Purolator

TAGGART REALTY MANAGEMENT

September 2020

Purolator Development
1400 Upper Canada Street

TIA Strategy Report

PARSONS

Purolator Development
1400 Upper Canada street

TIA Strategy Report

prepared for:
Purolator Inc.
2727 Meadowpine Blvd.
Mississauga, ON L5N 0E1

prepared by:
PARSONS
1223 Michael Street North
Suite 100
Ottawa, ON K1J 7T2

September 8, 2020

477406 - 01000

Document Control Page

CLIENT:	Purolator Inc.
PROJECT NAME:	Transportation Impact Assessment – Purolator Development
REPORT TITLE:	Purolator Development – TIA Strategy Report
PARSONS PROJECT NO.:	477406 – 01000
VERSION:	Draft
DIGITAL MASTER:	\\XCCAN57FS01\Data\ISO\477406\1000\DOCS\4 - Strategy\TRM Purolator_Strategy_20200804.docx
ORIGINATOR	Rani Nahas, E.I.T.
REVIEWER:	Matthew Mantle, P.Eng.
AUTHORIZATION:	City of Ottawa
CIRCULATION LIST:	Josiane Gervais, P. Eng.
HISTORY:	TIA Steps 1 & 2 (Screening & Scoping Report) – Submitted on November 4, 2019 TIA Step 3 (Forecasting Report) – Submitted on January 22, 2020 TIA Step 4 (Strategy Report) – Submitted on September 8, 2020

Table of Contents

List of Figures

List of Tables

List of Appendices

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 registered 2 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.**

City Of Ottawa
Infrastructure Services and Community Sustainability
Planning and Growth Management
110 Laurier Avenue West, 4th fl.
Ottawa, ON K1P 1J1
Tel. : 613-580-2424
Fax: 613-560-6006

Ville d'Ottawa
Services d 'infrastructure et Viabilité des collectivités
Urbanisme et Gestion de la croissance 110, avenue Laurier Ouest
Ottawa (Ontario) K1P 1J1 Tél. : 613-580-2424
Télécopieur: 613-560-6006

Dated at Ottawa this 8 day of September, 2020 . (City)

Name: Matthew Mantle

(Please Print)

Professional Title: Transportation Engineer

Signature of Individual certifier that s/he meets the above four criteria

Office Contact Information (Please Print)
Address: 1223 Michael Street
City / Postal Code: Ottawa K1J 7T2
Telephone / Extension: 613 – 691 - 1528
E-Mail Address: matthew.mantle@parsons.com

Stamp

Strategy Report

1. SCREENING FORM

The Screening Form is being submitted to the City of Ottawa in conjunction with the Scoping Report, The Trip Generation and Safety triggers were both met due to the size of the development and its proximity to the roundabout at Campeau/Palladium. As such, a TIA Report was deemed required. The Screening Form is provided in Appendix A along with responses to the latest City of Ottawa comments.

2. SCOPING REPORT

2.1. EXISTING AND PLANNED CONDITIONS

2.1.1. PROPOSED DEVELOPMENT

Purolator Inc. retained Parsons to complete a TIA Report in support of a Site Plan Application for a proposed package sorting facility in Ward 4: Kanata North. The proposed development is located at 1400 Upper Canada Street and is expected to occupy blocks 26, 27, and 30 of the Kanata West Business Park. The development will be implemented in two phases. Phase 1 will consist of 780m^2 (8,400ft^2) of ancillary use/office space and a 5,300m^2 (57,000ft^2) sort/warehouse area with a build-out year of 2021. Phase 2 will consist of a future expansion to the sort/warehouse area, adding approximately 11,000 ft^2 to the Phase 1 building, with a build-out year of 2026. In addition to the sort/warehouse expansion, a small maintenance building (230 m^2 or 2,600 ft^2) is proposed to be constructed in the northwest corner of the site during either Phase 2 or some time later. For this study, the maintenance building is assumed to be constructed as part of the Phase 2 development. The subject site is currently vacant and zoned as IP – Business Park Industrial Zone. The development site provides a total of 191 vehicle parking spaces to be used mainly by employees (where 24 of parking spaces dedicated for delivery trucks). Two accesses are proposed along Upper Canada St and one access along Palladium Dr. Figure 1 below provides the local context of the development site, while Figure 2 provides the current site plan.

