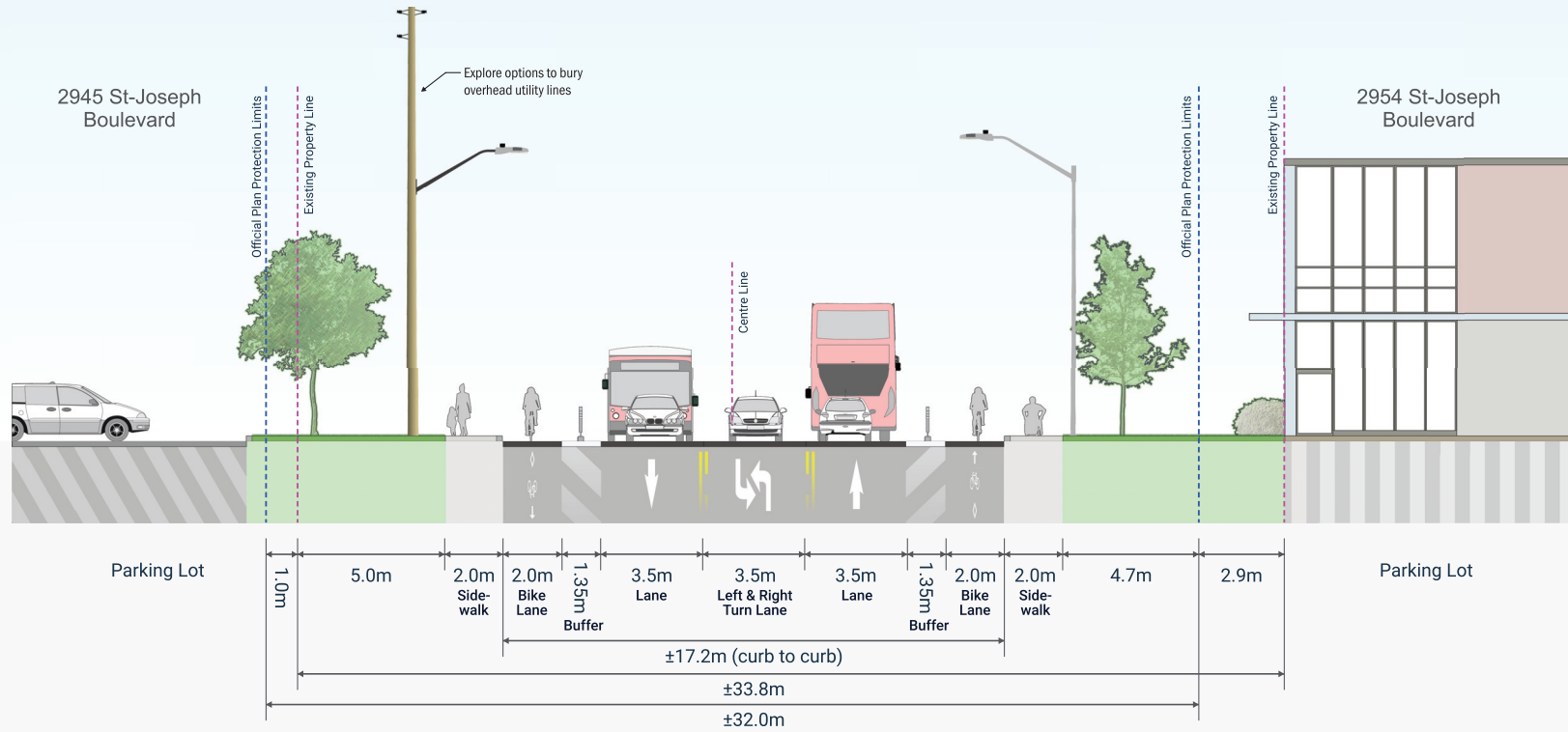
APPENDIX F

St. Joseph Boulevard Cross-Sections

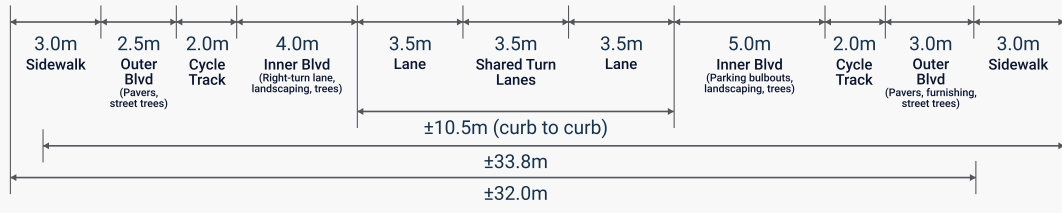
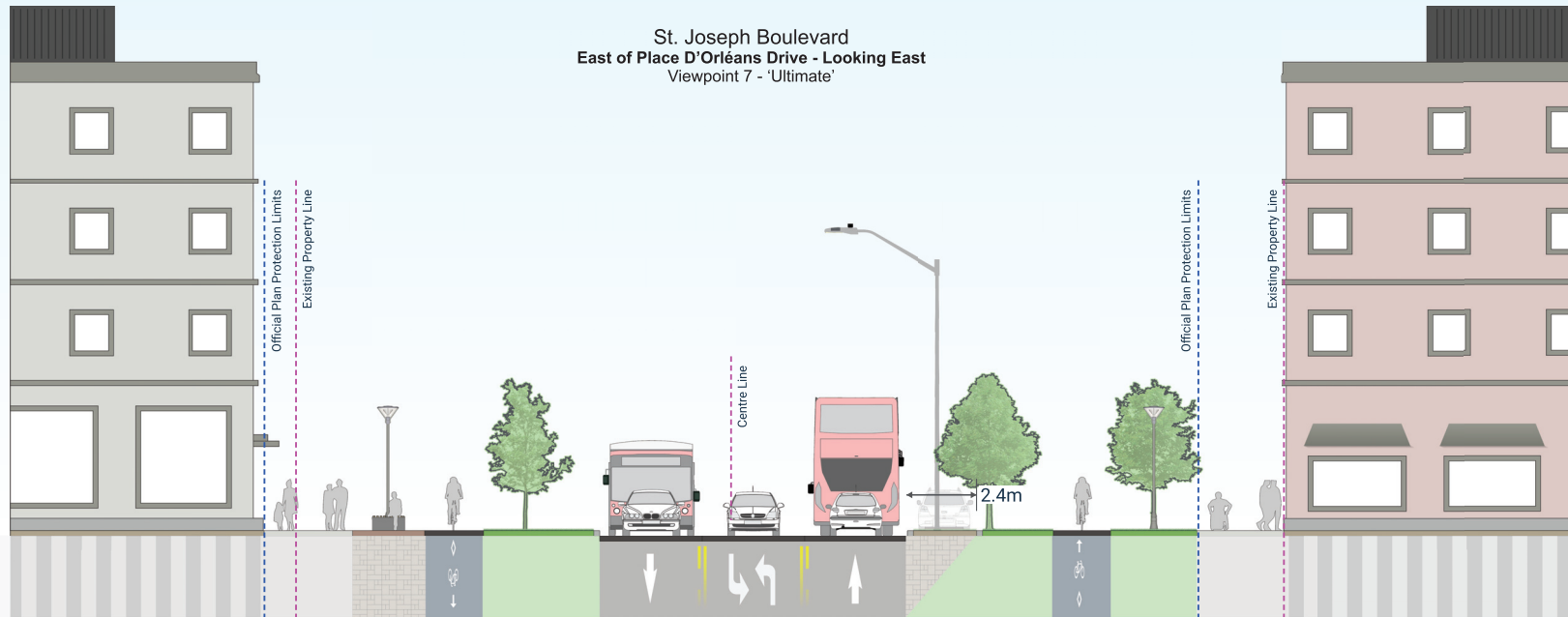
St. Joseph Boulevard
 East of Place D'Orléans Drive - Looking East
 Viewpoint 5 - Existing



St. Joseph Boulevard
 East of Place D'Orléans Drive - Looking East
 Viewpoint 5 - Interim Option



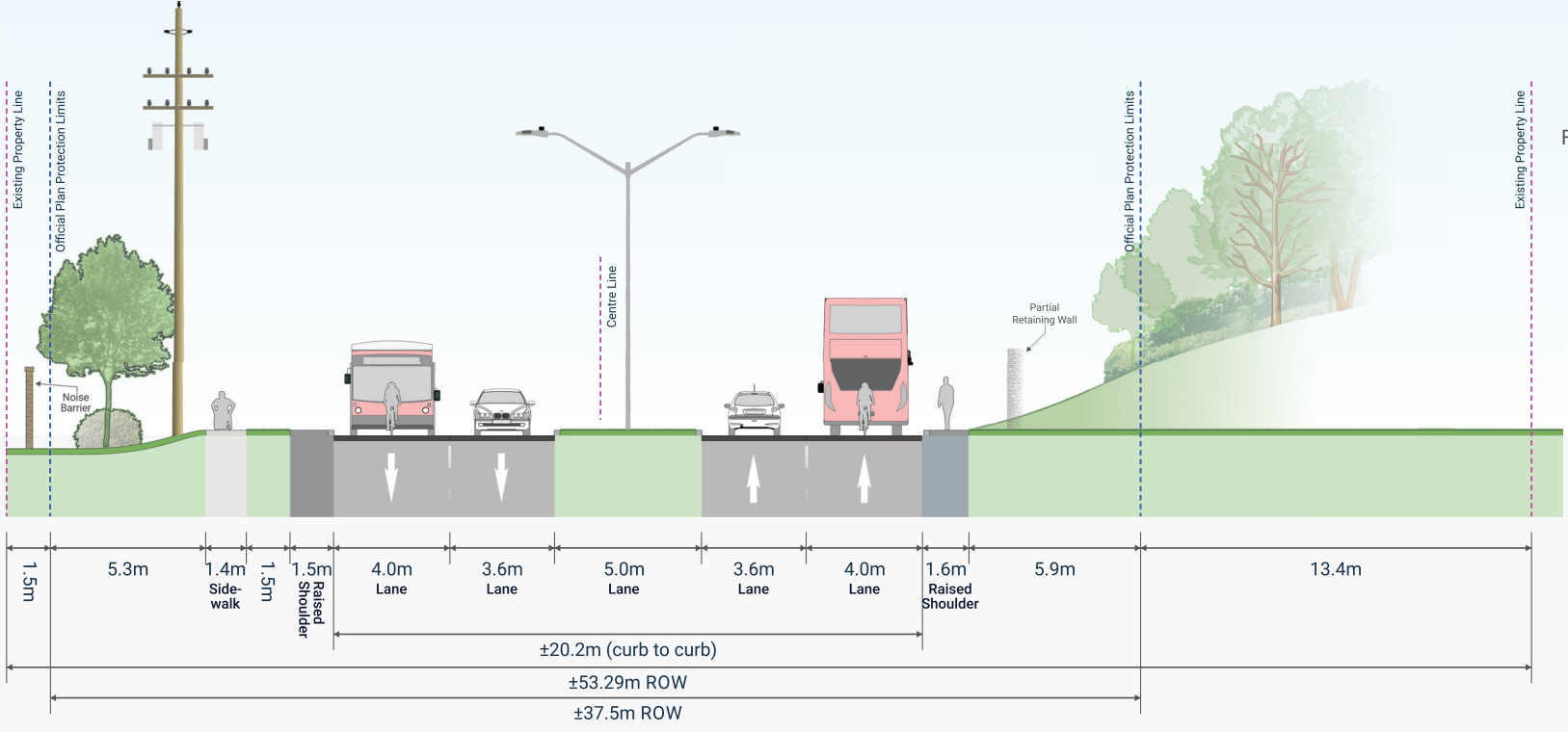
St. Joseph Boulevard
 East of Place D'Orléans Drive - Looking East
 Viewpoint 7 - 'Ultimate'



St. Joseph Boulevard
 West of Promenade Prestone Drive - Looking East
 Viewpoint 6 - Existing

← 2975
 St-Joseph
 Boulevard

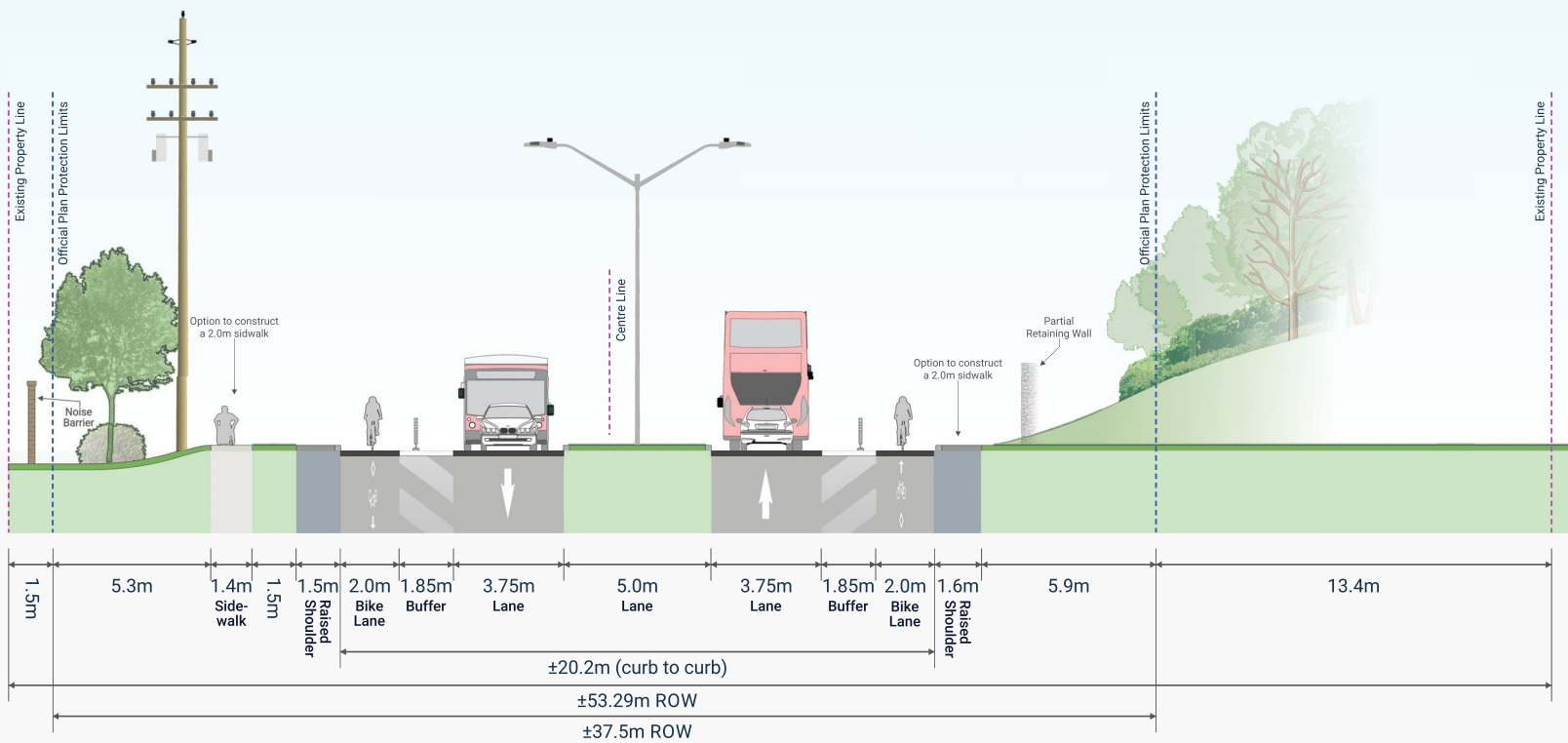
349
 River
 Ridge →



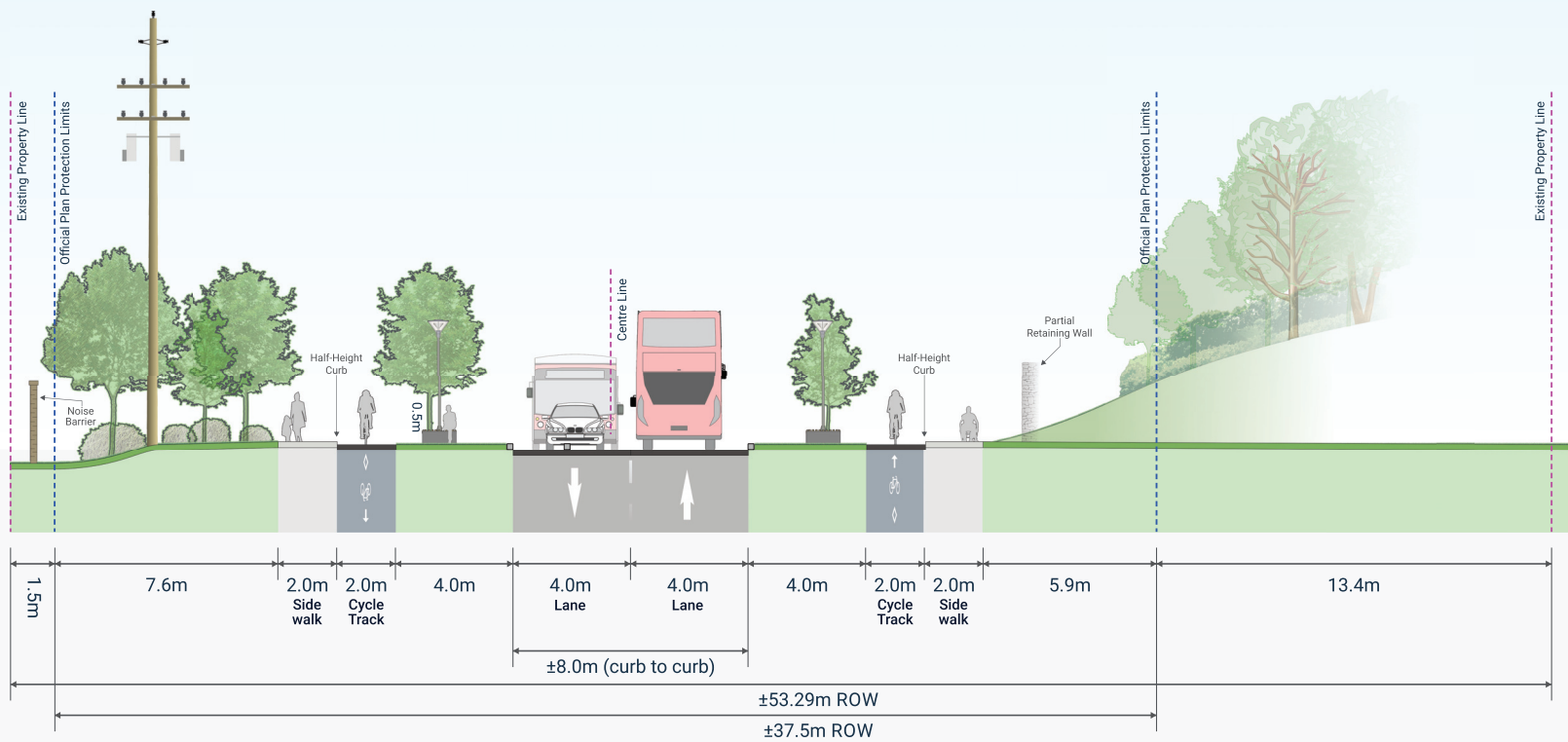
St. Joseph Boulevard
 West of Promenade Prestone Drive - Looking East
 Viewpoint 6 - Interim Option

← 2975
 St-Joseph
 Boulevard

349
 River
 Ridge →



St. Joseph Boulevard
 West of Promenade Prestone Drive - Looking East
 Viewpoint 6 - 'Ultimate'



APPENDIX G

Internal Capture Worksheets

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	122170	Organization:	Novatech
Project Location:	265 Centrum & 530 Brisebois	Performed By:	J. Audia
Scenario Description:	Full Site Development	Date:	11/1/2025
Analysis Year:	Buildout	Checked By:	
Analysis Period:	AM Street Peak Hour	Date:	

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				55	36	19
Restaurant				0		
Cinema/Entertainment				0		
Residential				232	72	160
Hotel				0		
All Other Land Uses ²				0		
				287	108	179

Table 2-A: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office						
Retail		10%	15%		10%	15%
Restaurant						
Cinema/Entertainment						
Residential		40%	10%		40%	10%
Hotel						
All Other Land Uses ²						

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-A: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	4	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	4	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	726	261	465
Internal Capture Percentage	2%	3%	2%
External Vehicle-Trips ⁵	277	103	174
External Transit-Trips ⁶	256	82	174
External Non-Motorized Trips ⁶	76	28	48

Table 6-A: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	6%	12%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	2%	1%
Hotel	N/A	N/A

¹Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

³Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

⁴Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.

⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.

⁶Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	122170
Analysis Period:	AM Street Peak Hour

Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends						
Land Use	Table 7-A (D): Entering Trips			Table 7-A (O): Exiting Trips		
		Vehicle-Trips	Person-Trips*		Vehicle-Trips	Person-Trips*
Office		0	0		0	0
Retail		36	67		19	34
Restaurant		0	0		0	0
Cinema/Entertainment		0	0		0	0
Residential		72	194		160	431
Hotel		0	0		0	0

Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	10		4	0	5	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	9	4	86	0		0
Hotel	0	0	0	0	0	

Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		21	0	0	0	0
Retail	0		0	0	4	0
Restaurant	0	5		0	10	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	11	0	0		0
Hotel	0	3	0	0	0	

Table 9-A (D): Internal and External Trips Summary (Entering Trips)						
Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	0	0	0	0	0	0
Retail	4	63	67	33	6	9
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	4	190	194	70	76	19
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

Table 9-A (O): Internal and External Trips Summary (Exiting Trips)						
Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	0	0	0	0	0	0
Retail	4	30	34	16	3	5
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	4	427	431	158	171	43
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

²Person-Trips

³Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator

*Indicates computation that has been rounded to the nearest whole number.

NCHRP 684 Internal Trip Capture Estimation Tool			
Project Name:	122170	Organization:	Novatech
Project Location:	265 Centrum & 530 Brisebois	Performed By:	J. Audia
Scenario Description:	Full Site Development	Date:	11/1/2025
Analysis Year:	Buildout	Checked By:	
Analysis Period:	PM Street Peak Hour	Date:	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)						
Land Use	Development Data (For Information Only)			Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail				82	39	43
Restaurant				0		
Cinema/Entertainment				0		
Residential				238	138	100
Hotel				0		
All Other Land Uses ²				0		
				320	177	143

Table 2-P: Mode Split and Vehicle Occupancy Estimates						
Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office						
Retail		10%	15%		10%	15%
Restaurant						
Cinema/Entertainment						
Residential		40%	10%		40%	10%
Hotel						
All Other Land Uses ²						

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Table 4-P: Internal Person-Trip Origin-Destination Matrix*						
Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	21	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	7	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary			
	Total	Entering	Exiting
All Person-Trips	775	433	342
Internal Capture Percentage	7%	6%	8%
External Vehicle-Trips ⁵	286	162	124
External Transit-Trips ⁶	250	142	108
External Non-Motorized Trips ⁶	79	44	35

Table 6-P: Internal Trip Capture Percentages by Land Use		
Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	10%	26%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	6%	3%
Hotel	N/A	N/A

¹Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.

²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.

³Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).

⁴Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made.

⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.

⁶Person-Trips

*Indicates computation that has been rounded to the nearest whole number.

Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

Project Name:	122170
Analysis Period:	PM Street Peak Hour

Land Use	Table 7-P (D): Entering Trips		Table 7-P (O): Exiting Trips	
	Vehicle-Trips	Person-Trips*	Vehicle-Trips	Person-Trips*
Office	0	0	0	0
Retail	39	71	43	80
Restaurant	0	0	0	0
Cinema/Entertainment	0	0	0	0
Residential	138	362	100	262
Hotel	0	0	0	0

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office	0	0	0	0	0	0
Retail	2	23	3	21	4	
Restaurant	0	0	0	0	0	
Cinema/Entertainment	0	0	0	0	0	
Residential	10	55	0	8		
Hotel	0	0	0	0		

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office	6	0	0	14	0	
Retail	0	0	0	167	0	
Restaurant	0	36	0	58	0	
Cinema/Entertainment	0	3	0	14	0	
Residential	0	7	0	0	0	
Hotel	0	1	0	0	0	

Destination Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	0	0	0	0	0	0
Retail	7	64	71	34	6	10
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	21	341	362	128	136	34
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

Origin Land Use	Person-Trip Estimates			External Trips by Mode*		
	Internal	External	Total	Vehicles ¹	Transit ²	Non-Motorized ²
Office	0	0	0	0	0	0
Retail	21	59	80	27	6	9
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	7	255	262	97	102	26
Hotel	0	0	0	0	0	0
All Other Land Uses ³	0	0	0	0	0	0

¹Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P
²Person-Trips
³Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator
*Indicates computation that has been rounded to the nearest whole number.

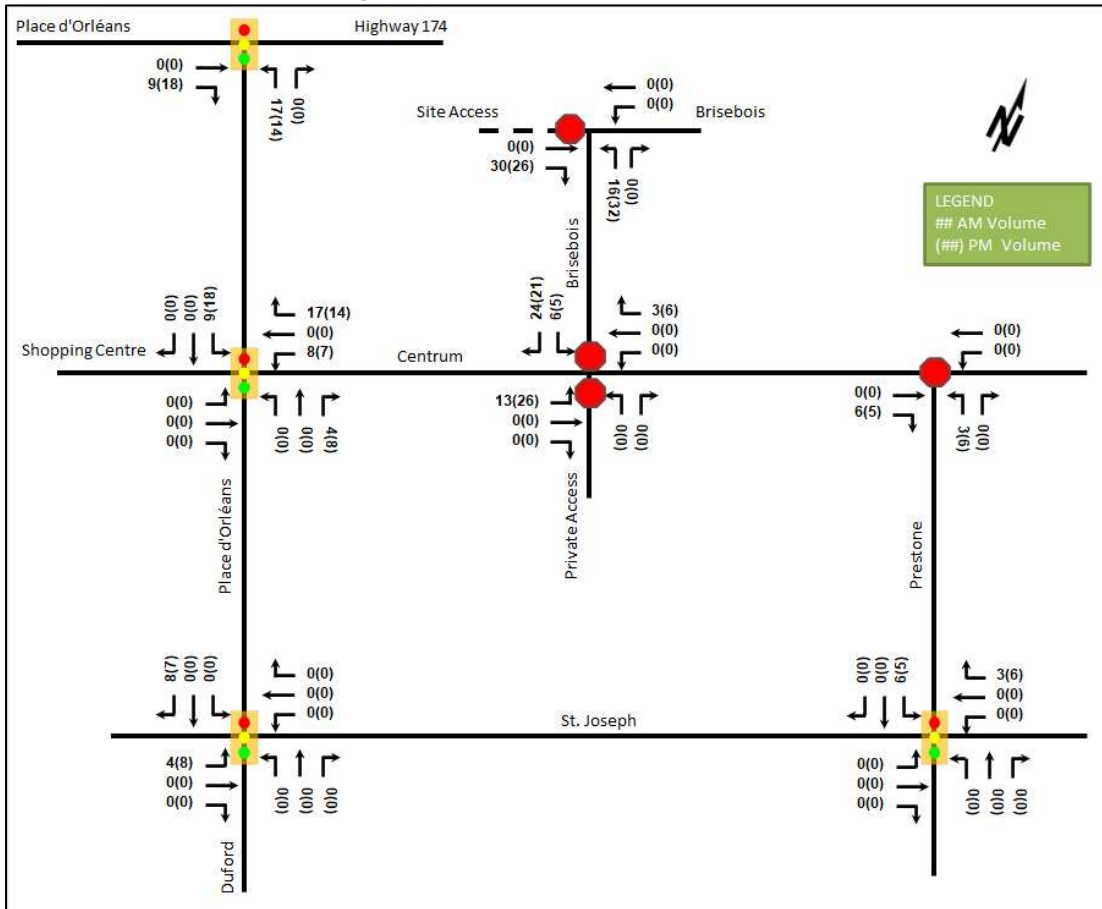
APPENDIX H

Other Area Developments

5.3 Trip Assignment

Using the distribution outlined above, turning movement splits, and access to major transportation infrastructure, the trips generated by the site have been assigned to the Study Area road network. Figure 9 illustrates the new site generated volumes.

Figure 9: New Site Generation Auto Volumes



6 Background Network Travel Demand

6.1 Transportation Network Plans

The transportation network plans were discussed in Section 2.3.1 and are not anticipated to impact to site, trip generation, or distribution.

6.2 Background Growth

A review of the background projections from the City's TRANS Regional Model for the 2011 and 2031 horizons was completed to determine the background growth for each of the study area roadways. Table 13 summarizes the results of the model and the projections are provided in Appendix E.

