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6600 Carrière Street Transportation Impact Assessment

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6600 Carrière Street
Transportation Impact Assessment

Prepared By:

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October 2022
Revised: January 2025

Novatech File: 122138
Ref: R-2022-138

January 17, 2025

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Planning and Growth Management Department
110 Laurier Ave. W., 4th Floor,
Ottawa, Ontario K1P 1J1

Attention: Ms. Josiane Gervais
Project Manager, Infrastructure Approvals

Dear Ms. Gervais:

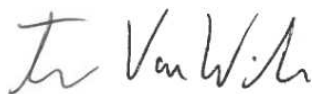
Reference: 6600 Carrière Street
Transportation Impact Assessment Report
Novatech File No. 122138

We are pleased to submit the following Transportation Impact Assessment (TIA) Report in support of a Site Plan Control Application for the redevelopment of the existing 1,455m² Mouvement d'Implication Francophone d'Orléans (MIFO) facility at 6600 Carrière Street with a new approximately 5,080m² MIFO facility. MIFO is a recreational community centre mainly serving the francophone community in Orléans. The structure and format of this report is in accordance with the City of Ottawa Transportation Impact Assessment Guidelines (June 2017).

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

Yours truly,

NOVATECH



Trevor Van Wiechen, M.Eng.
E.I.T. | Transportation



TIA Plan Reports

On 14 June 2017, the Council of the City of Ottawa adopted new Transportation Impact Assessment (TIA) Guidelines. In adopting the guidelines, Council established a requirement for those preparing and delivering transportation impact assessments and reports to sign a letter of certification.

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 s/he meets the four criteria listed below.

CERTIFICATION

1. 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;
2. 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;
3. 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
4. I am either a licensed¹ or registered² professional in good standing, whose field of expertise [check ☒ appropriate field(s)] is either transportation engineering ☒ or transportation planning ☐.

1,2 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.

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Dated at Ottawa this 17 day of January, 2025 .
(City)

Name: Jennifer Luong
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Signature of Individual certifier that s/he meets the above four criteria

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Table of Contents

1.0	SCREENING	1
1.1	Introduction	1
1.2	Proposed Development	1
1.3	Screening Form	2
2.0	SCOPING	2
2.1	Existing Conditions	2
2.1.1	Nearby Roadways	2
2.1.2	Existing Study Intersections	4
2.1.3	Driveways	5
2.1.4	Pedestrian and Cycling Facilities	5
2.1.5	Transit	6
2.1.6	Existing Area Traffic Management Measures	7
2.1.7	Existing Traffic Volumes	8
2.1.8	Collision Records	10
2.2	Planned Conditions	12
2.2.1	Other Study Area Developments	13
2.3	Study Area and Time Periods	15
2.4	Development-Generated Traffic	15
2.4.1	Trip Generation	15
2.5	Trip Distribution	16
2.6	Access Design	19
2.7	Exemptions Review	19
3.0	FORECASTING	21
3.1	Background Traffic	21
3.1.1	Other Area Developments	21
3.1.2	General Background Growth Rate	21
3.2	Future Traffic Conditions	21
3.3	Demand Rationalization	24
3.3.1	Existing Intersection Operations	24
3.3.2	2025 Background Intersection Operations	25
3.3.3	2030 Background Intersection Operations	26
4.0	ANALYSIS	28

4.1	Development Design.....	28
4.1.1	<i>Design for Sustainable Modes</i>	28
4.1.2	<i>Circulation and Access</i>	28
4.2	Parking	34
4.3	Boundary Streets	35
4.4	Transportation Demand Management.....	36
4.4.1	<i>Context for TDM</i>	36
4.4.2	<i>Need and Opportunity</i>	36
4.4.3	<i>TDM Program</i>	36
4.5	Neighbourhood Traffic Management.....	37
4.6	Intersection Design	38
4.6.1	<i>Intersection MMLOS Analysis</i>	38
4.6.2	<i>2025 Total Intersection Operations</i>	40
4.6.3	<i>2030 Total Intersection Operations</i>	41
5.0	CONCLUSIONS AND RECOMMENDATIONS	42

Tables

Table 1: OC Transpo Stops.....	7
Table 2: Intersection Peak Hours	8
Table 3: Reported Collisions	10
Table 4: Peak Hour Person Trip Generation	15
Table 5: Peak Hour Person Trips by Modal Share	16
Table 6: TIA Exemptions.....	19
Table 7: Existing Traffic Operations	24
Table 8: 2025 Background – Traffic Operations	25
Table 9: 2030 Background – Traffic Operations	26
Table 10: Parking Requirements.....	34
Table 11: Shared Vehicle Parking.....	35
Table 12: Segment MMLOS Summary.....	36
Table 13: Neighbourhood Traffic Impacts.....	37
Table 14: Intersection MMLOS Summary.....	38
Table 15: 2025 Total Intersection Operations.....	40
Table 16: 2030 Total Intersection Operations.....	41

Figures

Figure 1: Site Location	1
Figure 2: Roadway Network	3
Figure 3: Existing Pedestrian and Cycling Facilities	6
Figure 4: OC Transpo Stop Locations	7
Figure 5: Existing Traffic Volumes.....	9
Figure 6: Nearby Multi-Use Pathway Traffic (Summer 2022).....	10
Figure 7: LRT Phase 2.....	13
Figure 8: St. Joseph Boulevard Complete Streets Concept.....	14
Figure 9: Existing Site Generated Traffic Volumes	17
Figure 10: Proposed Site Generated Traffic Volumes	18
Figure 11: Net Site Generated Traffic Volumes	18
Figure 12: 2025 Background Traffic Volumes	22
Figure 13: 2030 Background Traffic Volumes	22
Figure 14: 2025 Total Traffic Volumes	23
Figure 15: 2030 Total Traffic Volumes	23
Figure 16: Turning Movements – Fire Truck Entering.....	29
Figure 17: Turning Movements – Fire Truck Exiting	30
Figure 18: Turning Movements – Garbage Truck.....	31
Figure 19: Turning Movements – WB-15 Entering.....	32
Figure 20: Turning Movements – WB-15 Exiting	33

Appendices

- Appendix A: Site Plan
- Appendix B: TIA Screening Form
- Appendix C: OC Transpo System Information
- Appendix D: Traffic Count Data
- Appendix E: Collision Records
- Appendix F: Excerpts from Relevant Traffic Studies
- Appendix G: Strategic Long-Range Model and 2013 TMP Projections
- Appendix H: Signal Timing Plans
- Appendix I: Capacity Analysis Reports (Existing/Background Traffic)
- Appendix J: Transportation Demand Management Checklists
- Appendix K: Multi Modal Level of Service Calculations
- Appendix L: Capacity Analysis Reports (Total Traffic)

EXECUTIVE SUMMARY

This Transportation Impact Assessment (TIA) has been prepared in support of a Site Plan Control Application for 6600 Carrière Street. The subject site is currently occupied by the existing 1,455m² Mouvement d'Implication Francophone d'Orléans (MIFO) facility which is a recreational community centre mainly serving the francophone community of Orléans.

The proposed redevelopment is planned to be completed in one phase and will replace the existing MIFO facility with a new, expanded facility with approximately 5,080m² of GFA. There is one full movement driveway proposed to Carrière Street. A total of 86 on-site parking spaces are proposed. Buildout of the proposed redevelopment is anticipated in 2025.

The main conclusions and recommendations from this report are summarized below:

Demand Rationalization

- Existing Traffic Conditions:
 - The westbound through movement at the Jeanne D'Arc Boulevard/Orléans Boulevard intersection is currently operating with a LOS F in the AM peak hour. An increased cycle length to 100 seconds in the AM peak hour would improve the westbound through movement to a LOS D.
 - The westbound left and eastbound through movements at the St. Joseph Boulevard/Orléans Boulevard intersection are currently operating with a LOS E in the PM peak hour. Optimized signal timing maintaining the existing cycle length of 100 seconds would improve these movements to a LOS D in the PM peak hour.
- 2025 Background Intersection Operations:
 - An increased cycle length at the Jeanne D'Arc Boulevard/Orléans Boulevard intersection to 100 seconds in the AM peak hour (i.e., adding an additional 20 seconds to the eastbound/westbound through phases) would improve the westbound through movement to a LOS D.
- 2030 Background Intersection Operations
 - The westbound through movement at the Jeanne D'Arc Boulevard/Orléans Boulevard intersection anticipated to operate with a LOS F in the AM peak hour. An increased cycle length to 100 seconds in the AM peak hour would improve all movements to a LOS D or better.
 - The eastbound through movement at the St. Joseph Boulevard/Orléans Boulevard intersection is anticipated to operate with a LOS E in the PM peak hour. Optimized signal timing (maintaining the existing cycle length of 100 seconds) would improve all movements to a LOS D in the PM peak hour.

Development Design and Parking

- On-site pathways will be provided, connecting the building and amenities area with the surrounding street network.
- Bike parking will be provided at-grade, with bike racks located along the Carrière Street frontage. A total of 8 bicycle parking spaces are required per the Zoning By-Law, and 28 spaces are proposed.
- OC Transpo stops #7776, 8141, 3655, 7741, and 7743 are currently in service and are located within a 400m walking distance of the subject site.
- All required TDM-supportive design and infrastructure measures in the TDM checklist are met.

- A total of 131 vehicular parking spaces are required per the Zoning By-Law. A total of 86 vehicular parking spaces are proposed on-site. There are non-formal parking agreements that already exist with the two adjacent schools as well as with the City for parking at Carrière Park. A parking study has been completed for a Minor Variance Application as part of a separate report.

Boundary Streets

- Carrière Street meets the target BLOS but does not meet the target PLOS.
- Currently, the sidewalk along the north side exceeds 2m with no boulevard (PLOS B) and the sidewalk on the south side is 1.5m in width with a 0.8m asphalt boulevard (PLOS C).
- A PLOS A is achievable for an operating speed of 50km/h with a sidewalk width of 2.0m and a minimum boulevard width of 0.5m, or a sidewalk width of 1.8m and a minimum boulevard width of 2m. This is identified for the City's consideration.

Access Intersections Design

- One full movement access is proposed to Carrière Street. The proposed access will have a width of approximately 8.2m and will be located approximately 27.5m east of the western property line.
- The design of the proposed access meets the requirements of the City's Private Approach By-Law and Zoning By-Law.
- A clear throat length of 8m is accommodated at the access.
- The site access is anticipated to operate with acceptable delays under side street stop control and a queueing length of less than one vehicle is anticipated on-site.

Transportation Demand Management

- The proposed redevelopment conforms to the City's TDM initiatives by providing easy access to the local pedestrian, bicycle and transit systems.
- In order to encourage the use of sustainable modes, the following measures will be implemented for the proposed redevelopment:
 - Designated internal coordinator (direction des immobilisations);
 - Display local area maps with walking/cycling access routes and key destinations at major entrances;
 - Display relevant transit schedules and route maps at entrances;
 - Provide online links to OC Transpo and STO information;
 - Provide a dedicated ridematching portal (MIFO currently offers an internal carpooling system available to employees and users);
 - Encourage flexible working hours (MIFO currently permits flexible work hours for certain positions within the organisation);
 - Encourage telework (MIFO currently permits occasional/circumstantial telework); and
 - Provide local business travel options that minimize the need for employees to bring a personal car to work (MIFO currently encourages carpooling for its employees when they participate in off-site meetings or events).

Neighbourhood Traffic Management

- The 2025 and 2030 background and total traffic volumes along Carrière Street east of Orléans Boulevard exceed the Area Traffic Management (ATM) threshold of 300 vehicles during the peak hour for a collector roadway.

- Total peak hour, peak directional traffic volumes along Carrière Street east of Orléans Boulevard equate to a volume to capacity (v/c) ratio of 0.75 (LOS C) during the AM peak hour and 0.35 (LOS A) during the PM peak hour.
- As there is sufficient capacity along Carrière Street to accommodate traffic generated by the redevelopment, no changes to the existing roadway classification are required.
- The added traffic generated by the proposed redevelopment is not anticipated to have a significant impact on the existing vehicular operations along Carrière Street.

Intersection MMLOS

- The City has approved the Orleans Corridor Secondary Plan which includes a complete streets concept for St. Joseph Boulevard. Planned improvements include a reduction in vehicle travel lanes in order to accommodate cycling facilities and bus transit improvements.
- All study area intersections do not meet the target PLOS.
 - All approaches at the Orléans Boulevard/St. Joseph Boulevard intersection meet the City's vehicle/pedestrian conflict for zebra-striped crosswalks. The intersection currently has textured crosswalks which improves the level of comfort for pedestrians. The east approach at Orléans Boulevard/Jeanne D'Arc Boulevard meets the City's vehicle/pedestrian conflict for zebra-striped crosswalks. While the provision of a zebra-striped crosswalk alone would not improve the PLOS, it would improve the level of comfort for pedestrians. This is identified for the City's consideration.
- All study area intersections do not meet the target BLOS.
 - While the provision of two-stage left turn bike boxes at Orléans Boulevard/Jeanne D'Arc Boulevard would not improve the BLOS, it would improve the level of comfort for cyclists making a left turn. This is identified for the City's consideration.
 - In order to achieve the target BLOS based on right turn characteristics at Orléans Boulevard/Carrière Street, introduction of a bike lane on the south approach would be required. This is identified for the City's consideration.
- All study area intersections do not meet the target TLOS, except for Orléans Boulevard/Carrière Street.
 - The City's 2031 RTTP Network identifies transit signal priority and queue jump lanes for Orléans Boulevard between Jeanne D'Arc Boulevard and Ottawa Road 174, and for Jeanne D'Arc Boulevard between Innes Road and Ottawa Road 174 (Affordable Network, before 2031). These transit priority projects would improve the TLOS at these intersections.
- All study area intersections do not meet the target TkLOS, except for Orléans Boulevard/Jeanne D'Arc Boulevard.
 - The width of the receiving lanes on Orléans Boulevard at St Joseph Boulevard are approximately 5.5m and there is no evidence of trucks hitting curbs. It is presumed that the existing conditions accommodates the design vehicles and there is no recommended action.
 - The width of the receiving lane on Carrière Street at Orléans Boulevard is approximately 5m and there is no evidence of trucks hitting curbs. Carrière is not a truck route, but it does frequently serve transit and school buses. It is presumed that the existing conditions accommodates the design vehicles and there is no recommended action.
- All study area intersections do not meet the target Auto LOS, except for Orléans Boulevard/Carrière Street.

- Signal timing improvements at the Orléans Boulevard/St. Joseph Boulevard and Orléans Boulevard/Jeanne D'Arc Boulevard are anticipated to improve the Auto LOS at these intersections to within their targets.

Total Intersection Operations

- No additional recommendations as a result of site traffic.
- The additional traffic generated by the subject site is not anticipated to have any significant impacts on the study area intersections.

1.0 SCREENING

1.1 Introduction

This Transportation Impact Assessment (TIA) has been prepared in support of a Site Plan Control Application for 6600 Carrière Street. The subject site (See **Figure 1**) is currently occupied by the existing 1,455m² Mouvement d'Implication Francophone d'Orléans (MIFO) facility which is a recreational community centre mainly serving the francophone community of Orléans. The site is surrounded by the following:

- Carrière Street and Carrière Park in the north;
- Park Garneau and residential development in the south;
- École élémentaire catholique Saint-Joseph d'Orléans and residential development in the east; and,
- École secondaire catholique Garneau, Orléans Boulevard, and residential development in the west.

Figure 1: Site Location



1.2 Proposed Development

The subject site is designated as 'Neighbourhood' on Schedule 'B8' of the City of Ottawa's Official Plan. It is currently zoned I1E and Community Centre is a permitted use in this zone.

The proposed redevelopment is planned to be completed in one phase and will replace the 1,455m² Mouvement d'Implication Francophone d'Orléans (MIFO) facility with a new, expanded

facility with approximately 5,080m² of GFA. There is one full movement driveway proposed to Carrière Street. A total of 86 on-site parking spaces are proposed.

The site plan is included in **Appendix A**. Buildout of the proposed redevelopment is anticipated in 2025.

1.3 Screening Form

The City's 2017 TIA Guidelines identifies three triggers for completing a TIA report, including trip generation, location, and safety. The criteria for each trigger are outlined in the TIA Screening Form (see **Appendix B**).

The trigger results are as follows:

- **Trip Generation Trigger** – The proposed redevelopment will generate more than 60 person trips; further assessment **is required** based on this trigger, however it does not generate more than 75 vehicles trips and does not require intersection analysis.
- **Location Triggers** – The redevelopment does not meet the location triggers; further assessment **is not required** based on this trigger.
- **Safety Triggers** – The redevelopment does not meet the safety triggers; further assessment **is not required** based on this trigger.

2.0 SCOPING

2.1 Existing Conditions

2.1.1 Nearby Roadways

All roadways discussed below fall under the jurisdiction of the City of Ottawa. The roadway network of the greater area surrounding the subject site is illustrated in **Figure 2**.

Carrière Street is a two-lane undivided collector roadway with a posted speed limit of 40km/h that travels between Orléans Boulevard in the west and Belcourt Boulevard in the east. Carrière Street is not a truck route. The OP does not identify a right-of-way (ROW) protection for Carrière Street and the existing ROW is approximately 21.5m fronting the site.

Orléans Boulevard is a four-lane divided arterial roadway with a 60km/h posted speed limit and is classified as a truck route, allowing restricted loads.

Jeanne d'Arc Boulevard is a four-lane divided arterial roadway with a 60km/h posted speed limit and is classified as a truck route, allowing restricted loads.

St. Joseph Boulevard is a four-lane undivided arterial roadway in this area with a 50km/h posted speed limit and is classified as a truck route, allowing full loads.

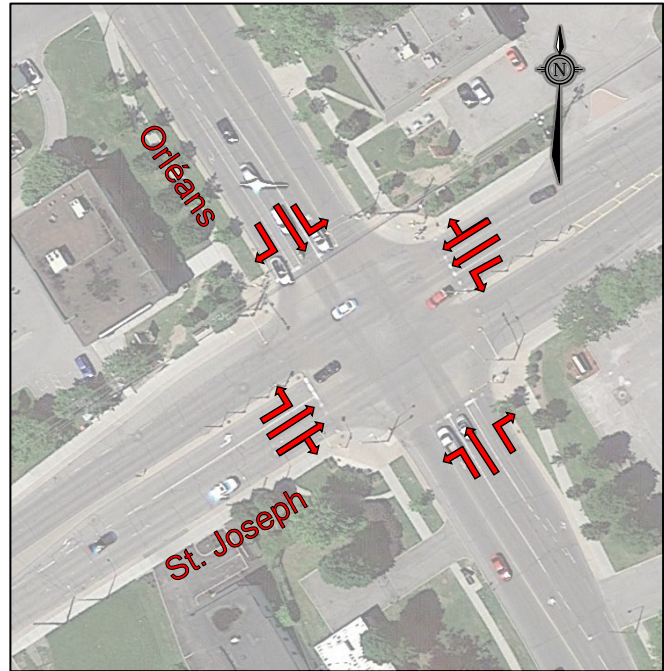
Figure 2: Roadway Network



2.1.2 Existing Study Intersections

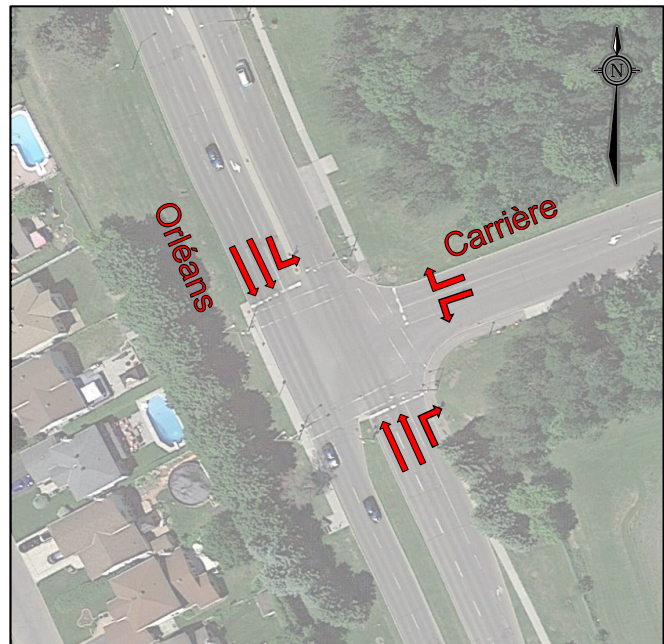
Orléans Blvd at St. Joseph Blvd

- Signalized four-legged intersection.
- Northbound / Southbound (Orléans): One left turn lane, one through lane, one pocket bike lane, and one right turn lane.
- Eastbound / Westbound (St. Joseph): One left turn lane, one through lane, and one shared through / right turn lane.
- Standard crosswalks at all four approaches.



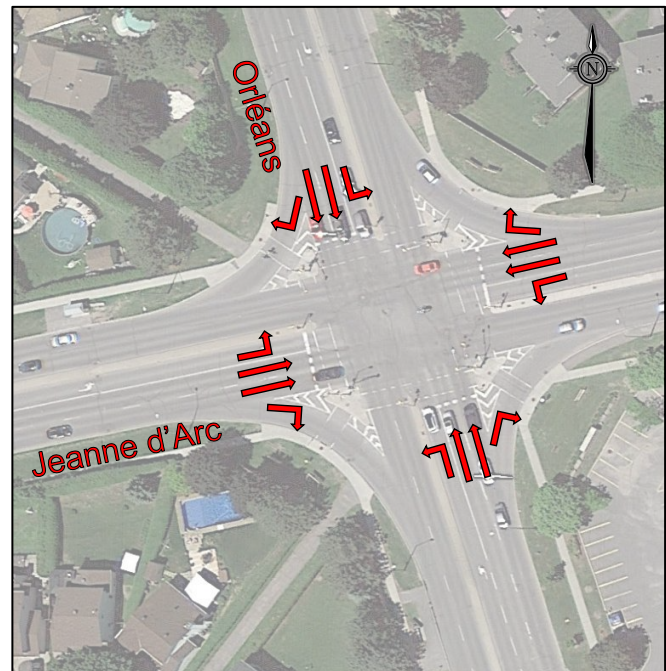
Orléans Blvd at Carrière St

- Signalized three-legged intersection.
- Northbound (Orléans): Two through lanes and one right turn lane.
- Southbound (Orléans): One left turn lane and two through lanes.
- Westbound (Carrière): One left turn lane and one right turn lane.
- Standard crosswalks at all three approaches.



Orléans Blvd at Jeanne d'Arc Blvd

- Signalized four-legged intersection.
- Northbound / Southbound (Orléans): One left turn lane, two through lanes, and one right turn channel.
- Eastbound / Westbound (Jeanne d'Arc): One left turn lane, two through lanes, and one right turn channel.
- Standard crosswalks at all four approaches.

**2.1.3 Driveways**

A review of adjacent driveways along Carrière Street in this area is provided as follows:

Carrière Street, north side:

- 1 looped driveway serving parking for Carrière Park

Carrière Street, south side:

- 3 institutional driveways for Civic #6588 (High School)
- 2 driveways for civic #6600 (the subject site)
- 2 institutional driveways for civic #6664 (Elementary School)

2.1.4 Pedestrian and Cycling Facilities

An aerial showing the existing pedestrian and cycling facilities in the vicinity of the subject site is included as **Figure 3**.

Concrete sidewalks are provided along both sides of Jeanne d'Arc Boulevard, St. Joseph Boulevard, Orléans Boulevard north of Notre Dame Street and south of Jeanne d'Arc Boulevard, and Carrière Street fronting the site and running east to Michaelsem Street. There is concrete sidewalk on the south side of Carrière Street and the east side of Orléans Boulevard. There are multi-use paths (MUPs) running through the parks north and south of the site.

There is a new pedestrian crossover (PXO) on the west leg of the easternmost access to the high school (École secondaire catholique Garneau) on Carrière Street. This PXO is located approximately 20m west of the subject site.

Figure 3: Existing Pedestrian and Cycling Facilities



Orléans Boulevard is designated as Crosstown Bikeway route. St. Joseph Boulevard is designated as Crosstown Bikeway route between Jeanne D'Arc Boulevard and Trim Road.

2.1.5 Transit

The nearest transit stops to the subject site are described in the following table. The locations of the nearby transit stops are shown in **Figure 4** and OC Transpo Route information is included in **Appendix C**.

Table 1: OC Transpo Stops

Stop Number	Location	Route(s) Served
#7776	West side of Belcourt Boulevard, north of Carrière Street	32
#8141	East side of Belcourt Boulevard, south of Carrière Street	32
#7741	East side of Orléans Boulevard, north of Carrière Street	34, 138, 634
#7743	West side of Orléans Boulevard, south of Carrière Street	34, 138, 634
#3655	North side of Carrière Street, east of Orléans Boulevard	34
#0542	North side of Carrière Street, at the westerly access to the high school (École secondaire catholique Garneau)	Not currently in service
#0541	South side of Carrière Street, at the westerly access to the high school (École secondaire catholique Garneau)	Not currently in service

Figure 4: OC Transpo Stop Locations

OC Transpo Route #32 travels between Blair Station and Chapel Hill on 30-minute headways and operates 7-days per week during selected time periods only.

OC Transpo Route #34 travels between Blair Station and Renaud on 30-minute headways and operates 7-days per week with all day service.

OC Transpo Route #138 travels between Innes and Place d'Orléans on 30-minute headways (peak periods, 60-minute headways off-peak) and operates 7-days per week.

OC Transpo Route #634 is a school route that travels to Collège Catholique Mer Bleue in the mornings and to Place d'Orléans in the afternoons. Two busses are provided during each peak period, on weekdays only.

2.1.6 Existing Area Traffic Management Measures

There are "School" and school zone signage pavement markings at each end of Carrière Street.

In response to area resident's concern regarding aggressive driving behaviour and the safety of all road users on Belcourt Boulevard, the City has initiated a study to examine traffic and driver behaviour. The Belcourt Boulevard Traffic Calming Study released recommendations in November 2020 for Belcourt Boulevard from St. Joseph Boulevard to Beauséjour Drive. A copy of the recommended plan is included in **Appendix F**. The final traffic calming plan for Belcourt Boulevard includes the following measures:

- Curb radii reductions and cycle-friendly narrowing at Carrière Street
- Curb radii reductions and cycle-friendly narrowing at Notre-Dame Boulevard
- Cycle-friendly narrowing at Beauséjour Drive
- Speed cushions along Belcourt Boulevard south of Sunview Drive
- Ladder crosswalks at St. Joseph Boulevard

The report notes that until the permanent traffic calming measures are implemented, temporary traffic calming measures such as flex posts will continue to be installed along Belcourt Boulevard.

Currently, there are no other existing Area Traffic Management (ATM) measures within the study area.

2.1.7 Existing Traffic Volumes

Weekday traffic counts were obtained from the City of Ottawa for the study area intersections to determine the existing pedestrian, cyclist and vehicular traffic volumes. The available traffic counts were performed on the following dates:

- Orléans Blvd at St. Joseph Blvd December 5, 2018
- Orléans Blvd at Carrière St December 19, 2018
- Orléans Blvd at Jeanne d'Arc Blvd (South) January 31, 2019

Peak hour summary sheets of the traffic counts are included in **Appendix D**. As there is a nearby high school, peak hours vary between intersections. The following table indicates the observed peak hours at each study area intersection:

Table 2: Intersection Peak Hours

Intersection	AM Peak Hour	PM Peak Hour
Orléans Boulevard/St. Joseph Boulevard	7:30-8:30	3:45-4:45
Orléans Boulevard/Carrière Street	7:30-8:30	3:15-4:15
Orléans Boulevard/Jeanne D'Arc Boulevard	7:00-8:00	4:30-5:30

As there is a variation of observed peak hours between intersections, particularly in the PM peak hour, a consistent PM peak hour of 4:00PM-5:00PM was chosen for analysis. Volumes have been balanced to within 10% of the higher adjacent intersection traffic volume. Existing peak hour traffic volumes are shown in **Figure 5**.

It is noted that the above listed intersection counts were performed over the winter months and may not reflect typical pedestrian or cyclist traffic in the area. The City's Active Transportation branch has also conducted summer counts at the multi-use pathway that runs between Carrière and Richer Drive/Leblanc Drive (through Carrière Park to the north of the subject site). Counts

were conducted daily from June 4th to June 28th, 2022. Traffic volumes along the pathway are shown in **Figure 6**. A daily maximum of 92 users were recorded using the pathway heading towards Carrière Street and a daily maximum of 66 users were recorded using the pathway heading towards Richer Drive. Time of day information was not provided.

Figure 5: Existing Traffic Volumes

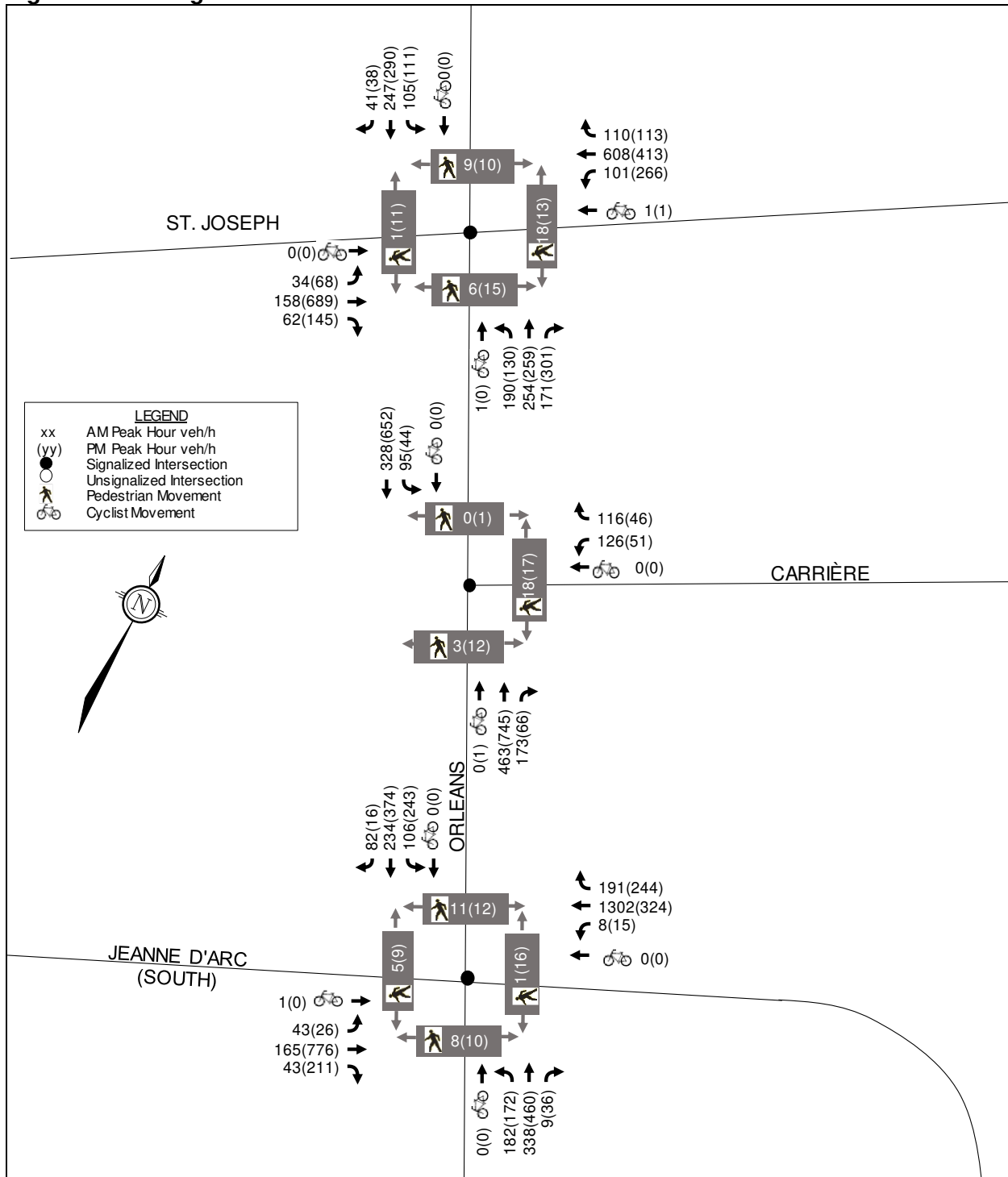
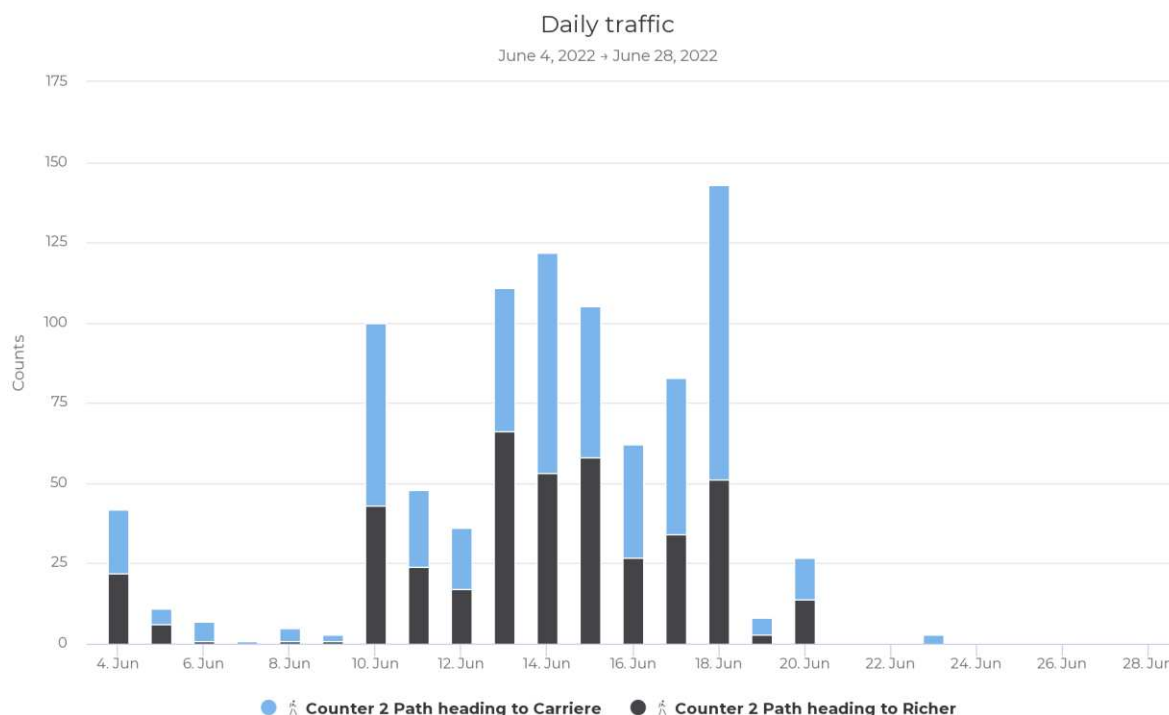


Figure 6: Nearby Multi-Use Pathway Traffic (Summer 2022)

2.1.8 Collision Records

Historical collision data for the Orléans Boulevard intersections with Carrière Street, Jeanne d'Arc Boulevard, and St. Joseph Boulevard were obtained from the City's Public Works and Service Department. Copies of the collision summary reports are included in **Appendix E**.

The collision data have been evaluated to identify collision patterns. **Table 3** summarizes the number of collisions at each intersection from January 1, 2016 to December 31, 2020. During the five-year period there were no reported fatal collisions in the analyzed area.

Table 3: Reported Collisions

Intersection/ Roadway Segment	Impact Type					Total
	Rear End	Turning	Sideswipe	Angle	SMV ⁽¹⁾ / Other	
Orléans Boulevard/ Jeanne d'Arc Boulevard (South)	20	22	7	7	3	59
Orléans Boulevard/ St. Joseph Boulevard	15	16	4	3	4	42
Orléans Boulevard/ Carrière Street	4	-	-	-	-	4

1. SMV: Single Motor Vehicle

Orléans Boulevard/Jeanne D'Arc Boulevard (South)

A total of 59 collisions were reported at this intersection. Of these, there were 22 turning movement collisions, 20 rear end collisions, seven sideswipe collisions, seven angle collisions,

and three single vehicle or 'other' collisions. A total of 11 collisions caused injuries but no fatalities and the other 48 collisions were classified as causing property damage only. A total of 46 of the collisions occurred in clear conditions, seven in rain conditions, five in snow, and one in freezing rain. None of the collisions involved pedestrians or cyclists.

Of the 22 turning movement collisions, six were northbound left turning vehicles colliding with southbound through vehicles, six were southbound left turning vehicles colliding with northbound through vehicles, six were westbound left turning vehicles colliding with eastbound through vehicles, and four were eastbound left vehicles colliding with westbound through vehicles. Eleven of the turning movement collisions occurred in darkness (between 7:00PM and 11:30PM), suggesting environmental factors were at play. Six of the turning movement collisions caused injuries but no fatalities.

Of the 20 rear end collisions, nine occurred on the southbound approach, five occurred on the northbound approach, four occurred on the eastbound approach, and two occurred on the westbound approach. The high frequency of rear end collisions on the southbound approach could be attributed several factors, including high volumes, right turning yield channels, and the presence of an OC Transpo stop on the south side of the intersection. Two of the rear end collisions caused injuries but none caused fatalities.

Of the seven sideswipe collisions, three involved northbound vehicles, three involved westbound vehicles, and one involved southbound vehicles. All seven sideswipe collisions were classified as causing property damage only (no injuries).

Of the seven angle collisions, three involved southbound and westbound vehicles, two involved northbound and westbound vehicles, one involved a northbound and an eastbound vehicle, and one involved a southbound and an eastbound vehicle. Three of the angle impacts caused injuries but no fatalities.

Orléans Boulevard/St. Joseph Boulevard

A total of 42 collisions were reported at this intersection. Of these, there were 16 turning movement collisions, 15 rear end collisions, four sideswipe collisions, four single vehicle or 'other' collisions, and three angle collisions. A total of 12 collisions caused injuries but no fatalities and the other 30 collisions were classified as causing property damage only. A total of 34 of the collisions occurred in clear conditions, five in rain conditions, two in snow, and one in freezing rain. Two of the collisions involved pedestrians and two involved cyclists.

Of the 16 turning movement collisions, seven involved westbound left and eastbound through vehicles, three involved southbound left turning vehicles and northbound vehicles, three involved northbound left turning vehicles and southbound vehicles, one involved eastbound left and westbound through vehicles, one involved northbound right and northbound through vehicles, and one involved southbound right and southbound through vehicles. Of the seven turning movement collisions involving westbound left and eastbound through vehicles, four occurred in darkness (between 7:30PM and 10:30PM) and one occurred at dusk, suggesting environmental factors were at play. Six of the turning movement collisions caused injuries, but none caused fatalities.

Of the 15 rear end collisions, six occurred between northbound travelling vehicles, four between eastbound travelling vehicles, three between southbound travelling vehicles, and two between westbound travelling vehicles. The frequency of northbound rear end collisions could be attributed

to several factors, including high volumes, the presence of driveways just south of the intersection, and an OC Transpo stop north of the intersection. Four of the rear end collisions caused injuries but none caused fatalities.

Orléans Boulevard/Carrière Street

A total of four collisions were reported at this intersection. All of the collisions were rear end collisions. Two involved northbound vehicles, one involved westbound vehicles, and one involved southbound vehicles. All collisions were classified as causing property damage only (no injuries) and occurred under clear conditions. None of the collisions involved pedestrians or cyclists.

2.2 Planned Conditions

The 2031 Rapid Transit and Transit Priority (RTTP) Network identifies transit signal priority and queue jump lanes for Orléans Boulevard between Jeanne D'Arc Boulevard and Ottawa Road 174 (Affordable Network, before 2031).

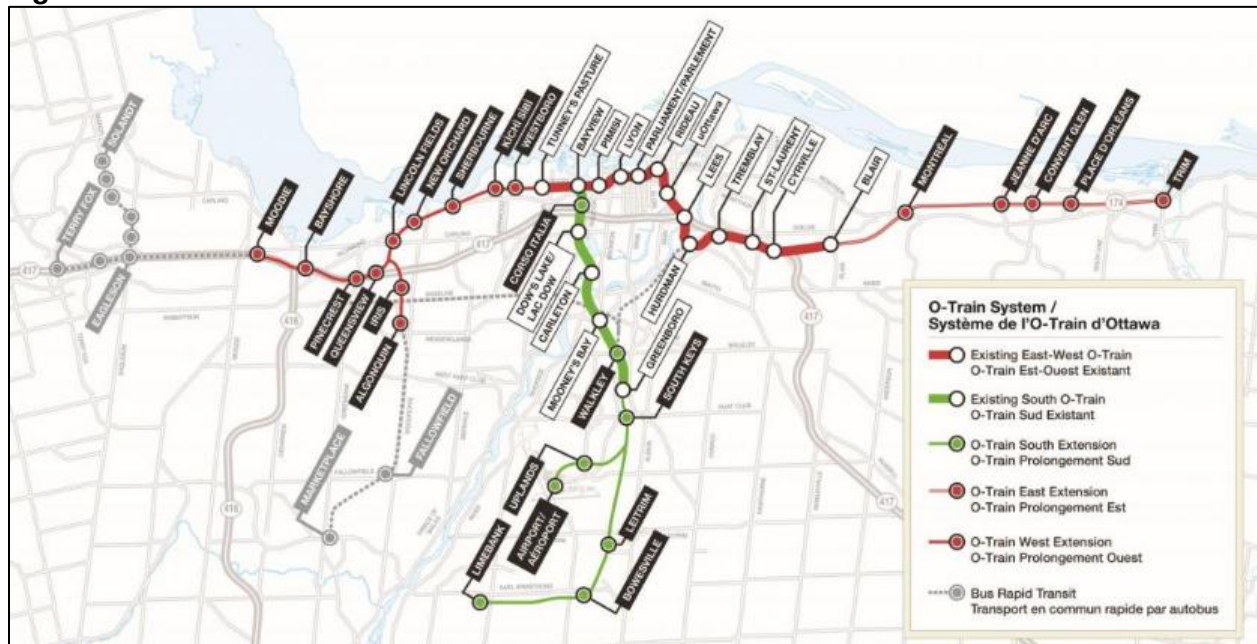
The 2031 RTTP Network identifies transit signal priority and queue jump lanes for Jeanne d'Arc Boulevard between Innes Road and Ottawa Road 174 (Affordable Network, before 2031).

The RTTP's Network Concept includes the extension of the transit signal priority and queue jump lanes for Jeanne d'Arc Boulevard between Innes Road and the Cumberland Transit Way as well as widening to provide exclusive bus lanes and transit signal priority between Innes Road and Ottawa Road 174 (after 2031).

GeoOttawa identifies Orléans Boulevard from Lumberman Way to Boyer Road as a Cycling Project within the 2023 Transportation Master Plan (Active Transportation Project List). St. Joseph Boulevard from Youville Drive/Forest Valley Drive to Tenth Line Road is listed as a Feasibility Study Project. A Cycling project is identified along east limit of the Garneau Catholic High School. We understand that the City and the School board are considering a land swap that would accommodate a new north-south multi-use path.

Construction of Phase 2 of the Ottawa LRT is underway, which will extend the LRT further east to the Trim Transit Station and west to the Moodie and Algonquin Transit Stations (See **Figure 7**). As part of the East extension, a new station (Covent Glen) at Orléans Boulevard/Ottawa Road 174 will be constructed. The station will be served by two fare-controlled entrances located on either side of Orléans Boulevard and the platform will be located below Orléans Boulevard in the median or Ottawa Road 174. This new station will be located at a walking distance of approximately 1.3km from the subject site.

The City has approved the Orleans Corridor Secondary Plan which includes a complete street concept for St. Joseph Boulevard. The St. Joseph Boulevard concept plan includes interim measures for shorter-term and relatively low-cost improvements assuming that the existing curbs will remain in place including a reduction in vehicle travel lanes from four to three in order to accommodate cycling facilities and bus transit improvements. A screenshot of the complete streets concept for St Joseph Boulevard in the vicinity of Orleans Boulevard is shown in **Figure 8**. The ultimate scenario described in the secondary plan will guide a future functional design plan

Figure 7: LRT Phase 2

for the longer-term re-design and re-construction of St. Joseph Boulevard which would include cycle tracks, wider sidewalks, improved bus transit facilities including the potential for transit priority measures, street trees, street furniture and the burial of hydroelectric infrastructure.

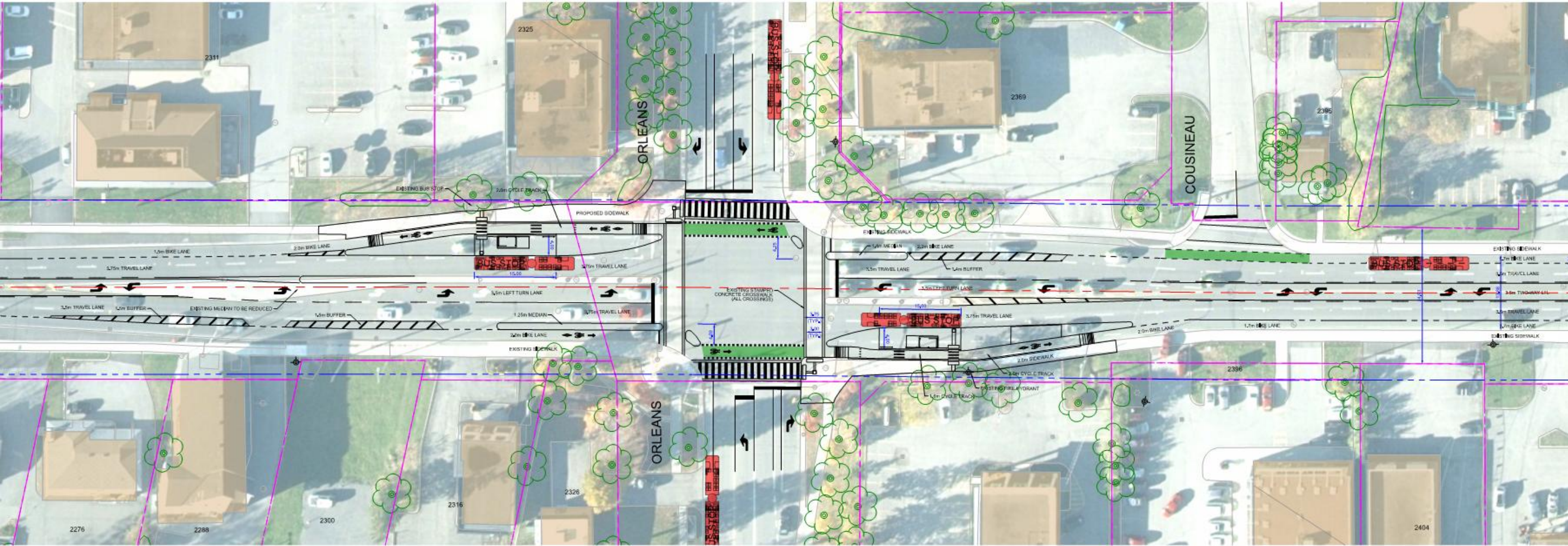
2.2.1 Other Study Area Developments

A review of the City's Development Application search tool identifies the following developments in proximity of the subject site that are under construction, approved, or in the approval process.

1994 St. Joseph Boulevard

A TIA was prepared by Stantec in January 2021 in support of a development of a 718m² (GFA) Physiotherapist office. The TIA identified a buildout year of 2021.

Figure 8: St. Joseph Boulevard Complete Streets Concept



2.3 Study Area and Time Periods

A boundary street review will be conducted for Carrière Street. The study intersections are:

1. Orléans Boulevard at Carrière Street;
2. Orléans Boulevard at Jeanne d'Arc Boulevard; and,
3. Orléans Boulevard at St. Joseph Boulevard.

The selected time periods for the analysis are the weekday AM peak hour and PM peak hour, as they represent the 'worst case' combination of site generated traffic and adjacent street traffic.

The proposed redevelopment is expected to be completed with full occupancy in 2025. Analysis will be completed for the 2025 build-out year and the 2030 horizon year.

2.4 Development-Generated Traffic

2.4.1 Trip Generation

The proposed redevelopment is planned to be completed in one phase and will replace the 1,455m² Mouvement d'Implication Francophone d'Orléans (MIFO) facility with a new, expanded facility with approximately 5,081m² of GFA.

Trips generated by the existing facility and proposed redevelopment during the weekday AM and PM peak period have been estimated based on the average rate presented in the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition), specific to a Recreational Community Centre (ITE 495). Person trips were calculated using an ITE Trip to Person Trip factor of 1.28, consistent with the TIA guidelines. Person trips generated by the existing facility and proposed redevelopment are shown in the following table.

Table 4: Peak Hour Person Trip Generation

Land Use	ITE Code	GFA	AM Peak Period (pph ⁽¹⁾)			PM Peak Period (pph)		
			IN	OUT	TOT	IN	OUT	TOT
Existing Facility								
Recreational Community Centre	495	15,660 ft²	26	13	39	23	27	50
Proposed Redevelopment								
Recreational Community Centre	495	54,690 ft²	87	46	133	82	93	175
Net Site Traffic			61	33	94	59	66	125

1. pph: Person Trips per Peak Hour

The modal shares for the existing facility and proposed redevelopment are anticipated to be consistent with the modal shares outlined in the 2011 TRANS *O-D Survey Report*, specific to the Orléans district. The modal share values applied are based on all trips within the Orléans district in the AM and PM peak hours. A breakdown of the peak hour person trips by modal share is shown in **Table 6**.

Table 5: Peak Hour Person Trips by Modal Share

Travel Mode	Mode Share	AM Peak Hour			PM Peak Hour		
		IN	OUT	TOT	IN	OUT	TOT
Existing Facility							
Peak Hour Person Trips		26	13	39	23	27	50
Auto Driver	52.5%	13	7	20	12	14	26
Auto Passenger	25.0%	7	3	10	6	7	13
Transit	5.0%	1	1	2	1	1	2
Cyclist	2.5%	1	0	1	1	1	2
Pedestrian	15.0%	4	2	6	3	4	7
Proposed Redevelopment							
Peak Hour Person Trips		87	46	133	82	93	175
Auto Driver	52.5%	46	24	70	43	49	92
Auto Passenger	25.0%	22	12	34	21	23	44
Transit	5.0%	4	2	6	4	5	9
Cyclist	2.5%	2	1	3	2	2	4
Pedestrian	15.0%	13	7	20	12	14	26
Net Site Traffic							
Peak Hour Person Trips		61	33	94	59	66	125
Auto Driver		33	17	50	31	35	66
Auto Passenger		15	9	24	15	16	31
Transit		3	1	4	3	4	7
Cyclist		1	1	2	1	1	2
Pedestrian		9	5	14	9	10	19

From the previous table, the proposed redevelopment is estimated to generate an additional 94 person trips (including 50 vehicle trips) during the AM peak hour and 125 person trips (including 66 vehicle trips) during the PM peak hour.

2.5 Trip Distribution

The distribution of traffic generated by the existing facility and the proposed redevelopment has been estimated based on logical trip routing and existing traffic patterns on the roadways within the study area.

The trip distribution can be described as follows:

- 10% to/from the north via Orléans Boulevard
- 20% to/from the east via St. Joseph Boulevard
- 15% to/from the east via Jeanne D'Arc Boulevard
- 5% to/from the east via Carrière Street
- 15% to/from the south via Orléans Boulevard
- 15% to/from the west via St. Joseph Boulevard
- 20% to/from the west via Jeanne D'Arc Boulevard

Traffic assigned to/from the east via St. Joseph Boulevard has been assumed to use Orleans Boulevard and Belcourt Boulevard evenly. Traffic assigned to/from the east via Jeanne D'Arc

Boulevard and all traffic assigned to/from the north, south, and west has been assumed to use Orleans Boulevard.

Traffic volumes generated by the existing facility and the proposed redevelopment are shown in **Figures 9** and **10**, respectively. The net traffic volumes generated by the subject site (i.e. the existing site-generated traffic is subtracted) is shown in **Figure 11**.

Figure 9: Existing Site Generated Traffic Volumes

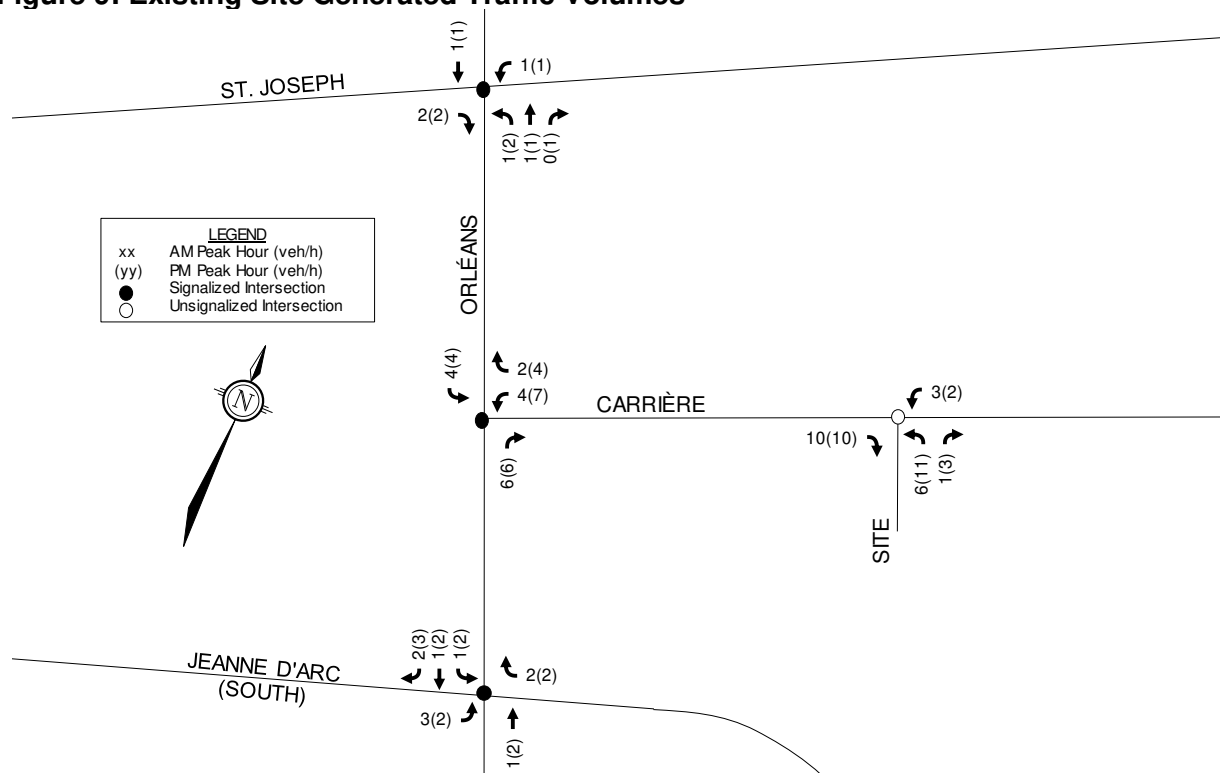


Figure 10: Proposed Site Generated Traffic Volumes

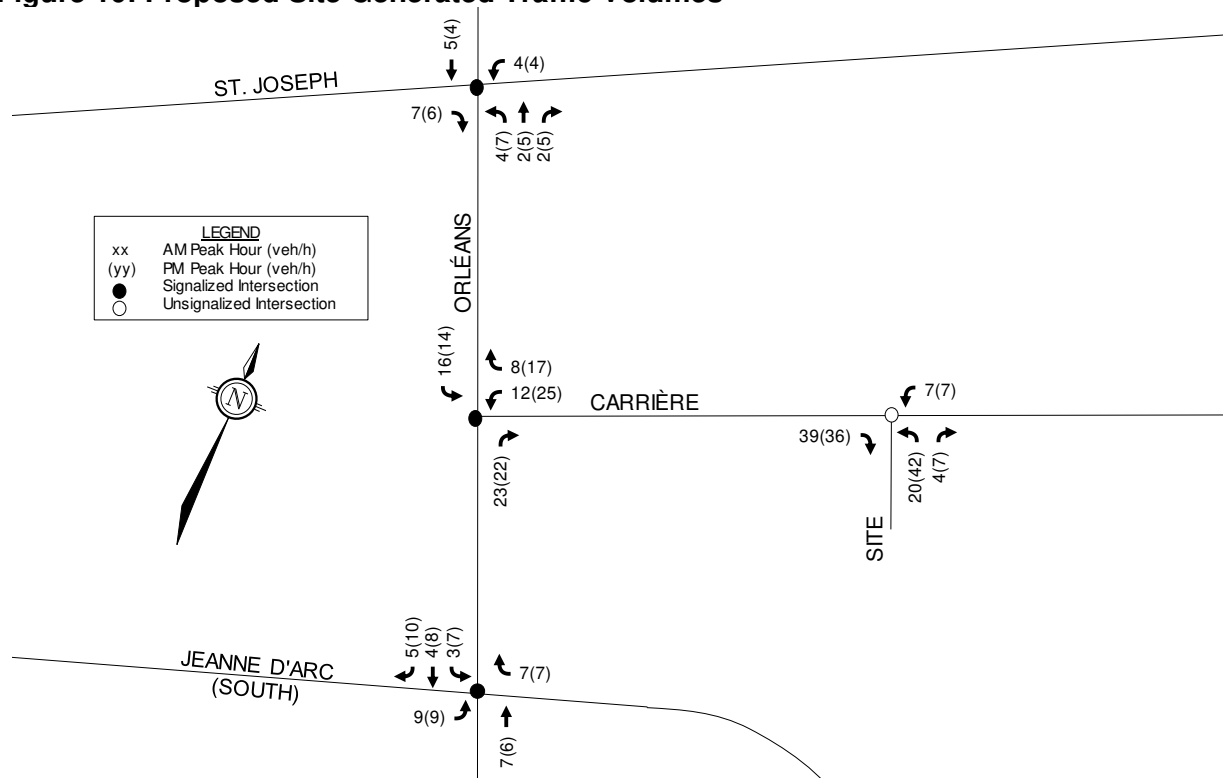
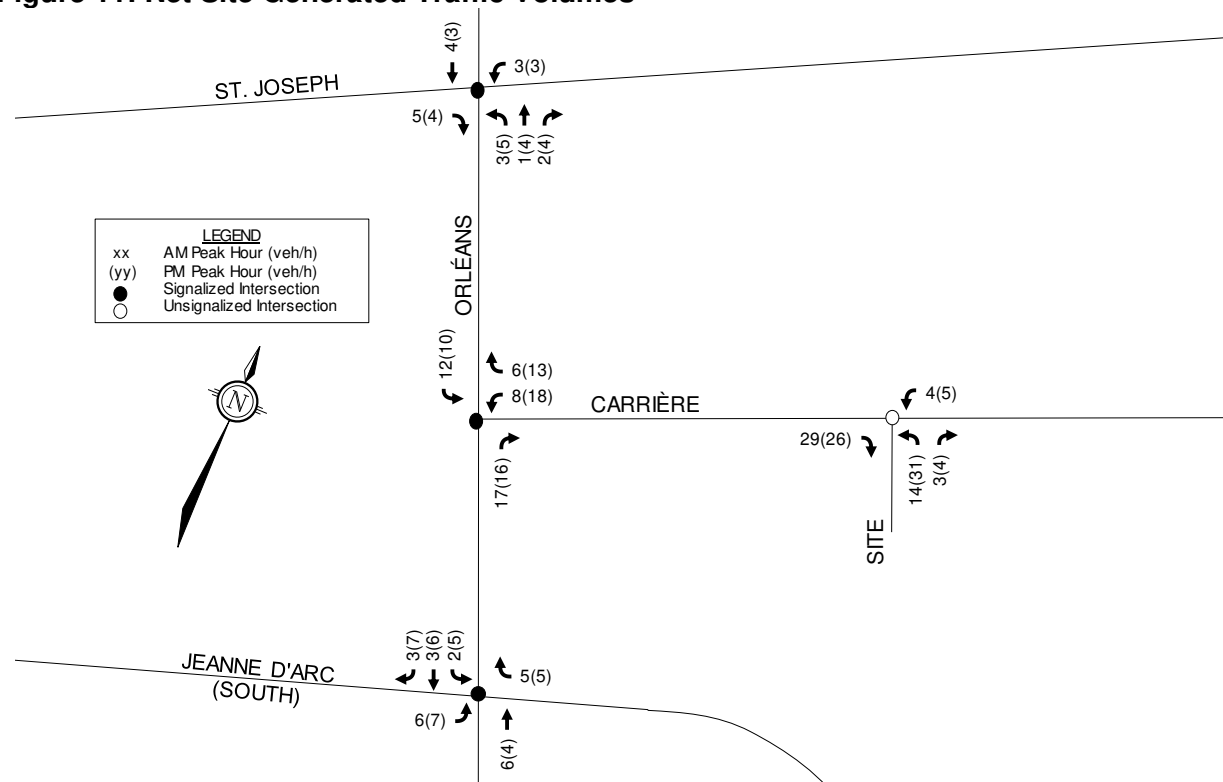


Figure 11: Net Site Generated Traffic Volumes



2.6 Access Design

One full movement access is proposed to Carrière Street. The proposed access will have a width of approximately 8.2m and will be located approximately 27.5m east of the western property line.

A review of the proposed access location and design with respect to the City's Private Approach By-law, Zoning By-law, and Transportation Association of Canada Geometric Design Guidelines for Canadian Roadways has been conducted.

Section 25 (c) of the City's Private Approach By-law identifies a maximum width of 9m for two-way driveways. The City's Zoning By-law identifies a minimum driveway width of 6.7m leading to a parking lot. The proposed access will have a width of 8.2m, thereby meeting these requirements.

For parking lots containing 50 or more parking spaces, Section 25 (u) of the City's Private Approach By-law identifies a maximum access grade of 2% within the property. The proposed grading at the access will conform to the requirements of the Private Approach By-law.

A clear throat length of 8m is recommended for an access to a collector roadway. A clear throat length of approximately 8m is accommodated at the access (from end of access curb radius to edge of parking aisle), thereby meeting this recommendation.

Access intersection operations are discussed in Section 4.8.2 and 4.8.3. The site access is anticipated to operate with acceptable delays under side street stop control and a queueing length of less than one vehicle is anticipated on-site.

2.7 Exemptions Review

This module reviews possible exemptions from the final TIA, as outlined in the TIA Guidelines. The applicable exemptions for this site are shown in **Table 4**.

Although the trip generation trigger is met, a TIA report reviewing the Network Impact component is not required as the development does not generate an additional 75 vehicle trips.

The number of parking spaces was discussed at the pre-consultation meeting. A parking study has been prepared under a separate cover. There are non-formal parking agreements that already exist with the two adjacent schools as well as with the City for parking at Carrière Park.

The development does not screen into to the Neighbourhood Traffic Management module as the application is for a Site Plan Control Application and does not generate greater than 75 auto trips.

Table 6: TIA Exemptions

Module	Element	Exemption Criteria	Status
4.1 Development Design	4.1.2 Circulation Access and	Only required for Site Plan and Zoning By-law Applications	Not Exempt
	4.1.3 New Street Networks	Only required for plans of subdivision	Exempt

Module	Element	Exemption Criteria	Status
4.2 Parking	<i>4.2.1</i> <i>Parking Supply</i>	Only required for Site Plan and Zoning By-law Applications	Not Exempt
4.6 Neighbourhood Traffic Management	<i>4.6.1</i> <i>Adjacent Neighbourhoods</i>	- If the development meets <u>all</u> of the following criteria along the route(s) site generated traffic is expected to utilize between arterial road and the site's access: - Access to a Collector or Local; "Significant sensitive land use presence" exists where there is at least two of the following adjacent to the subject street segment (school, Park, Retirement/Older Adult Facility, Licensed Child Care Centre, Community Centre, or 50% or greater of the property is occupied by residential land uses) - Application is for Zoning By-Law Amendment or Draft Plan of Subdivision - At least 75 site generated auto trips - Site trip infiltration is expected	Exempt
4.7 Transit	<i>4.7.1</i> Transit Route Capacity	Greater than 75 site transit trips	Exempt
	<i>4.7.2</i> Transit Priority Requirements	Greater than 75 site auto trips	Exempt
4.8 Network Concept	<i>All elements</i>	Only required when proposed development generates more than 200 person-trips during the peak hour in excess of the equivalent volume permitted by the established zoning	Exempt
4.9 Intersection Design	<i>4.9.1</i> Intersection Controls	Greater than 75 site auto trips	Exempt
	<i>4.9.2</i> Intersection Design	Greater than 75 site auto trips	Exempt

The following modules will be included in the TIA report:

- Module 4.1 – Development Design
- Module 4.2 – Parking
- Module 4.3 – Boundary Street Design
- Module 4.5 – Transportation Demand Management

Although the development screens out of modules 4.6 Neighbourhood Traffic Management and 4.9 Intersection Design, they have been included within this report. Work for these modules were completed prior to the TIA Guideline updates and it has been left in for completeness even though they are not required.

3.0 FORECASTING

3.1 Background Traffic

3.1.1 Other Area Developments

A description of other study area development is included in Section 2.2.1.