Figure 1: Local Context

PROJECT INFORMATION

TOPOGRAPHICAL PLAN INFORMATION:
SURVEY PROPERTY BOUNDARIES TAKEN FROM TOPOGRAPHICAL PLAN OF PART OF LOT 4 CONCESSION 1, CITY OF OTTAWA, PREPARED BY STANTEC GEOMATICS LTD.
DATED DECEMBER 13, 2019

SITE ZONING AS PER OTTAWA ZONING BY-LAW 2008-250 SITE DESIGNATION
IP13 - BUSINESS PARK INDUSTRIAL ZONE
AREA "C" OF SCHEDULE 1, CITY OF OTTAWA

BUILDING CLASSIFICATION:
THE BUILDING IS CLASSIFIED AND DESIGNED TO CONFORM TO THE ONTARIO BUILDING CODE 2012 (CURRENT EDITION) PART 3

OCCUPANCY:
GROUP F DIVISION 2 - UP TO 4 STOREYS (3.2.2.70)
GROUP D - UP TO 3 STOREYS, SPRINKERED (3.2.2.54)

BUILDING STATISTICS:
(CITY OF OTTAWA'S DEFINITION) :
BUILDING FOOTPRINT = 6097.8m² / 65,636 ft²

GROSS FLOOR AREA = ±5767m² / 62,075 ft²

NUMBER OF STOREYS = 1
THE BUILDING IS SPRINKLERED

NUMBER OF ACCESS ROUTES REQUIRED = 1
NUMBER OF ACCESS ROUTES PROVIDED = 1

CONSTRUCTION TYPE = NON-COMBUSTIBLE CONSTRUCTION

ZONING INFORMATION

NOTE: ALL ZONING DEFINITIONS AND REQUIREMENTS AS PER CITY OF OTTAWA ZONING BY-LAW 2008-250

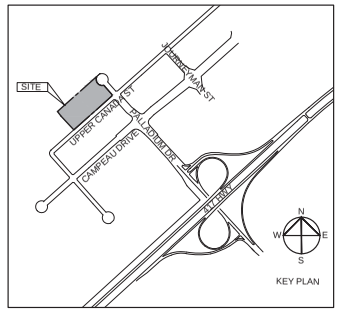
ZONING MECHANISM	REQUIRED	PROVIDED
ADDRESS	1400 UPPER CANADA STREET	
DEFINITION	IP 13 BUSINESS PARK INDUSTRIAL ZONE	WAREHOUSE
MIN.LOT WIDTH	NO MINIMUM	
MIN. LOT AREA	750 m²	31969.7 m²
MIN. FRONT YARD SETBACK	6 m	52.33 m
MIN. CORNER SIDE SETBACK	6 m	16.47 m
MIN. INT. SIDE YARD SETBACK	4 m	51.65 m
MIN. REAR YARD SETBACK	6 m	51.0 m
MAX. LOT COVERAGE	55 %	19.1 %
MAX. FLOOR SPACE INDEX	2	0.18
MAX. BUILDING HEIGHT	22 m	7.5 m
MIN. WIDTH OF LANDSCAPING	3 m ABUTTING A STREET	3 m
STANDARD PARKING SPACE	2.6m x 5.2m	2.75m x 6.1m
ACCESSIBLE PARKING SPACE	3.6m x 5.2m	3.4m x 6.1m (TYPE A), 2.4 x 6.1m (TYPE B)
PARKING REQUIREMENTS AREA C: SUBURBAN	56 OFFICE: 2.4 / 100 m² G.F.A INDUSTRIAL USE: 0.8 / 100 m² G.F.A	140
BARRIER-FREE PARKING	6	3 (TYPE A) + 3 (TYPE B)
LOADING SPACES	2	2
BICYCLE PARKING RATE	3 (1 / 2000 m² of G.F.A.)	4
GROSS FLOOR AREA		±5767 m² (62,075 s.f)
BUILDING AREA (FOOTPRINT)		6097.8 m² (65,636 s.f)