1 Screening

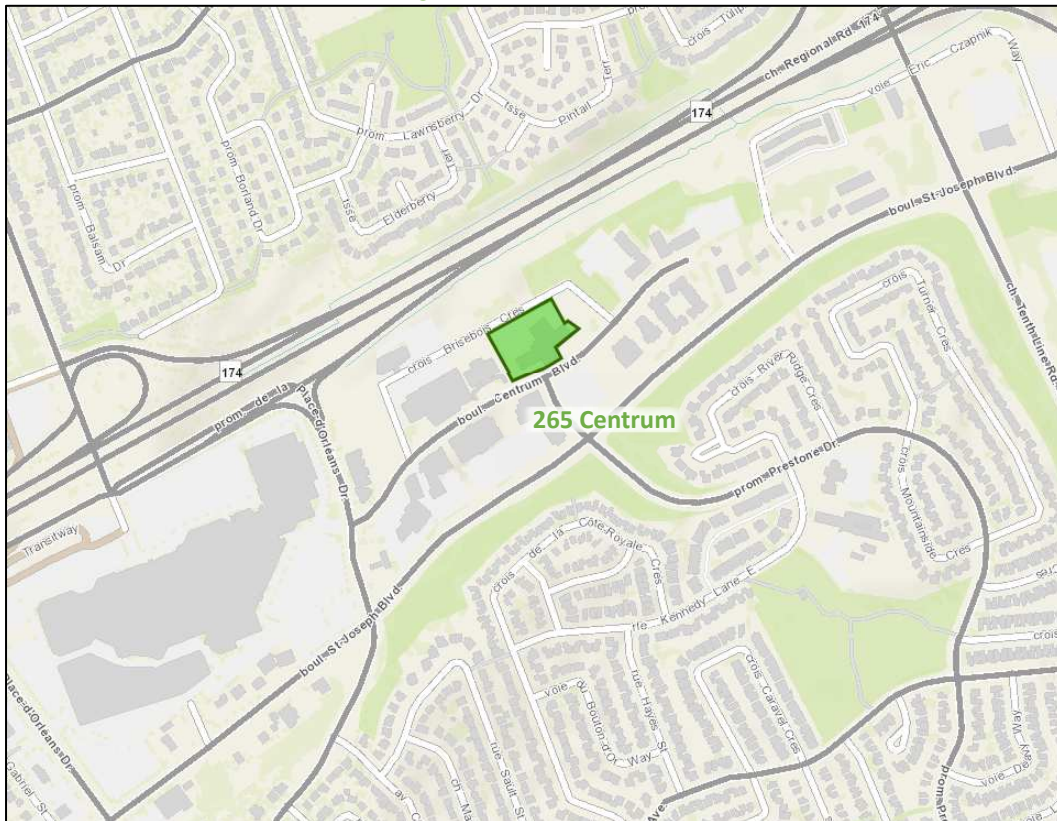
This study has been prepared according to the City of Ottawa’s 2017 Transportation Impact Assessment (TIA) Guidelines, prior to the June 2023 updates. Accordingly, a Step 1 Screening Form has been prepared and is included as Appendix A, along with the Certification Form for the TIA Study PM. As shown in the Screening Form, a TIA is required including the Design Review component and the Network Impact Component. This study has been prepared to support a zoning bylaw amendment and site plan applications.

2 Existing and Planned Conditions

2.1 Proposed Development

The development site is located at 265 Centrum Boulevard within the Mixed-Use Centre Zone (MC14[1520] S152), Place d’Orleans Protected Major Transit Station Area (PMTSA) and design priority area. The existing site was a YMCA, now closed, and it will be replaced with three towers, two residential towers including 764 units, and one mix-used tower including 363 residential units, 8,967 sq. ft retail space, and 31,570 sq. ft office space. The site plan proposes a total of 516 vehicle parking spaces and 1,256 bicycle parking spaces. The existing perpendicular street parking spaces along Brisebois Crescent are proposed to be replaced with parallel street parking spaces. The preliminary accesses are proposed to include three along Brisebois Crescent, and the existing two accesses on Brisebois Crescent will be removed. Build-out is anticipated to occur in a single phase by 2028. Figure 1 illustrates the study area context. Figure 2 illustrates the proposed concept plan.

Figure 1: Area Context Plan



Source: <http://maps.ottawa.ca/geoOttawa/> Accessed: January 31, 2023

To/From	Via
South	20% Prestone Drive (S)
	10% Place d'Orleans (S)
East	25% St Joseph (E)
West	20% Regional 174 (W)
	(via Place d'Orléans (N))
	10% St Joseph (W)
Total	(via Place d'Orléans Drive) (S)
	100%

Figure 12: New Site Generation Auto Volumes

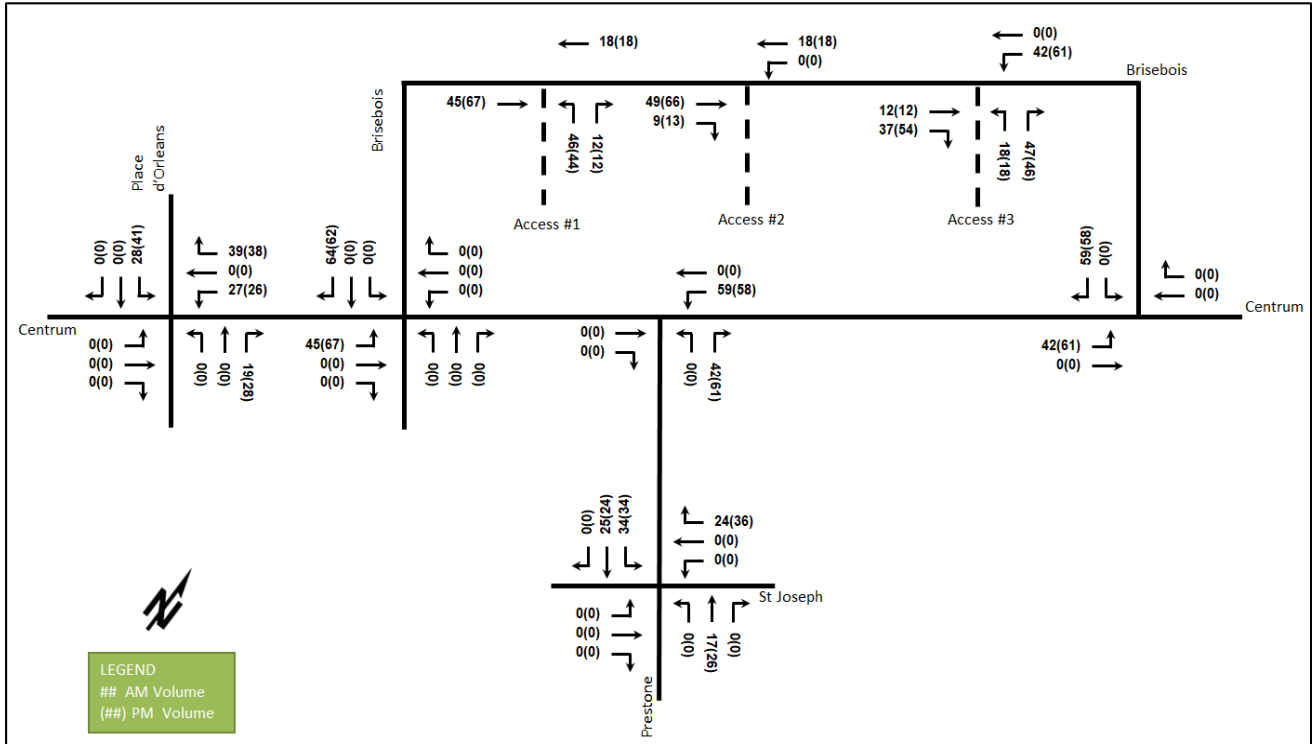
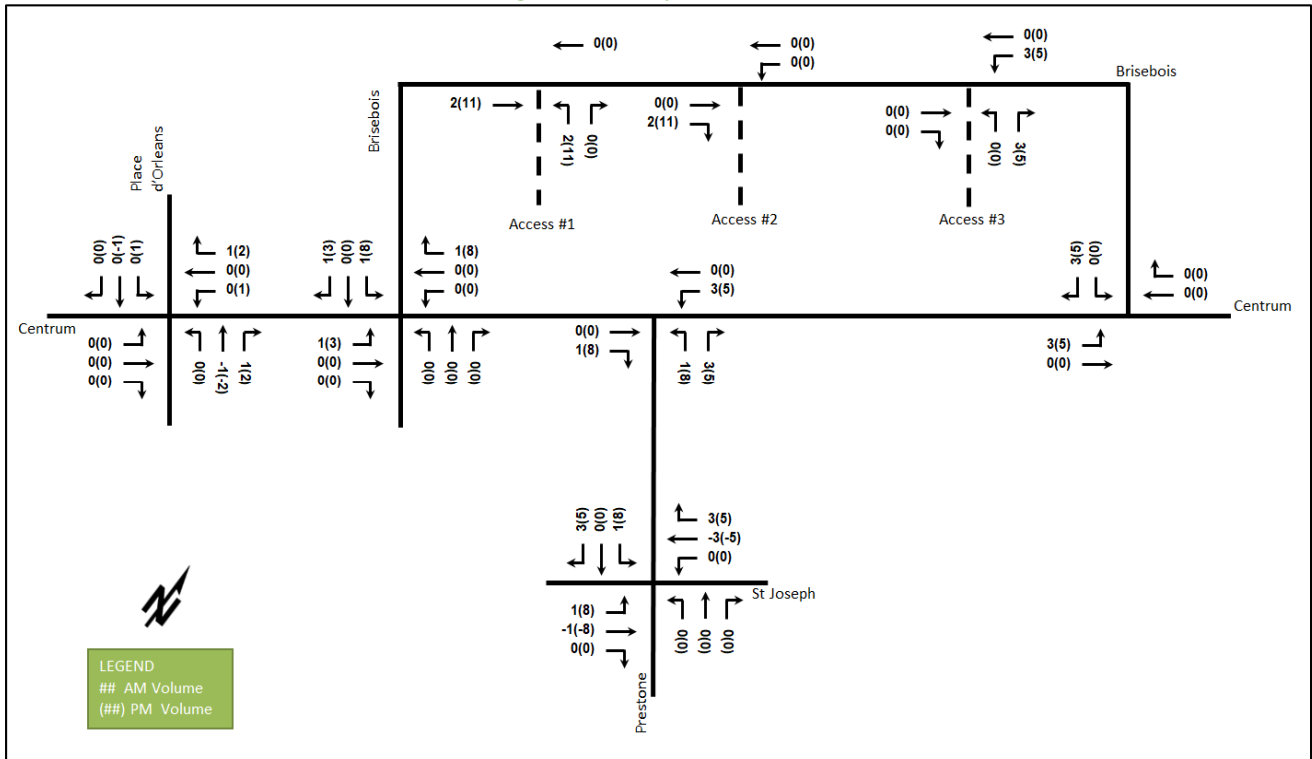


Figure 13: Pass-by Auto Volumes



6 Background Network Travel Demands

6.1 Transportation Network Plans

The transportation network plans were discussed in Section 2.3. The Place d’Orleans station Light Rail Transit (LRT) project is the only confirmed project within the study horizons and has been included.

6.2 Background Growth

A review of the background projections from the City’s TRANS Regional Model for the 2011 and 2031 horizons was completed to determine the background growth for each of the study area roadways. The background TRANS model growth rates are summarized in Table 15 and the TRANS model plots are provided in Appendix F.

Table 15: TRANS Regional Model Projections – Study Area Growth Rates

Street	TRANS Rate		2011 to Existing		Existing to 2031	
	Eastbound	Westbound	Eastbound	Westbound	Eastbound	Westbound
Centrum Blvd	0.21%	0.34%	7.74%	-6.68%	-10.10%	11.89%
St Joseph Blvd	0.17%	3.06%	7.71%	3.27%	-10.17%	2.74%
	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound
Prestone Dr	-0.46%	-0.53%	-8.12%	0.97%	12.25%	-2.73%
Place d'Orleans Dr	3.71%	-0.24%	4.08%	23.91%	3.15%	-27.94%

A comparison of the TRANS volumes and the existing volumes, the eastbound movement along Centrum Boulevard and the southbound moment along Place d’Orleans Drive show negative growth rates which are likely to have been underestimated and development may not have progressed linearly. Table 16 summarizes the recommended growth rates to be considered within the study area.

1 Screening

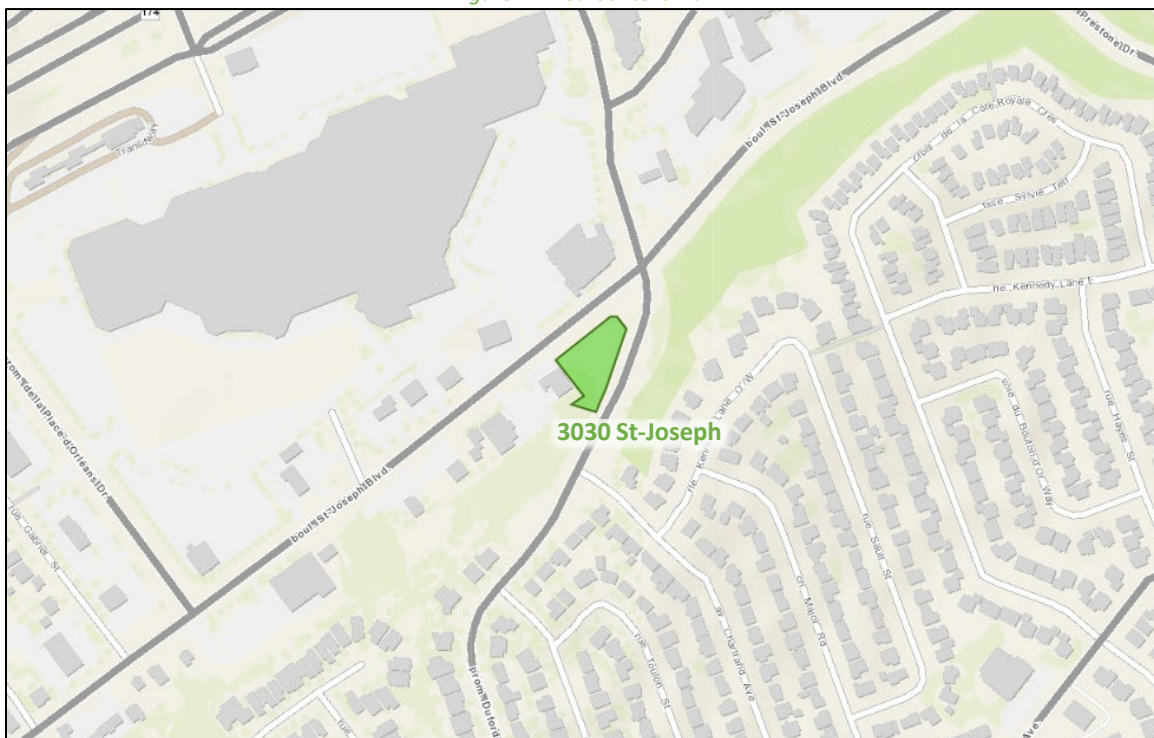
This study has been prepared according to the City of Ottawa's 2017 Transportation Impact Assessment (TIA) Guidelines, and was initially prepared before the 2023 Revisions to the TIA Guidelines. Accordingly, a Step 1 Screening Form has been prepared and is included as Appendix A, along with the Certification Form for the TIA Study PM. As shown in the Screening Form, a TIA is required including the Design Review component and the Network Impact Component. This study has been prepared to support a zoning by-law amendment and site plan application.

2 Existing and Planned Conditions

2.1 Proposed Development

The development site is located at 3030 St-Joseph Boulevard and is zoned as Arterial Mainstreet Zone (AM3[2705] S438). The development is proposed as an 18-storey mixed-used building comprising 206 residential dwelling units and 2,050 sq. ft. of commercial space, to be built by 2025. A similar building layout for a 16-storey tower as was previously approved for a prior zoning amendment. The development is to be accessed by a right-in/right-out access on St-Joseph Boulevard, and a total of 145 vehicle parking spaces and 213 bicycle parking spaces are proposed. The development is within the Orléans Corridor Secondary Plan Study area. Figure 1 illustrates the study area context. Figure 2 illustrates the proposed concept plan.

Figure 1: Area Context Plan



Source: <http://maps.ottawa.ca/geoOttawa/> Accessed: April 25, 2023

Table 13: OD Survey Distribution – Orleans

To/From	% of Trips
North	5%
South	30%
East	25%
West	40%
Total	100%

5.4 Trip Assignment

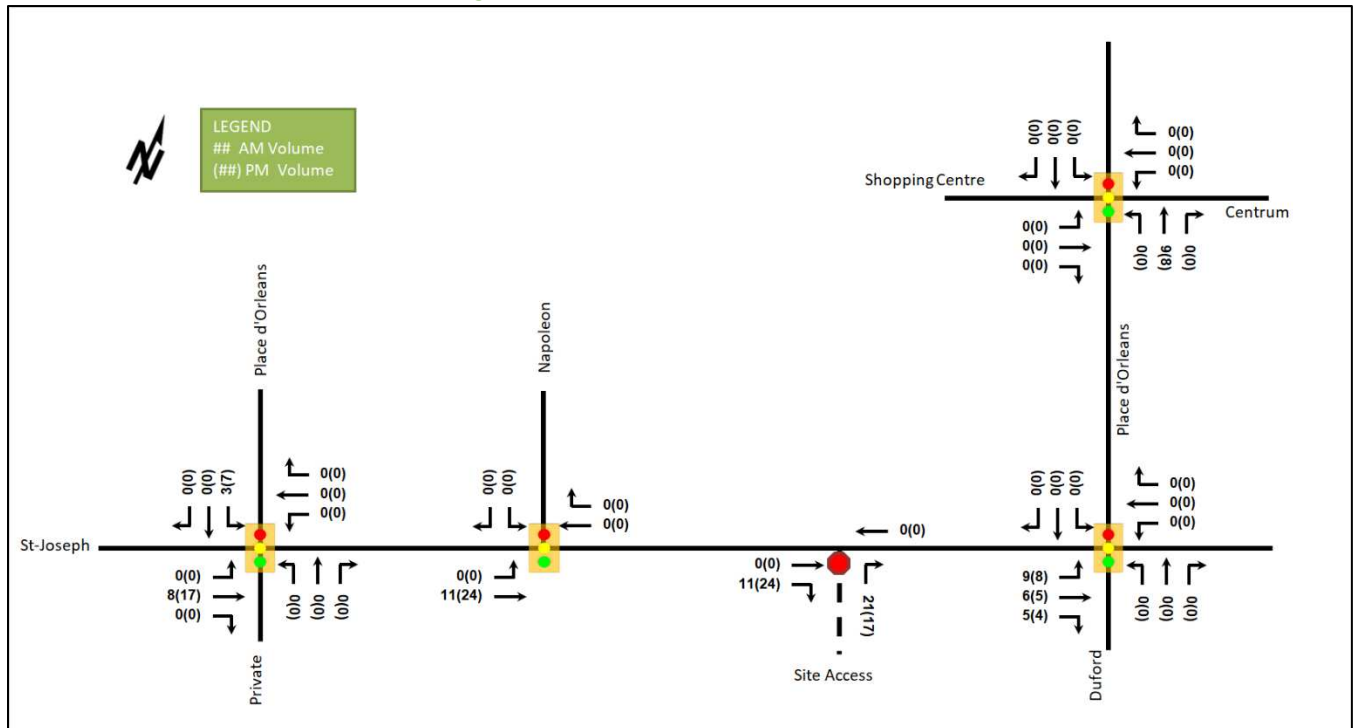
Using the distribution outlined above, turning movement splits, and access to major transportation infrastructure, the trips generated by the site have been assigned to the study area road network. Table 14 summarizes the proportional assignment to the study area roadways,

Figure 13 illustrates the new site generated volumes and Figure 14 illustrates the pass-by volumes.

Table 14: Trip Assignment

To/From	Inbound Via	Outbound Via
North	5% Place d’Orleans Drive W (N)	5% Place d’Orleans Drive E (W)
South	30% St-Joseph Boulevard (W)	20% Duford Drive (S) 10% St-Joseph Boulevard (E)
East	25% Place d’Orleans Drive W (N)	25% St-Joseph Boulevard (E)
West	40% St-Joseph Boulevard (W)	40% Place d’Orleans Drive E (N)/Highway 417
Total	100%	100%

Figure 13: New Site Generated Auto Volumes



1.2 Proposed Development

On Schedule B8 of the City of Ottawa's Official Plan, the subject site is designated as 'Hub,' 'Corridor – Mainstreet' (St. Joseph Boulevard), and 'Corridor – Minor' (Tenth Line Road). The subject site is also located within the Orléans Town Centre Secondary Plan area. The implemented zoning for the property is the Residential Fifth-Density, Subzone Z (R5Z[1363] and R5Z[1415]), which permits the proposed land uses.

The proposed development will consist of two apartment buildings of nine-storeys each. The easterly building (referred to as 'Building A') will step down to five storeys at the north end to comply with the zoning requirements. It will include 172 dwellings, and the westerly building (referred to as 'Building B') will include 101 dwellings. In total, the proposed development will therefore include 273 dwellings, as well as 185 vehicle parking spaces within a multi-level parking garage.

Access to the proposed development will be provided via one driveway to St. Joseph Boulevard and one driveway to Lionel-Rhéo Private. Vehicles entering the site via one driveway will be able to exit via the other driveway, as the parking garages below Buildings A and B will connect. The proposed development is anticipated to be completed in a single phase, with a buildout year of 2024.

A copy of the proposed site plan is included in **Appendix A**.

1.3 Screening Form

The City's *2017 TIA Guidelines* identify three triggers for completing a TIA report, including trip generation, location, and safety. The criteria for each trigger are outlined in the City's TIA Screening Form, which is included in **Appendix B**. The trigger results are as follows:

- Trip Generation Trigger – The development is expected to generate over 60 person trips/peak hour; further assessment **is required** based on this trigger.
- Location Triggers – The development proposes new driveways to a Spine Cycling Route (St. Joseph Boulevard) and is located in a Design Priority Area (Orléans Town Centre); further assessment **is required** based on this trigger.
- Safety Triggers – A proposed driveway within 150m of a signalized intersection, and there is a documented history of traffic operations/safety concerns on the boundary streets within 500m of the development; further assessment **is required** based on this trigger.

2.0 SCOPING

2.1 Existing Conditions

2.1.1 Roadways

All roadways within the study area fall under the jurisdiction of the City of Ottawa.

St. Joseph Boulevard is an arterial roadway that generally runs on an east-west alignment between Ottawa Road 174 and Trim Road. West of Ottawa Road 174, the roadway continues as Montreal Road, Rideau Street, and Wellington Street. East of Trim Road, the roadway continues as Old Montreal Road. Within the study area, St. Joseph Boulevard has a four-lane divided urban cross-

Figure 8: Site-Generated Traffic Volumes

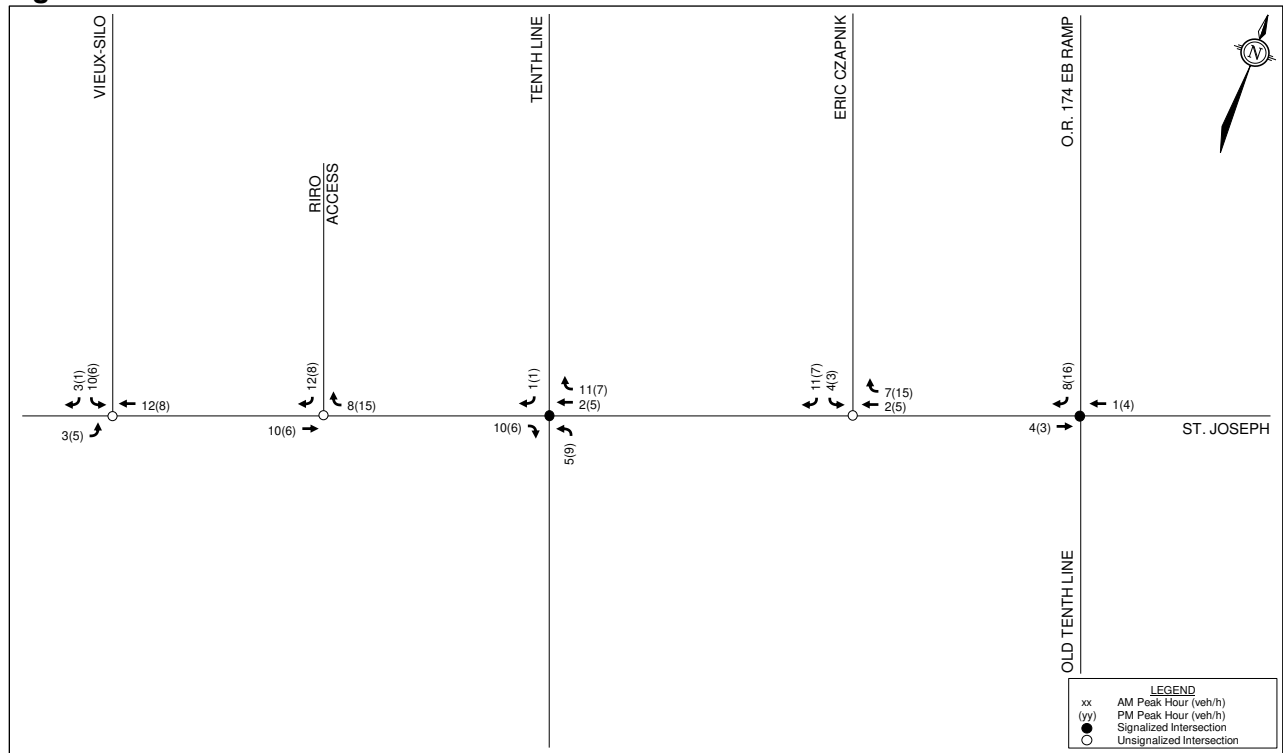
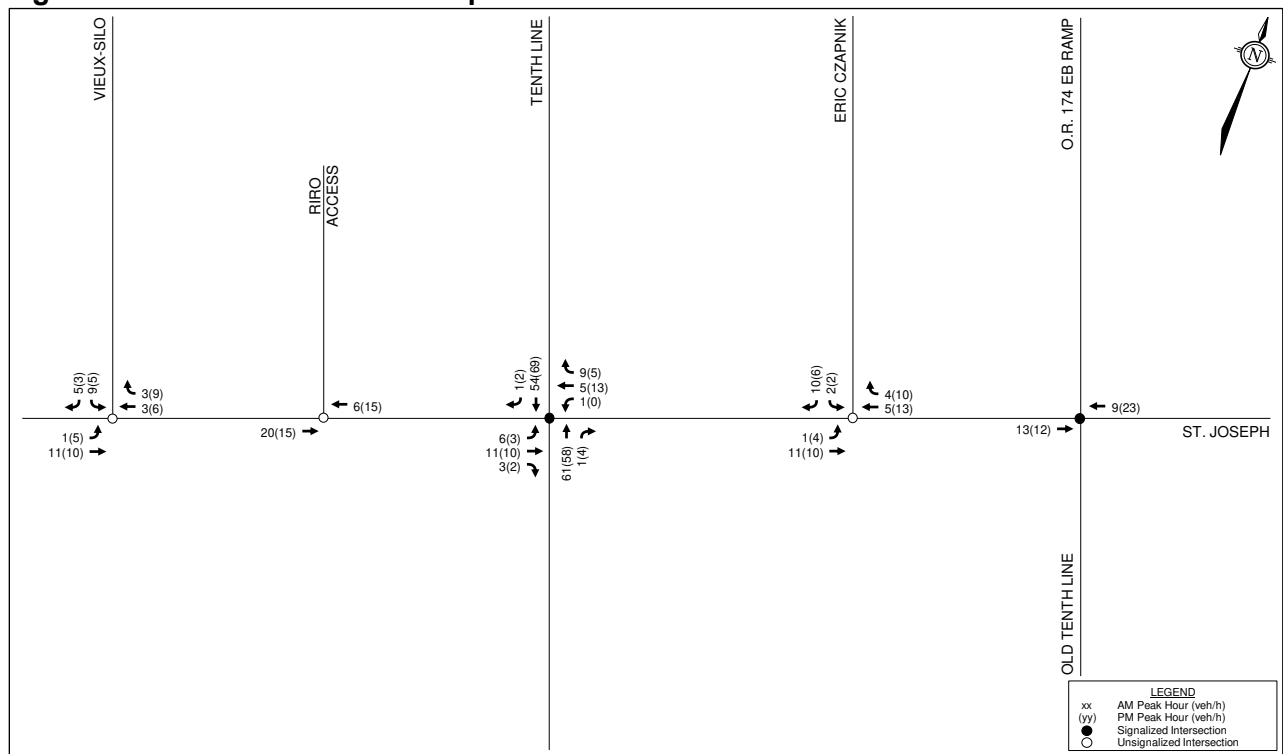


Figure 9: 2024 Other Area Development-Generated Traffic Volumes



1.2 Proposed Development

A TIA dated July 2022 was prepared in support of a Zoning By-law Amendment application for the subject property. This application proposed 326 apartment units with access on both St. Joseph Boulevard and the OR174 eastbound on-ramp.

The proposed development is consistent with the previously proposed development and will contain 326 apartment units. There are two proposed driveways, one to St. Joseph Boulevard and one to the OR174 eastbound on-ramp. The connection to the on-ramp will be right-in, right-out, left-out, while the connection to St. Joseph Boulevard will be full movement. Modifications will be required to the OR 174 Eastbound On-Ramp to accommodate two-way traffic from the site driveway connection to St. Joseph Boulevard. The proposed site plan is included in **Appendix A**. Construction of the proposed development is anticipated in 2025.

The City of Ottawa's Official Plan locates the subject site within the Suburban (east) Transect, with a 'Neighbourhood' designation on Schedule B8. The subject site is also located within the Orléans Corridor Secondary Plan.

A copy of the site plan is included in **Appendix A**.

1.3 Screening Form

The City's *2017 TIA Guidelines* identify three triggers for completing a TIA report, including trip generation, location, and safety. The criteria for each trigger are outlined in the City's TIA Screening Form, which is included in **Appendix B**. The trigger results are as follows:

- Trip Generation Trigger – The development is not expected to generate a net additional 60 peak hour person trips compared to previously completed TIA; further assessment is **not required** based on this trigger.
- Location Triggers – The development proposes a connection to St. Joseph Boulevard which is in the City's Cross-Town Bikeway; further assessment **is required** based on this trigger.
- Safety Triggers – The proposed driveway to St. Joseph Boulevard is within the right turning lane for the OR174 eastbound on-ramp intersection and uses the existing median break on St. Joseph Boulevard; further assessment **is required** based on this trigger.

2.0 SCOPING

2.1 Existing Conditions

2.1.1 Roadways

Ottawa Regional Road 174 (OR174, Queensway) is a four-lane divided City freeway and is classified as a truck route, allowing full loads. It runs east-west and has a posted speed limit of 100km/h in the vicinity of the subject site. The westbound on-ramps and off-ramp connect to Tenth Line Road and the eastbound on-ramp and off-ramp connect to St. Joseph Boulevard to the west of the site. The OR174 EB on-ramp immediately to the west of the site has an advisory speed of 50km/h. A speed study was recently conducted along the ramp at the location of the proposed access. Results showed a mean speed of 58km/h and an 85th percentile speed of 67km/h, approximately 14% of drivers were in compliance with the 50km/h advisory speed limit. Results from the speed survey can be found in **Appendix C**.