Buildout of the 1994 St. Joseph Boulevard development was anticipated for 2021. Traffic generated by this development has been added to the 2025 buildout and 2030 horizon years, using the distribution outlined in the 2021 TIA. Relevant excerpts from the TIA for this development are included in **Appendix F**.

3.1.2 General Background Growth Rate

A review of the City's *Strategic Long-Range Model* (comparing snapshots of the 2011 and 2031 AM peak hour traffic volumes), other recent studies, and Section 2.3 of the City's 2013 TMP (comparing 2011 and 2031 population and employment projections), was completed to establish general background growth. The long-range snapshots and excerpts from the TMP are included in **Appendix G**.

A comparison of the 2011 AM and 2031 AM peak hour volumes included in the long-range model along the study area roadways indicates that:

- Traffic along St. Joseph Boulevard is projected to increase at a rate of 0.1% per year,
- Traffic along Orléans Boulevard is projected to increase at a rate of 1.2% to 1.9% per year, and
- Traffic along Jeanne D'Arc Boulevard is projected to increase at a rate of 0.8% to 0.9% per year.

The 1994 St. Joseph Boulevard TIA utilized a 2% annual growth rate for traffic along St. Joseph Boulevard and Jeanne D'Arc Boulevard.

Section 2.3 of the City's 2013 TMP projects a 16% growth in the population of Orléans between 2011 and 2031, which translates to an annual linear growth rate of 0.8% per annum.

Based on the foregoing, a 1.0% annual growth rate has been applied to St. Joseph Boulevard, Orléans Boulevard, and Jeanne D'Arc Boulevard. No growth rate was applied to Carrière Street as the background growth rate is intended to account for growth in regional traffic which is not anticipated on lower class roads. Other area developments have been accounted for separately.

3.2 Future Traffic Conditions

The figures listed below present the following future traffic conditions:

- Background traffic volumes in 2025 are shown in **Figure 12**;
- Background traffic volumes in 2030 are shown in **Figure 13**;
- Total traffic volumes in 2025 are shown in **Figure 14**;
- Total traffic volumes in 2030 are shown in **Figure 15**.

Figure 12: 2025 Background Traffic Volumes

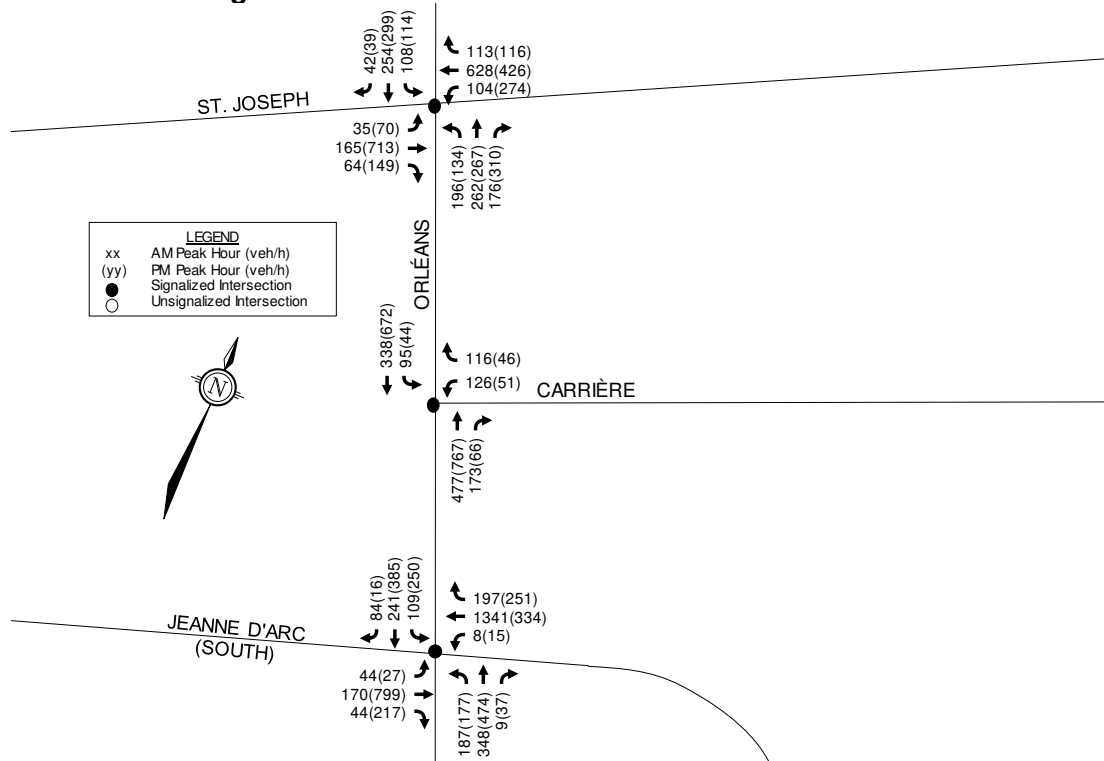


Figure 13: 2030 Background Traffic Volumes

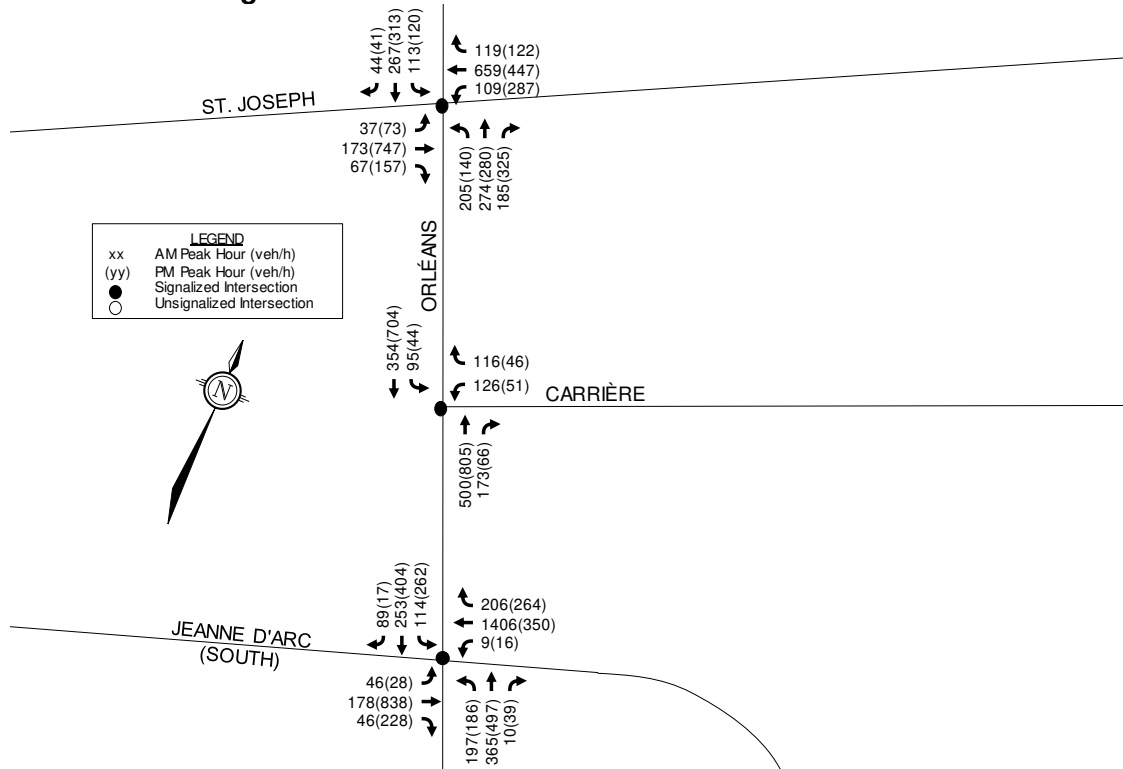


Figure 14: 2025 Total Traffic Volumes

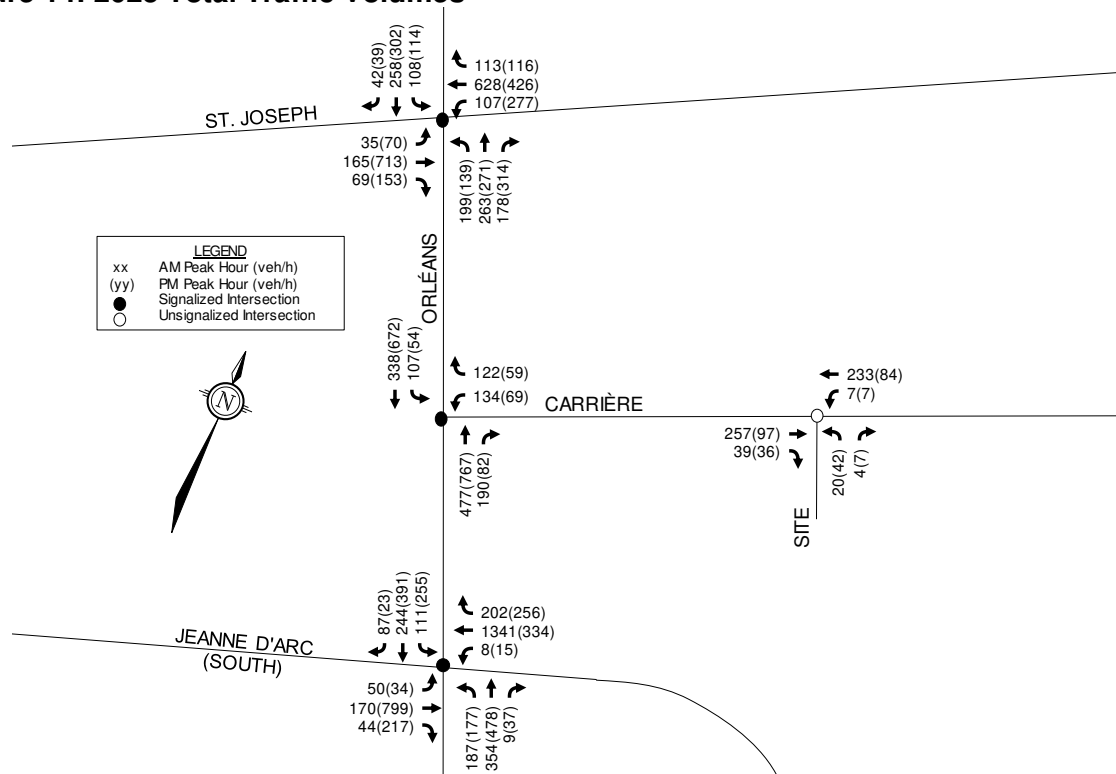
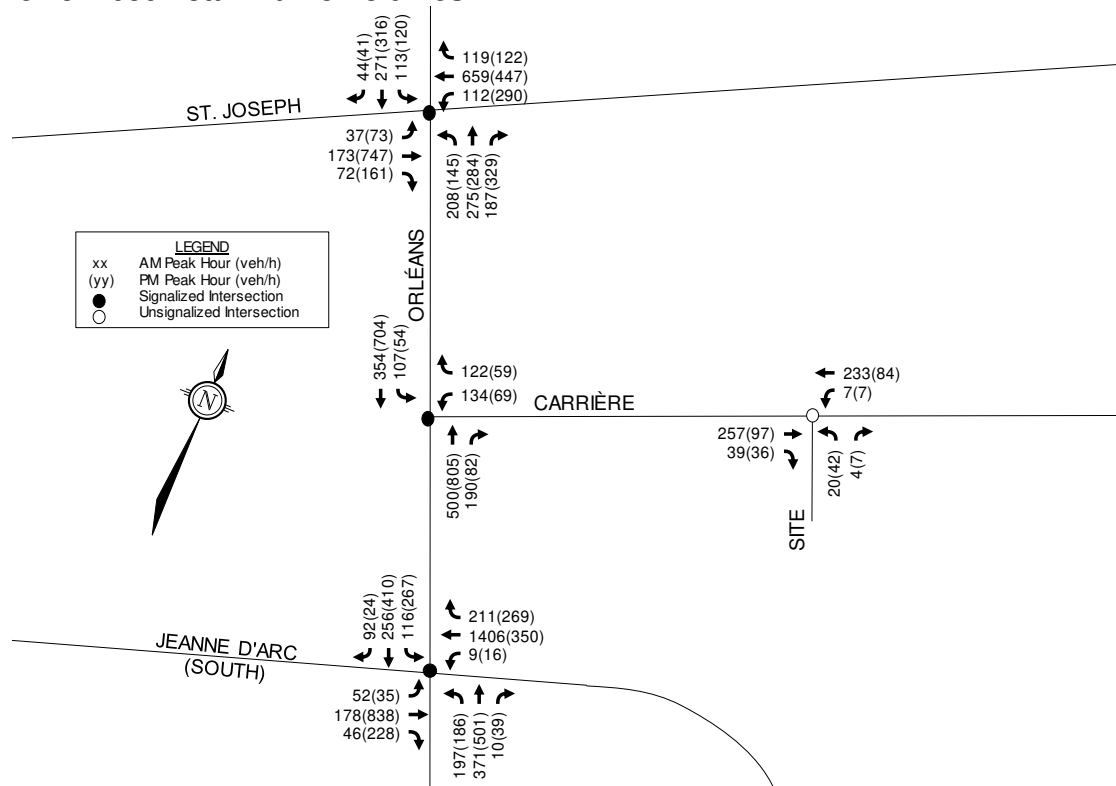


Figure 15: 2030 Total Traffic Volumes



3.3 Demand Rationalization

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

3.3.1 Existing Intersection Operations

Intersection capacity analysis has been conducted for the existing traffic conditions. The results of the analysis are summarized in the following table for the weekday AM and PM peak hours. Detailed reports are included in **Appendix I**.

Table 7: Existing Traffic Operations

Intersection	AM Peak			PM Peak		
	Max v/c or Delay	LOS	Mvmt	Max v/c or Delay	LOS	Mvmt
St. Joseph Boulevard/Orléans Boulevard	0.73	C	NBL	0.94	E	WBL
				0.95	E	EBT
Carrière Street/Orléans Boulevard	0.49	A	WBL	0.34	A	NBT
Jeanne D'Arc Boulevard/Orléans Boulevard	1.06	F	WBT	0.86	D	SBL

Under existing traffic conditions, movements at the Jeanne D'Arc Boulevard/Orléans Boulevard and St. Joseph Boulevard/Orléans Boulevard intersections are operating near or at capacity in the AM and PM peak hours. All movements at the Carrière Street/Orléans Boulevard intersection are operating with a LOS A or better.

The westbound through movement at the Jeanne D'Arc Boulevard/Orléans Boulevard intersection is currently operating with a LOS F in the AM peak hour. An increased cycle length to 100 seconds in the AM peak hour (i.e., adding an additional 20 seconds to the eastbound/westbound through phases) would improve the westbound through movement to a LOS D. All movements in the PM peak hour are currently operating with a LOS D or better.

The maximum westbound through queue at the Jeanne D'Arc Boulevard/Orléans Boulevard intersection is approximately 200m in the AM peak hour. This extends past the signalized Jeanne D'Arc Boulevard/Montcerf Court intersection but not past the unsignalized Jeanne D'Arc Boulevard/Champneuf Drive/Cedar Mills Road intersection, and is a result of heavy westbound traffic volumes in the AM peak. The increased cycle length identified above is not anticipated to improve this queueing length.

The westbound left and eastbound through movements at the St. Joseph Boulevard/Orléans Boulevard intersection are currently operating with a LOS E in the PM peak hour. Optimized signal timing (maintaining the existing cycle length of 100 seconds) would improve these movements to a LOS D in the PM peak hour. All movements in the AM peak hour are currently operating with a LOS C or better.

The westbound left queue at the St. Joseph Boulevard/Orléans Boulevard intersection is approximately 95m in the PM peak hour. This exceeds the storage length of 30m and extends past the St. Joseph Boulevard/Cousineau Street intersection in the PM peak hour. The optimized signal timing identified above would improve this queueing length to approximately 85m. Per the TIA guidelines, signalized intersections should accommodate 1.5 times the average number of arrivals per cycle during the heaviest hour, assuming an average vehicle length of 7m. Using the formula $S = 1.5NL / (3600/CL)$, and a cycle length of 100 seconds, the required westbound left turn storage length would be 80m in the PM peak. A storage length of 85m would be required based on the projected 95th percentile queue. The ability to provide additional storage at this intersection is limited by the proximity of the St. Joseph Boulevard/Cousineau Street intersection. The approximate required reduction in westbound left turning volumes for the westbound left queue length to meet the storage length in the PM peak with optimized signal timing is 100 vehicles.

3.3.2 2025 Background Intersection Operations

Intersection capacity analysis has been conducted for the 2025 background traffic conditions. The results of the analysis are summarized in the following table for the weekday AM and PM peak hours. Detailed reports are included in **Appendix I**.

Note that some critical movements appear to operate slightly better under projected conditions than under existing conditions; this is a result of the peak hour factor (PHF) of 1.0 for future conditions as per the TIA guidelines.

Table 8: 2025 Background – Traffic Operations

Intersection	AM Peak			PM Peak		
	Max v/c or Delay	LOS	Mvmt	Max v/c or Delay	LOS	Mvmt
St. Joseph Boulevard/Orléans Boulevard	0.70	B	SBT	0.84	D	WBL
				0.86	D	EBT
Carrière Street/Orléans Boulevard	0.45	A	WBL	0.31	A	NBT
Jeanne D'Arc Boulevard/Orléans Boulevard	0.97	E	WBT	0.79	C	SBL

Under 2025 background traffic conditions, the westbound through movement at the Jeanne D'Arc Boulevard/Orléans Boulevard intersection is anticipated to operate with a LOS E in the AM peak hour. All other movements at study area intersections are anticipated to operate with a LOS D or better.

An increased cycle length at the Jeanne D'Arc Boulevard/Orléans Boulevard intersection to 100 seconds in the AM peak hour (i.e., adding an additional 20 seconds to the eastbound/westbound through phases) would improve the westbound through movement to a LOS D.

The maximum westbound through queue at the Jeanne D'Arc Boulevard/Orléans Boulevard intersection is anticipated to be approximately 175m in the AM peak hour. This extends past the signalized Jeanne D'Arc Boulevard/Montcerf Court intersection but not past the unsignalized Jeanne D'Arc Boulevard/Champneuf Drive/Cedar Mills Road intersection, and is a result of heavy westbound traffic volumes in the AM peak. The increased cycle length identified above is not anticipated to improve this queueing length.

The westbound left queue at the St. Joseph Boulevard/Orléans Boulevard intersection is anticipated to be approximately 80m in the PM peak hour. This exceeds the storage length of 30m and extends past the St. Joseph Boulevard/Cousineau Street intersection in the PM peak hour. The ability to provide additional storage at this intersection is limited by the proximity of the St. Joseph Boulevard/Cousineau Street intersection. The approximate required reduction in westbound left turning volumes for the westbound left queue length to meet the storage length in the PM peak is 85 vehicles.

3.3.3 2030 Background Intersection Operations

Intersection capacity analysis has been conducted for the 2030 background traffic conditions. The results of the analysis are summarized in the following table for the weekday AM and PM peak hours. Detailed reports are included in **Appendix I**.

Table 9: 2030 Background – Traffic Operations

Intersection	AM Peak			PM Peak		
	Max v/c or Delay	LOS	Mvmt	Max v/c or Delay	LOS	Mvmt
St. Joseph Boulevard/Orléans Boulevard	0.71	C	NBL/ST	0.89	D	WBL
				0.93	E	EBT
Carrière Street/Orléans Boulevard	0.45	A	WBL	0.33	A	NBT
Jeanne D'Arc Boulevard/Orléans Boulevard	1.03	F	WBT	0.83	D	SBL

Under 2030 background traffic conditions, movements at the Jeanne D'Arc Boulevard/Orléans Boulevard and St. Joseph Boulevard/Orléans Boulevard intersections are anticipated to operate near or at capacity in the AM and PM peak hours. All movements at the Carrière Street/Orléans Boulevard intersection are operating with a LOS A or better.

The westbound through movement at the Jeanne D'Arc Boulevard/Orléans Boulevard intersection anticipated to operate with a LOS F in the AM peak hour. An increased cycle length to 100 seconds in the AM peak hour (i.e., adding an additional 20 seconds to the eastbound/westbound through phases) would improve all movements to a LOS D or better. All movements in the PM peak hour are anticipated to operate with a LOS D or better.

The maximum westbound through queue at the Jeanne D'Arc Boulevard/Orléans Boulevard intersection is anticipated to be approximately 190m in the AM peak hour. This extends past the signalized Jeanne D'Arc Boulevard/Montcerf Court intersection but not past the unsignalized Jeanne D'Arc Boulevard/Champneuf Drive/Cedar Mills Road intersection, and is a result of heavy westbound traffic volumes in the AM peak. The increased cycle length identified above is not anticipated to improve this queueing length.

The eastbound through movement at the St. Joseph Boulevard/Orléans Boulevard intersection is anticipated to operate with a LOS E in the PM peak hour. Optimized signal timing (maintaining the existing cycle length of 100 seconds) would improve all movements to a LOS D in the PM peak hour. All movements in the AM peak hour are anticipated to operate with a LOS C or better.

The westbound left queue at the St. Joseph Boulevard/Orléans Boulevard intersection is anticipated to be approximately 90m in the PM peak hour. With the optimized signal timing identified above, this maximum queue length is anticipated to decrease to 80m. This exceeds the storage length of 30m and extends past the St. Joseph Boulevard/Cousineau Street intersection in the PM peak hour. The ability to provide additional storage at this intersection is limited by the proximity of the St. Joseph Boulevard/Cousineau Street intersection. The approximate required reduction in westbound left turning volumes for the westbound left queue length to meet the storage length in the PM peak with optimized signal timing is 95 vehicles. Traffic could be displaced or alleviated through a combination of increased use of non-auto modes of transportation, alternate time to travel for drivers using the study area roadways to make use of off-peak capacity, and alternate routes of travel. A further description of each option is summarized as follows.

Increased Use of Non-Auto Modes

As congestion increases within the study area, some motorists may shift to other modes of travel such as walking, cycling, or transit use.

As noted in Section 2.2, there are a number of planned projects in the study area which may increase non-auto mode shares. These include:

- Transit signal priority and queue jump lanes for Orléans Boulevard between Jeanne D'Arc Boulevard and Ottawa Road 174 (RTTP Affordable Network, before 2031).
- Transit signal priority and queue jump lanes for Jeanne d'Arc Boulevard between Innes Road and Ottawa Road 174 (RTTP Affordable Network, before 2031).
- Construction of Phase 2 of the Light Rail Transit (LRT), which will extend the LRT and provide a new station (Covent Glen) at Orléans Boulevard/Ottawa Road 174. This new station will be located at a walking distance of approximately 1.3km from the subject site.
- The St. Joseph Boulevard complete streets concept plan, approved as part of the Orleans Corridor Secondary Plan, which includes a reduction in vehicle travel lanes from four to three in order to accommodate cycling facilities and bus transit improvements along St. Joseph Boulevard.

The above listed projects are anticipated to increase the non-auto modal shares which in turn will result in a reduction in vehicle traffic along the study area roadways.

Alternate Travel Times

As congestion increases in the study area, some motorists may alter their travel times outside of the peak hours. The shift in travel times may result in a reduction in peak hour traffic along the study area roadways.

It is noted that traffic counts obtained for this study were performed prior to the COVID-19 pandemic and some peak hour commuters may have since shifted to telework and/or hybrid work schedules.

Alternate Routes of Travel

As congestion increases in the study area, some motorists may choose an alternate route of travel. Alternate east-west routes in proximity of the study area include Ottawa Road 174 and Innes Road. Alternate north-south routes in proximity of the study area include Tenth Line Road.

This shift to alternate routes may result in a reduction in peak hour traffic at study area intersections.

4.0 ANALYSIS

4.1 Development Design

4.1.1 Design for Sustainable Modes

On-site pathways will be provided, connecting the building and amenities area with the surrounding street network. Pathway connections are shown on the Site Plan.

Bike parking will be provided at-grade, with bike racks located along the Carrière Street frontage. Bike parking is shown on the Site Plan.

OC Transpo's service design guideline for peak period service is to provide service within a five minute (400m) walk of the home, school and work location of 95% of urban residents. The nearest OC Transpo bus stops to the subject site are described in Section 2.1.5. Stops #7776, 8141, 3655, 7741, and 7743 are currently in service and are located within a 400m walking distance of the subject site.

A review of the Transportation Demand Management (TDM) – Supportive Development Design and Infrastructure checklist has been conducted, and is included in **Appendix J**. All required TDM-supportive design and infrastructure measures in the TDM checklist are met.

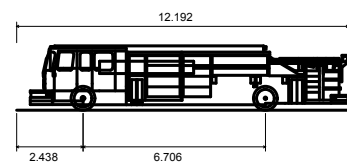
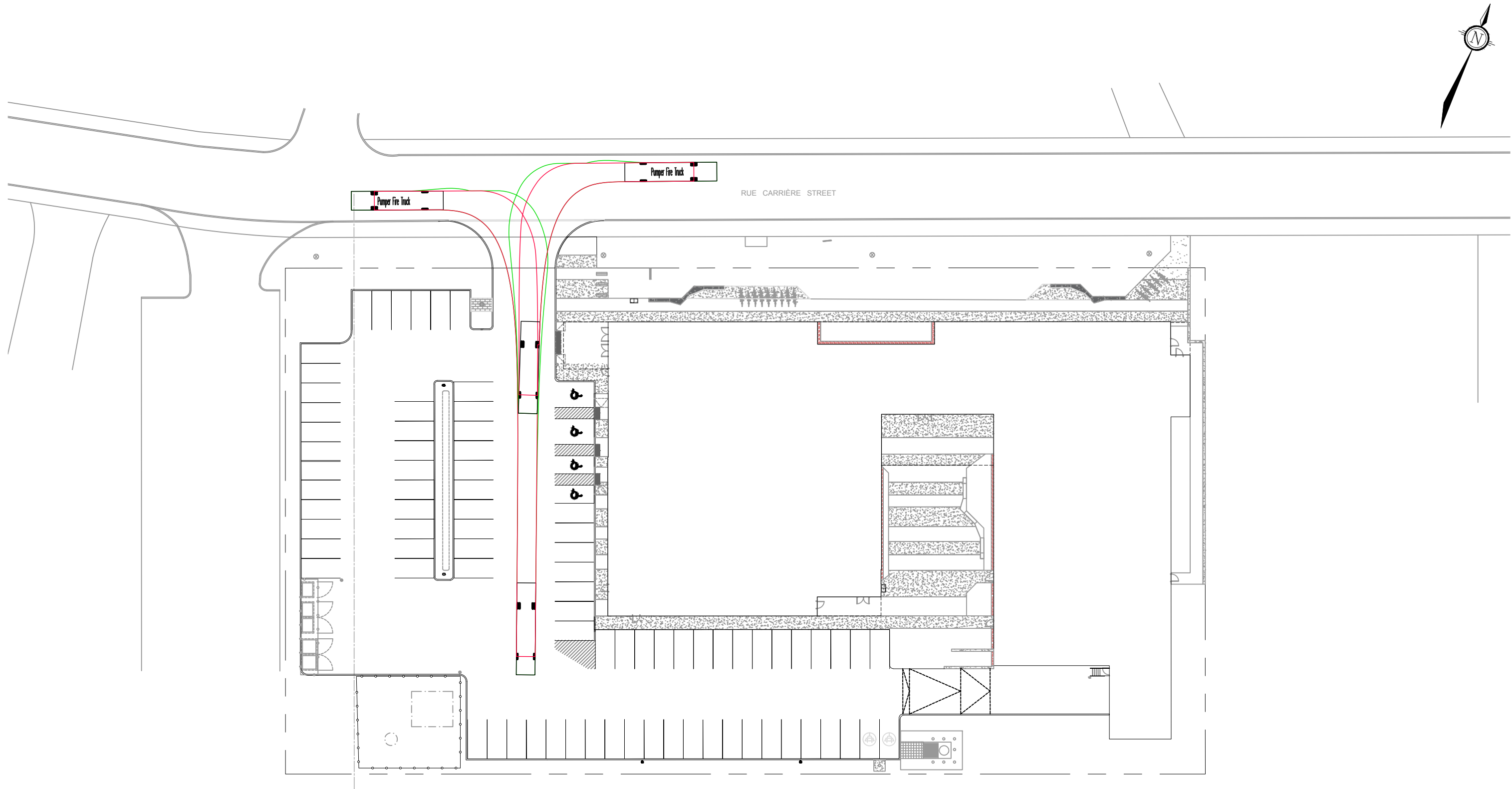
4.1.2 Circulation and Access

The proposed redevelopment will be served by one all-movement access along Carrière Street. The access will be 8.2m in width, measured at the property line. Stop control will be provided at the site's vehicular access, with free flow conditions on Carrière Street.

The fire route for the proposed redevelopment will be located along the main north-south drive aisle, as shown on the Site Plan. Garbage will be stored and collected internally to the site. Loading is located at the rear of the building near the southeast corner of the site. Turning movements for a fire truck are included as **Figures 16** and **17**. Turning movements of a MSU representing a garbage truck entering, exiting, and accessing garbage bins is shown in **Figure 18**. Turning movements of a tractor trailer (WB-15) accessing the loading area are shown in **Figures 19** and **20**.

As shown in **Figure 19**, the WB-15 cannot access the loading area without passing through two parking spaces. As a WB-15 is only expected to access the site 2-3 times a year, the two parking spaces will be blocked off prior to the arrival of any WB-15 to allow the passage of the WB-15 to the loading area.

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Pumper Fire Truck

Overall Length	12.192m
Overall Width	2.438m
Overall Body Height	6.706m
Min Body Ground Clearance	0.200m
Track Width	2.489m
Lock-to-lock time	5.00s
Max Wheel Angle	45.00°



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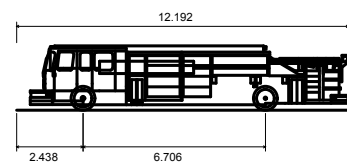
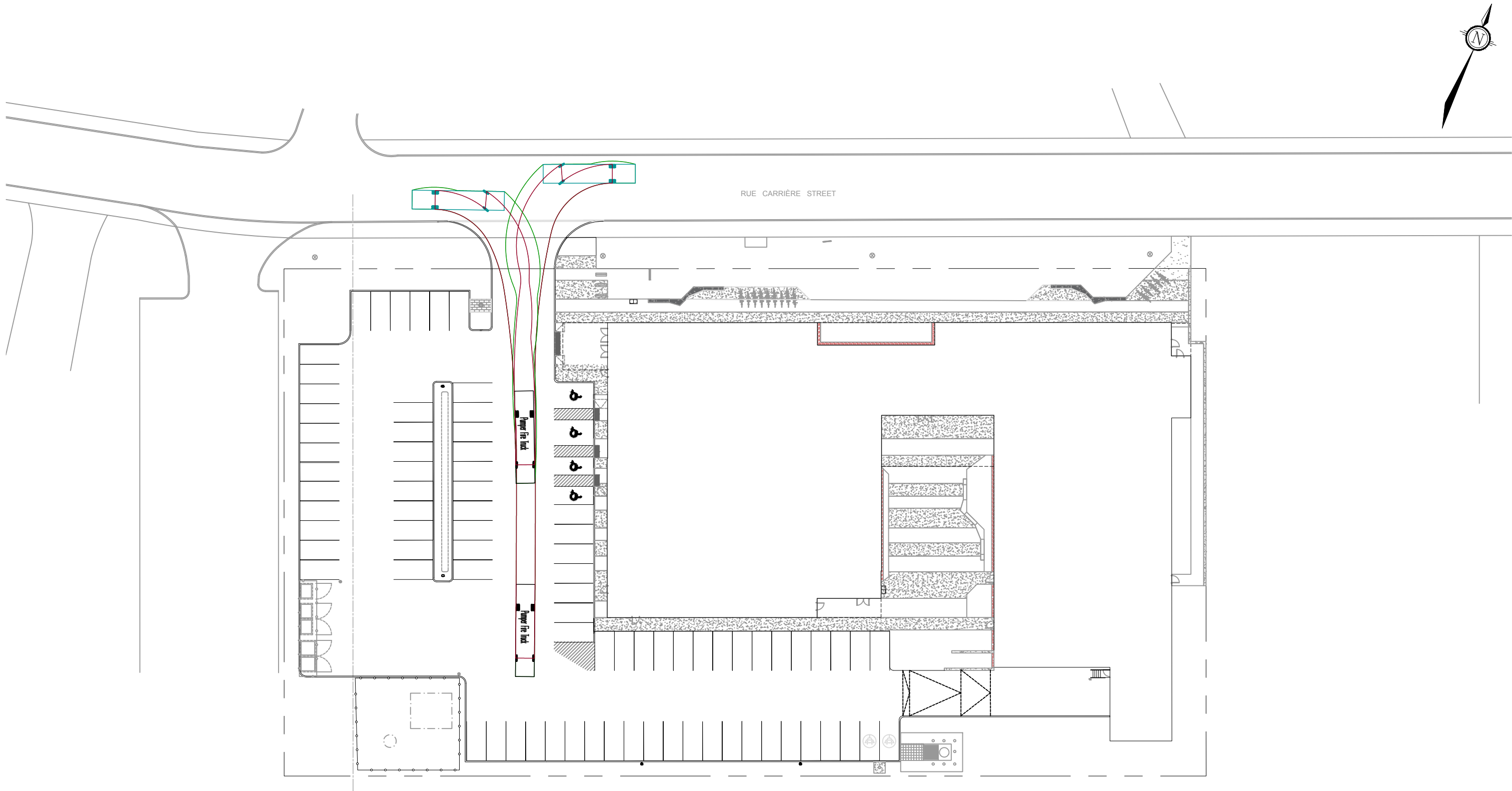
6600 CARRIÈRE ROAD

TURNING MOVEMENT (FIRE TRUCK)

SCALE 1 : 500 0 5m 10m 20m

DATE JAN 2025 JOB 122138 FIGURE 16

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Pumper Fire Truck

Overall Length	12.192m
Overall Width	2.438m
Overall Body Height	6.706m
Min Body Ground Clearance	0.200m
Track Width	2.489m
Lock-to-lock time	5.00s
Max Wheel Angle	45.00°

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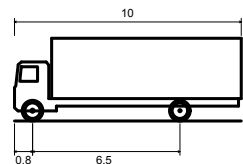
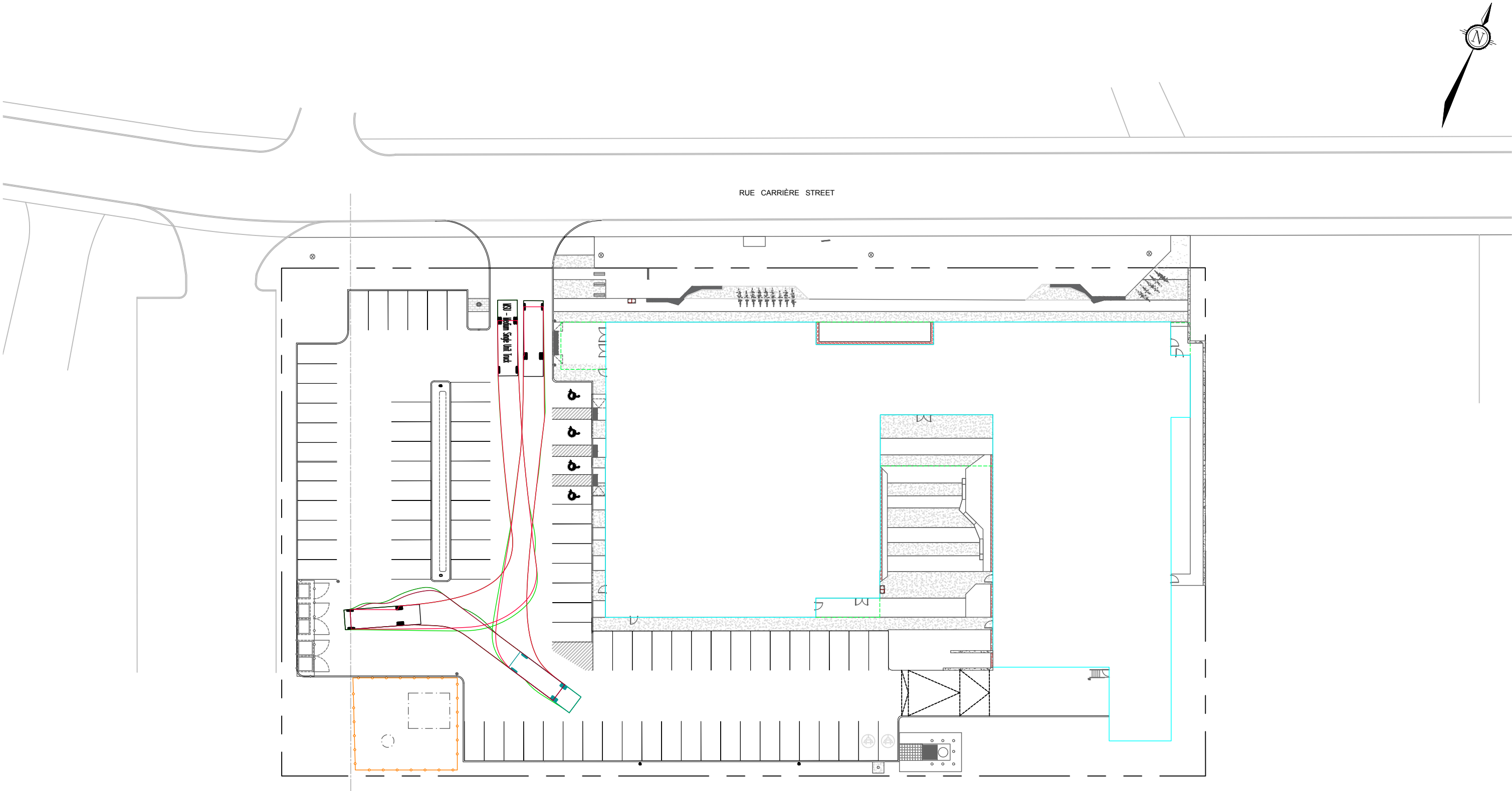
6600 CARRIÈRE ROAD

**TURNING MOVEMENT
(FIRE TRUCK)**

SCALE 1 : 500 0 5m 10m 20m

DATE JAN 2025 JOB 122138 FIGURE 17

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MSU - Medium Single Unit Truck

Overall Length	10.000m
Overall Width	2.600m
Overall Body Height	3.650m
Min Body Ground Clearance	0.445m
Track Width	2.600m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	11.100m

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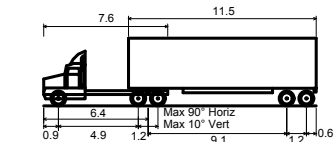
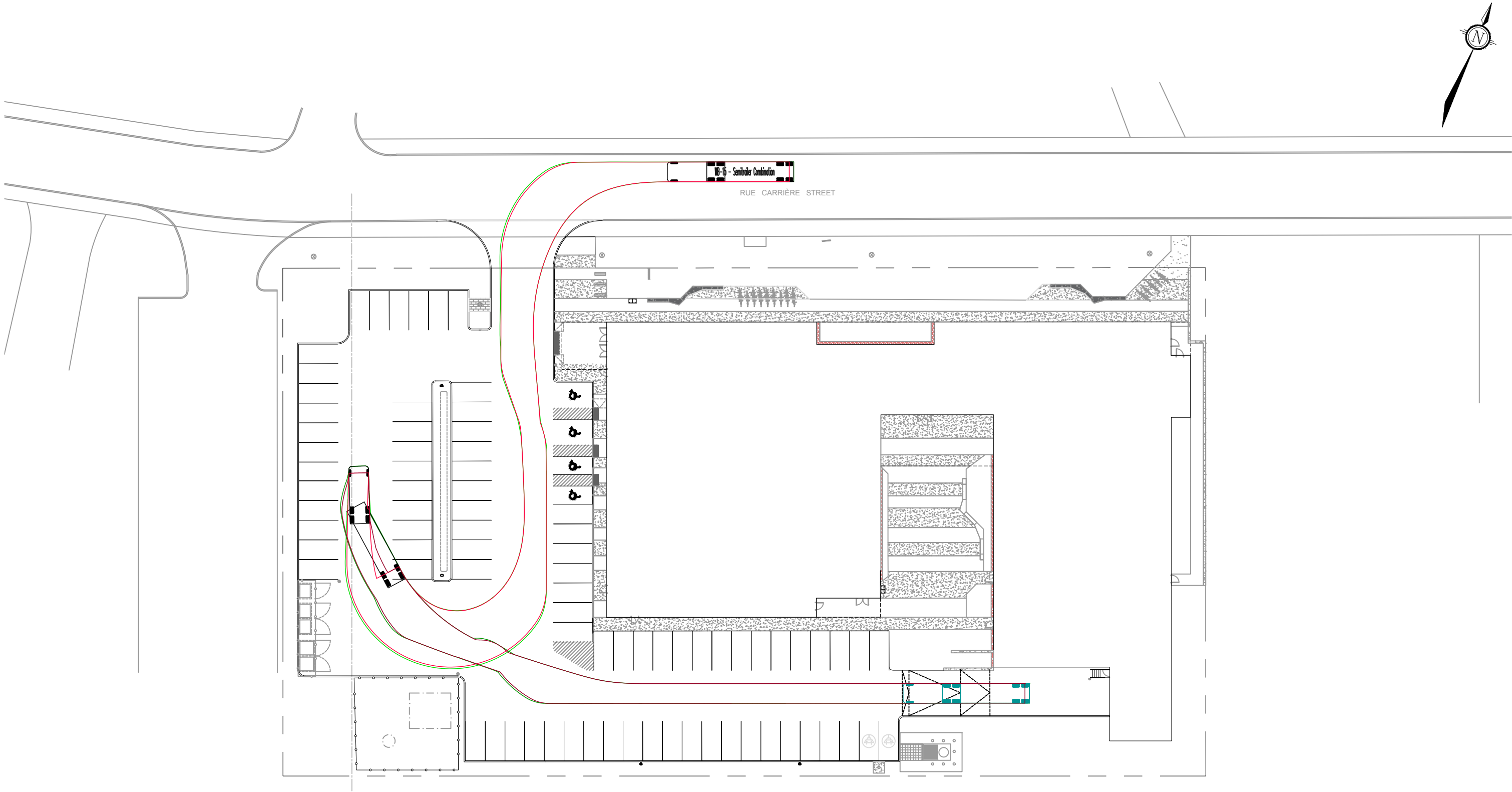
6600 CARRIÈRE ROAD

**TURNING MOVEMENT
(GARBAGE)**

SCALE 1 : 500 0 5m 10m 20m

DATE SEP 2022 JOB 122138 FIGURE 18

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WB-15 - Tractor & Semi-Trailer	
Overall Length	19.1m
Overall Width	2.60m
Overall Body Height	4.15m
Min Body Ground Clearance	0.435m
Track Width	2.60m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	13.70m

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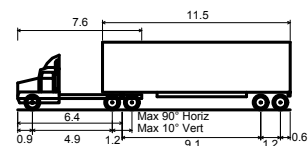
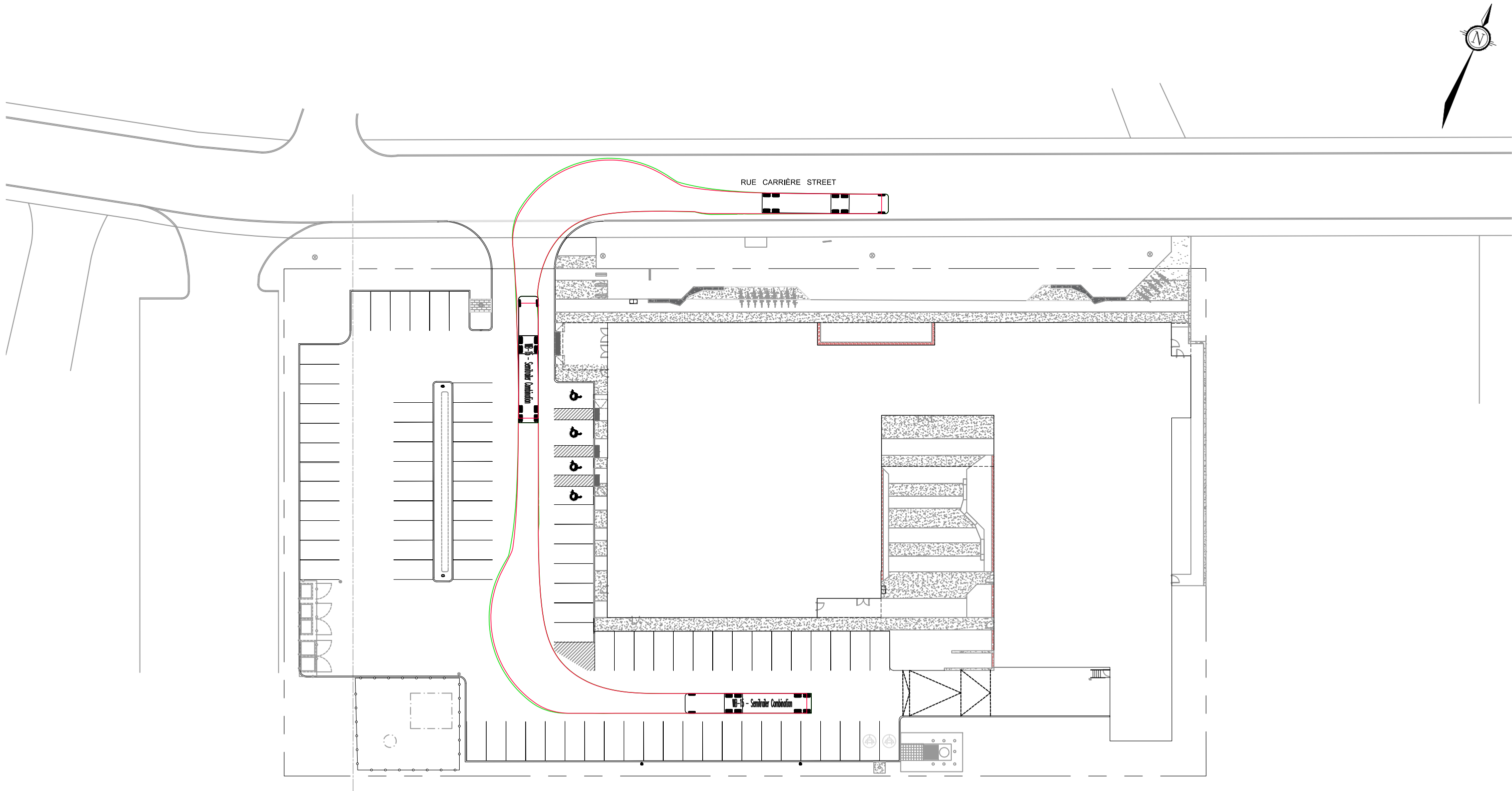
6600 CARRIERE ROAD

TURNING MOVEMENT
(WB-15)

SCALE 1 : 500 0 5m 10m 20m

DATE JAN 2025 JOB 122138 FIGURE 19

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WB-15 - Tractor & Semi-Trailer
Overall Length 16.70m
Overall Width 2.60m
Overall Body Height 4.15m
Min Body Ground Clearance 0.435m
Track Width 2.60m
Lock-to-lock time 4.00s
Curb to Curb Turning Radius 13.70m

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6600 CARRIERE ROAD

**TURNING MOVEMENT
(WB-15)**

SCALE 1 : 500 0 5m 10m 20m

DATE JAN 2025 JOB 122138 FIGURE FIGURE 20

4.2 Parking

The subject site is located in Area C on Schedule 1A of the City's Zoning By-law. Minimum vehicular and bicycle parking rates for the proposed redevelopment are identified in the Zoning By-law and summarized in the following table.

Table 10: Parking Requirements

Land Use		Rate	Units	Required
Vehicle Parking				
Community Centre	Public Space	4 per 100m ² of GFA	618m ²	25
	Theatre/ Performance Space		1397m ²	56
Restaurant – Take-Out	Café/Bar	5 per 100m ²	263m ²	13
Recreational and Athletic Facility	Gymnasium	4 per alley, court, ice sheet, game table or other game surface	Two gyms	8
	Gymnasium (common space)	10 per 100m ² of GFA used for dining, assembly, or common area	161m ²	16
Office	MIFO administration	2.4 per 100m ²	745m ²	18
School, other	Music School	1.5 per classroom	8 classrooms	12
Total				148
Shared Parking Reduction ¹				-17
Total Required				131
Bicycle Parking				
Restaurant	Café/Bar	1 per 250m ²	263 m ²	1
Office	MIFO administration	1 per 250m ²	745m ²	3
School	Music School	1 per 100m ²	140m ²	1
All other non-residential uses	Public Space	1 per 1500m ² of GFA	618m ²	3
	Theatre/ Performance Space		1397m ²	
	Gymnasium (common space)		161m ²	
	Gymnasium		1757m ²	
Total Required				8

1. Shared parking is calculated in Table 11.

When more than one use are located on the same lot, parking spaces may be shared between the uses, and the cumulative total of parking spaces required for all uses on the lot may be

reduced. The below table indicates the percentage and amount of parking that is required during different time periods for any uses which can be shared.

Table 11: Shared Vehicle Parking

Land Use	Weekday				Saturday			
	Morning	Noon	Afternoon	Evening	Morning	Noon	Afternoon	Evening
<i>Percentage of parking required</i>								
Office	100%	90%	100%	15%	20%	20%	10%	5%
Restaurant	30%	90%	60%	100%	30%	80%	50%	100%
Theatre	40%	40%	60%	85%	40%	70%	80%	100%
<i>Parking spaces required</i>								
Office (18 spaces)	18	16	18	3	4	4	2	1
Restaurant (13 spaces)	4	12	8	13	4	10	7	13
Theatre (56 spaces)	22	22	34	48	22	39	45	56
SUM	44	50	60	64	30	53	54	70

Based on the above table, the cumulative total of required vehicular parking spaces can be reduced by 17 spaces. This brings the total required vehicular parking spaces to 131 spaces. A total of 86 vehicular parking spaces are proposed on-site. There are non-formal parking agreements that already exist with the two adjacent schools as well as with the City for parking at Carrière Park. A parking study has been completed for a Minor Variance Application as part of a separate report. This parking study collected existing parking data during peak periods and determined parking usage within the study area.

A total of 8 bicycle parking spaces are required for the site, and 28 bicycle spaces are proposed, thereby exceeding the requirement.

One loading space is required for the site, and one loading space is proposed.

Two electric vehicle charging spaces are proposed on-site.

Based on Section 112 of the City's Zoning By-law, for a parking lot that is required to provide between 101 and 133 parking spaces two Type A and three Type B accessible parking spaces are required to be provided. As the proposed development provides two Type A and three Type B accessible parking spaces this requirement is met.

4.3 Boundary Streets

A review of the boundary street (Carrière Street) has been conducted, 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. Schedule A of the City's Official Plan identifies that the boundary roadway is located within the 'General Urban Area' land use designation. The boundary roadway is also located within 300m of a school.

Targets for pedestrian level of service (PLOS), bicycle level of service (BLOS), transit level of service (TLOS), and truck level of service (TkLOS) adhere to those outlined in Exhibit 22 of the MMLOS Guidelines. While there are no targets for TLOS for Carrière Street, this category has still been evaluated since transit currently operates on this roadway.

The boundary street review evaluates the MMLOS for the boundary roadways based on existing conditions. A detailed MMLOS review is included in **Appendix K**, and a summary of the segment MMLOS analysis is included in **Table 12**.

Table 12: Segment MMLOS Summary

Segment	PLOS	BLOS	TLOS	TkLOS
Carrière Street	C	B	D	B
Target	A	B	-	-

Carrière Street meets the target BLOS but does not meet the target PLOS.

Exhibit 4 of the MMLOS guidelines suggests that a PLOS A is achievable for an operating speed of 50km/h (10km/h above the posted speed) with a sidewalk width of 2.0m and a minimum boulevard width of 0.5m, or a sidewalk width of 1.8m and a minimum boulevard width of 2m. Currently, the sidewalk along the north side exceeds 2m with no boulevard (PLOS B) and the sidewalk on the south side is 1.5m in width with a 0.8m asphalt boulevard (PLOS C). This is identified for the City's consideration.

4.4 Transportation Demand Management

4.4.1 Context for TDM

The proposed redevelopment will consist of a new, expanded MIFO facility with approximately 5,081m² of GFA (replacing the existing 1,455m² facility).

4.4.2 Need and Opportunity

The proposed redevelopment is located within the Orléans district.

As described in Section 3.1, the proposed modal shares are based on the City's modal shares for the Orléans district and are based on all trips within the district in the AM and PM peak hours.

4.4.3 TDM Program

The proposed redevelopment conforms to the City's TDM initiatives by providing easy access to the local pedestrian, bicycle and transit systems as outlined in Section 4.1. A review of the TDM – Measures Checklist has been conducted for the redevelopment and is included in **Appendix J**.

In order to encourage the use of sustainable modes, the following measures will be implemented for the proposed redevelopment:

- Designated internal coordinator (direction des immobilisations);
- Display local area maps with walking/cycling access routes and key destinations at major entrances;
- Display relevant transit schedules and route maps at entrances;
- Provide online links to OC Transpo and STO information;
- Provide a dedicated ridematching portal (MIFO currently offers an internal carpooling system available to employees and users);
- Encourage flexible working hours (MIFO currently permits flexible work hours for certain positions within the organisation);
- Encourage telework (MIFO currently permits occasional/circumstantial telework); and
- Provide local business travel options that minimize the need for employees to bring a personal car to work (MIFO currently encourages carpooling for its employees when they participate in off-site meetings or events).

4.5 Neighbourhood Traffic Management

Carrière Street is classified as a collector roadway and provides access to the subject site. The following table summarizes background traffic, proposed additional traffic, and total traffic along Carrière Street.

Table 13: Neighbourhood Traffic Impacts

Roadway	AM Peak			PM Peak		
	Bkgd	Net Site	Total	Bkgd	Net Site	Total
<i>2025 Buildout Year and 2030 Horizon Year</i>						
Carrière Street						
East of Orléans Boulevard						
Eastbound	268	32	300	110	30	140
Westbound	242	16	258	97	34	131
Two-way	510	48	558	207	64	271

The City of Ottawa Area Traffic Management (ATM) guidelines identify a maximum threshold of 2,500 vehicles per day, or 300 vehicles during the peak hour for collector roadways. The 2025 and 2030 background and total AM traffic volumes along Carrière Street east of Orléans Boulevard exceed the ATM threshold. However, it is noted that the overall capacity of a collector roadway is estimated at 400 vehicles per hour per lane based on the City's TRANS Long Range Transportation Model.

Total peak hour, peak directional traffic volumes along Carrière Street east of Orléans Boulevard equate to a volume to capacity (v/c) ratio of 0.75 (LOS C) during the AM peak hour and 0.35 (LOS A) during the PM peak hour. As there is sufficient capacity along Carrière Street to accommodate traffic generated by the redevelopment, no changes to the existing roadway classification are required.

The added traffic generated by the proposed redevelopment is not anticipated to have a significant impact on the existing vehicular operations along Carrière Street.

4.6 Intersection Design

4.6.1 Intersection MMLOS Analysis

This section provides a review of the signalized study area intersections using the complete streets principles. The MMLOS guidelines produced by IBI Group in October 2015 were used to evaluate the LOS of all signalized study area intersections for each mode of transportation. Schedule B of the City of Ottawa's Official Plan indicates that St. Joseph Boulevard is an Arterial Mainstreet. The remainder of the study area is located within the General Urban Area or within 300m of a school. Aerial photos of the study area intersections are provided in Section 2.1.2.

Targets for the PLOS, BLOS, TLOS, TkLOS, and Auto LOS are based on the targets for Arterial Mainstreet, or within 300m of a School, as identified in Exhibit 22 of the MMLOS guidelines. A summary of the results of the intersection MMLOS analysis is provided in the following table. Detailed intersection MMLOS calculations are provided in **Appendix K**.

Table 14: Intersection MMLOS Summary

Intersection	PLOS	BLOS	TLOS	TkLOS	Auto LOS
Orléans Boulevard/ St. Joseph Boulevard	F	F	F	E	E
Target	C	B	D	D	D
Orléans Boulevard/ Carrière Street	F	F	B	E	A
Target	A	B	D	D	E
Orléans Boulevard/ Jeanne D'Arc Boulevard	F	F	F	A	F
Target	A	C	C	D	E

Orléans Boulevard/St. Joseph Boulevard

This intersection does not meet the target PLOS, BLOS, TLOS, TkLOS, or Auto LOS.

A reduction in the pedestrian walking distance would have the greatest improvement to the PLOS at this intersection. All approaches meet the City's vehicle/pedestrian conflict for zebra-striped crosswalks (greater than 400,000 vehicle/pedestrian conflicts over an eight-hour period). The intersection currently has textured crosswalks which improves the level of comfort for pedestrians.

The intersection does not meet the target BLOS based on left turn characteristics on all approaches, as cyclists are required to cross at least one lane of traffic with an operating speed of 60km/h or greater. Based on Exhibit 12 of the MMLOS guidelines, the target BLOS is unachievable for left turns crossing at least one lane of traffic on roadways with an operating speed of 60km/h. While the provision of two-stage left turn bike boxes would not improve the BLOS, it would improve the level of comfort for cyclists making a left turn. In order to achieve the target BLOS based on right turn characteristics, a reduction in the right turn lane to less than 50m would be required on the north approach. A reduction in the right turn lane is not recommended as there is a commercial driveway to the north which is served by this turn lane.

The intersection does not currently meet the target TLOS D, based on delays observed on the north approach. The City's 2031 RTTP Network identifies transit signal priority and queue jump lanes for Orléans Boulevard between Jeanne D'Arc Boulevard and Ottawa Road 174 (Affordable Network, before 2031). This transit priority project would improve the TLOS at the intersection.

The intersection does not currently meet the target TkLOS D based on the radii on the northeast and southwest corners and only one receiving lane on Orléans Boulevard. The width of the receiving lanes on Orléans Boulevard are approximately 5.5m and there is no evidence of trucks hitting curbs. It is presumed that the existing conditions accommodates the design vehicles and there is no recommended action.

The intersection does not currently meet the target Auto LOS D. As discussed in Section 3.4.1, the westbound left and eastbound through movements are currently operating with a LOS E in the PM peak hour. Optimized signal timing (maintaining the existing cycle length of 100 seconds) would improve these movements to a LOS D in the PM peak hour. All movements in the AM peak hour are currently operating with a LOS C or better.

As discussed in Section 2.2, the City has approved the Orleans Corridor Secondary Plan which includes a complete streets concept for St. Joseph Boulevard. Planned improvements include a reduction in vehicle travel lanes in order to accommodate cycling facilities and bus transit improvements.

Orléans Boulevard/Carrière Street

This intersection meets the target TLOS and Auto LOS, but does not meet the target PLOS, BLOS, or TkLOS.

A reduction in the pedestrian walking distance would have the greatest improvement to the PLOS at this intersection. However, a reduction in the pedestrian walking distance is limited by the number of travel lanes required. Based on the existing traffic volumes, a reduction in the number of travel lanes is not recommended. No approaches meet the City's vehicle/pedestrian conflict for zebra-striped crosswalks.

The intersection does not meet the target BLOS based on left turn characteristics on the north approach, as cyclists are required to cross two lanes of traffic with an operating speed of 60km/h. Based on Exhibit 12 of the MMLOS guidelines, the target BLOS is unachievable for left turns crossing two lanes of traffic on roadways with an operating speed of 60km/h. While the provision of a two-stage left turn bike box on the north approach would not improve the BLOS, it would improve the level of comfort for cyclists making a southbound left turn. In order to achieve the target BLOS based on right turn characteristics, introduction of a bike lane on the south approach would be required. This is identified for the City's consideration.

The intersection does not currently meet the target TkLOS D, based on the radii on the southeast corner and only one receiving lane on Carrière Street. The width of the receiving lane on Carrière Street is approximately 5m and there is no evidence of trucks hitting curbs. Carrière is not a truck route, but it does frequently serve transit and school buses. It is presumed that the existing conditions accommodates the design vehicles and there is no recommended action.

Orléans Boulevard/Jeanne D'Arc Boulevard

This intersection meets the target TKLOS, but does not meet the target PLOS, BLOS, TLOS, or Auto LOS.

A reduction in the pedestrian walking distance would have the greatest improvement to the PLOS at this intersection. However, a reduction in the pedestrian walking distance is limited by the number of travel lanes required. Based on the existing traffic volumes, a reduction in the number of travel lanes is not recommended. The east approach meets the City's vehicle/pedestrian conflict for zebra-striped crosswalks (greater than 400,000 vehicle/pedestrian conflicts over an eight-hour period). While the provision of a zebra-striped crosswalk alone would not improve the PLOS, it would improve the level of comfort for pedestrians. This is identified for the City's consideration.

The intersection does not meet the target BLOS based on left turn characteristics on all approaches, as cyclists are required to cross two lanes of traffic with an operating speed of 60km/h or greater. Based on Exhibit 12 of the MMLOS guidelines, the target BLOS is unachievable for left turns crossing two lanes of traffic on roadways with an operating speed of 60km/h or greater. While the provision of two-stage left turn bike boxes on all approaches would not improve the BLOS, it would improve the level of comfort for cyclists making a left turn. This is identified for the City's consideration.

The intersection does not currently meet the target TLOS C, based on delays observed on all approaches. An increased cycle length in the AM peak, as noted in Section 3.4.1, would improve the TLOS on the east approach to a TLOS D. The City's 2031 RTTP Network identifies transit signal priority and queue jump lanes for Orléans Boulevard between Jeanne D'Arc Boulevard and Ottawa Road 174, and for Jeanne D'Arc Boulevard between Innes Road and Ottawa Road 174 (Affordable Network, before 2031). These transit priority projects would improve the TLOS at the intersection.

The intersection does not currently meet the target Auto LOS E. As discussed in Section 3.4.1, the westbound through movement at the Jeanne D'Arc Boulevard/Orléans Boulevard intersection is currently operating with a LOS F in the AM peak hour. An increased cycle length to 100 seconds in the AM peak hour (i.e., adding an additional 20 seconds to the eastbound/westbound through phases) would improve the westbound through movement to a LOS D. All movements in the PM peak hour are currently operating with a LOS D or better.

4.6.2 2025 Total Intersection Operations

Intersection capacity analysis has been completed for 2025 the total traffic conditions using the existing signal timing plans. The results of the analysis are summarized in the following table for the weekday AM and PM peak hours. Detailed reports are included in **Appendix L**.

Table 15: 2025 Total Intersection Operations

Intersection	AM Peak			PM Peak		
	Max v/c or Delay	LOS	Mvmt	Max v/c or Delay	LOS	Mvmt
St. Joseph Boulevard/Orléans Boulevard	0.71	C	SBT	0.88	D	EBT
Carrière Street/Orléans Boulevard	0.48	A	WBL	0.31	A	NBT

Intersection	AM Peak			PM Peak		
	Max v/c or Delay	LOS	Mvmt	Max v/c or Delay	LOS	Mvmt
Jeanne D'Arc Boulevard/Orléans Boulevard	0.98	E	WBT	0.80	C	SBL
Carrière Street/MIFO Access	12 sec.	B	NB	10 sec.	A	NB

Under 2025 total traffic conditions, the westbound through movement at the Jeanne D'Arc Boulevard/Orléans Boulevard intersection is anticipated to operate with a LOS E in the AM peak hour. All other movements at study area intersections are anticipated to operate with a LOS D or better. This is consistent with 2025 background traffic conditions.

An increased cycle length at the Jeanne D'Arc Boulevard/Orléans Boulevard intersection to 100 seconds in the AM peak hour (i.e., adding an additional 20 seconds to the eastbound/westbound through phases) would improve the westbound through movement to a LOS D.

Minor increases to maximum queuing lengths from 2025 background traffic conditions are anticipated at study area intersections. It is acknowledged that the westbound left turning queue is anticipated to exceed the storage length at the Orleans Boulevard/St Joseph Boulevard intersection in the PM peak. This is consistent with background traffic conditions and the proposed development is only anticipated to add 4 vehicles to this movement in the PM peak, which represents an increase of less than 2%.

The Carrière Street/MIFO Access is anticipated to operate with a LOS B in the AM peak and a LOS A in the PM peak. Queuing lengths of less than one vehicle are anticipated at the site access.

4.6.3 2030 Total Intersection Operations

Intersection capacity analysis has been completed for the 2030 total traffic conditions using the existing signal timing plans. The results of the analysis are summarized in the following table for the weekday AM and PM peak hours. Detailed reports are included in **Appendix L**.

Table 16: 2030 Total Intersection Operations

Intersection	AM Peak			PM Peak		
	Max v/c or Delay	LOS	Mvmt	Max v/c or Delay	LOS	Mvmt
St. Joseph Boulevard/Orléans Boulevard	0.72	C	NBL/SBT	0.90	D	WBL
				0.93	E	EBT
Carrière Street/Orléans Boulevard	0.48	A	WBL	0.33	A	NBT
Jeanne D'Arc Boulevard/Orléans Boulevard	1.04	F	WBT	0.85	D	SBL
Carrière Street/MIFO Access	12 sec.	B	NB	10 sec.	A	NB

Under 2030 total traffic conditions, movements at the Jeanne D'Arc Boulevard/Orléans Boulevard and St. Joseph Boulevard/Orléans Boulevard intersections are anticipated to operate near or at capacity in the AM and PM peak hours. All movements at the Carrière Street/Orléans Boulevard intersection are operating with a LOS A or better. This is consistent with 2030 background traffic conditions.