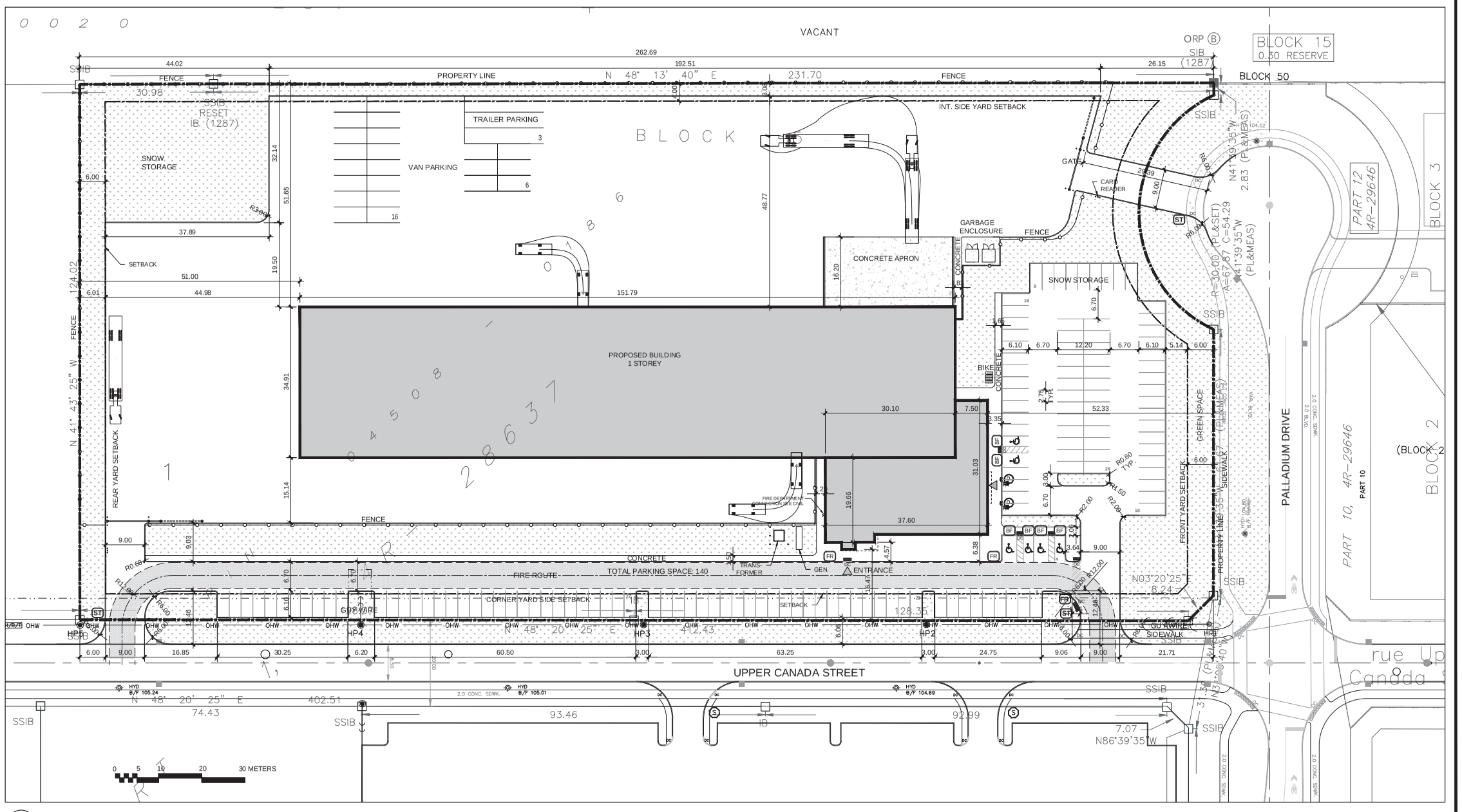
LEGEND

- PROPERTY LINE
- YARD SETBACK
- CHAINLINK FENCE, 2150mm HIGH, 3 STRANDS OF WIRE
- HYDRO EASEMENT LINE SETBACK
- FIRE HYDRANT
- CATCH BASIN - SEE CIVIL
- MANHOLE - SEE CIVIL
- MAIN ENTRANCE
- GARBAGE ENCLOSURE
- NEW DEPRESSED CURB - SEE LANDSCAPE
- NEW CURB
- 4 ELECTRIC CAR CHARGING STATIONS
- HYDRO POLE
- LIGHT STANDARD
- T.W.S.I.
- LANDSCAPED AREA
- CONCRETE PAD AND SIDEWALK
- ASPHALT
- 6m WIDE FIRE ROUTE, REFER TO CIVIL
- PAVERS