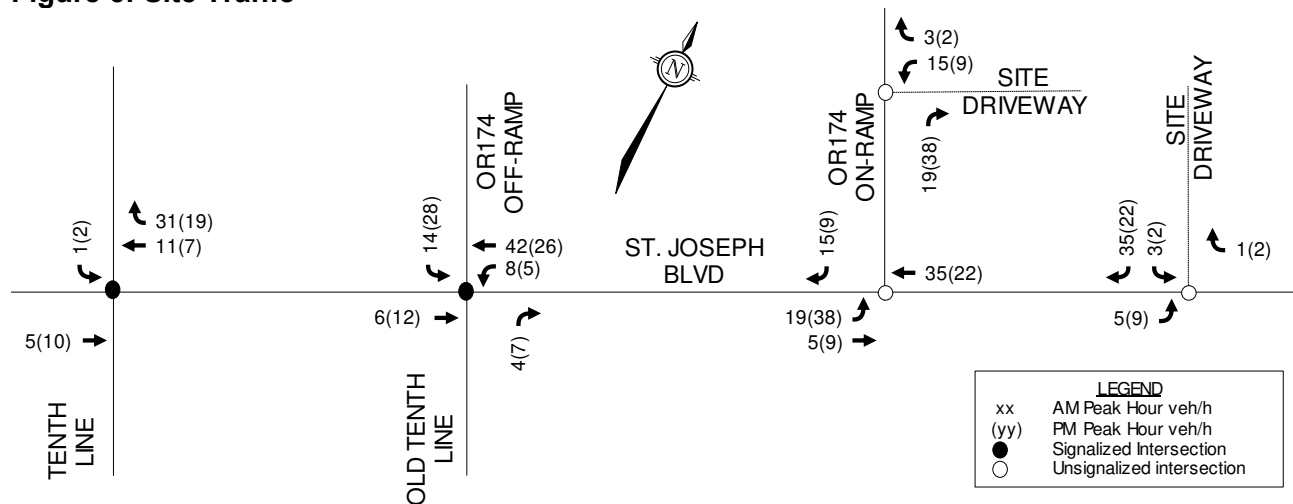
- 55% to/from the west via OR174
- 20% to/from the west via St. Joseph Boulevard
- 15% to/from the south via Old Tenth Line Road
- 5% to/from the east via OR174
- 5% to/from the east via St. Joseph Boulevard

The assignment of site generated trips has applied the following assumptions:

- 80% of the inbound trips from the west or south will use the on-ramp driveway with the remainder using the St Joseph driveway; and,
- 30% of the outbound trips to the west or south will use the on-ramp driveway with the remainder using the St Joseph driveway.

Traffic generated by the site based on the 2020 TRANS Trip Generation methodology is summarized in **Figure 5**.

Figure 5: Site Traffic



2.6 Access Design

The site will be served by two connections, one to St. Joseph Boulevard and one to the OR174 EB on-ramp. The connection to the on-ramp will be right-in, right-out, left-out, while the connection to St. Joseph Boulevard will be full movement. The OR174 eastbound ramp between St. Joseph Boulevard and the site access will be re-designated to a collector road from City Freeway. Modifications will be required to the OR174 EB on-ramp to accommodate two-way traffic from the site driveway connection to St. Joseph Boulevard.

A functional design of the proposed roadway modifications is provided in **Appendix G**. A Roadway Modification Approval letter will be provided under a separate cover. Additional approvals from the Ministry of Transportation of Ontario (MTO) may be required if OR 174 changes ownership in advance of the roadway modifications.

The access configurations with respect to design guidelines and requirements of the City's Private Approach By-law are summarized below:

APPENDIX I

Long-Range Model Snapshots

TRANS Regional Model

Version 1.01 - Assigned December 09, 2024

AM Peak Hour Total Traffic Volume

Place d'Orleans

2022 Model

User Initials: AJ

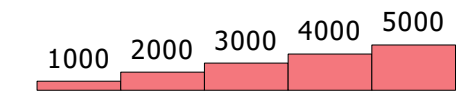
Plot Prepared: August 08, 2025

EMME Scenario: 22002

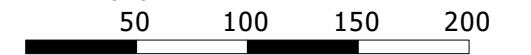


Legend

AM Peak Hour Total Traffic Volume



Distance (m)



The TRANS model is continuously refined & maintained, and all information is provided in good faith. However, model outputs are provided "as is", and no warranty or guarantee is provided as to the accuracy, reliability or reasonableness of the results. In using this data, you agree to accept any and all risks arising from any incorrect, incomplete, or misleading information.

Recipients are required to use caution and professional judgement in using and interpreting model outputs. In particular, caution should be used when focusing on a geographically limited area (such as a single road or intersection), as the model is primarily designed to simulate regional-scale phenomena and has been calibrated at a regional level.

As general good practice, it is recommended that the user confirm the network coding within the area of interest, and compare base year forecasts against traffic count data to assess the extent to which the model may be over- or under-estimating the travel demand.

TRANS Regional Model

Version 1.01 - Assigned December 09, 2024

AM Peak Hour Total Traffic Volume

Place d'Orleans

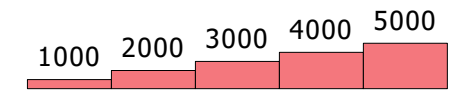
2046 Model

User Initials: AJ
Plot Prepared: August 08, 2025
EMME Scenario: 46001

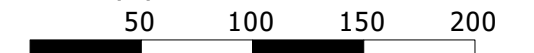


Legend

AM Peak Hour Total Traffic Volume



Distance (m)



The TRANS model is continuously refined & maintained, and all information is provided in good faith. However, model outputs are provided "as is", and no warranty or guarantee is provided as to the accuracy, reliability or reasonableness of the results. In using this data, you agree to accept any and all risks arising from any incorrect, incomplete, or misleading information.

Recipients are required to use caution and professional judgement in using and interpreting model outputs. In particular, caution should be used when focusing on a geographically limited area (such as a single road or intersection), as the model is primarily designed to simulate regional-scale phenomena and has been calibrated at a regional level.

As general good practice, it is recommended that the user confirm the network coding within the area of interest, and compare base year forecasts against traffic count data to assess the extent to which the model may be over- or under-estimating the travel demand.

APPENDIX J

Signal Timing Plans

Traffic Signal Timing

City of Ottawa, Public Works Department

Traffic Signal Operations Unit

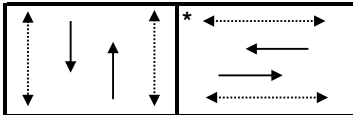
Intersection:	<u>Main:</u> Place d'Orleans	Side:	<u>Centrum</u>
Controller:	<u>MS 3200</u>	TSD:	<u>5888</u>
Author:	<u>Kymen Kwan</u>	Date:	<u>14-Aug-2025</u>

Existing Timing Plans[†]

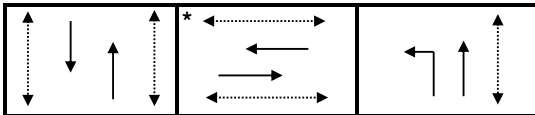
	Plan					Ped Minimum Time		
	AM Peak 1	Off Peak 2	PM Peak 3	Night 4	Weekend 5	Walk	DW	A+R
Cycle	75	75	85	70	90			
Offset	75	X	85	X	90			
NB Thru	43	43	53	38	58	12	18	3.3+2.7
SB Thru	43	43	53	38	46	12	18	3.3+2.7
EB Thru	32	32	32	32	32	10	15	3.3+2.7
WB Thru	32	32	32	32	32	10	15	3.3+2.7
NB Left	-	-	-	-	12	-	-	3.3+2.3

Phasing Sequence[‡]

Plan: 1, 2, 3, 4



Plan: 5



Notes: 1) For Plan 5, the NB Left Turn movement has as minimum recall of 6s green

Schedule

Weekday		Saturday		Sunday	
Time	Plan	Time	Plan	Time	Plan
0:10	4	0:10	4	0:10	4
6:30	1	7:00	2	7:00	2
9:30	2	9:00	5	10:00	5
15:00	3	20:00	4	17:00	2
18:30	2			19:00	4
22:00	4				

Notes

- †: Time for each direction includes amber and all red intervals
- ‡: Start of first phase should be used as reference point for offset
- Asterisk (*) Indicates actuated phase
- (fp): Fully Protected Left Turn
- ◄.....► Pedestrian signal

Cost is \$63.94 (\$56.58 + HST)

Traffic Signal Timing

City of Ottawa, Public Works Department

Traffic Signal Operations Unit

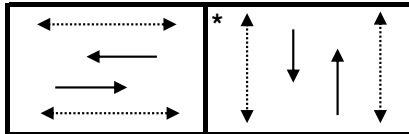
Intersection:	<i>Main:</i> St. Joseph	<i>Side:</i> Prestone
Controller:	MS 3200	TSD: 5807
Author:	Kymen Kwan	Date: 14-Aug-2025

Existing Timing Plans[†]

	Plan					Ped Minimum Time		
	AM Peak 1	Off Peak 2	PM Peak 3	Night 4	Weekend 5	Walk	DW	A+R
Cycle	80	80	80	60	80			
Offset	X	X	X	X	X			
EB Thru	51	51	51	31	46	7	11	3.3+2.4
WB Thru	51	51	51	31	46	7	11	3.3+2.4
NB Thru	29	29	29	29	34	7	16	3.3+2.7
SB Thru	29	29	29	29	34	7	16	3.3+2.7

Phasing Sequence[‡]

Plan: All



Schedule

Weekday		Saturday		Sunday	
Time	Plan	Time	Plan	Time	Plan
0:10	4	0:10	4	0:10	4
6:30	1	7:00	2	7:00	2
9:00	2	9:00	5	10:00	5
15:00	3	20:00	4	17:00	2
18:30	2			19:00	4
22:00	4				

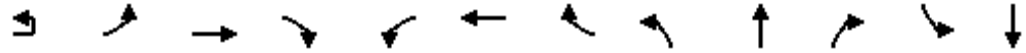
Notes

- †: Time for each direction includes amber and all red intervals
- ‡: Start of first phase should be used as reference point for offset
- Asterisk (*) Indicates actuated phase
- (fp): Fully Protected Left Turn
- ←.....→ Pedestrian signal

Cost is \$63.94 (\$56.58 + HST)

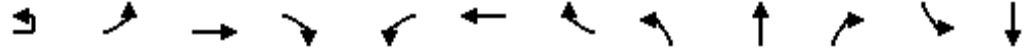
APPENDIX K

Existing Synchro Analysis



Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	28	25	40	25	31	67	83	166	60	77	40
Future Volume (vph)	1	28	25	40	25	31	67	83	166	60	77	40
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0		20.0	50.0		0.0	0.0		0.0	0.0	
Storage Lanes		1		1	1		0	0		0	0	
Taper Length (m)		10.0			20.0			10.0			10.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.99		0.97	0.99	0.99			1.00			1.00
Frt				0.850		0.897			0.971			0.980
Flt Protected		0.950			0.950				0.987			0.972
Satd. Flow (prot)	0	1628	1861	1582	1768	1560	0	0	3265	0	0	3221
Flt Permitted		0.687			0.739				0.832			0.702
Satd. Flow (perm)	0	1170	1861	1542	1358	1560	0	0	2752	0	0	2325
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				44		74			56			20
Link Speed (k/h)			30			40			60			60
Link Distance (m)			58.1			146.1			115.4			185.7
Travel Time (s)			7.0			13.1			6.9			11.1
Confl. Peds. (#/hr)		8		15	15		8	1		1	1	
Confl. Bikes (#/hr)							4					
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	10%	1%	1%	1%	1%	9%	1%	7%	2%	5%	8%
Adj. Flow (vph)	1	31	28	44	28	34	74	92	184	67	86	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	28	44	28	108	0	0	343	0	0	150
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	Left	Left
Median Width(m)			6.0			6.0			0.0			0.0
Link Offset(m)			0.0			0.0			0.0			0.0
Crosswalk Width(m)			5.0			5.0			5.0			5.0
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	14	24		14	24		14	24		14	24	
Number of Detectors	1	1	2	1	1	2		1	2		1	2
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 2 Position(m)			9.4			9.4			9.4			9.4
Detector 2 Size(m)			0.6			0.6			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0			0.0			0.0
Turn Type	Perm	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases			4			8			2			6
Permitted Phases	4	4		4	8			2			6	
Detector Phase	4	4	4	4	8	8		2	2		6	6

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	18
Future Volume (vph)	18
Ideal Flow (vphpl)	1800
Storage Length (m)	0.0
Storage Lanes	0
Taper Length (m)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	1
Confl. Bikes (#/hr)	
Peak Hour Factor	0.90
Heavy Vehicles (%)	1%
Adj. Flow (vph)	20
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	1.01
Turning Speed (k/h)	14
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(m)	
Detector 2 Size(m)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	



Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0		10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0	31.0		36.0	36.0		36.0	36.0
Total Split (s)	32.0	32.0	32.0	32.0	32.0	32.0		43.0	43.0		43.0	43.0
Total Split (%)	42.7%	42.7%	42.7%	42.7%	42.7%	42.7%		57.3%	57.3%		57.3%	57.3%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0	26.0		37.0	37.0		37.0	37.0
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3		3.3	3.3
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7		2.7	2.7		2.7	2.7
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0			0.0			0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0			6.0			6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0
Recall Mode	None	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max
Walk Time (s)	10.0	10.0	10.0	10.0	10.0	10.0		12.0	12.0		12.0	12.0
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	15.0	15.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5		5	5		5	5
Act Effct Green (s)		13.0	13.0	13.0	13.0	13.0			54.4			54.4
Actuated g/C Ratio		0.17	0.17	0.17	0.17	0.17			0.73			0.73
v/c Ratio		0.16	0.09	0.15	0.12	0.33			0.17			0.09
Control Delay		25.7	23.9	8.3	24.6	12.6			4.9			5.1
Queue Delay		0.0	0.0	0.0	0.0	0.0			0.0			0.0
Total Delay		25.7	23.9	8.3	24.6	12.6			4.9			5.1
LOS		C	C	A	C	B			A			A
Approach Delay			17.8			15.1			4.9			5.1
Approach LOS			B			B			A			A
Queue Length 50th (m)		3.8	3.3	0.0	3.3	4.0			5.2			2.2
Queue Length 95th (m)		7.9	7.1	5.7	7.2	12.0			16.7			8.5
Internal Link Dist (m)			34.1			122.1			91.4			161.7
Turn Bay Length (m)				20.0	50.0							
Base Capacity (vph)		405	645	563	470	589			2011			1691
Starvation Cap Reductn		0	0	0	0	0			0			0
Spillback Cap Reductn		0	0	0	0	0			0			0
Storage Cap Reductn		0	0	0	0	0			0			0
Reduced v/c Ratio		0.08	0.04	0.08	0.06	0.18			0.17			0.09

Intersection Summary

Area Type:	Other
Cycle Length:	75
Actuated Cycle Length:	75
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.33
Intersection Signal Delay:	8.7
Intersection LOS:	A
Intersection Capacity Utilization:	78.3%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 1: Place d'Orleans & Centrum

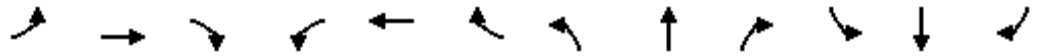




Lane Group	SBR
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

2: Centrum & Brisebois
AM Peak Hour

265 Centrum & 530 Brisebois
2025 Existing Traffic



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	80	10	2	124	3	0	0	1	1	0	13
Future Volume (vph)	24	80	10	2	124	3	0	0	1	1	0	13
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.988			0.997			0.865			0.874	
Flt Protected		0.989			0.999						0.997	
Satd. Flow (prot)	0	1770	0	0	1819	0	0	813	0	0	1622	0
Flt Permitted		0.989			0.999						0.997	
Satd. Flow (perm)	0	1770	0	0	1819	0	0	813	0	0	1622	0
Link Speed (k/h)		40			40			30			50	
Link Distance (m)		146.1			240.1			67.4			116.9	
Travel Time (s)		13.1			21.6			8.1			8.4	
Confl. Peds. (#/hr)	8		9	9		8						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	5%	1%	1%	3%	1%	1%	1%	100%	1%	1%	1%
Adj. Flow (vph)	27	89	11	2	138	3	0	0	1	1	0	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	127	0	0	143	0	0	1	0	0	15	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		4.0			4.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		5.0			5.0			5.0			5.0	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 30.3%

ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	20	41	39	18	55	36
Future Volume (vph)	20	41	39	18	55	36
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.909					0.850
Flt Protected				0.967	0.950	
Satd. Flow (prot)	1529	0	0	1778	1669	1582
Flt Permitted				0.967	0.950	
Satd. Flow (perm)	1529	0	0	1778	1669	1582
Link Speed (k/h)	40			40	40	
Link Distance (m)	240.1			132.6	112.3	
Travel Time (s)	21.6			11.9	10.1	
Confl. Peds. (#/hr)		7	7		4	6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	15%	1%	5%	7%	1%
Adj. Flow (vph)	22	46	43	20	61	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	0	0	63	61	40
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	R NA	L NA	Left	Left	Right
Median Width(m)	0.0			0.0	6.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	5.0			5.0	5.0	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Stop			Stop	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 21.8%

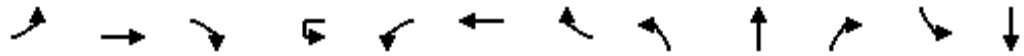
ICU Level of Service A

Analysis Period (min) 15



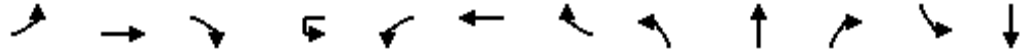
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	11	19	26	1	0	5
Future Volume (vph)	11	19	26	1	0	5
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.995		0.865	
Flt Protected		0.982				
Satd. Flow (prot)	0	1783	1852	0	1610	0
Flt Permitted		0.982				
Satd. Flow (perm)	0	1783	1852	0	1610	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		132.6	155.2		53.9	
Travel Time (s)		11.9	14.0		3.9	
Confl. Peds. (#/hr)	9			9		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	8%	1%	1%	1%	1%	1%
Adj. Flow (vph)	12	21	29	1	0	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	33	30	0	6	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		4.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		5.0	5.0		5.0	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization 18.4%	ICU Level of Service A
Analysis Period (min)	15



Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	8	291	33	1	9	976	91	101	26	9	32	14
Future Volume (vph)	8	291	33	1	9	976	91	101	26	9	32	14
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		120.0		45.0		120.0	50.0		0.0	0.0	
Storage Lanes	1		1		1		1	1		0	1	
Taper Length (m)	30.0				35.0			45.0			10.0	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97		1.00		0.99	1.00	1.00		1.00	0.99
Fr _t			0.850				0.850		0.962			0.903
Fl _t Protected	0.950				0.950			0.950			0.950	
Satd. Flow (prot)	1768	3468	1508	0	1636	3502	1522	1751	1638	0	1595	1463
Fl _t Permitted	0.238				0.556			0.728			0.732	
Satd. Flow (perm)	443	3468	1468	0	953	3502	1502	1339	1638	0	1226	1463
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)			41				101		10			29
Link Speed (k/h)		50				60			40			40
Link Distance (m)		252.5				369.8			344.1			112.3
Travel Time (s)		18.2				22.2			31.0			10.1
Confl. Peds. (#/hr)	1		3		3		1	2		2	2	
Confl. Bikes (#/hr)										1		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	3%	6%	1%	10%	2%	5%	2%	10%	10%	12%	35%
Adj. Flow (vph)	9	323	37	1	10	1084	101	112	29	10	36	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	9	323	37	0	11	1084	101	112	39	0	36	45
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left
Median Width(m)		6.0				6.0			4.0			6.0
Link Offset(m)		0.0				0.0			0.0			0.0
Crosswalk Width(m)		5.0				5.0			5.0			5.0
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	14	24		14	24		14	24	
Number of Detectors	1	2	1	1	1	2	1	1	2		1	2
Detector Template	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru		Left	Thru
Leading Detector (m)	2.0	10.0	2.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4				9.4			9.4			9.4
Detector 2 Size(m)		0.6				0.6			0.6			0.6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	Perm	NA	Perm	Perm	Perm	NA	Perm	Perm	NA		Perm	NA
Protected Phases		2				6			8			4
Permitted Phases	2		2	6	6		6	8			4	
Detector Phase	2	2	2	6	6	6	6	8	8		4	4

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	26
Future Volume (vph)	26
Ideal Flow (vphpl)	1800
Storage Length (m)	0.0
Storage Lanes	0
Taper Length (m)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	2
Confl. Bikes (#/hr)	
Peak Hour Factor	0.90
Heavy Vehicles (%)	4%
Adj. Flow (vph)	29
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	R NA
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	1.01
Turning Speed (k/h)	14
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(m)	
Detector 2 Size(m)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	



Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	23.7	23.7	23.7	23.7	23.7	23.7	23.7	29.0	29.0		29.0	29.0
Total Split (s)	51.0	51.0	51.0	51.0	51.0	51.0	51.0	29.0	29.0		29.0	29.0
Total Split (%)	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	36.3%	36.3%		36.3%	36.3%
Maximum Green (s)	45.3	45.3	45.3	45.3	45.3	45.3	45.3	23.0	23.0		23.0	23.0
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3
All-Red Time (s)	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.7	2.7		2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.7	5.7	5.7		5.7	5.7	5.7	6.0	6.0		6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	None	None		None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	16.0	16.0		16.0	16.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5	5	5	5		5	5
Act Effct Green (s)	51.1	51.1	51.1		51.1	51.1	51.1	13.1	13.1		13.1	13.1
Actuated g/C Ratio	0.72	0.72	0.72		0.72	0.72	0.72	0.18	0.18		0.18	0.18
v/c Ratio	0.03	0.13	0.03		0.02	0.43	0.09	0.46	0.13		0.16	0.15
Control Delay	6.5	5.3	2.3		6.2	7.0	1.9	31.6	19.4		25.0	13.5
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	6.5	5.3	2.3		6.2	7.0	1.9	31.6	19.4		25.0	13.5
LOS	A	A	A		A	A	A	C	B		C	B
Approach Delay		5.0				6.6			28.4			18.6
Approach LOS		A				A			C			B
Queue Length 50th (m)	0.3	6.0	0.0		0.4	26.7	0.0	12.1	2.9		3.7	1.6
Queue Length 95th (m)	2.3	15.9	3.1		2.5	60.9	5.4	24.1	9.1		9.9	8.2
Internal Link Dist (m)		228.5				345.8			320.1			88.3
Turn Bay Length (m)	60.0		120.0		45.0		120.0	50.0				
Base Capacity (vph)	317	2485	1064		683	2510	1105	433	537		397	493
Starvation Cap Reductn	0	0	0		0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0		0	0
Reduced v/c Ratio	0.03	0.13	0.03		0.02	0.43	0.09	0.26	0.07		0.09	0.09

Intersection Summary

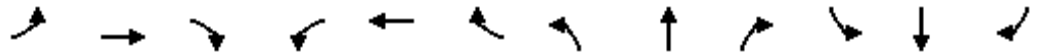
Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 71.3
 Natural Cycle: 60
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.46
 Intersection Signal Delay: 8.6
 Intersection Capacity Utilization 51.2%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 5: Prestone & St. Joseph

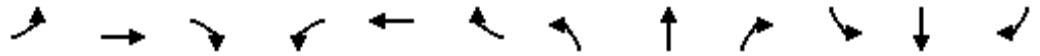


↙

Lane Group	SBR
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	49	196	36	35	90	118	169	66	101	112	24
Future Volume (vph)	88	49	196	36	35	90	118	169	66	101	112	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		20.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		1	1		0	0		0	0		0
Taper Length (m)	10.0			20.0			10.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.98		0.97	0.98	0.98			0.99				1.00
Fr _t			0.850		0.892			0.972				0.985
Fl _t Protected	0.950			0.950				0.984				0.979
Satd. Flow (prot)	1768	1861	1582	1768	1515	0	0	3290	0	0	3233	0
Fl _t Permitted	0.668			0.722				0.753			0.693	
Satd. Flow (perm)	1224	1861	1531	1322	1515	0	0	2515	0	0	2287	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			218		100			52			23	
Link Speed (k/h)		30			40			60			60	
Link Distance (m)		58.1			146.1			115.4			185.7	
Travel Time (s)		7.0			13.1			6.9			11.1	
Confl. Peds. (#/hr)	19		17	17		19	3		2	2		3
Confl. Bikes (#/hr)			5			1						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	11%	1%	6%	1%	9%	5%	1%
Adj. Flow (vph)	98	54	218	40	39	100	131	188	73	112	124	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	54	218	40	139	0	0	392	0	0	263	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	Left	Left	Right
Median Width(m)		6.0			6.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		5.0			5.0			5.0			5.0	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	

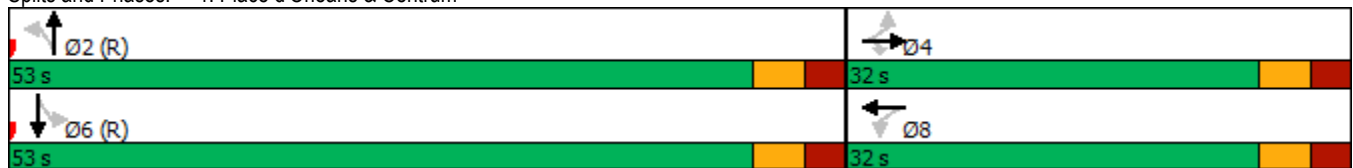


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		36.0	36.0		36.0	36.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0		53.0	53.0		53.0	53.0	
Total Split (%)	37.6%	37.6%	37.6%	37.6%	37.6%		62.4%	62.4%		62.4%	62.4%	
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		47.0	47.0		47.0	47.0	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7		2.7	2.7		2.7	2.7	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	10.0	10.0	10.0	10.0	10.0		12.0	12.0		12.0	12.0	
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	15.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	5	5	5	5	5		5	5		5	5	
Act Effct Green (s)	14.3	14.3	14.3	14.3	14.3			58.7			58.7	
Actuated g/C Ratio	0.17	0.17	0.17	0.17	0.17			0.69			0.69	
v/c Ratio	0.48	0.17	0.50	0.18	0.41			0.22			0.17	
Control Delay	38.1	29.1	8.0	29.5	13.6			5.3			5.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0			0.0	
Total Delay	38.1	29.1	8.0	29.5	13.6			5.3			5.4	
LOS	D	C	A	C	B			A			A	
Approach Delay		19.0			17.2			5.3			5.4	
Approach LOS		B			B			A			A	
Queue Length 50th (m)	13.9	7.2	0.0	5.4	5.2			7.3			4.9	
Queue Length 95th (m)	22.8	13.5	13.7	11.0	16.1			19.5			14.0	
Internal Link Dist (m)		34.1			122.1			91.4			161.7	
Turn Bay Length (m)			20.0	50.0								
Base Capacity (vph)	374	569	619	404	532			1752			1586	
Starvation Cap Reductn	0	0	0	0	0			0			0	
Spillback Cap Reductn	0	0	0	0	0			0			0	
Storage Cap Reductn	0	0	0	0	0			0			0	
Reduced v/c Ratio	0.26	0.09	0.35	0.10	0.26			0.22			0.17	

Intersection Summary

















Area Type:	Other
Cycle Length:	85
Actuated Cycle Length:	85
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.50
Intersection Signal Delay:	11.3
Intersection LOS:	B
Intersection Capacity Utilization:	92.9%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 1: Place d'Orleans & Centrum



2: Centrum & Brisebois
PM Peak Hour

265 Centrum & 530 Brisebois
2025 Existing Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	177	8	1	117	3	7	0	8	7	0	37
Future Volume (vph)	23	177	8	1	117	3	7	0	8	7	0	37
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.995			0.997			0.929			0.887	
Flt Protected		0.994						0.977			0.992	
Satd. Flow (prot)	0	1811	0	0	1787	0	0	1689	0	0	1638	0
Flt Permitted		0.994						0.977			0.992	
Satd. Flow (perm)	0	1811	0	0	1787	0	0	1689	0	0	1638	0
Link Speed (k/h)		40			40			30			50	
Link Distance (m)		146.1			240.1			67.4			116.9	
Travel Time (s)		13.1			21.6			8.1			8.4	
Confl. Peds. (#/hr)	23		19	19		23						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	3%	1%	1%	5%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	26	197	9	1	130	3	8	0	9	8	0	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	232	0	0	134	0	0	17	0	0	49	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		4.0			4.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		5.0			5.0			5.0			5.0	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 28.4%	ICU Level of Service A											
Analysis Period (min) 15												



Lane Group	EBT	EBR	WBL	WBT	NBU	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	39	108	53	18	1	72	37
Future Volume (vph)	39	108	53	18	1	72	37
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							
Frt	0.901			0.850			
Flt Protected				0.964	0.950		
Satd. Flow (prot)	1607	0	0	1794	0	1611	1582
Flt Permitted				0.964	0.950		
Satd. Flow (perm)	1607	0	0	1794	0	1611	1582
Link Speed (k/h)	40			40	40		
Link Distance (m)	240.1			132.6	112.3		
Travel Time (s)	21.6			11.9	10.1		
Confl. Peds. (#/hr)	7		7	3			3
Confl. Bikes (#/hr)	1						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	7%	1%	1%	1%	11%	1%
Adj. Flow (vph)	43	120	59	20	1	80	41
Shared Lane Traffic (%)							
Lane Group Flow (vph)	163	0	0	79	0	81	41
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	R NA	L NA	Left	R NA	Left	Right
Median Width(m)	0.0			0.0	6.0		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	5.0			5.0	5.0		
Two way Left Turn Lane							
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	14		24	14			24
Sign Control	Stop			Stop	Stop		