The westbound through movement at the Jeanne D'Arc Boulevard/Orléans Boulevard intersection anticipated to operate with a LOS F in the AM peak hour. An increased cycle length to 100 seconds in the AM peak hour (i.e., adding an additional 20 seconds to the eastbound/westbound through phases) would improve all movements to a LOS D or better. All movements in the PM peak hour are anticipated to operate with a LOS D or better.

The eastbound through movement at the St. Joseph Boulevard/Orléans Boulevard intersection is anticipated to operate with a LOS E in the PM peak hour. Optimized signal timing (maintaining the existing cycle length of 100 seconds) would improve all movements to a LOS D in the PM peak hour. All movements in the AM peak hour are anticipated to operate with a LOS C or better.

Minor increases to maximum queuing lengths from 2030 background traffic conditions are anticipated at study area intersections. It is acknowledged that the westbound left turning queue is anticipated to exceed the storage length at the Orleans Boulevard/St Joseph Boulevard intersection in the PM peak. This is consistent with background traffic conditions and the proposed development is only anticipated to add 4 vehicles to this movement in the PM peak, which represents an increase of less than 2%.

The Carrière Street/MIFO Access is anticipated to operate with a LOS B in the AM peak and a LOS A in the PM peak. Queuing lengths of less than one vehicle are anticipated at the site access.

The additional traffic generated by the subject site is not anticipated to have any significant impacts on the study area intersections.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The main conclusions and recommendations from this report are summarized below:

Demand Rationalization

- Existing Traffic Conditions:
 - The westbound through movement at the Jeanne D'Arc Boulevard/Orléans Boulevard intersection is currently operating with a LOS F in the AM peak hour. An increased cycle length to 100 seconds in the AM peak hour would improve the westbound through movement to a LOS D.
 - The westbound left and eastbound through movements at the St. Joseph Boulevard/Orléans Boulevard intersection are currently operating with a LOS E in the PM peak hour. Optimized signal timing maintaining the existing cycle length of 100 seconds would improve these movements to a LOS D in the PM peak hour.
- 2025 Background Intersection Operations:
 - An increased cycle length at the Jeanne D'Arc Boulevard/Orléans Boulevard intersection to 100 seconds in the AM peak hour (i.e., adding an additional 20 seconds to the eastbound/westbound through phases) would improve the westbound through movement to a LOS D.
- 2030 Background Intersection Operations
 - The westbound through movement at the Jeanne D'Arc Boulevard/Orléans Boulevard intersection anticipated to operate with a LOS F in the AM peak hour. An increased cycle length to 100 seconds in the AM peak hour would improve all movements to a LOS D or better.

- The eastbound through movement at the St. Joseph Boulevard/Orléans Boulevard intersection is anticipated to operate with a LOS E in the PM peak hour. Optimized signal timing (maintaining the existing cycle length of 100 seconds) would improve all movements to a LOS D in the PM peak hour.

Development Design and Parking

- On-site pathways will be provided, connecting the building and amenities area with the surrounding street network.
- Bike parking will be provided at-grade, with bike racks located along the Carrière Street frontage. A total of 8 bicycle parking spaces are required per the Zoning By-Law, and 28 spaces are proposed.
- OC Transpo stops #7776, 8141, 3655, 7741, and 7743 are currently in service and are located within a 400m walking distance of the subject site.
- All required TDM-supportive design and infrastructure measures in the TDM checklist are met.
- A total of 131 vehicular parking spaces are required per the Zoning By-Law. A total of 86 vehicular parking spaces are proposed on-site. There are non-formal parking agreements that already exist with the two adjacent schools as well as with the City for parking at Carrière Park. A parking study has been completed for a Minor Variance Application as part of a separate report.

Boundary Streets

- Carrière Street meets the target BLOS but does not meet the target PLOS.
- Currently, the sidewalk along the north side exceeds 2m with no boulevard (PLOS B) and the sidewalk on the south side is 1.5m in width with a 0.8m asphalt boulevard (PLOS C).
- A PLOS A is achievable for an operating speed of 50km/h with a sidewalk width of 2.0m and a minimum boulevard width of 0.5m, or a sidewalk width of 1.8m and a minimum boulevard width of 2m. This is identified for the City's consideration.

Access Intersections Design

- One full movement access is proposed to Carrière Street. The proposed access will have a width of approximately 8.2m and will be located approximately 27.5m east of the western property line.
- The design of the proposed access meets the requirements of the City's Private Approach By-Law and Zoning By-Law.
- A clear throat length of 8m is accommodated at the access.
- The site access is anticipated to operate with acceptable delays under side street stop control and a queueing length of less than one vehicle is anticipated on-site.

Transportation Demand Management

- The proposed redevelopment conforms to the City's TDM initiatives by providing easy access to the local pedestrian, bicycle and transit systems.
- In order to encourage the use of sustainable modes, the following measures will be implemented for the proposed redevelopment:
 - Designated internal coordinator (direction des immobilisations);
 - Display local area maps with walking/cycling access routes and key destinations at major entrances;
 - Display relevant transit schedules and route maps at entrances;

- Provide online links to OC Transpo and STO information;
- Provide a dedicated ridematching portal (MIFO currently offers an internal carpooling system available to employees and users);
- Encourage flexible working hours (MIFO currently permits flexible work hours for certain positions within the organisation);
- Encourage telework (MIFO currently permits occasional/circumstantial telework); and
- Provide local business travel options that minimize the need for employees to bring a personal car to work (MIFO currently encourages carpooling for its employees when they participate in off-site meetings or events).

Neighbourhood Traffic Management

- The 2025 and 2030 background and total traffic volumes along Carrière Street east of Orléans Boulevard exceed the Area Traffic Management (ATM) threshold of 300 vehicles during the peak hour for a collector roadway.
- Total peak hour, peak directional traffic volumes along Carrière Street east of Orléans Boulevard equate to a volume to capacity (v/c) ratio of 0.75 (LOS C) during the AM peak hour and 0.35 (LOS A) during the PM peak hour.
- As there is sufficient capacity along Carrière Street to accommodate traffic generated by the redevelopment, no changes to the existing roadway classification are required.
- The added traffic generated by the proposed redevelopment is not anticipated to have a significant impact on the existing vehicular operations along Carrière Street.

Intersection MMLOS

- The City has approved the Orleans Corridor Secondary Plan which includes a complete streets concept for St. Joseph Boulevard. Planned improvements include a reduction in vehicle travel lanes in order to accommodate cycling facilities and bus transit improvements.
- All study area intersections do not meet the target PLOS.
 - All approaches at the Orléans Boulevard/St. Joseph Boulevard intersection meet the City's vehicle/pedestrian conflict for zebra-striped crosswalks. The intersection currently has textured crosswalks which improves the level of comfort for pedestrians. The east approach at Orléans Boulevard/Jeanne D'Arc Boulevard meets the City's vehicle/pedestrian conflict for zebra-striped crosswalks. While the provision of a zebra-striped crosswalk alone would not improve the PLOS, it would improve the level of comfort for pedestrians. This is identified for the City's consideration.
- All study area intersections do not meet the target BLOS.
 - While the provision of two-stage left turn bike boxes at Orléans Boulevard/Jeanne D'Arc Boulevard would not improve the BLOS, it would improve the level of comfort for cyclists making a left turn. This is identified for the City's consideration.
 - In order to achieve the target BLOS based on right turn characteristics at Orléans Boulevard/Carrière Street, introduction of a bike lane on the south approach would be required. This is identified for the City's consideration.
- All study area intersections do not meet the target TLOS, except for Orléans Boulevard/Carrière Street.
 - The City's 2031 RTTP Network identifies transit signal priority and queue jump lanes for Orléans Boulevard between Jeanne D'Arc Boulevard and Ottawa Road 174, and for Jeanne D'Arc Boulevard between Innes Road and Ottawa Road 174.

(Affordable Network, before 2031). These transit priority projects would improve the TLOS at these intersections.

- All study area intersections do not meet the target TkLOS, except for Orléans Boulevard/Jeanne D'Arc Boulevard.
 - The width of the receiving lanes on Orléans Boulevard at St Joseph Boulevard are approximately 5.5m and there is no evidence of trucks hitting curbs. It is presumed that the existing conditions accommodates the design vehicles and there is no recommended action.
 - The width of the receiving lane on Carrière Street at Orléans Boulevard is approximately 5m and there is no evidence of trucks hitting curbs. Carrière is not a truck route, but it does frequently serve transit and school buses. It is presumed that the existing conditions accommodates the design vehicles and there is no recommended action.
- All study area intersections do not meet the target Auto LOS, except for Orléans Boulevard/Carrière Street.
 - Signal timing improvements at the Orléans Boulevard/St. Joseph Boulevard and Orléans Boulevard/Jeanne D'Arc Boulevard are anticipated to improve the Auto LOS at these intersections to within their targets.

Total Intersection Operations

- No additional recommendations as a result of site traffic.
- The additional traffic generated by the subject site is not anticipated to have any significant impacts on the study area intersections.

NOVATECH

Prepared by:



Trevor Van Wiechen, M.Eng.
E.I.T. | Transportation

Reviewed by:



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

APPENDIX A

Site Plan

RÈGLEMENT DE ZONAGE / ZONING BY-LAW		
SECTEUR ET SOUS-ZONE / AREA AND SUBZONE	SECTEUR C (SUBURBAIN), SOUS ZONE I1E (ZONE DE PETITE INSTITUTIONS) / AREA C (SUBURBAN), SUBZONE I1E (MINOR INSTITUTIONAL ZONE)	
USAGES PERMIS / PERMITTED USES	CENTRE COMMUNAUTAIRE, INSTALLATIONS RÉCRÉATIVES ET SPORTIVES / COMMUNITY CENTER, RECREATIONAL AND ATHLETIC FACILITIES	
	REQUIS / REQUIRED	FOURNI / PROVIDED
SUPERFICIE DE TERRAIN / LOT AREA	400m² (MIN.)	8180,33m²
MESURE FRONTALE DU LOT / LOT FRONTAGE	15m (MIN.)	122,01m
MARGE DE REcul AVANT / FRONT SETBACK	1m (MIN.)	6,25m
MARGE DE REcul LATÉRALE / SIDE SETBACK	1m (MIN.)	1,52m
MARGE DE REcul ARRIÈRE / REAR SETBACK	1m (MIN.)	3,66m
MARGE DE REcul HYDRO OTTAWA / HYDRO OTTAWA SETBACK	5m (MIN.)	8,8m
HAUTEUR DE BÂTIMENT / BUILDING HEIGHT	18m (MAX.)	14,14m
AIRE DE BÂTIMENT / BUILDING AREA	N/D / N/A	2700m²
SUPERFICIE TOTALE DU BÂTIMENT / TOTAL BUILDING AREA	N/D / N/A	5081m²
CASES DE STATIONNEMENT / PARKING SPOTS	131 (VOIR « STATIONNEMENTS REQUIS » / SEE « REQUIRED PARKING SPOTS »)	86
CASES DE STATIONNEMENT ACCESSIBLES / ACCESSIBLE PARKING SPOTS	5 (AODA STANDARDS)	5 (AODA STANDARDS)
STATIONNEMENTS POUR VÉLO / BIKE RACK	8	28
LARGEUR DE L'ALLÉE (PARC DE STATIONNEMENT) / AISLE WIDTH (PARKING LOT)	6,7m (MIN.)	6,7m (MIN.)
LARGEUR DE L'ENTRÉE CHARRETIÈRE / DRIVEWAY ENTRANCE WIDTH	6m (MIN.)	8,2m
AIRE D'AGRÉMENT / AMENITY AREA	0m²	±600m²
SUPERFICIE AMÉNAGÉE STATIONNEMENT / LANDSCAPING AREA PARKING LOT	15%	18%
PLACES DE CHARGEMENT, USAGE d) - TABLEAU 113A / LOADING SPACES, LAND USE d) - TABLE 113A	2	2 (LOADING DOCK + MAIN ENTRANCE DROP ZONE)

Tableau 104 : Pourcentage du stationnement requis qu'il est permis de partager.

Usages	Semaine				Samedis			
	Matin	Midi	Après-midi	Soir	Matin	Midi	Après-midi	Soir
Espace public	10	10	15	21	10	17	20	25
Café	4	12	6	13	11	7	7	13
Salles de spectacle	22	22	34	48	22	39	45	58
Gymnase	10	10	14	20	10	17	19	24
Équipement musique	5	5	7	9	5	8	10	12
MFO administration	18	16	18	3	4	4	2	1
Services-circulations	0	0	0	0	0	0	0	0
Totaux (exp. brute)	69	78	90	115	54	76	102	131

STATIONNEMENT REQUIS
REQUIRED PARKING SPOTS



	LIGNE DE LOT / LOT LINE
	MARGE DE REÇUL (1m) /
	VOIE POMPIER / FIRE ROUTE
	MÉLANGE DE VIVACES/ PERENNIALS MIX <i>Echinacea purpurea</i> <i>Deschampsia cespitosa</i>
	Sporobolus heterolepis
	<i>Carex appalachica</i>
	<i>Tiarella cordifolia</i>
	<i>Trillium grandiflorum</i>
	<i>Cornus Canadensis</i>
	<i>Verbena stricta</i>
	<i>Penstemon hirsutus</i>
	<i>Symphytichum cordifolium</i>
	<i>Plante grimpante/Climbing plant</i>
	GAZON EN PLAQUE / GRASS
	MÉLANGE DE VIVACES ET ARBUSTES
	GAZON MIXTE / MIX SOD
	ENSEMENCEMENT / SEEDING
	JARDIN DE PLUIE / RAIN GARDEN
	BÉTON COULÉ AGRÉGAT EXPOSÉ/ EXPOSED ADORNED/PORCE CONCRETE
	BÉTON COULÉ / CAST CONCRETE
	PAREMENT DE BÉTON RÉUTILISÉ / REUSED CONCRETE CLADDING
	CRIBLURE DE PIERRE / STONE SCREENING
	TERMOPLASTIQUE POUR STATIONNEMENT / PARKING THERMOPLASTIC MATERIAL
	PLAQUE PODOTACTILE / DETECTABLE WARNING PLATES
	MUR DE SOUTÈNEMENT EN BLOC BÉTON / PRECAST CONCRETE RETAINING WALL
	BANC EN BÉTON / CONCRETE BENCH
	TABLE À PIQUE-NIQUE / PICNIC TABLE

échelle 1:250		dessiné par MS	
date 2022-09-30		approuvé par JLF	
numéro du projet 210462	numéro du dessin A-001	révision 0	

APPENDIX B

TIA Screening Form

City of Ottawa 2017 TIA Guidelines TIA Screening

1. Description of Proposed Development

Municipal Address	6600 Carrière Street
Description of Location	South side of Carrière Street
Land Use Classification	Recreational
Development Size (units)	
Development Size square metre (m ²)	4,800m ² , replacing 1,455m ²
Number of Accesses and Locations	1 connection to Carrière Street
Phase of Development	1 phase
Buildout Year	2025

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

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?	☐	☒
Is the development in a Hub, a Protected Major Transit Station Area (PMTSA), or a Design Priority Area (DPA)? ²	☐	☒

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?	☐	☒
Are there any horizontal/vertical curvatures on a boundary street limits sight lines at a proposed driveway?	☐	☒
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)?	☐	☒
Is the proposed driveway within auxiliary lanes of an intersection?	☐	☒
Does the proposed driveway make use of an existing median break that serves an existing site?	☐	☒

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?	☐	☒
Does the development include a drive-thru facility?	☐	☒

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?	☒	☐
Does the development satisfy the Location Trigger?	☐	☒
Does the development satisfy the Safety Trigger?	☐	☒

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 System Information



32

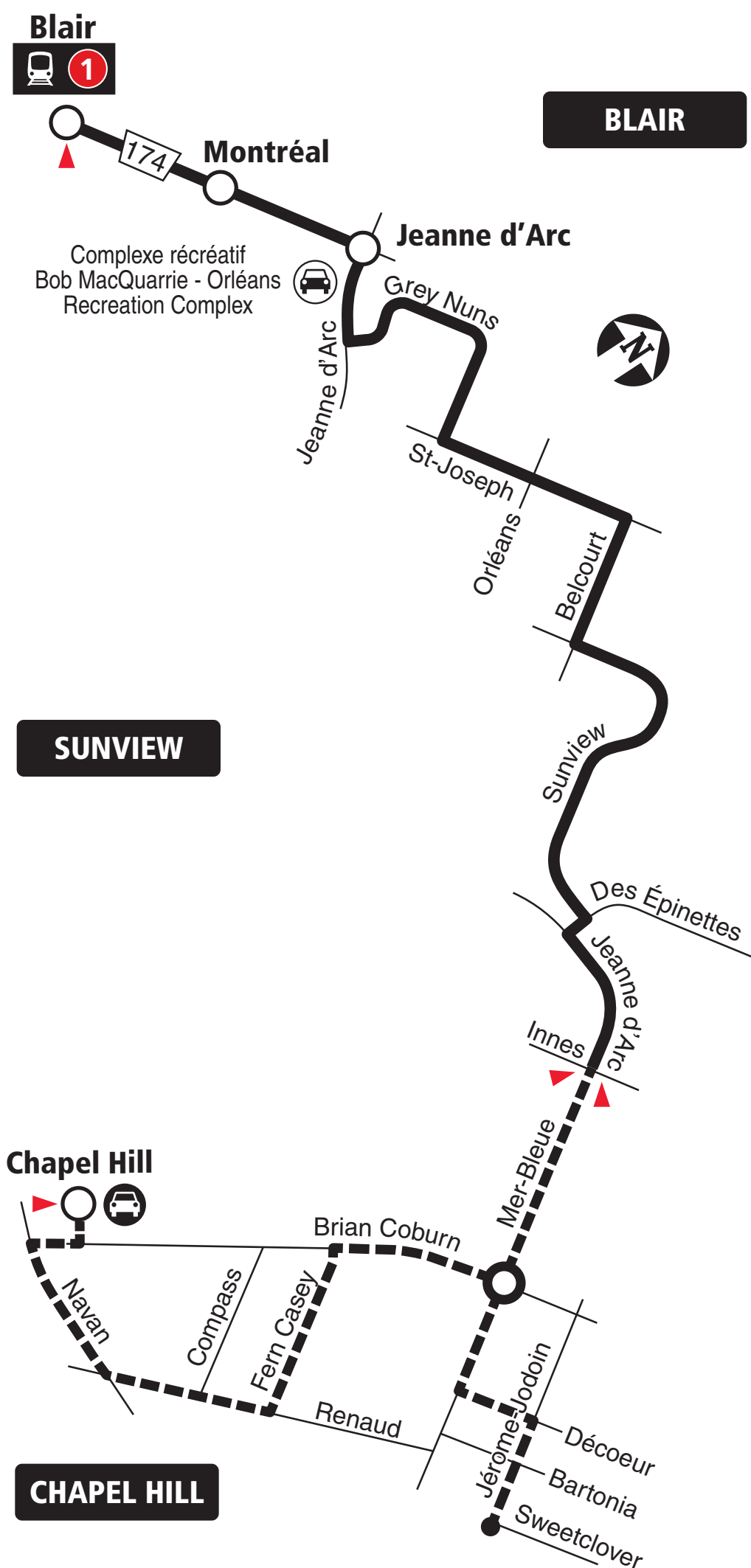
SUNVIEW CHAPEL HILL BLAIR

Local

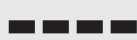
7 days a week / 7 jours par semaine

Selected time periods only

Périodes sélectionnées seulement



Station



No weekend service
Aucun service la fin de semaine



Park & Ride / Parc-o-bus



Timepoint / Postes d'attente

2021.09



Schedule / Horaire 613-560-1000

Text / Texto* 560560

plus your four digit bus stop number / plus votre numéro d'arrêt à quatre chiffres

*Standard message rates may apply / Les tarifs réguliers de messagerie texte peuvent s'appliquer

Customer Service

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

Lost and Found / Objets perdus..... **613-563-4011**

Security / Sécurité **613-741-2478**

Effective September 5, 2021

En vigueur 5 septembre 2021



INFO 613-560-5000
octranspo.com



34

RENAUD

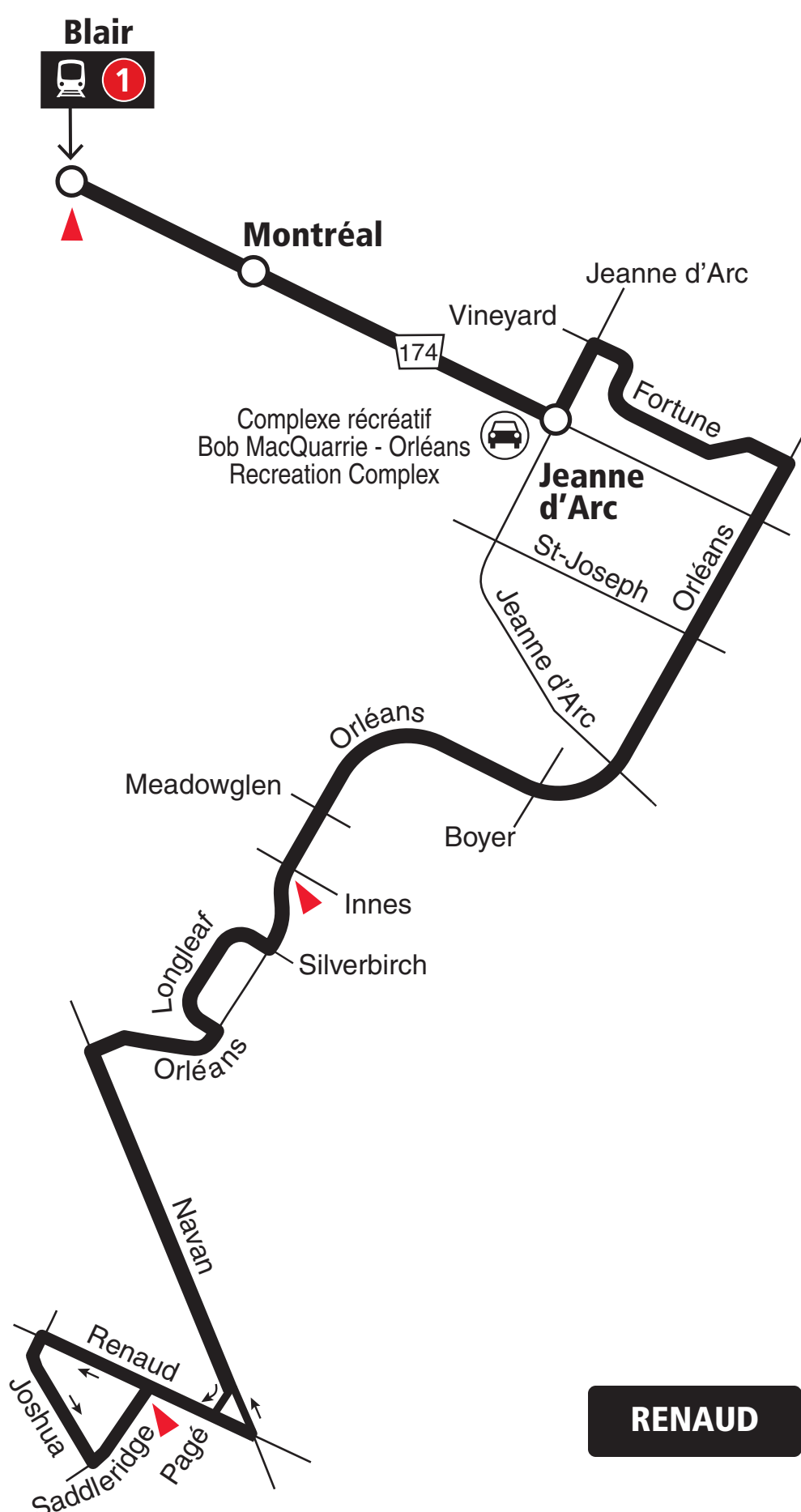
BLAIR

Local

7 days a week / 7 jours par semaine

All day service
Service toute la journée

BLAIR



RENAUD



Station



Park & Ride / Parc-o-bus



Timepoint / Heures de passage

2019.07



1



Future route after O-Train Line 1 is open
Trajet du circuit après l'ouverture
de la Ligne 1 de l'O-Train

Lost and Found / Objets perdus..... **613-563-4011**

Security / Sécurité **613-741-2478**

OC Transpo

INFO 613-741-4390
octranspo.com

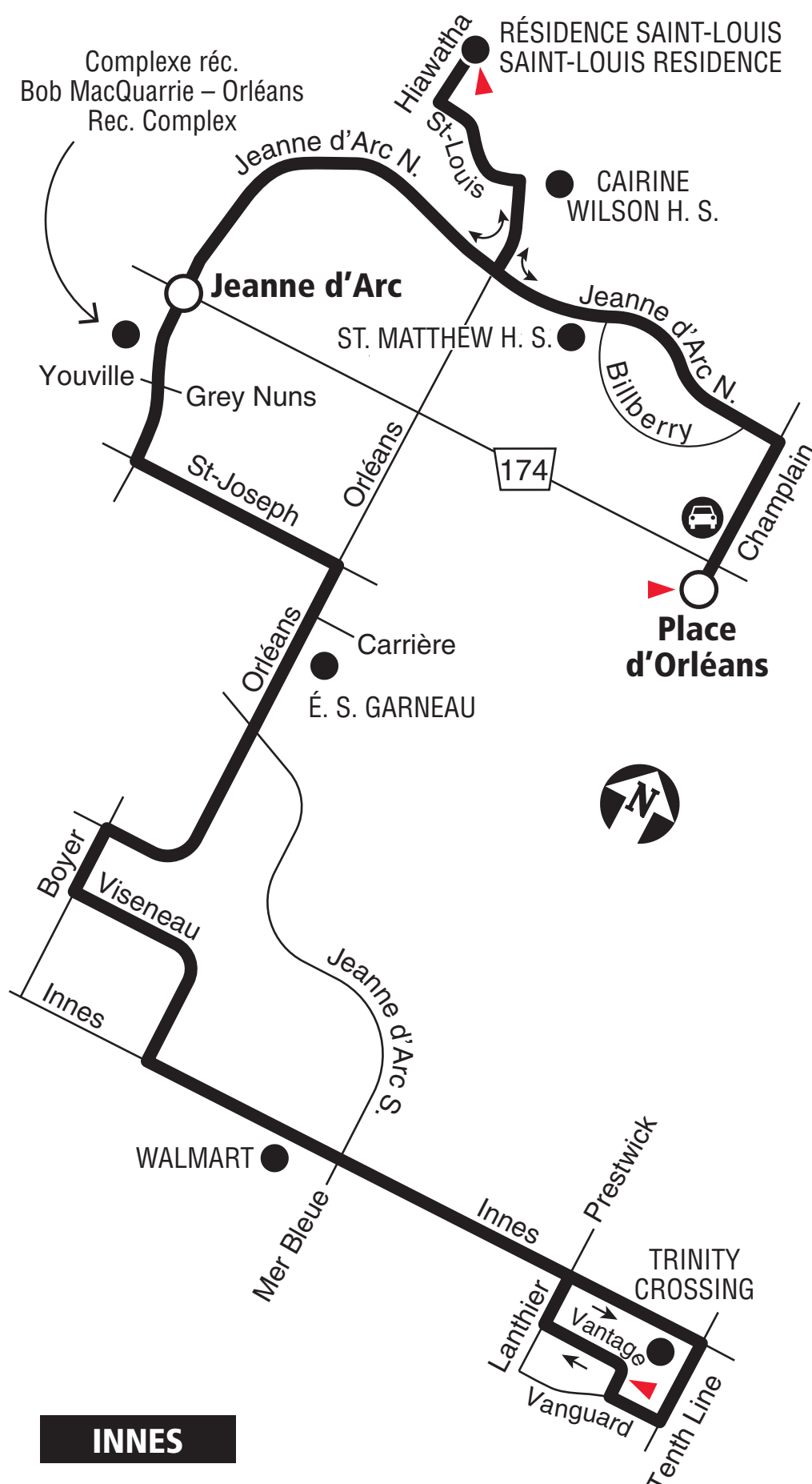


138

PLACE D'ORLÉANS INNES

7 days a week / 7 jours par semaine

PLACE D'ORLÉANS



INNES



Station



Park & Ride / Parc-o-bus



Timepoint / Heures de passage

2019.09



Schedule / Horaire.....613-560-1000

Text / Texto560560

plus your four digit bus stop number / plus votre numéro d'arrêt à quatre chiffres

Customer Service

Service à la clientèle **613-741-4390**

Lost and Found / Objets perdus..... **613-563-4011**

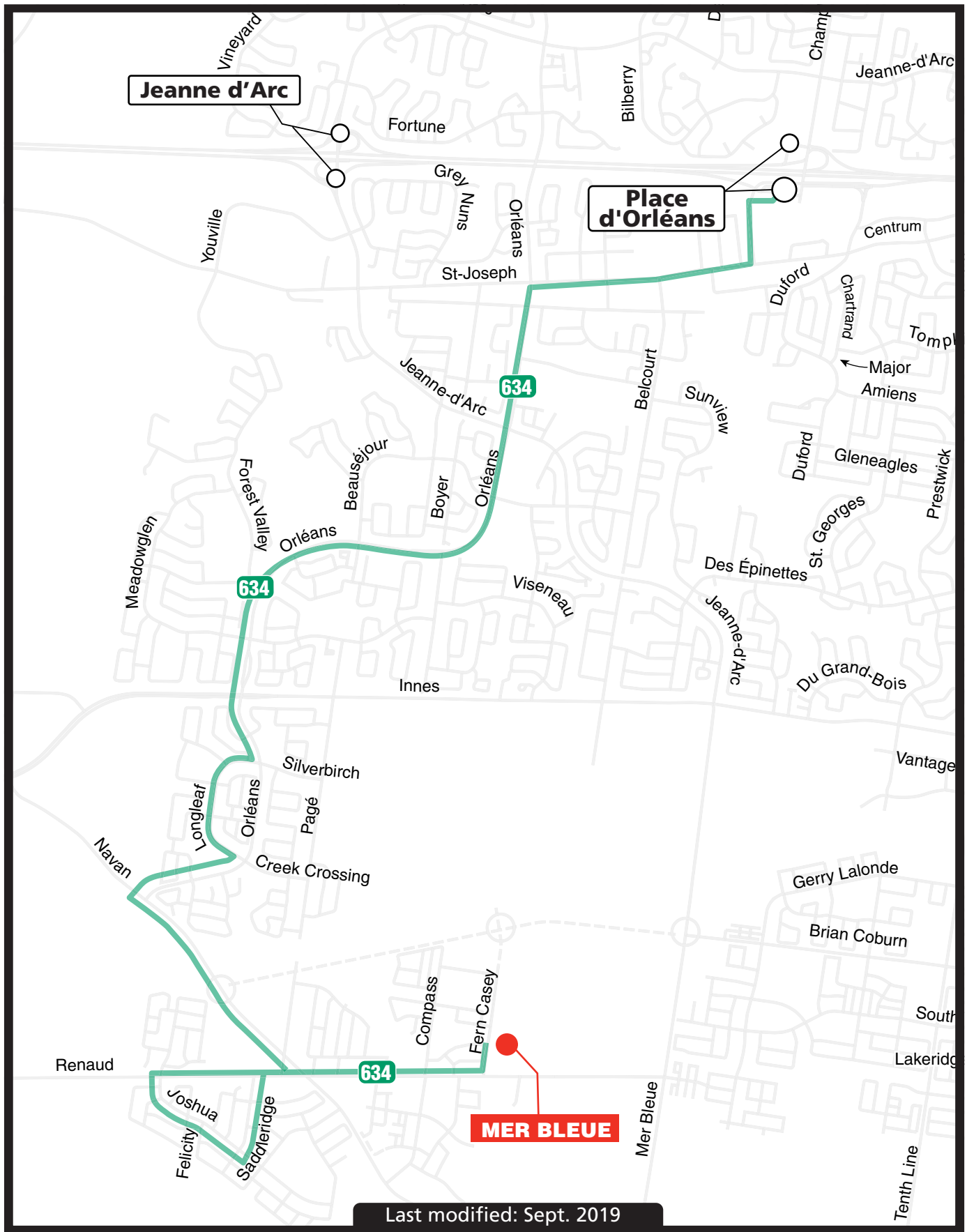
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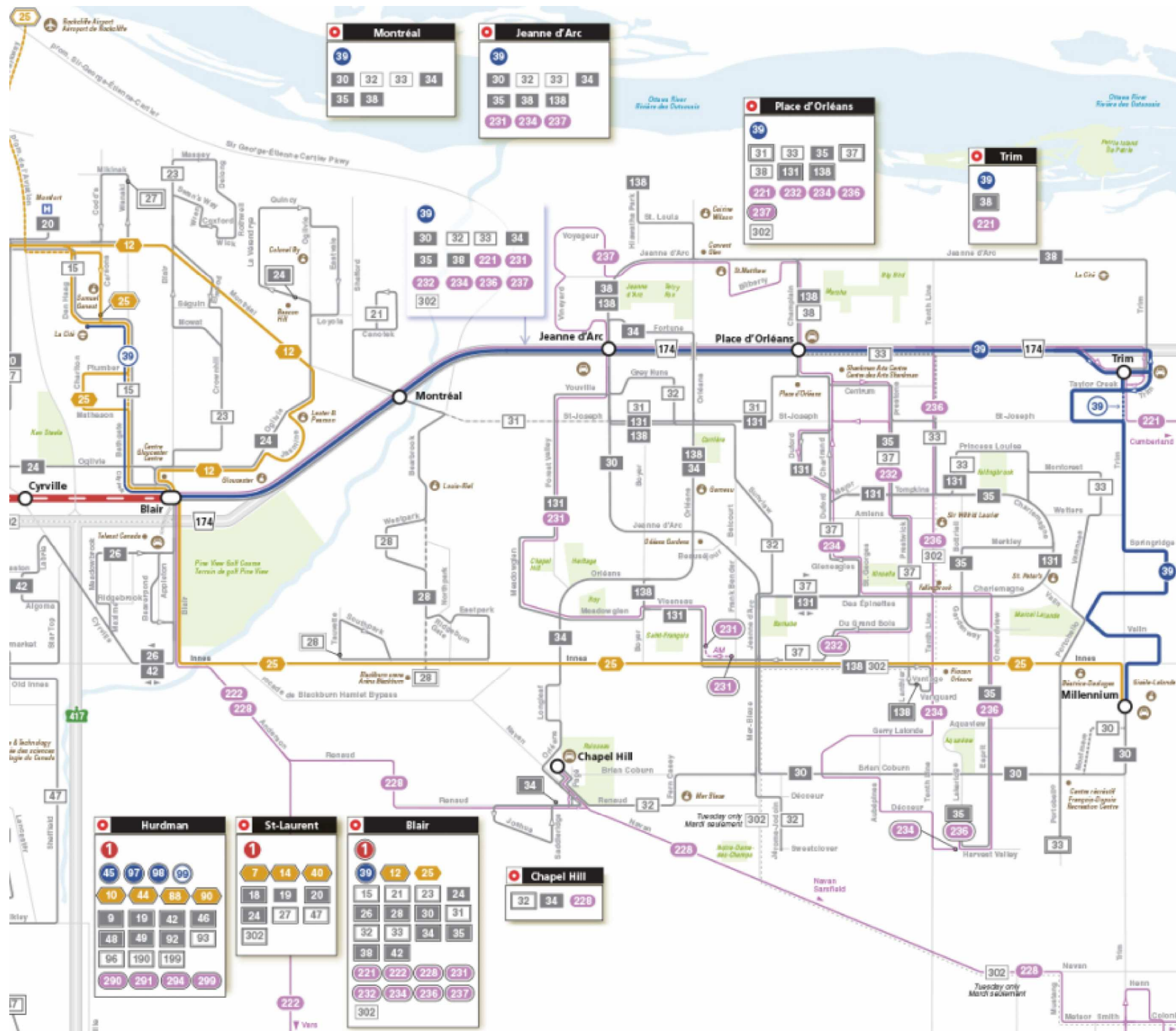
Effective September 2, 2019

En vigueur 2 septembre 2019



INFO 613-741-4390
octranspo.com





APPENDIX D

Traffic Count Data

Survey Date: Thursday, January 31, 2019

Start Time: 07:00

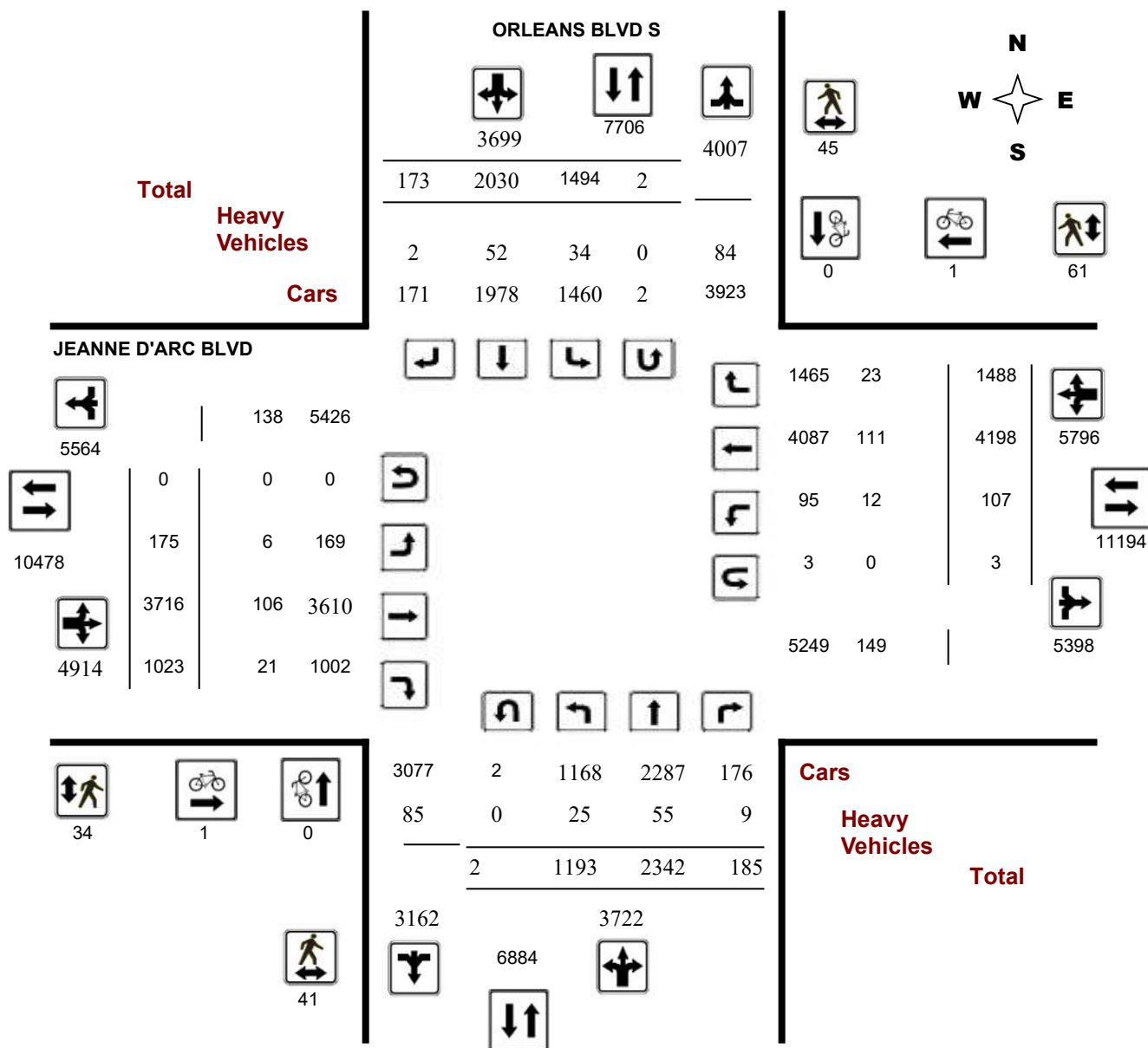
WO No:

38326

Device:

Miovision

Full Study Diagram



Turning Movement Count - Study Results

JEANNE D'ARC BLVD @ ORLEANS BLVD S

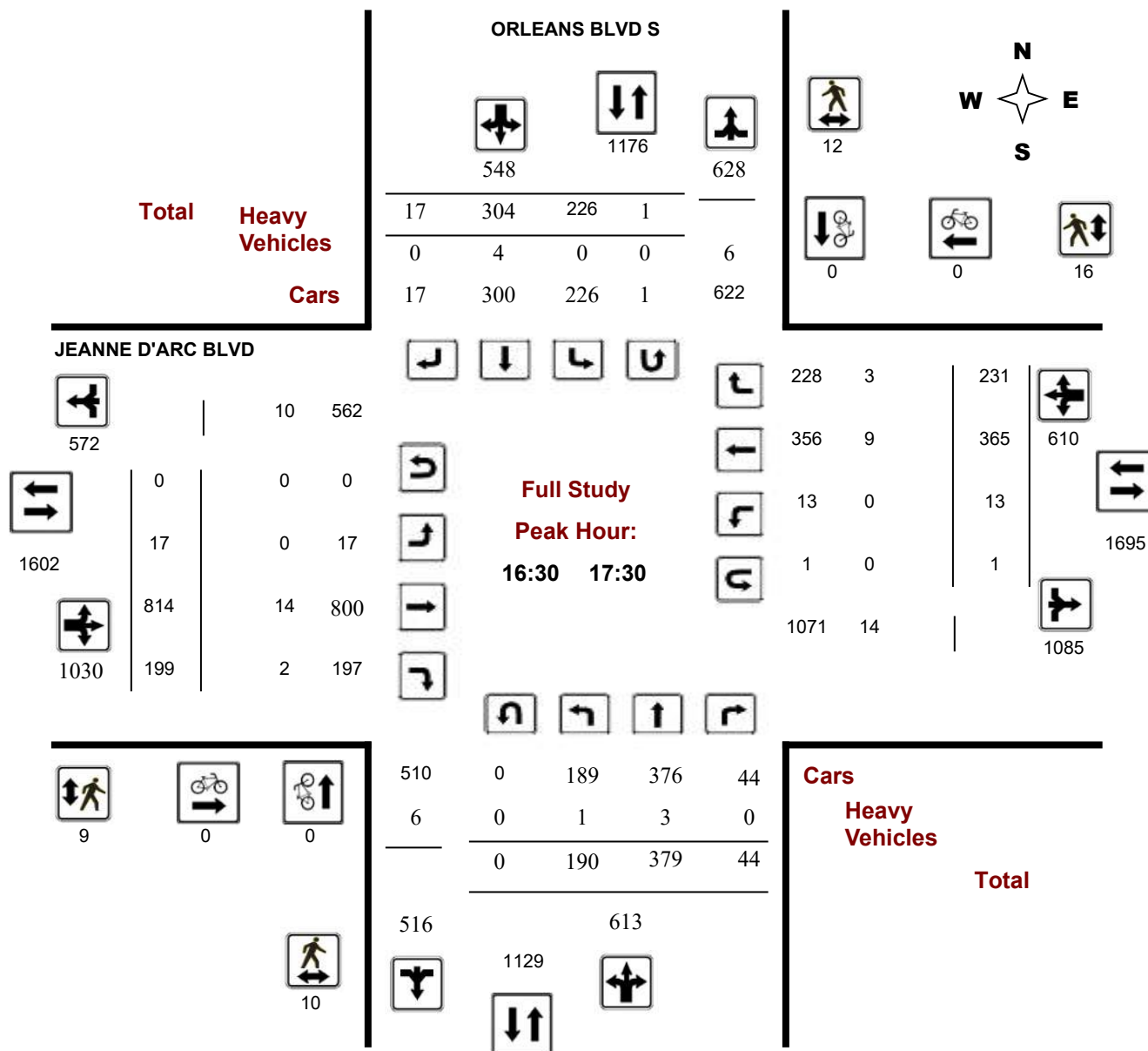
Survey Date: Thursday, January 31, 2019

WO No: 38326

Start Time: 07:00

Device: Miovision

Full Study Peak Hour Diagram



Turning Movement Count - Peak Hour Diagram

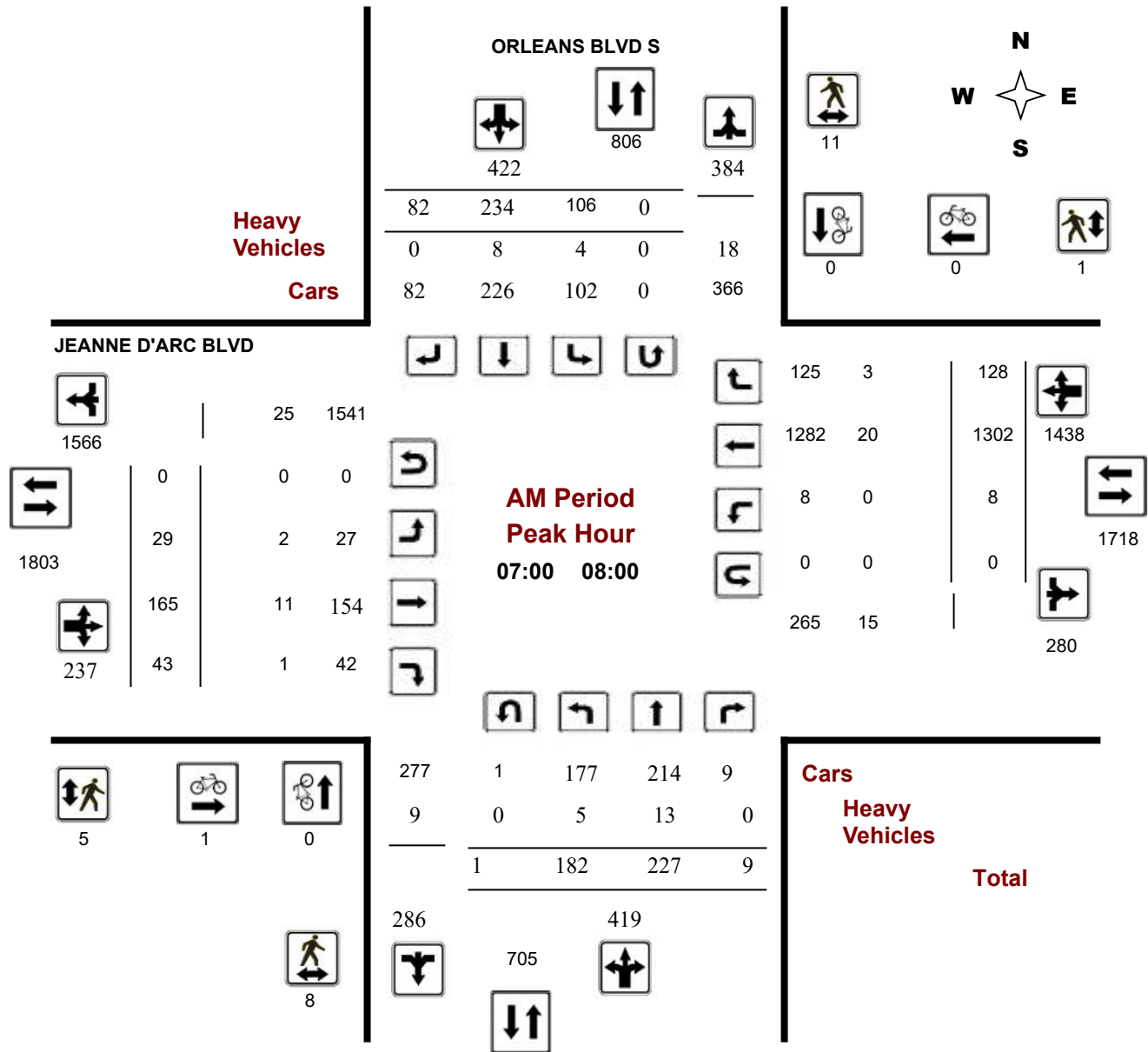
JEANNE D'ARC BLVD @ ORLEANS BLVD S

Survey Date: Thursday, January 31, 2019

Start Time: 07:00

WO No: 38326

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

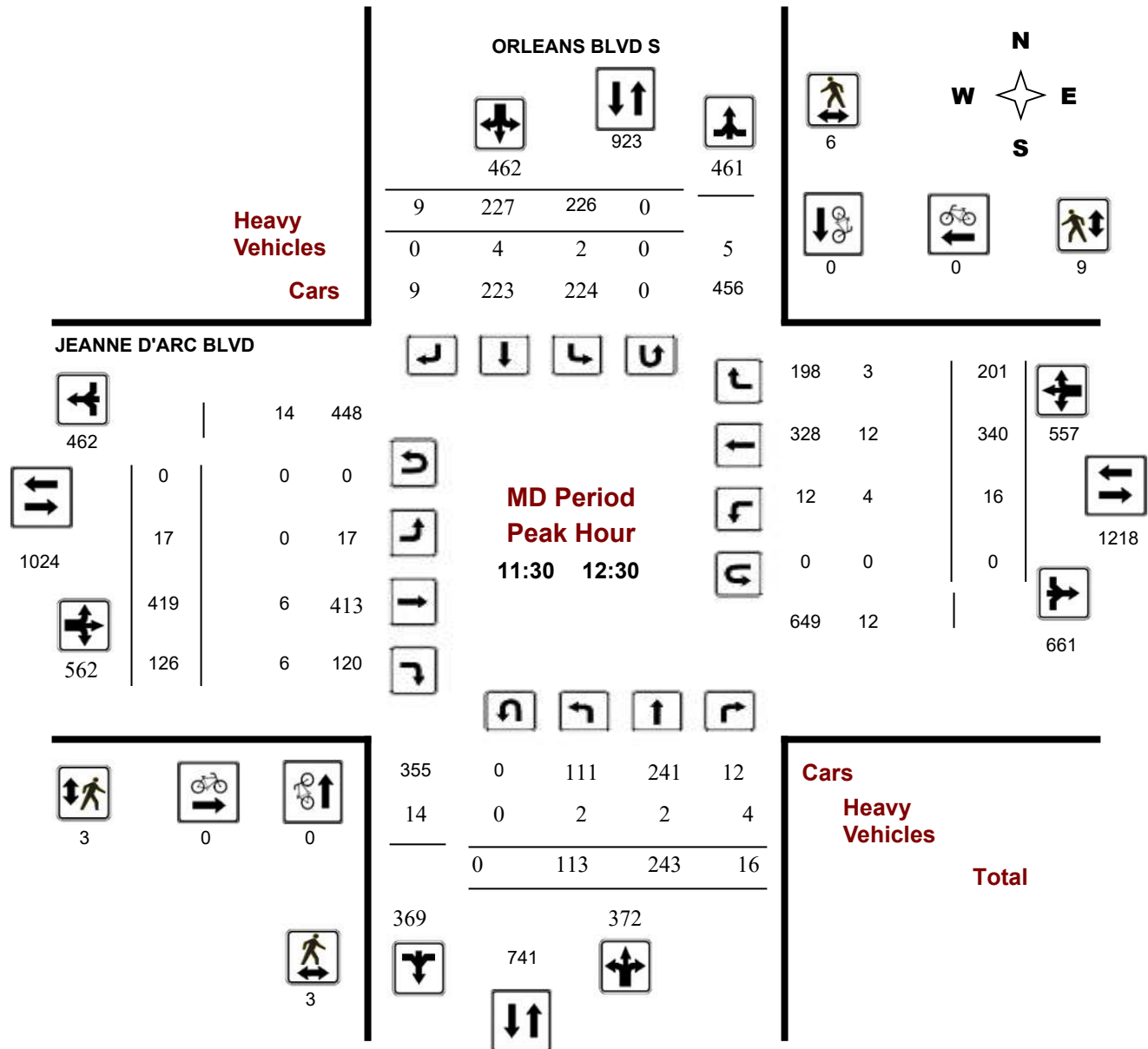
JEANNE D'ARC BLVD @ ORLEANS BLVD S

Survey Date: Thursday, January 31, 2019

Start Time: 07:00

WO No: 38326

Device: Miovision



Turning Movement Count - Peak Hour Diagram

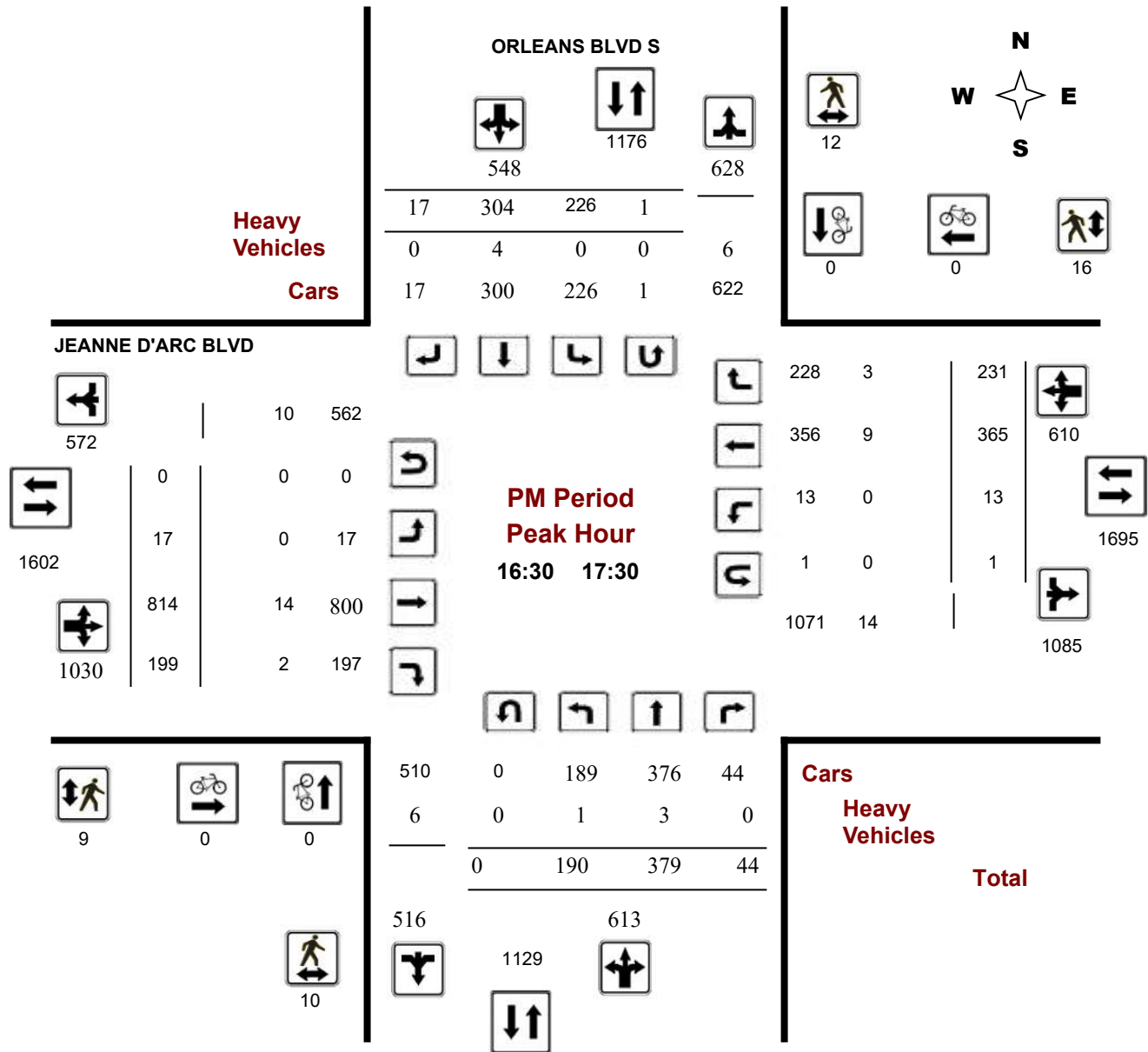
JEANNE D'ARC BLVD @ ORLEANS BLVD S

Survey Date: Thursday, January 31, 2019

Start Time: 07:00

WO No: 38326

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Study Results

JEANNE D'ARC BLVD @ ORLEANS BLVD S

Survey Date: Thursday, January 31, 2019

WO No: 38326

Start Time: 07:00

Device: Miovision

Full Study Summary (8 HR Standard)

Survey Date: Thursday, January 31, 2019

Total Observed U-Turns

Northbound: 2 Southbound: 2
Eastbound: 0 Westbound: 3

AADT Factor

1.00

ORLEANS BLVD S

JEANNE D'ARC BLVD

		Northbound				Southbound				Eastbound				Westbound						
Period		LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00	08:00	182	227	9	418	106	234	82	422	840	29	165	43	237	8	1302	128	1438	1675	2515
08:00	09:00	138	282	10	430	137	220	23	380	810	22	231	85	338	11	762	159	932	1270	2080
09:00	10:00	137	268	25	430	144	173	4	321	751	28	268	84	380	16	413	156	585	965	1716
11:30	12:30	113	243	16	372	226	227	9	462	834	17	419	126	562	16	340	201	557	1119	1953
12:30	13:30	124	217	29	370	190	223	8	421	791	16	355	127	498	12	308	186	506	1004	1795
15:00	16:00	138	328	28	494	250	336	13	599	1093	27	698	161	886	18	365	222	605	1491	2584
16:00	17:00	172	397	36	605	214	330	14	558	1163	23	776	211	1010	15	324	210	549	1559	2722
17:00	18:00	189	380	32	601	227	287	20	534	1135	13	804	186	1003	11	384	226	621	1624	2759
Sub Total		1193	2342	185	3720	1494	2030	173	3697	7417	175	3716	1023	4914	107	4198	1488	5793	10707	18124
U Turns		2			2	2			2	4	0			0	3			3	3	7
Total		1195	2342	185	3722	1496	2030	173	3699	7421	175	3716	1023	4914	110	4198	1488	5796	10710	18131
EQ 12Hr		1661	3255	257	5173	2079	2822	240	5141	10314	243	5165	1422	6830	153	5835	2068	8056	14886	25200

Note: These values are calculated by multiplying the totals by the appropriate expansion factor.

1.39

AVG 12Hr	1661	3255	257	5173	2079	2822	240	5141	10314	243	5165	1422	6830	153	5835	2068	8056	14886	25200
-----------------	------	------	-----	------	------	------	-----	------	-------	-----	------	------	------	-----	------	------	------	-------	-------

Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.

1.00

AVG 24Hr	2176	4264	337	6777	2723	3697	314	6734	13511	318	6766	1863	8947	200	7644	2709	10553	19500	33011
-----------------	------	------	-----	------	------	------	-----	------	-------	-----	------	------	------	-----	------	------	-------	-------	-------

Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.

1.31

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.



Transportation Services - Traffic Services

Turning Movement Count - Study Results

JEANNE D'ARC BLVD @ ORLEANS BLVD S

Survey Date: Thursday, January 31, 2019

WO No: 38326

Start Time: 07:00

Device: Miovision

Full Study Cyclist Volume

ORLEANS BLVD S

JEANNE D'ARC BLVD

Time Period	Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00 07:15	0	0	0	0	0	0	0
07:15 07:30	0	0	0	0	0	0	0
07:30 07:45	0	0	0	1	0	1	1
07:45 08:00	0	0	0	0	0	0	0
08:00 08:15	0	0	0	0	0	0	0
08:15 08:30	0	0	0	0	0	0	0
08:30 08:45	0	0	0	0	0	0	0
08:45 09:00	0	0	0	0	0	0	0
09:00 09:15	0	0	0	0	0	0	0
09:15 09:30	0	0	0	0	0	0	0
09:30 09:45	0	0	0	0	0	0	0
09:45 10:00	0	0	0	0	0	0	0
11:30 11:45	0	0	0	0	0	0	0
11:45 12:00	0	0	0	0	0	0	0
12:00 12:15	0	0	0	0	0	0	0
12:15 12:30	0	0	0	0	0	0	0
12:30 12:45	0	0	0	0	0	0	0
12:45 13:00	0	0	0	0	0	0	0
13:00 13:15	0	0	0	0	0	0	0
13:15 13:30	0	0	0	0	0	0	0
15:00 15:15	0	0	0	0	0	0	0
15:15 15:30	0	0	0	0	0	0	0
15:30 15:45	0	0	0	0	0	0	0
15:45 16:00	0	0	0	0	0	0	0
16:00 16:15	0	0	0	0	0	0	0
16:15 16:30	0	0	0	0	0	0	0
16:30 16:45	0	0	0	0	0	0	0
16:45 17:00	0	0	0	0	0	0	0
17:00 17:15	0	0	0	0	0	0	0
17:15 17:30	0	0	0	0	0	0	0
17:30 17:45	0	0	0	0	0	0	0
17:45 18:00	0	0	0	0	1	1	1
Total	0	0	0	1	1	2	2



Transportation Services - Traffic Services

Turning Movement Count - Study Results

JEANNE D'ARC BLVD @ ORLEANS BLVD S

Survey Date: Thursday, January 31, 2019

WO No: 38326

Start Time: 07:00

Device: Miovision

Full Study Pedestrian Volume

ORLEANS BLVD S

JEANNE D'ARC BLVD

Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	0	0	0	0	0	0	0
07:15 07:30	2	2	4	2	1	3	7
07:30 07:45	4	4	8	2	0	2	10
07:45 08:00	2	5	7	1	0	1	8
08:00 08:15	1	0	1	0	2	2	3
08:15 08:30	2	0	2	0	0	0	2
08:30 08:45	0	0	0	0	0	0	0
08:45 09:00	2	0	2	0	0	0	2
09:00 09:15	0	1	1	0	0	0	1
09:15 09:30	1	0	1	0	1	1	2
09:30 09:45	0	0	0	0	0	0	0
09:45 10:00	0	0	0	1	0	1	1
11:30 11:45	0	1	1	0	0	0	1
11:45 12:00	0	1	1	1	4	5	6
12:00 12:15	1	3	4	1	3	4	8
12:15 12:30	2	1	3	1	2	3	6
12:30 12:45	0	0	0	0	3	3	3
12:45 13:00	0	0	0	1	3	4	4
13:00 13:15	2	1	3	1	3	4	7
13:15 13:30	0	1	1	1	3	4	5
15:00 15:15	1	2	3	2	0	2	5
15:15 15:30	1	2	3	1	1	2	5
15:30 15:45	2	1	3	3	1	4	7
15:45 16:00	3	4	7	5	10	15	22
16:00 16:15	3	2	5	2	0	2	7
16:15 16:30	2	2	4	0	8	8	12
16:30 16:45	3	6	9	1	1	2	11
16:45 17:00	1	1	2	1	7	8	10
17:00 17:15	5	4	9	0	7	7	16
17:15 17:30	1	1	2	7	1	8	10
17:30 17:45	0	0	0	0	0	0	0
17:45 18:00	0	0	0	0	0	0	0
Total	41	45	86	34	61	95	181



Transportation Services - Traffic Services

Turning Movement Count - Study Results

JEANNE D'ARC BLVD @ ORLEANS BLVD S

Survey Date: Thursday, January 31, 2019

WO No: 38326

Start Time: 07:00

Device: Miovision

Full Study Heavy Vehicles

ORLEANS BLVD S

JEANNE D'ARC BLVD

Northbound

Southbound

Eastbound

Westbound

Time Period	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00 07:15	0	2	0		0	0	0		2	0	2	0		0	8	0		10	12
07:15 07:30	4	2	0		0	2	0		8	0	2	1		0	4	1		8	16
07:30 07:45	0	6	0		2	2	0		10	1	4	0		0	3	1		9	19
07:45 08:00	1	3	0		2	4	0		10	1	3	0		0	5	1		10	20
08:00 08:15	2	8	0		2	0	0		12	0	7	2		0	6	3		18	30
08:15 08:30	0	1	0		3	5	0		9	0	3	0		0	5	0		8	17
08:30 08:45	4	3	0		2	0	0		9	1	6	1		2	4	1		15	24
08:45 09:00	0	3	0		0	2	0		5	1	2	0		0	3	0		6	11
09:00 09:15	1	5	1		5	4	0		16	1	6	3		1	3	2		16	32
09:15 09:30	0	1	1		3	3	0		8	0	2	0		2	4	0		8	16
09:30 09:45	0	2	1		1	0	0		4	1	3	0		1	5	0		10	14
09:45 10:00	1	1	1		0	1	0		4	0	2	0		1	5	0		8	12
11:30 11:45	1	0	2		2	1	0		6	0	2	2		2	3	0		9	15
11:45 12:00	1	1	1		0	2	0		5	0	0	1		1	3	1		6	11
12:00 12:15	0	0	0		0	0	0		0	0	3	0		1	5	2		11	11
12:15 12:30	0	1	1		0	1	0		3	0	1	3		0	1	0		5	8
12:30 12:45	2	1	0		0	0	0		3	0	3	0		0	2	1		6	9
12:45 13:00	2	1	0		0	1	0		4	0	2	1		0	1	1		5	9
13:00 13:15	1	1	0		2	0	0		4	0	5	0		0	3	1		9	13
13:15 13:30	0	0	0		0	2	0		2	0	0	1		0	3	1		5	7
15:00 15:15	0	2	1		3	5	2		13	0	3	1		0	2	0		6	19
15:15 15:30	0	3	0		2	1	0		6	0	7	0		0	3	1		11	17
15:30 15:45	1	2	0		0	3	0		6	0	2	0		1	4	2		9	15
15:45 16:00	1	1	0		3	3	0		8	0	3	1		0	7	0		11	19
16:00 16:15	1	1	0		1	2	0		5	0	4	1		0	2	0		7	12
16:15 16:30	0	0	0		0	3	0		3	0	7	1		0	4	0		12	15
16:30 16:45	0	1	0		0	0	0		1	0	2	0		0	2	2		6	7
16:45 17:00	0	1	0		0	1	0		2	0	4	1		0	4	0		9	11
17:00 17:15	1	0	0		0	0	0		1	0	4	0		0	2	1		7	8
17:15 17:30	0	1	0		0	3	0		4	0	4	1		0	1	0		6	10
17:30 17:45	1	1	0		1	1	0		4	0	5	0		0	1	0		6	10
17:45 18:00	0	0	0		0	0	0		0	0	3	0		0	3	1		7	7
Total: None	25	55	9	0	34	52	2	0	177	6	106	21	0	12	111	23	0	279	456



Transportation Services - Traffic Services

Turning Movement Count - Study Results

JEANNE D'ARC BLVD @ ORLEANS BLVD S

Survey Date: Thursday, January 31, 2019

WO No: 38326

Start Time: 07:00

Device: Miovision

Full Study 15 Minute U-Turn Total

ORLEANS BLVD S

JEANNE D'ARC BLVD

Time Period		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00	07:15	0	0	0	0	0
07:15	07:30	1	0	0	0	1
07:30	07:45	0	0	0	0	0
07:45	08:00	0	0	0	0	0
08:00	08:15	0	0	0	0	0
08:15	08:30	0	0	0	0	0
08:30	08:45	0	0	0	0	0
08:45	09:00	0	0	0	0	0
09:00	09:15	0	0	0	0	0
09:15	09:30	0	0	0	0	0
09:30	09:45	0	0	0	0	0
09:45	10:00	0	0	0	0	0
11:30	11:45	0	0	0	0	0
11:45	12:00	0	0	0	0	0
12:00	12:15	0	0	0	0	0
12:15	12:30	0	0	0	0	0
12:30	12:45	1	0	0	0	1
12:45	13:00	0	0	0	0	0
13:00	13:15	0	0	0	0	0
13:15	13:30	0	0	0	0	0
15:00	15:15	0	1	0	0	1
15:15	15:30	0	0	0	1	1
15:30	15:45	0	0	0	0	0
15:45	16:00	0	0	0	0	0
16:00	16:15	0	0	0	0	0
16:15	16:30	0	0	0	0	0
16:30	16:45	0	0	0	0	0
16:45	17:00	0	0	0	0	0
17:00	17:15	0	1	0	1	2
17:15	17:30	0	0	0	0	0
17:30	17:45	0	0	0	0	0
17:45	18:00	0	0	0	1	1
Total		2	2	0	3	7

Survey Date: Wednesday, December 05, 2018

Start Time: 07:00

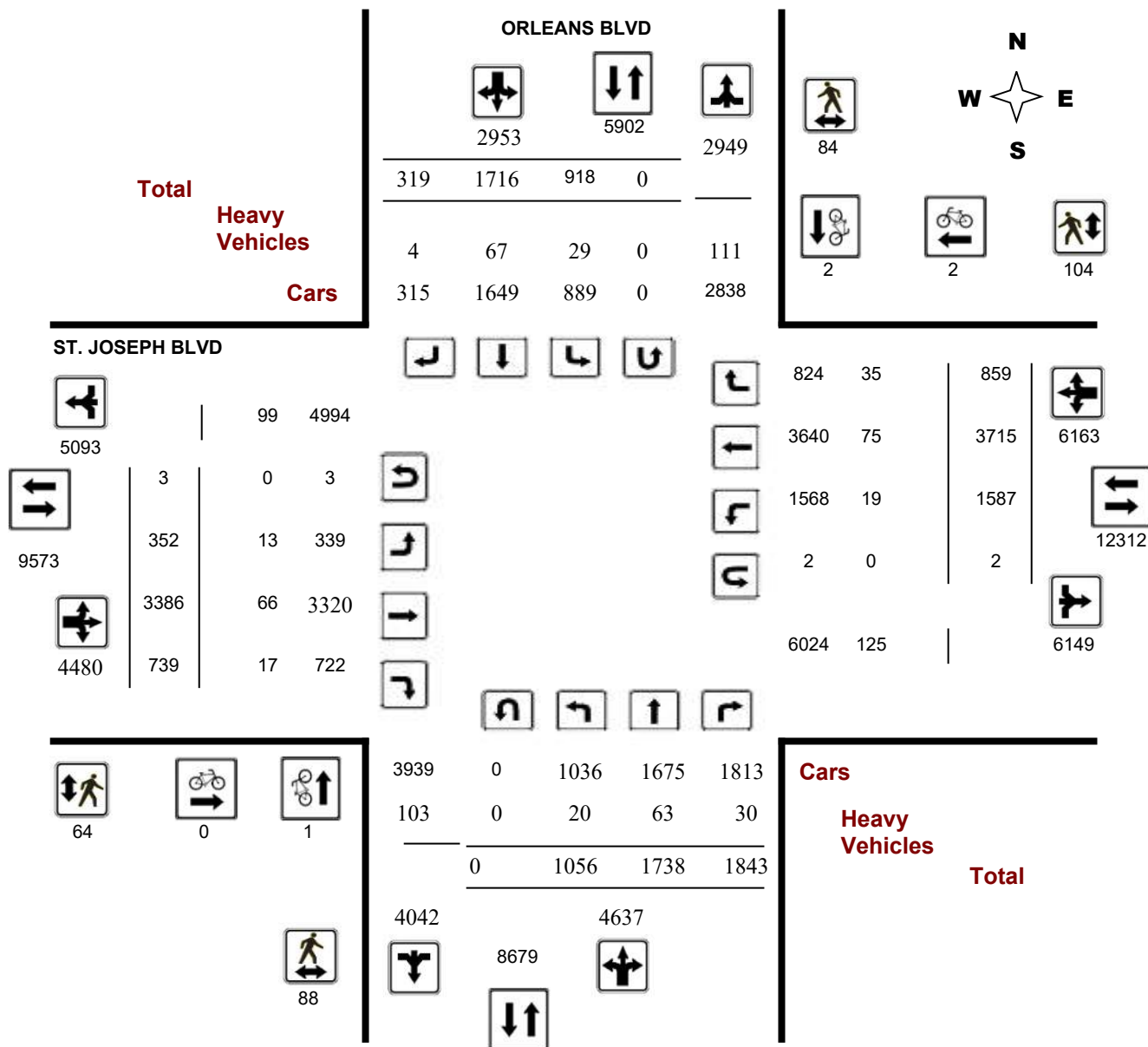
WO No:

38185

Device:

Miovision

Full Study Diagram



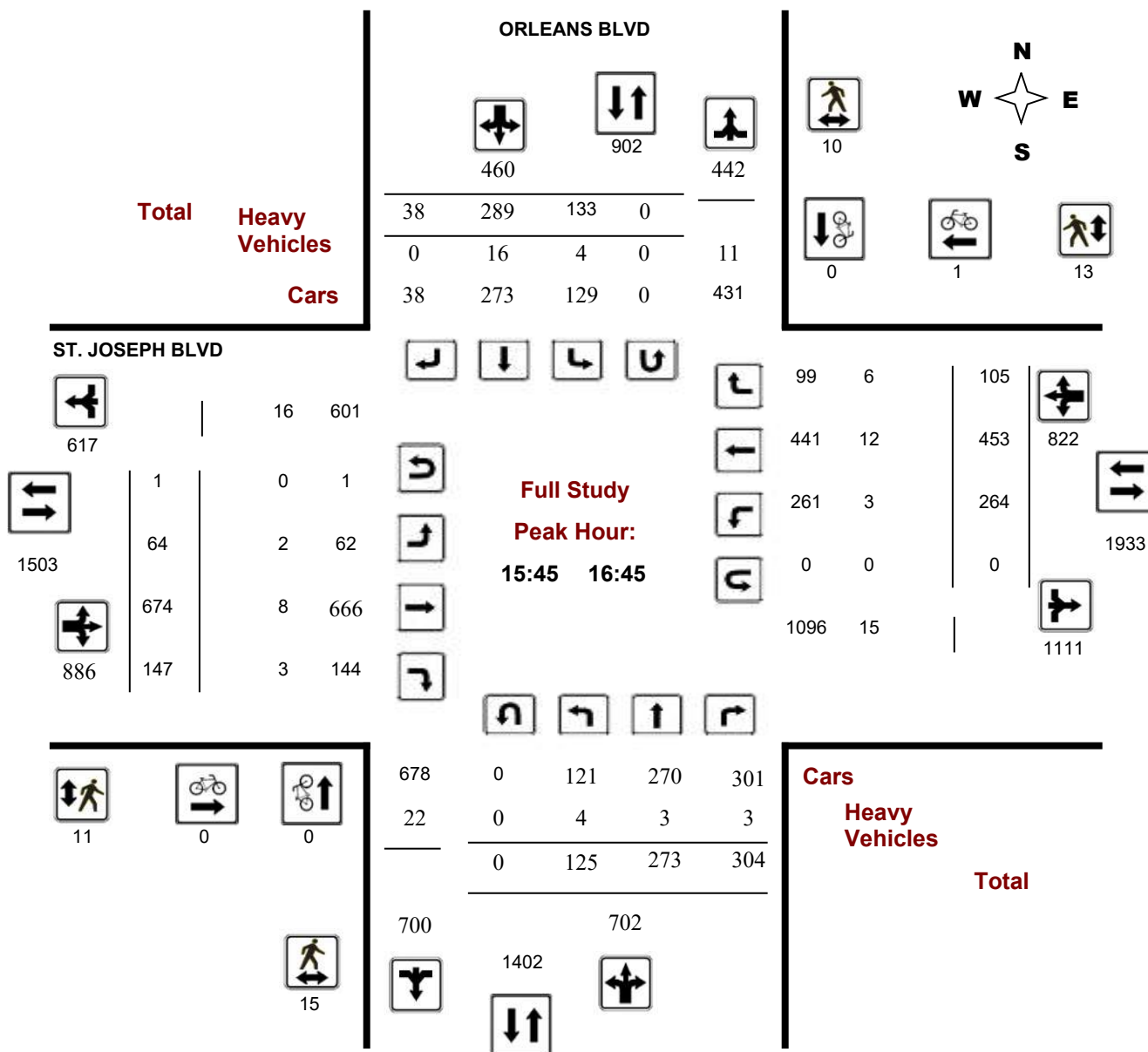
Survey Date: Wednesday, December 05, 2018

WO No: 38185

Start Time: 07:00

Device: Miovision

Full Study Peak Hour Diagram





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

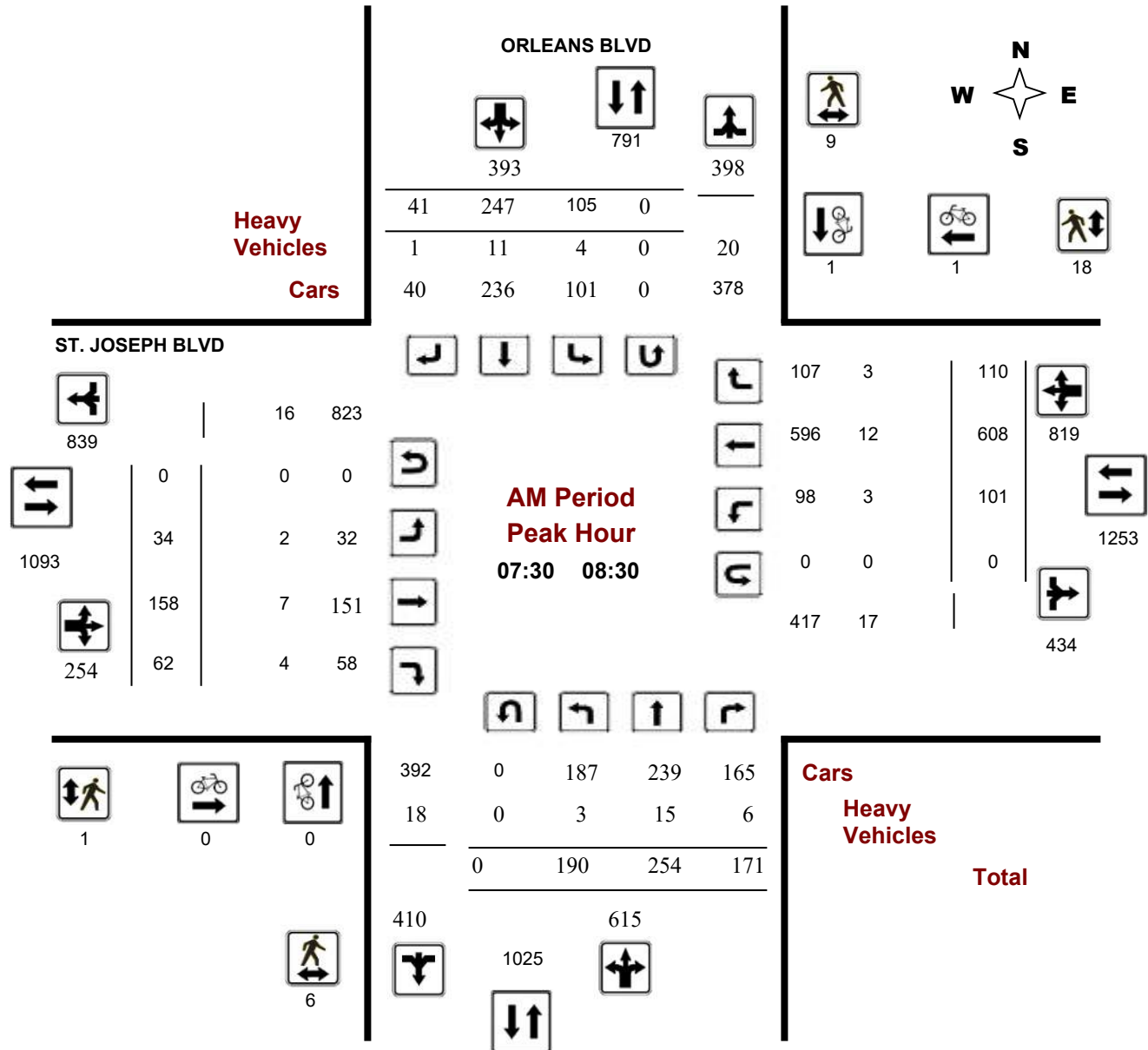
ORLEANS BLVD @ ST. JOSEPH BLVD

Survey Date: Wednesday, December 05, 2018

Start Time: 07:00

WO No: 38185

Device: Miovision



Turning Movement Count - Peak Hour Diagram

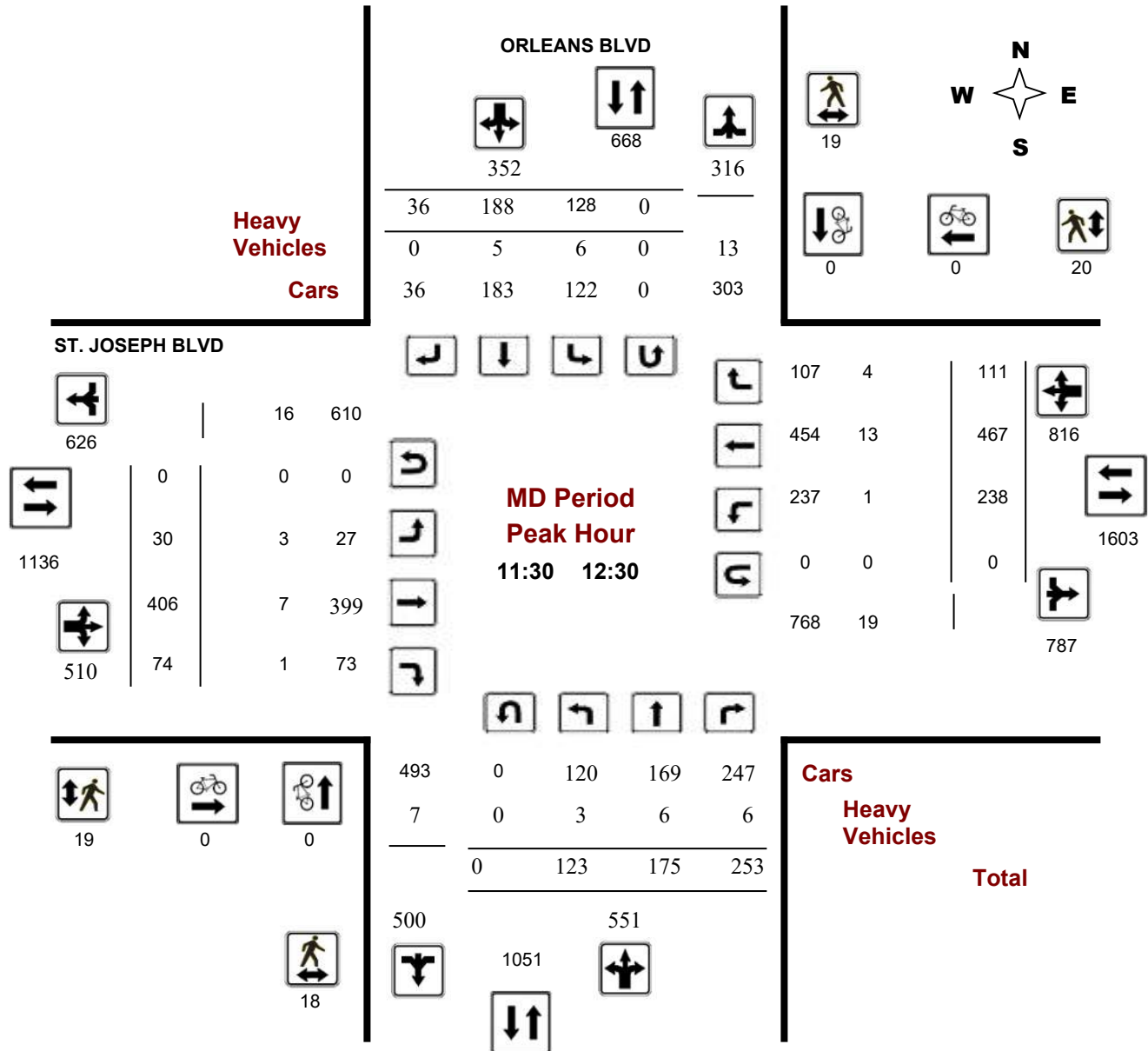
ORLEANS BLVD @ ST. JOSEPH BLVD

Survey Date: Wednesday, December 05, 2018

Start Time: 07:00

WO No: 38185

Device: Miovision



Comments



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

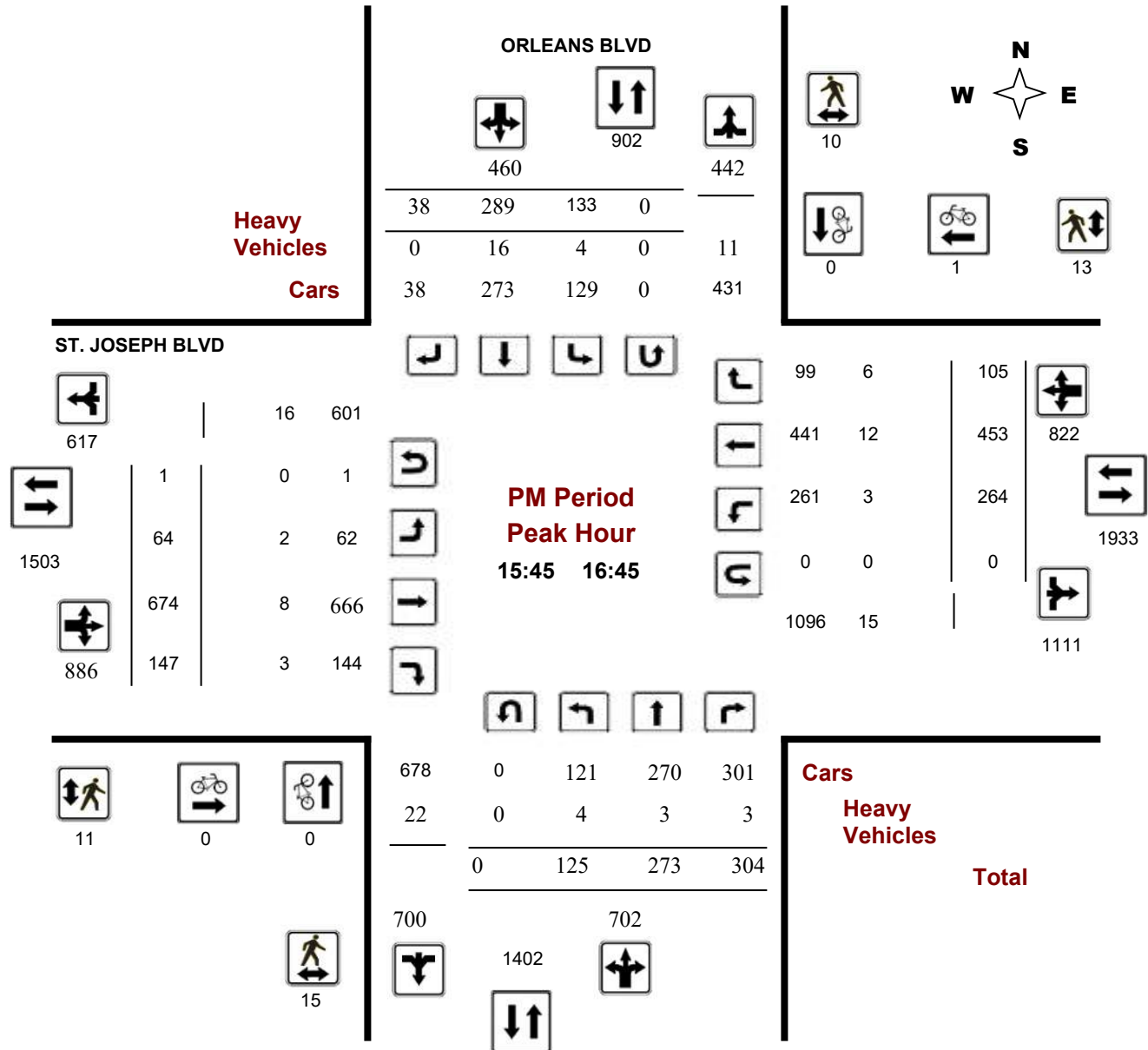
ORLEANS BLVD @ ST. JOSEPH BLVD

Survey Date: Wednesday, December 05, 2018

Start Time: 07:00

WO No: 38185

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Study Results

ORLEANS BLVD @ ST. JOSEPH BLVD

Survey Date: Wednesday, December 05, 2018

WO No: 38185

Start Time: 07:00

Device: Miovision

Full Study Summary (8 HR Standard)

Survey Date: Wednesday, December 05, 2018

Total Observed U-Turns

Northbound: 0 Southbound: 0
Eastbound: 3 Westbound: 2

AADT Factor

1.00

ORLEANS BLVD

ST. JOSEPH BLVD

Period	Northbound					Southbound					Eastbound					Westbound					STR TOT	Grand Total
	LT	ST	RT	NB TOT		LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT		LT	ST	RT	WB TOT			
07:00 08:00	163	192	123	478		81	207	36	324	802	15	119	70	204		122	732	106	960		1164	1966
08:00 09:00	157	189	206	552		113	206	46	365	917	40	214	47	301		116	485	98	699		1000	1917
09:00 10:00	140	206	230	576		119	195	44	358	934	37	334	72	443		144	380	96	620		1063	1997
11:30 12:30	123	175	253	551		128	188	36	352	903	30	406	74	510		238	467	111	816		1326	2229
12:30 13:30	102	173	234	509		102	171	36	309	818	34	376	76	486		214	436	111	761		1247	2065
15:00 16:00	126	264	249	639		135	232	38	405	1044	58	584	111	753		246	419	118	783		1536	2580
16:00 17:00	130	259	301	690		111	290	38	439	1129	68	689	145	902		266	413	113	792		1694	2823
17:00 18:00	115	280	247	642		129	227	45	401	1043	70	664	144	878		241	383	106	730		1608	2651
Sub Total	1056	1738	1843	4637		918	1716	319	2953	7590	352	3386	739	4477		1587	3715	859	6161		10638	18228
U Turns	0			0		0			0	0	3			3		2			2		5	5
Total	1056	1738	1843	4637		918	1716	319	2953	7590	355	3386	739	4480		1589	3715	859	6163		10643	18233
EQ 12Hr	1468	2416	2562	6446		1276	2385	443	4104	10550	493	4707	1027	6227		2209	5164	1194	8567		14794	25344
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.																			1.39			
AVG 12Hr	1468	2416	2562	6446		1276	2385	443	4104	10550	493	4707	1027	6227		2209	5164	1194	8567		14794	25344
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.																			1.00			
AVG 24Hr	1923	3165	3356	8444		1672	3124	580	5376	13820	646	6166	1345	8157		2894	6765	1564	11223		19380	33200

Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor. **1.31**

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.



Transportation Services - Traffic Services

Turning Movement Count - Study Results

ORLEANS BLVD @ ST. JOSEPH BLVD

Survey Date: Wednesday, December 05, 2018

WO No: 38185

Start Time: 07:00

Device: Miovision

Full Study Cyclist Volume

ORLEANS BLVD

ST. JOSEPH BLVD

Time Period	Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00 07:15	0	0	0	0	0	0	0
07:15 07:30	0	0	0	0	0	0	0
07:30 07:45	0	0	0	0	1	1	1
07:45 08:00	0	1	1	0	0	0	1
08:00 08:15	0	0	0	0	0	0	0
08:15 08:30	0	0	0	0	0	0	0
08:30 08:45	0	0	0	0	0	0	0
08:45 09:00	0	0	0	0	0	0	0
09:00 09:15	0	0	0	0	0	0	0
09:15 09:30	0	0	0	0	0	0	0
09:30 09:45	0	0	0	0	0	0	0
09:45 10:00	0	0	0	0	0	0	0
11:30 11:45	0	0	0	0	0	0	0
11:45 12:00	0	0	0	0	0	0	0
12:00 12:15	0	0	0	0	0	0	0
12:15 12:30	0	0	0	0	0	0	0
12:30 12:45	0	0	0	0	0	0	0
12:45 13:00	0	0	0	0	0	0	0
13:00 13:15	0	0	0	0	0	0	0
13:15 13:30	0	0	0	0	0	0	0
15:00 15:15	0	0	0	0	0	0	0
15:15 15:30	0	0	0	0	0	0	0
15:30 15:45	0	0	0	0	0	0	0
15:45 16:00	0	0	0	0	0	0	0
16:00 16:15	0	0	0	0	1	1	1
16:15 16:30	0	0	0	0	0	0	0
16:30 16:45	0	0	0	0	0	0	0
16:45 17:00	0	0	0	0	0	0	0
17:00 17:15	1	1	2	0	0	0	2
17:15 17:30	0	0	0	0	0	0	0
17:30 17:45	0	0	0	0	0	0	0
17:45 18:00	0	0	0	0	0	0	0
Total	1	2	3	0	2	2	5



Transportation Services - Traffic Services

Turning Movement Count - Study Results

ORLEANS BLVD @ ST. JOSEPH BLVD

Survey Date: Wednesday, December 05, 2018

WO No: 38185

Start Time: 07:00

Device: Miovision

Full Study Pedestrian Volume

ORLEANS BLVD

ST. JOSEPH BLVD

Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	0	1	1	0	0	0	1
07:15 07:30	2	1	3	1	4	5	8
07:30 07:45	0	3	3	0	7	7	10
07:45 08:00	0	2	2	0	1	1	3
08:00 08:15	2	0	2	1	3	4	6
08:15 08:30	4	4	8	0	7	7	15
08:30 08:45	2	2	4	1	3	4	8
08:45 09:00	0	0	0	0	1	1	1
09:00 09:15	6	5	11	4	9	13	24
09:15 09:30	3	1	4	1	1	2	6
09:30 09:45	5	0	5	1	1	2	7
09:45 10:00	5	6	11	1	5	6	17
11:30 11:45	11	7	18	10	6	16	34
11:45 12:00	4	6	10	5	10	15	25
12:00 12:15	0	2	2	3	0	3	5
12:15 12:30	3	4	7	1	4	5	12
12:30 12:45	1	2	3	2	1	3	6
12:45 13:00	2	4	6	1	5	6	12
13:00 13:15	0	0	0	1	1	2	2
13:15 13:30	3	3	6	1	2	3	9
15:00 15:15	4	4	8	2	4	6	14
15:15 15:30	2	2	4	4	1	5	9
15:30 15:45	1	5	6	3	5	8	14
15:45 16:00	3	4	7	3	5	8	15
16:00 16:15	3	4	7	4	4	8	15
16:15 16:30	3	1	4	2	0	2	6
16:30 16:45	6	1	7	2	4	6	13
16:45 17:00	2	1	3	1	1	2	5
17:00 17:15	2	2	4	2	2	4	8
17:15 17:30	5	2	7	2	2	4	11
17:30 17:45	1	0	1	4	1	5	6
17:45 18:00	3	5	8	1	4	5	13
Total	88	84	172	64	104	168	340



Transportation Services - Traffic Services

Turning Movement Count - Study Results

ORLEANS BLVD @ ST. JOSEPH BLVD

Survey Date: Wednesday, December 05, 2018

WO No: 38185

Start Time: 07:00

Device: Miovision

Full Study Heavy Vehicles

ORLEANS BLVD

ST. JOSEPH BLVD

Northbound

Southbound

Eastbound

Westbound

Time Period	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00 07:15	0	1	2	3	0	0	0	0	3	0	2	0	2	0	2	1	3	5	8
07:15 07:30	0	2	0	2	1	1	0	2	4	1	0	0	1	2	3	0	5	6	10
07:30 07:45	2	1	0	3	0	2	1	3	6	2	2	0	4	0	3	1	4	8	14
07:45 08:00	0	5	0	5	1	1	0	2	7	0	2	1	3	1	2	0	3	6	13
08:00 08:15	0	8	3	11	2	0	0	2	13	0	1	0	1	0	5	2	7	8	21
08:15 08:30	1	1	3	5	1	8	0	9	14	0	2	3	5	2	2	0	4	9	23
08:30 08:45	0	2	0	2	0	1	0	1	3	0	3	1	4	1	4	3	8	12	15
08:45 09:00	0	0	3	3	2	3	0	5	8	0	2	0	2	1	3	0	4	6	14
09:00 09:15	1	12	2	15	0	2	0	2	17	1	4	3	8	0	3	2	5	13	30
09:15 09:30	2	0	0	2	2	5	0	7	9	2	4	0	6	0	1	0	1	7	16
09:30 09:45	0	2	1	3	0	0	0	0	3	0	5	0	5	2	2	2	6	11	14
09:45 10:00	2	1	3	6	1	3	1	5	11	0	0	0	0	0	2	1	3	3	14
11:30 11:45	0	4	0	4	0	1	0	1	5	2	2	0	4	0	5	0	5	9	14
11:45 12:00	1	0	3	4	1	2	0	3	7	0	1	0	1	0	2	1	3	4	11
12:00 12:15	2	1	1	4	1	0	0	1	5	1	3	0	4	0	2	2	4	8	13
12:15 12:30	0	1	2	3	4	2	0	6	9	0	1	1	2	1	4	1	6	8	17
12:30 12:45	1	0	0	1	0	0	0	0	1	1	2	0	3	0	2	1	3	6	7
12:45 13:00	1	3	0	4	1	1	0	2	6	0	3	1	4	1	0	0	1	5	11
13:00 13:15	1	1	0	2	1	0	0	1	3	0	2	0	2	0	5	2	7	9	12
13:15 13:30	0	2	0	2	1	3	0	4	6	0	0	2	2	1	1	0	2	4	10
15:00 15:15	1	0	1	2	2	4	1	7	9	0	3	1	4	0	1	2	3	7	16
15:15 15:30	0	5	1	6	1	1	0	2	8	0	2	0	2	1	2	4	7	9	17
15:30 15:45	1	5	1	7	0	5	1	6	13	0	3	0	3	1	0	1	2	5	18
15:45 16:00	0	0	0	0	1	9	0	10	10	0	2	1	3	1	2	1	4	7	17
16:00 16:15	2	1	3	6	1	2	0	3	9	2	2	0	4	1	5	2	8	12	21
16:15 16:30	1	0	0	1	1	3	0	4	5	0	0	1	1	0	1	1	2	3	8
16:30 16:45	1	2	0	3	1	2	0	3	6	0	4	1	5	1	4	2	7	12	18
16:45 17:00	0	1	0	1	1	0	0	1	2	0	1	0	1	0	2	0	2	3	5
17:00 17:15	0	0	1	1	0	2	0	2	3	0	2	0	2	0	0	2	2	4	7
17:15 17:30	0	0	0	0	1	1	0	2	2	0	3	1	4	2	2	0	4	8	10
17:30 17:45	0	2	0	2	0	0	0	0	2	0	3	0	3	0	2	1	3	6	8
17:45 18:00	0	0	0	0	1	3	0	4	4	1	0	0	1	0	1	0	1	2	6
Total: None	20	63	30	113	29	67	4	100	213	13	66	17	96	19	75	35	129	225	438



Transportation Services - Traffic Services

Turning Movement Count - Study Results

ORLEANS BLVD @ ST. JOSEPH BLVD

Survey Date: Wednesday, December 05, 2018

WO No: 38185

Start Time: 07:00

Device: Miovision

Full Study 15 Minute U-Turn Total

ORLEANS BLVD

ST. JOSEPH BLVD

Time Period		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00	07:15	0	0	0	0	0
07:15	07:30	0	0	0	0	0
07:30	07:45	0	0	0	0	0
07:45	08:00	0	0	0	0	0
08:00	08:15	0	0	0	0	0
08:15	08:30	0	0	0	0	0
08:30	08:45	0	0	0	0	0
08:45	09:00	0	0	0	0	0
09:00	09:15	0	0	0	0	0
09:15	09:30	0	0	0	0	0
09:30	09:45	0	0	0	1	1
09:45	10:00	0	0	0	0	0
11:30	11:45	0	0	0	0	0
11:45	12:00	0	0	0	0	0
12:00	12:15	0	0	0	0	0
12:15	12:30	0	0	0	0	0
12:30	12:45	0	0	0	0	0
12:45	13:00	0	0	0	1	1
13:00	13:15	0	0	0	0	0
13:15	13:30	0	0	0	0	0
15:00	15:15	0	0	0	0	0
15:15	15:30	0	0	0	0	0
15:30	15:45	0	0	0	0	0
15:45	16:00	0	0	0	0	0
16:00	16:15	0	0	1	0	1
16:15	16:30	0	0	0	0	0
16:30	16:45	0	0	0	0	0
16:45	17:00	0	0	1	0	1
17:00	17:15	0	0	0	0	0
17:15	17:30	0	0	0	0	0
17:30	17:45	0	0	0	0	0
17:45	18:00	0	0	1	0	1
Total		0	0	3	2	5

Survey Date: Wednesday, December 19, 2018

Start Time: 07:00

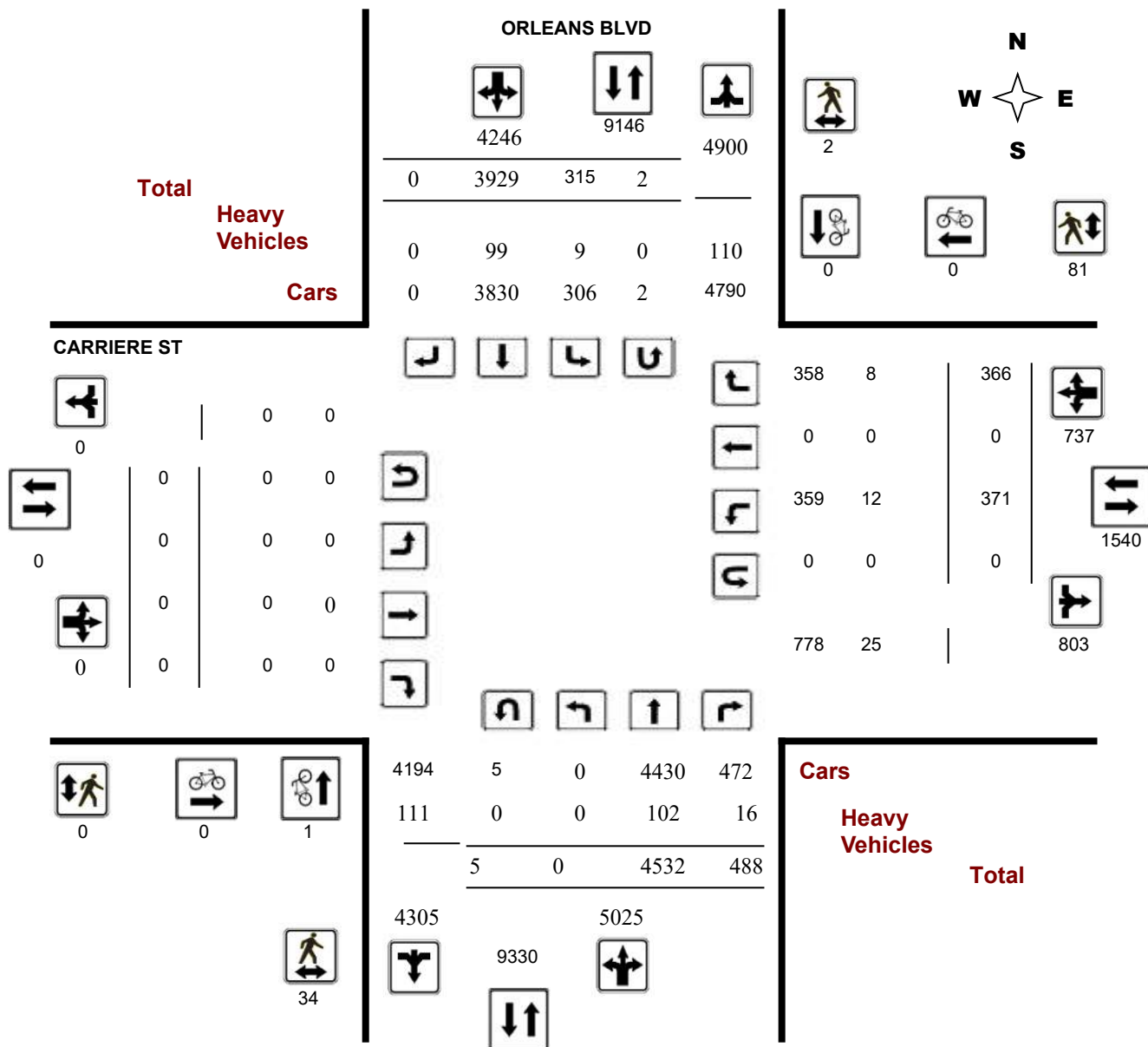
WO No:

38208

Device:

Miovision

Full Study Diagram



Turning Movement Count - Study Results

CARRIERE ST @ ORLEANS BLVD

Survey Date: Wednesday, December 19, 2018

Start Time: 07:00

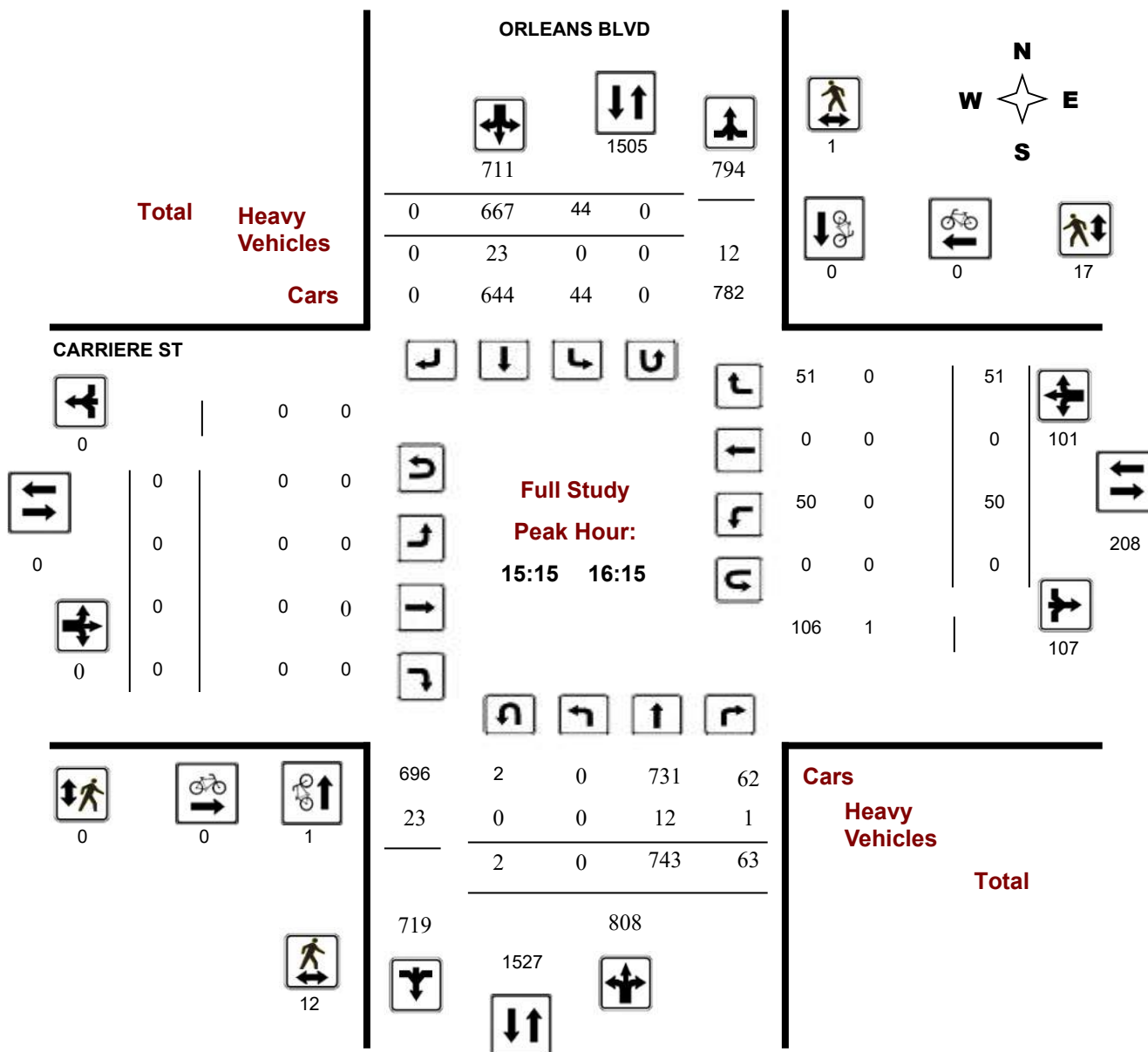
WO No:

38208

Device:

Miovision

Full Study Peak Hour Diagram





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

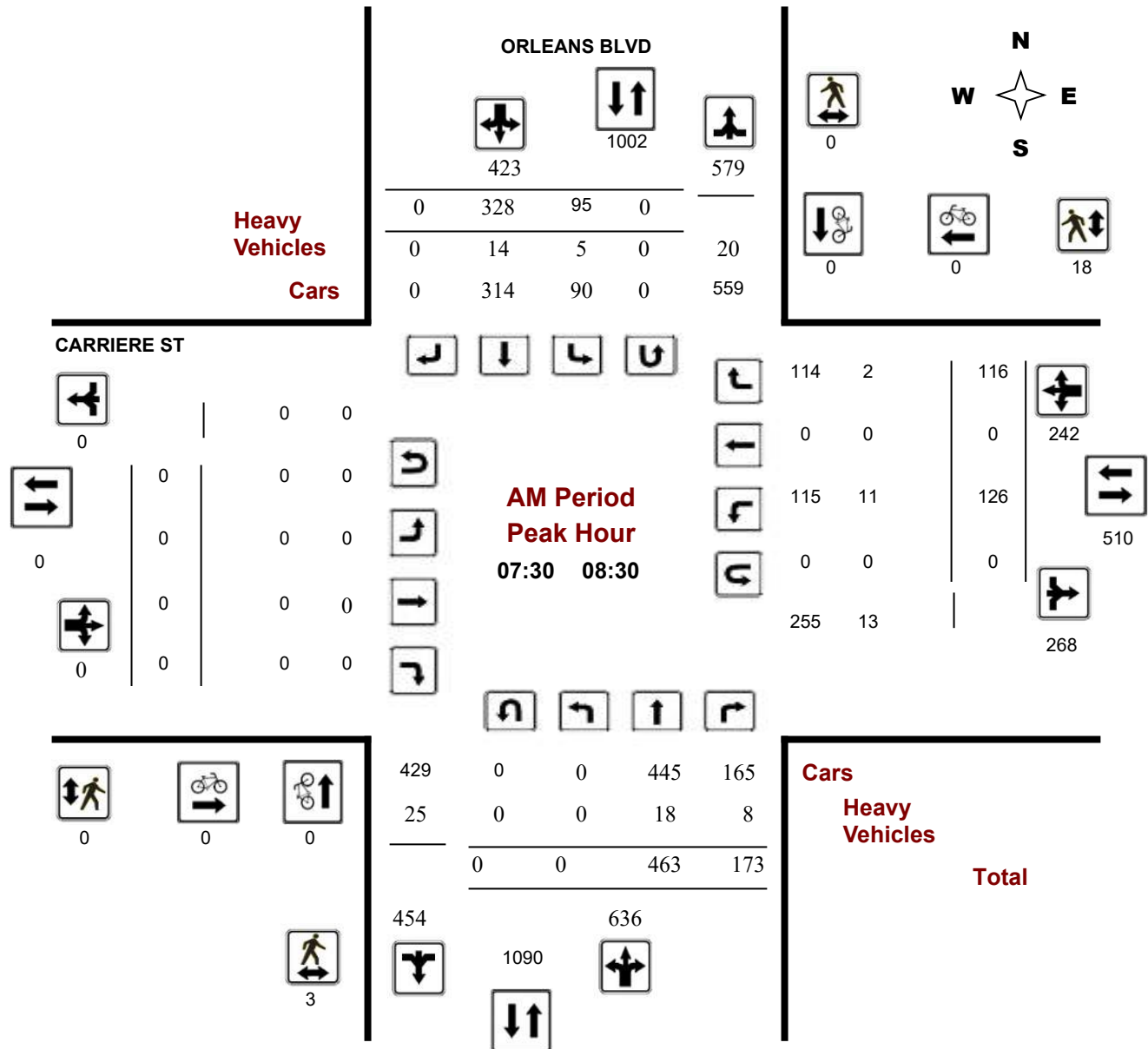
CARRIERE ST @ ORLEANS BLVD

Survey Date: Wednesday, December 19, 2018

Start Time: 07:00

WO No: 38208

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

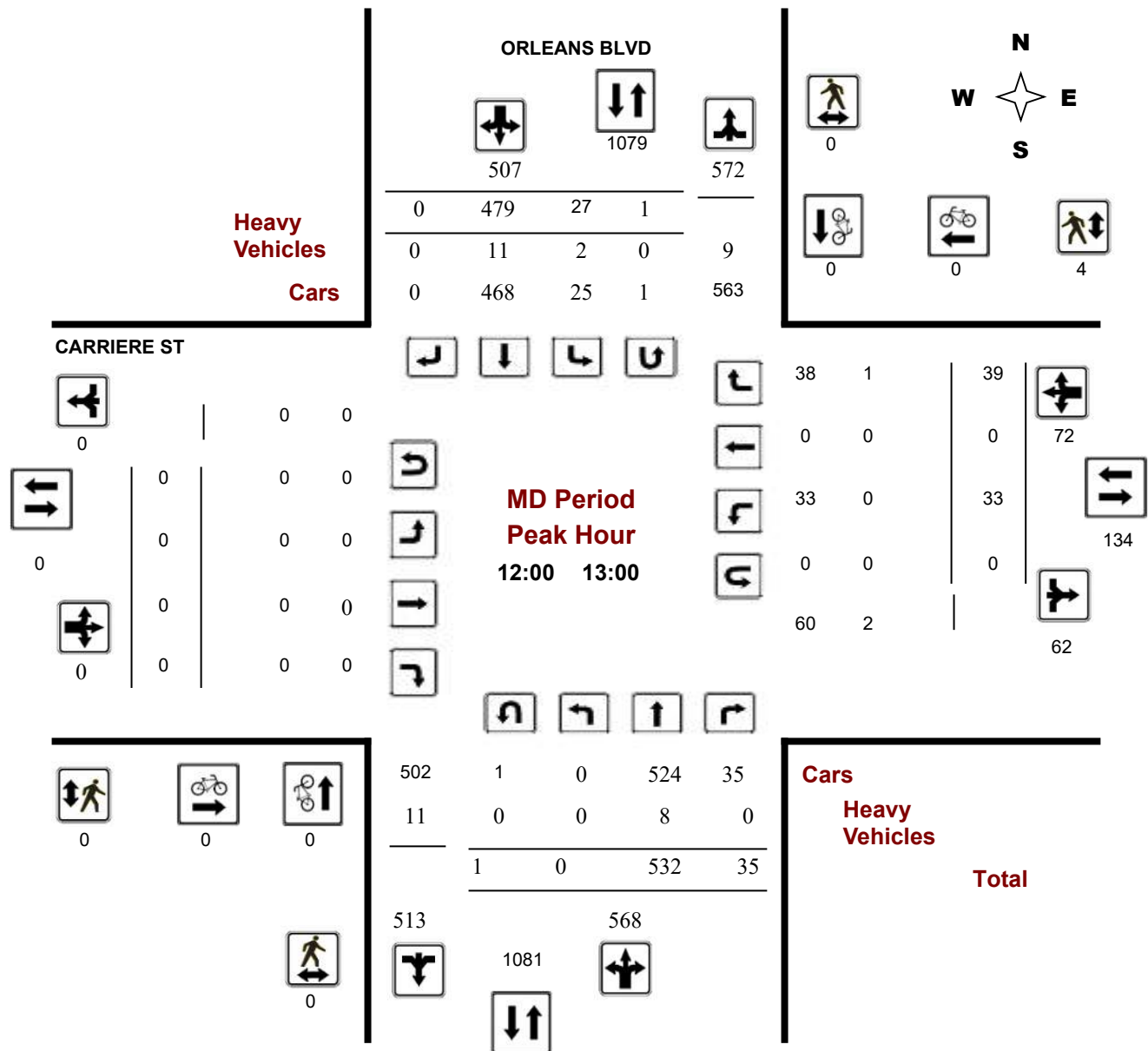
CARRIERE ST @ ORLEANS BLVD

Survey Date: Wednesday, December 19, 2018

Start Time: 07:00

WO No: 38208

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

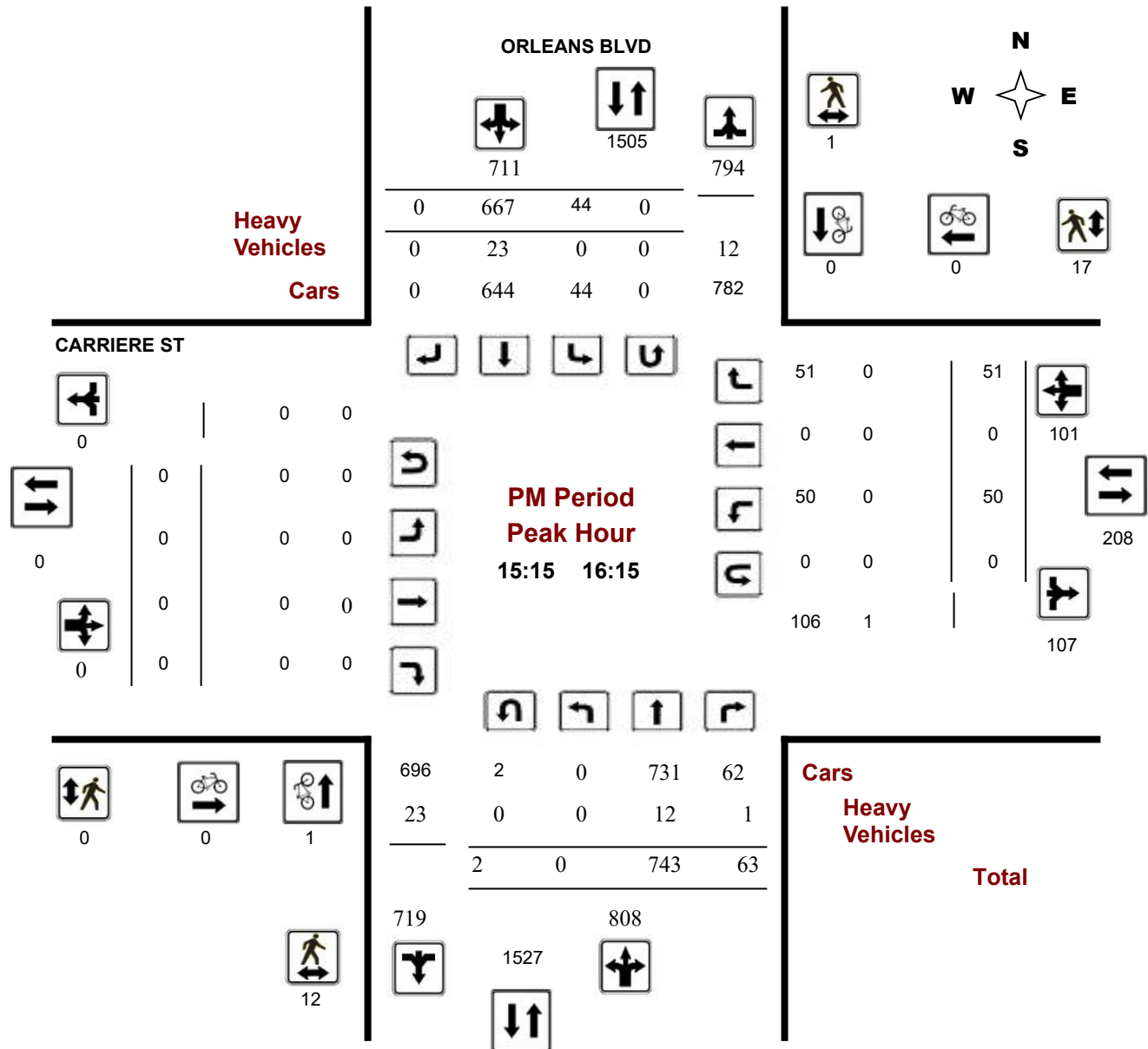
CARRIERE ST @ ORLEANS BLVD

Survey Date: Wednesday, December 19, 2018

Start Time: 07:00

WO No: 38208

Device: Miovision



Comments



Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARRIERE ST @ ORLEANS BLVD

Survey Date: Wednesday, December 19, 2018

WO No: 38208

Start Time: 07:00

Device: Miovision

Full Study Summary (8 HR Standard)

Survey Date: Wednesday, December 19, 2018

Total Observed U-Turns

Northbound: 5 Southbound: 2
Eastbound: 0 Westbound: 0

AADT Factor

1.00

ORLEANS BLVD

CARRIERE ST

Period	Northbound					Southbound					Eastbound					Westbound				
	LT	ST	RT	NB TOT		LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT		LT	ST	RT	WB TOT	STR TOT
07:00 08:00	0	284	183	467		99	269	0	368	835	0	0	0	0		129	0	92	221	221
08:00 09:00	0	537	36	573		29	360	0	389	962	0	0	0	0		33	0	56	89	89
09:00 10:00	0	467	36	503		19	392	0	411	914	0	0	0	0		24	0	32	56	56
11:30 12:30	0	544	32	576		17	456	0	473	1049	0	0	0	0		32	0	36	68	68
12:30 13:30	0	520	28	548		30	507	0	537	1085	0	0	0	0		25	0	34	59	59
15:00 16:00	0	727	57	784		42	672	0	714	1498	0	0	0	0		44	0	41	85	85
16:00 17:00	0	745	66	811		44	652	0	696	1507	0	0	0	0		51	0	46	97	97
17:00 18:00	0	708	50	758		35	621	0	656	1414	0	0	0	0		33	0	29	62	62
Sub Total	0	4532	488	5020		315	3929	0	4244	9264	0	0	0	0		371	0	366	737	737
U Turns	5			5		2			2	7	0			0		0			0	0
Total	5	4532	488	5025		317	3929	0	4246	9271	0	0	0	0		371	0	366	737	737
EQ 12Hr	7	6299	678	6984		441	5461	0	5902	12886	0	0	0	0		516	0	509	1025	1025

Note: These values are calculated by multiplying the totals by the appropriate expansion factor.

1.39

AVG 12Hr 7 6299 678 6984 441 5461 0 5902 12886 0 0 0 0 516 0 509 1025 1025 13911

Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.

1.00

AVG 24Hr 9 8252 888 9149 578 7154 0 7732 16881 0 0 0 0 676 0 667 1343 1343 18224

Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.

1.31

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.



Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARRIERE ST @ ORLEANS BLVD

Survey Date: Wednesday, December 19, 2018

WO No: 38208

Start Time: 07:00

Device: Miovision

Full Study Cyclist Volume

		ORLEANS BLVD			CARRIERE ST			Grand Total
Time Period		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	
07:00	07:15	0	0	0	0	0	0	0
07:15	07:30	0	0	0	0	0	0	0
07:30	07:45	0	0	0	0	0	0	0
07:45	08:00	0	0	0	0	0	0	0
08:00	08:15	0	0	0	0	0	0	0
08:15	08:30	0	0	0	0	0	0	0
08:30	08:45	0	0	0	0	0	0	0
08:45	09:00	0	0	0	0	0	0	0
09:00	09:15	0	0	0	0	0	0	0
09:15	09:30	0	0	0	0	0	0	0
09:30	09:45	0	0	0	0	0	0	0
09:45	10:00	0	0	0	0	0	0	0
11:30	11:45	0	0	0	0	0	0	0
11:45	12:00	0	0	0	0	0	0	0
12:00	12:15	0	0	0	0	0	0	0
12:15	12:30	0	0	0	0	0	0	0
12:30	12:45	0	0	0	0	0	0	0
12:45	13:00	0	0	0	0	0	0	0
13:00	13:15	0	0	0	0	0	0	0
13:15	13:30	0	0	0	0	0	0	0
15:00	15:15	0	0	0	0	0	0	0
15:15	15:30	1	0	1	0	0	0	1
15:30	15:45	0	0	0	0	0	0	0
15:45	16:00	0	0	0	0	0	0	0
16:00	16:15	0	0	0	0	0	0	0
16:15	16:30	0	0	0	0	0	0	0
16:30	16:45	0	0	0	0	0	0	0
16:45	17:00	0	0	0	0	0	0	0
17:00	17:15	0	0	0	0	0	0	0
17:15	17:30	0	0	0	0	0	0	0
17:30	17:45	0	0	0	0	0	0	0
17:45	18:00	0	0	0	0	0	0	0
Total		1	0	1	0	0	0	1



Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARRIERE ST @ ORLEANS BLVD

Survey Date: Wednesday, December 19, 2018

WO No: 38208

Start Time: 07:00

Device: Miovision

Full Study Pedestrian Volume

ORLEANS BLVD

CARRIERE ST

Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	0	0	0	0	1	1	1
07:15 07:30	11	0	11	0	1	1	12
07:30 07:45	2	0	2	0	10	10	12
07:45 08:00	1	0	1	0	8	8	9
08:00 08:15	0	0	0	0	0	0	0
08:15 08:30	0	0	0	0	0	0	0
08:30 08:45	0	0	0	0	1	1	1
08:45 09:00	1	1	2	0	2	2	4
09:00 09:15	0	0	0	0	6	6	6
09:15 09:30	2	0	2	0	3	3	5
09:30 09:45	0	0	0	0	1	1	1
09:45 10:00	0	0	0	0	1	1	1
11:30 11:45	0	0	0	0	3	3	3
11:45 12:00	0	0	0	0	0	0	0
12:00 12:15	0	0	0	0	0	0	0
12:15 12:30	0	0	0	0	0	0	0
12:30 12:45	0	0	0	0	2	2	2
12:45 13:00	0	0	0	0	2	2	2
13:00 13:15	0	0	0	0	2	2	2
13:15 13:30	0	0	0	0	1	1	1
15:00 15:15	0	0	0	0	4	4	4
15:15 15:30	3	0	3	0	7	7	10
15:30 15:45	0	1	1	0	5	5	6
15:45 16:00	4	0	4	0	4	4	8
16:00 16:15	5	0	5	0	1	1	6
16:15 16:30	1	0	1	0	3	3	4
16:30 16:45	1	0	1	0	3	3	4
16:45 17:00	1	0	1	0	1	1	2
17:00 17:15	0	0	0	0	1	1	1
17:15 17:30	0	0	0	0	2	2	2
17:30 17:45	1	0	1	0	1	1	2
17:45 18:00	1	0	1	0	5	5	6
Total	34	2	36	0	81	81	117



Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARRIERE ST @ ORLEANS BLVD

Survey Date: Wednesday, December 19, 2018

WO No: 38208

Start Time: 07:00

Device: Miovision

Full Study Heavy Vehicles

ORLEANS BLVD

CARRIERE ST

Northbound

Southbound

Eastbound

Westbound

Time Period	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00 07:15	0	2	1		0	0	0		3	0	0	0		0	0	0		0	3
07:15 07:30	0	2	0		0	2	0		4	0	0	0		0	0	0		0	4
07:30 07:45	0	1	8		5	1	0		15	0	0	0		6	0	0		6	21
07:45 08:00	0	3	0		0	4	0		7	0	0	0		2	0	2		4	11
08:00 08:15	0	11	0		0	1	0		12	0	0	0		2	0	0		2	14
08:15 08:30	0	3	0		0	8	0		11	0	0	0		1	0	0		1	12
08:30 08:45	0	5	0		0	1	0		6	0	0	0		0	0	0		0	6
08:45 09:00	0	4	1		0	3	0		8	0	0	0		0	0	0		0	8
09:00 09:15	0	14	0		0	6	0		20	0	0	0		0	0	1		1	21
09:15 09:30	0	1	0		1	6	0		8	0	0	0		0	0	1		1	9
09:30 09:45	0	3	0		0	2	0		5	0	0	0		0	0	0		0	5
09:45 10:00	0	6	0		0	3	0		9	0	0	0		0	0	0		0	9
11:30 11:45	0	0	2		0	0	0		2	0	0	0		1	0	0		1	3
11:45 12:00	0	2	1		0	1	0		4	0	0	0		0	0	0		0	4
12:00 12:15	0	4	0		0	4	0		8	0	0	0		0	0	1		1	9
12:15 12:30	0	1	0		0	3	0		4	0	0	0		0	0	0		0	4
12:30 12:45	0	0	0		1	1	0		2	0	0	0		0	0	0		0	2
12:45 13:00	0	3	0		1	3	0		7	0	0	0		0	0	0		0	7
13:00 13:15	0	2	2		1	3	0		8	0	0	0		0	0	1		1	9
13:15 13:30	0	3	0		0	2	0		5	0	0	0		0	0	1		1	6
15:00 15:15	0	7	0		0	10	0		17	0	0	0		0	0	1		1	18
15:15 15:30	0	4	1		0	5	0		10	0	0	0		0	0	0		0	10
15:30 15:45	0	4	0		0	2	0		6	0	0	0		0	0	0		0	6
15:45 16:00	0	2	0		0	10	0		12	0	0	0		0	0	0		0	12
16:00 16:15	0	2	0		0	6	0		8	0	0	0		0	0	0		0	8
16:15 16:30	0	1	0		0	2	0		3	0	0	0		0	0	0		0	3
16:30 16:45	0	3	0		0	2	0		5	0	0	0		0	0	0		0	5
16:45 17:00	0	5	0		0	1	0		6	0	0	0		0	0	0		0	6
17:00 17:15	0	1	0		0	1	0		2	0	0	0		0	0	0		0	2
17:15 17:30	0	1	0		0	3	0		4	0	0	0		0	0	0		0	4
17:30 17:45	0	1	0		0	2	0		3	0	0	0		0	0	0		0	3
17:45 18:00	0	1	0		0	1	0		2	0	0	0		0	0	0		0	2
Total: None	0	102	16	0	9	99	0	0	226	0	0	0	0	12	0	8	0	20	246



Transportation Services - Traffic Services

Turning Movement Count - Study Results

CARRIERE ST @ ORLEANS BLVD

Survey Date: Wednesday, December 19, 2018

WO No: 38208

Start Time: 07:00

Device: Miovision

Full Study 15 Minute U-Turn Total

ORLEANS BLVD

CARRIERE ST

Time Period		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00	07:15	0	0	0	0	0
07:15	07:30	0	0	0	0	0
07:30	07:45	0	0	0	0	0
07:45	08:00	0	0	0	0	0
08:00	08:15	0	0	0	0	0
08:15	08:30	0	0	0	0	0
08:30	08:45	0	1	0	0	1
08:45	09:00	0	0	0	0	0
09:00	09:15	0	0	0	0	0
09:15	09:30	0	0	0	0	0
09:30	09:45	0	0	0	0	0
09:45	10:00	0	0	0	0	0
11:30	11:45	1	0	0	0	1
11:45	12:00	0	0	0	0	0
12:00	12:15	0	0	0	0	0
12:15	12:30	1	0	0	0	1
12:30	12:45	0	1	0	0	1
12:45	13:00	0	0	0	0	0
13:00	13:15	0	0	0	0	0
13:15	13:30	0	0	0	0	0
15:00	15:15	1	0	0	0	1
15:15	15:30	0	0	0	0	0
15:30	15:45	1	0	0	0	1
15:45	16:00	1	0	0	0	1
16:00	16:15	0	0	0	0	0
16:15	16:30	0	0	0	0	0
16:30	16:45	0	0	0	0	0
16:45	17:00	0	0	0	0	0
17:00	17:15	0	0	0	0	0
17:15	17:30	0	0	0	0	0
17:30	17:45	0	0	0	0	0
17:45	18:00	0	0	0	0	0
Total		5	2	0	0	7

APPENDIX E

Collision Records



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 **To:** December 31, 2020

Location: CARRIERE ST @ ORLEANS BLVD

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
2017-Jul-17, Mon,11:22	Clear	Rear end	P.D. only	Dry	North	Going ahead	Passenger van	Other motor vehicle	0
					North	Going ahead	Passenger van	Other motor vehicle	
2017-Oct-16, Mon,16:14	Clear	Rear end	P.D. only	Dry	West	Turning left	Passenger van	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Dec-21, Sat,16:31	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Nov-17, Tue,13:06	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	

Location: JEANNE D'ARC BLVD @ ORLEANS BLVD S

Traffic Control: Traffic signal

Total Collisions: 59

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2016-Jan-07, Thu,13:54	Clear	Angle	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Feb-17, Wed,20:00	Snow	Angle	P.D. only	Ice	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Pick-up truck	Other motor vehicle	
2016-Feb-17, Wed,20:33	Snow	Angle	Non-fatal injury	Loose snow	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Jun-10, Fri,12:40	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Jun-26, Sun,11:59	Clear	Rear end	P.D. only	Dry	South	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 **To:** December 31, 2020

Location: JEANNE D'ARC BLVD @ ORLEANS BLVD S

Traffic Control: Traffic signal

Total Collisions: 59

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2016-Jun-27, Mon,13:58	Clear	Angle	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Jul-13, Wed,16:50	Rain	Rear end	P.D. only	Wet	North	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Stopped	Passenger van	Other motor vehicle	
2016-Jul-16, Sat,21:37	Clear	Turning movement	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Aug-21, Sun,11:34	Rain	Other	P.D. only	Wet	North	Slowing or stopping	Pick-up truck	Ran off road	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Sep-11, Sun,16:33	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Bus (other)	Other motor vehicle	
2016-Oct-03, Mon,19:22	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Dec-30, Fri,17:56	Clear	Turning movement	P.D. only	Wet	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Jan-30, Mon,07:04	Clear	Rear end	Non-fatal injury	Ice	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2017-Apr-12, Wed,09:15	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Delivery van	Other motor vehicle	
2017-Jul-15, Sat,14:36	Clear	Sideswipe	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Aug-05, Sat,12:05	Clear	Rear end	P.D. only	Dry	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Turning right	Passenger van	Other motor vehicle	
2017-Nov-26, Sun,15:03	Clear	Rear end	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 **To:** December 31, 2020

Location: JEANNE D'ARC BLVD @ ORLEANS BLVD S

Traffic Control: Traffic signal

Total Collisions: 59

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2017-Dec-01, Fri,14:20	Clear	Turning movement	Non-fatal injury	Dry	North	Going ahead	School bus	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Dec-07, Thu,10:00	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Unknown	Other motor vehicle	
2017-Dec-08, Fri,22:54	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Dec-27, Wed,10:32	Clear	Turning movement	P.D. only	Wet	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jan-06, Sat,09:53	Clear	Turning movement	Non-fatal injury	Dry	West	Turning left	Truck and trailer	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
2018-Feb-24, Sat,19:15	Clear	Turning movement	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Mar-21, Wed,20:03	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Apr-22, Sun,13:14	Clear	Rear end	P.D. only	Dry	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Turning right	Automobile, station wagon	Other motor vehicle	
2018-May-01, Tue,23:31	Clear	Turning movement	Non-fatal injury	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-May-07, Mon,12:13	Clear	Rear end	P.D. only	Dry	South	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-May-15, Tue,21:31	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 **To:** December 31, 2020

Location: JEANNE D'ARC BLVD @ ORLEANS BLVD S

Traffic Control: Traffic signal

Total Collisions: 59

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-May-24, Thu,11:03	Clear	Angle	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jun-12, Tue,18:36	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Aug-31, Fri,14:00	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2018-Sep-14, Fri,19:44	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Oct-03, Wed,11:49	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Passenger van	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Nov-02, Fri,10:03	Rain	Rear end	P.D. only	Wet	North	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Nov-03, Sat,13:45	Rain	Rear end	P.D. only	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Pick-up truck	Other motor vehicle	
2019-Jan-15, Tue,19:43	Clear	Turning movement	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Feb-24, Sun,07:47	Freezing Rain	SMV other	P.D. only	Ice	West	Turning right	Automobile, station wagon	Pole (sign, parking meter)	0
2019-Apr-09, Tue,07:30	Snow	Rear end	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Apr-09, Tue,14:20	Snow	Rear end	Non-fatal injury	Loose snow	South	Slowing or stopping	Automobile, station wagon	Skidding/sliding	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jul-05, Fri,18:43	Clear	Rear end	P.D. only	Dry	West	Changing lanes	Passenger van	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 **To:** December 31, 2020

Location: JEANNE D'ARC BLVD @ ORLEANS BLVD S

Traffic Control: Traffic signal

Total Collisions: 59

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2019-Aug-03, Sat,09:30	Clear	Turning movement	P.D. only	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Passenger van	Other motor vehicle	
2019-Aug-28, Wed,15:39	Clear	Turning movement	P.D. only	Wet	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Sep-10, Tue,16:21	Rain	SMV other	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Skidding/sliding	0
2019-Sep-24, Tue,07:30	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2019-Sep-25, Wed,08:35	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Oct-06, Sun,14:25	Clear	Angle	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
2019-Nov-10, Sun,13:12	Clear	Rear end	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2019-Nov-21, Thu,19:45	Rain	Turning movement	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Dec-10, Tue,15:38	Clear	Sideswipe	P.D. only	Dry	West	Going ahead	Unknown	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Jan-18, Sat,09:45	Clear	Rear end	P.D. only	Ice	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2020-Feb-22, Sat,10:54	Clear	Turning movement	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 **To:** December 31, 2020

Location: JEANNE D'ARC BLVD @ ORLEANS BLVD S

Traffic Control: Traffic signal

Total Collisions: 59

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2020-Mar-07, Sat,13:33	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
					North	Going ahead	Passenger van	Other motor vehicle	
2020-Mar-13, Fri,21:29	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Apr-30, Thu,12:05	Rain	Angle	P.D. only	Wet	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Pick-up truck	Other motor vehicle	
2020-May-11, Mon,22:13	Clear	Turning movement	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Turning left	Automobile, station wagon	Other motor vehicle	
2020-Jun-17, Wed,15:36	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	
					South	Going ahead	Pick-up truck	Other motor vehicle	
2020-Jul-11, Sat,17:30	Clear	Rear end	P.D. only	Dry	West	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Turning right	Pick-up truck	Other motor vehicle	
2020-Oct-24, Sat,14:15	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2020-Nov-25, Wed,09:17	Snow	Turning movement	P.D. only	Loose snow	North	Turning left	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Passenger van	Other motor vehicle	

Location: ORLEANS BLVD @ ST. JOSEPH BLVD

Traffic Control: Traffic signal

Total Collisions: 42

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2016-Apr-05, Tue,20:59	Clear	Turning movement	Non-fatal injury	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 **To:** December 31, 2020

Location: ORLEANS BLVD @ ST. JOSEPH BLVD

Traffic Control: Traffic signal

Total Collisions: 42

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-May-17, Tue,18:40	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Unknown	Other motor vehicle	
2016-Jun-07, Tue,16:21	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Jun-11, Sat,08:52	Rain	Turning movement	Non-fatal injury	Wet	West	Turning left	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
					North	Turning right	Pick-up truck	Other motor vehicle	
2016-Aug-18, Thu,09:15	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Delivery van	Other motor vehicle	
2016-Aug-26, Fri,14:00	Clear	Rear end	P.D. only	Dry	West	Turning right	Passenger van	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Other motor vehicle	
2016-Sep-30, Fri,20:20	Clear	Turning movement	P.D. only	Dry	West	Turning left	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Oct-28, Fri,14:58	Clear	Turning movement	Non-fatal injury	Wet	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Dec-13, Tue,16:00	Clear	Rear end	Non-fatal injury	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Dec-19, Mon,10:03	Clear	Rear end	P.D. only	Slush	North	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Jan-22, Sun,01:36	Rain	SMV other	Non-fatal injury	Wet	East	Going ahead	Automobile, station wagon	Pedestrian	1
2017-Feb-08, Wed,16:02	Clear	SMV other	Non-fatal injury	Wet	East	Turning right	Unknown	Pedestrian	1
2017-Mar-10, Fri,12:01	Clear	SMV other	P.D. only	Dry	North	Turning left	Automobile, station wagon	Pole (sign, parking meter)	0

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 **To:** December 31, 2020

Location: ORLEANS BLVD @ ST. JOSEPH BLVD

Traffic Control: Traffic signal

Total Collisions: 42

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2017-Apr-05, Wed,12:00	Clear	Rear end	Non-fatal injury	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Turning left	Automobile, station wagon	Other motor vehicle	
					East	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Jun-09, Fri,18:30	Clear	Turning movement	P.D. only	Dry	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Aug-10, Thu,10:52	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Aug-25, Fri,15:52	Clear	Turning movement	Non-fatal injury	Dry	North	Turning right	Automobile, station wagon	Cyclist	0
					North	Going ahead	Bicycle	Other motor vehicle	
2017-Dec-30, Sat,10:55	Clear	Rear end	P.D. only	Ice	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2018-Jan-20, Sat,00:50	Rain	Angle	P.D. only	Ice	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Feb-01, Thu,18:35	Clear	Turning movement	Non-fatal injury	Wet	East	Going ahead	Pick-up truck	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Mar-04, Sun,14:50	Clear	Rear end	P.D. only	Dry	East	Unknown	Unknown	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-May-22, Tue,12:10	Rain	Sideswipe	P.D. only	Wet	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Passenger van	Other motor vehicle	
2018-Jun-14, Thu,09:34	Clear	Turning movement	P.D. only	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Pick-up truck	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 **To:** December 31, 2020

Location: ORLEANS BLVD @ ST. JOSEPH BLVD

Traffic Control: Traffic signal

Total Collisions: 42

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Jun-22, Fri,12:17	Clear	Rear end	P.D. only	Dry	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Turning right	Automobile, station wagon	Other motor vehicle	
2018-Sep-20, Thu,12:46	Clear	Turning movement	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Dec-06, Thu,17:00	Clear	Turning movement	P.D. only	Wet	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Dec-17, Mon,16:53	Clear	Rear end	Non-fatal injury	Wet	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Dec-28, Fri,14:00	Freezing Rain	Rear end	Non-fatal injury	Wet	South	Going ahead	Unknown	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jan-11, Fri,12:30	Clear	Rear end	P.D. only	Dry	North	Unknown	Automobile, station wagon	Other motor vehicle	0
					North	Unknown	Automobile, station wagon	Other motor vehicle	
2019-Jan-21, Mon,16:20	Clear	Sideswipe	P.D. only	Packed snow	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
2019-Jan-26, Sat,19:30	Clear	Other	P.D. only	Dry	North	Reversing	Unknown	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Feb-06, Wed,13:45	Snow	Angle	P.D. only	Packed snow	West	Slowing or stopping	Automobile, station wagon	Skidding/sliding	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Mar-05, Tue,08:20	Clear	Rear end	P.D. only	Dry	North	Unknown	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Mar-08, Fri,07:45	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 **To:** December 31, 2020

Location: ORLEANS BLVD @ ST. JOSEPH BLVD

Traffic Control: Traffic signal

Total Collisions: 42

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2019-Mar-13, Wed,18:03	Snow	Rear end	P.D. only	Loose snow	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-May-11, Sat,09:00	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2019-Jul-05, Fri,10:37	Clear	Turning movement	Non-fatal injury	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Passenger van	Other motor vehicle	
2019-Sep-02, Mon,22:34	Clear	Turning movement	P.D. only	Wet	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Sep-13, Fri,09:00	Clear	Angle	P.D. only	Dry	North	Unknown	Bicycle	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Cyclist	
2020-Feb-15, Sat,14:05	Clear	Sideswipe	P.D. only	Wet	North	Unknown	Unknown	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Aug-15, Sat,11:14	Clear	Turning movement	P.D. only	Dry	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2020-Aug-16, Sun,19:36	Rain	Turning movement	P.D. only	Wet	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	

APPENDIX F

Excerpts From Relevant Traffic Studies

BELCOURT BOULEVARD

Belcourt Boulevard Traffic Calming Study

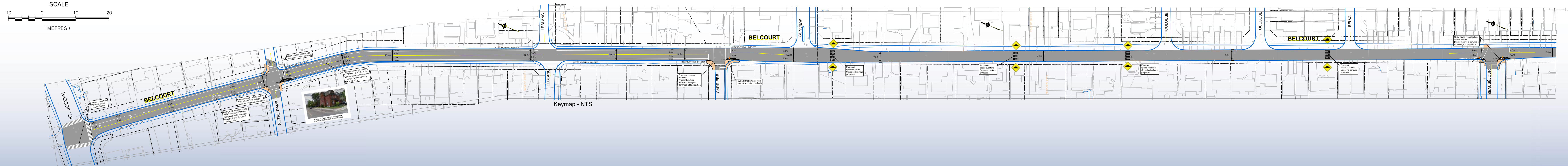
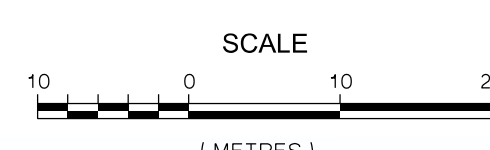
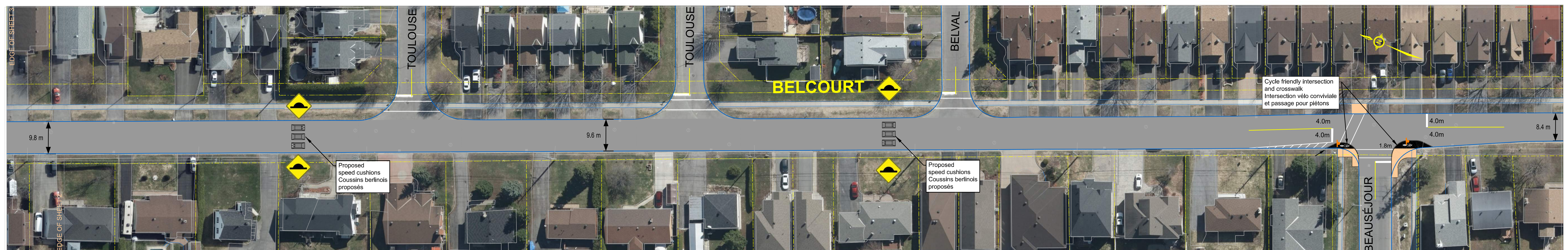
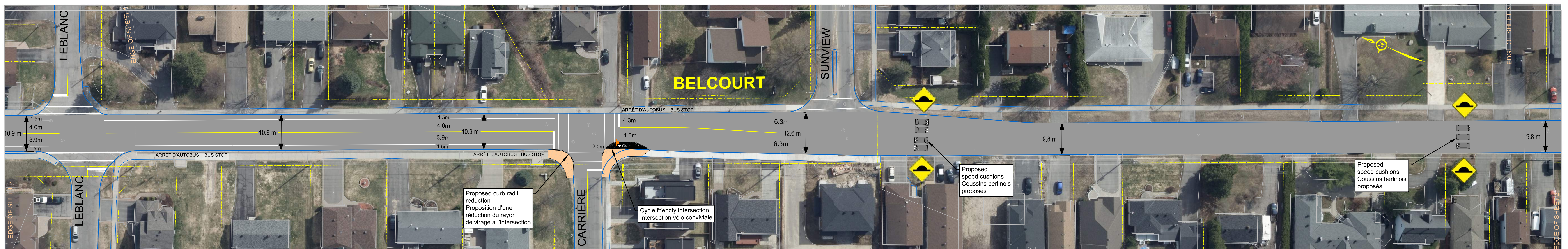
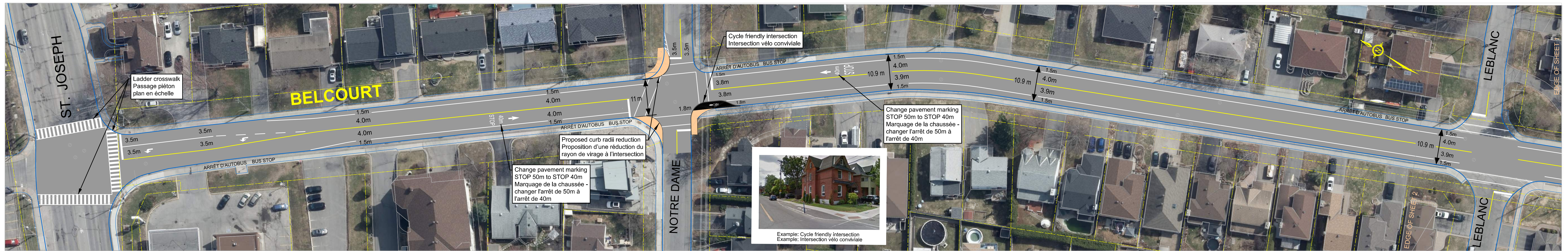
ST. JOSEPH BLVD. TO BEAUSÉJOUR DR.

RECOMMENDED PLAN PLAN RECOMMANDÉ

BOULEVARD BELCOURT

Étude sur les mesures de modération de la circulation sur le boulevard Belcourt

BOUL. ST. JOSEPH À PROM. BEAUSÉJOUR



3.0 FORECASTING

3.1 DEVELOPMENT GENERATED TRAVEL DEMAND

3.1.1 Trip Generation and Mode Shares

The *Institute of Transportation (ITE) Trip Generation Manual* (10th edition) was used to forecast auto trip generation for the proposed office building. Land use code 720 – Medical - Dental Office Building (ITE) was used to represent the proposed development. **Table 7** outlines the assumed land use and the trip generation rate.

As per the City of Ottawa's 2017 *TIA Guidelines*, the auto trip generation rate was converted to person trips using a conversion factor of 1.28. **Table 8** outlines development-generated person trips for the land use.

Table 7 - Land Use and Trip Generation Rates

LUC	Land Use	Size	Weekday AM Peak Hour			Weekday PM Peak Hour		
			In	Out	Rate	In	Out	Total
720	Medical - Dental Office Building	7,730 ft ² GFA (718 m ²)	78%	22%	2.78	28%	72%	3.46

Table 8 - Person Trips Generated by Land Use

LUC	Land Use	Trip Conversion	Weekday AM Peak Hour			Weekday PM Peak Hour		
			In	Out	Total	In	Out	Total
720	Medical - Dental Office Building	Auto Trips	17	5	22	8	19	27
		Conversion Factor	1.28	1.28	1.28	1.28	1.28	1.28
		Person Trips	22	6	28	10	25	35

To reflect local travel characteristics, the person trips were assigned to the four primary modal shares (i.e. auto, passenger, transit, and active modes) according to the TRANS Committee's 2011 Origin-Destination (O-D) Survey for the Orleans District.

The subject site is not located within any planned transit corridors.

Table 9 outlines the anticipated trip generation potential of the proposed development by travel mode based on assumed mode share targets.

Table 9 - Trips Generated by Travel Mode

LUC	Land Use	Trip Conversion	Weekday AM Peak Hour			Weekday PM Peak Hour		
			In	Out	Total	In	Out	Total
720	Medical - Dental Office Building	Auto	12	4	16	5	15	20
		Passenger	3	1	4	2	4	6
		Walk / Bike	1	0	1	1	1	2
		Transit	5	3	8	3	6	9

1994 ST. JOSEPH BOULEVARD TRANSPORTATION IMPACT ASSESSMENT

Forecasting

January 5, 2021

3.1.2 Trip Distribution

The distribution of traffic to / from the proposed development was determined through examination of the Trans Committee's 2011 Origin-Destination (O-D) Survey for the Orleans District.

Table 11 provide a summary of the estimated distribution for the traffic generated by the proposed development. It is noted that during the AM peak, left turns out of the site access are assumed be banned due to the westbound traffic queues generated at the roundabout intersection of St. Joseph Boulevard and Jeanne D'Arc Boulevard. Accordingly, traffic destined west (41% via St. Joseph Boulevard and 14% via Jeanne D'Arc Boulevard) will be rerouted via Grey Nuns Drive (north), while internal traffic destined south will be rerouted via Orleans Boulevard.

Table 10 - AM Peak Traffic Distribution Assumptions

Cardinal Direction		Via (to / from)		
		St. Joseph Boulevard	Grey Nuns Drive	Orleans Boulevard
		(East)	(North)	(South)
North	0%			
East	0%			
South	0%			
West	55%		55%	
Internal (Orleans)	45%	20%		25%
Total	100%	20%	55%	25%

Table 11 – PM Peak Traffic Distribution Assumptions

Cardinal Direction		Via (to / from)			
		St. Joseph Boulevard	St. Joseph Boulevard	Jeanne D'Arc Boulevard	Jeanne D'Arc Boulevard
		(East)	(West)	(North)	(South)
North	0%				
East	0%				
South	0%				
West	55%		41%	14%	
Internal (Orleans)	45%	20%			25%
Total	100%	20%	41%	14%	25%

3.1.3 Trip Assignment

Site generated trips were assigned to the study area road network based on the trip distribution assumptions outlined in **Table 10** and **Table 11** above.

Figure 11 outline the site assignment assumptions.

Figure 12 illustrates the site generated trips for the proposed site during the AM and PM peak hours



1994 ST. JOSEPH BOULEVARD TRANSPORTATION IMPACT ASSESSMENT

Forecasting

January 5, 2021

Figure 10 - Site Traffic Distribution - AM Peak

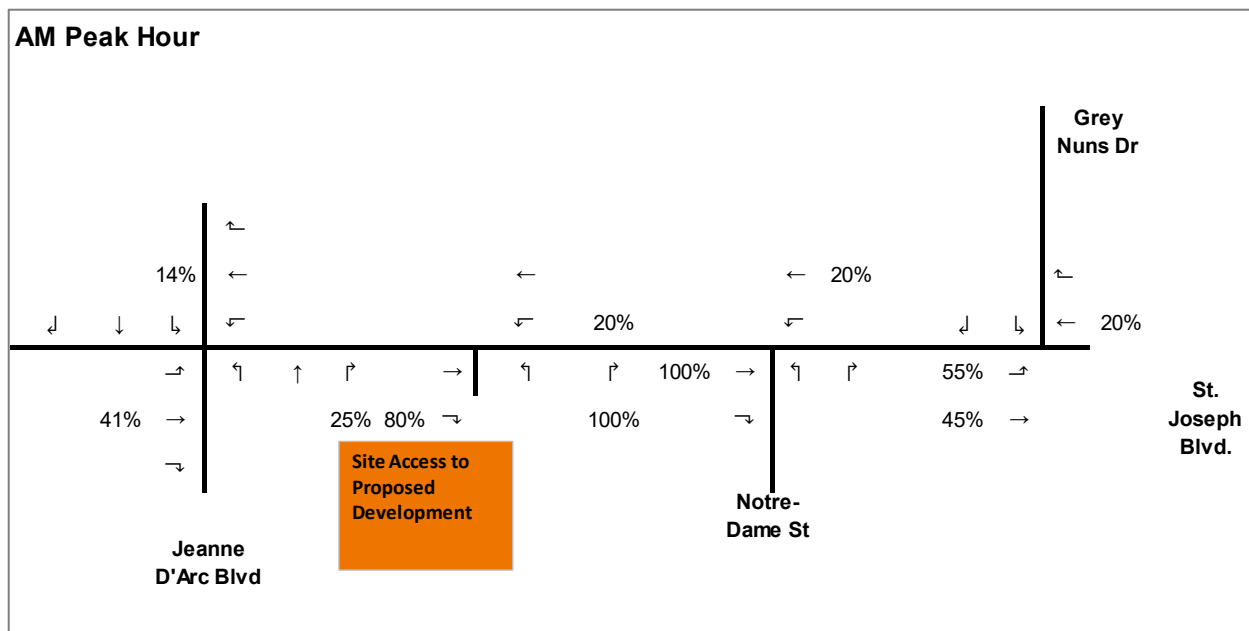
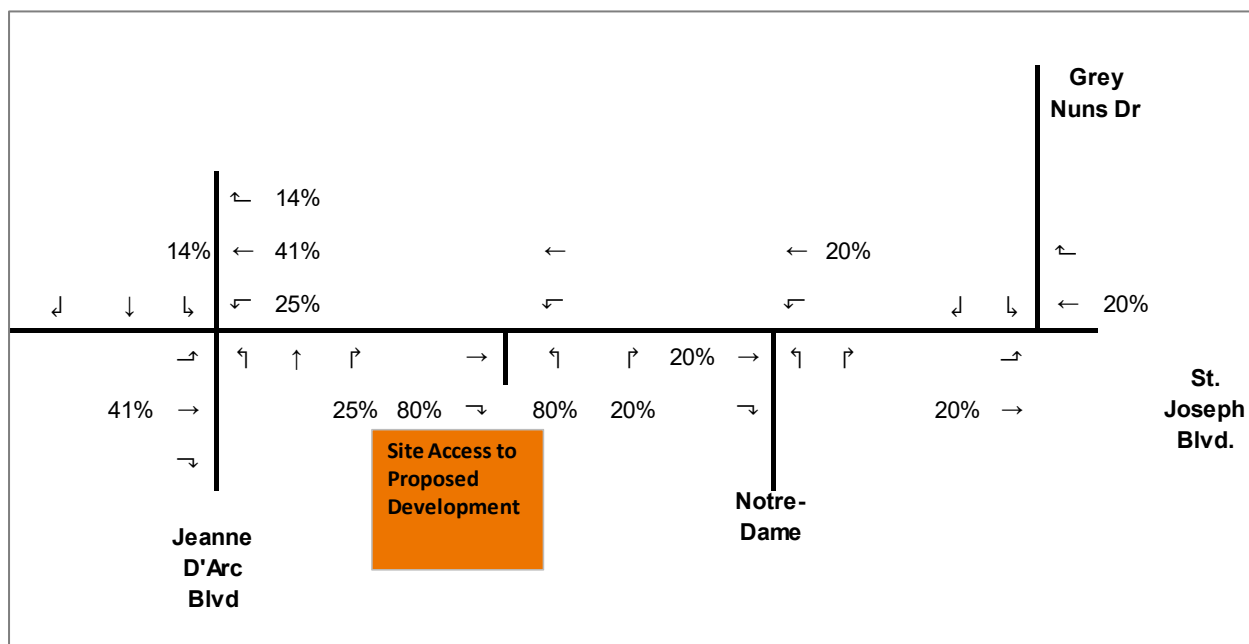


Figure 11 - Site Traffic Distribution – PM Peak

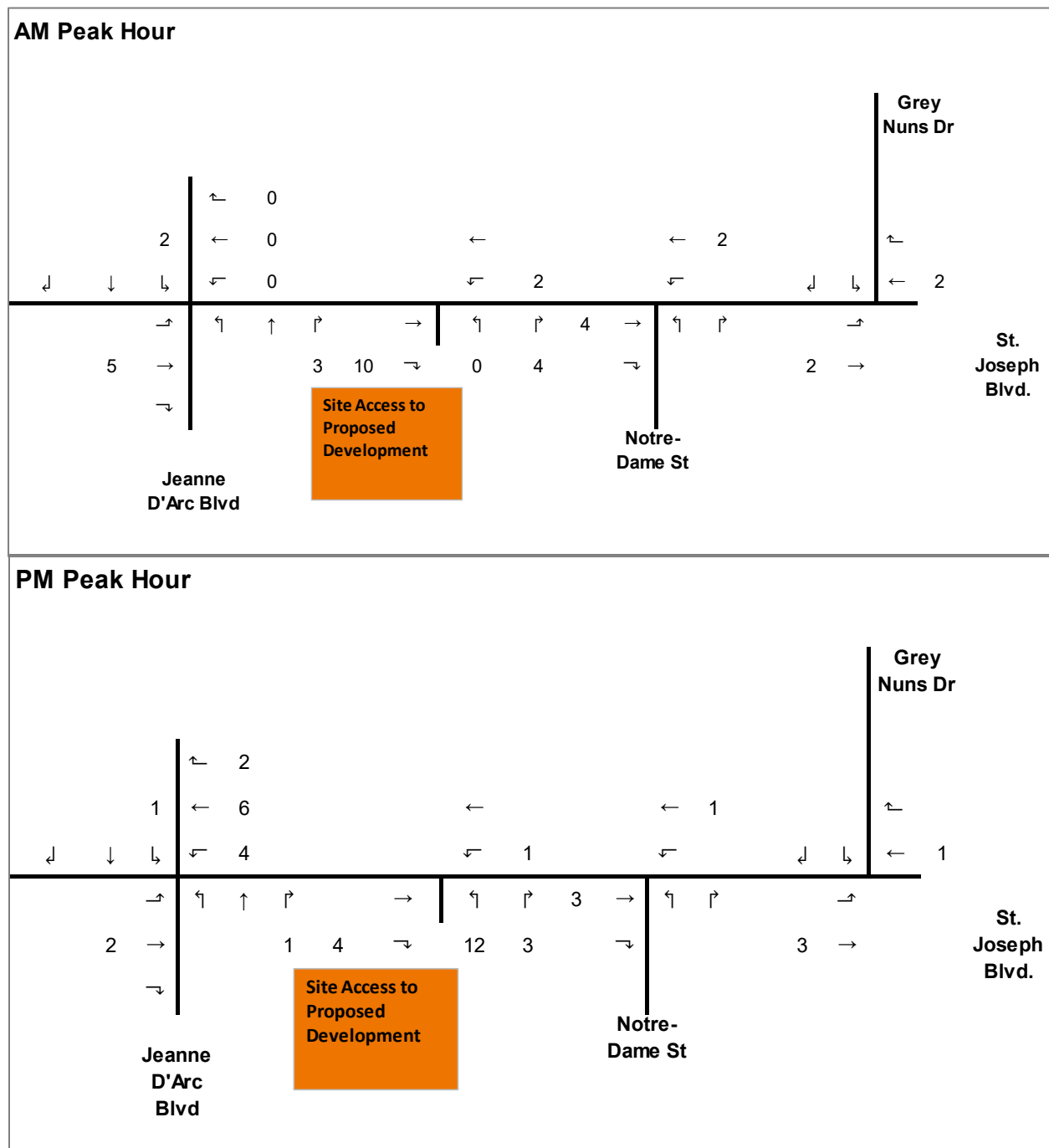


1994 ST. JOSEPH BOULEVARD TRANSPORTATION IMPACT ASSESSMENT

Forecasting

January 5, 2021

Figure 12 - Site Generated Traffic Volumes



APPENDIX G

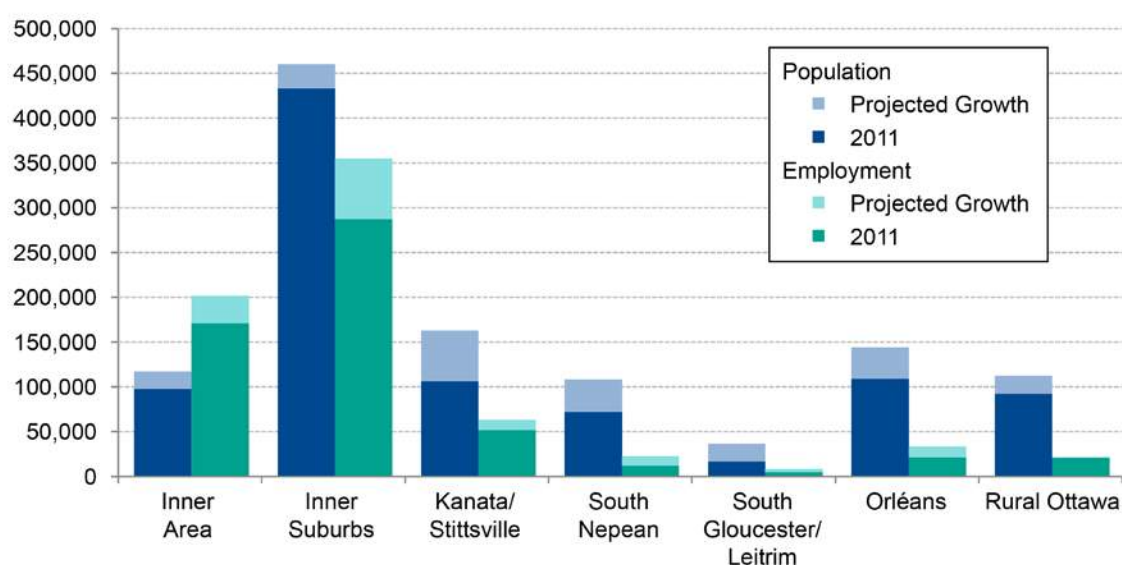
Strategic Long-Range Model and 2013 TMP Projections

2.3 Population and Employment in 2031

Where growth will occur. The City has prepared population and employment growth projections for the period from 2011 to 2031 (see Exhibit 2.10). The City expects a 23% increase in population from 922,000 to 1.14 million people, and a 24% increase in employment from 565,000 to 703,000 jobs. Although infill development and intensification are forecast to increase the population of Ottawa's Inner Area and Inner Suburbs by about 46,000 people over the next 18 years, most growth (about 168,000 people) will occur in the Outer Suburbs. In contrast, 72% of employment growth will occur inside the Greenbelt.

Exhibit 2.10 Population and Employment: 2011 Actual and 2031 Projections

Area	Population			Employment		
	2011	2031	Growth and distribution	2011	2031	Growth & distribution
Inner Area	97,200	116,400	19,200 (9%)	170,600	201,800	31,200 (23%)
Inner Suburbs	432,500	459,300	26,800 (13%)	287,400	355,300	67,900 (49%)
Kanata/Stittsville	105,200	162,000	56,800 (27%)	51,300	62,500	11,200 (8%)
Barrhaven	71,200	107,400	36,200 (17%)	11,100	21,800	10,700 (8%)
Riverside South/Leitrim	15,900	35,800	19,900 (9%)	4,000	7,800	3,800 (3%)
Orléans	108,200	143,400	35,200 (16%)	20,600	33,000	12,400 (9%)
Rural Ottawa	91,400	111,700	20,300 (9%)	20,000	20,900	900 (1%)
Total	922,000	1,135,900	213,900 (100%)	564,900	703,200	138,100 (100%)



TRANS Regional Model

Version 2.15 - Assigned June 16, 2020

AM Peak Hour Total Traffic Volume

Orleans Boulevard

2011 Model - Basecase

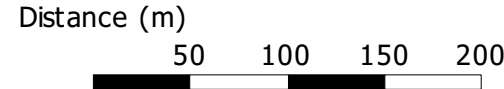
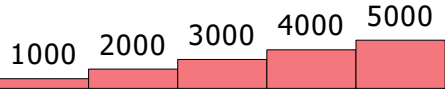
N/A

User Initials: KN
Plot Prepared: Aug 17, 2022
EMME Scenario: 21713



Legend

AM Peak Hour Total Traffic Volume



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 2.15 - Assigned June 16, 2020

AM Peak Hour Total Traffic Volume

Orleans Boulevard

2031 Model - Basecase

N/A

User Initials: KN

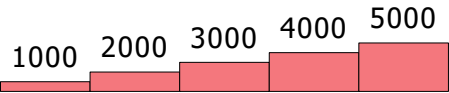
Plot Prepared: Aug 17, 2022

EMME Scenario: 21715

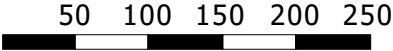


Legend

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.

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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 H

Signal Timing Plans

Traffic Signal Timing

City of Ottawa, Public Works Department

Traffic Signal Operations Unit

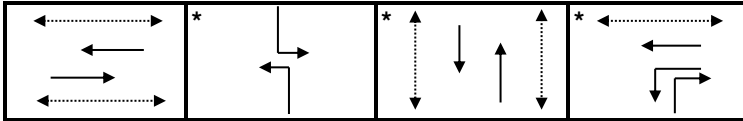
Intersection:	<i>Main:</i> St. Joseph	<i>Side:</i> Orleans
Controller:	ATC3	TSD: 5609
Author:	Arib Ahmad	Date: 06-Sep-2022

Existing Timing Plans[†]

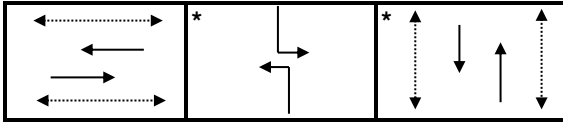
	Plan					Ped Minimum Time		
	AM Peak 1	Off Peak 2	PM Peak 3	Night 4	Weekend 5	Walk	DW	A+R
Cycle	90	90	100	80	100			
Offset	40	9	53	X	100			
EB Thru	32	30	36	37	39	7	16	3.3+2.8
WB Thru	44	45	54	37	52	7	16	3.3+2.8
NB Left	13	12	14	11	16	-	-	3.3+2.9
SB Left	13	12	14	11	16	-	-	3.3+2.9
NB Thru	33	33	32	32	32	7	19	3.3+2.9
SB Thru	33	33	32	32	32	7	19	3.3+2.9
WB Left	12	15	18	-	13	-	-	3.3+2.8
NB Right	12	15	18	-	13	-	-	3.3+2.8

Phasing Sequence[‡]

Plan: 1,2,3,5



Plan: 4



Schedule

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

Traffic Signal Timing

City of Ottawa, Public Works Department

Traffic Signal Operations Unit

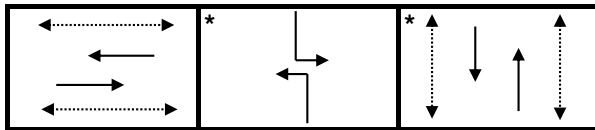
Intersection:	Main: Jeanne d'Arc	Side: Orleans
Controller:	MS3200	TSD: 5811
Author:	Arib Ahmad	Date: 06-Sep-2022

Existing Timing Plans[†]

	Plan					Ped Minimum Time		
	AM Peak	Off Peak	PM Peak	Night	Weekend	Walk	DW	A+R
	1	2	3	4	5			
Cycle	80	80	80	70	80			
Offset	0	X	20	X	47			
EB Thru	37	33	33	30	33	7	15	3.7+2.4
WB Thru	37	33	33	30	33	7	15	3.7+2.4
NB Left	14	15	15	11	15	-	-	3.7+2.3
SB Left	14	15	15	11	15	-	-	3.7+2.3
NB Thru	29	32	32	29	32	7	16	3.7+2.5
SB Thru	29	32	32	29	32	7	16	3.7+2.5

Phasing Sequence[‡]

Plan: All



Notes: Plans 1,2,3,5 have a minum recall of 10 seconds for the NS movement

Schedule

Weekday

Time	Plan
0:15	4
6:30	1
9:30	2
15:00	3
18:30	2
22:00	4

Saturday

Time	Plan
0:15	4
7:00	5
20:00	4

Sunday

Time	Plan
0:15	4
7:00	5
19:00	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 \$61.16 (\$54.12 + HST)

Traffic Signal Timing

City of Ottawa, Public Works Department

Traffic Signal Operations Unit

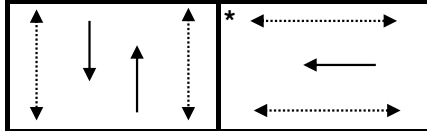
Intersection:	<i>Main:</i> Orleans	<i>Side:</i> Carriere
Controller:	ATC 3	TSD: 6270
Author:	Matthew Anderson	Date: 06-Sep-2022

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	Free	80	Free	Free			
Offset	46	-	11	-	-			
NB Thru	47	max=35.9	47	max=35.9	max=35.9	18	16	3.7+2.2
SB Thru	47	max=35.9	47	max=35.9	max=35.9	-	-	3.7+2.2
WB Thru	33	max=26.3	33	max=21.3	max=26.3	7	19	3.0+3.3

Phasing Sequence‡

Plan: All



Schedule

Weekday

Time	Plan
0:10	4
6:30	1
9:30	2
15:00	3
18:30	2
22:00	4

Weekend

Time	Plan
0:10	4
7:00	5
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 \$61.16 (\$54.12 + HST)

APPENDIX I

Capacity Analysis Reports (Existing/Background)

6600 Carrière TIA
3: Orléans & Jeanne d'Arc

Existing Traffic
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	165	43	8	1302	191	182	338	9	106	234	82
Future Volume (vph)	43	165	43	8	1302	191	182	338	9	106	234	82
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	55.0		0.0	38.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			47.0			48.0			33.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt		0.969			0.981			0.996			0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1580	3079	0	1658	3243	0	1642	3180	0	1626	3149	0
Flt Permitted	0.108			0.608			0.463			0.522		
Satd. Flow (perm)	180	3079	0	1054	3243	0	798	3180	0	893	3149	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		48			24			3			61	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		286.1			266.5			205.4			394.4	
Travel Time (s)		17.2			16.0			12.3			23.7	
Confl. Peds. (#/hr)	11		8	8		11	5		1	1		5
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 (%)	7%	7%	2%	2%	2%	2%	3%	6%	2%	4%	3%	2%
Adj. Flow (vph)	48	183	48	9	1447	212	202	376	10	118	260	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	231	0	9	1659	0	202	386	0	118	351	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		5.3			5.3			5.0			5.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		3	8		7	4	

6600 Carrière TIA
3: Orléans & Jeanne d'Arc

Existing Traffic
AM Peak



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		5.0	10.0		5.0	10.0	
Minimum Split (s)	28.1	28.1		28.1	28.1		14.0	29.0		14.0	29.0	
Total Split (s)	37.0	37.0		37.0	37.0		14.0	29.0		14.0	29.0	
Total Split (%)	46.3%	46.3%		46.3%	46.3%		17.5%	36.3%		17.5%	36.3%	
Maximum Green (s)	30.9	30.9		30.9	30.9		8.0	22.8		8.0	22.8	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.4	2.4		2.4	2.4		2.3	2.5		2.3	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1		6.0	6.2		6.0	6.2	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			16.0			16.0	
Pedestrian Calls (#/hr)	6	6		8	8			1			3	
Act Effct Green (s)	38.2	38.2		38.2	38.2		24.9	18.3		23.4	15.5	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.31	0.23		0.29	0.19	
v/c Ratio	0.56	0.15		0.02	1.06		0.61	0.53		0.36	0.53	
Control Delay	49.2	10.6		13.8	64.9		26.3	30.0		16.3	21.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	49.2	10.6		13.8	64.9		26.3	30.0		16.3	21.2	
LOS	D	B		B	E		C	C		B	C	
Approach Delay		17.3			64.6			28.7			20.0	
Approach LOS		B			E			C			B	
90th %ile Green (s)	30.9	30.9		30.9	30.9		8.0	22.8		8.0	22.8	
90th %ile Term Code	Coord	Coord		Coord	Coord		Max	Ped		Max	Ped	
70th %ile Green (s)	37.1	37.1		37.1	37.1		8.0	16.6		8.0	16.6	
70th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
50th %ile Green (s)	38.8	38.8		38.8	38.8		8.0	14.9		8.0	14.9	
50th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
30th %ile Green (s)	40.5	40.5		40.5	40.5		8.0	13.2		8.0	13.2	
30th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
10th %ile Green (s)	43.7	43.7		43.7	43.7		8.0	24.0		0.0	10.0	
10th %ile Term Code	Coord	Coord		Coord	Coord		Max	Hold		Skip	Min	
Stops (vph)	31	92		6	1156		138	293		57	272	
Fuel Used(l)	4	10		0	146		11	24		7	25	
CO Emissions (g/hr)	69	183		9	2724		212	440		127	460	
NOx Emissions (g/hr)	13	35		2	526		41	85		24	89	
VOC Emissions (g/hr)	16	42		2	628		49	101		29	106	
Dilemma Vehicles (#)	0	13		0	81		0	21		0	34	
Queue Length 50th (m)	4.5	7.0		0.6	~134.1		20.1	26.3		7.4	15.6	
Queue Length 95th (m)	#22.8	15.2		3.3	#198.0		29.0	34.1		15.4	25.2	
Internal Link Dist (m)		262.1			242.5			181.4			370.4	
Turn Bay Length (m)	55.0			38.0			60.0			55.0		
Base Capacity (vph)	86	1495		503	1561		332	918		338	941	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.56	0.15		0.02	1.06		0.61	0.42		0.35	0.37	
Intersection Summary												
Area Type:	Other											
Cycle Length: 80												

6600 Carrière TIA

3: Orléans & Jeanne d'Arc

Existing Traffic
AM Peak

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 46.2

Intersection LOS: D

Intersection Capacity Utilization 81.6%

ICU Level of Service D

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Orléans & Jeanne d'Arc

 Ø2 (L)	 Ø3	 Ø4
37 s	14 s	29 s
 Ø6 (L)	 Ø7	 Ø8
37 s	14 s	29 s

6600 Carrière TIA
6: Orléans & Carrière

Existing Traffic
AM Peak

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	126	116	463	173	95	328
Future Volume (vph)	126	116	463	173	95	328
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	32.0	0.0		30.0	46.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	26.0				34.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor	1.00			0.96	0.99	
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1551	1483	3252	1441	1610	3252
Flt Permitted	0.950				0.462	
Satd. Flow (perm)	1547	1483	3252	1382	775	3252
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		129		192		
Link Speed (k/h)	40		60			60
Link Distance (m)	369.6		394.4			297.9
Travel Time (s)	33.3		23.7			17.9
Confl. Peds. (#/hr)	3			18	18	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	9%	2%	4%	5%	5%	4%
Adj. Flow (vph)	140	129	514	192	106	364
Shared Lane Traffic (%)						
Lane Group Flow (vph)	140	129	514	192	106	364
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		5.0			5.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	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
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	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
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			CI+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						

6600 Carrière TIA
6: Orléans & Carrière

Existing Traffic
AM Peak

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	32.3	32.3	39.9	39.9	39.9	39.9
Total Split (s)	33.0	33.0	47.0	47.0	47.0	47.0
Total Split (%)	41.3%	41.3%	58.8%	58.8%	58.8%	58.8%
Maximum Green (s)	26.7	26.7	41.1	41.1	41.1	41.1
Yellow Time (s)	3.0	3.0	3.7	3.7	3.7	3.7
All-Red Time (s)	3.3	3.3	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.9	5.9	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	19.0	19.0	16.0	16.0		
Pedestrian Calls (#/hr)	2	2	10	10		
Act Effct Green (s)	14.7	14.7	53.1	53.1	53.1	53.1
Actuated g/C Ratio	0.18	0.18	0.66	0.66	0.66	0.66
v/c Ratio	0.49	0.34	0.24	0.20	0.21	0.17
Control Delay	33.8	7.1	4.2	0.9	8.3	6.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.8	7.1	4.2	0.9	8.3	6.4
LOS	C	A	A	A	A	A
Approach Delay	21.0		3.3			6.8
Approach LOS	C		A			A
90th %ile Green (s)	26.0	26.0	41.8	41.8	41.8	41.8
90th %ile Term Code	Ped	Ped	Coord	Coord	Coord	Coord
70th %ile Green (s)	14.7	14.7	53.1	53.1	53.1	53.1
70th %ile Term Code	Gap	Gap	Coord	Coord	Coord	Coord
50th %ile Green (s)	12.6	12.6	55.2	55.2	55.2	55.2
50th %ile Term Code	Gap	Gap	Coord	Coord	Coord	Coord
30th %ile Green (s)	10.4	10.4	57.4	57.4	57.4	57.4
30th %ile Term Code	Gap	Gap	Coord	Coord	Coord	Coord
10th %ile Green (s)	10.0	10.0	57.8	57.8	57.8	57.8
10th %ile Term Code	Min	Min	Coord	Coord	Coord	Coord
Stops (vph)	106	19	129	7	40	121
Fuel Used(l)	10	5	22	6	5	17
CO Emissions (g/hr)	181	101	400	117	96	313
NOx Emissions (g/hr)	35	20	77	23	19	60
VOC Emissions (g/hr)	42	23	92	27	22	72
Dilemma Vehicles (#)	0	0	22	0	0	21
Queue Length 50th (m)	18.4	0.0	7.5	0.0	4.5	7.8
Queue Length 95th (m)	27.1	10.0	m19.0	m3.1	16.7	20.3
Internal Link Dist (m)	345.6		370.4			273.9
Turn Bay Length (m)	32.0			30.0	46.0	
Base Capacity (vph)	516	580	2156	981	513	2156
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.22	0.24	0.20	0.21	0.17
Intersection Summary						
Area Type:	Other					
Cycle Length: 80						
Actuated Cycle Length: 80						

6600 Carrière TIA
6: Orléans & Carrière

Existing Traffic
AM Peak

Offset: 46 (58%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.49

Intersection Signal Delay: 7.7

Intersection LOS: A

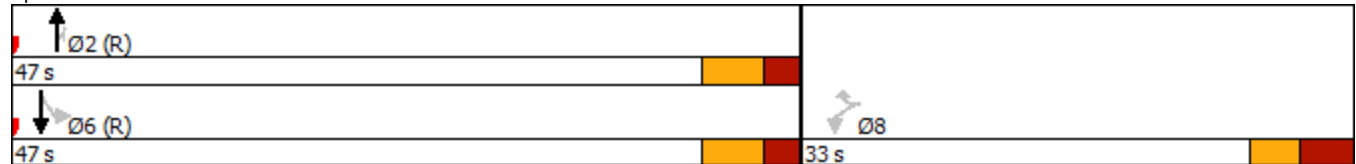
Intersection Capacity Utilization 60.1%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 6: Orléans & Carrière



6600 Carrière TIA
8: Orléans & St. Joseph

Existing Traffic
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	158	62	101	608	110	190	254	171	105	247	41
Future Volume (vph)	34	158	62	101	608	110	190	254	171	105	247	41
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		0.0	32.0		0.0	0.0		20.0	0.0		70.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	30.0			30.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.99		0.99	0.99		1.00		0.97	0.99		0.99
Frt		0.958			0.977				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1595	3071	0	1642	3216	0	1658	1679	1455	1626	1712	1483
Flt Permitted	0.350			0.497			0.395			0.452		
Satd. Flow (perm)	584	3071	0	853	3216	0	689	1679	1411	765	1712	1463
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		65			28				164			187
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		226.7			283.0			102.9			242.7	
Travel Time (s)		16.3			20.4			6.2			14.6	
Confl. Peds. (#/hr)	9		6	6		9	1		18	18		1
Confl. Bikes (#/hr)						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 (%)	6%	4%	6%	3%	2%	3%	2%	6%	4%	4%	4%	2%
Adj. Flow (vph)	38	176	69	112	676	122	211	282	190	117	274	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	245	0	112	798	0	211	282	190	117	274	46
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		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
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	0.6		2.0	0.6		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
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	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases		2		1	6		3	8	1	7	4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		3	8	1	7	4	4

6600 Carrière TIA
8: Orléans & St. Joseph

Existing Traffic
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	29.1	29.1		11.1	29.1		11.2	32.2	11.1	11.2	32.2	32.2
Total Split (s)	32.0	32.0		12.0	44.0		13.0	33.0	12.0	13.0	33.0	33.0
Total Split (%)	35.6%	35.6%		13.3%	48.9%		14.4%	36.7%	13.3%	14.4%	36.7%	36.7%
Maximum Green (s)	25.9	25.9		5.9	37.9		6.8	26.8	5.9	6.8	26.8	26.8
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)	2.8	2.8		2.8	2.8		2.9	2.9	2.8	2.9	2.9	2.9
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)	6.1	6.1		6.1	6.1		6.2	6.2	6.1	6.2	6.2	6.2
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	C-Max		None	None	None	None	None	None
Walk Time (s)	7.0	7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)	16.0	16.0			16.0			19.0			19.0	19.0
Pedestrian Calls (#/hr)	4	4			6			10			1	1
Act Effct Green (s)	30.9	30.9		44.6	44.6		28.1	22.7	30.4	26.8	20.1	20.1
Actuated g/C Ratio	0.34	0.34		0.50	0.50		0.31	0.25	0.34	0.30	0.22	0.22
v/c Ratio	0.19	0.22		0.23	0.50		0.73	0.67	0.32	0.40	0.72	0.10
Control Delay	26.8	17.2		15.3	16.9		37.7	38.8	5.5	22.5	42.6	0.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.8	17.2		15.3	16.9		37.7	38.8	5.5	22.5	42.6	0.4
LOS	C	B		B	B		D	D	A	C	D	A
Approach Delay		18.5			16.7			29.2			32.8	
Approach LOS		B			B			C			C	
90th %ile Green (s)	25.9	25.9		5.9	37.9		6.8	26.8	5.9	6.8	26.8	26.8
90th %ile Term Code	Coord	Coord		Max	Coord		Max	Max	Max	Max	Hold	Hold
70th %ile Green (s)	25.9	25.9		9.5	41.5		6.8	23.2	9.5	6.8	23.2	23.2
70th %ile Term Code	Coord	Coord		Max	Coord		Max	Gap	Max	Max	Hold	Hold
50th %ile Green (s)	29.5	29.5		8.8	44.4		6.8	20.3	8.8	6.8	20.3	20.3
50th %ile Term Code	Coord	Coord		Gap	Coord		Max	Gap	Gap	Max	Hold	Hold
30th %ile Green (s)	33.6	33.6		7.6	47.3		6.8	17.4	7.6	6.8	17.4	17.4
30th %ile Term Code	Coord	Coord		Gap	Coord		Max	Gap	Gap	Max	Hold	Hold
10th %ile Green (s)	39.8	39.8		6.1	52.0		6.8	25.7	6.1	0.0	12.7	12.7
10th %ile Term Code	Coord	Coord		Gap	Coord		Max	Hold	Gap	Skip	Gap	Gap
Stops (vph)	27	116		55	454		158	223	28	70	220	0
Fuel Used(l)	2	10		5	39		16	22	8	6	20	1
CO Emissions (g/hr)	38	191		95	722		306	418	145	117	379	16
NOx Emissions (g/hr)	7	37		18	139		59	81	28	23	73	3
VOC Emissions (g/hr)	9	44		22	167		71	96	33	27	88	4
Dilemma Vehicles (#)	0	0		0	0		0	14	0	0	14	0
Queue Length 50th (m)	4.3	10.6		9.3	41.2		23.9	42.0	2.5	12.4	40.4	0.0
Queue Length 95th (m)	12.3	19.9		20.4	64.6		34.9	60.5	13.2	20.4	58.3	0.0
Internal Link Dist (m)		202.7			259.0			78.9			218.7	
Turn Bay Length (m)	40.0			32.0					20.0			70.0
Base Capacity (vph)	201	1098		489	1608		288	499	588	293	509	566
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	0.19	0.22		0.23	0.50		0.73	0.57	0.32	0.40	0.54	0.08
Intersection Summary												
Area Type:	Other											
Cycle Length: 90												

6600 Carrière TIA 8: Orléans & St. Joseph

Existing Traffic
AM Peak

Actuated Cycle Length: 90

Offset: 40 (44%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 23.6

Intersection LOS: C

Intersection Capacity Utilization 75.5%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 8: Orléans & St. Joseph

 Ø1	 Ø2 (R)	 Ø3	 Ø4
12 s	32 s	13 s	33 s
 Ø5 (R)		 Ø7	 Ø8
44 s		13 s	33 s

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

Existing Traffic
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	776	211	15	324	244	172	460	36	243	374	16
Future Volume (vph)	26	776	211	15	324	244	172	460	36	243	374	16
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	55.0		0.0	38.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			47.0			48.0			33.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00		1.00	0.99		1.00	1.00		0.99	1.00	
Frt		0.968			0.936			0.989			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1658	3194	0	1658	3070	0	1658	3272	0	1658	3293	0
Flt Permitted	0.361			0.142			0.433			0.309		
Satd. Flow (perm)	627	3194	0	247	3070	0	752	3272	0	535	3293	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			255			11			6	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		286.1			266.5			205.4			394.4	
Travel Time (s)		17.2			16.0			12.3			23.7	
Confl. Peds. (#/hr)	12		10	10		12	9		16	16		9
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
Adj. Flow (vph)	29	862	234	17	360	271	191	511	40	270	416	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	1096	0	17	631	0	191	551	0	270	434	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		5.3			5.3			5.0			5.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

Existing Traffic
PM Peak



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	28.1	28.1		28.1	28.1		11.0	29.2		11.0	29.2	
Total Split (s)	33.0	33.0		33.0	33.0		15.0	32.0		15.0	32.0	
Total Split (%)	41.3%	41.3%		41.3%	41.3%		18.8%	40.0%		18.8%	40.0%	
Maximum Green (s)	26.9	26.9		26.9	26.9		9.0	25.8		9.0	25.8	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.4	2.4		2.4	2.4		2.3	2.5		2.3	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1		6.0	6.2		6.0	6.2	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			16.0			16.0	
Pedestrian Calls (#/hr)	8	8		10	10			12			7	
Act Effct Green (s)	34.1	34.1		34.1	34.1		27.6	18.6		28.0	18.8	
Actuated g/C Ratio	0.43	0.43		0.43	0.43		0.34	0.23		0.35	0.24	
v/c Ratio	0.11	0.79		0.16	0.43		0.53	0.72		0.86	0.56	
Control Delay	17.2	25.6		21.4	10.9		20.5	32.9		46.8	31.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	17.2	25.6		21.4	10.9		20.5	32.9		46.8	31.5	
LOS	B	C		C	B		C	C		D	C	
Approach Delay		25.4			11.2			29.7			37.4	
Approach LOS		C			B			C			D	
90th %ile Green (s)	28.8	28.8		28.8	28.8		9.0	23.9		9.0	23.9	
90th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
70th %ile Green (s)	32.2	32.2		32.2	32.2		9.0	20.5		9.0	20.5	
70th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
50th %ile Green (s)	34.2	34.2		34.2	34.2		9.0	18.5		9.0	18.5	
50th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
30th %ile Green (s)	36.2	36.2		36.2	36.2		9.0	16.5		9.0	16.5	
30th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
10th %ile Green (s)	39.1	39.1		39.1	39.1		7.9	13.6		9.0	14.7	
10th %ile Term Code	Coord	Coord		Coord	Coord		Gap	Gap		Max	Hold	
Stops (vph)	18	752		12	235		113	428		209	356	
Fuel Used(l)	2	68		1	26		9	35		24	34	
CO Emissions (g/hr)	29	1268		18	474		175	655		443	639	
NOx Emissions (g/hr)	6	245		4	92		34	126		86	123	
VOC Emissions (g/hr)	7	292		4	109		40	151		102	147	
Dilemma Vehicles (#)	0	59		0	35		0	30		0	6	
Queue Length 50th (m)	2.4	64.7		1.4	17.4		16.9	36.8		29.6	30.8	
Queue Length 95th (m)	7.9	#111.0		6.4	33.3		25.9	47.3		#61.6	45.6	
Internal Link Dist (m)		262.1			242.5			181.4			370.4	
Turn Bay Length (m)	55.0			38.0			60.0			55.0		
Base Capacity (vph)	267	1387		105	1454		363	1062		313	1066	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.11	0.79		0.16	0.43		0.53	0.52		0.86	0.41	

Intersection Summary

Area Type: Other

Cycle Length: 80

Actuated Cycle Length: 80

Offset: 20 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

6600 Carriere TIA

3: Orléans & Jeanne d'Arc

Existing Traffic
PM Peak

Natural Cycle: 80

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 26.1

Intersection LOS: C

Intersection Capacity Utilization 76.0%

ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Orléans & Jeanne d'Arc

 Ø2 (R)	 Ø3	 Ø4
33 s	15 s	32 s
 Ø6 (R)	 Ø7	 Ø8
33 s	15 s	32 s

6600 Carriere TIA
6: Orléans & Carrière

Existing Traffic
PM Peak

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	51	46	745	66	44	652
Future Volume (vph)	51	46	745	66	44	652
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	32.0	0.0		30.0	46.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	26.0				34.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor	0.99	0.99		0.96	0.99	
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1658	1483	3316	1483	1658	3283
Flt Permitted	0.950				0.330	
Satd. Flow (perm)	1639	1464	3316	1424	573	3283
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		51		73		
Link Speed (k/h)	40		60			60
Link Distance (m)	369.6		394.4			297.9
Travel Time (s)	33.3		23.7			17.9
Confl. Peds. (#/hr)	12	1		17	17	
Confl. Bikes (#/hr)				1		
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%
Adj. Flow (vph)	57	51	828	73	49	724
Shared Lane Traffic (%)						
Lane Group Flow (vph)	57	51	828	73	49	724
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		5.0			5.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	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
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	6	6

6600 Carriere TIA
6: Orléans & Carrière

Existing Traffic
PM Peak



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	32.3	32.3	39.9	39.9	39.9	39.9
Total Split (s)	33.0	33.0	47.0	47.0	47.0	47.0
Total Split (%)	41.3%	41.3%	58.8%	58.8%	58.8%	58.8%
Maximum Green (s)	26.7	26.7	41.1	41.1	41.1	41.1
Yellow Time (s)	3.0	3.0	3.7	3.7	3.7	3.7
All-Red Time (s)	3.3	3.3	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.9	5.9	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	19.0	19.0	16.0	16.0		
Pedestrian Calls (#/hr)	10	10	14	14		
Act Effct Green (s)	13.2	13.2	59.0	59.0	59.0	59.0
Actuated g/C Ratio	0.16	0.16	0.74	0.74	0.74	0.74
v/c Ratio	0.21	0.18	0.34	0.07	0.12	0.30
Control Delay	28.6	8.7	2.9	0.3	7.3	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.6	8.7	2.9	0.3	7.3	6.1
LOS	C	A	A	A	A	A
Approach Delay	19.2		2.7			6.2
Approach LOS	B		A			A
90th %ile Green (s)	26.0	26.0	41.8	41.8	41.8	41.8
90th %ile Term Code	Ped	Ped	Coord	Coord	Coord	Coord
70th %ile Green (s)	10.0	10.0	57.8	57.8	57.8	57.8
70th %ile Term Code	Min	Min	Coord	Coord	Coord	Coord
50th %ile Green (s)	10.0	10.0	57.8	57.8	57.8	57.8
50th %ile Term Code	Min	Min	Coord	Coord	Coord	Coord
30th %ile Green (s)	10.0	10.0	57.8	57.8	57.8	57.8
30th %ile Term Code	Min	Min	Coord	Coord	Coord	Coord
10th %ile Green (s)	0.0	0.0	74.1	74.1	74.1	74.1
10th %ile Term Code	Skip	Skip	Coord	Coord	Coord	Coord
Stops (vph)	42	11	134	0	18	229
Fuel Used(l)	4	2	31	2	2	33
CO Emissions (g/hr)	69	42	586	42	44	613
NOx Emissions (g/hr)	13	8	113	8	8	118
VOC Emissions (g/hr)	16	10	135	10	10	141
Dilemma Vehicles (#)	0	0	28	0	0	35
Queue Length 50th (m)	7.4	0.0	6.8	0.0	1.7	15.3
Queue Length 95th (m)	12.7	6.5	15.2	m0.0	8.8	42.1
Internal Link Dist (m)	345.6		370.4			273.9
Turn Bay Length (m)	32.0			30.0	46.0	
Base Capacity (vph)	547	522	2447	1070	422	2422
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.10	0.34	0.07	0.12	0.30
Intersection Summary						
Area Type:	Other					
Cycle Length: 80						

6600 Carrière TIA
6: Orléans & Carrière

Existing Traffic
PM Peak

Actuated Cycle Length: 80

Offset: 11 (14%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.34

Intersection Signal Delay: 5.2

Intersection LOS: A

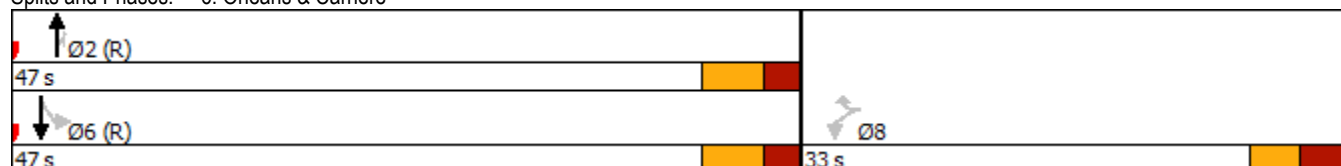
Intersection Capacity Utilization 57.5%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 6: Orléans & Carrière