Intersection Summary

Area Type: Other

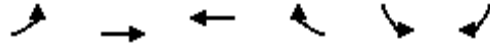
Control Type: Unsignalized

Intersection Capacity Utilization 29.7% ICU Level of Service A

Analysis Period (min) 15

4: Centrum & Brisebois
PM Peak Hour

265 Centrum & 530 Brisebois
2025 Existing Traffic



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	8	48	39	0	0	16
Future Volume (vph)	8	48	39	0	0	16
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt						0.865
Flt Protected	0.993					
Satd. Flow (prot)	0	1848	1825	0	1610	0
Flt Permitted	0.993					
Satd. Flow (perm)	0	1848	1825	0	1610	0
Link Speed (k/h)	40		40	50		
Link Distance (m)	132.6		155.2	53.9		
Travel Time (s)	11.9		14.0	3.9		
Confl. Peds. (#/hr)	8				8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	3%	1%	1%	1%
Adj. Flow (vph)	9	53	43	0	0	18
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	62	43	0	18	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)	0.0		0.0	4.0		
Link Offset(m)	0.0		0.0	0.0		
Crosswalk Width(m)	5.0		5.0	5.0		
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24				14	14
Sign Control	Free		Free	Stop		

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	19.8%
	ICU Level of Service A
Analysis Period (min)	15



Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	23	949	154	2	11	644	139	61	26	14	158
Future Volume (vph)	1	23	949	154	2	11	644	139	61	26	14	158
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)		60.0		120.0		45.0		120.0	50.0		0.0	0.0
Storage Lanes		1		1		1		1	1		0	1
Taper Length (m)		30.0				35.0			45.0			10.0
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98		1.00		0.99	1.00	1.00		1.00
Fr _t				0.850				0.850		0.947		
Fl _t Protected		0.950				0.950			0.950			0.950
Satd. Flow (prot)	0	1768	3537	1582	0	1768	3537	1551	1751	1669	0	1768
Fl _t Permitted		0.368				0.236			0.703			0.728
Satd. Flow (perm)	0	684	3537	1544	0	439	3537	1529	1292	1669	0	1354
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				171				154		16		
Link Speed (k/h)		50				60			40			
Link Distance (m)			252.5				369.8			344.1		
Travel Time (s)			18.2				22.2			31.0		
Confl. Peds. (#/hr)		2		2		2		2	3		1	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	3%	2%	9%	1%	1%
Adj. Flow (vph)	1	26	1054	171	2	12	716	154	68	29	16	176
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	27	1054	171	0	14	716	154	68	45	0	176
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	L NA	Left	R NA	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA
Median Width(m)			6.0				6.0			4.0		
Link Offset(m)			0.0				0.0			0.0		
Crosswalk Width(m)			5.0				5.0			5.0		
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	14	24		14	14	24		14	24		14	24
Number of Detectors	1	1	2	1	1	1	2	1	1	2		1
Detector Template	Left	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	2.0	0.6	2.0	2.0	0.6		2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(m)			9.4				9.4			9.4		
Detector 2 Size(m)			0.6				0.6			0.6		
Detector 2 Type			Cl+Ex				Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)			0.0				0.0			0.0		
Turn Type	Perm	Perm	NA	Perm	Perm	Perm	NA	Perm	Perm	NA		Perm
Protected Phases			2				6			8		
Permitted Phases	2	2		2	6	6		6	8			4
Detector Phase	2	2	2	2	6	6	6	6	8	8		4
Switch Phase												



Lane Group	SBT	SBR
Lane Configurations	↑	
Traffic Volume (vph)	58	17
Future Volume (vph)	58	17
Ideal Flow (vphpl)	1800	1800
Storage Length (m)		0.0
Storage Lanes		0
Taper Length (m)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor	1.00	
Frt	0.966	
Flt Protected		
Satd. Flow (prot)	1701	0
Flt Permitted		
Satd. Flow (perm)	1701	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	19	
Link Speed (k/h)	40	
Link Distance (m)	112.3	
Travel Time (s)	10.1	
Confl. Peds. (#/hr)		3
Peak Hour Factor	0.90	0.90
Heavy Vehicles (%)	8%	1%
Adj. Flow (vph)	64	19
Shared Lane Traffic (%)		
Lane Group Flow (vph)	83	0
Enter Blocked Intersection	No	No
Lane Alignment	Left	R NA
Median Width(m)	6.0	
Link Offset(m)	0.0	
Crosswalk Width(m)	5.0	
Two way Left Turn Lane		
Headway Factor	1.01	1.01
Turning Speed (k/h)		14
Number of Detectors	2	
Detector Template	Thru	
Leading Detector (m)	10.0	
Trailing Detector (m)	0.0	
Detector 1 Position(m)	0.0	
Detector 1 Size(m)	0.6	
Detector 1 Type	Cl+Ex	
Detector 1 Channel		
Detector 1 Extend (s)	0.0	
Detector 1 Queue (s)	0.0	
Detector 1 Delay (s)	0.0	
Detector 2 Position(m)	9.4	
Detector 2 Size(m)	0.6	
Detector 2 Type	Cl+Ex	
Detector 2 Channel		
Detector 2 Extend (s)	0.0	
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Detector Phase	4	
Switch Phase		

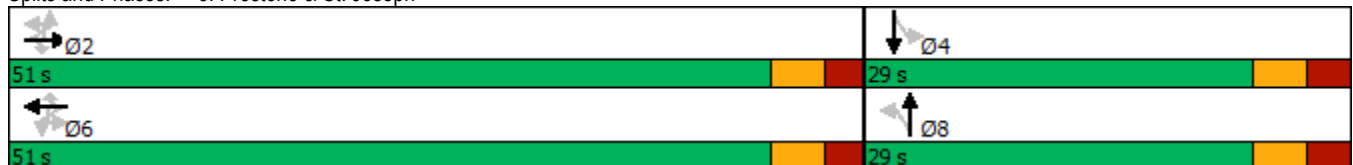


Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0
Minimum Split (s)	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7	29.0	29.0		29.0
Total Split (s)	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	29.0	29.0		29.0
Total Split (%)	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	36.3%	36.3%		36.3%
Maximum Green (s)	45.3	45.3	45.3	45.3	45.3	45.3	45.3	45.3	23.0	23.0		23.0
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3
All-Red Time (s)	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.7	2.7		2.7
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)		5.7	5.7	5.7		5.7	5.7	5.7	6.0	6.0		6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	None	None		None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	16.0	16.0		16.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5	5	5	5	5		5
Act Effct Green (s)		48.2	48.2	48.2		48.2	48.2	48.2	15.2	15.2		15.2
Actuated g/C Ratio		0.64	0.64	0.64		0.64	0.64	0.64	0.20	0.20		0.20
v/c Ratio		0.06	0.46	0.16		0.05	0.32	0.15	0.26	0.13		0.64
Control Delay		7.1	8.5	1.7		7.4	7.2	1.8	25.8	16.9		37.7
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Delay		7.1	8.5	1.7		7.4	7.2	1.8	25.8	16.9		37.7
LOS		A	A	A		A	A	A	C	B		D
Approach Delay			7.5				6.3			22.3		
Approach LOS			A				A			C		
Queue Length 50th (m)		1.1	30.7	0.0		0.6	18.3	0.0	7.1	2.9		20.1
Queue Length 95th (m)		4.8	58.3	6.8		3.2	36.1	6.5	15.9	9.5		36.6
Internal Link Dist (m)			228.5				345.8			320.1		
Turn Bay Length (m)		60.0		120.0		45.0		120.0	50.0			
Base Capacity (vph)		438	2268	1051		281	2268	1035	396	523		415
Starvation Cap Reductn		0	0	0		0	0	0	0	0		0
Spillback Cap Reductn		0	0	0		0	0	0	0	0		0
Storage Cap Reductn		0	0	0		0	0	0	0	0		0
Reduced v/c Ratio		0.06	0.46	0.16		0.05	0.32	0.15	0.17	0.09		0.42

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 75.2
 Natural Cycle: 60
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.64
 Intersection Signal Delay: 10.3
 Intersection Capacity Utilization 53.7%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 5: Prestone & St. Joseph

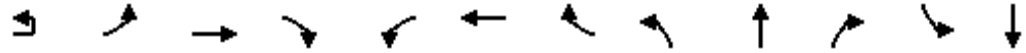




Lane Group	SBT	SBR
Minimum Initial (s)	10.0	
Minimum Split (s)	29.0	
Total Split (s)	29.0	
Total Split (%)	36.3%	
Maximum Green (s)	23.0	
Yellow Time (s)	3.3	
All-Red Time (s)	2.7	
Lost Time Adjust (s)	0.0	
Total Lost Time (s)	6.0	
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	
Recall Mode	None	
Walk Time (s)	7.0	
Flash Dont Walk (s)	16.0	
Pedestrian Calls (#/hr)	5	
Act Effct Green (s)	15.2	
Actuated g/C Ratio	0.20	
v/c Ratio	0.23	
Control Delay	19.9	
Queue Delay	0.0	
Total Delay	19.9	
LOS	B	
Approach Delay	32.0	
Approach LOS	C	
Queue Length 50th (m)	6.6	
Queue Length 95th (m)	16.0	
Internal Link Dist (m)	88.3	
Turn Bay Length (m)		
Base Capacity (vph)	535	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.16	
Intersection Summary		

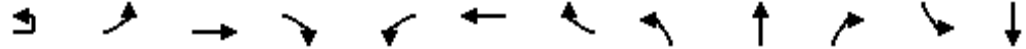
APPENDIX L

Background Synchro Analysis



Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	28	25	40	60	31	124	83	174	84	114	40
Future Volume (vph)	1	28	25	40	60	31	124	83	174	84	114	40
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0		20.0	50.0		0.0	0.0		0.0	0.0	
Storage Lanes		1		1	1		0	0		0	0	
Taper Length (m)		10.0			20.0			10.0			10.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.99		0.97	0.99	0.98			0.99			1.00
Frt				0.850		0.880			0.963			0.984
Flt Protected		0.950			0.950				0.988			0.968
Satd. Flow (prot)	0	1628	1861	1582	1768	1514	0	0	3241	0	0	3225
Flt Permitted		0.659			0.741				0.838			0.662
Satd. Flow (perm)	0	1123	1861	1542	1361	1514	0	0	2748	0	0	2204
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				44		124			84			18
Link Speed (k/h)			30			40			60			60
Link Distance (m)			58.1			146.1			115.4			185.7
Travel Time (s)			7.0			13.1			6.9			11.1
Confl. Peds. (#/hr)		8		15	15		8	1		1	1	
Confl. Bikes (#/hr)							4					
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	10%	1%	1%	1%	1%	9%	1%	7%	2%	5%	8%
Adj. Flow (vph)	1	28	25	40	60	31	124	83	174	84	114	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	29	25	40	60	155	0	0	341	0	0	172
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	Left	Left
Median Width(m)			6.0			6.0			0.0			0.0
Link Offset(m)			0.0			0.0			0.0			0.0
Crosswalk Width(m)			5.0			5.0			5.0			5.0
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	14	24		14	24		14	24		14	24	
Number of Detectors	1	1	2	1	1	2		1	2		1	2
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 2 Position(m)			9.4			9.4			9.4			9.4
Detector 2 Size(m)			0.6			0.6			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0			0.0			0.0
Turn Type	Perm	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases			4			8			2			6
Permitted Phases	4	4		4	8			2			6	
Detector Phase	4	4	4	4	8	8		2	2		6	6

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	18
Future Volume (vph)	18
Ideal Flow (vphpl)	1800
Storage Length (m)	0.0
Storage Lanes	0
Taper Length (m)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	1
Confl. Bikes (#/hr)	
Peak Hour Factor	1.00
Heavy Vehicles (%)	1%
Adj. Flow (vph)	18
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	1.01
Turning Speed (k/h)	14
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(m)	
Detector 2 Size(m)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	



Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0		10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0	31.0		36.0	36.0		36.0	36.0
Total Split (s)	32.0	32.0	32.0	32.0	32.0	32.0		43.0	43.0		43.0	43.0
Total Split (%)	42.7%	42.7%	42.7%	42.7%	42.7%	42.7%		57.3%	57.3%		57.3%	57.3%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0	26.0		37.0	37.0		37.0	37.0
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3		3.3	3.3
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7		2.7	2.7		2.7	2.7
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0			0.0			0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0			6.0			6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0
Recall Mode	None	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max
Walk Time (s)	10.0	10.0	10.0	10.0	10.0	10.0		12.0	12.0		12.0	12.0
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	15.0	15.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5		5	5		5	5
Act Effct Green (s)		13.0	13.0	13.0	13.0	13.0			50.0			50.0
Actuated g/C Ratio		0.17	0.17	0.17	0.17	0.17			0.67			0.67
v/c Ratio		0.15	0.08	0.13	0.25	0.42			0.18			0.12
Control Delay		25.4	23.7	7.5	27.5	11.0			4.7			5.5
Queue Delay		0.0	0.0	0.0	0.0	0.0			0.0			0.0
Total Delay		25.4	23.7	7.5	27.5	11.0			4.7			5.5
LOS		C	C	A	C	B			A			A
Approach Delay			17.4			15.6			4.7			5.5
Approach LOS			B			B			A			A
Queue Length 50th (m)		3.4	2.9	0.0	7.2	3.6			4.6			2.7
Queue Length 95th (m)		7.5	6.6	5.1	12.6	13.5			15.3			9.7
Internal Link Dist (m)			34.1			122.1			91.4			161.7
Turn Bay Length (m)				20.0	50.0							
Base Capacity (vph)		389	645	563	471	605			1859			1474
Starvation Cap Reductn		0	0	0	0	0			0			0
Spillback Cap Reductn		0	0	0	0	0			0			0
Storage Cap Reductn		0	0	0	0	0			0			0
Reduced v/c Ratio		0.07	0.04	0.07	0.13	0.26			0.18			0.12

Intersection Summary

Area Type:	Other
Cycle Length:	75
Actuated Cycle Length:	75
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.42
Intersection Signal Delay:	9.2
Intersection LOS:	A
Intersection Capacity Utilization:	90.4%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 1: Place d'Orleans & Centrum



Lane Group	SBR
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

2: Centrum & Brisebois
AM Peak Hour

265 Centrum & 530 Brisebois
2035 Background Traffic



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	80	10	2	124	7	0	0	1	8	0	102
Future Volume (vph)	83	80	10	2	124	7	0	0	1	8	0	102
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.992			0.993			0.865			0.875	
Flt Protected		0.977			0.999						0.996	
Satd. Flow (prot)	0	1772	0	0	1813	0	0	813	0	0	1622	0
Flt Permitted		0.977			0.999						0.996	
Satd. Flow (perm)	0	1772	0	0	1813	0	0	813	0	0	1622	0
Link Speed (k/h)		40			40			30			50	
Link Distance (m)		146.1			240.1			67.4			116.9	
Travel Time (s)		13.1			21.6			8.1			8.4	
Confl. Peds. (#/hr)	8		9	9		8						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	5%	1%	1%	3%	1%	1%	1%	100%	1%	1%	1%
Adj. Flow (vph)	83	80	10	2	124	7	0	0	1	8	0	102
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	173	0	0	133	0	0	1	0	0	110	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		4.0			4.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		5.0			5.0			5.0			5.0	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 43.5%

ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	20	48	101	18	59	81
Future Volume (vph)	20	48	101	18	59	81
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.905					0.850
Flt Protected				0.959	0.950	
Satd. Flow (prot)	1518	0	0	1774	1669	1582
Flt Permitted				0.959	0.950	
Satd. Flow (perm)	1518	0	0	1774	1669	1582
Link Speed (k/h)	40			40	40	
Link Distance (m)	240.1			132.6	112.3	
Travel Time (s)	21.6			11.9	10.1	
Confl. Peds. (#/hr)		7	7		4	6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	15%	1%	5%	7%	1%
Adj. Flow (vph)	20	48	101	18	59	81
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	0	0	119	59	81
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	R NA	L NA	Left	Left	Right
Median Width(m)	0.0			0.0	6.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	5.0			5.0	5.0	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Stop			Stop	Stop	

Intersection Summary

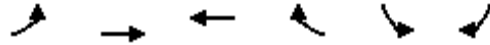
Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 25.5%























ICU Level of Service A

Analysis Period (min) 15

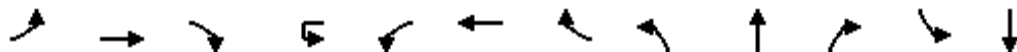


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	56	19	26	1	0	67
Future Volume (vph)	56	19	26	1	0	67
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.995		0.865	
Flt Protected		0.964				
Satd. Flow (prot)	0	1706	1852	0	1610	0
Flt Permitted		0.964				
Satd. Flow (perm)	0	1706	1852	0	1610	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		132.6	155.2		53.9	
Travel Time (s)		11.9	14.0		3.9	
Confl. Peds. (#/hr)	9			9		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	8%	1%	1%	1%	1%	1%
Adj. Flow (vph)	56	19	26	1	0	67
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	75	27	0	67	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		4.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		5.0	5.0		5.0	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization 22.0%	ICU Level of Service A
Analysis Period (min)	15

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	9	362	33	1	9	1194	121	101	43	9	73	39
Future Volume (vph)	9	362	33	1	9	1194	121	101	43	9	73	39
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		120.0		45.0		120.0	50.0		0.0	0.0	
Storage Lanes	1		1		1		1	1		0	1	
Taper Length (m)	30.0				35.0			45.0			10.0	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97		1.00		0.99	1.00	1.00		1.00	0.99
Frt			0.850				0.850		0.974			0.936
Flt Protected	0.950				0.950			0.950			0.950	
Satd. Flow (prot)	1768	3468	1508	0	1637	3502	1522	1751	1660	0	1595	1436
Flt Permitted	0.205				0.536			0.713			0.723	
Satd. Flow (perm)	382	3468	1468	0	920	3502	1502	1312	1660	0	1211	1436
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)			41				121		9			29
Link Speed (k/h)		50				60			40			40
Link Distance (m)		252.5				369.8			344.1			112.3
Travel Time (s)		18.2				22.2			31.0			10.1
Confl. Peds. (#/hr)	1		3		3		1	2		2	2	
Confl. Bikes (#/hr)										1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	3%	6%	1%	10%	2%	5%	2%	10%	10%	12%	35%
Adj. Flow (vph)	9	362	33	1	9	1194	121	101	43	9	73	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	9	362	33	0	10	1194	121	101	52	0	73	68
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left
Median Width(m)		6.0				6.0			4.0			6.0
Link Offset(m)		0.0				0.0			0.0			0.0
Crosswalk Width(m)		5.0				5.0			5.0			5.0
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	14	24		14	24		14	24	
Number of Detectors	1	2	1	1	1	2	1	1	2		1	2
Detector Template	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru		Left	Thru
Leading Detector (m)	2.0	10.0	2.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4				9.4			9.4			9.4
Detector 2 Size(m)		0.6				0.6			0.6			0.6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	Perm	NA	Perm	Perm	Perm	NA	Perm	Perm	NA		Perm	NA
Protected Phases		2				6			8			4
Permitted Phases	2		2	6	6		6	8			4	
Detector Phase	2	2	2	6	6	6	6	8	8		4	4

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	29
Future Volume (vph)	29
Ideal Flow (vphpl)	1800
Storage Length (m)	0.0
Storage Lanes	0
Taper Length (m)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	2
Confl. Bikes (#/hr)	
Peak Hour Factor	1.00
Heavy Vehicles (%)	4%
Adj. Flow (vph)	29
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	R NA
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	1.01
Turning Speed (k/h)	14
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(m)	
Detector 2 Size(m)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	



Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	23.7	23.7	23.7	23.7	23.7	23.7	23.7	29.0	29.0		29.0	29.0
Total Split (s)	51.0	51.0	51.0	51.0	51.0	51.0	51.0	29.0	29.0		29.0	29.0
Total Split (%)	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	36.3%	36.3%		36.3%	36.3%
Maximum Green (s)	45.3	45.3	45.3	45.3	45.3	45.3	45.3	23.0	23.0		23.0	23.0
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3
All-Red Time (s)	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.7	2.7		2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.7	5.7	5.7		5.7	5.7	5.7	6.0	6.0		6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	None	None		None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	16.0	16.0		16.0	16.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5	5	5	5		5	5
Act Effct Green (s)	50.1	50.1	50.1		50.1	50.1	50.1	12.9	12.9		12.9	12.9
Actuated g/C Ratio	0.71	0.71	0.71		0.71	0.71	0.71	0.18	0.18		0.18	0.18
v/c Ratio	0.03	0.15	0.03		0.02	0.48	0.11	0.42	0.17		0.33	0.24
Control Delay	6.7	5.3	2.1		6.1	7.4	1.8	30.5	21.3		28.5	17.4
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	6.7	5.3	2.1		6.1	7.4	1.8	30.5	21.3		28.5	17.4
LOS	A	A	A		A	A	A	C	C		C	B
Approach Delay		5.1				6.9			27.3			23.1
Approach LOS		A				A			C			C
Queue Length 50th (m)	0.3	6.6	0.0		0.3	29.8	0.0	10.9	4.4		7.7	4.0
Queue Length 95th (m)	2.4	17.7	2.6		2.4	70.0	5.8	22.2	11.7		17.0	12.3
Internal Link Dist (m)		228.5				345.8			320.1			88.3
Turn Bay Length (m)	60.0		120.0		45.0		120.0	50.0				
Base Capacity (vph)	272	2477	1060		657	2501	1107	432	553		399	493
Starvation Cap Reductn	0	0	0		0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0		0	0
Reduced v/c Ratio	0.03	0.15	0.03		0.02	0.48	0.11	0.23	0.09		0.18	0.14

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 70.1

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 9.2

Intersection LOS: A

Intersection Capacity Utilization 57.6%

ICU Level of Service B

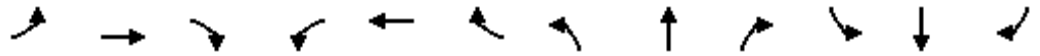
Analysis Period (min) 15

Splits and Phases: 5: Prestone & St. Joseph

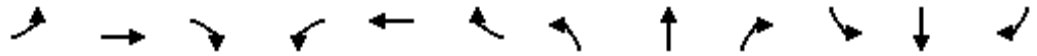


↙

Lane Group	SBR
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	49	196	70	35	144	118	175	104	161	111	24
Future Volume (vph)	88	49	196	70	35	144	118	175	104	161	111	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		20.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		1	1		0	0		0	0		0
Taper Length (m)	10.0			20.0			10.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.99		0.97	0.98	0.97			0.99			1.00	
Fr _t			0.850		0.879			0.961			0.988	
Fl _t Protected	0.950			0.950				0.985			0.974	
Satd. Flow (prot)	1768	1861	1582	1768	1477	0	0	3257	0	0	3211	0
Fl _t Permitted	0.562			0.725				0.761			0.638	
Satd. Flow (perm)	1030	1861	1531	1328	1477	0	0	2514	0	0	2101	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			196		144			94			17	
Link Speed (k/h)		30			40			60			60	
Link Distance (m)		58.1			146.1			115.4			185.7	
Travel Time (s)		7.0			13.1			6.9			11.1	
Confl. Peds. (#/hr)	19		17	17		19	3		2	2		3
Confl. Bikes (#/hr)			5			1						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	1%	1%	1%	11%	1%	6%	1%	9%	5%	1%
Adj. Flow (vph)	88	49	196	70	35	144	118	175	104	161	111	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	49	196	70	179	0	0	397	0	0	296	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	Left	Left	Right
Median Width(m)		6.0			6.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		5.0			5.0			5.0			5.0	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	

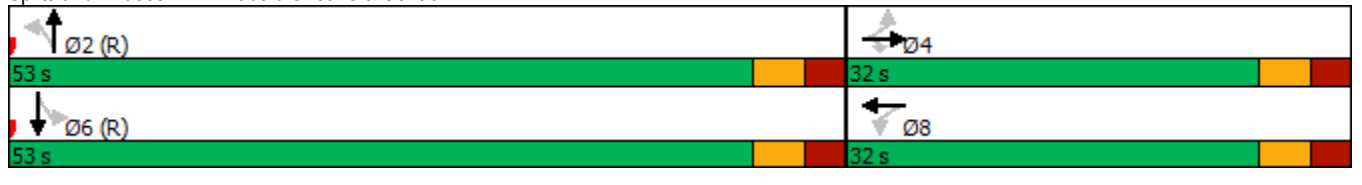


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		36.0	36.0		36.0	36.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0		53.0	53.0		53.0	53.0	
Total Split (%)	37.6%	37.6%	37.6%	37.6%	37.6%		62.4%	62.4%		62.4%	62.4%	
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		47.0	47.0		47.0	47.0	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7		2.7	2.7		2.7	2.7	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.0			6.0		
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	10.0	10.0	10.0	10.0	10.0		12.0	12.0		12.0	12.0	
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	15.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	5	5	5	5	5		5	5		5	5	
Act Effct Green (s)	14.2	14.2	14.2	14.2	14.2			58.8			58.8	
Actuated g/C Ratio	0.17	0.17	0.17	0.17	0.17			0.69			0.69	
v/c Ratio	0.51	0.16	0.47	0.32	0.49			0.22			0.20	
Control Delay	41.4	28.9	8.0	32.9	12.6			4.7			5.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0			0.0	
Total Delay	41.4	28.9	8.0	32.9	12.6			4.7			5.8	
LOS	D	C	A	C	B			A			A	
Approach Delay		19.9			18.3			4.7			5.8	
Approach LOS		B			B			A			A	
Queue Length 50th (m)	12.6	6.6	0.0	9.7	4.7			6.2			5.8	
Queue Length 95th (m)	21.2	12.5	13.1	17.0	17.0			17.7			16.4	
Internal Link Dist (m)		34.1			122.1			91.4			161.7	
Turn Bay Length (m)			20.0	50.0								
Base Capacity (vph)	315	569	604	406	551			1768			1459	
Starvation Cap Reductn	0	0	0	0	0			0			0	
Spillback Cap Reductn	0	0	0	0	0			0			0	
Storage Cap Reductn	0	0	0	0	0			0			0	
Reduced v/c Ratio	0.28	0.09	0.32	0.17	0.32			0.22			0.20	

Intersection Summary

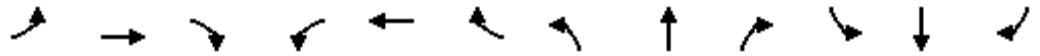
Area Type: Other
 Cycle Length: 85
 Actuated Cycle Length: 85
 Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 11.6 Intersection LOS: B
 Intersection Capacity Utilization 94.9% ICU Level of Service F
 Analysis Period (min) 15

Splits and Phases: 1: Place d'Orleans & Centrum



2: Centrum & Brisebois
PM Peak Hour

265 Centrum & 530 Brisebois
2035 Background Traffic



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	177	8	1	117	17	7	0	8	20	0	123
Future Volume (vph)	119	177	8	1	117	17	7	0	8	20	0	123
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.996			0.983			0.928			0.884	
Flt Protected		0.981						0.977			0.993	
Satd. Flow (prot)	0	1798	0	0	1769	0	0	1688	0	0	1634	0
Flt Permitted		0.981						0.977			0.993	
Satd. Flow (perm)	0	1798	0	0	1769	0	0	1688	0	0	1634	0
Link Speed (k/h)		40			40			30			50	
Link Distance (m)		146.1			240.1			67.4			116.9	
Travel Time (s)		13.1			21.6			8.1			8.4	
Confl. Peds. (#/hr)	23		19	19		23						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	3%	1%	1%	5%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	119	177	8	1	117	17	7	0	8	20	0	123
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	304	0	0	135	0	0	15	0	0	143	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		4.0			4.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		5.0			5.0			5.0			5.0	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 47.6%

ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBT	EBR	WBL	WBT	NBU	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	39	121	116	18	1	86	103
Future Volume (vph)	39	121	116	18	1	86	103
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							
Frt	0.898					0.850	
Flt Protected				0.959	0.950		
Satd. Flow (prot)	1600	0	0	1785	0	1611	1582
Flt Permitted				0.959	0.950		
Satd. Flow (perm)	1600	0	0	1785	0	1611	1582
Link Speed (k/h)	40			40	40		
Link Distance (m)	240.1			132.6	112.3		
Travel Time (s)	21.6			11.9	10.1		
Confl. Peds. (#/hr)	7		7				3
Confl. Bikes (#/hr)	1						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	7%	1%	1%	1%	11%	1%
Adj. Flow (vph)	39	121	116	18	1	86	103
Shared Lane Traffic (%)							
Lane Group Flow (vph)	160	0	0	134	0	87	103
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	R NA	L NA	Left	R NA	Left	Right
Median Width(m)	0.0			0.0	6.0		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	5.0			5.0	5.0		
Two way Left Turn Lane							
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	14		24	14			24
Sign Control	Stop		Stop			Stop	

Intersection Summary

Area Type: Other

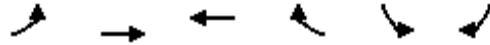
Control Type: Unsignalized

Intersection Capacity Utilization 34.8% ICU Level of Service A

Analysis Period (min) 15

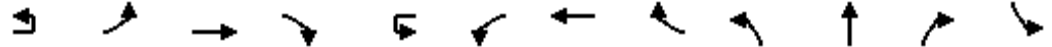
4: Centrum & Brisebois
PM Peak Hour

265 Centrum & 530 Brisebois
2035 Background Traffic



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	74	48	39	0	0	79
Future Volume (vph)	74	48	39	0	0	79
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt						0.865
Flt Protected	0.971					
Satd. Flow (prot)	0	1807	1825	0	1610	0
Flt Permitted	0.971					
Satd. Flow (perm)	0	1807	1825	0	1610	0
Link Speed (k/h)	40		40	50		
Link Distance (m)	132.6		155.2	53.9		
Travel Time (s)	11.9		14.0	3.9		
Confl. Peds. (#/hr)	8				8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	3%	1%	1%	1%
Adj. Flow (vph)	74	48	39	0	0	79
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	122	39	0	79	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)	0.0		0.0	4.0		
Link Offset(m)	0.0		0.0	0.0		
Crosswalk Width(m)	5.0		5.0	5.0		
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24				14	14
Sign Control	Free		Free	Stop		

Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization 25.5%	ICU Level of Service A
Analysis Period (min)	15



Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	31	1151	154	2	11	784	186	61	52	14	205
Future Volume (vph)	1	31	1151	154	2	11	784	186	61	52	14	205
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)		60.0		120.0		45.0		120.0	50.0		0.0	0.0
Storage Lanes		1		1		1		1	1		0	1
Taper Length (m)		30.0				35.0			45.0			10.0
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98		1.00		0.99	1.00	1.00		1.00
Frt				0.850				0.850		0.968		
Flt Protected		0.950				0.950			0.950			0.950
Satd. Flow (prot)	0	1768	3537	1582	0	1768	3537	1551	1751	1691	0	1768
Flt Permitted		0.335				0.202			0.690			0.714
Satd. Flow (perm)	0	623	3537	1544	0	376	3537	1529	1268	1691	0	1328
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				154				186		14		
Link Speed (k/h)		50				60			40			
Link Distance (m)			252.5				369.8			344.1		
Travel Time (s)			18.2				22.2			31.0		
Confl. Peds. (#/hr)		2		2		2		2	3		1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	3%	2%	9%	1%	1%
Adj. Flow (vph)	1	31	1151	154	2	11	784	186	61	52	14	205
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	1151	154	0	13	784	186	61	66	0	205
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	L NA	Left	R NA	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA
Median Width(m)			6.0			6.0			4.0			
Link Offset(m)			0.0			0.0			0.0			
Crosswalk Width(m)			5.0			5.0			5.0			
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	14	24		14	14	24		14	24		14	24
Number of Detectors	1	1	2	1	1	1	2	1	1	2		1
Detector Template	Left	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	2.0	0.6	2.0	2.0	0.6		2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(m)			9.4				9.4			9.4		
Detector 2 Size(m)			0.6				0.6			0.6		
Detector 2 Type			Cl+Ex				Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)			0.0				0.0			0.0		
Turn Type	Perm	Perm	NA	Perm	Perm	Perm	NA	Perm	Perm	NA		Perm
Protected Phases			2				6			8		
Permitted Phases	2	2		2	6	6		6	8			4
Detector Phase	2	2	2	2	6	6	6	6	8	8		4
Switch Phase												



Lane Group	SBT	SBR
Lane Configurations	↑	
Traffic Volume (vph)	82	22
Future Volume (vph)	82	22
Ideal Flow (vphpl)	1800	1800
Storage Length (m)		0.0
Storage Lanes		0
Taper Length (m)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor	1.00	
Frt	0.968	
Flt Protected		
Satd. Flow (prot)	1703	0
Flt Permitted		
Satd. Flow (perm)	1703	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	17	
Link Speed (k/h)	40	
Link Distance (m)	112.3	
Travel Time (s)	10.1	
Confl. Peds. (#/hr)		3
Peak Hour Factor	1.00	1.00
Heavy Vehicles (%)	8%	1%
Adj. Flow (vph)	82	22
Shared Lane Traffic (%)		
Lane Group Flow (vph)	104	0
Enter Blocked Intersection	No	No
Lane Alignment	Left	R NA
Median Width(m)	6.0	
Link Offset(m)	0.0	
Crosswalk Width(m)	5.0	
Two way Left Turn Lane		
Headway Factor	1.01	1.01
Turning Speed (k/h)		14
Number of Detectors	2	
Detector Template	Thru	
Leading Detector (m)	10.0	
Trailing Detector (m)	0.0	
Detector 1 Position(m)	0.0	
Detector 1 Size(m)	0.6	
Detector 1 Type	Cl+Ex	
Detector 1 Channel		
Detector 1 Extend (s)	0.0	
Detector 1 Queue (s)	0.0	
Detector 1 Delay (s)	0.0	
Detector 2 Position(m)	9.4	
Detector 2 Size(m)	0.6	
Detector 2 Type	Cl+Ex	
Detector 2 Channel		
Detector 2 Extend (s)	0.0	
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Detector Phase	4	
Switch Phase		

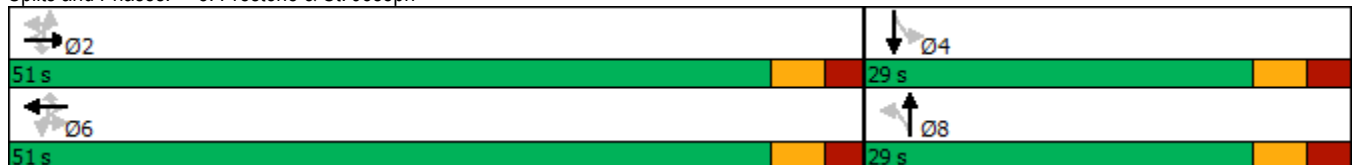


Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0
Minimum Split (s)	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7	29.0	29.0		29.0
Total Split (s)	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	29.0	29.0		29.0
Total Split (%)	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	36.3%	36.3%		36.3%
Maximum Green (s)	45.3	45.3	45.3	45.3	45.3	45.3	45.3	45.3	23.0	23.0		23.0
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3
All-Red Time (s)	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.7	2.7		2.7
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)		5.7	5.7	5.7		5.7	5.7	5.7	6.0	6.0		6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	None	None		None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	16.0	16.0		16.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5	5	5	5	5		5
Act Effct Green (s)		47.7	47.7	47.7		47.7	47.7	47.7	16.5	16.5		16.5
Actuated g/C Ratio		0.63	0.63	0.63		0.63	0.63	0.63	0.22	0.22		0.22
v/c Ratio		0.08	0.52	0.15		0.06	0.35	0.18	0.22	0.18		0.71
Control Delay		7.8	9.6	1.8		8.0	8.0	1.8	24.8	19.5		40.9
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Delay		7.8	9.6	1.8		8.0	8.0	1.8	24.8	19.5		40.9
LOS		A	A	A		A	A	A	C	B		D
Approach Delay			8.6				6.8			22.0		
Approach LOS			A				A			C		
Queue Length 50th (m)		1.4	38.4	0.0		0.6	22.6	0.0	6.4	5.3		24.1
Queue Length 95th (m)		5.5	66.1	6.5		3.1	40.0	7.0	14.6	13.5		43.1
Internal Link Dist (m)			228.5				345.8			320.1		
Turn Bay Length (m)		60.0		120.0		45.0		120.0	50.0			
Base Capacity (vph)		391	2223	1028		236	2223	1030	385	523		403
Starvation Cap Reductn		0	0	0		0	0	0	0	0		0
Spillback Cap Reductn		0	0	0		0	0	0	0	0		0
Storage Cap Reductn		0	0	0		0	0	0	0	0		0
Reduced v/c Ratio		0.08	0.52	0.15		0.06	0.35	0.18	0.16	0.13		0.51

Intersection Summary

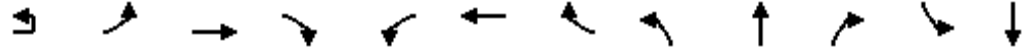
Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	75.9
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.71
Intersection Signal Delay:	11.5
Intersection Capacity Utilization:	62.0%
Intersection LOS:	B
ICU Level of Service:	B
Analysis Period (min):	15

Splits and Phases: 5: Prestone & St. Joseph



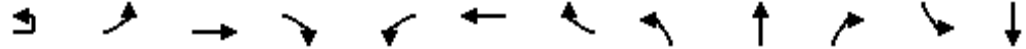


Lane Group	SBT	SBR
Minimum Initial (s)	10.0	
Minimum Split (s)	29.0	
Total Split (s)	29.0	
Total Split (%)	36.3%	
Maximum Green (s)	23.0	
Yellow Time (s)	3.3	
All-Red Time (s)	2.7	
Lost Time Adjust (s)	0.0	
Total Lost Time (s)	6.0	
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	
Recall Mode	None	
Walk Time (s)	7.0	
Flash Dont Walk (s)	16.0	
Pedestrian Calls (#/hr)	5	
Act Effct Green (s)	16.5	
Actuated g/C Ratio	0.22	
v/c Ratio	0.27	
Control Delay	21.0	
Queue Delay	0.0	
Total Delay	21.0	
LOS	C	
Approach Delay	34.2	
Approach LOS	C	
Queue Length 50th (m)	9.1	
Queue Length 95th (m)	19.7	
Internal Link Dist (m)	88.3	
Turn Bay Length (m)		
Base Capacity (vph)	529	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.20	
Intersection Summary		



Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	28	25	40	60	31	124	83	174	84	114	40
Future Volume (vph)	1	28	25	40	60	31	124	83	174	84	114	40
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0		20.0	50.0		0.0	0.0		0.0	0.0	
Storage Lanes		1		1	1		0	0		0	0	
Taper Length (m)		10.0			20.0			10.0			10.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		0.99		0.97	0.99	0.98			0.99			1.00
Frt				0.850		0.880			0.963			0.984
Flt Protected		0.950			0.950				0.988			0.968
Satd. Flow (prot)	0	1628	1861	1582	1768	1514	0	0	3241	0	0	3225
Flt Permitted		0.659			0.741				0.838			0.662
Satd. Flow (perm)	0	1123	1861	1542	1361	1514	0	0	2748	0	0	2204
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				44		124			84			18
Link Speed (k/h)			30			40			60			60
Link Distance (m)			58.1			146.1			115.4			185.7
Travel Time (s)			7.0			13.1			6.9			11.1
Confl. Peds. (#/hr)		8		15	15		8	1		1	1	
Confl. Bikes (#/hr)							4					
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	10%	1%	1%	1%	1%	9%	1%	7%	2%	5%	8%
Adj. Flow (vph)	1	28	25	40	60	31	124	83	174	84	114	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	29	25	40	60	155	0	0	341	0	0	172
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	Left	Left
Median Width(m)			6.0			6.0			0.0			0.0
Link Offset(m)			0.0			0.0			0.0			0.0
Crosswalk Width(m)			5.0			5.0			5.0			5.0
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	14	24		14	24		14	24		14	24	
Number of Detectors	1	1	2	1	1	2		1	2		1	2
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 2 Position(m)			9.4			9.4			9.4			9.4
Detector 2 Size(m)			0.6			0.6			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0			0.0			0.0
Turn Type	Perm	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases			4			8			2			6
Permitted Phases	4	4		4	8			2			6	
Detector Phase	4	4	4	4	8	8		2	2		6	6

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	18
Future Volume (vph)	18
Ideal Flow (vphpl)	1800
Storage Length (m)	0.0
Storage Lanes	0
Taper Length (m)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	1
Confl. Bikes (#/hr)	
Peak Hour Factor	1.00
Heavy Vehicles (%)	1%
Adj. Flow (vph)	18
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	1.01
Turning Speed (k/h)	14
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(m)	
Detector 2 Size(m)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	



Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0		10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0	31.0		36.0	36.0		36.0	36.0
Total Split (s)	32.0	32.0	32.0	32.0	32.0	32.0		43.0	43.0		43.0	43.0
Total Split (%)	42.7%	42.7%	42.7%	42.7%	42.7%	42.7%		57.3%	57.3%		57.3%	57.3%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0	26.0		37.0	37.0		37.0	37.0
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3		3.3	3.3
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7		2.7	2.7		2.7	2.7
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0			0.0			0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0			6.0			6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0
Recall Mode	None	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max
Walk Time (s)	10.0	10.0	10.0	10.0	10.0	10.0		12.0	12.0		12.0	12.0
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	15.0	15.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5		5	5		5	5
Act Effct Green (s)		13.0	13.0	13.0	13.0	13.0			50.0			50.0
Actuated g/C Ratio		0.17	0.17	0.17	0.17	0.17			0.67			0.67
v/c Ratio		0.15	0.08	0.13	0.25	0.42			0.18			0.12
Control Delay		25.4	23.7	7.5	27.5	11.0			4.7			5.5
Queue Delay		0.0	0.0	0.0	0.0	0.0			0.0			0.0
Total Delay		25.4	23.7	7.5	27.5	11.0			4.7			5.5
LOS		C	C	A	C	B			A			A
Approach Delay			17.4			15.6			4.7			5.5
Approach LOS			B			B			A			A
Queue Length 50th (m)		3.4	2.9	0.0	7.2	3.6			4.6			2.7
Queue Length 95th (m)		7.5	6.6	5.1	12.6	13.5			15.3			9.7
Internal Link Dist (m)			34.1			122.1			91.4			161.7
Turn Bay Length (m)				20.0	50.0							
Base Capacity (vph)		389	645	563	471	605			1859			1474
Starvation Cap Reductn		0	0	0	0	0			0			0
Spillback Cap Reductn		0	0	0	0	0			0			0
Storage Cap Reductn		0	0	0	0	0			0			0
Reduced v/c Ratio		0.07	0.04	0.07	0.13	0.26			0.18			0.12

Intersection Summary

Area Type:	Other
Cycle Length:	75
Actuated Cycle Length:	75
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.42
Intersection Signal Delay:	9.2
Intersection LOS:	A
Intersection Capacity Utilization:	90.4%
ICU Level of Service:	E
Analysis Period (min):	15
















Splits and Phases: 1: Place d'Orleans & Centrum

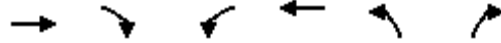


Lane Group	SBR
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

2: Centrum & Brisebois
AM Peak Hour

265 Centrum & 530 Brisebois
2040 Background Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	80	10	2	124	7	0	0	1	8	0	102
Future Volume (vph)	83	80	10	2	124	7	0	0	1	8	0	102
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.992			0.993			0.865				0.875
Flt Protected		0.977			0.999							0.996
Satd. Flow (prot)	0	1772	0	0	1813	0	0	813	0	0	1622	0
Flt Permitted		0.977			0.999							0.996
Satd. Flow (perm)	0	1772	0	0	1813	0	0	813	0	0	1622	0
Link Speed (k/h)		40			40			30				50
Link Distance (m)		146.1			240.1			67.4				116.9
Travel Time (s)		13.1			21.6			8.1				8.4
Confl. Peds. (#/hr)	8		9	9		8						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	5%	1%	1%	3%	1%	1%	1%	100%	1%	1%	1%
Adj. Flow (vph)	83	80	10	2	124	7	0	0	1	8	0	102
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	173	0	0	133	0	0	1	0	0	110	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		4.0			4.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		5.0			5.0			5.0			5.0	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop				Stop
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 43.5%	ICU Level of Service A											
Analysis Period (min) 15												



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	20	48	101	18	59	81
Future Volume (vph)	20	48	101	18	59	81
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.905					0.850
Flt Protected				0.959	0.950	
Satd. Flow (prot)	1518	0	0	1774	1669	1582
Flt Permitted				0.959	0.950	
Satd. Flow (perm)	1518	0	0	1774	1669	1582
Link Speed (k/h)	40			40	40	
Link Distance (m)	240.1			132.6	112.3	
Travel Time (s)	21.6			11.9	10.1	
Confl. Peds. (#/hr)		7	7		4	6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	15%	1%	5%	7%	1%
Adj. Flow (vph)	20	48	101	18	59	81
Shared Lane Traffic (%)						
Lane Group Flow (vph)	68	0	0	119	59	81
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	R NA	L NA	Left	Left	Right
Median Width(m)	0.0			0.0	6.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	5.0			5.0	5.0	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Stop			Stop	Stop	

Intersection Summary

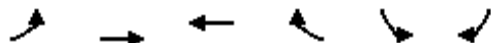
Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 25.5%

ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	56	19	26	1	0	67
Future Volume (vph)	56	19	26	1	0	67
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.995		0.865	
Flt Protected		0.964				
Satd. Flow (prot)	0	1706	1852	0	1610	0
Flt Permitted		0.964				
Satd. Flow (perm)	0	1706	1852	0	1610	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		132.6	155.2		53.9	
Travel Time (s)		11.9	14.0		3.9	
Confl. Peds. (#/hr)	9			9		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	8%	1%	1%	1%	1%	1%
Adj. Flow (vph)	56	19	26	1	0	67
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	75	27	0	67	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		4.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		5.0	5.0		5.0	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

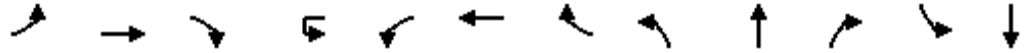
Intersection Summary	
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	22.0%
ICU Level of Service	A
Analysis Period (min)	15

5: Prestone & St. Joseph
AM Peak Hour

265 Centrum & 530 Brisebois
2040 Background Traffic

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	9	391	33	1	9	1292	121	101	43	9	73	39
Future Volume (vph)	9	391	33	1	9	1292	121	101	43	9	73	39
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		120.0		45.0		120.0	50.0		0.0	0.0	
Storage Lanes	1		1		1		1	1		0	1	
Taper Length (m)	30.0				35.0			45.0			10.0	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97		1.00		0.99	1.00	1.00		1.00	0.99
Frt			0.850				0.850		0.974			0.936
Flt Protected	0.950				0.950			0.950			0.950	
Satd. Flow (prot)	1768	3468	1508	0	1637	3502	1522	1751	1660	0	1595	1436
Flt Permitted	0.179				0.521			0.713			0.723	
Satd. Flow (perm)	333	3468	1468	0	894	3502	1502	1312	1660	0	1211	1436
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)			41				121		9			29
Link Speed (k/h)		50				60			40			40
Link Distance (m)		252.5				369.8			344.1			112.3
Travel Time (s)		18.2				22.2			31.0			10.1
Confl. Peds. (#/hr)	1		3		3		1	2		2	2	
Confl. Bikes (#/hr)										1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	3%	6%	1%	10%	2%	5%	2%	10%	10%	12%	35%
Adj. Flow (vph)	9	391	33	1	9	1292	121	101	43	9	73	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	9	391	33	0	10	1292	121	101	52	0	73	68
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left
Median Width(m)		6.0				6.0			4.0			6.0
Link Offset(m)		0.0				0.0			0.0			0.0
Crosswalk Width(m)		5.0				5.0			5.0			5.0
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	14	24		14	24		14	24	
Number of Detectors	1	2	1	1	1	2	1	1	2		1	2
Detector Template	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru		Left	Thru
Leading Detector (m)	2.0	10.0	2.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4				9.4			9.4			9.4
Detector 2 Size(m)		0.6				0.6			0.6			0.6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	Perm	NA	Perm	Perm	Perm	NA	Perm	Perm	NA		Perm	NA
Protected Phases		2				6			8			4
Permitted Phases	2		2	6	6		6	8			4	
Detector Phase	2	2	2	6	6	6	6	8	8		4	4

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	29
Future Volume (vph)	29
Ideal Flow (vphpl)	1800
Storage Length (m)	0.0
Storage Lanes	0
Taper Length (m)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	2
Confl. Bikes (#/hr)	
Peak Hour Factor	1.00
Heavy Vehicles (%)	4%
Adj. Flow (vph)	29
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	R NA
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	1.01
Turning Speed (k/h)	14
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(m)	
Detector 2 Size(m)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	



Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	23.7	23.7	23.7	23.7	23.7	23.7	23.7	29.0	29.0		29.0	29.0
Total Split (s)	51.0	51.0	51.0	51.0	51.0	51.0	51.0	29.0	29.0		29.0	29.0
Total Split (%)	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	36.3%	36.3%		36.3%	36.3%
Maximum Green (s)	45.3	45.3	45.3	45.3	45.3	45.3	45.3	23.0	23.0		23.0	23.0
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3
All-Red Time (s)	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.7	2.7		2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.7	5.7	5.7		5.7	5.7	5.7	6.0	6.0		6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	None	None		None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	16.0	16.0		16.0	16.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5	5	5	5		5	5
Act Effct Green (s)	50.1	50.1	50.1		50.1	50.1	50.1	12.9	12.9		12.9	12.9
Actuated g/C Ratio	0.71	0.71	0.71		0.71	0.71	0.71	0.18	0.18		0.18	0.18
v/c Ratio	0.04	0.16	0.03		0.02	0.52	0.11	0.42	0.17		0.33	0.24
Control Delay	6.8	5.3	2.1		6.1	7.9	1.8	30.5	21.3		28.5	17.4
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	6.8	5.3	2.1		6.1	7.9	1.8	30.5	21.3		28.5	17.4
LOS	A	A	A		A	A	A	C	C		C	B
Approach Delay		5.1				7.3			27.3			23.1
Approach LOS		A				A			C			C
Queue Length 50th (m)	0.3	7.3	0.0		0.3	33.7	0.0	10.9	4.4		7.7	4.0
Queue Length 95th (m)	2.4	19.1	2.6		2.4	78.9	5.8	22.2	11.7		17.0	12.3
Internal Link Dist (m)		228.5				345.8			320.1			88.3
Turn Bay Length (m)	60.0		120.0		45.0		120.0	50.0				
Base Capacity (vph)	237	2477	1060		638	2501	1107	432	553		399	493
Starvation Cap Reductn	0	0	0		0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0		0	0
Reduced v/c Ratio	0.04	0.16	0.03		0.02	0.52	0.11	0.23	0.09		0.18	0.14

Intersection Summary

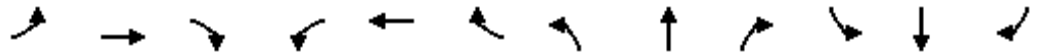
Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 70.1
 Natural Cycle: 60
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.52
 Intersection Signal Delay: 9.3
 Intersection Capacity Utilization 60.4%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service B

Splits and Phases: 5: Prestone & St. Joseph

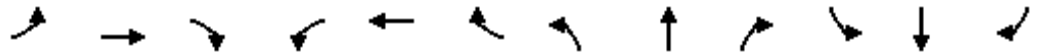


↙

Lane Group	SBR
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	49	196	70	35	144	118	175	104	161	111	24
Future Volume (vph)	88	49	196	70	35	144	118	175	104	161	111	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		20.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		1	1		0	0		0	0		0
Taper Length (m)	10.0			20.0			10.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.99		0.97	0.98	0.97			0.99			1.00	
Fr _t			0.850		0.879			0.961			0.988	
Fl _t Protected	0.950			0.950				0.985			0.974	
Satd. Flow (prot)	1768	1861	1582	1768	1477	0	0	3257	0	0	3211	0
Fl _t Permitted	0.562			0.725				0.761			0.638	
Satd. Flow (perm)	1030	1861	1531	1328	1477	0	0	2514	0	0	2101	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			196		144			94			17	
Link Speed (k/h)		30			40			60			60	
Link Distance (m)		58.1			146.1			115.4			185.7	
Travel Time (s)		7.0			13.1			6.9			11.1	
Confl. Peds. (#/hr)	19		17	17		19	3		2	2		3
Confl. Bikes (#/hr)			5			1						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	1%	1%	1%	11%	1%	6%	1%	9%	5%	1%
Adj. Flow (vph)	88	49	196	70	35	144	118	175	104	161	111	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	49	196	70	179	0	0	397	0	0	296	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	Left	Left	Right
Median Width(m)		6.0			6.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		5.0			5.0			5.0			5.0	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		36.0	36.0		36.0	36.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0		53.0	53.0		53.0	53.0	
Total Split (%)	37.6%	37.6%	37.6%	37.6%	37.6%		62.4%	62.4%		62.4%	62.4%	
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		47.0	47.0		47.0	47.0	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7		2.7	2.7		2.7	2.7	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	10.0	10.0	10.0	10.0	10.0		12.0	12.0		12.0	12.0	
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	15.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	5	5	5	5	5		5	5		5	5	
Act Effct Green (s)	14.2	14.2	14.2	14.2	14.2			58.8			58.8	
Actuated g/C Ratio	0.17	0.17	0.17	0.17	0.17			0.69			0.69	
v/c Ratio	0.51	0.16	0.47	0.32	0.49			0.22			0.20	
Control Delay	41.4	28.9	8.0	32.9	12.6			4.7			5.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0			0.0	
Total Delay	41.4	28.9	8.0	32.9	12.6			4.7			5.8	
LOS	D	C	A	C	B			A			A	
Approach Delay		19.9			18.3			4.7			5.8	
Approach LOS		B			B			A			A	
Queue Length 50th (m)	12.6	6.6	0.0	9.7	4.7			6.2			5.8	
Queue Length 95th (m)	21.2	12.5	13.1	17.0	17.0			17.7			16.4	
Internal Link Dist (m)		34.1			122.1			91.4			161.7	
Turn Bay Length (m)			20.0	50.0								
Base Capacity (vph)	315	569	604	406	551			1768			1459	
Starvation Cap Reductn	0	0	0	0	0			0			0	
Spillback Cap Reductn	0	0	0	0	0			0			0	
Storage Cap Reductn	0	0	0	0	0			0			0	
Reduced v/c Ratio	0.28	0.09	0.32	0.17	0.32			0.22			0.20	

Intersection Summary

Area Type:	Other
Cycle Length:	85
Actuated Cycle Length:	85
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.51
Intersection Signal Delay:	11.6
Intersection LOS:	B
Intersection Capacity Utilization:	94.9%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 1: Place d'Orleans & Centrum



2: Centrum & Brisebois
PM Peak Hour

265 Centrum & 530 Brisebois
2040 Background Traffic



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	177	8	1	117	17	7	0	8	20	0	123
Future Volume (vph)	119	177	8	1	117	17	7	0	8	20	0	123
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.996			0.983			0.928			0.884	
Flt Protected		0.981						0.977			0.993	
Satd. Flow (prot)	0	1798	0	0	1769	0	0	1688	0	0	1634	0
Flt Permitted		0.981						0.977			0.993	
Satd. Flow (perm)	0	1798	0	0	1769	0	0	1688	0	0	1634	0
Link Speed (k/h)		40			40			30			50	
Link Distance (m)		146.1			240.1			67.4			116.9	
Travel Time (s)		13.1			21.6			8.1			8.4	
Confl. Peds. (#/hr)	23		19	19		23						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	3%	1%	1%	5%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	119	177	8	1	117	17	7	0	8	20	0	123
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	304	0	0	135	0	0	15	0	0	143	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		4.0			4.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		5.0			5.0			5.0			5.0	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 47.6%

ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBT	EBR	WBL	WBT	NBU	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	39	121	116	18	1	86	103
Future Volume (vph)	39	121	116	18	1	86	103
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							
Frt	0.898					0.850	
Flt Protected				0.959			0.950
Satd. Flow (prot)	1600	0	0	1785	0	1611	1582
Flt Permitted				0.959			0.950
Satd. Flow (perm)	1600	0	0	1785	0	1611	1582
Link Speed (k/h)	40			40	40		
Link Distance (m)	240.1			132.6	112.3		
Travel Time (s)	21.6			11.9	10.1		
Confl. Peds. (#/hr)	7		7				3
Confl. Bikes (#/hr)	1						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	7%	1%	1%	1%	11%	1%
Adj. Flow (vph)	39	121	116	18	1	86	103
Shared Lane Traffic (%)							
Lane Group Flow (vph)	160	0	0	134	0	87	103
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	R NA	L NA	Left	R NA	Left	Right
Median Width(m)	0.0			0.0	6.0		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	5.0			5.0	5.0		
Two way Left Turn Lane							
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	14		24	14		24	14
Sign Control	Stop			Stop	Stop		

Intersection Summary

Area Type: Other

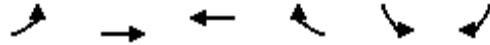
Control Type: Unsignalized

Intersection Capacity Utilization 34.8% ICU Level of Service A

Analysis Period (min) 15

4: Centrum & Brisebois
PM Peak Hour

265 Centrum & 530 Brisebois
2040 Background Traffic



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	74	48	39	0	0	79
Future Volume (vph)	74	48	39	0	0	79
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt						0.865
Flt Protected	0.971					
Satd. Flow (prot)	0	1807	1825	0	1610	0
Flt Permitted	0.971					
Satd. Flow (perm)	0	1807	1825	0	1610	0
Link Speed (k/h)	40		40	50		
Link Distance (m)	132.6		155.2	53.9		
Travel Time (s)	11.9		14.0	3.9		
Confl. Peds. (#/hr)	8				8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	3%	1%	1%	1%
Adj. Flow (vph)	74	48	39	0	0	79
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	122	39	0	79	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)	0.0		0.0	4.0		
Link Offset(m)	0.0		0.0	0.0		
Crosswalk Width(m)	5.0		5.0	5.0		
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24				14	14
Sign Control	Free		Free	Stop		

Intersection Summary

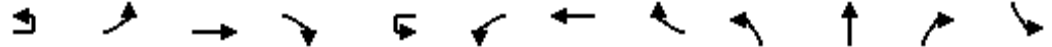
Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 25.5%

ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	31	1246	154	2	11	848	186	61	52	14	205
Future Volume (vph)	1	31	1246	154	2	11	848	186	61	52	14	205
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)		60.0		120.0		45.0		120.0	50.0		0.0	0.0
Storage Lanes		1		1		1		1	1		0	1
Taper Length (m)		30.0				35.0			45.0			10.0
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98		1.00		0.99	1.00	1.00		1.00
Frt				0.850				0.850		0.968		
Flt Protected		0.950				0.950			0.950			0.950
Satd. Flow (prot)	0	1768	3537	1582	0	1768	3537	1551	1751	1691	0	1768
Flt Permitted		0.308				0.175			0.690			0.714
Satd. Flow (perm)	0	573	3537	1544	0	326	3537	1529	1268	1691	0	1328
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				154				186		14		
Link Speed (k/h)		50				60			40			
Link Distance (m)			252.5				369.8			344.1		
Travel Time (s)			18.2				22.2			31.0		
Confl. Peds. (#/hr)		2		2		2		2	3		1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	3%	2%	9%	1%	1%
Adj. Flow (vph)	1	31	1246	154	2	11	848	186	61	52	14	205
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	32	1246	154	0	13	848	186	61	66	0	205
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	L NA	Left	R NA	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA
Median Width(m)			6.0				6.0			4.0		
Link Offset(m)			0.0				0.0			0.0		
Crosswalk Width(m)			5.0				5.0			5.0		
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	14	24		14	14	24		14	24		14	24
Number of Detectors	1	1	2	1	1	1	2	1	1	2		1
Detector Template	Left	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	2.0	0.6	2.0	2.0	0.6		2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(m)			9.4				9.4			9.4		
Detector 2 Size(m)			0.6				0.6			0.6		
Detector 2 Type			Cl+Ex				Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)			0.0				0.0			0.0		
Turn Type	Perm	Perm	NA	Perm	Perm	Perm	NA	Perm	Perm	NA		Perm
Protected Phases			2				6			8		
Permitted Phases	2	2		2	6	6		6	8			4
Detector Phase	2	2	2	2	6	6	6	6	8	8		4
Switch Phase												