6600 Carriere TIA
8: Orléans & St. Joseph

Existing Traffic
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	689	145	266	413	113	130	259	301	111	290	38
Future Volume (vph)	68	689	145	266	413	113	130	259	301	111	290	38
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		0.0	32.0		0.0	0.0		20.0	0.0		70.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	30.0			30.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.99			0.99		0.99		0.97	0.99		0.98
Frt		0.974			0.968				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1642	3200	0	1658	3130	0	1642	1745	1483	1642	1679	1483
Flt Permitted	0.431			0.111			0.303			0.370		
Satd. Flow (perm)	738	3200	0	194	3130	0	520	1745	1444	634	1679	1447
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			48				116			168
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		226.7			283.0			102.9			242.7	
Travel Time (s)		16.3			20.4			6.2			14.6	
Confl. Peds. (#/hr)	10		15	15		10	11		13	13		11
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 (%)	3%	2%	2%	2%	3%	6%	3%	2%	2%	3%	6%	2%
Adj. Flow (vph)	76	766	161	296	459	126	144	288	334	123	322	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	927	0	296	585	0	144	288	334	123	322	42
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		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
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	0.6		2.0	0.6		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
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	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases		2		1	6		3	8	1	7	4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		3	8	1	7	4	4

6600 Carriere TIA
8: Orléans & St. Joseph

Existing Traffic
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	29.1	29.1		11.1	29.1		11.2	32.2	11.1	11.2	32.2	32.2
Total Split (s)	36.0	36.0		18.0	54.0		14.0	32.0	18.0	14.0	32.0	32.0
Total Split (%)	36.0%	36.0%		18.0%	54.0%		14.0%	32.0%	18.0%	14.0%	32.0%	32.0%
Maximum Green (s)	29.9	29.9		11.9	47.9		7.8	25.8	11.9	7.8	25.8	25.8
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)	2.8	2.8		2.8	2.8		2.9	2.9	2.8	2.9	2.9	2.9
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)	6.1	6.1		6.1	6.1		6.2	6.2	6.1	6.2	6.2	6.2
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	C-Max		None	None	None	None	None	None
Walk Time (s)	7.0	7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)	16.0	16.0			16.0			19.0			19.0	19.0
Pedestrian Calls (#/hr)	12	12			8			10			8	8
Act Effct Green (s)	29.9	29.9		50.9	50.9		30.8	23.0	37.9	30.5	22.8	22.8
Actuated g/C Ratio	0.30	0.30		0.51	0.51		0.31	0.23	0.38	0.30	0.23	0.23
v/c Ratio	0.35	0.95		0.94	0.36		0.58	0.72	0.53	0.46	0.84	0.09
Control Delay	32.9	53.6		64.7	14.8		32.0	46.0	16.2	26.9	56.4	0.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.9	53.6		64.7	14.8		32.0	46.0	16.2	26.9	56.4	0.4
LOS	C	D		E	B		C	D	B	C	E	A
Approach Delay		52.0			31.5			30.4			44.1	
Approach LOS		D			C			C			D	
90th %ile Green (s)	29.9	29.9		11.9	47.9		7.8	25.8	11.9	7.8	25.8	25.8
90th %ile Term Code	Coord	Coord		Max	Coord		Max	Ped	Max	Max	Ped	Ped
70th %ile Green (s)	29.9	29.9		11.9	47.9		7.8	25.8	11.9	7.8	25.8	25.8
70th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Max	Max	Max
50th %ile Green (s)	29.9	29.9		13.1	49.1		7.8	24.6	13.1	7.8	24.6	24.6
50th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Max	Gap	Gap
30th %ile Green (s)	29.9	29.9		16.4	52.4		7.8	21.3	16.4	7.8	21.3	21.3
30th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Max	Gap	Gap
10th %ile Green (s)	29.9	29.9		21.1	57.1		7.8	17.3	21.1	7.1	16.6	16.6
10th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Gap	Gap	Gap
Stops (vph)	53	723		149	282		96	233	144	77	266	0
Fuel Used(l)	4	69		24	26		10	24	18	7	27	1
CO Emissions (g/hr)	81	1275		441	492		193	456	344	132	508	15
NOx Emissions (g/hr)	16	246		85	95		37	88	66	26	98	3
VOC Emissions (g/hr)	19	294		102	113		45	105	79	31	117	3
Dilemma Vehicles (#)	0	0		0	0		0	13	0	0	14	0
Queue Length 50th (m)	10.6	83.1		~43.5	30.0		17.0	46.6	25.7	14.3	53.8	0.0
Queue Length 95th (m)	22.7	#120.2		#94.2	42.5		29.1	71.1	47.2	25.3	#86.8	0.0
Internal Link Dist (m)		202.7			259.0			78.9			218.7	
Turn Bay Length (m)	40.0			32.0					20.0			70.0
Base Capacity (vph)	220	974		316	1616		247	450	625	272	433	497
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	0.35	0.95		0.94	0.36		0.58	0.64	0.53	0.45	0.74	0.08
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												

6600 Carriere TIA

8: Orléans & St. Joseph

Existing Traffic
PM Peak

Actuated Cycle Length: 100

Offset: 53 (53%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 39.8

Intersection LOS: D

Intersection Capacity Utilization 86.7%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 8: Orléans & St. Joseph

 Ø1 18 s	 Ø2 (R) 36 s	 Ø3 14 s	 Ø4 32 s
 Ø6 (R) 54 s	 Ø7 14 s	 Ø8 32 s	

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

Existing Traffic (optimized)
AM Peak (optimized)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	165	43	8	1302	191	182	338	9	106	234	82
Future Volume (vph)	43	165	43	8	1302	191	182	338	9	106	234	82
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	55.0		0.0	38.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			47.0			48.0			33.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt		0.969			0.981			0.996			0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1580	3078	0	1658	3242	0	1642	3180	0	1626	3148	0
Flt Permitted	0.071			0.608			0.434			0.400		
Satd. Flow (perm)	118	3078	0	1053	3242	0	747	3180	0	684	3148	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		48			24			2			45	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		286.1			266.5			205.4			394.4	
Travel Time (s)		17.2			16.0			12.3			23.7	
Confl. Peds. (#/hr)	11		8	8		11	5		1	1		5
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 (%)	7%	7%	2%	2%	2%	2%	3%	6%	2%	4%	3%	2%
Adj. Flow (vph)	48	183	48	9	1447	212	202	376	10	118	260	91
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	231	0	9	1659	0	202	386	0	118	351	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		5.3			5.3			5.0			5.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		3	8		7	4	

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

Existing Traffic (optimized)
AM Peak (optimized)

												
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		5.0	10.0		5.0	10.0	
Minimum Split (s)	28.1	28.1		28.1	28.1		14.0	29.0		14.0	29.0	
Total Split (s)	57.0	57.0		57.0	57.0		14.0	29.0		14.0	29.0	
Total Split (%)	57.0%	57.0%		57.0%	57.0%		14.0%	29.0%		14.0%	29.0%	
Maximum Green (s)	50.9	50.9		50.9	50.9		8.0	22.8		8.0	22.8	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.4	2.4		2.4	2.4		2.3	2.5		2.3	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1		6.0	6.2		6.0	6.2	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			16.0			16.0	
Pedestrian Calls (#/hr)	6	6		8	8			1			3	
Act Effct Green (s)	56.4	56.4		56.4	56.4		25.7	17.5		25.3	17.3	
Actuated g/C Ratio	0.56	0.56		0.56	0.56		0.26	0.18		0.25	0.17	
v/c Ratio	0.73	0.13		0.02	0.90		0.77	0.69		0.48	0.60	
Control Delay	78.6	9.0		11.5	28.4		48.1	45.0		31.5	37.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	78.6	9.0		11.5	28.4		48.1	45.0		31.5	37.1	
LOS	E	A		B	C		D	D		C	D	
Approach Delay		20.9			28.3			46.1			35.7	
Approach LOS		C			C			D			D	
90th %ile Green (s)	50.9	50.9		50.9	50.9		8.0	22.8		8.0	22.8	
90th %ile Term Code	Coord	Coord		Coord	Coord		Max	Ped		Max	Ped	
70th %ile Green (s)	54.5	54.5		54.5	54.5		8.0	19.2		8.0	19.2	
70th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
50th %ile Green (s)	56.4	56.4		56.4	56.4		8.0	17.3		8.0	17.3	
50th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
30th %ile Green (s)	58.3	58.3		58.3	58.3		8.0	15.4		8.0	15.4	
30th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
10th %ile Green (s)	62.0	62.0		62.0	62.0		8.0	12.6		7.1	11.7	
10th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Gap	Hold	
Stops (vph)	30	76		5	1167		163	315		80	246	
Fuel Used(l)	5	9		0	105		15	28		9	28	
CO Emissions (g/hr)	86	168		8	1949		284	528		163	517	
NOx Emissions (g/hr)	17	33		1	376		55	102		32	100	
VOC Emissions (g/hr)	20	39		2	450		65	122		38	119	
Dilemma Vehicles (#)	0	10		0	72		0	17		0	15	
Queue Length 50th (m)	5.9	7.5		0.7	128.7		28.0	34.3		15.5	26.7	
Queue Length 95th (m)	#27.6	14.3		3.0	#200.8		#43.1	45.3		25.7	37.2	
Internal Link Dist (m)		262.1			242.5			181.4			370.4	
Turn Bay Length (m)	55.0			38.0			60.0			55.0		
Base Capacity (vph)	66	1757		593	1839		263	726		249	752	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.73	0.13		0.02	0.90		0.77	0.53		0.47	0.47	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												

6600 Carriere TIA 3: Orléans & Jeanne d'Arc

Existing Traffic (optimized)
AM Peak (optimized)

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 32.2

Intersection LOS: C

Intersection Capacity Utilization 81.6%

ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Orléans & Jeanne d'Arc

 Ø2 (R)		 Ø3		 Ø4	
57 s		14 s		29 s	
 Ø6 (R)		 Ø7		 Ø8	
57 s		14 s		29 s	

6600 Carriere TIA
8: Orléans & St. Joseph

Existing Traffic (optimized)
PM Peak (optimized)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	689	145	266	413	113	130	259	301	111	290	38
Future Volume (vph)	68	689	145	266	413	113	130	259	301	111	290	38
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		0.0	32.0		0.0	0.0		20.0	0.0		70.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	30.0			30.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.99			0.99		0.99		0.97	0.99		0.98
Frt		0.974			0.968				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1642	3200	0	1658	3130	0	1642	1745	1483	1642	1679	1483
Flt Permitted	0.431			0.106			0.303			0.370		
Satd. Flow (perm)	738	3200	0	185	3130	0	520	1745	1444	634	1679	1447
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			50				101			168
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		226.7			283.0			102.9			242.7	
Travel Time (s)		16.3			20.4			6.2			14.6	
Confl. Peds. (#/hr)	10		15	15		10	11		13	13		11
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 (%)	3%	2%	2%	2%	3%	6%	3%	2%	2%	3%	6%	2%
Adj. Flow (vph)	76	766	161	296	459	126	144	288	334	123	322	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	927	0	296	585	0	144	288	334	123	322	42
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		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
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	0.6		2.0	0.6		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
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	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases		2		1	6		3	8	1	7	4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		3	8	1	7	4	4

6600 Carriere TIA
8: Orléans & St. Joseph

Existing Traffic (optimized)
PM Peak (optimized)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	29.1	29.1		11.1	29.1		11.2	32.2	11.1	11.2	32.2	32.2
Total Split (s)	35.4	35.4		21.0	56.4		11.4	32.2	21.0	11.3	32.2	32.2
Total Split (%)	35.4%	35.4%		21.0%	56.4%		11.4%	32.2%	21.0%	11.3%	32.2%	32.2%
Maximum Green (s)	29.3	29.3		14.9	50.3		5.2	26.0	14.9	5.1	26.0	26.0
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)	2.8	2.8		2.8	2.8		2.9	2.9	2.8	2.9	2.9	2.9
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)	6.1	6.1		6.1	6.1		6.2	6.2	6.1	6.2	6.2	6.2
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	C-Max		None	None	None	None	None	None
Walk Time (s)	7.0	7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)	16.0	16.0			16.0			19.0			19.0	19.0
Pedestrian Calls (#/hr)	12	12			8			10			8	8
Act Effct Green (s)	31.5	31.5		53.4	53.4		28.2	23.0	38.9	28.0	22.9	22.9
Actuated g/C Ratio	0.32	0.32		0.53	0.53		0.28	0.23	0.39	0.28	0.23	0.23
v/c Ratio	0.33	0.90		0.89	0.35		0.70	0.72	0.53	0.54	0.84	0.09
Control Delay	32.6	46.4		54.9	13.3		45.0	45.9	16.0	33.5	56.1	0.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.6	46.4		54.9	13.3		45.0	45.9	16.0	33.5	56.1	0.4
LOS	C	D		D	B		D	D	B	C	E	A
Approach Delay		45.3			27.2			32.7			45.6	
Approach LOS		D			C			C			D	
90th %ile Green (s)	29.3	29.3		14.9	50.3		5.2	26.1	14.9	5.1	26.0	26.0
90th %ile Term Code	Coord	Coord		Max	Coord		Max	Max	Max	Max	Max	Max
70th %ile Green (s)	29.3	29.3		14.9	50.3		5.2	26.1	14.9	5.1	26.0	26.0
70th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Max	Max	Max
50th %ile Green (s)	29.3	29.3		16.4	51.8		5.2	24.6	16.4	5.1	24.5	24.5
50th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Max	Gap	Gap
30th %ile Green (s)	30.1	30.1		18.8	55.0		5.2	21.4	18.8	5.1	21.3	21.3
30th %ile Term Code	Coord	Coord		Gap	Coord		Max	Hold	Gap	Max	Gap	Gap
10th %ile Green (s)	39.5	39.5		14.1	59.7		5.2	16.7	14.1	5.1	16.6	16.6
10th %ile Term Code	Coord	Coord		Gap	Coord		Max	Hold	Gap	Max	Gap	Gap
Stops (vph)	53	703		164	266		107	232	148	89	267	0
Fuel Used(l)	4	63		22	25		12	24	19	8	27	1
CO Emissions (g/hr)	81	1180		410	474		222	455	345	150	507	15
NOx Emissions (g/hr)	16	228		79	91		43	88	67	29	98	3
VOC Emissions (g/hr)	19	272		95	109		51	105	80	35	117	3
Dilemma Vehicles (#)	0	0		0	0		0	13	0	0	14	0
Queue Length 50th (m)	10.7	83.8		38.9	28.0		17.9	46.6	25.9	15.0	53.9	0.0
Queue Length 95th (m)	22.9	#122.1		#86.2	40.1		#33.5	70.8	46.2	26.4	#86.2	0.0
Internal Link Dist (m)		202.7			259.0			78.9			218.7	
Turn Bay Length (m)	40.0			32.0					20.0			70.0
Base Capacity (vph)	232	1025		334	1695		205	455	631	228	436	500
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	0.33	0.90		0.89	0.35		0.70	0.63	0.53	0.54	0.74	0.08
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												

6600 Carriere TIA
8: Orléans & St. Joseph

Existing Traffic (optimized)
PM Peak (optimized)

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 37.2

Intersection LOS: D

Intersection Capacity Utilization 86.7%

ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 8: Orléans & St. Joseph

 Ø1	 Ø2 (R)	 Ø3	 Ø4
21 s	35.4 s	11.4 s	32.2 s
 Ø6 (R)		 Ø7	 Ø8
56.4 s		11.3 s	32.2 s

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2025 Background Traffic
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	170	44	8	1341	197	187	348	9	109	241	84
Future Volume (vph)	44	170	44	8	1341	197	187	348	9	109	241	84
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	55.0		0.0	38.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			47.0			48.0			33.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt		0.969			0.981			0.996			0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1580	3079	0	1658	3243	0	1642	3180	0	1626	3149	0
Flt Permitted	0.107			0.618			0.490			0.538		
Satd. Flow (perm)	178	3079	0	1071	3243	0	844	3180	0	920	3149	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		44			24			3			61	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		286.1			266.5			205.4			394.4	
Travel Time (s)		17.2			16.0			12.3			23.7	
Confl. Peds. (#/hr)	11		8	8		11	5		1	1		5
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 (%)	7%	7%	2%	2%	2%	2%	3%	6%	2%	4%	3%	2%
Adj. Flow (vph)	44	170	44	8	1341	197	187	348	9	109	241	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	214	0	8	1538	0	187	357	0	109	325	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		5.3			5.3			5.0			5.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		3	8		7	4	

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2025 Background Traffic
AM Peak

												
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		5.0	10.0		5.0	10.0	
Minimum Split (s)	28.1	28.1		28.1	28.1		14.0	29.0		14.0	29.0	
Total Split (s)	37.0	37.0		37.0	37.0		14.0	29.0		14.0	29.0	
Total Split (%)	46.3%	46.3%		46.3%	46.3%		17.5%	36.3%		17.5%	36.3%	
Maximum Green (s)	30.9	30.9		30.9	30.9		8.0	22.8		8.0	22.8	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.4	2.4		2.4	2.4		2.3	2.5		2.3	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1		6.0	6.2		6.0	6.2	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			16.0			16.0	
Pedestrian Calls (#/hr)	6	6		8	8			1			3	
Act Effct Green (s)	38.7	38.7		38.7	38.7		24.4	17.8		22.9	15.1	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.30	0.22		0.29	0.19	
v/c Ratio	0.52	0.14		0.02	0.97		0.55	0.50		0.33	0.51	
Control Delay	44.7	10.4		13.5	39.8		24.5	29.9		15.9	20.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	44.7	10.4		13.5	39.8		24.5	29.9		15.9	20.5	
LOS	D	B		B	D		C	C		B	C	
Approach Delay		16.3			39.7			28.0			19.4	
Approach LOS		B			D			C			B	
90th %ile Green (s)	30.9	30.9		30.9	30.9		8.0	22.8		8.0	22.8	
90th %ile Term Code	Coord	Coord		Coord	Coord		Max	Ped		Max	Ped	
70th %ile Green (s)	37.9	37.9		37.9	37.9		8.0	15.8		8.0	15.8	
70th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
50th %ile Green (s)	39.5	39.5		39.5	39.5		8.0	14.2		8.0	14.2	
50th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
30th %ile Green (s)	41.2	41.2		41.2	41.2		8.0	12.5		8.0	12.5	
30th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
10th %ile Green (s)	43.8	43.8		43.8	43.8		7.9	23.9		0.0	10.0	
10th %ile Term Code	Coord	Coord		Coord	Coord		Gap	Hold		Skip	Min	
Stops (vph)	32	94		7	1180		138	300		59	270	
Fuel Used(l)	4	10		0	121		11	24		7	25	
CO Emissions (g/hr)	68	187		9	2247		210	451		130	465	
NOx Emissions (g/hr)	13	36		2	434		41	87		25	90	
VOC Emissions (g/hr)	16	43		2	518		49	104		30	107	
Dilemma Vehicles (#)	0	13		0	87		0	22		0	34	
Queue Length 50th (m)	3.9	6.3		0.6	101.4		18.7	24.3		7.1	14.4	
Queue Length 95th (m)	#20.9	14.3		3.0	#178.3		26.9	31.5		14.0	22.5	
Internal Link Dist (m)		262.1			242.5			181.4			370.4	
Turn Bay Length (m)	55.0			38.0			60.0			55.0		
Base Capacity (vph)	85	1510		517	1579		337	917		338	941	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.52	0.14		0.02	0.97		0.55	0.39		0.32	0.35	
Intersection Summary												
Area Type:	Other											
Cycle Length: 80												

6600 Carriere TIA

3: Orléans & Jeanne d'Arc

2025 Background Traffic
AM Peak

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 32.1

Intersection LOS: C

Intersection Capacity Utilization 83.5%

ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Orléans & Jeanne d'Arc

 Ø2 (R)	 Ø3	 Ø4
37 s	14 s	29 s
 Ø6 (R)	 Ø7	 Ø8
37 s	14 s	29 s

6600 Carriere TIA
6: Orléans & Carrière

2025 Background Traffic
AM Peak

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	126	116	477	173	95	338
Future Volume (vph)	126	116	477	173	95	338
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	32.0	0.0		30.0	46.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	26.0				34.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor	1.00			0.96	0.99	
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1551	1483	3252	1441	1610	3252
Flt Permitted	0.950				0.479	
Satd. Flow (perm)	1547	1483	3252	1382	803	3252
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		116		173		
Link Speed (k/h)	40		60			60
Link Distance (m)	369.6		394.4			297.9
Travel Time (s)	33.3		23.7			17.9
Confl. Peds. (#/hr)	3			18	18	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	9%	2%	4%	5%	5%	4%
Adj. Flow (vph)	126	116	477	173	95	338
Shared Lane Traffic (%)						
Lane Group Flow (vph)	126	116	477	173	95	338
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		5.0			5.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	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
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						

6600 Carriere TIA
6: Orléans & Carrière

2025 Background Traffic
AM Peak

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	32.3	32.3	39.9	39.9	39.9	39.9
Total Split (s)	33.0	33.0	47.0	47.0	47.0	47.0
Total Split (%)	41.3%	41.3%	58.8%	58.8%	58.8%	58.8%
Maximum Green (s)	26.7	26.7	41.1	41.1	41.1	41.1
Yellow Time (s)	3.0	3.0	3.7	3.7	3.7	3.7
All-Red Time (s)	3.3	3.3	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.9	5.9	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	19.0	19.0	16.0	16.0		
Pedestrian Calls (#/hr)	2	2	10	10		
Act Effct Green (s)	14.3	14.3	53.5	53.5	53.5	53.5
Actuated g/C Ratio	0.18	0.18	0.67	0.67	0.67	0.67
v/c Ratio	0.45	0.32	0.22	0.18	0.18	0.16
Control Delay	33.1	7.3	4.1	0.9	7.8	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	7.3	4.1	0.9	7.8	6.2
LOS	C	A	A	A	A	A
Approach Delay	20.7		3.2			6.5
Approach LOS	C		A			A
90th %ile Green (s)	26.0	26.0	41.8	41.8	41.8	41.8
90th %ile Term Code	Ped	Ped	Coord	Coord	Coord	Coord
70th %ile Green (s)	13.9	13.9	53.9	53.9	53.9	53.9
70th %ile Term Code	Gap	Gap	Coord	Coord	Coord	Coord
50th %ile Green (s)	11.8	11.8	56.0	56.0	56.0	56.0
50th %ile Term Code	Gap	Gap	Coord	Coord	Coord	Coord
30th %ile Green (s)	10.0	10.0	57.8	57.8	57.8	57.8
30th %ile Term Code	Min	Min	Coord	Coord	Coord	Coord
10th %ile Green (s)	10.0	10.0	57.8	57.8	57.8	57.8
10th %ile Term Code	Min	Min	Coord	Coord	Coord	Coord
Stops (vph)	104	19	131	8	39	122
Fuel Used(l)	10	5	22	6	5	17
CO Emissions (g/hr)	179	102	410	117	95	320
NOx Emissions (g/hr)	35	20	79	23	18	62
VOC Emissions (g/hr)	41	23	95	27	22	74
Dilemma Vehicles (#)	0	0	18	0	0	21
Queue Length 50th (m)	16.6	0.0	6.8	0.1	3.8	6.9
Queue Length 95th (m)	24.6	9.6	m18.0	m3.1	14.9	18.8
Internal Link Dist (m)	345.6		370.4			273.9
Turn Bay Length (m)	32.0			30.0	46.0	
Base Capacity (vph)	516	572	2173	980	536	2173
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.20	0.22	0.18	0.18	0.16
Intersection Summary						
Area Type:	Other					
Cycle Length: 80						
Actuated Cycle Length: 80						

6600 Carriere TIA
6: Orléans & Carrière

2025 Background Traffic
AM Peak

Offset: 46 (58%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.45

Intersection Signal Delay: 7.5

Intersection LOS: A

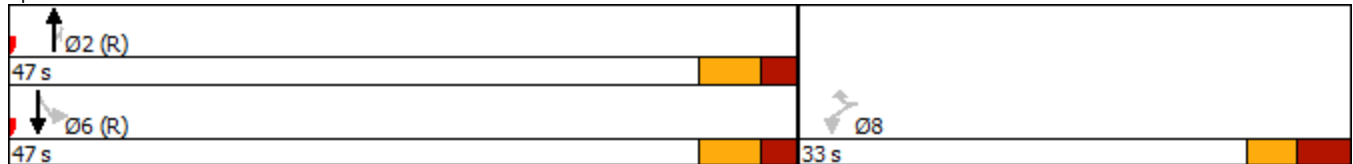
Intersection Capacity Utilization 60.1%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 6: Orléans & Carrière



6600 Carriere TIA
8: Orléans & St. Joseph

2025 Background Traffic
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	165	64	104	628	113	196	262	176	108	254	42
Future Volume (vph)	35	165	64	104	628	113	196	262	176	108	254	42
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		0.0	32.0		0.0	0.0		20.0	0.0		70.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	30.0			30.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.99		0.99	0.99		1.00		0.97	0.99		0.99
Frt		0.958			0.977				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1595	3071	0	1642	3216	0	1658	1679	1455	1626	1712	1483
Flt Permitted	0.370			0.508			0.419			0.480		
Satd. Flow (perm)	617	3071	0	871	3216	0	731	1679	1411	812	1712	1463
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		63			28				163			187
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		226.7			283.0			102.9			242.7	
Travel Time (s)		16.3			20.4			6.2			14.6	
Confl. Peds. (#/hr)	9		6	6		9	1		18	18		1
Confl. Bikes (#/hr)						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 (%)	6%	4%	6%	3%	2%	3%	2%	6%	4%	4%	4%	2%
Adj. Flow (vph)	35	165	64	104	628	113	196	262	176	108	254	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	229	0	104	741	0	196	262	176	108	254	42
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		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
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	0.6		2.0	0.6		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
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	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases		2		1	6		3	8	1	7	4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		3	8	1	7	4	4

6600 Carriere TIA
8: Orléans & St. Joseph

2025 Background Traffic
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	29.1	29.1		11.1	29.1		11.2	32.2	11.1	11.2	32.2	32.2
Total Split (s)	32.0	32.0		12.0	44.0		13.0	33.0	12.0	13.0	33.0	33.0
Total Split (%)	35.6%	35.6%		13.3%	48.9%		14.4%	36.7%	13.3%	14.4%	36.7%	36.7%
Maximum Green (s)	25.9	25.9		5.9	37.9		6.8	26.8	5.9	6.8	26.8	26.8
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)	2.8	2.8		2.8	2.8		2.9	2.9	2.8	2.9	2.9	2.9
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)	6.1	6.1		6.1	6.1		6.2	6.2	6.1	6.2	6.2	6.2
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	C-Max		None	None	None	None	None	None
Walk Time (s)	7.0	7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)	16.0	16.0			16.0			19.0			19.0	19.0
Pedestrian Calls (#/hr)	4	4			6			10			1	1
Act Effct Green (s)	31.8	31.8		45.5	45.5		27.2	21.8	29.5	25.9	19.2	19.2
Actuated g/C Ratio	0.35	0.35		0.51	0.51		0.30	0.24	0.33	0.29	0.21	0.21
v/c Ratio	0.16	0.20		0.21	0.45		0.67	0.65	0.31	0.37	0.70	0.09
Control Delay	25.6	16.6		14.5	15.7		34.2	38.8	4.9	22.4	42.5	0.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.6	16.6		14.5	15.7		34.2	38.8	4.9	22.4	42.5	0.4
LOS	C	B		B	B		C	D	A	C	D	A
Approach Delay		17.8			15.5			28.0			32.7	
Approach LOS		B			B			C			C	
90th %ile Green (s)	25.9	25.9		6.7	38.7		6.8	26.0	6.7	6.8	26.0	26.0
90th %ile Term Code	Coord	Coord		Max	Coord		Max	Ped	Max	Max	Ped	Ped
70th %ile Green (s)	26.7	26.7		9.8	42.6		6.8	22.1	9.8	6.8	22.1	22.1
70th %ile Term Code	Coord	Coord		Gap	Coord		Max	Gap	Gap	Max	Hold	Hold
50th %ile Green (s)	30.8	30.8		8.5	45.4		6.8	19.3	8.5	6.8	19.3	19.3
50th %ile Term Code	Coord	Coord		Gap	Coord		Max	Gap	Gap	Max	Hold	Hold
30th %ile Green (s)	34.8	34.8		7.3	48.2		6.8	16.5	7.3	6.8	16.5	16.5
30th %ile Term Code	Coord	Coord		Gap	Coord		Max	Gap	Gap	Max	Hold	Hold
10th %ile Green (s)	40.8	40.8		5.9	52.8		6.8	24.9	5.9	0.0	11.9	11.9
10th %ile Term Code	Coord	Coord		Gap	Coord		Max	Hold	Gap	Skip	Gap	Gap
Stops (vph)	28	115		56	447		160	231	25	73	226	0
Fuel Used(l)	2	10		5	39		16	23	8	6	21	1
CO Emissions (g/hr)	39	194		97	723		304	432	146	121	390	17
NOx Emissions (g/hr)	7	37		19	140		59	83	28	23	75	3
VOC Emissions (g/hr)	9	45		22	167		70	100	34	28	90	4
Dilemma Vehicles (#)	0	0		0	0		0	14	0	0	14	0
Queue Length 50th (m)	3.8	9.5		8.3	36.3		22.4	39.1	1.3	11.7	37.6	0.0
Queue Length 95th (m)	11.5	18.6		18.8	57.8		33.2	56.7	11.5	19.3	54.7	0.0
Internal Link Dist (m)		202.7			259.0			78.9			218.7	
Turn Bay Length (m)	40.0			32.0					20.0			70.0
Base Capacity (vph)	218	1125		506	1641		291	499	575	295	509	566
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	0.16	0.20		0.21	0.45		0.67	0.53	0.31	0.37	0.50	0.07
Intersection Summary												
Area Type:	Other											
Cycle Length: 90												

6600 Carriere TIA
8: Orléans & St. Joseph

2025 Background Traffic
AM Peak

Actuated Cycle Length: 90

Offset: 40 (44%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 22.7

Intersection LOS: C

Intersection Capacity Utilization 76.9%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 8: Orléans & St. Joseph

 Ø1	 Ø2 (R)	 Ø3	 Ø4
12 s	32 s	13 s	33 s
 Ø5 (R)	 Ø6 (R)	 Ø7	 Ø8
44 s	13 s	33 s	

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2025 Background Traffic
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	799	217	15	334	251	177	474	37	250	385	16
Future Volume (vph)	27	799	217	15	334	251	177	474	37	250	385	16
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	55.0		0.0	38.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			47.0			48.0			33.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	1.00		1.00	0.99		0.99	1.00		0.99	1.00	
Frt		0.968			0.936			0.989			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1658	3194	0	1658	3070	0	1658	3272	0	1658	3293	0
Flt Permitted	0.392			0.178			0.465			0.334		
Satd. Flow (perm)	681	3194	0	310	3070	0	807	3272	0	578	3293	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			251			11			5	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		286.1			266.5			205.4			394.4	
Travel Time (s)		17.2			16.0			12.3			23.7	
Confl. Peds. (#/hr)	12		10	10		12	9		16	16		9
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)	27	799	217	15	334	251	177	474	37	250	385	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	27	1016	0	15	585	0	177	511	0	250	401	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		5.3			5.3			5.0			5.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2025 Background Traffic

PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	28.1	28.1		28.1	28.1		11.0	29.2		11.0	29.2	
Total Split (s)	33.0	33.0		33.0	33.0		15.0	32.0		15.0	32.0	
Total Split (%)	41.3%	41.3%		41.3%	41.3%		18.8%	40.0%		18.8%	40.0%	
Maximum Green (s)	26.9	26.9		26.9	26.9		9.0	25.8		9.0	25.8	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.4	2.4		2.4	2.4		2.3	2.5		2.3	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1		6.0	6.2		6.0	6.2	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			16.0			16.0	
Pedestrian Calls (#/hr)	8	8		10	10			12			7	
Act Effct Green (s)	35.0	35.0		35.0	35.0		26.6	17.7		27.2	18.0	
Actuated g/C Ratio	0.44	0.44		0.44	0.44		0.33	0.22		0.34	0.22	
v/c Ratio	0.09	0.71		0.11	0.39		0.49	0.70		0.79	0.54	
Control Delay	16.2	22.1		18.3	9.9		19.9	33.1		38.0	31.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.2	22.1		18.3	9.9		19.9	33.1		38.0	31.5	
LOS	B	C		B	A		B	C		D	C	
Approach Delay		21.9			10.1			29.7			34.0	
Approach LOS		C			B			C			C	
90th %ile Green (s)	29.7	29.7		29.7	29.7		9.0	23.0		9.0	23.0	
90th %ile Term Code	Coord	Coord		Coord	Coord		Max	Ped		Max	Ped	
70th %ile Green (s)	33.2	33.2		33.2	33.2		9.0	19.5		9.0	19.5	
70th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
50th %ile Green (s)	35.2	35.2		35.2	35.2		9.0	17.5		9.0	17.5	
50th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
30th %ile Green (s)	37.1	37.1		37.1	37.1		9.0	15.6		9.0	15.6	
30th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
10th %ile Green (s)	39.9	39.9		39.9	39.9		7.6	12.8		9.0	14.2	
10th %ile Term Code	Coord	Coord		Coord	Coord		Gap	Gap		Max	Hold	
Stops (vph)	19	759		13	222		117	440		216	364	
Fuel Used(l)	2	67		1	25		10	36		23	35	
CO Emissions (g/hr)	30	1246		18	468		179	675		425	654	
NOx Emissions (g/hr)	6	241		4	90		35	130		82	126	
VOC Emissions (g/hr)	7	287		4	108		41	156		98	151	
Dilemma Vehicles (#)	0	62		0	37		0	31		0	9	
Queue Length 50th (m)	2.1	56.0		1.2	14.8		15.9	34.2		27.2	28.3	
Queue Length 95th (m)	7.4	#89.2		5.4	29.1		24.7	44.3		#51.7	42.3	
Internal Link Dist (m)		262.1			242.5			181.4			370.4	
Turn Bay Length (m)	55.0			38.0			60.0			55.0		
Base Capacity (vph)	297	1424		135	1484		366	1062		317	1065	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.09	0.71		0.11	0.39		0.48	0.48		0.79	0.38	
Intersection Summary												
Area Type:	Other											
Cycle Length: 80												
Actuated Cycle Length: 80												
Offset: 20 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.79

Intersection Signal Delay: 24.0

Intersection LOS: C

Intersection Capacity Utilization 77.6%

ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Orléans & Jeanne d'Arc

 Ø2 (R)	 Ø3	 Ø4
33 s	15 s	32 s
 Ø6 (R)	 Ø7	 Ø8
33 s	15 s	32 s

6600 Carriere TIA
6: Orléans & Carrière

2025 Background Traffic
PM Peak

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	51	46	767	66	44	672
Future Volume (vph)	51	46	767	66	44	672
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	32.0	0.0		30.0	46.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	26.0				34.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor	0.99	0.99		0.96	0.99	
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1658	1483	3316	1483	1658	3283
Flt Permitted	0.950				0.355	
Satd. Flow (perm)	1639	1464	3316	1424	616	3283
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		46		66		
Link Speed (k/h)	40		60			60
Link Distance (m)	369.6		394.4			297.9
Travel Time (s)	33.3		23.7			17.9
Confl. Peds. (#/hr)	12	1		17	17	
Confl. Bikes (#/hr)				1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%
Adj. Flow (vph)	51	46	767	66	44	672
Shared Lane Traffic (%)						
Lane Group Flow (vph)	51	46	767	66	44	672
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		5.0			5.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	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
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	6	6

6600 Carriere TIA
6: Orléans & Carrière

2025 Background Traffic
PM Peak

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	32.3	32.3	39.9	39.9	39.9	39.9
Total Split (s)	33.0	33.0	47.0	47.0	47.0	47.0
Total Split (%)	41.3%	41.3%	58.8%	58.8%	58.8%	58.8%
Maximum Green (s)	26.7	26.7	41.1	41.1	41.1	41.1
Yellow Time (s)	3.0	3.0	3.7	3.7	3.7	3.7
All-Red Time (s)	3.3	3.3	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.9	5.9	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	19.0	19.0	16.0	16.0		
Pedestrian Calls (#/hr)	10	10	14	14		
Act Effct Green (s)	13.2	13.2	59.0	59.0	59.0	59.0
Actuated g/C Ratio	0.16	0.16	0.74	0.74	0.74	0.74
v/c Ratio	0.19	0.16	0.31	0.06	0.10	0.28
Control Delay	28.2	8.9	2.5	0.1	7.0	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.2	8.9	2.5	0.1	7.0	6.0
LOS	C	A	A	A	A	A
Approach Delay	19.0		2.3			6.0
Approach LOS	B		A			A
90th %ile Green (s)	26.0	26.0	41.8	41.8	41.8	41.8
90th %ile Term Code	Ped	Ped	Coord	Coord	Coord	Coord
70th %ile Green (s)	10.0	10.0	57.8	57.8	57.8	57.8
70th %ile Term Code	Min	Min	Coord	Coord	Coord	Coord
50th %ile Green (s)	10.0	10.0	57.8	57.8	57.8	57.8
50th %ile Term Code	Min	Min	Coord	Coord	Coord	Coord
30th %ile Green (s)	10.0	10.0	57.8	57.8	57.8	57.8
30th %ile Term Code	Min	Min	Coord	Coord	Coord	Coord
10th %ile Green (s)	0.0	0.0	74.1	74.1	74.1	74.1
10th %ile Term Code	Skip	Skip	Coord	Coord	Coord	Coord
Stops (vph)	41	12	114	0	18	232
Fuel Used(l)	4	2	31	2	2	34
CO Emissions (g/hr)	69	43	584	42	43	629
NOx Emissions (g/hr)	13	8	113	8	8	121
VOC Emissions (g/hr)	16	10	135	10	10	145
Dilemma Vehicles (#)	0	0	24	0	0	36
Queue Length 50th (m)	6.6	0.0	6.3	0.0	1.5	14.0
Queue Length 95th (m)	11.8	6.2	12.1	m0.2	7.9	38.5
Internal Link Dist (m)	345.6		370.4			273.9
Turn Bay Length (m)	32.0			30.0	46.0	
Base Capacity (vph)	547	519	2447	1068	454	2422
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.09	0.31	0.06	0.10	0.28
Intersection Summary						
Area Type:	Other					
Cycle Length: 80						

6600 Carrière TIA
6: Orléans & Carrière

2025 Background Traffic
PM Peak

Actuated Cycle Length: 80

Offset: 11 (14%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.31

Intersection Signal Delay: 4.9

Intersection LOS: A

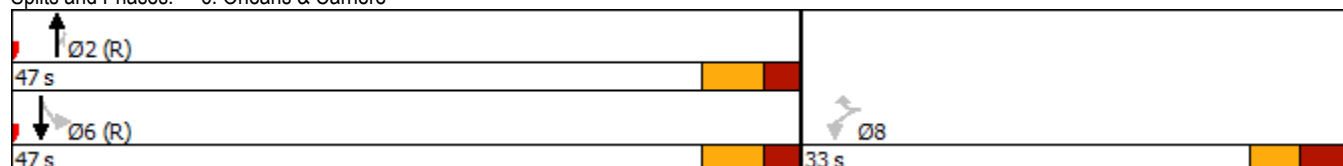
Intersection Capacity Utilization 57.5%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 6: Orléans & Carrière



6600 Carriere TIA
8: Orléans & St. Joseph

2025 Background Traffic
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 						 	
Traffic Volume (vph)	70	713	149	274	426	116	134	267	310	114	299	39
Future Volume (vph)	70	713	149	274	426	116	134	267	310	114	299	39
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		0.0	32.0		0.0	0.0		20.0	0.0		70.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	30.0			30.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.99			0.99		0.99		0.97	0.99		0.98
Frt		0.974			0.968				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1642	3200	0	1658	3130	0	1642	1745	1483	1642	1679	1483
Flt Permitted	0.450			0.119			0.329			0.397		
Satd. Flow (perm)	770	3200	0	208	3130	0	565	1745	1444	680	1679	1447
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			47				132			168
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		226.7			283.0			102.9			242.7	
Travel Time (s)		16.3			20.4			6.2			14.6	
Confl. Peds. (#/hr)	10		15	15		10	11		13	13		11
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 (%)	3%	2%	2%	2%	3%	6%	3%	2%	2%	3%	6%	2%
Adj. Flow (vph)	70	713	149	274	426	116	134	267	310	114	299	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	70	862	0	274	542	0	134	267	310	114	299	39
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		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
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	0.6		2.0	0.6		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
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	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases		2		1	6		3	8	1	7	4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		3	8	1	7	4	4

6600 Carriere TIA
8: Orléans & St. Joseph

2025 Background Traffic
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	29.1	29.1		11.1	29.1		11.2	32.2	11.1	11.2	32.2	32.2
Total Split (s)	36.0	36.0		18.0	54.0		14.0	32.0	18.0	14.0	32.0	32.0
Total Split (%)	36.0%	36.0%		18.0%	54.0%		14.0%	32.0%	18.0%	14.0%	32.0%	32.0%
Maximum Green (s)	29.9	29.9		11.9	47.9		7.8	25.8	11.9	7.8	25.8	25.8
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)	2.8	2.8		2.8	2.8		2.9	2.9	2.8	2.9	2.9	2.9
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)	6.1	6.1		6.1	6.1		6.2	6.2	6.1	6.2	6.2	6.2
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	C-Max		None	None	None	None	None	None
Walk Time (s)	7.0	7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)	16.0	16.0			16.0			19.0			19.0	19.0
Pedestrian Calls (#/hr)	12	12			8			10			8	8
Act Effct Green (s)	30.6	30.6		51.9	51.9		29.8	22.0	37.3	29.5	21.9	21.9
Actuated g/C Ratio	0.31	0.31		0.52	0.52		0.30	0.22	0.37	0.30	0.22	0.22
v/c Ratio	0.30	0.87		0.84	0.33		0.53	0.70	0.49	0.42	0.81	0.09
Control Delay	31.4	42.8		46.2	14.0		30.2	45.5	13.9	26.1	54.5	0.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.4	42.8		46.2	14.0		30.2	45.5	13.9	26.1	54.5	0.4
LOS	C	D		D	B		C	D	B	C	D	A
Approach Delay		41.9			24.8			28.8			42.6	
Approach LOS		D			C			C			D	
90th %ile Green (s)	29.9	29.9		11.9	47.9		7.8	25.8	11.9	7.8	25.8	25.8
90th %ile Term Code	Coord	Coord		Max	Coord		Max	Ped	Max	Max	Ped	Ped
70th %ile Green (s)	29.9	29.9		11.9	47.9		7.8	25.8	11.9	7.8	25.8	25.8
70th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Max	Max	Max
50th %ile Green (s)	29.9	29.9		14.8	50.8		7.8	22.9	14.8	7.8	22.9	22.9
50th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Max	Gap	Gap
30th %ile Green (s)	29.9	29.9		17.9	53.9		7.8	19.8	17.9	7.8	19.8	19.8
30th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Max	Gap	Gap
10th %ile Green (s)	33.2	33.2		19.5	58.8		7.5	15.8	19.5	6.9	15.2	15.2
10th %ile Term Code	Coord	Coord		Gap	Coord		Gap	Hold	Gap	Gap	Gap	Gap
Stops (vph)	54	748		150	280		97	238	128	80	277	0
Fuel Used(l)	4	64		20	27		10	25	18	7	28	1
CO Emissions (g/hr)	82	1185		381	496		195	467	335	135	516	16
NOx Emissions (g/hr)	16	229		74	96		38	90	65	26	100	3
VOC Emissions (g/hr)	19	273		88	114		45	108	77	31	119	4
Dilemma Vehicles (#)	0	0		0	0		0	13	0	0	15	0
Queue Length 50th (m)	9.6	74.8		33.1	26.1		16.2	43.6	20.0	13.6	50.3	0.0
Queue Length 95th (m)	21.0	#106.5		#82.3	38.9		27.2	65.6	39.7	23.6	75.0	0.0
Internal Link Dist (m)		202.7			259.0			78.9			218.7	
Turn Bay Length (m)	40.0			32.0					20.0			70.0
Base Capacity (vph)	235	995		328	1645		252	450	627	276	433	497
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	0.30	0.87		0.84	0.33		0.53	0.59	0.49	0.41	0.69	0.08
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												

6600 Carriere TIA

8: Orléans & St. Joseph

2025 Background Traffic
PM Peak

Actuated Cycle Length: 100

Offset: 53 (53%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 34.0

Intersection LOS: C

Intersection Capacity Utilization 88.6%

ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 8: Orléans & St. Joseph

 Ø1	 Ø2 (R)	 Ø3	 Ø4
18 s	36 s	14 s	32 s
 Ø6 (R)	 Ø7	 Ø7	 Ø8
54 s	14 s	32 s	

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2025 Background Traffic (optimized)
AM Peak (optimized)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	170	44	8	1341	197	187	348	9	109	241	84
Future Volume (vph)	44	170	44	8	1341	197	187	348	9	109	241	84
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	55.0		0.0	38.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			47.0			48.0			33.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt		0.969			0.981			0.996			0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1580	3078	0	1658	3242	0	1642	3180	0	1626	3148	0
Flt Permitted	0.082			0.618			0.464			0.431		
Satd. Flow (perm)	136	3078	0	1070	3242	0	799	3180	0	737	3148	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		44			24			2			45	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		286.1			266.5			205.4			394.4	
Travel Time (s)		17.2			16.0			12.3			23.7	
Confl. Peds. (#/hr)	11		8	8		11	5		1	1		5
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 (%)	7%	7%	2%	2%	2%	2%	3%	6%	2%	4%	3%	2%
Adj. Flow (vph)	44	170	44	8	1341	197	187	348	9	109	241	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	214	0	8	1538	0	187	357	0	109	325	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		5.3			5.3			5.0			5.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		3	8		7	4	

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2025 Background Traffic (optimized)
AM Peak (optimized)

												
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		5.0	10.0		5.0	10.0	
Minimum Split (s)	28.1	28.1		28.1	28.1		14.0	29.0		14.0	29.0	
Total Split (s)	57.0	57.0		57.0	57.0		14.0	29.0		14.0	29.0	
Total Split (%)	57.0%	57.0%		57.0%	57.0%		14.0%	29.0%		14.0%	29.0%	
Maximum Green (s)	50.9	50.9		50.9	50.9		8.0	22.8		8.0	22.8	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.4	2.4		2.4	2.4		2.3	2.5		2.3	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1		6.0	6.2		6.0	6.2	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			16.0			16.0	
Pedestrian Calls (#/hr)	6	6		8	8			1			3	
Act Effct Green (s)	57.2	57.2		57.2	57.2		25.0	16.8		24.5	16.5	
Actuated g/C Ratio	0.57	0.57		0.57	0.57		0.25	0.17		0.24	0.16	
v/c Ratio	0.57	0.12		0.01	0.83		0.70	0.67		0.44	0.58	
Control Delay	50.5	8.7		11.2	23.0		42.8	44.7		30.5	36.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	50.5	8.7		11.2	23.0		42.8	44.7		30.5	36.7	
LOS	D	A		B	C		D	D		C	D	
Approach Delay		15.8			22.9			44.0			35.2	
Approach LOS		B			C			D			D	
90th %ile Green (s)	50.9	50.9		50.9	50.9		8.0	22.8		8.0	22.8	
90th %ile Term Code	Coord	Coord		Coord	Coord		Max	Ped		Max	Ped	
70th %ile Green (s)	55.5	55.5		55.5	55.5		8.0	18.2		8.0	18.2	
70th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
50th %ile Green (s)	57.3	57.3		57.3	57.3		8.0	16.4		8.0	16.4	
50th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
30th %ile Green (s)	59.2	59.2		59.2	59.2		8.0	14.5		8.0	14.5	
30th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
10th %ile Green (s)	63.0	63.0		63.0	63.0		8.0	11.9		6.8	10.7	
10th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Gap	Hold	
Stops (vph)	31	76		5	1141		165	321		81	250	
Fuel Used(l)	4	9		0	100		15	29		9	28	
CO Emissions (g/hr)	71	171		8	1853		276	540		166	528	
NOx Emissions (g/hr)	14	33		1	358		53	104		32	102	
VOC Emissions (g/hr)	16	39		2	427		64	124		38	122	
Dilemma Vehicles (#)	0	11		0	75		0	17		0	16	
Queue Length 50th (m)	4.7	6.7		0.6	107.9		26.1	31.7		14.4	24.4	
Queue Length 95th (m)	#23.7	13.4		2.8	#176.4		39.1	41.8		24.0	34.4	
Internal Link Dist (m)		262.1			242.5			181.4			370.4	
Turn Bay Length (m)	55.0			38.0			60.0			55.0		
Base Capacity (vph)	77	1778		611	1863		266	726		253	752	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.57	0.12		0.01	0.83		0.70	0.49		0.43	0.43	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												

6600 Carriere TIA 3: Orléans & Jeanne d'Arc

2025 Background Traffic (optimized)
AM Peak (optimized)

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 28.3

Intersection LOS: C

Intersection Capacity Utilization 83.5%

ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Orléans & Jeanne d'Arc

 Ø2 (R)		 Ø3		 Ø4	
57 s	 	14 s	 	29 s	 
 Ø6 (R)		 Ø7		 Ø8	
57 s	 	14 s	 	29 s	 

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2030 Background Traffic
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	178	46	9	1406	206	197	365	10	114	253	89
Future Volume (vph)	46	178	46	9	1406	206	197	365	10	114	253	89
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	55.0		0.0	38.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			47.0			48.0			33.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt		0.969			0.981			0.996			0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1580	3078	0	1658	3242	0	1642	3180	0	1626	3148	0
Flt Permitted	0.071			0.612			0.444			0.411		
Satd. Flow (perm)	118	3078	0	1059	3242	0	764	3180	0	703	3148	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			24			2			46	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		286.1			266.5			205.4			394.4	
Travel Time (s)		17.2			16.0			12.3			23.7	
Confl. Peds. (#/hr)	11		8	8		11	5		1	1		5
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 (%)	7%	7%	2%	2%	2%	2%	3%	6%	2%	4%	3%	2%
Adj. Flow (vph)	46	178	46	9	1406	206	197	365	10	114	253	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	224	0	9	1612	0	197	375	0	114	342	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		5.3			5.3			5.0			5.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		3	8		7	4	

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2030 Background Traffic
AM Peak

												
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		5.0	10.0		5.0	10.0	
Minimum Split (s)	28.1	28.1		28.1	28.1		14.0	29.0		14.0	29.0	
Total Split (s)	57.0	57.0		57.0	57.0		14.0	29.0		14.0	29.0	
Total Split (%)	57.0%	57.0%		57.0%	57.0%		14.0%	29.0%		14.0%	29.0%	
Maximum Green (s)	50.9	50.9		50.9	50.9		8.0	22.8		8.0	22.8	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.4	2.4		2.4	2.4		2.3	2.5		2.3	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1		6.0	6.2		6.0	6.2	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			16.0			16.0	
Pedestrian Calls (#/hr)	6	6		8	8			1			3	
Act Effct Green (s)	56.7	56.7		56.7	56.7		25.4	17.2		25.0	17.0	
Actuated g/C Ratio	0.57	0.57		0.57	0.57		0.25	0.17		0.25	0.17	
v/c Ratio	0.70	0.13		0.01	0.87		0.75	0.68		0.46	0.60	
Control Delay	72.7	8.9		11.3	25.9		46.1	44.8		31.0	36.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	72.7	8.9		11.3	25.9		46.1	44.8		31.0	36.8	
LOS	E	A		B	C		D	D		C	D	
Approach Delay		19.8			25.9			45.3			35.4	
Approach LOS		B			C			D			D	
90th %ile Green (s)	50.9	50.9		50.9	50.9		8.0	22.8		8.0	22.8	
90th %ile Term Code	Coord	Coord		Coord	Coord		Max	Ped		Max	Ped	
70th %ile Green (s)	54.9	54.9		54.9	54.9		8.0	18.8		8.0	18.8	
70th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
50th %ile Green (s)	56.7	56.7		56.7	56.7		8.0	17.0		8.0	17.0	
50th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
30th %ile Green (s)	58.6	58.6		58.6	58.6		8.0	15.1		8.0	15.1	
30th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
10th %ile Green (s)	62.3	62.3		62.3	62.3		8.0	12.4		7.0	11.4	
10th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Gap	Hold	
Stops (vph)	32	81		6	1235		176	339		85	265	
Fuel Used(l)	5	10		0	109		16	31		9	30	
CO Emissions (g/hr)	88	181		9	2034		301	569		174	557	
NOx Emissions (g/hr)	17	35		2	393		58	110		34	108	
VOC Emissions (g/hr)	20	42		2	469		69	131		40	129	
Dilemma Vehicles (#)	0	11		0	78		0	18		0	17	
Queue Length 50th (m)	5.5	7.2		0.7	120.2		27.3	33.3		15.0	25.8	
Queue Length 95th (m)	#26.9	14.0		3.0	#191.2		41.1	44.0		24.9	36.3	
Internal Link Dist (m)		262.1			242.5			181.4			370.4	
Turn Bay Length (m)	55.0			38.0			60.0			55.0		
Base Capacity (vph)	66	1764		600	1847		264	726		250	753	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.70	0.13		0.01	0.87		0.75	0.52		0.46	0.45	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												

6600 Carriere TIA

3: Orléans & Jeanne d'Arc

2030 Background Traffic
AM Peak

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 30.6

Intersection LOS: C

Intersection Capacity Utilization 86.7%

ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Orléans & Jeanne d'Arc

 Ø2 (R)		 Ø3		 Ø4	
57 s		14 s		29 s	
 Ø6 (R)		 Ø7		 Ø8	
57 s		14 s		29 s	

6600 Carriere TIA
6: Orléans & Carrière

2030 Background Traffic
AM Peak

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	126	116	500	173	95	354
Future Volume (vph)	126	116	500	173	95	354
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	32.0	0.0		30.0	46.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	26.0				34.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor	1.00			0.96	0.99	
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1551	1483	3252	1441	1610	3252
Flt Permitted	0.950				0.469	
Satd. Flow (perm)	1547	1483	3252	1382	787	3252
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		116		173		
Link Speed (k/h)	40		60			60
Link Distance (m)	369.6		394.4			297.9
Travel Time (s)	33.3		23.7			17.9
Confl. Peds. (#/hr)	3			18	18	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	9%	2%	4%	5%	5%	4%
Adj. Flow (vph)	126	116	500	173	95	354
Shared Lane Traffic (%)						
Lane Group Flow (vph)	126	116	500	173	95	354
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		5.0			5.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	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
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex	CI+Ex
Detector 1 Channel						
Detector 1 Extend (s)	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
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			CI+Ex			CI+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						

6600 Carriere TIA
6: Orléans & Carrière

2030 Background Traffic
AM Peak

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	32.3	32.3	39.9	39.9	39.9	39.9
Total Split (s)	33.0	33.0	47.0	47.0	47.0	47.0
Total Split (%)	41.3%	41.3%	58.8%	58.8%	58.8%	58.8%
Maximum Green (s)	26.7	26.7	41.1	41.1	41.1	41.1
Yellow Time (s)	3.0	3.0	3.7	3.7	3.7	3.7
All-Red Time (s)	3.3	3.3	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.9	5.9	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	19.0	19.0	16.0	16.0		
Pedestrian Calls (#/hr)	2	2	10	10		
Act Effct Green (s)	14.3	14.3	53.5	53.5	53.5	53.5
Actuated g/C Ratio	0.18	0.18	0.67	0.67	0.67	0.67
v/c Ratio	0.45	0.32	0.23	0.18	0.18	0.16
Control Delay	33.1	7.3	6.5	1.9	7.9	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.1	7.3	6.5	1.9	7.9	6.2
LOS	C	A	A	A	A	A
Approach Delay	20.7		5.3			6.5
Approach LOS	C		A			A
90th %ile Green (s)	26.0	26.0	41.8	41.8	41.8	41.8
90th %ile Term Code	Ped	Ped	Coord	Coord	Coord	Coord
70th %ile Green (s)	13.9	13.9	53.9	53.9	53.9	53.9
70th %ile Term Code	Gap	Gap	Coord	Coord	Coord	Coord
50th %ile Green (s)	11.8	11.8	56.0	56.0	56.0	56.0
50th %ile Term Code	Gap	Gap	Coord	Coord	Coord	Coord
30th %ile Green (s)	10.0	10.0	57.8	57.8	57.8	57.8
30th %ile Term Code	Min	Min	Coord	Coord	Coord	Coord
10th %ile Green (s)	10.0	10.0	57.8	57.8	57.8	57.8
10th %ile Term Code	Min	Min	Coord	Coord	Coord	Coord
Stops (vph)	104	19	189	14	39	128
Fuel Used(l)	10	5	26	7	5	18
CO Emissions (g/hr)	179	102	479	123	95	336
NOx Emissions (g/hr)	35	20	92	24	18	65
VOC Emissions (g/hr)	41	23	110	28	22	77
Dilemma Vehicles (#)	0	0	31	0	0	22
Queue Length 50th (m)	16.6	0.0	10.8	0.0	3.8	7.3
Queue Length 95th (m)	24.6	9.6	27.9	7.7	14.9	19.7
Internal Link Dist (m)	345.6		370.4			273.9
Turn Bay Length (m)	32.0			30.0	46.0	
Base Capacity (vph)	516	572	2173	980	525	2173
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.20	0.23	0.18	0.18	0.16
Intersection Summary						
Area Type:	Other					
Cycle Length: 80						
Actuated Cycle Length: 80						

6600 Carrière TIA
6: Orléans & Carrière

2030 Background Traffic
AM Peak

Offset: 46 (58%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.45

Intersection Signal Delay: 8.5

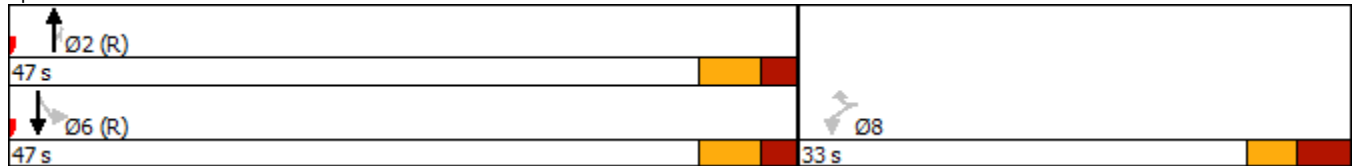
Intersection LOS: A

Intersection Capacity Utilization 60.1%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: Orléans & Carrière



6600 Carriere TIA
8: Orléans & St. Joseph

2030 Background Traffic

AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	173	67	109	659	119	205	274	185	113	267	44
Future Volume (vph)	37	173	67	109	659	119	205	274	185	113	267	44
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		0.0	32.0		0.0	0.0		20.0	0.0		70.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	30.0			30.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.99		0.99	0.99		1.00		0.97	0.99		0.99
Frt		0.958			0.977				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1595	3071	0	1642	3216	0	1658	1679	1455	1626	1712	1483
Flt Permitted	0.357			0.501			0.402			0.462		
Satd. Flow (perm)	596	3071	0	859	3216	0	701	1679	1411	782	1712	1463
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		64			28				164			187
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		226.7			283.0			102.9			242.7	
Travel Time (s)		16.3			20.4			6.2			14.6	
Confl. Peds. (#/hr)	9		6	6		9	1		18	18		1
Confl. Bikes (#/hr)						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 (%)	6%	4%	6%	3%	2%	3%	2%	6%	4%	4%	4%	2%
Adj. Flow (vph)	37	173	67	109	659	119	205	274	185	113	267	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	240	0	109	778	0	205	274	185	113	267	44
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		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
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	0.6		2.0	0.6		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
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	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases		2		1	6		3	8	1	7	4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		3	8	1	7	4	4

6600 Carriere TIA
8: Orléans & St. Joseph

2030 Background Traffic
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	29.1	29.1		11.1	29.1		11.2	32.2	11.1	11.2	32.2	32.2
Total Split (s)	32.0	32.0		12.0	44.0		13.0	33.0	12.0	13.0	33.0	33.0
Total Split (%)	35.6%	35.6%		13.3%	48.9%		14.4%	36.7%	13.3%	14.4%	36.7%	36.7%
Maximum Green (s)	25.9	25.9		5.9	37.9		6.8	26.8	5.9	6.8	26.8	26.8
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)	2.8	2.8		2.8	2.8		2.9	2.9	2.8	2.9	2.9	2.9
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)	6.1	6.1		6.1	6.1		6.2	6.2	6.1	6.2	6.2	6.2
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	C-Max		None	None	None	None	None	None
Walk Time (s)	7.0	7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)	16.0	16.0			16.0			19.0			19.0	19.0
Pedestrian Calls (#/hr)	4	4			6			10			1	1
Act Effect Green (s)	31.2	31.2		45.0	45.0		27.8	22.3	30.1	26.5	19.7	19.7
Actuated g/C Ratio	0.35	0.35		0.50	0.50		0.31	0.25	0.33	0.29	0.22	0.22
v/c Ratio	0.18	0.22		0.22	0.48		0.71	0.66	0.32	0.39	0.71	0.09
Control Delay	26.4	17.1		15.0	16.5		36.2	38.7	5.2	22.4	42.6	0.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.4	17.1		15.0	16.5		36.2	38.7	5.2	22.4	42.6	0.4
LOS	C	B		B	B		D	D	A	C	D	A
Approach Delay		18.3			16.3			28.6			32.8	
Approach LOS		B			B			C			C	
90th %ile Green (s)	25.9	25.9		6.1	38.1		6.8	26.6	6.1	6.8	26.6	26.6
90th %ile Term Code	Coord	Coord		Max	Coord		Max	Gap	Max	Max	Hold	Hold
70th %ile Green (s)	25.9	25.9		9.9	41.9		6.8	22.8	9.9	6.8	22.8	22.8
70th %ile Term Code	Coord	Coord		Max	Coord		Max	Gap	Max	Max	Hold	Hold
50th %ile Green (s)	30.0	30.0		8.7	44.8		6.8	19.9	8.7	6.8	19.9	19.9
50th %ile Term Code	Coord	Coord		Gap	Coord		Max	Gap	Gap	Max	Hold	Hold
30th %ile Green (s)	34.2	34.2		7.4	47.7		6.8	17.0	7.4	6.8	17.0	17.0
30th %ile Term Code	Coord	Coord		Gap	Coord		Max	Gap	Gap	Max	Hold	Hold
10th %ile Green (s)	40.2	40.2		6.0	52.3		6.8	25.4	6.0	0.0	12.4	12.4
10th %ile Term Code	Coord	Coord		Gap	Coord		Max	Hold	Gap	Skip	Gap	Gap
Stops (vph)	30	124		60	485		168	240	29	77	236	0
Fuel Used(l)	2	11		6	42		17	24	8	7	22	1
CO Emissions (g/hr)	41	206		103	774		324	450	155	127	409	18
NOx Emissions (g/hr)	8	40		20	149		63	87	30	24	79	3
VOC Emissions (g/hr)	10	48		24	179		75	104	36	29	94	4
Dilemma Vehicles (#)	0	0		0	0		0	15	0	0	15	0
Queue Length 50th (m)	4.1	10.3		8.9	39.5		23.3	40.8	2.1	12.1	39.4	0.0
Queue Length 95th (m)	12.0	19.5		19.9	62.3		34.2	58.8	12.5	19.9	56.9	0.0
Internal Link Dist (m)		202.7			259.0			78.9			218.7	
Turn Bay Length (m)	40.0			32.0					20.0			70.0
Base Capacity (vph)	206	1107		495	1620		288	499	584	294	509	566
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	0.18	0.22		0.22	0.48		0.71	0.55	0.32	0.38	0.52	0.08
Intersection Summary												
Area Type:	Other											
Cycle Length: 90												

6600 Carriere TIA
8: Orléans & St. Joseph

2030 Background Traffic
AM Peak

Actuated Cycle Length: 90

Offset: 40 (44%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 23.3

Intersection LOS: C

Intersection Capacity Utilization 79.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 8: Orléans & St. Joseph

 Ø1	 Ø2 (R)	 Ø3	 Ø4
12 s	32 s	13 s	33 s
 Ø5 (R)		 Ø7	 Ø8
44 s		13 s	33 s

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2030 Background Traffic

PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	838	228	16	350	264	186	497	39	262	404	17
Future Volume (vph)	28	838	228	16	350	264	186	497	39	262	404	17
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	55.0		0.0	38.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			47.0			48.0			33.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00		1.00	0.99		0.99	1.00		0.99	1.00	
Frt		0.968			0.936			0.989			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1658	3194	0	1658	3070	0	1658	3272	0	1658	3293	0
Flt Permitted	0.372			0.155			0.444			0.319		
Satd. Flow (perm)	646	3194	0	270	3070	0	771	3272	0	553	3293	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			256			11			6	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		286.1			266.5			205.4			394.4	
Travel Time (s)		17.2			16.0			12.3			23.7	
Confl. Peds. (#/hr)	12		10	10		12	9		16	16		9
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)	28	838	228	16	350	264	186	497	39	262	404	17
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	1066	0	16	614	0	186	536	0	262	421	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		5.3			5.3			5.0			5.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2030 Background Traffic
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	28.1	28.1		28.1	28.1		11.0	29.2		11.0	29.2	
Total Split (s)	33.0	33.0		33.0	33.0		15.0	32.0		15.0	32.0	
Total Split (%)	41.3%	41.3%		41.3%	41.3%		18.8%	40.0%		18.8%	40.0%	
Maximum Green (s)	26.9	26.9		26.9	26.9		9.0	25.8		9.0	25.8	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.4	2.4		2.4	2.4		2.3	2.5		2.3	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1		6.0	6.2		6.0	6.2	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			16.0			16.0	
Pedestrian Calls (#/hr)	8	8		10	10			12			7	
Act Effct Green (s)	34.5	34.5		34.5	34.5		27.2	18.2		27.7	18.5	
Actuated g/C Ratio	0.43	0.43		0.43	0.43		0.34	0.23		0.35	0.23	
v/c Ratio	0.10	0.76		0.14	0.42		0.52	0.71		0.83	0.55	
Control Delay	16.8	24.1		19.9	10.4		20.3	33.0		42.9	31.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.8	24.1		19.9	10.4		20.3	33.0		42.9	31.6	
LOS	B	C		B	B		C	C		D	C	
Approach Delay		23.9			10.7			29.7			35.9	
Approach LOS		C			B			C			D	
90th %ile Green (s)	29.3	29.3		29.3	29.3		9.0	23.4		9.0	23.4	
90th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
70th %ile Green (s)	32.6	32.6		32.6	32.6		9.0	20.1		9.0	20.1	
70th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
50th %ile Green (s)	34.5	34.5		34.5	34.5		9.0	18.2		9.0	18.2	
50th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
30th %ile Green (s)	36.5	36.5		36.5	36.5		9.0	16.2		9.0	16.2	
30th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
10th %ile Green (s)	39.4	39.4		39.4	39.4		7.8	13.3		9.0	14.5	
10th %ile Term Code	Coord	Coord		Coord	Coord		Gap	Gap		Max	Hold	
Stops (vph)	20	807		13	245		124	461		228	382	
Fuel Used(l)	2	72		1	27		10	38		25	37	
CO Emissions (g/hr)	32	1345		19	503		190	708		465	688	
NOx Emissions (g/hr)	6	260		4	97		37	137		90	133	
VOC Emissions (g/hr)	7	310		4	116		44	163		107	159	
Dilemma Vehicles (#)	0	65		0	38		0	33		0	7	
Queue Length 50th (m)	2.3	61.5		1.3	16.4		16.6	35.7		28.7	29.9	
Queue Length 95th (m)	7.6	#104.3		5.9	31.3		25.5	46.3		#58.2	44.4	
Internal Link Dist (m)		262.1			242.5			181.4			370.4	
Turn Bay Length (m)	55.0			38.0			60.0			55.0		
Base Capacity (vph)	278	1401		116	1467		364	1062		315	1066	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.10	0.76		0.14	0.42		0.51	0.50		0.83	0.39	
Intersection Summary												
Area Type:	Other											
Cycle Length: 80												
Actuated Cycle Length: 80												
Offset: 20 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 25.2

Intersection LOS: C

Intersection Capacity Utilization 80.2%

ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Orléans & Jeanne d'Arc

 Ø2 (R)	 Ø3	 Ø4
33 s	15 s	32 s
 Ø6 (R)	 Ø7	 Ø8
33 s	15 s	32 s

6600 Carriere TIA
6: Orléans & Carrière

2030 Background Traffic
PM Peak

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	51	46	805	66	44	704
Future Volume (vph)	51	46	805	66	44	704
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	32.0	0.0		30.0	46.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	26.0				34.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor	0.99	0.99		0.96	0.99	
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1658	1483	3316	1483	1658	3283
Flt Permitted	0.950				0.340	
Satd. Flow (perm)	1639	1464	3316	1424	590	3283
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		46		66		
Link Speed (k/h)	40		60			60
Link Distance (m)	369.6		394.4			297.9
Travel Time (s)	33.3		23.7			17.9
Confl. Peds. (#/hr)	12	1		17	17	
Confl. Bikes (#/hr)				1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%
Adj. Flow (vph)	51	46	805	66	44	704
Shared Lane Traffic (%)						
Lane Group Flow (vph)	51	46	805	66	44	704
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		5.0			5.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	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
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	6	6

6600 Carriere TIA
6: Orléans & Carrière

2030 Background Traffic
PM Peak

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	32.3	32.3	39.9	39.9	39.9	39.9
Total Split (s)	33.0	33.0	47.0	47.0	47.0	47.0
Total Split (%)	41.3%	41.3%	58.8%	58.8%	58.8%	58.8%
Maximum Green (s)	26.7	26.7	41.1	41.1	41.1	41.1
Yellow Time (s)	3.0	3.0	3.7	3.7	3.7	3.7
All-Red Time (s)	3.3	3.3	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.9	5.9	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	19.0	19.0	16.0	16.0		
Pedestrian Calls (#/hr)	10	10	14	14		
Act Effct Green (s)	13.2	13.2	59.0	59.0	59.0	59.0
Actuated g/C Ratio	0.16	0.16	0.74	0.74	0.74	0.74
v/c Ratio	0.19	0.16	0.33	0.06	0.10	0.29
Control Delay	28.2	8.9	2.7	0.2	7.1	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.2	8.9	2.7	0.2	7.1	6.0
LOS	C	A	A	A	A	A
Approach Delay	19.0		2.5			6.1
Approach LOS	B		A			A
90th %ile Green (s)	26.0	26.0	41.8	41.8	41.8	41.8
90th %ile Term Code	Ped	Ped	Coord	Coord	Coord	Coord
70th %ile Green (s)	10.0	10.0	57.8	57.8	57.8	57.8
70th %ile Term Code	Min	Min	Coord	Coord	Coord	Coord
50th %ile Green (s)	10.0	10.0	57.8	57.8	57.8	57.8
50th %ile Term Code	Min	Min	Coord	Coord	Coord	Coord
30th %ile Green (s)	10.0	10.0	57.8	57.8	57.8	57.8
30th %ile Term Code	Min	Min	Coord	Coord	Coord	Coord
10th %ile Green (s)	0.0	0.0	74.1	74.1	74.1	74.1
10th %ile Term Code	Skip	Skip	Coord	Coord	Coord	Coord
Stops (vph)	41	12	134	0	18	245
Fuel Used(l)	4	2	34	2	2	36
CO Emissions (g/hr)	69	43	624	42	43	661
NOx Emissions (g/hr)	13	8	121	8	8	128
VOC Emissions (g/hr)	16	10	144	10	10	152
Dilemma Vehicles (#)	0	0	28	0	0	38
Queue Length 50th (m)	6.6	0.0	6.6	0.0	1.5	14.8
Queue Length 95th (m)	11.8	6.2	13.7	m0.0	8.0	40.7
Internal Link Dist (m)	345.6		370.4			273.9
Turn Bay Length (m)	32.0			30.0	46.0	
Base Capacity (vph)	547	519	2447	1068	435	2422
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.09	0.33	0.06	0.10	0.29
Intersection Summary						
Area Type:	Other					
Cycle Length: 80						

6600 Carrière TIA
6: Orléans & Carrière

2030 Background Traffic
PM Peak

Actuated Cycle Length: 80

Offset: 11 (14%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.33

Intersection Signal Delay: 5.0

Intersection LOS: A

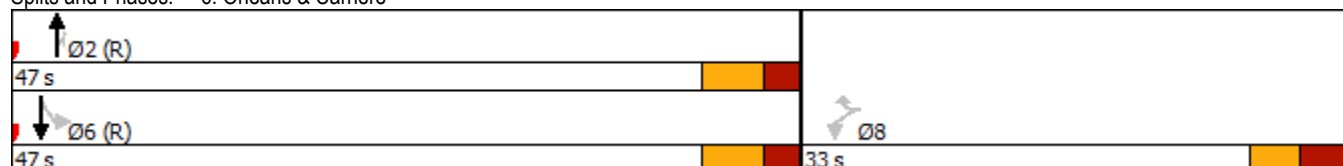
Intersection Capacity Utilization 57.5%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 6: Orléans & Carrière



6600 Carriere TIA
8: Orléans & St. Joseph

2030 Background Traffic

PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	747	157	287	447	122	140	280	325	120	313	41
Future Volume (vph)	73	747	157	287	447	122	140	280	325	120	313	41
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		0.0	32.0		0.0	0.0		20.0	0.0		70.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	30.0			30.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.99			0.99		0.99		0.97	0.99		0.98
Frt		0.974			0.968				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1642	3200	0	1658	3130	0	1642	1745	1483	1642	1679	1483
Flt Permitted	0.438			0.111			0.311			0.383		
Satd. Flow (perm)	749	3200	0	194	3130	0	534	1745	1444	656	1679	1447
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			48				122			168
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		226.7			283.0			102.9			242.7	
Travel Time (s)		16.3			20.4			6.2			14.6	
Confl. Peds. (#/hr)	10		15	15		10	11		13	13		11
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 (%)	3%	2%	2%	2%	3%	6%	3%	2%	2%	3%	6%	2%
Adj. Flow (vph)	73	747	157	287	447	122	140	280	325	120	313	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	904	0	287	569	0	140	280	325	120	313	41
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		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
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	0.6		2.0	0.6		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
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	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases		2		1	6		3	8	1	7	4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		3	8	1	7	4	4

6600 Carriere TIA
8: Orléans & St. Joseph

2030 Background Traffic

PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	29.1	29.1		11.1	29.1		11.2	32.2	11.1	11.2	32.2	32.2
Total Split (s)	36.0	36.0		18.0	54.0		14.0	32.0	18.0	14.0	32.0	32.0
Total Split (%)	36.0%	36.0%		18.0%	54.0%		14.0%	32.0%	18.0%	14.0%	32.0%	32.0%
Maximum Green (s)	29.9	29.9		11.9	47.9		7.8	25.8	11.9	7.8	25.8	25.8
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)	2.8	2.8		2.8	2.8		2.9	2.9	2.8	2.9	2.9	2.9
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)	6.1	6.1		6.1	6.1		6.2	6.2	6.1	6.2	6.2	6.2
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	C-Max		None	None	None	None	None	None
Walk Time (s)	7.0	7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)	16.0	16.0			16.0			19.0			19.0	19.0
Pedestrian Calls (#/hr)	12	12			8			10			8	8
Act Effct Green (s)	29.9	29.9		51.3	51.3		30.4	22.6	38.0	30.1	22.5	22.5
Actuated g/C Ratio	0.30	0.30		0.51	0.51		0.30	0.23	0.38	0.30	0.22	0.22
v/c Ratio	0.33	0.93		0.89	0.35		0.56	0.71	0.52	0.44	0.83	0.09
Control Delay	32.3	49.8		55.8	14.5		31.3	45.8	15.3	26.6	55.6	0.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.3	49.8		55.8	14.5		31.3	45.8	15.3	26.6	55.6	0.4
LOS	C	D		E	B		C	D	B	C	E	A
Approach Delay		48.5			28.3			29.8			43.5	
Approach LOS		D			C			C			D	
90th %ile Green (s)	29.9	29.9		11.9	47.9		7.8	25.8	11.9	7.8	25.8	25.8
90th %ile Term Code	Coord	Coord		Max	Coord		Max	Ped	Max	Max	Ped	Ped
70th %ile Green (s)	29.9	29.9		11.9	47.9		7.8	25.8	11.9	7.8	25.8	25.8
70th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Max	Max	Max
50th %ile Green (s)	29.9	29.9		13.8	49.8		7.8	23.9	13.8	7.8	23.9	23.9
50th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Max	Gap	Gap
30th %ile Green (s)	29.9	29.9		17.0	53.0		7.8	20.7	17.0	7.8	20.7	20.7
30th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Max	Gap	Gap
10th %ile Green (s)	29.9	29.9		21.7	57.7		7.7	16.8	21.7	7.0	16.1	16.1
10th %ile Term Code	Coord	Coord		Max	Coord		Gap	Hold	Max	Gap	Gap	Gap
Stops (vph)	58	787		162	300		101	252	148	84	287	0
Fuel Used(l)	5	72		24	28		11	26	20	8	29	1
CO Emissions (g/hr)	87	1335		440	527		206	492	364	143	544	16
NOx Emissions (g/hr)	17	258		85	102		40	95	70	28	105	3
VOC Emissions (g/hr)	20	308		102	122		47	113	84	33	126	4
Dilemma Vehicles (#)	0	0		0	0		0	14	0	0	15	0
Queue Length 50th (m)	10.1	80.2		37.7	28.4		16.7	45.5	23.5	14.1	52.4	0.0
Queue Length 95th (m)	21.7	#115.3		#90.4	41.1		28.3	69.1	44.4	24.7	#80.3	0.0
Internal Link Dist (m)		202.7			259.0			78.9			218.7	
Turn Bay Length (m)	40.0			32.0					20.0			70.0
Base Capacity (vph)	223	974		322	1627		248	450	629	275	433	497
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	0.33	0.93		0.89	0.35		0.56	0.62	0.52	0.44	0.72	0.08
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												

6600 Carriere TIA
8: Orléans & St. Joseph

2030 Background Traffic
PM Peak

Actuated Cycle Length: 100

Offset: 53 (53%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 37.5

Intersection LOS: D

Intersection Capacity Utilization 91.5%

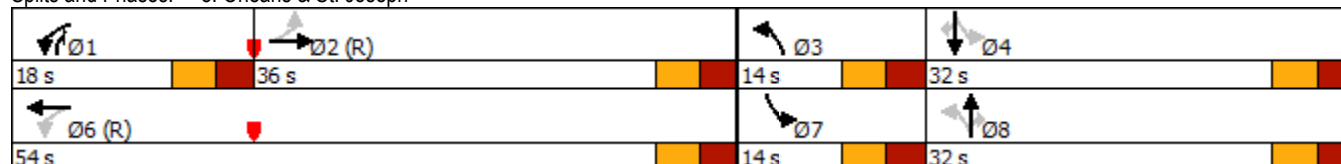
ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 8: Orléans & St. Joseph



6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2030 Background Traffic
AM Peak (optimized)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	46	178	46	9	1406	206	197	365	10	114	253	89
Future Volume (vph)	46	178	46	9	1406	206	197	365	10	114	253	89
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	55.0		0.0	38.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			47.0			48.0			33.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt		0.969			0.981			0.996			0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1580	3079	0	1658	3243	0	1642	3180	0	1626	3149	0
Flt Permitted	0.108			0.612			0.472			0.529		
Satd. Flow (perm)	180	3079	0	1061	3243	0	813	3180	0	905	3149	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			24			3			62	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		286.1			266.5			205.4			394.4	
Travel Time (s)		17.2			16.0			12.3			23.7	
Confl. Peds. (#/hr)	11		8	8		11	5		1	1		5
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 (%)	7%	7%	2%	2%	2%	2%	3%	6%	2%	4%	3%	2%
Adj. Flow (vph)	46	178	46	9	1406	206	197	365	10	114	253	89
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	224	0	9	1612	0	197	375	0	114	342	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		5.3			5.3			5.0			5.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		3	8		7	4	

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2030 Background Traffic
AM Peak (optimized)

												
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		5.0	10.0		5.0	10.0	
Minimum Split (s)	28.1	28.1		28.1	28.1		14.0	29.0		14.0	29.0	
Total Split (s)	37.0	37.0		37.0	37.0		14.0	29.0		14.0	29.0	
Total Split (%)	46.3%	46.3%		46.3%	46.3%		17.5%	36.3%		17.5%	36.3%	
Maximum Green (s)	30.9	30.9		30.9	30.9		8.0	22.8		8.0	22.8	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.4	2.4		2.4	2.4		2.3	2.5		2.3	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1		6.0	6.2		6.0	6.2	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			16.0			16.0	
Pedestrian Calls (#/hr)	6	6		8	8			1			3	
Act Effct Green (s)	38.4	38.4		38.4	38.4		24.7	18.1		23.2	15.3	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.31	0.23		0.29	0.19	
v/c Ratio	0.53	0.15		0.02	1.03		0.59	0.52		0.35	0.52	
Control Delay	46.6	10.6		13.7	53.5		25.7	30.0		16.5	21.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	46.6	10.6		13.7	53.5		25.7	30.0		16.5	21.2	
LOS	D	B		B	D		C	C		B	C	
Approach Delay		16.7			53.2			28.5			20.0	
Approach LOS		B			D			C			C	
90th %ile Green (s)	30.9	30.9		30.9	30.9		8.0	22.8		8.0	22.8	
90th %ile Term Code	Coord	Coord		Coord	Coord		Max	Ped		Max	Ped	
70th %ile Green (s)	37.4	37.4		37.4	37.4		8.0	16.3		8.0	16.3	
70th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
50th %ile Green (s)	39.1	39.1		39.1	39.1		8.0	14.6		8.0	14.6	
50th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
30th %ile Green (s)	40.8	40.8		40.8	40.8		8.0	12.9		8.0	12.9	
30th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
10th %ile Green (s)	43.7	43.7		43.7	43.7		8.0	24.0		0.0	10.0	
10th %ile Term Code	Coord	Coord		Coord	Coord		Max	Hold		Skip	Min	
Stops (vph)	33	99		7	1250		149	316		63	289	
Fuel Used(l)	4	11		1	144		12	26		7	27	
CO Emissions (g/hr)	72	197		10	2677		227	475		137	495	
NOx Emissions (g/hr)	14	38		2	517		44	92		27	96	
VOC Emissions (g/hr)	17	45		2	618		52	110		32	114	
Dilemma Vehicles (#)	0	14		0	89		0	23		0	37	
Queue Length 50th (m)	4.2	6.7		0.6	~114.9		19.7	25.6		7.5	15.1	
Queue Length 95th (m)	#22.0	14.8		3.3	#190.4		28.3	33.1		15.2	24.0	
Internal Link Dist (m)		262.1			242.5			181.4			370.4	
Turn Bay Length (m)	55.0			38.0			60.0			55.0		
Base Capacity (vph)	86	1500		509	1568		333	918		338	941	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.53	0.15		0.02	1.03		0.59	0.41		0.34	0.36	
Intersection Summary												
Area Type:	Other											
Cycle Length: 80												

6600 Carriere TIA

3: Orléans & Jeanne d'Arc

2030 Background Traffic
AM Peak (optimized)

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.03

Intersection Signal Delay: 39.8

Intersection LOS: D

Intersection Capacity Utilization 86.7%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Orléans & Jeanne d'Arc

 Ø2 (L)	 Ø3	 Ø4
37 s	14 s	29 s
 Ø6 (L)	 Ø7	 Ø8
37 s	14 s	29 s

6600 Carriere TIA
8: Orléans & St. Joseph

2030 Background Traffic
PM Peak (optimized)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	747	157	287	447	122	140	280	325	120	313	41
Future Volume (vph)	73	747	157	287	447	122	140	280	325	120	313	41
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		0.0	32.0		0.0	0.0		20.0	0.0		70.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	30.0			30.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.99			0.99		0.99		0.97	0.99		0.98
Frt		0.974			0.968				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1642	3200	0	1658	3130	0	1642	1745	1483	1642	1679	1483
Flt Permitted	0.438			0.116			0.313			0.380		
Satd. Flow (perm)	749	3200	0	202	3130	0	537	1745	1444	651	1679	1447
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		25			50				101			168
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		226.7			283.0			102.9			242.7	
Travel Time (s)		16.3			20.4			6.2			14.6	
Confl. Peds. (#/hr)	10		15	15		10	11		13	13		11
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 (%)	3%	2%	2%	2%	3%	6%	3%	2%	2%	3%	6%	2%
Adj. Flow (vph)	73	747	157	287	447	122	140	280	325	120	313	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	904	0	287	569	0	140	280	325	120	313	41
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		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
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	0.6		2.0	0.6		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
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	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases		2		1	6		3	8	1	7	4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		3	8	1	7	4	4

6600 Carriere TIA
8: Orléans & St. Joseph

2030 Background Traffic
PM Peak (optimized)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	29.1	29.1		11.1	29.1		11.2	32.2	11.1	11.2	32.2	32.2
Total Split (s)	35.3	35.3		21.0	56.3		11.4	32.4	21.0	11.3	32.3	32.3
Total Split (%)	35.3%	35.3%		21.0%	56.3%		11.4%	32.4%	21.0%	11.3%	32.3%	32.3%
Maximum Green (s)	29.2	29.2		14.9	50.2		5.2	26.2	14.9	5.1	26.1	26.1
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)	2.8	2.8		2.8	2.8		2.9	2.9	2.8	2.9	2.9	2.9
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)	6.1	6.1		6.1	6.1		6.2	6.2	6.1	6.2	6.2	6.2
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	C-Max		None	None	None	None	None	None
Walk Time (s)	7.0	7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)	16.0	16.0			16.0			19.0			19.0	19.0
Pedestrian Calls (#/hr)	12	12			8			10			8	8
Act Effct Green (s)	32.3	32.3		53.8	53.8		27.8	22.6	38.1	27.6	22.5	22.5
Actuated g/C Ratio	0.32	0.32		0.54	0.54		0.28	0.23	0.38	0.28	0.22	0.22
v/c Ratio	0.30	0.86		0.86	0.33		0.68	0.71	0.53	0.52	0.83	0.09
Control Delay	31.8	41.9		48.7	13.0		42.8	45.6	15.9	32.8	55.3	0.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.8	41.9		48.7	13.0		42.8	45.6	15.9	32.8	55.3	0.4
LOS	C	D		D	B		D	D	B	C	E	A
Approach Delay		41.2			25.0			32.1			44.9	
Approach LOS		D			C			C			D	
90th %ile Green (s)	29.2	29.2		14.9	50.2		5.2	26.2	14.9	5.1	26.1	26.1
90th %ile Term Code	Coord	Coord		Max	Coord		Max	Max	Max	Max	Max	Max
70th %ile Green (s)	29.2	29.2		14.9	50.2		5.2	26.2	14.9	5.1	26.1	26.1
70th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Max	Max	Max
50th %ile Green (s)	29.2	29.2		17.2	52.5		5.2	23.9	17.2	5.1	23.8	23.8
50th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Max	Gap	Gap
30th %ile Green (s)	32.4	32.4		17.2	55.7		5.2	20.7	17.2	5.1	20.6	20.6
30th %ile Term Code	Coord	Coord		Gap	Coord		Max	Hold	Gap	Max	Gap	Gap
10th %ile Green (s)	41.4	41.4		12.8	60.3		5.2	16.1	12.8	5.1	16.0	16.0
10th %ile Term Code	Coord	Coord		Gap	Coord		Max	Hold	Gap	Max	Gap	Gap
Stops (vph)	57	754		173	283		116	251	158	94	288	0
Fuel Used(l)	5	66		22	27		13	28	20	9	29	1
CO Emissions (g/hr)	86	1219		416	508		246	515	379	160	543	16
NOx Emissions (g/hr)	17	235		80	98		47	99	73	31	105	3
VOC Emissions (g/hr)	20	281		96	117		57	119	87	37	125	4
Dilemma Vehicles (#)	0	0		0	0		0	14	0	0	15	0
Queue Length 50th (m)	10.2	81.1		35.1	26.5		17.5	45.5	24.6	14.8	52.5	0.0
Queue Length 95th (m)	21.9	#117.6		#80.2	38.8		#30.5	68.7	44.4	25.8	#78.7	0.0
Internal Link Dist (m)		202.7			259.0			78.9			218.7	
Turn Bay Length (m)	40.0			32.0					20.0			70.0
Base Capacity (vph)	241	1050		338	1706		206	457	625	230	438	501
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	0.30	0.86		0.85	0.33		0.68	0.61	0.52	0.52	0.71	0.08
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												

6600 Carriere TIA
8: Orléans & St. Joseph

2030 Background Traffic
PM Peak (optimized)

Actuated Cycle Length: 100

Offset: 53 (53%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.86

Intersection Signal Delay: 35.0

Intersection LOS: C

Intersection Capacity Utilization 91.5%

ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 8: Orléans & St. Joseph

 Ø1	 Ø2 (R)	 Ø3	 Ø4
21 s	35.3 s	11.4 s	32.3 s
 Ø6 (R)		 Ø7	 Ø8
56.3 s		11.3 s	32.4 s

APPENDIX J

Transportation Demand Management Checklists

TDM-Supportive Development Design and Infrastructure Checklist: *Non-Residential Developments (office, institutional, retail or industrial)*

Legend	
REQUIRED	The Official Plan or Zoning By-law provides related guidance that must be followed
BASIC	The measure is generally feasible and effective, and in most cases would benefit the development and its users
BETTER	The measure could maximize support for users of sustainable modes, and optimize development performance

TDM-supportive design & infrastructure measures: <i>Non-residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
1. WALKING & CYCLING: ROUTES		
1.1 Building location & access points		
BASIC	1.1.1 Locate building close to the street, and do not locate parking areas between the street and building entrances	☒
BASIC	1.1.2 Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations	☒
BASIC	1.1.3 Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort	☒
1.2 Facilities for walking & cycling		
REQUIRED	1.2.1 Provide convenient, direct access to stations or major stops along rapid transit routes within 600 metres; minimize walking distances from buildings to rapid transit; provide pedestrian-friendly, weather-protected (where possible) environment between rapid transit accesses and building entrances; ensure quality linkages from sidewalks through building entrances to integrated stops/stations (<i>see Official Plan policy 4.3.3</i>)	☐ N/A - no rapid transit within 600m
REQUIRED	1.2.2 Provide safe, direct and attractive pedestrian access from public sidewalks to building entrances through such measures as: reducing distances between public sidewalks and major building entrances; providing walkways from public streets to major building entrances; within a site, providing walkways along the front of adjoining buildings, between adjacent buildings, and connecting areas where people may congregate, such as courtyards and transit stops; and providing weather protection through canopies, colonnades, and other design elements wherever possible (<i>see Official Plan policy 4.3.12</i>)	☒

TDM-supportive design & infrastructure measures: <i>Non-residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
REQUIRED	1.2.3 Provide sidewalks of smooth, well-drained walking surfaces of contrasting materials or treatments to differentiate pedestrian areas from vehicle areas, and provide marked pedestrian crosswalks at intersection sidewalks (<i>see Official Plan policy 4.3.10</i>)	☒
REQUIRED	1.2.4 Make sidewalks and open space areas easily accessible through features such as gradual grade transition, depressed curbs at street corners and convenient access to extra-wide parking spaces and ramps (<i>see Official Plan policy 4.3.10</i>)	☒
REQUIRED	1.2.5 Include adequately spaced inter-block/street cycling and pedestrian connections to facilitate travel by active transportation. Provide links to the existing or planned network of public sidewalks, multi-use pathways and on-road cycle routes. Where public sidewalks and multi-use pathways intersect with roads, consider providing traffic control devices to give priority to cyclists and pedestrians (<i>see Official Plan policy 4.3.11</i>)	☒
BASIC	1.2.6 Provide safe, direct and attractive walking routes from building entrances to nearby transit stops	☒
BASIC	1.2.7 Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible	☐
BASIC	1.2.8 Design roads used for access or circulation by cyclists using a target operating speed of no more than 30 km/h, or provide a separated cycling facility	☐
1.3 Amenities for walking & cycling		
BASIC	1.3.1 Provide lighting, landscaping and benches along walking and cycling routes between building entrances and streets, sidewalks and trails	☐
BASIC	1.3.2 Provide wayfinding signage for site access (where required, e.g. when multiple buildings or entrances exist) and egress (where warranted, such as when directions to reach transit stops/stations, trails or other common destinations are not obvious)	☐

TDM-supportive design & infrastructure measures: <i>Non-residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
2. WALKING & CYCLING: END-OF-TRIP FACILITIES		
2.1 Bicycle parking		
REQUIRED	2.1.1 Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible (<i>see Official Plan policy 4.3.6</i>)	☒
REQUIRED	2.1.2 Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas (<i>see Zoning By-law Section 111</i>)	☒
REQUIRED	2.1.3 Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored (<i>see Zoning By-law Section 111</i>)	☒
BASIC	2.1.4 Provide bicycle parking spaces equivalent to the expected number of commuter cyclists (assuming the cycling mode share target is met), plus the expected peak number of customer/visitor cyclists	☐
BETTER	2.1.5 Provide bicycle parking spaces equivalent to the expected number of commuter and customer/visitor cyclists, plus an additional buffer (e.g. 25 percent extra) to encourage other cyclists and ensure adequate capacity in peak cycling season	☐
2.2 Secure bicycle parking		
REQUIRED	2.2.1 Where more than 50 bicycle parking spaces are provided for a single office building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers (<i>see Zoning By-law Section 111</i>)	☐ N/A
BETTER	2.2.2 Provide secure bicycle parking spaces equivalent to the expected number of commuter cyclists (assuming the cycling mode share target is met)	☐
2.3 Shower & change facilities		
BASIC	2.3.1 Provide shower and change facilities for the use of active commuters	☐
BETTER	2.3.2 In addition to shower and change facilities, provide dedicated lockers, grooming stations, drying racks and laundry facilities for the use of active commuters	☐
2.4 Bicycle repair station		
BETTER	2.4.1 Provide a permanent bike repair station, with commonly used tools and an air pump, adjacent to the main bicycle parking area (or secure bicycle parking area, if provided)	☐

TDM-supportive design & infrastructure measures: <i>Non-residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
3. TRANSIT		
3.1 Customer amenities		
BASIC	3.1.1 Provide shelters, lighting and benches at any on-site transit stops	☐
BASIC	3.1.2 Where the site abuts an off-site transit stop and insufficient space exists for a transit shelter in the public right-of-way, protect land for a shelter and/or install a shelter	☐
BETTER	3.1.3 Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	☐
4. RIDESHARING		
4.1 Pick-up & drop-off facilities		
BASIC	4.1.1 Provide a designated area for carpool drivers (plus taxis and ride-hailing services) to drop off or pick up passengers without using fire lanes or other no-stopping zones	☐
4.2 Carpool parking		
BASIC	4.2.1 Provide signed parking spaces for carpools in a priority location close to a major building entrance, sufficient in number to accommodate the mode share target for carpools	☐
BETTER	4.2.2 At large developments, provide spaces for carpools in a separate, access-controlled parking area to simplify enforcement	☐
5. CARSHARING & BIKESHARING		
5.1 Carshare parking spaces		
BETTER	5.1.1 Provide carshare parking spaces in permitted non-residential zones, occupying either required or provided parking spaces (<i>see Zoning By-law Section 94</i>)	☐
5.2 Bikeshare station location		
BETTER	5.2.1 Provide a designated bikeshare station area near a major building entrance, preferably lighted and sheltered with a direct walkway connection	☐

TDM-supportive design & infrastructure measures: <i>Non-residential developments</i>		Check if completed & add descriptions, explanations or plan/drawing references
6. PARKING		
6.1 Number of parking spaces		
REQUIRED	6.1.1 Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for	☒
BASIC	6.1.2 Provide parking for long-term and short-term users that is consistent with mode share targets, considering the potential for visitors to use off-site public parking	☐
BASIC	6.1.3 Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly (<i>see Zoning By-law Section 104</i>)	☒
BETTER	6.1.4 Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking (<i>see Zoning By-law Section 111</i>)	☐
6.2 Separate long-term & short-term parking areas		
BETTER	6.2.1 Separate short-term and long-term parking areas using signage or physical barriers, to permit access controls and simplify enforcement (i.e. to discourage employees from parking in visitor spaces, and vice versa)	☐
7. OTHER		
7.1 On-site amenities to minimize off-site trips		
BETTER	7.1.1 Provide on-site amenities to minimize mid-day or mid-commute errands	☐

TDM Measures Checklist:

Non-Residential Developments (office, institutional, retail or industrial)

Legend	
BASIC	The measure is generally feasible and effective, and in most cases would benefit the development and its users
BETTER	The measure could maximize support for users of sustainable modes, and optimize development performance
★	The measure is one of the most dependably effective tools to encourage the use of sustainable modes

TDM measures: <i>Non-residential developments</i>		Check if proposed & add descriptions
1. TDM PROGRAM MANAGEMENT		
1.1 Program coordinator		
BASIC ★	1.1.1 Designate an internal coordinator, or contract with an external coordinator	☒ Internal coordinator: direction des immobilisations
1.2 Travel surveys		
BETTER	1.2.1 Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress	☐
2. WALKING AND CYCLING		
2.1 Information on walking/cycling routes & destinations		
BASIC	2.1.1 Display local area maps with walking/cycling access routes and key destinations at major entrances	☒
2.2 Bicycle skills training		
<i>Commuter travel</i>		
BETTER ★	2.2.1 Offer on-site cycling courses for commuters, or subsidize off-site courses	☐
2.3 Valet bike parking		
<i>Visitor travel</i>		
BETTER	2.3.1 Offer secure valet bike parking during public events when demand exceeds fixed supply (e.g. for festivals, concerts, games)	☐

TDM measures: <i>Non-residential developments</i>		Check if proposed & add descriptions
3. TRANSIT		
3.1 Transit information		
BASIC	3.1.1 Display relevant transit schedules and route maps at entrances	☒
BASIC	3.1.2 Provide online links to OC Transpo and STO information	☒
BETTER	3.1.3 Provide real-time arrival information display at entrances	☐
3.2 Transit fare incentives		
<i>Commuter travel</i>		
BETTER	3.2.1 Offer preloaded PRESTO cards to encourage commuters to use transit	☐
BETTER ★	3.2.2 Subsidize or reimburse monthly transit pass purchases by employees	☐
<i>Visitor travel</i>		
BETTER	3.2.3 Arrange inclusion of same-day transit fare in price of tickets (e.g. for festivals, concerts, games)	☐
3.3 Enhanced public transit service		
<i>Commuter travel</i>		
BETTER	3.3.1 Contract with OC Transpo to provide enhanced transit services (e.g. for shift changes, weekends)	☐
<i>Visitor travel</i>		
BETTER	3.3.2 Contract with OC Transpo to provide enhanced transit services (e.g. for festivals, concerts, games)	☐
3.4 Private transit service		
<i>Commuter travel</i>		
BETTER	3.4.1 Provide shuttle service when OC Transpo cannot offer sufficient quality or capacity to serve demand (e.g. for shift changes, weekends)	☐
<i>Visitor travel</i>		
BETTER	3.4.2 Provide shuttle service when OC Transpo cannot offer sufficient quality or capacity to serve demand (e.g. for festivals, concerts, games)	☐

TDM measures: <i>Non-residential developments</i>		Check if proposed & add descriptions
4. RIDESHARING		
4.1 Ridematching service		
<i>Commuter travel</i>		
BASIC ★	4.1.1 Provide a dedicated ridematching portal at OttawaRideMatch.com	☒ Il y a déjà un système de covoiturage interne offert aux usagers. Le site web OttawaRideMatch.com est "on hold" en ce moment.
4.2 Carpool parking price incentives		
<i>Commuter travel</i>		
BETTER	4.2.1 Provide discounts on parking costs for registered carpools	☐
4.3 Vanpool service		
<i>Commuter travel</i>		
BETTER	4.3.1 Provide a vanpooling service for long-distance commuters	☐
5. CARSHARING & BIKESHARING		
5.1 Bikeshare stations & memberships		
BETTER	5.1.1 Contract with provider to install on-site bikeshare station for use by commuters and visitors	☐
<i>Commuter travel</i>		
BETTER	5.1.2 Provide employees with bikeshare memberships for local business travel	☐
5.2 Carshare vehicles & memberships		
<i>Commuter travel</i>		
BETTER	5.2.1 Contract with provider to install on-site carshare vehicles and promote their use by tenants	☐
BETTER	5.2.2 Provide employees with carshare memberships for local business travel	☐
6. PARKING		
6.1 Priced parking		
<i>Commuter travel</i>		
BASIC ★	6.1.1 Charge for long-term parking (daily, weekly, monthly)	☐
BASIC	6.1.2 Unbundle parking cost from lease rates at multi-tenant sites	☐
<i>Visitor travel</i>		
BETTER	6.1.3 Charge for short-term parking (hourly)	☐

TDM measures: <i>Non-residential developments</i>			Check if proposed & add descriptions
7. TDM MARKETING & COMMUNICATIONS			
7.1 Multimodal travel information			
<i>Commuter travel</i>			
BASIC	★	7.1.1 Provide a multimodal travel option information package to new/relocating employees and students	☐
<i>Visitor travel</i>			
BETTER	★	7.1.2 Include multimodal travel option information in invitations or advertising that attract visitors or customers (e.g. for festivals, concerts, games)	☐
7.2 Personalized trip planning			
<i>Commuter travel</i>			
BETTER	★	7.2.1 Offer personalized trip planning to new/relocating employees	☐
7.3 Promotions			
<i>Commuter travel</i>			
BETTER		7.3.1 Deliver promotions and incentives to maintain awareness, build understanding, and encourage trial of sustainable modes	☐
8. OTHER INCENTIVES & AMENITIES			
8.1 Emergency ride home			
<i>Commuter travel</i>			
BETTER	★	8.1.1 Provide emergency ride home service to non-driving commuters	☐
8.2 Alternative work arrangements			
<i>Commuter travel</i>			
BASIC	★	8.2.1 Encourage flexible work hours	☒ Le MIFO permet des horaires flexibles pour certains postes au sein de l'organisme
BETTER		8.2.2 Encourage compressed workweeks	☐
BETTER	★	8.2.3 Encourage telework	☒ Le MIFO permet le télétravail occasionnel et circonstanciel
8.3 Local business travel options			
<i>Commuter travel</i>			
BASIC	★	8.3.1 Provide local business travel options that minimize the need for employees to bring a personal car to work	☒ Le MIFO encourage le covoiturage pour ses employés et ses administrateurs lorsque ceux-ci participent à des réunions ou événements hors de lieux
8.4 Commuter incentives			
<i>Commuter travel</i>			
BETTER		8.4.1 Offer employees a taxable, mode-neutral commuting allowance	☐
8.5 On-site amenities			
<i>Commuter travel</i>			
BETTER		8.5.1 Provide on-site amenities/services to minimize mid-day or mid-commute errands	☐

APPENDIX K

Multi Modal Level of Service Calculations

Segment MMLOS Analysis

This section provides a review of the boundary street (Carrière Street), 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. Schedule A of the City's Official Plan identifies that the boundary roadway is located within the 'General Urban Area' land use designation. The boundary roadway is also located within 300m of a school.

Exhibit 4 of the MMLOS Guidelines has been used to evaluate the segment pedestrian level of service (PLOS). Exhibit 22 of the MMLOS Guidelines suggest a target PLOS A for all roadways within a 300m of a school. 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). Within 300m of a school, Exhibit 22 of the MMLOS Guidelines suggest a BLOS B for roadways classified as Local Cycling Routes. The results of the segment BLOS analysis are summarized in **Table 2**.

Exhibit 15 of the MMLOS Guidelines has been used to evaluate the segment transit level of service (TLOS). Despite having no TLOS target, Carrière Street has been evaluated for TLOS, as it currently has transit service. The results of the segment TLOS analysis are summarized in **Table 3**.

Exhibit 20 of the MMLOS Guidelines has been used to evaluate the segment truck level of service (TkLOS). Within 300m of a school, Exhibit 22 of the MMLOS Guidelines suggests no target TkLOS for collector roadways not classified as truck routes. The results of the segment TkLOS analysis are summarized in **Table 4**.

Table 1: PLOS Segment Analysis

Sidewalk Width	Boulevard Width	Avg. Daily Curb Lane Traffic Volume	Presence of On-Street Parking	Operating Speed ⁽¹⁾	PLOS
Carrière Street (north side)					
≥ 2.0m	0m	< 3,000 vpd	No	50 km/h	B
Carrière Street (south side)					
1.5m	0.8m	< 3,000 vpd	No	50 km/h	C

1. Operating speed taken as the speed limit plus 10 km/h.

Table 2: BLOS Segment Analysis

Road Class	Type of Route	Type of Bikeway	Travel Lanes	Operating Speed	BLOS
Carrière Street					
Collector	Local Route	Mixed Traffic	2	50 km/h	B

Table 3: TLOS Segment Analysis

Facility Type	Exposure to Congestion Delay, Friction, and Incidents			TLOS
	Congestion	Friction	Incident Potential	
Carrière Street				
Mixed Traffic; Limited Parking/Driveway Friction	Yes	Low	Medium	D

Table 4: TkLOS Segment Analysis

Curb Lane Width	Number of Travel Lanes Per Direction	TkLOS
Carrière Street		
>3.7m	1	B

Intersection MMLOS Analysis

The following is a review of the MMLOS of the study area intersections, using complete streets principles. The MMLOS Guidelines were used to evaluate the MMLOS for Orléans Boulevard/St. Joseph Boulevard, Orléans Boulevard/Carrière Street, and Orléans Boulevard/Jeanne D'Arc Boulevard. Per Schedule B of the City's Official Plan, all three intersections are located within the General Urban Area and St. Joseph Boulevard is an Arterial Main Street. The Orléans Boulevard/Carrière Street and Orleans Boulevard/Jeanne D'Arc Boulevard intersections are located within 300m of a school.

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 300m of a school and a target PLOS C for an Arterial Mainstreet. The results of the intersection PLOS analysis are summarized in **Tables 5, 6 and 7**.

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 B for all Local Cycling Routes on roadways within 300m of a school, a target BLOS C for Spine cycling routes on an arterial within 300m of a school, and a target BLOS B for cross-town bikeways on Arterial Mainstreets. The results of the intersection BLOS analysis are summarized in **Table 8**.

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 suggests a target TLOS D for transit priority streets with isolated measures (planned for Orléans Boulevard) and a target TLOS C for transit priority streets with continuous lanes (planned for Jeanne D'Arc Boulevard). The results of the intersection TLOS analysis are summarized in **Table 9**.

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 roadways with a truck route designation (Orléans Boulevard, Jeanne D'Arc Boulevard, St. Joseph Boulevard). No target is identified for collector roadways within 300m of a school with no Truck Route designation (Carrière Street). The results of the intersection TkLOS analysis are summarized in **Table 10**.

Auto LOS analysis is summarized in **Section 3.4.1** of the TIA report. Exhibit 22 of the MMLOS Guidelines identifies a target Auto LOS E for all roadways within 300m of a school and a target Auto LOS D for all roadways classified as Arterial Mainstreets.

Table 5: PLOS Intersection Analysis – Orléans Boulevard/St. Joseph Boulevard

Criteria	North Approach		South Approach		East Approach		West Approach	
Orleans Boulevard/St. Joseph Boulevard								
PETSI SCORE								
CROSSING DISTANCE CONDITIONS								
Median > 2.4m in Width	No	55	No	55	No	39	No	39
Lanes Crossed (3.5m Lane Width)	6		6		7		7	
SIGNAL PHASING AND TIMING								
Left Turn Conflict	Permissive	-8	Perm + Prot	-8	Perm + Prot	-8	Perm + Prot	-8
Right Turn Conflict	Permissive or Yield	-5	Permissive or Yield	-5	Perm + Prot	-5	Permissive or Yield	-5
Right Turn on Red	RTOR Allowed	-3	RTOR Allowed	-3	RTOR Allowed	-3	RTOR Allowed	-3
Leading Pedestrian Interval	No	-2	No	-2	No	-2	No	-2
CORNER RADIUS								
Parallel Radius	> 10m to 15m	-6	> 5m to 10m	-5	> 5m to 10m	-5	> 5m to 10m	-5
Parallel Right Turn Channel	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4
Perpendicular Radius	N/A	0	N/A	0	N/A	0	N/A	0
Perpendicular Right Turn Channel	N/A	0	N/A	0	N/A	0	N/A	0
CROSSING TREATMENT								
Treatment	Textured	-4	Textured	-4	Textured	-4	Textured	-4
PETSI SCORE		23		24		8		8
LOS		F		F		F		F
DELAY SCORE								
Cycle Length		90		100		100		100
Pedestrian Walk Time		21.9		13.9		6.8		6.8
DELAY SCORE		25.8		37.1		43.4		43.4
LOS		C		D		E		E
OVERALL		F		F		F		F

Table 6: PLOS Intersection Analysis – Orléans Boulevard/Carrière Street

Criteria	North Approach		South Approach		East Approach	
Orleans Boulevard/Carriere Street						
PETSİ SCORE						
CROSSİNG DISTANCE CONDITIONS						
Median > 2.4m in Width	No	55	No	39	No	55
Lanes Crossed (3.5m Lane Width)	6		7		6	
SİGNAL PHASİNG AND TİMİNG						
Left Turn Conflict	No Left Turn/Prohibited	0	Permissive	-8	Permissive	-8
Right Turn Conflict	Permissive or Yield	-5	No Right Turn/Prohibited	0	Permissive or Yield	-5
Right Turn on Red	N/A	0	RTOR Allowed	-3	RTOR Allowed	-3
Leading Pedestrian Interval	No	-2	No	-2	No	-2
CORNİR RADİUS						
Parallel Radius	> 10m to 15m	-6	No Right Turn	0	> 10m to 15m	-6
Parallel Right Turn Channel	No Right Turn Channel	-4	No Right Turn	0	No Right Turn Channel	-4
Perpendicular Radius	N/A	0	N/A	0	N/A	0
Perpendicular Right Turn Channel	N/A	0	N/A	0	N/A	0
CROSSİNG TREATMENT						
Treatment	Standard	-7	Standard	-7	Standard	-7
PETSİ SCORE		31		19		20
LOS		E		F		F
DELAY SCORE						
Cycle Length		80		80		80
Pedestrian Walk Time		7.7		7.7		25.1
DELAY SCORE		32.7		32.7		18.8
LOS		D		D		B
OVERALL		E		F		F

Table 7: PLOS Intersection Analysis – Orléans Boulevard/Jeanne D'Arc Boulevard

Criteria	North Approach		South Approach		East Approach		West Approach	
Orleans Boulevard/Jeanne D'Arc Boulevard								
PETS I SCORE								
CROSSING DISTANCE CONDITIONS								
Median > 2.4m in Width	No	-10	No	-10	No	-10	No	-10
Lanes Crossed (3.5m Lane Width)	10 +		10 +		10 +		10 +	
SIGNAL PHASING AND TIMING								
Left Turn Conflict	Permissive	-8	Permissive	-8	Perm + Prot	-8	Perm + Prot	-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
CORNER RADIUS								
Parallel Radius	> 25m	-9	> 25m	-9	> 15m to 25m	-8	> 15m to 25m	-8
Parallel Right Turn Channel	Conventional without Receiving	0	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 without Receiving	0	Conventional without Receiving	0
CROSSING TREATMENT								
Treatment	Standard	-7	Standard	-7	Standard	-7	Standard	-7
PETS I SCORE		-49			-49			-49
LOS		F			F			F
DELAY SCORE								
Cycle Length		80		80		80		80
Pedestrian Walk Time		11.9		11.9		6.8		6.8
DELAY SCORE		29			29			33.5
LOS		C			C			D
OVERALL		F			F			F

Table 8: BLOS Intersection Analysis

Approach	Facility Type	Criteria	Travel Lanes and/or Speed	BLOS
Orléans Boulevard/St. Joseph Boulevard				
North Approach	Pocket Bike Lane	Right Turn Lane Characteristics	Right turn lane > 50m long	D
		Left Turn Accommodation	One lane crossed; ≥ 60 km/h	E
South Approach	Pocket Bike Lane	Right Turn Lane Characteristics	Right turn lane < 50m long	B
		Left Turn Accommodation	One lane crossed; ≥ 60 km/h	E
East Approach	Mixed Traffic	Right Turn Lane Characteristics	Shared through/right turn lane	A
		Left Turn Accommodation	Two lanes crossed; ≥ 60 km/h	F
West Approach	Mixed Traffic	Right Turn Lane Characteristics	Shared through/right turn lane	A
		Left Turn Accommodation	Two lanes crossed; ≥ 60 km/h	F
Orléans Boulevard/Carrière Street				
North Approach	Mixed Traffic	Right Turn Lane Characteristics	Shared through/right turn lane	A
		Left Turn Accommodation	Two lanes crossed; ≥ 60 km/h	F
South Approach	Mixed Traffic	Right Turn Lane Characteristics	Right turn lane 25m to 50m long, turning speed <25km/h	D
		Left Turn Accommodation	No left turns	-
East Approach	Mixed Traffic	Right Turn Lane Characteristics	N/A	-
		Left Turn Accommodation	One lane crossed, 50 km/h	D
Orléans Boulevard/Jeanne D’Arc Boulevard				
North Approach	Mixed Traffic	Right Turn Lane Characteristics	No right turn lane	-
		Left Turn Accommodation	Two lanes crossed; ≥ 60 km/h	F
South Approach	Mixed Traffic	Right Turn Lane Characteristics	No right turn lane	-
		Left Turn Accommodation	Two lanes crossed; ≥ 60 km/h	F
East Approach	Mixed Traffic	Right Turn Lane Characteristics	No right turn lane	-
		Left Turn Accommodation	Two lanes crossed; ≥ 60 km/h	F
West Approach	Mixed Traffic	Right Turn Lane Characteristics	No right turn lane	-
		Left Turn Accommodation	Two lanes crossed; ≥ 60 km/h	F

Table 9: TLOS Intersection Analysis

Approach	Delay ⁽¹⁾		TLOS
	AM Peak	PM Peak	
Orléans Boulevard/St. Joseph Boulevard			
North Approach	33 sec.	44 sec.	F
South Approach	29 sec.	30 sec.	D
East Approach	17 sec.	32 sec.	E
West Approach	19 sec.	52 sec.	F
Orléans Boulevard/Carrière Street			
North Approach	7 sec.	6 sec.	B
South Approach	3 sec.	3 sec.	B
Orléans Boulevard/Jeanne D'Arc Boulevard			
North Approach	20 sec.	37 sec.	E
South Approach	29 sec.	30 sec.	D
East Approach	65 sec.	11 sec.	F
West Approach	17 sec.	25 sec.	D

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

Table 10: TkLOS Intersection Analysis

Approach	Effective Corner Radius	Number of Receiving Lanes Departing Intersection	TkLOS
Orléans Boulevard/St. Joseph Boulevard			
North Approach	<10m	2	D
South Approach	<10m	2	D
East Approach	10 to 15m	1	E
West Approach	10 to 15m	1	E
Orléans Boulevard/Carrière Street			
North Approach	-	-	-
South Approach	10 to 15m	1	E
East Approach	10 to 15m	2	B
Orléans Boulevard/Jeanne D'Arc Boulevard			
North Approach	>15m	2	A
South Approach	>15m	2	A
East Approach	>15m	2	A
West Approach	>15m	2	A

APPENDIX L

Capacity Analysis Reports (Total Traffic)

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2025 Total Traffic
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	170	44	8	1341	202	187	354	9	111	244	87
Future Volume (vph)	50	170	44	8	1341	202	187	354	9	111	244	87
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	55.0		0.0	38.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			47.0			48.0			33.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt		0.969			0.980			0.996			0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1580	3079	0	1658	3239	0	1642	3180	0	1626	3149	0
Flt Permitted	0.107			0.618			0.483			0.535		
Satd. Flow (perm)	178	3079	0	1071	3239	0	832	3180	0	915	3149	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		44			24			3			63	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		286.1			266.5			205.4			394.4	
Travel Time (s)		17.2			16.0			12.3			23.7	
Confl. Peds. (#/hr)	11		8	8		11	5		1	1		5
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 (%)	7%	7%	2%	2%	2%	2%	3%	6%	2%	4%	3%	2%
Adj. Flow (vph)	50	170	44	8	1341	202	187	354	9	111	244	87
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	214	0	8	1543	0	187	363	0	111	331	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		5.3			5.3			5.0			5.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		3	8		7	4	

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2025 Total Traffic
AM Peak

												
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		5.0	10.0		5.0	10.0	
Minimum Split (s)	28.1	28.1		28.1	28.1		14.0	29.0		14.0	29.0	
Total Split (s)	37.0	37.0		37.0	37.0		14.0	29.0		14.0	29.0	
Total Split (%)	46.3%	46.3%		46.3%	46.3%		17.5%	36.3%		17.5%	36.3%	
Maximum Green (s)	30.9	30.9		30.9	30.9		8.0	22.8		8.0	22.8	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.4	2.4		2.4	2.4		2.3	2.5		2.3	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1		6.0	6.2		6.0	6.2	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			16.0			16.0	
Pedestrian Calls (#/hr)	6	6		8	8			1			3	
Act Effct Green (s)	38.6	38.6		38.6	38.6		24.5	17.9		23.0	15.2	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.31	0.22		0.29	0.19	
v/c Ratio	0.59	0.14		0.02	0.98		0.56	0.51		0.34	0.51	
Control Delay	51.9	10.5		13.6	41.4		24.5	29.9		15.7	20.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	51.9	10.5		13.6	41.4		24.5	29.9		15.7	20.2	
LOS	D	B		B	D		C	C		B	C	
Approach Delay		18.3			41.2			28.1			19.1	
Approach LOS		B			D			C			B	
90th %ile Green (s)	30.9	30.9		30.9	30.9		8.0	22.8		8.0	22.8	
90th %ile Term Code	Coord	Coord		Coord	Coord		Max	Ped		Max	Ped	
70th %ile Green (s)	37.7	37.7		37.7	37.7		8.0	16.0		8.0	16.0	
70th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
50th %ile Green (s)	39.4	39.4		39.4	39.4		8.0	14.3		8.0	14.3	
50th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
30th %ile Green (s)	41.0	41.0		41.0	41.0		8.0	12.7		8.0	12.7	
30th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
10th %ile Green (s)	43.8	43.8		43.8	43.8		7.9	23.9		0.0	10.0	
10th %ile Term Code	Coord	Coord		Coord	Coord		Gap	Hold		Skip	Min	
Stops (vph)	37	94		7	1185		138	305		59	271	
Fuel Used(l)	4	10		0	123		11	25		7	25	
CO Emissions (g/hr)	82	187		9	2289		210	459		131	469	
NOx Emissions (g/hr)	16	36		2	442		41	89		25	91	
VOC Emissions (g/hr)	19	43		2	528		49	106		30	108	
Dilemma Vehicles (#)	0	13		0	87		0	22		0	34	
Queue Length 50th (m)	4.7	6.3		0.6	102.5		18.7	24.7		7.1	14.6	
Queue Length 95th (m)	#23.9	14.3		3.0	#179.1		26.9	32.1		13.9	23.0	
Internal Link Dist (m)		262.1			242.5			181.4			370.4	
Turn Bay Length (m)	55.0			38.0			60.0			55.0		
Base Capacity (vph)	85	1506		516	1573		336	917		338	942	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.59	0.14		0.02	0.98		0.56	0.40		0.33	0.35	
Intersection Summary												
Area Type:	Other											
Cycle Length: 80												

6600 Carriere TIA

3: Orléans & Jeanne d'Arc

2025 Total Traffic
AM Peak

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.98

Intersection Signal Delay: 33.0

Intersection LOS: C

Intersection Capacity Utilization 83.8%

ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Orléans & Jeanne d'Arc

 Ø2 (R)	 Ø3	 Ø4
37 s	14 s	29 s
 Ø6 (R)	 Ø7	 Ø8
37 s	14 s	29 s

6600 Carriere TIA
6: Orléans & Carrière

2025 Total Traffic
AM Peak

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	134	124	477	190	110	338
Future Volume (vph)	134	124	477	190	110	338
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	32.0	0.0		30.0	46.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	26.0				34.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor	1.00			0.96	0.99	
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1551	1483	3252	1441	1610	3252
Flt Permitted	0.950				0.479	
Satd. Flow (perm)	1547	1483	3252	1382	803	3252
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		124		190		
Link Speed (k/h)	40		60			60
Link Distance (m)	369.6		394.4			297.9
Travel Time (s)	33.3		23.7			17.9
Confl. Peds. (#/hr)	3			18	18	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	9%	2%	4%	5%	5%	4%
Adj. Flow (vph)	134	124	477	190	110	338
Shared Lane Traffic (%)						
Lane Group Flow (vph)	134	124	477	190	110	338
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		5.0			5.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	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
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						

6600 Carriere TIA
6: Orléans & Carrière

2025 Total Traffic
AM Peak

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	32.3	32.3	39.9	39.9	39.9	39.9
Total Split (s)	33.0	33.0	47.0	47.0	47.0	47.0
Total Split (%)	41.3%	41.3%	58.8%	58.8%	58.8%	58.8%
Maximum Green (s)	26.7	26.7	41.1	41.1	41.1	41.1
Yellow Time (s)	3.0	3.0	3.7	3.7	3.7	3.7
All-Red Time (s)	3.3	3.3	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.9	5.9	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	19.0	19.0	16.0	16.0		
Pedestrian Calls (#/hr)	2	2	10	10		
Act Effct Green (s)	14.6	14.6	53.2	53.2	53.2	53.2
Actuated g/C Ratio	0.18	0.18	0.66	0.66	0.66	0.66
v/c Ratio	0.48	0.33	0.22	0.19	0.21	0.16
Control Delay	33.5	7.2	4.2	0.9	8.2	6.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	7.2	4.2	0.9	8.2	6.2
LOS	C	A	A	A	A	A
Approach Delay	20.8		3.2			6.7
Approach LOS	C		A			A
90th %ile Green (s)	26.0	26.0	41.8	41.8	41.8	41.8
90th %ile Term Code	Ped	Ped	Coord	Coord	Coord	Coord
70th %ile Green (s)	14.4	14.4	53.4	53.4	53.4	53.4
70th %ile Term Code	Gap	Gap	Coord	Coord	Coord	Coord
50th %ile Green (s)	12.3	12.3	55.5	55.5	55.5	55.5
50th %ile Term Code	Gap	Gap	Coord	Coord	Coord	Coord
30th %ile Green (s)	10.1	10.1	57.7	57.7	57.7	57.7
30th %ile Term Code	Gap	Gap	Coord	Coord	Coord	Coord
10th %ile Green (s)	10.0	10.0	57.8	57.8	57.8	57.8
10th %ile Term Code	Min	Min	Coord	Coord	Coord	Coord
Stops (vph)	113	20	135	9	46	122
Fuel Used(l)	10	6	22	7	6	17
CO Emissions (g/hr)	192	108	413	129	111	321
NOx Emissions (g/hr)	37	21	80	25	21	62
VOC Emissions (g/hr)	44	25	95	30	26	74
Dilemma Vehicles (#)	0	0	19	0	0	21
Queue Length 50th (m)	17.6	0.0	7.0	0.0	4.6	7.1
Queue Length 95th (m)	26.0	9.8	m18.1	m3.4	17.0	18.8
Internal Link Dist (m)	345.6		370.4			273.9
Turn Bay Length (m)	32.0			30.0	46.0	
Base Capacity (vph)	516	577	2164	983	534	2164
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.21	0.22	0.19	0.21	0.16
Intersection Summary						
Area Type:	Other					
Cycle Length: 80						
Actuated Cycle Length: 80						

6600 Carriere TIA
6: Orléans & Carrière

2025 Total Traffic
AM Peak

Offset: 46 (58%), Referenced to phase 2:NBT and 6:SBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.48
Intersection Signal Delay: 7.7 Intersection LOS: A
Intersection Capacity Utilization 60.1% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Orléans & Carrière



6600 Carriere TIA
8: Orléans & St. Joseph

2025 Total Traffic
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	165	69	110	628	113	199	263	180	108	258	42
Future Volume (vph)	35	165	69	110	628	113	199	263	180	108	258	42
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		0.0	32.0		0.0	0.0		20.0	0.0		70.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	30.0			30.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.99		0.99	0.99		1.00		0.97	0.99		0.99
Frt		0.956			0.977				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1595	3063	0	1642	3216	0	1658	1679	1455	1626	1712	1483
Flt Permitted	0.370			0.505			0.411			0.478		
Satd. Flow (perm)	617	3063	0	866	3216	0	717	1679	1411	808	1712	1463
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		69			28				166			187
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		226.7			283.0			102.9			242.7	
Travel Time (s)		16.3			20.4			6.2			14.6	
Confl. Peds. (#/hr)	9		6	6		9	1		18	18		1
Confl. Bikes (#/hr)						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 (%)	6%	4%	6%	3%	2%	3%	2%	6%	4%	4%	4%	2%
Adj. Flow (vph)	35	165	69	110	628	113	199	263	180	108	258	42
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	234	0	110	741	0	199	263	180	108	258	42
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		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
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	0.6		2.0	0.6		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
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	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases		2		1	6		3	8	1	7	4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		3	8	1	7	4	4

6600 Carriere TIA
8: Orléans & St. Joseph

2025 Total Traffic
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	29.1	29.1		11.1	29.1		11.2	32.2	11.1	11.2	32.2	32.2
Total Split (s)	32.0	32.0		12.0	44.0		13.0	33.0	12.0	13.0	33.0	33.0
Total Split (%)	35.6%	35.6%		13.3%	48.9%		14.4%	36.7%	13.3%	14.4%	36.7%	36.7%
Maximum Green (s)	25.9	25.9		5.9	37.9		6.8	26.8	5.9	6.8	26.8	26.8
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)	2.8	2.8		2.8	2.8		2.9	2.9	2.8	2.9	2.9	2.9
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)	6.1	6.1		6.1	6.1		6.2	6.2	6.1	6.2	6.2	6.2
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	C-Max		None	None	None	None	None	None
Walk Time (s)	7.0	7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)	16.0	16.0			16.0			19.0			19.0	19.0
Pedestrian Calls (#/hr)	4	4			6			10			1	1
Act Effct Green (s)	31.6	31.6		45.5	45.5		27.3	21.8	29.7	25.9	19.2	19.2
Actuated g/C Ratio	0.35	0.35		0.51	0.51		0.30	0.24	0.33	0.29	0.21	0.21
v/c Ratio	0.16	0.21		0.22	0.45		0.69	0.65	0.31	0.37	0.71	0.09
Control Delay	25.7	16.3		14.6	15.7		35.2	38.8	4.9	22.3	42.9	0.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	25.7	16.3		14.6	15.7		35.2	38.8	4.9	22.3	42.9	0.4
LOS	C	B		B	B		D	D	A	C	D	A
Approach Delay		17.5			15.6			28.2			33.1	
Approach LOS		B			B			C			C	
90th %ile Green (s)	25.9	25.9		6.7	38.7		6.8	26.0	6.7	6.8	26.0	26.0
90th %ile Term Code	Coord	Coord		Max	Coord		Max	Ped	Max	Max	Ped	Ped
70th %ile Green (s)	26.3	26.3		10.1	42.5		6.8	22.2	10.1	6.8	22.2	22.2
70th %ile Term Code	Coord	Coord		Gap	Coord		Max	Gap	Gap	Max	Hold	Hold
50th %ile Green (s)	30.6	30.6		8.7	45.4		6.8	19.3	8.7	6.8	19.3	19.3
50th %ile Term Code	Coord	Coord		Gap	Coord		Max	Gap	Gap	Max	Hold	Hold
30th %ile Green (s)	34.6	34.6		7.5	48.2		6.8	16.5	7.5	6.8	16.5	16.5
30th %ile Term Code	Coord	Coord		Gap	Coord		Max	Gap	Gap	Max	Hold	Hold
10th %ile Green (s)	40.5	40.5		6.0	52.6		6.8	25.1	6.0	0.0	12.1	12.1
10th %ile Term Code	Coord	Coord		Gap	Coord		Max	Hold	Gap	Skip	Gap	Gap
Stops (vph)	28	116		60	448		163	231	25	73	229	0
Fuel Used(l)	2	11		6	39		17	23	8	6	21	1
CO Emissions (g/hr)	39	197		103	724		312	433	149	121	397	17
NOx Emissions (g/hr)	7	38		20	140		60	84	29	23	77	3
VOC Emissions (g/hr)	9	45		24	167		72	100	34	28	92	4
Dilemma Vehicles (#)	0	0		0	0		0	14	0	0	14	0
Queue Length 50th (m)	3.9	9.5		8.9	36.3		22.7	39.3	1.4	11.7	38.3	0.0
Queue Length 95th (m)	11.5	18.6		19.8	57.8		33.5	57.1	11.7	19.3	55.7	0.0
Internal Link Dist (m)		202.7			259.0			78.9			218.7	
Turn Bay Length (m)	40.0			32.0					20.0			70.0
Base Capacity (vph)	216	1119		504	1639		288	499	581	295	509	566
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	0.16	0.21		0.22	0.45		0.69	0.53	0.31	0.37	0.51	0.07
Intersection Summary												
Area Type:	Other											
Cycle Length: 90												

6600 Carriere TIA
8: Orléans & St. Joseph

2025 Total Traffic
AM Peak

Actuated Cycle Length: 90

Offset: 40 (44%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 22.8

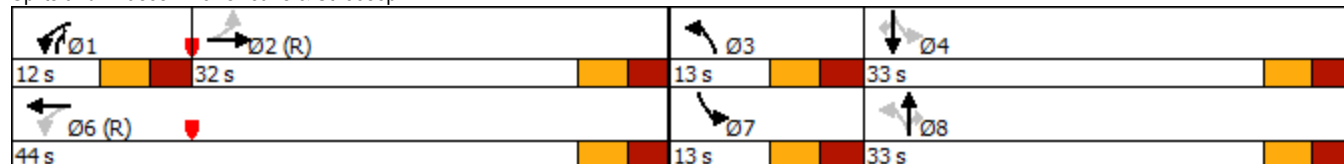
Intersection LOS: C

Intersection Capacity Utilization 77.3%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 8: Orléans & St. Joseph