Lane Group	SBT	SBR
Lane Configurations	82	22
Traffic Volume (vph)	82	22
Future Volume (vph)	82	22
Ideal Flow (vphpl)	1800	1800
Storage Length (m)		0.0
Storage Lanes		0
Taper Length (m)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor	1.00	
Frt	0.968	
Flt Protected		
Satd. Flow (prot)	1703	0
Flt Permitted		
Satd. Flow (perm)	1703	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	17	
Link Speed (k/h)	40	
Link Distance (m)	112.3	
Travel Time (s)	10.1	
Confl. Peds. (#/hr)		3
Peak Hour Factor	1.00	1.00
Heavy Vehicles (%)	8%	1%
Adj. Flow (vph)	82	22
Shared Lane Traffic (%)		
Lane Group Flow (vph)	104	0
Enter Blocked Intersection	No	No
Lane Alignment	Left	R NA
Median Width(m)	6.0	
Link Offset(m)	0.0	
Crosswalk Width(m)	5.0	
Two way Left Turn Lane		
Headway Factor	1.01	1.01
Turning Speed (k/h)		14
Number of Detectors	2	
Detector Template	Thru	
Leading Detector (m)	10.0	
Trailing Detector (m)	0.0	
Detector 1 Position(m)	0.0	
Detector 1 Size(m)	0.6	
Detector 1 Type	Cl+Ex	
Detector 1 Channel		
Detector 1 Extend (s)	0.0	
Detector 1 Queue (s)	0.0	
Detector 1 Delay (s)	0.0	
Detector 2 Position(m)	9.4	
Detector 2 Size(m)	0.6	
Detector 2 Type	Cl+Ex	
Detector 2 Channel		
Detector 2 Extend (s)	0.0	
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Detector Phase	4	
Switch Phase		

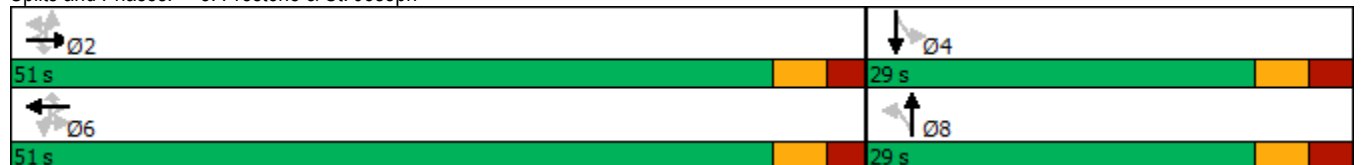


Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0
Minimum Split (s)	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7	29.0	29.0		29.0
Total Split (s)	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	29.0	29.0		29.0
Total Split (%)	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	36.3%	36.3%		36.3%
Maximum Green (s)	45.3	45.3	45.3	45.3	45.3	45.3	45.3	45.3	23.0	23.0		23.0
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3
All-Red Time (s)	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.7	2.7		2.7
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)		5.7	5.7	5.7		5.7	5.7	5.7	6.0	6.0		6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	None	None		None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	16.0	16.0		16.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5	5	5	5	5		5
Act Effct Green (s)		47.7	47.7	47.7		47.7	47.7	47.7	16.5	16.5		16.5
Actuated g/C Ratio		0.63	0.63	0.63		0.63	0.63	0.63	0.22	0.22		0.22
v/c Ratio		0.09	0.56	0.15		0.06	0.38	0.18	0.22	0.18		0.71
Control Delay		7.9	10.1	1.8		8.2	8.2	1.8	24.8	19.5		40.9
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Delay		7.9	10.1	1.8		8.2	8.2	1.8	24.8	19.5		40.9
LOS		A	B	A		A	A	A	C	B		D
Approach Delay			9.2				7.1			22.0		
Approach LOS			A				A			C		
Queue Length 50th (m)		1.5	43.4	0.0		0.6	25.1	0.0	6.4	5.3		24.1
Queue Length 95th (m)		5.6	74.2	6.5		3.1	44.0	7.0	14.6	13.5		43.1
Internal Link Dist (m)			228.5				345.8			320.1		
Turn Bay Length (m)		60.0		120.0		45.0		120.0	50.0			
Base Capacity (vph)		360	2223	1028		204	2223	1030	385	523		403
Starvation Cap Reductn		0	0	0		0	0	0	0	0		0
Spillback Cap Reductn		0	0	0		0	0	0	0	0		0
Storage Cap Reductn		0	0	0		0	0	0	0	0		0
Reduced v/c Ratio		0.09	0.56	0.15		0.06	0.38	0.18	0.16	0.13		0.51

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	75.9
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.71
Intersection Signal Delay:	11.6
Intersection Capacity Utilization:	64.8%
Intersection LOS:	B
ICU Level of Service:	C
Analysis Period (min):	15

Splits and Phases: 5: Prestone & St. Joseph





Lane Group	SBT	SBR
Minimum Initial (s)	10.0	
Minimum Split (s)	29.0	
Total Split (s)	29.0	
Total Split (%)	36.3%	
Maximum Green (s)	23.0	
Yellow Time (s)	3.3	
All-Red Time (s)	2.7	
Lost Time Adjust (s)	0.0	
Total Lost Time (s)	6.0	
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	
Recall Mode	None	
Walk Time (s)	7.0	
Flash Dont Walk (s)	16.0	
Pedestrian Calls (#/hr)	5	
Act Effct Green (s)	16.5	
Actuated g/C Ratio	0.22	
v/c Ratio	0.27	
Control Delay	21.0	
Queue Delay	0.0	
Total Delay	21.0	
LOS	C	
Approach Delay	34.2	
Approach LOS	C	
Queue Length 50th (m)	9.1	
Queue Length 95th (m)	19.7	
Internal Link Dist (m)	88.3	
Turn Bay Length (m)		
Base Capacity (vph)	529	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.20	
Intersection Summary		

APPENDIX M

MMLOS Analysis

Segment MMLOS Analysis

This section provides a review of the boundary streets, using complete streets principles. The *Multi-Modal Level of Service (MMLOS) Guidelines*, produced by IBI Group in October 2015, were used to evaluate the levels of service for each alternative mode of transportation, based on existing conditions. Centrum Boulevard and Brisebois Crescent have been evaluated using the Mixed Use Centre targets.

Exhibit 4 of the *MMLOS Guidelines* has been used to evaluate the segment pedestrian level of service (PLOS) of the boundary streets. Exhibit 22 of the *MMLOS Guidelines* identifies a target PLOS C for all roadways within a Mixed Use Centre. The results of the segment PLOS analysis are summarized in **Table 1**.

Exhibit 11 of the *MMLOS Guidelines* has been used to evaluate the segment bicycle level of service (BLOS) of the boundary streets. In Mixed Use Centres, Exhibit 22 of the *MMLOS Guidelines* identifies a target BLOS D for roadways without a cycling route designation. The results of the segment BLOS analysis are summarized in **Table 2**.

Exhibit 15 and Exhibit 20 of the *MMLOS Guidelines* have been used to evaluate the segment transit level of service (TLOS) and truck level of service (TkLOS) respectively of Centrum Boulevard, as it is currently used by transit. Exhibit 22 of the *MMLOS Guidelines* does not identify a target TLOS or TkLOS, as it is not designated as a rapid transit/transit priority route or truck route. The results of the segment TLOS and TkLOS analysis are summarized in **Table 3** and **Table 4**, respectively.

Table 1: PLOS Segment Analysis

Sidewalk Width	Boulevard Width	Avg. Daily Curb Lane Traffic Volume	Presence of On-Street Parking	Operating Speed ⁽¹⁾	PLOS
Centrum Boulevard (north side)					
≥ 2.0m	0m	≤ 3,000 vpd	N/A	50 km/h	B
Centrum Boulevard (south side)					
1.5m	> 2.0m	≤ 3,000 vpd	N/A	50 km/h	C
Brisebois Crescent (inside of curve)					
≥ 2.0m	0m	≤ 3,000 vpd	N/A	50 km/h	B
Brisebois Crescent (outside of curve)					
≥ 2.0m	0m	≤ 3,000 vpd	N/A	50 km/h	B

1. Operating speed of Centrum Boulevard taken as the 40 km/h speed limit plus 10 km/h; operating speed of Brisebois Crescent taken as unposted speed limit of 50 km/h.

Table 2: BLOS Segment Analysis

Road Class	Route Type	Bikeway Type	Travel Lanes	Operating Speed	BLOS
Centrum Boulevard (Prestone Drive to Brisebois Crescent East)					
Collector	No Class	Mixed Traffic	2	50 km/h	D
Brisebois Crescent (Centrum Boulevard to Centrum Boulevard)					
Local	No Class	Mixed Traffic	2	50 km/h	D

Table 3: TLOS Segment Analysis

Facility Type	Exposure to Congestion Delay, Friction, and Incidents			TLOS
	Congestion	Friction	Incident Potential	
Centrum Boulevard (Prestone Drive to Brisebois Crescent East)				
Mixed Traffic – Frequent Parking/Driveway Friction	Yes	High	High	F

Table 4: TkLOS Segment Analysis

Curb Lane Width	Number of Travel Lanes Per Direction	TkLOS
Centrum Boulevard (Prestone Drive to Brisebois Crescent East)		
> 3.7m	1	B

Intersection MMLOS Analysis

The following is a review of the MMLOS of the signalized intersections within the study area, using complete streets principles. The MMLOS targets associated with intersections 'within 600m of a rapid transit station' has been considered for Place d'Orléans Drive/Centrum Boulevard, and the targets associated with Mixed Use Centres has been considered for St. Joseph Boulevard/Prestone Drive.

Exhibit 5 of the *Addendum to the MMLOS Guidelines* has been used to evaluate the existing PLOS at the intersections listed above. Exhibit 22 of the *MMLOS Guidelines* suggests a target PLOS A for all roadways within 600m of a rapid transit station, and a target PLOS C for all roadways within Mixed-Use Centres. The results of the intersection PLOS analysis are summarized in **Table 5** and **6**.

Exhibit 12 of the *MMLOS Guidelines* has been used to evaluate the existing BLOS at the intersections listed above. Exhibit 22 of the *MMLOS Guidelines* suggests a target BLOS A for Crosstown Bikeways within Mixed-Use Centres and a target BLOS D for roadways with no cycling route designation within 600m of a rapid transit station. The results of the intersection BLOS analysis are summarized in **Table 7**.

Exhibit 16 of the *MMLOS Guidelines* has been used to evaluate the existing TLOS at the intersections listed above. Exhibit 22 of the *MMLOS Guidelines* does not identify a target TLOS for any study area roadway, as they are not designated as rapid transit/transit priority routes. The TLOS has still been evaluated for every approach that is currently used by transit. The results of the intersection TLOS analysis are summarized in **Table 8**.

Exhibit 21 of the *MMLOS Guidelines* has been used to evaluate the existing TkLOS at the intersections listed above. Exhibit 22 of the *MMLOS Guidelines* identifies a target TkLOS D for arterial truck routes within 600m of a rapid transit station, and no target for collector roadways without a truck route designation. Approaches that include a right turn onto a receiving approach have been evaluated for TkLOS. The results of the intersection TkLOS analysis are summarized in **Table 9**.

Table 5: PLOS Intersection Analysis – Place d’Orléans Drive/Centrum Boulevard

CRITERIA	North Approach		South Approach		East Approach		West Approach	
PETSI SCORE								
<i>CROSSING DISTANCE CONDITIONS</i>								
Median > 2.4m in Width	No	39	No	39	No	39	No	23
Lanes Crossed (3.5m Lane Width)	7		7		7		8	
<i>SIGNAL PHASING AND TIMING</i>								
Left Turn Conflict	Permissive	-8	Permissive	-8	Permissive	-8	Permissive	-8
Right Turn Conflict	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5
Right Turn on Red	RTOR Allowed	-3	RTOR Allowed	-3	N/A	0	N/A	0
Leading Pedestrian Interval	No	-2	No	-2	No	-2	No	-2
<i>CORNER RADIUS</i>								
Parallel Radius	> 10m to 15m	-6	> 10m to 15m	-6	> 15m to 25m	-8	> 15m to 25m	-8
Parallel Right Turn Channel	Smart Channel	2	Smart Channel	2	No Right Turn Channel	-4	No Right Turn Channel	-4
Perpendicular Radius	N/A	0	N/A	0	> 10m to 15m	-6	> 10m to 15m	-6
Perpendicular Right Turn Channel	N/A	0	N/A	0	Smart Channel	2	Smart Channel	2
<i>CROSSING TREATMENT</i>								
Treatment	Zebra Stripe	-4	Zebra Stripe	-4	Standard	-7	Standard	-7
	PETSI SCORE	13		13		1		-15
	LOS	F		F		F		F
DELAY SCORE								
Cycle Length		85		85		75		75
Pedestrian Walk Time		11.0		11.0		19.0		19.0
	DELAY SCORE	32.2		32.2		20.9		20.9
	LOS	D		D		C		C
OVERALL		F		F		F		F

Table 6: PLOS Intersection Analysis – St. Joseph Boulevard/Prestone Drive

CRITERIA	North Approach		South Approach		East Approach		West Approach	
PETSI SCORE								
<i>CROSSING DISTANCE CONDITIONS</i>								
Median > 2.4m in Width	No	6	No	23	No	-10	No	-10
Lanes Crossed (3.5m Lane Width)	9		8		10 +		10 +	
<i>SIGNAL PHASING AND TIMING</i>								
Left Turn Conflict	Permissive	-8	Permissive	-8	Permissive	-8	Permissive	-8
Right Turn Conflict	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5
Right Turn on Red	N/A	0	N/A	0	N/A	0	N/A	0
Leading Pedestrian Interval	No	-2	No	-2	No	-2	No	-2
<i>CORNER RADIUS</i>								
Parallel Radius	> 25m	-9	> 25m	-9	> 15m to 25m	-8	> 15m to 25m	-8
Parallel Right Turn Channel	Conventional with Receiving	-3	Conventional without Receiving	0	Conventional without Receiving	0	Conventional without Receiving	0
Perpendicular Radius	> 15m to 25m	-8	> 15m to 25m	-8	> 25m	-9	> 25m	-9
Perpendicular Right Turn Channel	Conventional without Receiving	0	Conventional without Receiving	0	Conventional with Receiving	-3	Conventional without Receiving	0
<i>CROSSING TREATMENT</i>								
Treatment	Standard	-7	Standard	-7	Standard	-7	Standard	-7
	PETSI SCORE	-36		-16		-52		-49
	LOS	F		F		F		F
DELAY SCORE								
Cycle Length		80		80		80		80
Pedestrian Walk Time		34.3		34.3		7.0		7.0
	DELAY SCORE	13.1		13.1		33.3		33.3
	LOS	B		B		D		D
OVERALL		F		F		F		F

Table 7: BLOS Intersection Analysis

Approach	Facility Type	Criteria	Travel Lanes and/or Speed	BLOS
Place d'Orléans Drive/Centrum Boulevard				
North Approach Place d'Orléans Dr	Mixed Traffic	Right Turn Lane Characteristics	Shared through/right turn lane	A
		Left Turn Accommodation	One lane crossed; ≥ 60 km/h	F
South Approach Place d'Orléans Dr	Mixed Traffic	Right Turn Lane Characteristics	Shared through/right turn lane	A
		Left Turn Accommodation	One lane crossed; ≥ 60 km/h	F
East Approach Centrum Blvd	Mixed Traffic	Right Turn Lane Characteristics	Shared through/right turn lane	A
		Left Turn Accommodation	One lane crossed; ≥ 50 km/h	D
West Approach Shopping Centre	Mixed Traffic	Right Turn Lane Characteristics	Right turn lane < 50m; turning speed ≤ 25 km/h	D
		Left Turn Accommodation	One lane crossed; ≤ 40 km/h	B
St. Joseph Boulevard/Prestone Drive				
North Approach Prestone Dr	Mixed Traffic	Right Turn Lane Characteristics	Shared through/right turn lane	A
		Left Turn Accommodation	One lane crossed; 50 km/h	D
South Approach Prestone Dr	Mixed Traffic	Right Turn Lane Characteristics	Shared through/right turn lane	A
		Left Turn Accommodation	One lane crossed; 50 km/h	D
East Approach St. Joseph Blvd	Mixed Traffic	Right Turn Lane Characteristics	Right turn lane > 50m	F
		Left Turn Accommodation	Two lanes crossed; ≥ 50 km/h	F
West Approach St. Joseph Blvd	Mixed Traffic	Right Turn Lane Characteristics	Right turn lane > 50m	F
		Left Turn Accommodation	Two lanes crossed; ≥ 50 km/h	F

Table 8: TLOS Intersection Analysis

Approach	Approach Delay ⁽¹⁾		TLOS
	AM Peak Hour	PM Peak Hour	
Place d'Orléans Drive/Centrum Boulevard			
North Approach	5 sec	5 sec	B
South Approach	5 sec	5 sec	B
East Approach	15 sec	17 sec	C
St. Joseph Boulevard/Prestone Drive			
North Approach	19 sec	32 sec	E
South Approach	28 sec	22 sec	D
East Approach	7 sec	6 sec	B
West Approach	5 sec	8 sec	B

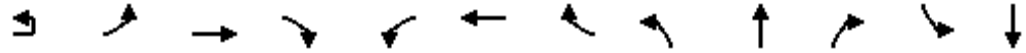
1. Delay based on outputs from Synchro analysis of existing conditions

Table 9: TkLOS Intersection Analysis

Approach	Effective Corner Radius	Number of Receiving Lanes Departing Intersection	TkLOS
Place d'Orléans Drive/Centrum Boulevard			
North Approach	> 15m	1	C
South Approach	> 15m	1	C
East Approach	10m to 15m	2	B
West Approach	10m to 15m	2	B
St. Joseph Boulevard/Prestone Drive			
North Approach	> 15m	2	A
South Approach	> 15m	2	A
East Approach	> 15m	2	A
West Approach	> 15m	1	C

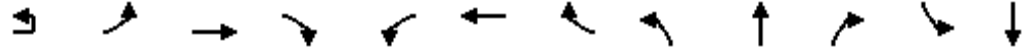
APPENDIX N

Total Synchro Analysis



Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	28	25	40	78	31	221	83	174	97	159	40
Future Volume (vph)	1	28	25	40	78	31	221	83	174	97	159	40
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0		20.0	50.0		0.0	0.0		0.0	0.0	
Storage Lanes		1		1	1		0	0		0	0	
Taper Length (m)		10.0			20.0			10.0			10.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		1.00		0.97	0.99	0.98			0.99			1.00
Frt				0.850		0.868			0.959			0.988
Flt Protected		0.950			0.950				0.988			0.965
Satd. Flow (prot)	0	1628	1861	1582	1768	1482	0	0	3228	0	0	3231
Flt Permitted		0.420			0.741				0.830			0.621
Satd. Flow (perm)	0	716	1861	1542	1361	1482	0	0	2712	0	0	2078
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				44		221			97			18
Link Speed (k/h)			30			40			60			60
Link Distance (m)			58.1			146.1			115.4			185.7
Travel Time (s)			7.0			13.1			6.9			11.1
Confl. Peds. (#/hr)		8		15	15		8	1		1	1	
Confl. Bikes (#/hr)							4					
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	10%	1%	1%	1%	1%	9%	1%	7%	2%	5%	8%
Adj. Flow (vph)	1	28	25	40	78	31	221	83	174	97	159	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	29	25	40	78	252	0	0	354	0	0	217
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	Left	Left
Median Width(m)			6.0			6.0			0.0			0.0
Link Offset(m)			0.0			0.0			0.0			0.0
Crosswalk Width(m)			5.0			5.0			5.0			5.0
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	14	24		14	24		14	24		14	24	
Number of Detectors	1	1	2	1	1	2		1	2		1	2
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 2 Position(m)			9.4			9.4			9.4			9.4
Detector 2 Size(m)			0.6			0.6			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0			0.0			0.0
Turn Type	Perm	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases			4			8			2			6
Permitted Phases	4	4		4	8			2			6	
Detector Phase	4	4	4	4	8	8		2	2		6	6

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	18
Future Volume (vph)	18
Ideal Flow (vphpl)	1800
Storage Length (m)	0.0
Storage Lanes	0
Taper Length (m)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	1
Confl. Bikes (#/hr)	
Peak Hour Factor	1.00
Heavy Vehicles (%)	1%
Adj. Flow (vph)	18
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	1.01
Turning Speed (k/h)	14
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(m)	
Detector 2 Size(m)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	



Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0		10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0	31.0		36.0	36.0		36.0	36.0
Total Split (s)	32.0	32.0	32.0	32.0	32.0	32.0		43.0	43.0		43.0	43.0
Total Split (%)	42.7%	42.7%	42.7%	42.7%	42.7%	42.7%		57.3%	57.3%		57.3%	57.3%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0	26.0		37.0	37.0		37.0	37.0
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3		3.3	3.3
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7		2.7	2.7		2.7	2.7
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0			0.0			0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0			6.0			6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0
Recall Mode	None	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max
Walk Time (s)	10.0	10.0	10.0	10.0	10.0	10.0		12.0	12.0		12.0	12.0
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	15.0	15.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5		5	5		5	5
Act Effct Green (s)		13.3	13.3	13.3	13.3	13.3			49.7			49.7
Actuated g/C Ratio		0.18	0.18	0.18	0.18	0.18			0.66			0.66
v/c Ratio		0.23	0.08	0.13	0.33	0.57			0.19			0.16
Control Delay		28.4	23.3	7.4	28.7	10.6			4.7			5.8
Queue Delay		0.0	0.0	0.0	0.0	0.0			0.0			0.0
Total Delay		28.4	23.3	7.4	28.7	10.6			4.7			5.8
LOS		C	C	A	C	B			A			A
Approach Delay			18.1			14.9			4.7			5.8
Approach LOS			B			B			A			A
Queue Length 50th (m)		3.5	2.9	0.0	9.5	3.6			4.6			3.6
Queue Length 95th (m)		7.8	6.6	5.1	15.6	16.3			15.4			12.4
Internal Link Dist (m)			34.1			122.1			91.4			161.7
Turn Bay Length (m)				20.0	50.0							
Base Capacity (vph)		248	645	563	471	658			1830			1383
Starvation Cap Reductn		0	0	0	0	0			0			0
Spillback Cap Reductn		0	0	0	0	0			0			0
Storage Cap Reductn		0	0	0	0	0			0			0
Reduced v/c Ratio		0.12	0.04	0.07	0.17	0.38			0.19			0.16

Intersection Summary

Area Type:	Other
Cycle Length:	75
Actuated Cycle Length:	75
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.57
Intersection Signal Delay:	9.6
Intersection LOS:	A
Intersection Capacity Utilization:	90.4%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 1: Place d'Orleans & Centrum

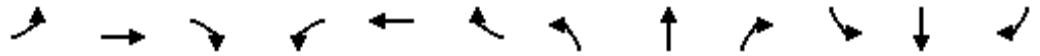


↙

Lane Group	SBR
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

2: Centrum & Brisebois
AM Peak Hour

265 Centrum & 530 Brisebois
2035 Total Traffic



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	90	10	2	139	7	0	0	1	8	0	202
Future Volume (vph)	130	90	10	2	139	7	0	0	1	8	0	202
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.994			0.994			0.865			0.870	
Flt Protected		0.973			0.999						0.998	
Satd. Flow (prot)	0	1773	0	0	1815	0	0	813	0	0	1616	0
Flt Permitted		0.973			0.999						0.998	
Satd. Flow (perm)	0	1773	0	0	1815	0	0	813	0	0	1616	0
Link Speed (k/h)		40			40			30			50	
Link Distance (m)		146.1			240.1			67.4			116.9	
Travel Time (s)		13.1			21.6			8.1			8.4	
Confl. Peds. (#/hr)	8		9	9		8						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	5%	1%	1%	3%	1%	1%	1%	100%	1%	1%	1%
Adj. Flow (vph)	130	90	10	2	139	7	0	0	1	8	0	202
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	230	0	0	148	0	0	1	0	0	210	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		4.0			4.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		5.0			5.0			5.0			5.0	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 53.1%

ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	30	48	160	33	59	126
Future Volume (vph)	30	48	160	33	59	126
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.917					0.850
Flt Protected				0.960	0.950	
Satd. Flow (prot)	1551	0	0	1775	1669	1582
Flt Permitted				0.960	0.950	
Satd. Flow (perm)	1551	0	0	1775	1669	1582
Link Speed (k/h)	40			40	40	
Link Distance (m)	240.1			132.6	112.3	
Travel Time (s)	21.6			11.9	10.1	
Confl. Peds. (#/hr)		7	7		4	6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	15%	1%	5%	7%	1%
Adj. Flow (vph)	30	48	160	33	59	126
Shared Lane Traffic (%)						
Lane Group Flow (vph)	78	0	0	193	59	126
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	R NA	L NA	Left	Left	Right
Median Width(m)	0.0			0.0	6.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	5.0			5.0	5.0	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Stop			Stop	Stop	

Intersection Summary

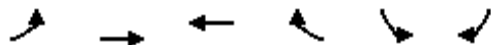
Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 29.8%

ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	111	19	26	1	0	141
Future Volume (vph)	111	19	26	1	0	141
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.995		0.865	
Flt Protected		0.959				
Satd. Flow (prot)	0	1685	1852	0	1610	0
Flt Permitted		0.959				
Satd. Flow (perm)	0	1685	1852	0	1610	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		132.6	155.2		53.9	
Travel Time (s)		11.9	14.0		3.9	
Confl. Peds. (#/hr)	9			9		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	8%	1%	1%	1%	1%	1%
Adj. Flow (vph)	111	19	26	1	0	141
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	130	27	0	141	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		4.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		5.0	5.0		5.0	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

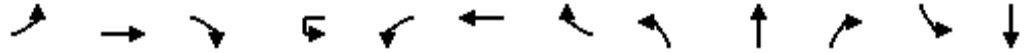
Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization 30.1%	ICU Level of Service A
Analysis Period (min)	15

5: Prestone & St. Joseph
AM Peak Hour

265 Centrum & 530 Brisebois
2035 Total Traffic

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	26	362	33	1	9	1194	143	101	49	9	101	48
Future Volume (vph)	26	362	33	1	9	1194	143	101	49	9	101	48
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		120.0		45.0		120.0	50.0		0.0	0.0	
Storage Lanes	1		1		1		1	1		0	1	
Taper Length (m)	30.0				35.0			45.0			10.0	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97		1.00		0.99	1.00	1.00		1.00	0.99
Fr			0.850				0.850		0.977			0.923
Flt Protected	0.950				0.950			0.950			0.950	
Satd. Flow (prot)	1768	3468	1508	0	1637	3502	1522	1751	1666	0	1595	1447
Flt Permitted	0.205				0.536			0.693			0.719	
Satd. Flow (perm)	382	3468	1468	0	920	3502	1502	1275	1666	0	1205	1447
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)			41				143		9			51
Link Speed (k/h)		50				60			40			40
Link Distance (m)		252.5				369.8			344.1			112.3
Travel Time (s)		18.2				22.2			31.0			10.1
Confl. Peds. (#/hr)	1		3		3		1	2		2	2	
Confl. Bikes (#/hr)										1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	3%	6%	1%	10%	2%	5%	2%	10%	10%	12%	35%
Adj. Flow (vph)	26	362	33	1	9	1194	143	101	49	9	101	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	362	33	0	10	1194	143	101	58	0	101	99
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left
Median Width(m)		6.0				6.0			4.0			6.0
Link Offset(m)		0.0				0.0			0.0			0.0
Crosswalk Width(m)		5.0				5.0			5.0			5.0
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	14	24		14	24		14	24	
Number of Detectors	1	2	1	1	1	2	1	1	2		1	2
Detector Template	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru		Left	Thru
Leading Detector (m)	2.0	10.0	2.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4				9.4			9.4			9.4
Detector 2 Size(m)		0.6				0.6			0.6			0.6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	Perm	NA	Perm	Perm	Perm	NA	Perm	Perm	NA		Perm	NA
Protected Phases		2				6			8			4
Permitted Phases	2		2	6	6		6	8			4	
Detector Phase	2	2	2	6	6	6	6	8	8		4	4

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	51
Future Volume (vph)	51
Ideal Flow (vphpl)	1800
Storage Length (m)	0.0
Storage Lanes	0
Taper Length (m)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	2
Confl. Bikes (#/hr)	
Peak Hour Factor	1.00
Heavy Vehicles (%)	4%
Adj. Flow (vph)	51
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	R NA
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	1.01
Turning Speed (k/h)	14
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(m)	
Detector 2 Size(m)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	



Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	23.7	23.7	23.7	23.7	23.7	23.7	23.7	29.0	29.0		29.0	29.0
Total Split (s)	51.0	51.0	51.0	51.0	51.0	51.0	51.0	29.0	29.0		29.0	29.0
Total Split (%)	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	36.3%	36.3%		36.3%	36.3%
Maximum Green (s)	45.3	45.3	45.3	45.3	45.3	45.3	45.3	23.0	23.0		23.0	23.0
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3
All-Red Time (s)	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.7	2.7		2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.7	5.7	5.7		5.7	5.7	5.7	6.0	6.0		6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	None	None		None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	16.0	16.0		16.0	16.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5	5	5	5		5	5
Act Effct Green (s)	49.9	49.9	49.9		49.9	49.9	49.9	13.1	13.1		13.1	13.1
Actuated g/C Ratio	0.71	0.71	0.71		0.71	0.71	0.71	0.19	0.19		0.19	0.19
v/c Ratio	0.10	0.15	0.03		0.02	0.48	0.13	0.42	0.18		0.45	0.32
Control Delay	7.5	5.4	2.2		6.2	7.6	1.7	30.5	21.7		31.6	16.1
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	7.5	5.4	2.2		6.2	7.6	1.7	30.5	21.7		31.6	16.1
LOS	A	A	A		A	A	A	C	C		C	B
Approach Delay		5.3				6.9			27.3			24.0
Approach LOS		A				A			C			C
Queue Length 50th (m)	0.9	6.8	0.0		0.3	30.7	0.0	10.9	5.0		11.0	4.9
Queue Length 95th (m)	5.1	17.7	2.6		2.4	70.0	6.3	22.3	12.7		22.5	15.0
Internal Link Dist (m)		228.5				345.8			320.1			88.3
Turn Bay Length (m)	60.0		120.0		45.0		120.0	50.0				
Base Capacity (vph)	271	2466	1056		654	2491	1109	419	554		396	510
Starvation Cap Reductn	0	0	0		0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0		0	0
Reduced v/c Ratio	0.10	0.15	0.03		0.02	0.48	0.13	0.24	0.10		0.26	0.19

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 70.2

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 9.7

Intersection Capacity Utilization 57.6%

Analysis Period (min) 15

Intersection LOS: A

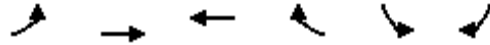
ICU Level of Service B

Splits and Phases: 5: Prestone & St. Joseph



↙

Lane Group	SBR
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	



















Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	27	67	104	11	26	62
Future Volume (vph)	27	67	104	11	26	62
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.987		0.905	
Flt Protected		0.986			0.985	
Satd. Flow (prot)	0	1817	1819	0	1643	0
Flt Permitted		0.986			0.985	
Satd. Flow (perm)	0	1817	1819	0	1643	0
Link Speed (k/h)		50	50		30	
Link Distance (m)		128.6	157.6		54.1	
Travel Time (s)		9.3	11.3		6.5	
Confl. Peds. (#/hr)	10			10		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	27	67	104	11	26	62
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	94	115	0	88	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		4.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		0.0	0.0		5.0	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	97			97	97	97
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	24.2%
Analysis Period (min)	15
	ICU Level of Service A

7: Brisebois & Building A Access
AM Peak Hour

265 Centrum & 530 Brisebois
2035 Total Traffic

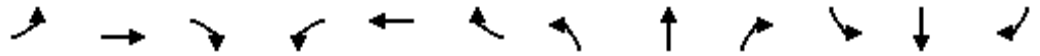
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	48	37	45	27	4	18	0	50	9	0	22
Future Volume (vph)	10	48	37	45	27	4	18	0	50	9	0	22
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.947			0.993			0.901			0.904	
Flt Protected		0.995			0.971			0.987			0.986	
Satd. Flow (prot)	0	1737	0	0	1777	0	0	1639	0	0	1643	0
Flt Permitted		0.995			0.971			0.987			0.986	
Satd. Flow (perm)	0	1737	0	0	1777	0	0	1639	0	0	1643	0
Link Speed (k/h)		50			50			30			30	
Link Distance (m)		157.6			37.2			41.9			54.8	
Travel Time (s)		11.3			2.7			5.0			6.6	
Confl. Peds. (#/hr)	10		10	10		10						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	48	37	45	27	4	18	0	50	9	0	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	95	0	0	76	0	0	68	0	0	31	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		0.0			0.0			5.0			5.0	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 23.9%	ICU Level of Service A											
Analysis Period (min) 15												



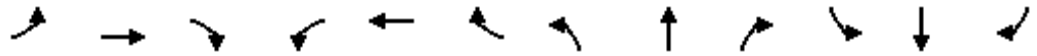
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	16	39	40	60	97	10
Future Volume (vph)	16	39	40	60	97	10
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.904			0.987		
Flt Protected	0.986			0.980		
Satd. Flow (prot)	1643	0	0	1806	1819	0
Flt Permitted	0.986			0.980		
Satd. Flow (perm)	1643	0	0	1806	1819	0
Link Speed (k/h)	30			50	50	
Link Distance (m)	51.9			53.9	38.7	
Travel Time (s)	6.2			3.9	2.8	
Confl. Peds. (#/hr)	10			10		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	16	39	40	60	97	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	55	0	0	100	107	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	4.0			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	5.0			0.0	0.0	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	97	97	97	97		
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	22.5%
Analysis Period (min)	15
	ICU Level of Service A



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	49	196	83	35	205	118	175	121	241	111	24
Future Volume (vph)	88	49	196	83	35	205	118	175	121	241	111	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		20.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		1	1		0	0		0	0		0
Taper Length (m)	10.0			20.0			10.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.99		0.97	0.98	0.97			0.99				1.00
Fr _t			0.850		0.872			0.956				0.990
Fl _t Protected	0.950			0.950				0.986				0.969
Satd. Flow (prot)	1768	1861	1582	1768	1456	0	0	3244	0	0	3188	0
Fl _t Permitted	0.410			0.725				0.741				0.615
Satd. Flow (perm)	753	1861	1531	1328	1456	0	0	2436	0	0	2021	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			196		205			118				13
Link Speed (k/h)		30			40			60				60
Link Distance (m)		58.1			146.1			115.4				185.7
Travel Time (s)		7.0			13.1			6.9				11.1
Confl. Peds. (#/hr)	19		17	17		19	3		2	2		3
Confl. Bikes (#/hr)			5			1						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	1%	1%	1%	11%	1%	6%	1%	9%	5%	1%
Adj. Flow (vph)	88	49	196	83	35	205	118	175	121	241	111	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	49	196	83	240	0	0	414	0	0	376	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	Left	Left	Right
Median Width(m)		6.0			6.0			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		5.0			5.0			5.0				5.0
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	

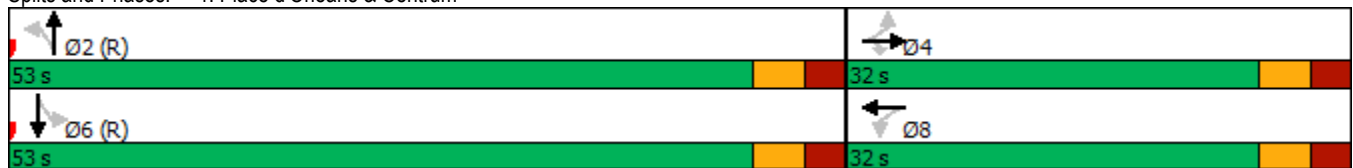


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		36.0	36.0		36.0	36.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0		53.0	53.0		53.0	53.0	
Total Split (%)	37.6%	37.6%	37.6%	37.6%	37.6%		62.4%	62.4%		62.4%	62.4%	
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		47.0	47.0		47.0	47.0	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7		2.7	2.7		2.7	2.7	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	10.0	10.0	10.0	10.0	10.0		12.0	12.0		12.0	12.0	
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	15.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	5	5	5	5	5		5	5		5	5	
Act Effct Green (s)	14.7	14.7	14.7	14.7	14.7			58.3			58.3	
Actuated g/C Ratio	0.17	0.17	0.17	0.17	0.17			0.69			0.69	
v/c Ratio	0.68	0.15	0.46	0.36	0.57			0.24			0.27	
Control Delay	56.4	28.3	7.7	33.5	12.0			4.7			6.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0			0.0	
Total Delay	56.4	28.3	7.7	33.5	12.0			4.7			6.5	
LOS	E	C	A	C	B			A			A	
Approach Delay		23.6			17.5			4.7			6.5	
Approach LOS		C			B			A			A	
Queue Length 50th (m)	12.8	6.5	0.0	11.4	4.6			6.5			8.5	
Queue Length 95th (m)	22.9	12.5	13.1	19.5	19.2			17.7			21.8	
Internal Link Dist (m)		34.1			122.1			91.4			161.7	
Turn Bay Length (m)			20.0	50.0								
Base Capacity (vph)	230	569	604	406	587			1707			1389	
Starvation Cap Reductn	0	0	0	0	0			0			0	
Spillback Cap Reductn	0	0	0	0	0			0			0	
Storage Cap Reductn	0	0	0	0	0			0			0	
Reduced v/c Ratio	0.38	0.09	0.32	0.20	0.41			0.24			0.27	

Intersection Summary

Area Type:	Other
Cycle Length:	85
Actuated Cycle Length:	85
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	12.4
Intersection LOS:	B
Intersection Capacity Utilization:	97.1%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 1: Place d'Orleans & Centrum



2: Centrum & Brisebois
PM Peak Hour

265 Centrum & 530 Brisebois
2035 Total Traffic



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	201	192	8	1	129	17	7	0	8	20	0	185
Future Volume (vph)	201	192	8	1	129	17	7	0	8	20	0	185
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.997			0.984			0.928			0.878	
Flt Protected		0.976						0.977			0.995	
Satd. Flow (prot)	0	1794	0	0	1770	0	0	1688	0	0	1626	0
Flt Permitted		0.976						0.977			0.995	
Satd. Flow (perm)	0	1794	0	0	1770	0	0	1688	0	0	1626	0
Link Speed (k/h)		40			40			30			50	
Link Distance (m)		146.1			240.1			67.4			116.9	
Travel Time (s)		13.1			21.6			8.1			8.4	
Confl. Peds. (#/hr)	23		19	19		23						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	3%	1%	1%	5%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	201	192	8	1	129	17	7	0	8	20	0	185
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	401	0	0	147	0	0	15	0	0	205	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		4.0			4.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		5.0			5.0			5.0			5.0	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

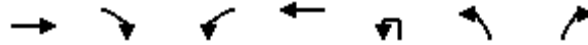
Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 57.5%

ICU Level of Service B

Analysis Period (min) 15



Lane Group	EBT	EBR	WBL	WBT	NBU	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	54	121	166	30	1	86	168
Future Volume (vph)	54	121	166	30	1	86	168
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							
Frt	0.907			0.850			
Flt Protected				0.959	0.950		
Satd. Flow (prot)	1622	0	0	1785	0	1611	1582
Flt Permitted				0.959	0.950		
Satd. Flow (perm)	1622	0	0	1785	0	1611	1582
Link Speed (k/h)	40			40	40		
Link Distance (m)	240.1			132.6	112.3		
Travel Time (s)	21.6			11.9	10.1		
Confl. Peds. (#/hr)	7		7	3			3
Confl. Bikes (#/hr)	1						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	7%	1%	1%	1%	11%	1%
Adj. Flow (vph)	54	121	166	30	1	86	168
Shared Lane Traffic (%)							
Lane Group Flow (vph)	175	0	0	196	0	87	168
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	R NA	L NA	Left	R NA	Left	Right
Median Width(m)	0.0			0.0	6.0		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	5.0			5.0	5.0		
Two way Left Turn Lane							
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	14		24	14		24	14
Sign Control	Stop		Stop		Stop		

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 39.0% ICU Level of Service A

Analysis Period (min) 15

4: Centrum & Brisebois
PM Peak Hour

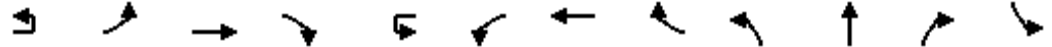
265 Centrum & 530 Brisebois
2035 Total Traffic



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Volume (vph)	153	48	39	0	0	141
Future Volume (vph)	153	48	39	0	0	141
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt					0.865	
Flt Protected		0.963				
Satd. Flow (prot)	0	1793	1825	0	1610	0
Flt Permitted		0.963				
Satd. Flow (perm)	0	1793	1825	0	1610	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		132.6	155.2		53.9	
Travel Time (s)		11.9	14.0		3.9	
Confl. Peds. (#/hr)	8			8		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	3%	1%	1%	1%
Adj. Flow (vph)	153	48	39	0	0	141
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	201	39	0	141	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		4.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		5.0	5.0		5.0	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization 34.2%	ICU Level of Service A
Analysis Period (min)	15



Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	56	1151	154	2	11	784	217	61	61	14	229
Future Volume (vph)	1	56	1151	154	2	11	784	217	61	61	14	229
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)		60.0		120.0		45.0		120.0	50.0		0.0	0.0
Storage Lanes		1		1		1		1	1		0	1
Taper Length (m)		30.0				35.0			45.0			10.0
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98		1.00		0.99	1.00	1.00		1.00
Fr _t				0.850				0.850		0.972		
Fl _t Protected		0.950				0.950			0.950			0.950
Satd. Flow (prot)	0	1768	3537	1582	0	1768	3537	1551	1751	1696	0	1768
Fl _t Permitted		0.332				0.198			0.674			0.708
Satd. Flow (perm)	0	617	3537	1544	0	368	3537	1529	1239	1696	0	1317
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				154				217		14		
Link Speed (k/h)		50				60			40			
Link Distance (m)			252.5				369.8			344.1		
Travel Time (s)			18.2				22.2			31.0		
Confl. Peds. (#/hr)		2		2		2		2	3		1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	3%	2%	9%	1%	1%
Adj. Flow (vph)	1	56	1151	154	2	11	784	217	61	61	14	229
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	57	1151	154	0	13	784	217	61	75	0	229
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	L NA	Left	R NA	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA
Median Width(m)			6.0			6.0			4.0			
Link Offset(m)			0.0			0.0			0.0			
Crosswalk Width(m)			5.0			5.0			5.0			
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	14	24		14	14	24		14	24		14	24
Number of Detectors	1	1	2	1	1	1	2	1	1	2		1
Detector Template	Left	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	2.0	0.6	2.0	2.0	0.6		2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(m)			9.4				9.4			9.4		
Detector 2 Size(m)			0.6				0.6			0.6		
Detector 2 Type			Cl+Ex				Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)			0.0				0.0			0.0		
Turn Type	Perm	Perm	NA	Perm	Perm	Perm	NA	Perm	Perm	NA		Perm
Protected Phases			2				6			8		
Permitted Phases	2	2		2	6	6		6	8			4
Detector Phase	2	2	2	2	6	6	6	6	8	8		4
Switch Phase												



Lane Group	SBT	SBR
Lane Configurations	1	
Traffic Volume (vph)	90	40
Future Volume (vph)	90	40
Ideal Flow (vphpl)	1800	1800
Storage Length (m)		0.0
Storage Lanes		0
Taper Length (m)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor	1.00	
Frt	0.954	
Flt Protected		
Satd. Flow (prot)	1687	0
Flt Permitted		
Satd. Flow (perm)	1687	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	28	
Link Speed (k/h)	40	
Link Distance (m)	112.3	
Travel Time (s)	10.1	
Confl. Peds. (#/hr)		3
Peak Hour Factor	1.00	1.00
Heavy Vehicles (%)	8%	1%
Adj. Flow (vph)	90	40
Shared Lane Traffic (%)		
Lane Group Flow (vph)	130	0
Enter Blocked Intersection	No	No
Lane Alignment	Left	R NA
Median Width(m)	6.0	
Link Offset(m)	0.0	
Crosswalk Width(m)	5.0	
Two way Left Turn Lane		
Headway Factor	1.01	1.01
Turning Speed (k/h)		14
Number of Detectors	2	
Detector Template	Thru	
Leading Detector (m)	10.0	
Trailing Detector (m)	0.0	
Detector 1 Position(m)	0.0	
Detector 1 Size(m)	0.6	
Detector 1 Type	Cl+Ex	
Detector 1 Channel		
Detector 1 Extend (s)	0.0	
Detector 1 Queue (s)	0.0	
Detector 1 Delay (s)	0.0	
Detector 2 Position(m)	9.4	
Detector 2 Size(m)	0.6	
Detector 2 Type	Cl+Ex	
Detector 2 Channel		
Detector 2 Extend (s)	0.0	
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Detector Phase	4	
Switch Phase		

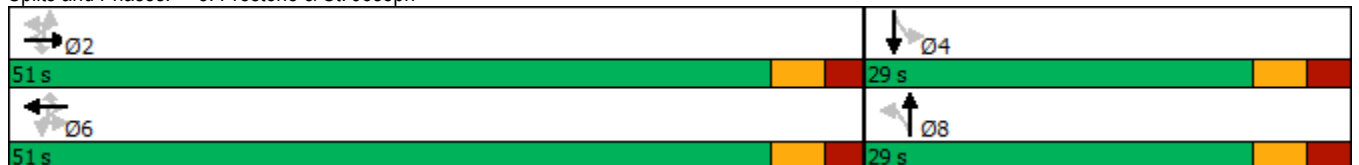


Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0
Minimum Split (s)	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7	29.0	29.0		29.0
Total Split (s)	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	29.0	29.0		29.0
Total Split (%)	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	36.3%	36.3%		36.3%
Maximum Green (s)	45.3	45.3	45.3	45.3	45.3	45.3	45.3	45.3	23.0	23.0		23.0
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3
All-Red Time (s)	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.7	2.7		2.7
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)		5.7	5.7	5.7		5.7	5.7	5.7	6.0	6.0		6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	None	None		None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	16.0	16.0		16.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5	5	5	5	5		5
Act Effct Green (s)		46.5	46.5	46.5		46.5	46.5	46.5	17.5	17.5		17.5
Actuated g/C Ratio		0.61	0.61	0.61		0.61	0.61	0.61	0.23	0.23		0.23
v/c Ratio		0.15	0.53	0.15		0.06	0.36	0.21	0.21	0.19		0.76
Control Delay		8.9	10.2	1.9		8.4	8.5	1.8	24.3	19.9		42.9
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Delay		8.9	10.2	1.9		8.4	8.5	1.8	24.3	19.9		42.9
LOS		A	B	A		A	A	A	C	B		D
Approach Delay			9.2				7.1			21.9		
Approach LOS			A				A			C		
Queue Length 50th (m)		2.9	41.4	0.0		0.6	24.4	0.0	6.4	6.3		27.5
Queue Length 95th (m)		8.9	66.1	6.5		3.1	40.0	7.6	14.7	15.1		48.4
Internal Link Dist (m)			228.5				345.8			320.1		
Turn Bay Length (m)		60.0		120.0		45.0		120.0	50.0			
Base Capacity (vph)		379	2173	1008		226	2173	1023	377	526		400
Starvation Cap Reductn		0	0	0		0	0	0	0	0		0
Spillback Cap Reductn		0	0	0		0	0	0	0	0		0
Storage Cap Reductn		0	0	0		0	0	0	0	0		0
Reduced v/c Ratio		0.15	0.53	0.15		0.06	0.36	0.21	0.16	0.14		0.57

Intersection Summary

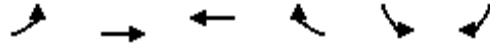
Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	75.7
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.76
Intersection Signal Delay:	12.2
Intersection Capacity Utilization:	83.5%
Analysis Period (min):	15
Intersection LOS:	B
ICU Level of Service:	E

Splits and Phases: 5: Prestone & St. Joseph





Lane Group	SBT	SBR
Minimum Initial (s)	10.0	
Minimum Split (s)	29.0	
Total Split (s)	29.0	
Total Split (%)	36.3%	
Maximum Green (s)	23.0	
Yellow Time (s)	3.3	
All-Red Time (s)	2.7	
Lost Time Adjust (s)	0.0	
Total Lost Time (s)	6.0	
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	
Recall Mode	None	
Walk Time (s)	7.0	
Flash Dont Walk (s)	16.0	
Pedestrian Calls (#/hr)	5	
Act Effct Green (s)	17.5	
Actuated g/C Ratio	0.23	
v/c Ratio	0.32	
Control Delay	20.0	
Queue Delay	0.0	
Total Delay	20.0	
LOS	C	
Approach Delay	34.6	
Approach LOS	C	
Queue Length 50th (m)	10.8	
Queue Length 95th (m)	22.9	
Internal Link Dist (m)	88.3	
Turn Bay Length (m)		
Base Capacity (vph)	532	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.24	
Intersection Summary		



















Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	49	111	98	21	16	37
Future Volume (vph)	49	111	98	21	16	37
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.976		0.906	
Flt Protected		0.985			0.985	
Satd. Flow (prot)	0	1815	1799	0	1645	0
Flt Permitted		0.985			0.985	
Satd. Flow (perm)	0	1815	1799	0	1645	0
Link Speed (k/h)		50	50		30	
Link Distance (m)		128.6	157.6		54.1	
Travel Time (s)		9.3	11.3		6.5	
Confl. Peds. (#/hr)	10			10		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	49	111	98	21	16	37
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	160	119	0	53	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		4.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		0.0	0.0		5.0	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	97			97	97	97
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	25.7%
Analysis Period (min)	15
	ICU Level of Service A

7: Brisebois & Building A Access
PM Peak Hour

265 Centrum & 530 Brisebois
2035 Total Traffic

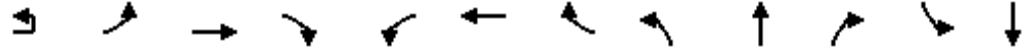
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	43	54	66	32	8	18	0	51	6	0	14
Future Volume (vph)	18	43	54	66	32	8	18	0	51	6	0	14
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.937			0.990			0.900			0.905	
Flt Protected		0.992			0.970			0.987			0.985	
Satd. Flow (prot)	0	1713	0	0	1770	0	0	1637	0	0	1643	0
Flt Permitted		0.992			0.970			0.987			0.985	
Satd. Flow (perm)	0	1713	0	0	1770	0	0	1637	0	0	1643	0
Link Speed (k/h)		50			50			30			30	
Link Distance (m)		157.6			37.2			41.9			54.8	
Travel Time (s)		11.3			2.7			5.0			6.6	
Confl. Peds. (#/hr)	10		10	10		10						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	18	43	54	66	32	8	18	0	51	6	0	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	115	0	0	106	0	0	69	0	0	20	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		0.0			0.0			5.0			5.0	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	25.2%											
Analysis Period (min)	15											
	ICU Level of Service A											



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	11	40	50	95	85	15
Future Volume (vph)	11	40	50	95	85	15
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.894			0.980		
Flt Protected	0.989			0.983		
Satd. Flow (prot)	1630	0	0	1812	1806	0
Flt Permitted	0.989			0.983		
Satd. Flow (perm)	1630	0	0	1812	1806	0
Link Speed (k/h)	30			50	50	
Link Distance (m)	51.9			53.9	38.7	
Travel Time (s)	6.2			3.9	2.8	
Confl. Peds. (#/hr)	10			10		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	11	40	50	95	85	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	51	0	0	145	100	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	4.0			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	5.0			0.0	0.0	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	97	97	97	97		
Sign Control	Stop			Free	Free	

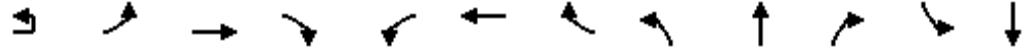
Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	24.9%
Analysis Period (min)	15
	ICU Level of Service A



Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	28	25	40	78	31	221	83	174	97	159	40
Future Volume (vph)	1	28	25	40	78	31	221	83	174	97	159	40
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)		0.0		20.0	50.0		0.0	0.0		0.0	0.0	
Storage Lanes		1		1	1		0	0		0	0	
Taper Length (m)		10.0			20.0			10.0			10.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor		1.00		0.97	0.99	0.98			0.99			1.00
Frt				0.850		0.868			0.959			0.988
Flt Protected		0.950			0.950				0.988			0.965
Satd. Flow (prot)	0	1628	1861	1582	1768	1482	0	0	3228	0	0	3231
Flt Permitted		0.420			0.741				0.830			0.621
Satd. Flow (perm)	0	716	1861	1542	1361	1482	0	0	2712	0	0	2078
Right Turn on Red				Yes			Yes			Yes		
Satd. Flow (RTOR)				44		221			97			18
Link Speed (k/h)			30			40			60			60
Link Distance (m)			58.1			146.1			115.4			185.7
Travel Time (s)			7.0			13.1			6.9			11.1
Confl. Peds. (#/hr)		8		15	15		8	1		1	1	
Confl. Bikes (#/hr)							4					
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	10%	1%	1%	1%	1%	9%	1%	7%	2%	5%	8%
Adj. Flow (vph)	1	28	25	40	78	31	221	83	174	97	159	40
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	29	25	40	78	252	0	0	354	0	0	217
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	Left	Left
Median Width(m)			6.0			6.0			0.0			0.0
Link Offset(m)			0.0			0.0			0.0			0.0
Crosswalk Width(m)			5.0			5.0			5.0			5.0
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	14	24		14	24		14	24		14	24	
Number of Detectors	1	1	2	1	1	2		1	2		1	2
Detector Template	Left	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0
Detector 2 Position(m)			9.4			9.4			9.4			9.4
Detector 2 Size(m)			0.6			0.6			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)			0.0			0.0			0.0			0.0
Turn Type	Perm	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases			4			8			2			6
Permitted Phases	4	4		4	8			2			6	
Detector Phase	4	4	4	4	8	8		2	2		6	6

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	18
Future Volume (vph)	18
Ideal Flow (vphpl)	1800
Storage Length (m)	0.0
Storage Lanes	0
Taper Length (m)	
Lane Util. Factor	0.95
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	1
Confl. Bikes (#/hr)	
Peak Hour Factor	1.00
Heavy Vehicles (%)	1%
Adj. Flow (vph)	18
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	1.01
Turning Speed (k/h)	14
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(m)	
Detector 2 Size(m)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	



Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0		10.0	10.0
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0	31.0		36.0	36.0		36.0	36.0
Total Split (s)	32.0	32.0	32.0	32.0	32.0	32.0		43.0	43.0		43.0	43.0
Total Split (%)	42.7%	42.7%	42.7%	42.7%	42.7%	42.7%		57.3%	57.3%		57.3%	57.3%
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0	26.0		37.0	37.0		37.0	37.0
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3		3.3	3.3
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7	2.7		2.7	2.7		2.7	2.7
Lost Time Adjust (s)		0.0	0.0	0.0	0.0	0.0			0.0			0.0
Total Lost Time (s)		6.0	6.0	6.0	6.0	6.0			6.0			6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0
Recall Mode	None	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max
Walk Time (s)	10.0	10.0	10.0	10.0	10.0	10.0		12.0	12.0		12.0	12.0
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	15.0	15.0		18.0	18.0		18.0	18.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5		5	5		5	5
Act Effct Green (s)		13.3	13.3	13.3	13.3	13.3			49.7			49.7
Actuated g/C Ratio		0.18	0.18	0.18	0.18	0.18			0.66			0.66
v/c Ratio		0.23	0.08	0.13	0.33	0.57			0.19			0.16
Control Delay		28.4	23.3	7.4	28.7	10.6			4.7			5.8
Queue Delay		0.0	0.0	0.0	0.0	0.0			0.0			0.0
Total Delay		28.4	23.3	7.4	28.7	10.6			4.7			5.8
LOS		C	C	A	C	B			A			A
Approach Delay			18.1			14.9			4.7			5.8
Approach LOS			B			B			A			A
Queue Length 50th (m)		3.5	2.9	0.0	9.5	3.6			4.6			3.6
Queue Length 95th (m)		7.8	6.6	5.1	15.6	16.3			15.4			12.4
Internal Link Dist (m)			34.1			122.1			91.4			161.7
Turn Bay Length (m)				20.0	50.0							
Base Capacity (vph)		248	645	563	471	658			1830			1383
Starvation Cap Reductn		0	0	0	0	0			0			0
Spillback Cap Reductn		0	0	0	0	0			0			0
Storage Cap Reductn		0	0	0	0	0			0			0
Reduced v/c Ratio		0.12	0.04	0.07	0.17	0.38			0.19			0.16

Intersection Summary

Area Type:	Other
Cycle Length:	75
Actuated Cycle Length:	75
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.57
Intersection Signal Delay:	9.6
Intersection LOS:	A
Intersection Capacity Utilization:	90.4%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 1: Place d'Orleans & Centrum



↙

Lane Group	SBR
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	

2: Centrum & Brisebois
AM Peak Hour

265 Centrum & 530 Brisebois
2040 Total Traffic



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	90	10	2	139	7	0	0	1	8	0	202
Future Volume (vph)	130	90	10	2	139	7	0	0	1	8	0	202
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.994			0.994			0.865			0.870	
Flt Protected		0.973			0.999						0.998	
Satd. Flow (prot)	0	1773	0	0	1815	0	0	813	0	0	1616	0
Flt Permitted		0.973			0.999						0.998	
Satd. Flow (perm)	0	1773	0	0	1815	0	0	813	0	0	1616	0
Link Speed (k/h)		40			40			30			50	
Link Distance (m)		146.1			240.1			67.4			116.9	
Travel Time (s)		13.1			21.6			8.1			8.4	
Confl. Peds. (#/hr)	8		9	9		8						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	5%	1%	1%	3%	1%	1%	1%	100%	1%	1%	1%
Adj. Flow (vph)	130	90	10	2	139	7	0	0	1	8	0	202
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	230	0	0	148	0	0	1	0	0	210	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		4.0			4.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		5.0			5.0			5.0			5.0	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

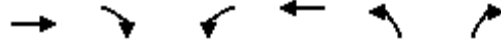
Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 53.1%

ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	30	48	160	33	59	126
Future Volume (vph)	30	48	160	33	59	126
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.917					0.850
Flt Protected				0.960	0.950	
Satd. Flow (prot)	1551	0	0	1775	1669	1582
Flt Permitted				0.960	0.950	
Satd. Flow (perm)	1551	0	0	1775	1669	1582
Link Speed (k/h)	40			40	40	
Link Distance (m)	240.1			132.6	112.3	
Travel Time (s)	21.6			11.9	10.1	
Confl. Peds. (#/hr)		7	7		4	6
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	5%	15%	1%	5%	7%	1%
Adj. Flow (vph)	30	48	160	33	59	126
Shared Lane Traffic (%)						
Lane Group Flow (vph)	78	0	0	193	59	126
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	R NA	L NA	Left	Left	Right
Median Width(m)	0.0			0.0	6.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	5.0			5.0	5.0	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)		14	24		24	14
Sign Control	Stop			Stop	Stop	