						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	256	44	2	234	23	1
Future Volume (Veh/h)	256	44	2	234	23	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	256	44	2	234	23	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	370					
pX, platoon unblocked						
vC, conflicting volume			300		516	278
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			300		516	278
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	100
cM capacity (veh/h)			1261		518	761
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	300	236	24			
Volume Left	0	2	23			
Volume Right	44	0	1			
cSH	1700	1261	525			
Volume to Capacity	0.18	0.00	0.05			
Queue Length 95th (m)	0.0	0.0	1.0			
Control Delay (s)	0.0	0.1	12.2			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.1	12.2			
Approach LOS			B			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			27.0%	ICU Level of Service		A
Analysis Period (min)			15			

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2025 Total Traffic
AM Peak (optimized)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	170	44	8	1341	202	187	354	9	111	244	87
Future Volume (vph)	50	170	44	8	1341	202	187	354	9	111	244	87
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	55.0		0.0	38.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			47.0			48.0			33.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt		0.969			0.980			0.996			0.961	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1580	3078	0	1658	3238	0	1642	3180	0	1626	3148	0
Flt Permitted	0.081			0.618			0.456			0.424		
Satd. Flow (perm)	135	3078	0	1070	3238	0	785	3180	0	725	3148	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		44			24			2			47	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		286.1			266.5			205.4			394.4	
Travel Time (s)		17.2			16.0			12.3			23.7	
Confl. Peds. (#/hr)	11		8	8		11	5		1	1		5
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 (%)	7%	7%	2%	2%	2%	2%	3%	6%	2%	4%	3%	2%
Adj. Flow (vph)	50	170	44	8	1341	202	187	354	9	111	244	87
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	214	0	8	1543	0	187	363	0	111	331	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		5.3			5.3			5.0			5.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		3	8		7	4	

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2025 Total Traffic
AM Peak (optimized)

												
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		5.0	10.0		5.0	10.0	
Minimum Split (s)	28.1	28.1		28.1	28.1		14.0	29.0		14.0	29.0	
Total Split (s)	57.0	57.0		57.0	57.0		14.0	29.0		14.0	29.0	
Total Split (%)	57.0%	57.0%		57.0%	57.0%		14.0%	29.0%		14.0%	29.0%	
Maximum Green (s)	50.9	50.9		50.9	50.9		8.0	22.8		8.0	22.8	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.4	2.4		2.4	2.4		2.3	2.5		2.3	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1		6.0	6.2		6.0	6.2	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			16.0			16.0	
Pedestrian Calls (#/hr)	6	6		8	8			1			3	
Act Effct Green (s)	57.0	57.0		57.0	57.0		25.1	16.9		24.7	16.7	
Actuated g/C Ratio	0.57	0.57		0.57	0.57		0.25	0.17		0.25	0.17	
v/c Ratio	0.66	0.12		0.01	0.83		0.71	0.67		0.45	0.59	
Control Delay	61.3	8.8		11.2	23.4		42.9	44.8		30.7	36.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	61.3	8.8		11.2	23.4		42.9	44.8		30.7	36.5	
LOS	E	A		B	C		D	D		C	D	
Approach Delay		18.7			23.3			44.1			35.1	
Approach LOS		B			C			D			D	
90th %ile Green (s)	50.9	50.9		50.9	50.9		8.0	22.8		8.0	22.8	
90th %ile Term Code	Coord	Coord		Coord	Coord		Max	Ped		Max	Ped	
70th %ile Green (s)	55.3	55.3		55.3	55.3		8.0	18.4		8.0	18.4	
70th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
50th %ile Green (s)	57.1	57.1		57.1	57.1		8.0	16.6		8.0	16.6	
50th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
30th %ile Green (s)	59.0	59.0		59.0	59.0		8.0	14.7		8.0	14.7	
30th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
10th %ile Green (s)	62.8	62.8		62.8	62.8		8.0	12.0		6.9	10.9	
10th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Gap	Hold	
Stops (vph)	36	77		5	1152		165	327		83	254	
Fuel Used(l)	5	9		0	101		15	30		9	29	
CO Emissions (g/hr)	89	172		8	1872		276	549		169	536	
NOx Emissions (g/hr)	17	33		1	361		53	106		33	104	
VOC Emissions (g/hr)	20	40		2	432		64	127		39	124	
Dilemma Vehicles (#)	0	11		0	75		0	18		0	16	
Queue Length 50th (m)	5.7	6.7		0.6	109.4		25.9	32.2		14.7	24.8	
Queue Length 95th (m)	#27.5	13.4		2.8	#177.6		39.1	42.6		24.4	34.8	
Internal Link Dist (m)		262.1			242.5			181.4			370.4	
Turn Bay Length (m)	55.0			38.0			60.0			55.0		
Base Capacity (vph)	76	1774		609	1856		265	726		252	754	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.66	0.12		0.01	0.83		0.71	0.50		0.44	0.44	
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												

6600 Carriere TIA

3: Orléans & Jeanne d'Arc

2025 Total Traffic
AM Peak (optimized)

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.83

Intersection Signal Delay: 28.8

Intersection LOS: C

Intersection Capacity Utilization 83.8%

ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Orléans & Jeanne d'Arc

 Ø2 (R)		 Ø3		 Ø4	
57 s	 	14 s	 	29 s	 
 Ø6 (R)		 Ø7		 Ø8	
57 s	 	14 s	 	29 s	 

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2025 Total Traffic
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	799	217	15	334	256	177	478	37	255	391	23
Future Volume (vph)	34	799	217	15	334	256	177	478	37	255	391	23
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	55.0		0.0	38.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			47.0			48.0			33.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.99	1.00		1.00	0.99		0.99	1.00		0.99	1.00	
Frt		0.968			0.935			0.989			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1658	3194	0	1658	3067	0	1658	3273	0	1658	3285	0
Flt Permitted	0.389			0.177			0.451			0.331		
Satd. Flow (perm)	675	3194	0	308	3067	0	783	3273	0	573	3285	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			256			11			8	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		286.1			266.5			205.4			394.4	
Travel Time (s)		17.2			16.0			12.3			23.7	
Confl. Peds. (#/hr)	12		10	10		12	9		16	16		9
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)	34	799	217	15	334	256	177	478	37	255	391	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	1016	0	15	590	0	177	515	0	255	414	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		5.3			5.3			5.0			5.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2025 Total Traffic
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	28.1	28.1		28.1	28.1		11.0	29.2		11.0	29.2	
Total Split (s)	33.0	33.0		33.0	33.0		15.0	32.0		15.0	32.0	
Total Split (%)	41.3%	41.3%		41.3%	41.3%		18.8%	40.0%		18.8%	40.0%	
Maximum Green (s)	26.9	26.9		26.9	26.9		9.0	25.8		9.0	25.8	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.4	2.4		2.4	2.4		2.3	2.5		2.3	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1		6.0	6.2		6.0	6.2	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			16.0			16.0	
Pedestrian Calls (#/hr)	8	8		10	10			12			7	
Act Effct Green (s)	34.9	34.9		34.9	34.9		26.7	17.8		27.2	18.0	
Actuated g/C Ratio	0.44	0.44		0.44	0.44		0.33	0.22		0.34	0.22	
v/c Ratio	0.12	0.72		0.11	0.40		0.50	0.70		0.80	0.55	
Control Delay	16.6	22.2		18.3	9.8		20.1	33.1		39.3	31.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	16.6	22.2		18.3	9.8		20.1	33.1		39.3	31.0	
LOS	B	C		B	A		C	C		D	C	
Approach Delay		22.0			10.0			29.7			34.1	
Approach LOS		C			B			C			C	
90th %ile Green (s)	29.7	29.7		29.7	29.7		9.0	23.0		9.0	23.0	
90th %ile Term Code	Coord	Coord		Coord	Coord		Max	Ped		Max	Ped	
70th %ile Green (s)	33.1	33.1		33.1	33.1		9.0	19.6		9.0	19.6	
70th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
50th %ile Green (s)	35.1	35.1		35.1	35.1		9.0	17.6		9.0	17.6	
50th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
30th %ile Green (s)	37.0	37.0		37.0	37.0		9.0	15.7		9.0	15.7	
30th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
10th %ile Green (s)	39.8	39.8		39.8	39.8		7.6	12.9		9.0	14.3	
10th %ile Term Code	Coord	Coord		Coord	Coord		Gap	Gap		Max	Hold	
Stops (vph)	23	760		13	222		116	444		215	368	
Fuel Used(l)	2	67		1	25		10	37		23	36	
CO Emissions (g/hr)	38	1248		18	470		179	681		435	668	
NOx Emissions (g/hr)	7	241		4	91		35	131		84	129	
VOC Emissions (g/hr)	9	288		4	108		41	157		100	154	
Dilemma Vehicles (#)	0	62		0	37		0	32		0	13	
Queue Length 50th (m)	2.7	56.2		1.2	14.9		15.9	34.4		27.1	28.4	
Queue Length 95th (m)	8.7	#89.2		5.4	29.2		24.7	44.7		#53.0	42.5	
Internal Link Dist (m)		262.1			242.5			181.4			370.4	
Turn Bay Length (m)	55.0			38.0			60.0			55.0		
Base Capacity (vph)	294	1420		134	1483		362	1062		317	1064	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.12	0.72		0.11	0.40		0.49	0.48		0.80	0.39	
Intersection Summary												
Area Type:	Other											
Cycle Length: 80												
Actuated Cycle Length: 80												
Offset: 20 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green												

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2025 Total Traffic
PM Peak

Natural Cycle: 70

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 24.1

Intersection LOS: C

Intersection Capacity Utilization 77.9%

ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Orléans & Jeanne d'Arc

 Ø2 (R)	 Ø3	 Ø4
33 s	15 s	32 s
 Ø6 (R)	 Ø7	 Ø8
33 s	15 s	32 s

6600 Carriere TIA
6: Orléans & Carrière

2025 Total Traffic
PM Peak

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	69	62	767	82	58	672
Future Volume (vph)	69	62	767	82	58	672
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	32.0	0.0		30.0	46.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	26.0				34.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor	0.99	0.99		0.96	0.99	
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1658	1483	3316	1483	1658	3283
Flt Permitted	0.950				0.355	
Satd. Flow (perm)	1639	1464	3316	1424	616	3283
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		62		82		
Link Speed (k/h)	40		60			60
Link Distance (m)	369.6		394.4			297.9
Travel Time (s)	33.3		23.7			17.9
Confl. Peds. (#/hr)	12	1		17	17	
Confl. Bikes (#/hr)				1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%
Adj. Flow (vph)	69	62	767	82	58	672
Shared Lane Traffic (%)						
Lane Group Flow (vph)	69	62	767	82	58	672
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		5.0			5.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	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
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	6	6

6600 Carriere TIA
6: Orléans & Carrière

2025 Total Traffic
PM Peak



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	32.3	32.3	39.9	39.9	39.9	39.9
Total Split (s)	33.0	33.0	47.0	47.0	47.0	47.0
Total Split (%)	41.3%	41.3%	58.8%	58.8%	58.8%	58.8%
Maximum Green (s)	26.7	26.7	41.1	41.1	41.1	41.1
Yellow Time (s)	3.0	3.0	3.7	3.7	3.7	3.7
All-Red Time (s)	3.3	3.3	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.9	5.9	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	19.0	19.0	16.0	16.0		
Pedestrian Calls (#/hr)	10	10	14	14		
Act Effct Green (s)	13.2	13.2	59.0	59.0	59.0	59.0
Actuated g/C Ratio	0.16	0.16	0.74	0.74	0.74	0.74
v/c Ratio	0.26	0.21	0.31	0.08	0.13	0.28
Control Delay	29.4	8.5	2.5	0.1	7.3	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.4	8.5	2.5	0.1	7.3	6.0
LOS	C	A	A	A	A	A
Approach Delay	19.5		2.3			6.1
Approach LOS	B		A			A
90th %ile Green (s)	26.0	26.0	41.8	41.8	41.8	41.8
90th %ile Term Code	Ped	Ped	Coord	Coord	Coord	Coord
70th %ile Green (s)	10.1	10.1	57.7	57.7	57.7	57.7
70th %ile Term Code	Gap	Gap	Coord	Coord	Coord	Coord
50th %ile Green (s)	10.0	10.0	57.8	57.8	57.8	57.8
50th %ile Term Code	Min	Min	Coord	Coord	Coord	Coord
30th %ile Green (s)	10.0	10.0	57.8	57.8	57.8	57.8
30th %ile Term Code	Min	Min	Coord	Coord	Coord	Coord
10th %ile Green (s)	0.0	0.0	74.1	74.1	74.1	74.1
10th %ile Term Code	Skip	Skip	Coord	Coord	Coord	Coord
Stops (vph)	56	14	113	0	24	232
Fuel Used(l)	5	3	31	3	3	34
CO Emissions (g/hr)	94	56	584	52	58	629
NOx Emissions (g/hr)	18	11	113	10	11	121
VOC Emissions (g/hr)	22	13	135	12	13	145
Dilemma Vehicles (#)	0	0	25	0	0	36
Queue Length 50th (m)	9.0	0.0	6.4	0.0	2.0	14.0
Queue Length 95th (m)	14.9	7.1	12.2	0.2	10.1	38.5
Internal Link Dist (m)	345.6		370.4			273.9
Turn Bay Length (m)	32.0			30.0	46.0	
Base Capacity (vph)	547	529	2446	1072	454	2421
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.12	0.31	0.08	0.13	0.28
Intersection Summary						
Area Type:	Other					
Cycle Length: 80						

6600 Carriere TIA
6: Orléans & Carrière

2025 Total Traffic
PM Peak

Actuated Cycle Length: 80

Offset: 11 (14%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.31

Intersection Signal Delay: 5.2

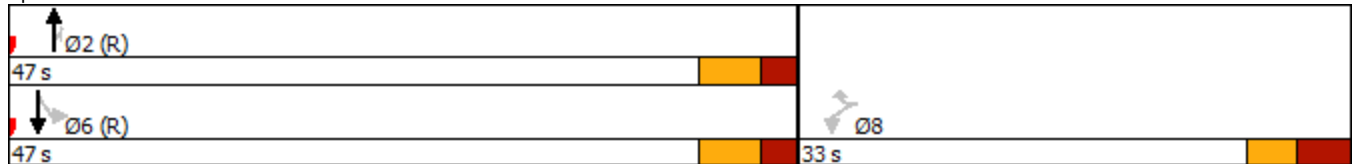
Intersection LOS: A

Intersection Capacity Utilization 60.5%

ICU Level of Service B

Analysis Period (min) 15

Splits and Phases: 6: Orléans & Carrière



6600 Carriere TIA
8: Orléans & St. Joseph

2025 Total Traffic
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	713	153	281	426	116	139	271	317	114	302	39
Future Volume (vph)	70	713	153	281	426	116	139	271	317	114	302	39
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		0.0	32.0		0.0	0.0		20.0	0.0		70.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	30.0			30.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.99			0.99		0.99		0.97	0.99		0.98
Frt		0.973			0.968				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1642	3197	0	1658	3130	0	1642	1745	1483	1642	1679	1483
Flt Permitted	0.450			0.112			0.324			0.394		
Satd. Flow (perm)	770	3197	0	195	3130	0	556	1745	1444	675	1679	1447
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			47				132			168
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		226.7			283.0			102.9			242.7	
Travel Time (s)		16.3			20.4			6.2			14.6	
Confl. Peds. (#/hr)	10		15	15		10	11		13	13		11
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 (%)	3%	2%	2%	2%	3%	6%	3%	2%	2%	3%	6%	2%
Adj. Flow (vph)	70	713	153	281	426	116	139	271	317	114	302	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	70	866	0	281	542	0	139	271	317	114	302	39
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		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
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	0.6		2.0	0.6		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
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	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases		2		1	6		3	8	1	7	4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		3	8	1	7	4	4

6600 Carriere TIA
8: Orléans & St. Joseph

2025 Total Traffic
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	29.1	29.1		11.1	29.1		11.2	32.2	11.1	11.2	32.2	32.2
Total Split (s)	36.0	36.0		18.0	54.0		14.0	32.0	18.0	14.0	32.0	32.0
Total Split (%)	36.0%	36.0%		18.0%	54.0%		14.0%	32.0%	18.0%	14.0%	32.0%	32.0%
Maximum Green (s)	29.9	29.9		11.9	47.9		7.8	25.8	11.9	7.8	25.8	25.8
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)	2.8	2.8		2.8	2.8		2.9	2.9	2.8	2.9	2.9	2.9
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)	6.1	6.1		6.1	6.1		6.2	6.2	6.1	6.2	6.2	6.2
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	C-Max		None	None	None	None	None	None
Walk Time (s)	7.0	7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)	16.0	16.0			16.0			19.0			19.0	19.0
Pedestrian Calls (#/hr)	12	12			8			10			8	8
Act Effct Green (s)	30.0	30.0		51.7	51.7		29.9	22.1	37.8	29.6	22.0	22.0
Actuated g/C Ratio	0.30	0.30		0.52	0.52		0.30	0.22	0.38	0.30	0.22	0.22
v/c Ratio	0.30	0.89		0.85	0.33		0.56	0.70	0.50	0.42	0.82	0.09
Control Delay	31.5	44.6		50.1	14.0		31.1	45.7	14.1	26.1	54.8	0.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.5	44.6		50.1	14.0		31.1	45.7	14.1	26.1	54.8	0.4
LOS	C	D		D	B		C	D	B	C	D	A
Approach Delay		43.7			26.4			29.2			43.0	
Approach LOS		D			C			C			D	
90th %ile Green (s)	29.9	29.9		11.9	47.9		7.8	25.8	11.9	7.8	25.8	25.8
90th %ile Term Code	Coord	Coord		Max	Coord		Max	Ped	Max	Max	Ped	Ped
70th %ile Green (s)	29.9	29.9		11.9	47.9		7.8	25.8	11.9	7.8	25.8	25.8
70th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Max	Max	Max
50th %ile Green (s)	29.9	29.9		14.6	50.6		7.8	23.1	14.6	7.8	23.1	23.1
50th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Max	Gap	Gap
30th %ile Green (s)	29.9	29.9		17.7	53.7		7.8	20.0	17.7	7.8	20.0	20.0
30th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Max	Gap	Gap
10th %ile Green (s)	30.6	30.6		21.9	58.6		7.6	16.0	21.9	6.9	15.3	15.3
10th %ile Term Code	Coord	Coord		Gap	Coord		Gap	Hold	Gap	Gap	Gap	Gap
Stops (vph)	54	756		157	280		101	242	135	80	280	0
Fuel Used(l)	4	65		22	27		11	26	19	7	28	1
CO Emissions (g/hr)	82	1215		408	497		204	475	345	135	524	16
NOx Emissions (g/hr)	16	235		79	96		39	92	67	26	101	3
VOC Emissions (g/hr)	19	280		94	115		47	109	80	31	121	4
Dilemma Vehicles (#)	0	0		0	0		0	13	0	0	15	0
Queue Length 50th (m)	9.6	75.3		35.8	26.2		16.8	44.2	21.0	13.6	50.8	0.0
Queue Length 95th (m)	21.0	#107.1		#87.2	38.9		28.2	66.6	41.2	23.6	76.0	0.0
Internal Link Dist (m)		202.7			259.0			78.9			218.7	
Turn Bay Length (m)	40.0			32.0					20.0			70.0
Base Capacity (vph)	231	978		329	1641		251	450	634	276	433	497
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	0.30	0.89		0.85	0.33		0.55	0.60	0.50	0.41	0.70	0.08
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												

6600 Carriere TIA
8: Orléans & St. Joseph

2025 Total Traffic
PM Peak

Actuated Cycle Length: 100

Offset: 53 (53%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 35.1

Intersection LOS: D

Intersection Capacity Utilization 89.6%

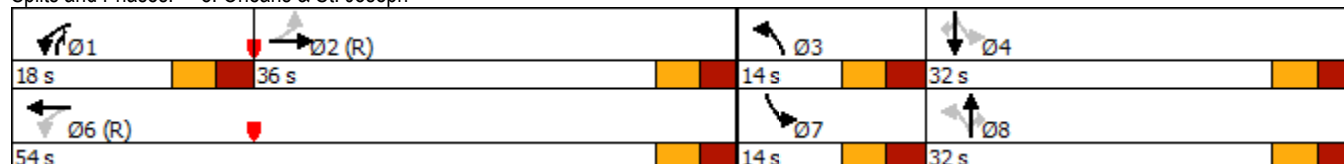
ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 8: Orléans & St. Joseph



						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	98	41	2	83	47	2
Future Volume (Veh/h)	98	41	2	83	47	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	98	41	2	83	47	2
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage (veh)						
Upstream signal (m)	370					
pX, platoon unblocked						
vC, conflicting volume			139		206	118
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			139		206	118
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		94	100
cM capacity (veh/h)			1445		782	933
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	139	85	49			
Volume Left	0	2	47			
Volume Right	41	0	2			
cSH	1700	1445	787			
Volume to Capacity	0.08	0.00	0.06			
Queue Length 95th (m)	0.0	0.0	1.4			
Control Delay (s)	0.0	0.2	9.9			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.2	9.9			
Approach LOS			A			
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			18.1%	ICU Level of Service	A	
Analysis Period (min)			15			

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2030 Total Traffic
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	178	46	9	1406	211	197	371	10	116	256	92
Future Volume (vph)	52	178	46	9	1406	211	197	371	10	116	256	92
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	55.0		0.0	38.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			47.0			48.0			33.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt		0.969			0.980			0.996			0.960	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1580	3079	0	1658	3239	0	1642	3180	0	1626	3146	0
Flt Permitted	0.108			0.612			0.466			0.526		
Satd. Flow (perm)	180	3079	0	1061	3239	0	803	3180	0	900	3146	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			24			3			64	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		286.1			266.5			205.4			394.4	
Travel Time (s)		17.2			16.0			12.3			23.7	
Confl. Peds. (#/hr)	11		8	8		11	5		1	1		5
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 (%)	7%	7%	2%	2%	2%	2%	3%	6%	2%	4%	3%	2%
Adj. Flow (vph)	52	178	46	9	1406	211	197	371	10	116	256	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	224	0	9	1617	0	197	381	0	116	348	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		5.3			5.3			5.0			5.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		3	8		7	4	

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2030 Total Traffic
AM Peak

												
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		5.0	10.0		5.0	10.0	
Minimum Split (s)	28.1	28.1		28.1	28.1		14.0	29.0		14.0	29.0	
Total Split (s)	37.0	37.0		37.0	37.0		14.0	29.0		14.0	29.0	
Total Split (%)	46.3%	46.3%		46.3%	46.3%		17.5%	36.3%		17.5%	36.3%	
Maximum Green (s)	30.9	30.9		30.9	30.9		8.0	22.8		8.0	22.8	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.4	2.4		2.4	2.4		2.3	2.5		2.3	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1		6.0	6.2		6.0	6.2	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			16.0			16.0	
Pedestrian Calls (#/hr)	6	6		8	8			1			3	
Act Effct Green (s)	38.3	38.3		38.3	38.3		24.8	18.2		23.3	15.4	
Actuated g/C Ratio	0.48	0.48		0.48	0.48		0.31	0.23		0.29	0.19	
v/c Ratio	0.60	0.15		0.02	1.04		0.59	0.52		0.35	0.53	
Control Delay	54.0	10.6		13.7	55.9		25.6	30.0		16.2	20.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	54.0	10.6		13.7	55.9		25.6	30.0		16.2	20.9	
LOS	D	B		B	E		C	C		B	C	
Approach Delay		18.8			55.7			28.5			19.7	
Approach LOS		B			E			C			B	
90th %ile Green (s)	30.9	30.9		30.9	30.9		8.0	22.8		8.0	22.8	
90th %ile Term Code	Coord	Coord		Coord	Coord		Max	Ped		Max	Ped	
70th %ile Green (s)	37.2	37.2		37.2	37.2		8.0	16.5		8.0	16.5	
70th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
50th %ile Green (s)	38.9	38.9		38.9	38.9		8.0	14.8		8.0	14.8	
50th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
30th %ile Green (s)	40.6	40.6		40.6	40.6		8.0	13.1		8.0	13.1	
30th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
10th %ile Green (s)	43.7	43.7		43.7	43.7		8.0	24.0		0.0	10.0	
10th %ile Term Code	Coord	Coord		Coord	Coord		Max	Hold		Skip	Min	
Stops (vph)	37	99		7	1254		148	321		63	293	
Fuel Used(l)	5	11		1	147		12	26		7	27	
CO Emissions (g/hr)	86	197		10	2743		227	482		139	502	
NOx Emissions (g/hr)	17	38		2	529		44	93		27	97	
VOC Emissions (g/hr)	20	45		2	633		52	111		32	116	
Dilemma Vehicles (#)	0	14		0	89		0	23		0	37	
Queue Length 50th (m)	5.0	6.7		0.6	~119.0		19.6	26.0		7.4	15.4	
Queue Length 95th (m)	#24.9	14.8		3.3	#191.4		28.3	33.5		15.2	24.5	
Internal Link Dist (m)		262.1			242.5			181.4			370.4	
Turn Bay Length (m)	55.0			38.0			60.0			55.0		
Base Capacity (vph)	86	1496		507	1561		333	918		338	942	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.60	0.15		0.02	1.04		0.59	0.42		0.34	0.37	
Intersection Summary												
Area Type:	Other											
Cycle Length: 80												

6600 Carriere TIA

3: Orléans & Jeanne d'Arc

2030 Total Traffic
AM Peak

Actuated Cycle Length: 80

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 41.2

Intersection LOS: D

Intersection Capacity Utilization 87.1%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Orléans & Jeanne d'Arc

 Ø2 (L)	 Ø3	 Ø4
37 s	14 s	29 s
 Ø6 (L)	 Ø7	 Ø8
37 s	14 s	29 s

6600 Carriere TIA
6: Orléans & Carrière

2030 Total Traffic
AM Peak

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	134	124	500	190	110	354
Future Volume (vph)	134	124	500	190	110	354
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	32.0	0.0		30.0	46.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	26.0				34.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor	1.00			0.96	0.99	
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1551	1483	3252	1441	1610	3252
Flt Permitted	0.950				0.469	
Satd. Flow (perm)	1547	1483	3252	1382	787	3252
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		124		190		
Link Speed (k/h)	40		60			60
Link Distance (m)	369.6		394.4			297.9
Travel Time (s)	33.3		23.7			17.9
Confl. Peds. (#/hr)	3			18	18	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	9%	2%	4%	5%	5%	4%
Adj. Flow (vph)	134	124	500	190	110	354
Shared Lane Traffic (%)						
Lane Group Flow (vph)	134	124	500	190	110	354
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		5.0			5.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	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
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	6	6
Switch Phase						

6600 Carriere TIA
6: Orléans & Carrière

2030 Total Traffic
AM Peak

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	32.3	32.3	39.9	39.9	39.9	39.9
Total Split (s)	33.0	33.0	47.0	47.0	47.0	47.0
Total Split (%)	41.3%	41.3%	58.8%	58.8%	58.8%	58.8%
Maximum Green (s)	26.7	26.7	41.1	41.1	41.1	41.1
Yellow Time (s)	3.0	3.0	3.7	3.7	3.7	3.7
All-Red Time (s)	3.3	3.3	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.9	5.9	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	19.0	19.0	16.0	16.0		
Pedestrian Calls (#/hr)	2	2	10	10		
Act Effct Green (s)	14.6	14.6	53.2	53.2	53.2	53.2
Actuated g/C Ratio	0.18	0.18	0.66	0.66	0.66	0.66
v/c Ratio	0.48	0.33	0.23	0.19	0.21	0.16
Control Delay	33.5	7.2	4.1	0.9	8.2	6.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.5	7.2	4.1	0.9	8.2	6.3
LOS	C	A	A	A	A	A
Approach Delay	20.8		3.2			6.7
Approach LOS	C		A			A
90th %ile Green (s)	26.0	26.0	41.8	41.8	41.8	41.8
90th %ile Term Code	Ped	Ped	Coord	Coord	Coord	Coord
70th %ile Green (s)	14.4	14.4	53.4	53.4	53.4	53.4
70th %ile Term Code	Gap	Gap	Coord	Coord	Coord	Coord
50th %ile Green (s)	12.3	12.3	55.5	55.5	55.5	55.5
50th %ile Term Code	Gap	Gap	Coord	Coord	Coord	Coord
30th %ile Green (s)	10.1	10.1	57.7	57.7	57.7	57.7
30th %ile Term Code	Gap	Gap	Coord	Coord	Coord	Coord
10th %ile Green (s)	10.0	10.0	57.8	57.8	57.8	57.8
10th %ile Term Code	Min	Min	Coord	Coord	Coord	Coord
Stops (vph)	113	20	138	9	47	129
Fuel Used(l)	10	6	23	7	6	18
CO Emissions (g/hr)	192	108	431	129	111	337
NOx Emissions (g/hr)	37	21	83	25	22	65
VOC Emissions (g/hr)	44	25	99	30	26	78
Dilemma Vehicles (#)	0	0	23	0	0	22
Queue Length 50th (m)	17.6	0.0	7.0	0.0	4.6	7.5
Queue Length 95th (m)	26.0	9.8	m18.7	m3.2	17.2	19.7
Internal Link Dist (m)	345.6		370.4			273.9
Turn Bay Length (m)	32.0			30.0	46.0	
Base Capacity (vph)	516	577	2164	983	523	2164
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.21	0.23	0.19	0.21	0.16
Intersection Summary						
Area Type:	Other					
Cycle Length: 80						
Actuated Cycle Length: 80						

6600 Carriere TIA
6: Orléans & Carrière

2030 Total Traffic
AM Peak

Offset: 46 (58%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.48

Intersection Signal Delay: 7.6

Intersection LOS: A

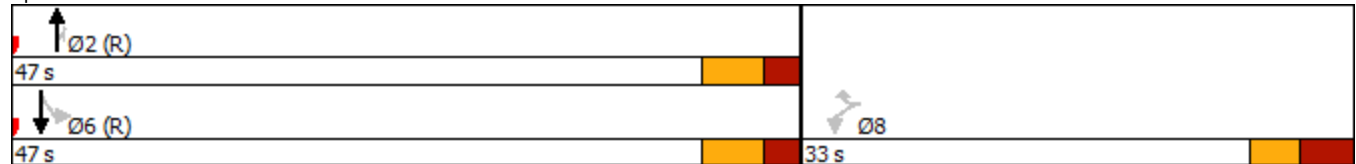
Intersection Capacity Utilization 60.1%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 6: Orléans & Carrière



6600 Carriere TIA
8: Orléans & St. Joseph

2030 Total Traffic
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	173	72	115	659	119	208	275	189	113	271	44
Future Volume (vph)	37	173	72	115	659	119	208	275	189	113	271	44
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		0.0	32.0		0.0	0.0		20.0	0.0		70.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	30.0			30.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.99		0.99	0.99		1.00		0.97	0.99		0.99
Frt		0.956			0.977				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1595	3063	0	1642	3216	0	1658	1679	1455	1626	1712	1483
Flt Permitted	0.357			0.498			0.396			0.461		
Satd. Flow (perm)	596	3063	0	854	3216	0	691	1679	1411	780	1712	1463
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		71			28				167			187
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		226.7			283.0			102.9			242.7	
Travel Time (s)		16.3			20.4			6.2			14.6	
Confl. Peds. (#/hr)	9		6	6		9	1		18	18		1
Confl. Bikes (#/hr)						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 (%)	6%	4%	6%	3%	2%	3%	2%	6%	4%	4%	4%	2%
Adj. Flow (vph)	37	173	72	115	659	119	208	275	189	113	271	44
Shared Lane Traffic (%)												
Lane Group Flow (vph)	37	245	0	115	778	0	208	275	189	113	271	44
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		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
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	0.6		2.0	0.6		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
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	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases		2		1	6		3	8	1	7	4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		3	8	1	7	4	4

6600 Carriere TIA
8: Orléans & St. Joseph

2030 Total Traffic
AM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	29.1	29.1		11.1	29.1		11.2	32.2	11.1	11.2	32.2	32.2
Total Split (s)	32.0	32.0		12.0	44.0		13.0	33.0	12.0	13.0	33.0	33.0
Total Split (%)	35.6%	35.6%		13.3%	48.9%		14.4%	36.7%	13.3%	14.4%	36.7%	36.7%
Maximum Green (s)	25.9	25.9		5.9	37.9		6.8	26.8	5.9	6.8	26.8	26.8
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)	2.8	2.8		2.8	2.8		2.9	2.9	2.8	2.9	2.9	2.9
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)	6.1	6.1		6.1	6.1		6.2	6.2	6.1	6.2	6.2	6.2
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	C-Max		None	None	None	None	None	None
Walk Time (s)	7.0	7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)	16.0	16.0			16.0			19.0			19.0	19.0
Pedestrian Calls (#/hr)	4	4			6			10			1	1
Act Effct Green (s)	31.1	31.1		44.9	44.9		27.9	22.4	30.2	26.6	19.8	19.8
Actuated g/C Ratio	0.35	0.35		0.50	0.50		0.31	0.25	0.34	0.30	0.22	0.22
v/c Ratio	0.18	0.22		0.23	0.48		0.72	0.66	0.32	0.39	0.72	0.09
Control Delay	26.5	16.6		15.1	16.5		37.3	38.6	5.3	22.3	42.9	0.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.5	16.6		15.1	16.5		37.3	38.6	5.3	22.3	42.9	0.4
LOS	C	B		B	B		D	D	A	C	D	A
Approach Delay		17.9			16.3			28.8			33.1	
Approach LOS		B			B			C			C	
90th %ile Green (s)	25.9	25.9		6.0	38.0		6.8	26.7	6.0	6.8	26.7	26.7
90th %ile Term Code	Coord	Coord		Max	Coord		Max	Gap	Max	Max	Hold	Hold
70th %ile Green (s)	25.9	25.9		9.9	41.9		6.8	22.8	9.9	6.8	22.8	22.8
70th %ile Term Code	Coord	Coord		Max	Coord		Max	Gap	Max	Max	Hold	Hold
50th %ile Green (s)	29.7	29.7		8.9	44.7		6.8	20.0	8.9	6.8	20.0	20.0
50th %ile Term Code	Coord	Coord		Gap	Coord		Max	Gap	Gap	Max	Hold	Hold
30th %ile Green (s)	33.9	33.9		7.6	47.6		6.8	17.1	7.6	6.8	17.1	17.1
30th %ile Term Code	Coord	Coord		Gap	Coord		Max	Gap	Gap	Max	Hold	Hold
10th %ile Green (s)	39.9	39.9		6.1	52.1		6.8	25.6	6.1	0.0	12.6	12.6
10th %ile Term Code	Coord	Coord		Gap	Coord		Max	Hold	Gap	Skip	Gap	Gap
Stops (vph)	30	124		63	486		172	242	29	77	242	0
Fuel Used(l)	2	11		6	42		18	24	9	7	22	1
CO Emissions (g/hr)	41	208		109	776		333	452	159	127	418	18
NOx Emissions (g/hr)	8	40		21	150		64	87	31	24	81	3
VOC Emissions (g/hr)	10	48		25	179		77	104	37	29	96	4
Dilemma Vehicles (#)	0	0		0	0		0	15	0	0	15	0
Queue Length 50th (m)	4.2	10.2		9.5	39.5		23.6	40.9	2.1	12.1	40.1	0.0
Queue Length 95th (m)	12.0	19.5		20.9	62.4		34.5	59.0	12.8	19.9	57.8	0.0
Internal Link Dist (m)		202.7			259.0			78.9			218.7	
Turn Bay Length (m)	40.0			32.0					20.0			70.0
Base Capacity (vph)	205	1103		493	1617		287	499	588	295	509	566
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	0.18	0.22		0.23	0.48		0.72	0.55	0.32	0.38	0.53	0.08
Intersection Summary												
Area Type:	Other											
Cycle Length: 90												

6600 Carriere TIA
8: Orléans & St. Joseph

2030 Total Traffic
AM Peak

Actuated Cycle Length: 90

Offset: 40 (44%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 85

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.72

Intersection Signal Delay: 23.4

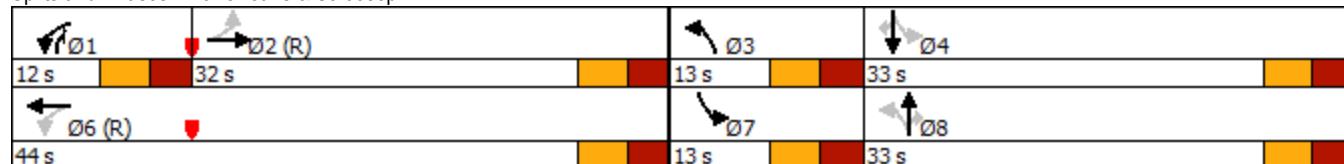
Intersection LOS: C

Intersection Capacity Utilization 79.6%

ICU Level of Service D

Analysis Period (min) 15

Splits and Phases: 8: Orléans & St. Joseph



						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	256	44	2	234	23	1
Future Volume (Veh/h)	256	44	2	234	23	1
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	256	44	2	234	23	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	370					
pX, platoon unblocked						
vC, conflicting volume			300		516	278
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			300		516	278
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		96	100
cM capacity (veh/h)			1261		518	761
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	300	236	24			
Volume Left	0	2	23			
Volume Right	44	0	1			
cSH	1700	1261	525			
Volume to Capacity	0.18	0.00	0.05			
Queue Length 95th (m)	0.0	0.0	1.0			
Control Delay (s)	0.0	0.1	12.2			
Lane LOS		A	B			
Approach Delay (s)	0.0	0.1	12.2			
Approach LOS			B			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			27.0%	ICU Level of Service	A	
Analysis Period (min)			15			

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2030 Total Traffic
AM Peak (optimized)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	178	46	9	1406	211	197	371	10	116	256	92
Future Volume (vph)	52	178	46	9	1406	211	197	371	10	116	256	92
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	55.0		0.0	38.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			47.0			48.0			33.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor		1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt		0.969			0.980			0.996			0.960	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1580	3078	0	1658	3238	0	1642	3180	0	1626	3145	0
Flt Permitted	0.071			0.612			0.437			0.404		
Satd. Flow (perm)	118	3078	0	1059	3238	0	752	3180	0	691	3145	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			24			2			47	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		286.1			266.5			205.4			394.4	
Travel Time (s)		17.2			16.0			12.3			23.7	
Confl. Peds. (#/hr)	11		8	8		11	5		1	1		5
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 (%)	7%	7%	2%	2%	2%	2%	3%	6%	2%	4%	3%	2%
Adj. Flow (vph)	52	178	46	9	1406	211	197	371	10	116	256	92
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	224	0	9	1617	0	197	381	0	116	348	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		5.3			5.3			5.0			5.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		3	8		7	4	

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2030 Total Traffic
AM Peak (optimized)

												
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		5.0	10.0		5.0	10.0	
Minimum Split (s)	28.1	28.1		28.1	28.1		14.0	29.0		14.0	29.0	
Total Split (s)	57.0	57.0		57.0	57.0		14.0	29.0		14.0	29.0	
Total Split (%)	57.0%	57.0%		57.0%	57.0%		14.0%	29.0%		14.0%	29.0%	
Maximum Green (s)	50.9	50.9		50.9	50.9		8.0	22.8		8.0	22.8	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.4	2.4		2.4	2.4		2.3	2.5		2.3	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1		6.0	6.2		6.0	6.2	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			16.0			16.0	
Pedestrian Calls (#/hr)	6	6		8	8			1			3	
Act Effct Green (s)	56.6	56.6		56.6	56.6		25.5	17.3		25.1	17.1	
Actuated g/C Ratio	0.57	0.57		0.57	0.57		0.26	0.17		0.25	0.17	
v/c Ratio	0.79	0.13		0.02	0.88		0.75	0.69		0.47	0.60	
Control Delay	89.9	8.9		11.4	26.4		46.4	45.0		31.2	36.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	89.9	8.9		11.4	26.4		46.4	45.0		31.2	36.9	
LOS	F	A		B	C		D	D		C	D	
Approach Delay		24.2			26.3			45.5			35.5	
Approach LOS		C			C			D			D	
Queue Length 50th (m)	6.8	7.2		0.7	121.6		27.3	33.8		15.2	26.3	
Queue Length 95th (m)	#30.3	14.0		3.0	#192.6		41.1	44.8		25.3	36.7	
Internal Link Dist (m)		262.1			242.5			181.4			370.4	
Turn Bay Length (m)	55.0			38.0			60.0			55.0		
Base Capacity (vph)	66	1760		599	1841		263	726		249	753	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.79	0.13		0.02	0.88		0.75	0.52		0.47	0.46	

Intersection Summary

Area Type: Other

Cycle Length: 100

Actuated Cycle Length: 100

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 31.3

Intersection LOS: C

Intersection Capacity Utilization 87.1%

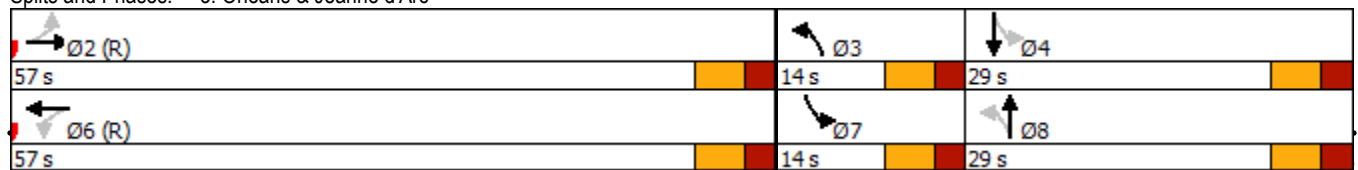
ICU Level of Service E

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Orléans & Jeanne d'Arc



6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2030 Total Traffic
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	838	228	16	350	269	186	501	39	267	410	24
Future Volume (vph)	35	838	228	16	350	269	186	501	39	267	410	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	55.0		0.0	38.0		0.0	60.0		0.0	55.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	42.0			47.0			48.0			33.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	1.00	1.00		1.00	0.99		1.00	1.00		0.99	1.00	
Frt		0.968			0.935			0.989			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1658	3194	0	1658	3067	0	1658	3272	0	1658	3285	0
Flt Permitted	0.369			0.154			0.431			0.316		
Satd. Flow (perm)	641	3194	0	268	3067	0	748	3272	0	547	3285	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			261			11			8	
Link Speed (k/h)		60			60			60			60	
Link Distance (m)		286.1			266.5			205.4			394.4	
Travel Time (s)		17.2			16.0			12.3			23.7	
Confl. Peds. (#/hr)	12		10	10		12	9		16	16		9
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)	35	838	228	16	350	269	186	501	39	267	410	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	35	1066	0	16	619	0	186	540	0	267	434	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		5.3			5.3			5.0			5.0	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	2.0	10.0		2.0	10.0		2.0	10.0		2.0	10.0	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	2.0	0.6		2.0	0.6		2.0	0.6		2.0	0.6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		9.4			9.4			9.4			9.4	
Detector 2 Size(m)		0.6			0.6			0.6			0.6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		2			6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		5.0	10.0	

6600 Carriere TIA
3: Orléans & Jeanne d'Arc

2030 Total Traffic
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	28.1	28.1		28.1	28.1		11.0	29.2		11.0	29.2	
Total Split (s)	33.0	33.0		33.0	33.0		15.0	32.0		15.0	32.0	
Total Split (%)	41.3%	41.3%		41.3%	41.3%		18.8%	40.0%		18.8%	40.0%	
Maximum Green (s)	26.9	26.9		26.9	26.9		9.0	25.8		9.0	25.8	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.7	3.7		3.7	3.7	
All-Red Time (s)	2.4	2.4		2.4	2.4		2.3	2.5		2.3	2.5	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1		6.0	6.2		6.0	6.2	
Lead/Lag							Lead	Lag		Lead	Lag	
Lead-Lag Optimize?							Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	Min		None	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0			7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			16.0			16.0	
Pedestrian Calls (#/hr)	8	8		10	10			12			7	
Act Effct Green (s)	34.4	34.4		34.4	34.4		27.3	18.3		27.8	18.6	
Actuated g/C Ratio	0.43	0.43		0.43	0.43		0.34	0.23		0.35	0.23	
v/c Ratio	0.13	0.76		0.14	0.42		0.53	0.71		0.85	0.56	
Control Delay	17.3	24.3		20.1	10.4		20.4	33.0		44.6	31.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	17.3	24.3		20.1	10.4		20.4	33.0		44.6	31.2	
LOS	B	C		C	B		C	C		D	C	
Approach Delay		24.0			10.7			29.7			36.3	
Approach LOS		C			B			C			D	
90th %ile Green (s)	29.1	29.1		29.1	29.1		9.0	23.6		9.0	23.6	
90th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
70th %ile Green (s)	32.5	32.5		32.5	32.5		9.0	20.2		9.0	20.2	
70th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
50th %ile Green (s)	34.5	34.5		34.5	34.5		9.0	18.2		9.0	18.2	
50th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
30th %ile Green (s)	36.4	36.4		36.4	36.4		9.0	16.3		9.0	16.3	
30th %ile Term Code	Coord	Coord		Coord	Coord		Max	Gap		Max	Hold	
10th %ile Green (s)	39.3	39.3		39.3	39.3		7.8	13.4		9.0	14.6	
10th %ile Term Code	Coord	Coord		Coord	Coord		Gap	Gap		Max	Hold	
Stops (vph)	24	806		13	246		124	465		226	388	
Fuel Used(l)	2	72		1	27		10	38		26	38	
CO Emissions (g/hr)	39	1347		19	507		190	713		476	703	
NOx Emissions (g/hr)	8	260		4	98		37	138		92	136	
VOC Emissions (g/hr)	9	311		4	117		44	164		110	162	
Dilemma Vehicles (#)	0	65		0	39		0	33		0	10	
Queue Length 50th (m)	2.9	61.5		1.3	16.4		16.6	36.1		28.7	30.1	
Queue Length 95th (m)	9.2	#105.0		5.9	31.7		25.4	46.4		#58.8	44.7	
Internal Link Dist (m)		262.1			242.5			181.4			370.4	
Turn Bay Length (m)	55.0			38.0			60.0			55.0		
Base Capacity (vph)	275	1398		114	1466		359	1062		315	1064	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.13	0.76		0.14	0.42		0.52	0.51		0.85	0.41	

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 20 (25%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

6600 Carriere TIA

3: Orléans & Jeanne d'Arc

2030 Total Traffic
PM Peak

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 25.4

Intersection LOS: C

Intersection Capacity Utilization 80.6%

ICU Level of Service D

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 3: Orléans & Jeanne d'Arc

 Ø2 (R)	 Ø3	 Ø4
33 s	15 s	32 s
 Ø6 (R)	 Ø7	 Ø8
33 s	15 s	32 s

6600 Carriere TIA
6: Orléans & Carrière

2030 Total Traffic
PM Peak

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	69	62	805	82	58	704
Future Volume (vph)	69	62	805	82	58	704
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	32.0	0.0		30.0	46.0	
Storage Lanes	1	1		1	1	
Taper Length (m)	26.0				34.0	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor	0.99	0.99		0.96	0.99	
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1658	1483	3316	1483	1658	3283
Flt Permitted	0.950				0.340	
Satd. Flow (perm)	1639	1464	3316	1424	590	3283
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		62		82		
Link Speed (k/h)	40		60			60
Link Distance (m)	369.6		394.4			297.9
Travel Time (s)	33.3		23.7			17.9
Confl. Peds. (#/hr)	12	1		17	17	
Confl. Bikes (#/hr)				1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%
Adj. Flow (vph)	69	62	805	82	58	704
Shared Lane Traffic (%)						
Lane Group Flow (vph)	69	62	805	82	58	704
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.5		5.0			5.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	2.5		2.5			2.5
Two way Left Turn Lane						
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2	1	1	2
Detector Template	Left	Right	Thru	Right	Left	Thru
Leading Detector (m)	2.0	2.0	10.0	2.0	2.0	10.0
Trailing Detector (m)	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
Detector 1 Size(m)	2.0	2.0	0.6	2.0	2.0	0.6
Detector 1 Type	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
Detector 1 Queue (s)	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
Detector 2 Position(m)			9.4			9.4
Detector 2 Size(m)			0.6			0.6
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA	Perm	Perm	NA
Protected Phases			2			6
Permitted Phases	8	8		2	6	
Detector Phase	8	8	2	2	6	6

6600 Carriere TIA
6: Orléans & Carrière

2030 Total Traffic
PM Peak

						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	32.3	32.3	39.9	39.9	39.9	39.9
Total Split (s)	33.0	33.0	47.0	47.0	47.0	47.0
Total Split (%)	41.3%	41.3%	58.8%	58.8%	58.8%	58.8%
Maximum Green (s)	26.7	26.7	41.1	41.1	41.1	41.1
Yellow Time (s)	3.0	3.0	3.7	3.7	3.7	3.7
All-Red Time (s)	3.3	3.3	2.2	2.2	2.2	2.2
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	5.9	5.9	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	C-Max	C-Max	C-Max	C-Max
Walk Time (s)	7.0	7.0	18.0	18.0		
Flash Dont Walk (s)	19.0	19.0	16.0	16.0		
Pedestrian Calls (#/hr)	10	10	14	14		
Act Effct Green (s)	13.2	13.2	59.0	59.0	59.0	59.0
Actuated g/C Ratio	0.16	0.16	0.74	0.74	0.74	0.74
v/c Ratio	0.26	0.21	0.33	0.08	0.13	0.29
Control Delay	29.4	8.5	2.8	0.2	7.4	6.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.4	8.5	2.8	0.2	7.4	6.0
LOS	C	A	A	A	A	A
Approach Delay	19.5		2.5			6.1
Approach LOS	B		A			A
90th %ile Green (s)	26.0	26.0	41.8	41.8	41.8	41.8
90th %ile Term Code	Ped	Ped	Coord	Coord	Coord	Coord
70th %ile Green (s)	10.1	10.1	57.7	57.7	57.7	57.7
70th %ile Term Code	Gap	Gap	Coord	Coord	Coord	Coord
50th %ile Green (s)	10.0	10.0	57.8	57.8	57.8	57.8
50th %ile Term Code	Min	Min	Coord	Coord	Coord	Coord
30th %ile Green (s)	10.0	10.0	57.8	57.8	57.8	57.8
30th %ile Term Code	Min	Min	Coord	Coord	Coord	Coord
10th %ile Green (s)	0.0	0.0	74.1	74.1	74.1	74.1
10th %ile Term Code	Skip	Skip	Coord	Coord	Coord	Coord
Stops (vph)	56	14	134	0	24	245
Fuel Used(l)	5	3	34	3	3	36
CO Emissions (g/hr)	94	56	625	53	58	661
NOx Emissions (g/hr)	18	11	121	10	11	128
VOC Emissions (g/hr)	22	13	144	12	13	152
Dilemma Vehicles (#)	0	0	29	0	0	38
Queue Length 50th (m)	9.0	0.0	6.6	0.0	2.1	14.8
Queue Length 95th (m)	14.9	7.1	14.0	m0.0	10.3	40.7
Internal Link Dist (m)	345.6		370.4			273.9
Turn Bay Length (m)	32.0			30.0	46.0	
Base Capacity (vph)	547	529	2446	1072	435	2421
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.12	0.33	0.08	0.13	0.29
Intersection Summary						
Area Type:	Other					
Cycle Length: 80						

6600 Carrière TIA
6: Orléans & Carrière

2030 Total Traffic
PM Peak

Actuated Cycle Length: 80

Offset: 11 (14%), Referenced to phase 2:NBT and 6:SBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.33

Intersection Signal Delay: 5.3

Intersection LOS: A

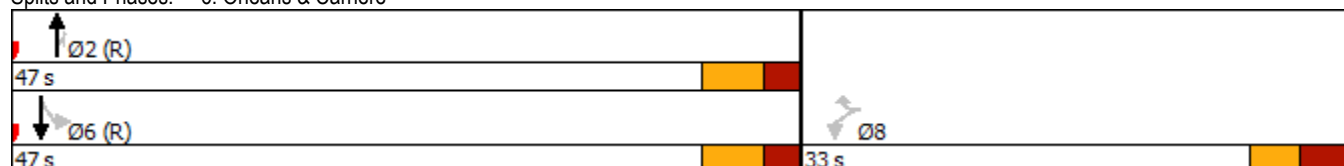
Intersection Capacity Utilization 60.5%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 6: Orléans & Carrière



6600 Carriere TIA
8: Orléans & St. Joseph

2030 Total Traffic
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	747	161	294	447	122	145	284	332	120	316	41
Future Volume (vph)	73	747	161	294	447	122	145	284	332	120	316	41
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		0.0	32.0		0.0	0.0		20.0	0.0		70.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	30.0			30.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.99			0.99		0.99		0.97	0.99		0.98
Frt		0.973			0.968				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1642	3196	0	1658	3130	0	1642	1745	1483	1642	1679	1483
Flt Permitted	0.438			0.110			0.310			0.375		
Satd. Flow (perm)	749	3196	0	192	3130	0	532	1745	1444	642	1679	1447
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			50				101			168
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		226.7			283.0			102.9			242.7	
Travel Time (s)		16.3			20.4			6.2			14.6	
Confl. Peds. (#/hr)	10		15	15		10	11		13	13		11
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 (%)	3%	2%	2%	2%	3%	6%	3%	2%	2%	3%	6%	2%
Adj. Flow (vph)	73	747	161	294	447	122	145	284	332	120	316	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	908	0	294	569	0	145	284	332	120	316	41
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		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
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	0.6		2.0	0.6		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
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	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases		2		1	6		3	8	1	7	4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		3	8	1	7	4	4

6600 Carriere TIA
8: Orléans & St. Joseph

2030 Total Traffic
PM Peak

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	29.1	29.1		11.1	29.1		11.2	32.2	11.1	11.2	32.2	32.2
Total Split (s)	35.1	35.1		21.2	56.3		11.4	32.4	21.2	11.3	32.3	32.3
Total Split (%)	35.1%	35.1%		21.2%	56.3%		11.4%	32.4%	21.2%	11.3%	32.3%	32.3%
Maximum Green (s)	29.0	29.0		15.1	50.2		5.2	26.2	15.1	5.1	26.1	26.1
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)	2.8	2.8		2.8	2.8		2.9	2.9	2.8	2.9	2.9	2.9
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)	6.1	6.1		6.1	6.1		6.2	6.2	6.1	6.2	6.2	6.2
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	C-Max		None	None	None	None	None	None
Walk Time (s)	7.0	7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)	16.0	16.0			16.0			19.0			19.0	19.0
Pedestrian Calls (#/hr)	12	12			8			10			8	8
Act Effct Green (s)	31.8	31.8		53.6	53.6		28.0	22.8	38.6	27.8	22.7	22.7
Actuated g/C Ratio	0.32	0.32		0.54	0.54		0.28	0.23	0.39	0.28	0.23	0.23
v/c Ratio	0.31	0.88		0.88	0.33		0.70	0.72	0.53	0.52	0.83	0.09
Control Delay	32.2	43.7		52.5	13.1		44.9	45.8	16.0	32.8	55.4	0.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.2	43.7		52.5	13.1		44.9	45.8	16.0	32.8	55.4	0.4
LOS	C	D		D	B		D	D	B	C	E	A
Approach Delay		42.8			26.5			32.6			45.0	
Approach LOS		D			C			C			D	
90th %ile Green (s)	29.0	29.0		15.1	50.2		5.2	26.2	15.1	5.1	26.1	26.1
90th %ile Term Code	Coord	Coord		Max	Coord		Max	Max	Max	Max	Max	Max
70th %ile Green (s)	29.0	29.0		15.1	50.2		5.2	26.2	15.1	5.1	26.1	26.1
70th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Max	Max	Max
50th %ile Green (s)	29.0	29.0		17.1	52.2		5.2	24.2	17.1	5.1	24.1	24.1
50th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Max	Gap	Gap
30th %ile Green (s)	31.3	31.3		18.0	55.4		5.2	21.0	18.0	5.1	20.9	20.9
30th %ile Term Code	Coord	Coord		Gap	Coord		Max	Hold	Gap	Max	Gap	Gap
10th %ile Green (s)	40.6	40.6		13.4	60.1		5.2	16.3	13.4	5.1	16.2	16.2
10th %ile Term Code	Coord	Coord		Gap	Coord		Max	Hold	Gap	Max	Gap	Gap
Stops (vph)	57	759		182	285		120	254	164	94	291	0
Fuel Used(l)	5	67		24	27		13	27	20	9	30	1
CO Emissions (g/hr)	87	1248		444	510		248	498	381	160	549	16
NOx Emissions (g/hr)	17	241		86	98		48	96	73	31	106	3
VOC Emissions (g/hr)	20	288		102	118		57	115	88	37	127	4
Dilemma Vehicles (#)	0	0		0	0		0	14	0	0	16	0
Queue Length 50th (m)	10.2	81.7		37.5	26.7		18.1	46.1	25.4	14.7	52.9	0.0
Queue Length 95th (m)	22.0	#119.0		#84.1	38.8		#33.3	69.6	45.5	25.8	#80.2	0.0
Internal Link Dist (m)		202.7			259.0			78.9			218.7	
Turn Bay Length (m)	40.0			32.0					20.0			70.0
Base Capacity (vph)	238	1033		338	1701		206	457	630	229	438	501
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	0.31	0.88		0.87	0.33		0.70	0.62	0.53	0.52	0.72	0.08
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												

6600 Carriere TIA

8: Orléans & St. Joseph

2030 Total Traffic
PM Peak

Actuated Cycle Length: 100

Offset: 53 (53%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 36.1

Intersection LOS: D

Intersection Capacity Utilization 92.5%

ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 8: Orléans & St. Joseph

 Ø1	 Ø2 (R)	 Ø3	 Ø4
21.2 s	35.1 s	11.4 s	32.3 s
 Ø6 (R)	 Ø7	 Ø7	 Ø8
56.3 s	11.3 s	32.4 s	

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	98	41	2	83	47	2
Future Volume (Veh/h)	98	41	2	83	47	2
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	98	41	2	83	47	2
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (m)	370					
pX, platoon unblocked						
vC, conflicting volume			139		206	118
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			139		206	118
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		94	100
cM capacity (veh/h)			1445		782	933
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	139	85	49			
Volume Left	0	2	47			
Volume Right	41	0	2			
cSH	1700	1445	787			
Volume to Capacity	0.08	0.00	0.06			
Queue Length 95th (m)	0.0	0.0	1.4			
Control Delay (s)	0.0	0.2	9.9			
Lane LOS		A	A			
Approach Delay (s)	0.0	0.2	9.9			
Approach LOS			A			
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			18.1%	ICU Level of Service	A	
Analysis Period (min)			15			

6600 Carriere TIA
8: Orléans & St. Joseph

2030 Total Traffic
PM Peak (optimized)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	73	747	161	294	447	122	145	284	332	120	316	41
Future Volume (vph)	73	747	161	294	447	122	145	284	332	120	316	41
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		0.0	32.0		0.0	0.0		20.0	0.0		70.0
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (m)	30.0			30.0			7.5			7.5		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.99			0.99		0.99		0.97	0.99		0.98
Frt		0.973			0.968				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1642	3196	0	1658	3130	0	1642	1745	1483	1642	1679	1483
Flt Permitted	0.438			0.111			0.307			0.377		
Satd. Flow (perm)	749	3196	0	194	3130	0	527	1745	1444	646	1679	1447
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		26			48				121			168
Link Speed (k/h)		50			50			60			60	
Link Distance (m)		226.7			283.0			102.9			242.7	
Travel Time (s)		16.3			20.4			6.2			14.6	
Confl. Peds. (#/hr)	10		15	15		10	11		13	13		11
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 (%)	3%	2%	2%	2%	3%	6%	3%	2%	2%	3%	6%	2%
Adj. Flow (vph)	73	747	161	294	447	122	145	284	332	120	316	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	73	908	0	294	569	0	145	284	332	120	316	41
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.5			3.5			3.5			3.5	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		2.5			2.5			2.5			2.5	
Two way Left Turn Lane												
Headway Factor	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09	1.09
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2.0	10.0		2.0	10.0		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
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	0.6		2.0	0.6		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
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	NA		pm+pt	NA		pm+pt	NA	pm+ov	pm+pt	NA	Perm
Protected Phases		2		1	6		3	8	1	7	4	
Permitted Phases	2			6			8		8	4		4
Detector Phase	2	2		1	6		3	8	1	7	4	4

6600 Carriere TIA
8: Orléans & St. Joseph

2030 Total Traffic
PM Peak (optimized)

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Switch Phase												
Minimum Initial (s)	10.0	10.0		5.0	10.0		5.0	10.0	5.0	5.0	10.0	10.0
Minimum Split (s)	29.1	29.1		11.1	29.1		11.2	32.2	11.1	11.2	32.2	32.2
Total Split (s)	36.0	36.0		18.0	54.0		14.0	32.0	18.0	14.0	32.0	32.0
Total Split (%)	36.0%	36.0%		18.0%	54.0%		14.0%	32.0%	18.0%	14.0%	32.0%	32.0%
Maximum Green (s)	29.9	29.9		11.9	47.9		7.8	25.8	11.9	7.8	25.8	25.8
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)	2.8	2.8		2.8	2.8		2.9	2.9	2.8	2.9	2.9	2.9
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)	6.1	6.1		6.1	6.1		6.2	6.2	6.1	6.2	6.2	6.2
Lead/Lag	Lag	Lag		Lead			Lead	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes			Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max		None	C-Max		None	None	None	None	None	None
Walk Time (s)	7.0	7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)	16.0	16.0			16.0			19.0			19.0	19.0
Pedestrian Calls (#/hr)	12	12			8			10			8	8
Act Effct Green (s)	29.9	29.9		51.1	51.1		30.5	22.7	38.0	30.2	22.6	22.6
Actuated g/C Ratio	0.30	0.30		0.51	0.51		0.30	0.23	0.38	0.30	0.23	0.23
v/c Ratio	0.33	0.93		0.92	0.35		0.58	0.72	0.53	0.44	0.84	0.09
Control Delay	32.3	50.5		60.6	14.5		32.2	46.1	15.7	26.6	56.1	0.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.3	50.5		60.6	14.5		32.2	46.1	15.7	26.6	56.1	0.4
LOS	C	D		E	B		C	D	B	C	E	A
Approach Delay		49.2			30.2			30.2			43.9	
Approach LOS		D			C			C			D	
90th %ile Green (s)	29.9	29.9		11.9	47.9		7.8	25.8	11.9	7.8	25.8	25.8
90th %ile Term Code	Coord	Coord		Max	Coord		Max	Ped	Max	Max	Ped	Ped
70th %ile Green (s)	29.9	29.9		11.9	47.9		7.8	25.8	11.9	7.8	25.8	25.8
70th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Max	Max	Max
50th %ile Green (s)	29.9	29.9		13.6	49.6		7.8	24.1	13.6	7.8	24.1	24.1
50th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Max	Gap	Gap
30th %ile Green (s)	29.9	29.9		16.8	52.8		7.8	20.9	16.8	7.8	20.9	20.9
30th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Max	Gap	Gap
10th %ile Green (s)	29.9	29.9		21.5	57.5		7.8	17.0	21.5	7.0	16.2	16.2
10th %ile Term Code	Coord	Coord		Max	Coord		Max	Hold	Max	Gap	Gap	Gap
Stops (vph)	58	791		166	301		106	255	156	84	290	0
Fuel Used(l)	5	73		25	28		12	27	20	8	30	1
CO Emissions (g/hr)	87	1350		471	528		215	499	376	143	552	16
NOx Emissions (g/hr)	17	261		91	102		42	96	73	28	106	3
VOC Emissions (g/hr)	20	311		109	122		50	115	87	33	127	4
Dilemma Vehicles (#)	0	0		0	0		0	14	0	0	16	0
Queue Length 50th (m)	10.1	80.6		39.4	28.5		17.3	46.1	24.7	14.1	52.9	0.0
Queue Length 95th (m)	21.7	#116.1		#93.4	41.1		29.4	70.0	46.0	24.7	#81.8	0.0
Internal Link Dist (m)		202.7			259.0			78.9			218.7	
Turn Bay Length (m)	40.0			32.0					20.0			70.0
Base Capacity (vph)	223	973		321	1624		248	450	629	273	433	497
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	0.33	0.93		0.92	0.35		0.58	0.63	0.53	0.44	0.73	0.08
Intersection Summary												
Area Type:	Other											
Cycle Length: 100												

6600 Carriere TIA
8: Orléans & St. Joseph

2030 Total Traffic
PM Peak (optimized)

Actuated Cycle Length: 100

Offset: 53 (53%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 95

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 38.4

Intersection LOS: D

Intersection Capacity Utilization 92.5%

ICU Level of Service F

Analysis Period (min) 15

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

Queue shown is maximum after two cycles.

Splits and Phases: 8: Orléans & St. Joseph