Intersection Summary

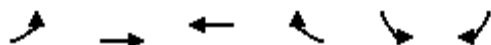
Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 29.8%

ICU Level of Service A























Analysis Period (min) 15



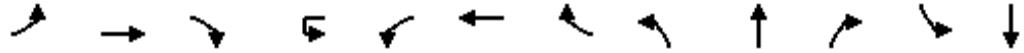
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	111	19	26	1	0	141
Future Volume (vph)	111	19	26	1	0	141
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt			0.995		0.865	
Flt Protected		0.959				
Satd. Flow (prot)	0	1685	1852	0	1610	0
Flt Permitted		0.959				
Satd. Flow (perm)	0	1685	1852	0	1610	0
Link Speed (k/h)		40	40		50	
Link Distance (m)		132.6	155.2		53.9	
Travel Time (s)		11.9	14.0		3.9	
Confl. Peds. (#/hr)	9			9		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	8%	1%	1%	1%	1%	1%
Adj. Flow (vph)	111	19	26	1	0	141
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	130	27	0	141	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		4.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		5.0	5.0		5.0	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	30.1%
ICU Level of Service	A
Analysis Period (min)	15

												
Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	26	391	33	1	9	1292	143	101	49	9	101	48
Future Volume (vph)	26	391	33	1	9	1292	143	101	49	9	101	48
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		120.0		45.0		120.0	50.0		0.0	0.0	
Storage Lanes	1		1		1		1	1		0	1	
Taper Length (m)	30.0				35.0			45.0			10.0	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97		1.00		0.99	1.00	1.00		1.00	0.99
Frt			0.850				0.850		0.977			0.923
Flt Protected	0.950				0.950			0.950			0.950	
Satd. Flow (prot)	1768	3468	1508	0	1637	3502	1522	1751	1666	0	1595	1447
Flt Permitted	0.178				0.521			0.693			0.719	
Satd. Flow (perm)	331	3468	1468	0	894	3502	1502	1275	1666	0	1205	1447
Right Turn on Red			Yes				Yes			Yes		
Satd. Flow (RTOR)			41				143		9			51
Link Speed (k/h)		50				60			40			40
Link Distance (m)		252.5				369.8			344.1			112.3
Travel Time (s)		18.2				22.2			31.0			10.1
Confl. Peds. (#/hr)	1		3		3		1	2		2	2	
Confl. Bikes (#/hr)										1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	3%	6%	1%	10%	2%	5%	2%	10%	10%	12%	35%
Adj. Flow (vph)	26	391	33	1	9	1292	143	101	49	9	101	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	391	33	0	10	1292	143	101	58	0	101	99
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA	Left
Median Width(m)		6.0				6.0			4.0			6.0
Link Offset(m)		0.0				0.0			0.0			0.0
Crosswalk Width(m)		5.0				5.0			5.0			5.0
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	14	24		14	24		14	24	
Number of Detectors	1	2	1	1	1	2	1	1	2		1	2
Detector Template	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru		Left	Thru
Leading Detector (m)	2.0	10.0	2.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0	10.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Size(m)	2.0	0.6	2.0	2.0	2.0	0.6	2.0	2.0	0.6		2.0	0.6
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0
Detector 2 Position(m)		9.4				9.4			9.4			9.4
Detector 2 Size(m)		0.6				0.6			0.6			0.6
Detector 2 Type		Cl+Ex				Cl+Ex			Cl+Ex			Cl+Ex
Detector 2 Channel												
Detector 2 Extend (s)		0.0				0.0			0.0			0.0
Turn Type	Perm	NA	Perm	Perm	Perm	NA	Perm	Perm	NA		Perm	NA
Protected Phases		2				6			8			4
Permitted Phases	2		2	6	6		6	8			4	
Detector Phase	2	2	2	6	6	6	6	8	8		4	4

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	51
Future Volume (vph)	51
Ideal Flow (vphpl)	1800
Storage Length (m)	0.0
Storage Lanes	0
Taper Length (m)	
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (k/h)	
Link Distance (m)	
Travel Time (s)	
Confl. Peds. (#/hr)	2
Confl. Bikes (#/hr)	
Peak Hour Factor	1.00
Heavy Vehicles (%)	4%
Adj. Flow (vph)	51
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	R NA
Median Width(m)	
Link Offset(m)	
Crosswalk Width(m)	
Two way Left Turn Lane	
Headway Factor	1.01
Turning Speed (k/h)	14
Number of Detectors	
Detector Template	
Leading Detector (m)	
Trailing Detector (m)	
Detector 1 Position(m)	
Detector 1 Size(m)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Detector 2 Position(m)	
Detector 2 Size(m)	
Detector 2 Type	
Detector 2 Channel	
Detector 2 Extend (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	



Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	23.7	23.7	23.7	23.7	23.7	23.7	23.7	29.0	29.0		29.0	29.0
Total Split (s)	51.0	51.0	51.0	51.0	51.0	51.0	51.0	29.0	29.0		29.0	29.0
Total Split (%)	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	36.3%	36.3%		36.3%	36.3%
Maximum Green (s)	45.3	45.3	45.3	45.3	45.3	45.3	45.3	23.0	23.0		23.0	23.0
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3
All-Red Time (s)	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.7	2.7		2.7	2.7
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	5.7	5.7	5.7		5.7	5.7	5.7	6.0	6.0		6.0	6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	None	None		None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0	7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	16.0	16.0		16.0	16.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5	5	5	5		5	5
Act Effct Green (s)	49.9	49.9	49.9		49.9	49.9	49.9	13.1	13.1		13.1	13.1
Actuated g/C Ratio	0.71	0.71	0.71		0.71	0.71	0.71	0.19	0.19		0.19	0.19
v/c Ratio	0.11	0.16	0.03		0.02	0.52	0.13	0.42	0.18		0.45	0.32
Control Delay	7.9	5.4	2.2		6.2	8.0	1.7	30.5	21.7		31.6	16.1
Queue Delay	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	7.9	5.4	2.2		6.2	8.0	1.7	30.5	21.7		31.6	16.1
LOS	A	A	A		A	A	A	C	C		C	B
Approach Delay		5.3				7.4			27.3			24.0
Approach LOS		A				A			C			C
Queue Length 50th (m)	0.9	7.5	0.0		0.3	34.8	0.0	10.9	5.0		11.0	4.9
Queue Length 95th (m)	5.3	19.1	2.6		2.4	78.9	6.3	22.3	12.7		22.5	15.0
Internal Link Dist (m)		228.5				345.8			320.1			88.3
Turn Bay Length (m)	60.0		120.0		45.0		120.0	50.0				
Base Capacity (vph)	235	2466	1056		636	2491	1109	419	554		396	510
Starvation Cap Reductn	0	0	0		0	0	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	0	0	0	0		0	0
Storage Cap Reductn	0	0	0		0	0	0	0	0		0	0
Reduced v/c Ratio	0.11	0.16	0.03		0.02	0.52	0.13	0.24	0.10		0.26	0.19

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 70.2

Natural Cycle: 60

Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 9.8

Intersection Capacity Utilization 60.4%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service B

Splits and Phases: 5: Prestone & St. Joseph



↙

















Lane Group	SBR
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Maximum Green (s)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	
Intersection Summary	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	27	67	104	11	26	62
Future Volume (vph)	27	67	104	11	26	62
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.987		0.905	
Flt Protected		0.986			0.985	
Satd. Flow (prot)	0	1817	1819	0	1643	0
Flt Permitted		0.986			0.985	
Satd. Flow (perm)	0	1817	1819	0	1643	0
Link Speed (k/h)		50	50		30	
Link Distance (m)		128.6	157.6		54.1	
Travel Time (s)		9.3	11.3		6.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	27	67	104	11	26	62
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	94	115	0	88	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		4.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		0.0	0.0		5.0	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24			14	24	14
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	24.2%			ICU Level of Service A		
Analysis Period (min)	15					

7: Brisebois & Building A Access
AM Peak Hour

265 Centrum & 530 Brisebois
2040 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	48	37	45	27	4	18	0	50	9	0	22
Future Volume (vph)	10	48	37	45	27	4	18	0	50	9	0	22
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.947			0.993			0.901			0.904	
Flt Protected		0.995			0.971			0.987			0.986	
Satd. Flow (prot)	0	1737	0	0	1777	0	0	1639	0	0	1643	0
Flt Permitted		0.995			0.971			0.987			0.986	
Satd. Flow (perm)	0	1737	0	0	1777	0	0	1639	0	0	1643	0
Link Speed (k/h)		50			50			30			30	
Link Distance (m)		157.6			37.2			41.9			54.8	
Travel Time (s)		11.3			2.7			5.0			6.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	48	37	45	27	4	18	0	50	9	0	22
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	95	0	0	76	0	0	68	0	0	31	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		0.0			0.0			5.0			5.0	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	23.2%						ICU Level of Service A					
Analysis Period (min)	15											

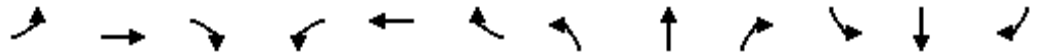


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	16	39	40	60	97	10
Future Volume (vph)	16	39	40	60	97	10
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.904			0.987		
Flt Protected	0.986			0.980		
Satd. Flow (prot)	1643	0	0	1806	1819	0
Flt Permitted	0.986			0.980		
Satd. Flow (perm)	1643	0	0	1806	1819	0
Link Speed (k/h)	30			50	50	
Link Distance (m)	51.9			53.9	38.7	
Travel Time (s)	6.2			3.9	2.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	16	39	40	60	97	10
Shared Lane Traffic (%)						
Lane Group Flow (vph)	55	0	0	100	107	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	4.0			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	5.0			0.0	0.0	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24	14	24			14
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	22.5%			ICU Level of Service A		
Analysis Period (min)	15					

1: Place d'Orleans & Centrum
PM Peak Hour

265 Centrum & 530 Brisebois
2040 Total Traffic

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	49	196	83	35	205	118	175	121	241	111	24
Future Volume (vph)	88	49	196	83	35	205	118	175	121	241	111	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		20.0	50.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		1	1		0	0		0	0		0
Taper Length (m)	10.0			20.0			10.0			10.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	0.95	0.95	0.95
Ped Bike Factor	0.99		0.97	0.98	0.97			0.99				1.00
Fr _t			0.850		0.872			0.956				0.990
Fl _t Protected	0.950			0.950				0.986				0.969
Satd. Flow (prot)	1768	1861	1582	1768	1456	0	0	3244	0	0	3188	0
Fl _t Permitted	0.410			0.725				0.741				0.615
Satd. Flow (perm)	753	1861	1531	1328	1456	0	0	2436	0	0	2021	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			196		205			118				13
Link Speed (k/h)		30			40			60				60
Link Distance (m)		58.1			146.1			115.4				185.7
Travel Time (s)		7.0			13.1			6.9				11.1
Confl. Peds. (#/hr)	19		17	17		19	3		2	2		3
Confl. Bikes (#/hr)			5			1						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	1%	1%	1%	11%	1%	6%	1%	9%	5%	1%
Adj. Flow (vph)	88	49	196	83	35	205	118	175	121	241	111	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	88	49	196	83	240	0	0	414	0	0	376	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	L NA	Left	R NA	L NA	Left	R NA	L NA	Left	R NA	Left	Left	Right
Median Width(m)		6.0			6.0			0.0				0.0
Link Offset(m)		0.0			0.0			0.0				0.0
Crosswalk Width(m)		5.0			5.0			5.0				5.0
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2		1	2		1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0	2.0	2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6	2.0	2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	31.0	31.0	31.0	31.0	31.0		36.0	36.0		36.0	36.0	
Total Split (s)	32.0	32.0	32.0	32.0	32.0		53.0	53.0		53.0	53.0	
Total Split (%)	37.6%	37.6%	37.6%	37.6%	37.6%		62.4%	62.4%		62.4%	62.4%	
Maximum Green (s)	26.0	26.0	26.0	26.0	26.0		47.0	47.0		47.0	47.0	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.7	2.7	2.7	2.7	2.7		2.7	2.7		2.7	2.7	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			0.0			0.0	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0			6.0			6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None	None	None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	10.0	10.0	10.0	10.0	10.0		12.0	12.0		12.0	12.0	
Flash Dont Walk (s)	15.0	15.0	15.0	15.0	15.0		18.0	18.0		18.0	18.0	
Pedestrian Calls (#/hr)	5	5	5	5	5		5	5		5	5	
Act Effct Green (s)	14.7	14.7	14.7	14.7	14.7			58.3			58.3	
Actuated g/C Ratio	0.17	0.17	0.17	0.17	0.17			0.69			0.69	
v/c Ratio	0.68	0.15	0.46	0.36	0.57			0.24			0.27	
Control Delay	56.4	28.3	7.7	33.5	12.0			4.7			6.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0			0.0			0.0	
Total Delay	56.4	28.3	7.7	33.5	12.0			4.7			6.5	
LOS	E	C	A	C	B			A			A	
Approach Delay		23.6			17.5			4.7			6.5	
Approach LOS		C			B			A			A	
Queue Length 50th (m)	12.8	6.5	0.0	11.4	4.6			6.5			8.5	
Queue Length 95th (m)	22.9	12.5	13.1	19.5	19.2			17.7			21.8	
Internal Link Dist (m)		34.1			122.1			91.4			161.7	
Turn Bay Length (m)			20.0	50.0								
Base Capacity (vph)	230	569	604	406	587			1707			1389	
Starvation Cap Reductn	0	0	0	0	0			0			0	
Spillback Cap Reductn	0	0	0	0	0			0			0	
Storage Cap Reductn	0	0	0	0	0			0			0	
Reduced v/c Ratio	0.38	0.09	0.32	0.20	0.41			0.24			0.27	

Intersection Summary

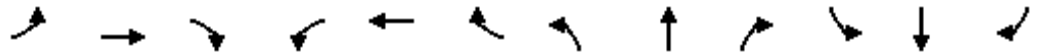
Area Type:	Other
Cycle Length:	85
Actuated Cycle Length:	85
Offset:	0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.68
Intersection Signal Delay:	12.4
Intersection LOS:	B
Intersection Capacity Utilization:	97.1%
ICU Level of Service:	F
Analysis Period (min):	15

Splits and Phases: 1: Place d'Orleans & Centrum



2: Centrum & Brisebois
PM Peak Hour

265 Centrum & 530 Brisebois
2040 Total Traffic



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	201	192	8	1	129	17	7	0	8	20	0	185
Future Volume (vph)	201	192	8	1	129	17	7	0	8	20	0	185
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.997			0.984			0.928			0.878	
Flt Protected		0.976						0.977			0.995	
Satd. Flow (prot)	0	1794	0	0	1770	0	0	1688	0	0	1626	0
Flt Permitted		0.976						0.977			0.995	
Satd. Flow (perm)	0	1794	0	0	1770	0	0	1688	0	0	1626	0
Link Speed (k/h)		40			40			30			50	
Link Distance (m)		146.1			240.1			67.4			116.9	
Travel Time (s)		13.1			21.6			8.1			8.4	
Confl. Peds. (#/hr)	23		19	19		23						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	3%	1%	1%	5%	1%	1%	1%	1%	1%	1%	1%
Adj. Flow (vph)	201	192	8	1	129	17	7	0	8	20	0	185
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	401	0	0	147	0	0	15	0	0	205	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		4.0			4.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		5.0			5.0			5.0			5.0	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 57.5%

ICU Level of Service B

Analysis Period (min) 15



Lane Group	EBT	EBR	WBL	WBT	NBU	NBL	NBR
Lane Configurations							
Traffic Volume (vph)	54	121	166	30	1	86	168
Future Volume (vph)	54	121	166	30	1	86	168
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor							
Frt	0.907			0.850			
Flt Protected				0.959	0.950		
Satd. Flow (prot)	1622	0	0	1785	0	1611	1582
Flt Permitted				0.959	0.950		
Satd. Flow (perm)	1622	0	0	1785	0	1611	1582
Link Speed (k/h)	40			40	40		
Link Distance (m)	240.1			132.6	112.3		
Travel Time (s)	21.6			11.9	10.1		
Confl. Peds. (#/hr)	7		7	3			3
Confl. Bikes (#/hr)	1						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	7%	1%	1%	1%	11%	1%
Adj. Flow (vph)	54	121	166	30	1	86	168
Shared Lane Traffic (%)							
Lane Group Flow (vph)	175	0	0	196	0	87	168
Enter Blocked Intersection	No	No	No	No	No	No	No
Lane Alignment	Left	R NA	L NA	Left	R NA	Left	Right
Median Width(m)	0.0			0.0	6.0		
Link Offset(m)	0.0			0.0	0.0		
Crosswalk Width(m)	5.0			5.0	5.0		
Two way Left Turn Lane							
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	14		24	14		24	14
Sign Control	Stop			Stop	Stop		

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 39.0% ICU Level of Service A

Analysis Period (min) 15

4: Centrum & Brisebois
PM Peak Hour

265 Centrum & 530 Brisebois
2040 Total Traffic



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	153	48	39	0	0	141
Future Volume (vph)	153	48	39	0	0	141
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt						0.865
Flt Protected	0.963					
Satd. Flow (prot)	0	1793	1825	0	1610	0
Flt Permitted	0.963					
Satd. Flow (perm)	0	1793	1825	0	1610	0
Link Speed (k/h)	40		40	50		
Link Distance (m)	132.6		155.2	53.9		
Travel Time (s)	11.9		14.0	3.9		
Confl. Peds. (#/hr)	8				8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	3%	1%	1%	1%
Adj. Flow (vph)	153	48	39	0	0	141
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	201	39	0	141	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)	0.0		0.0	4.0		
Link Offset(m)	0.0		0.0	0.0		
Crosswalk Width(m)	5.0		5.0	5.0		
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	24				14	14
Sign Control	Free		Free	Stop		

Intersection Summary

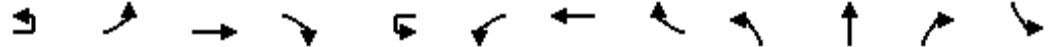
Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 34.2%

ICU Level of Service A

Analysis Period (min) 15



Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	56	1246	154	2	11	848	217	61	61	14	229
Future Volume (vph)	1	56	1246	154	2	11	848	217	61	61	14	229
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)		60.0		120.0		45.0		120.0	50.0		0.0	0.0
Storage Lanes		1		1		1		1	1		0	1
Taper Length (m)		30.0				35.0			45.0			10.0
Lane Util. Factor	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		0.98		1.00		0.99	1.00	1.00		1.00
Frt				0.850				0.850		0.972		
Flt Protected		0.950				0.950			0.950			0.950
Satd. Flow (prot)	0	1768	3537	1582	0	1768	3537	1551	1751	1696	0	1768
Flt Permitted		0.305				0.171			0.674			0.708
Satd. Flow (perm)	0	567	3537	1544	0	318	3537	1529	1239	1696	0	1317
Right Turn on Red				Yes				Yes			Yes	
Satd. Flow (RTOR)				154				217		14		
Link Speed (k/h)		50				60			40			
Link Distance (m)			252.5				369.8			344.1		
Travel Time (s)			18.2				22.2			31.0		
Confl. Peds. (#/hr)		2		2		2		2	3		1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	3%	2%	9%	1%	1%
Adj. Flow (vph)	1	56	1246	154	2	11	848	217	61	61	14	229
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	57	1246	154	0	13	848	217	61	75	0	229
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	R NA	L NA	Left	R NA	R NA	L NA	Left	R NA	L NA	Left	R NA	L NA
Median Width(m)			6.0				6.0			4.0		
Link Offset(m)			0.0				0.0			0.0		
Crosswalk Width(m)			5.0				5.0			5.0		
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	14	24		14	14	24		14	24		14	24
Number of Detectors	1	1	2	1	1	1	2	1	1	2		1
Detector Template	Left	Left	Thru	Right	Left	Left	Thru	Right	Left	Thru		Left
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	2.0	10.0	2.0	2.0	10.0		2.0
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	2.0	0.6	2.0	2.0	0.6		2.0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
Detector 2 Position(m)			9.4				9.4			9.4		
Detector 2 Size(m)			0.6				0.6			0.6		
Detector 2 Type			Cl+Ex				Cl+Ex			Cl+Ex		
Detector 2 Channel												
Detector 2 Extend (s)			0.0				0.0			0.0		
Turn Type	Perm	Perm	NA	Perm	Perm	Perm	NA	Perm	Perm	NA		Perm
Protected Phases			2				6			8		
Permitted Phases	2	2		2	6	6		6	8			4
Detector Phase	2	2	2	2	6	6	6	6	8	8		4
Switch Phase												



Lane Group	SBT	SBR
Lane Configurations	1	1
Traffic Volume (vph)	90	40
Future Volume (vph)	90	40
Ideal Flow (vphpl)	1800	1800
Storage Length (m)		0.0
Storage Lanes		0
Taper Length (m)		
Lane Util. Factor	1.00	1.00
Ped Bike Factor	1.00	
Frt	0.954	
Flt Protected		
Satd. Flow (prot)	1687	0
Flt Permitted		
Satd. Flow (perm)	1687	0
Right Turn on Red		Yes
Satd. Flow (RTOR)	28	
Link Speed (k/h)	40	
Link Distance (m)	112.3	
Travel Time (s)	10.1	
Confl. Peds. (#/hr)		3
Peak Hour Factor	1.00	1.00
Heavy Vehicles (%)	8%	1%
Adj. Flow (vph)	90	40
Shared Lane Traffic (%)		
Lane Group Flow (vph)	130	0
Enter Blocked Intersection	No	No
Lane Alignment	Left	R NA
Median Width(m)	6.0	
Link Offset(m)	0.0	
Crosswalk Width(m)	5.0	
Two way Left Turn Lane		
Headway Factor	1.01	1.01
Turning Speed (k/h)		14
Number of Detectors	2	
Detector Template	Thru	
Leading Detector (m)	10.0	
Trailing Detector (m)	0.0	
Detector 1 Position(m)	0.0	
Detector 1 Size(m)	0.6	
Detector 1 Type	Cl+Ex	
Detector 1 Channel		
Detector 1 Extend (s)	0.0	
Detector 1 Queue (s)	0.0	
Detector 1 Delay (s)	0.0	
Detector 2 Position(m)	9.4	
Detector 2 Size(m)	0.6	
Detector 2 Type	Cl+Ex	
Detector 2 Channel		
Detector 2 Extend (s)	0.0	
Turn Type	NA	
Protected Phases	4	
Permitted Phases		
Detector Phase	4	
Switch Phase		

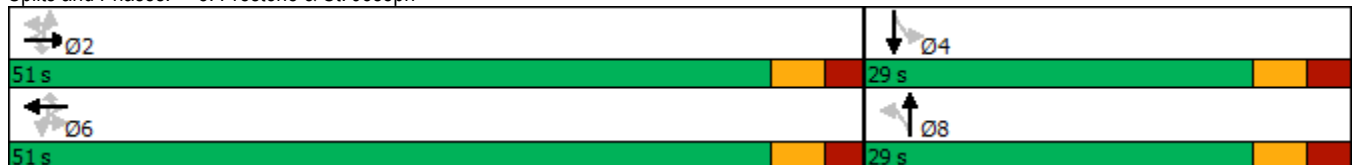


Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.7	23.7	23.7	23.7	23.7	23.7	23.7	23.7	29.0	29.0		29.0
Total Split (s)	51.0	51.0	51.0	51.0	51.0	51.0	51.0	51.0	29.0	29.0		29.0
Total Split (%)	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	63.8%	36.3%	36.3%		36.3%
Maximum Green (s)	45.3	45.3	45.3	45.3	45.3	45.3	45.3	45.3	23.0	23.0		23.0
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3
All-Red Time (s)	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.4	2.7	2.7		2.7
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)		5.7	5.7	5.7		5.7	5.7	5.7	6.0	6.0		6.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	None	None		None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0		7.0
Flash Dont Walk (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	16.0	16.0		16.0
Pedestrian Calls (#/hr)	5	5	5	5	5	5	5	5	5	5		5
Act Effct Green (s)		46.5	46.5	46.5		46.5	46.5	46.5	17.5	17.5		17.5
Actuated g/C Ratio		0.61	0.61	0.61		0.61	0.61	0.61	0.23	0.23		0.23
v/c Ratio		0.16	0.57	0.15		0.07	0.39	0.21	0.21	0.19		0.76
Control Delay		9.2	10.8	1.9		8.7	8.7	1.8	24.3	19.9		42.9
Queue Delay		0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0
Total Delay		9.2	10.8	1.9		8.7	8.7	1.8	24.3	19.9		42.9
LOS		A	B	A		A	A	A	C	B		D
Approach Delay			9.8				7.3			21.9		
Approach LOS			A				A			C		
Queue Length 50th (m)		2.9	46.7	0.0		0.6	27.0	0.0	6.4	6.3		27.5
Queue Length 95th (m)		9.1	74.2	6.5		3.2	44.0	7.6	14.7	15.1		48.4
Internal Link Dist (m)			228.5				345.8			320.1		
Turn Bay Length (m)		60.0		120.0		45.0		120.0	50.0			
Base Capacity (vph)		348	2173	1008		195	2173	1023	377	526		400
Starvation Cap Reductn		0	0	0		0	0	0	0	0		0
Spillback Cap Reductn		0	0	0		0	0	0	0	0		0
Storage Cap Reductn		0	0	0		0	0	0	0	0		0
Reduced v/c Ratio		0.16	0.57	0.15		0.07	0.39	0.21	0.16	0.14		0.57

Intersection Summary

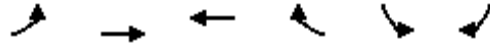
Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	75.7
Natural Cycle:	60
Control Type:	Semi Act-Uncoord
Maximum v/c Ratio:	0.76
Intersection Signal Delay:	12.4
Intersection Capacity Utilization:	86.3%
Analysis Period (min):	15
Intersection LOS:	B
ICU Level of Service:	E

Splits and Phases: 5: Prestone & St. Joseph





















Lane Group	SBT	SBR
Minimum Initial (s)	10.0	
Minimum Split (s)	29.0	
Total Split (s)	29.0	
Total Split (%)	36.3%	
Maximum Green (s)	23.0	
Yellow Time (s)	3.3	
All-Red Time (s)	2.7	
Lost Time Adjust (s)	0.0	
Total Lost Time (s)	6.0	
Lead/Lag		
Lead-Lag Optimize?		
Vehicle Extension (s)	3.0	
Recall Mode	None	
Walk Time (s)	7.0	
Flash Dont Walk (s)	16.0	
Pedestrian Calls (#/hr)	5	
Act Effct Green (s)	17.5	
Actuated g/C Ratio	0.23	
v/c Ratio	0.32	
Control Delay	20.0	
Queue Delay	0.0	
Total Delay	20.0	
LOS	C	
Approach Delay	34.6	
Approach LOS	C	
Queue Length 50th (m)	10.8	
Queue Length 95th (m)	22.9	
Internal Link Dist (m)	88.3	
Turn Bay Length (m)		
Base Capacity (vph)	532	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.24	
Intersection Summary		



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	49	111	98	21	16	37
Future Volume (vph)	49	111	98	21	16	37
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.976		0.906	
Flt Protected		0.985			0.985	
Satd. Flow (prot)	0	1815	1799	0	1645	0
Flt Permitted		0.985			0.985	
Satd. Flow (perm)	0	1815	1799	0	1645	0
Link Speed (k/h)		50	50		30	
Link Distance (m)		128.6	157.6		54.1	
Travel Time (s)		9.3	11.3		6.5	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	49	111	98	21	16	37
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	160	119	0	53	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(m)		0.0	0.0		4.0	
Link Offset(m)		0.0	0.0		0.0	
Crosswalk Width(m)		0.0	0.0		5.0	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	97			97	97	97
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	25.7%			ICU Level of Service A		
Analysis Period (min)	15					

7: Brisebois & Building A Access
PM Peak Hour

265 Centrum & 530 Brisebois
2040 Total Traffic

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	43	54	66	32	8	18	0	51	6	0	14
Future Volume (vph)	18	43	54	66	32	8	18	0	51	6	0	14
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.937			0.990			0.900			0.905	
Flt Protected		0.992			0.970			0.987			0.985	
Satd. Flow (prot)	0	1713	0	0	1770	0	0	1637	0	0	1643	0
Flt Permitted		0.992			0.970			0.987			0.985	
Satd. Flow (perm)	0	1713	0	0	1770	0	0	1637	0	0	1643	0
Link Speed (k/h)		50			50			30			30	
Link Distance (m)		157.6			37.2			41.9			54.8	
Travel Time (s)		11.3			2.7			5.0			6.6	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	18	43	54	66	32	8	18	0	51	6	0	14
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	115	0	0	106	0	0	69	0	0	20	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			0.0			0.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		0.0			0.0			5.0			5.0	
Two way Left Turn Lane												
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	97		97	97		97	97		97	97		97
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization 25.0%	ICU Level of Service A											
Analysis Period (min) 15												



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	11	40	50	95	85	15
Future Volume (vph)	11	40	50	95	85	15
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.894			0.980		
Flt Protected	0.989			0.983		
Satd. Flow (prot)	1630	0	0	1812	1806	0
Flt Permitted	0.989			0.983		
Satd. Flow (perm)	1630	0	0	1812	1806	0
Link Speed (k/h)	30			50	50	
Link Distance (m)	51.9			53.9	38.7	
Travel Time (s)	6.2			3.9	2.8	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	11	40	50	95	85	15
Shared Lane Traffic (%)						
Lane Group Flow (vph)	51	0	0	145	100	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	4.0			0.0	0.0	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	5.0			0.0	0.0	
Two way Left Turn Lane						
Headway Factor	1.01	1.01	1.01	1.01	1.01	1.01
Turning Speed (k/h)	97	97	97			97
Sign Control	Stop			Free	Free	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	24.9%			ICU Level of Service A		
Analysis Period (min)	15					