SIGNAGE LEGEND:

- NO TRESPASSING
- FIRE ROUTE
- HANDICAP PARKING
- STOP SIGN





1 SITE PLAN
A-001 SCALE 1:500

4	ISSUED FOR SITE PLAN CONTROL	9 Sept. 2020
3	FOR CLIENT REVIEW	30 July 2020
2	FOR CLIENT REVIEW	17 Mar. 2020
1	FOR CLIENT MEETING	17 Dec. 2019
no.	revision	date

N45 ARCHITECTURE INC.
71 Bank Street, 7th Floor - Ottawa, Ontario, K1P 5N2
tel. 613.224.0095 fax 613.224.9811

project
PUROLATOR DISTRIBUTION KANATA

1400 UPPER CANADA STREET, KANATA, ONTARIO

construction north: true north

seal: ONTARIO ASSOCIATION OF ARCHITECTS — Praatmen — LICENCE 8711

drawing title: SITE PLAN

scale: AS SHOWN	drawn by: J. J
date: Jan. 2020	checked by: N.R.
project number: 19-519	drawing number: A-001

CONTRACTOR TO VERIFY ALL DIMENSIONS AND NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BEFORE WORK COMMENCES.
DO NOT SCALE DRAWINGS.

revision

CITY'S FILE NO.: D07 - 12 - 18 - XXXX

PLAN NO.: #XXXXX

Figure 2: Site Plan

2.1.2. EXISTING CONDITIONS

Area Road Network

Campeau Drive is an east-west arterial roadway that currently extends from approximately 650 m west of Palladium Drive to Eagleson Road/March Road in the east. Within the study area, Campeau Drive has a four-lane cross section with a posted speed limit of 60 km/h.

Palladium Drive is an arterial roadway that currently extends from approximately 270 m north of Campeau Drive to south of the Hwy 417 EB Off Ramp, where it curves east and continues until Terry Fox Drive. East of Terry Fox Drive, Palladium Drive continues as Katimavik Road. The roadway consists of a four-lane cross section and a posted speed limit of 60 km/h north of the Hwy 417 WB On-Off Ramps, and 70 km/h south of the ramps.

Existing Study Area Intersections

Campeau/Palladium

The Campeau/Palladium intersection is a four-legged roundabout intersection consisting of two approach lanes on each leg. The west and south legs consist of a single shared movement lane and a right-turn slip lane. The north leg consists of one shared thru and right-turn lane and one shared thru and left-turn lane. The east leg consists of one shared all movement lane and on left-turn lane. There are no prohibited movements at this intersection.

Journeyman/Campeau

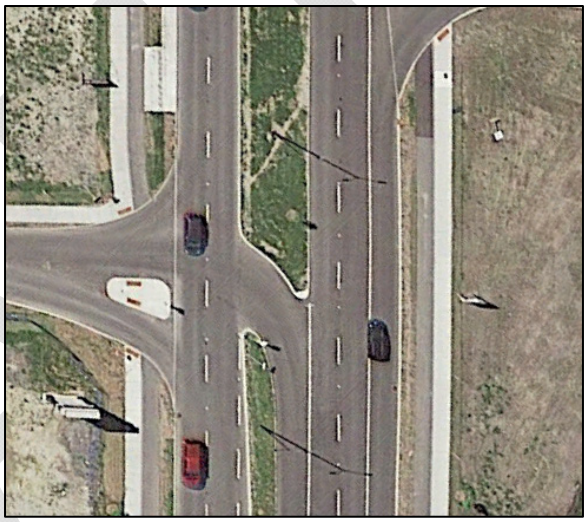
The Journeyman/Campeau intersection is a signalized four-legged intersection with a single thru lane and auxiliary right and left turn lanes on the north, south and west legs of the intersection. The east leg consists of an auxiliary left-turn lane, an exclusive thru-lane and a shared thru/right-turn lane. There are no restricted movements at this intersection.

Huntmar/Campeau

The Huntmar/Campeau intersection is a four-legged roundabout intersection with three approach lanes on each leg of the intersection. The south leg consists of an exclusive left and right-turn lanes and a shared thru/left-turn lane. The north leg consists of exclusive thru, left and right-turn lanes. The east leg consists of exclusive thru and right-turn lanes and a shared thru/left-turn lane. The west leg consists of a right-turn slip lane, an exclusive thru lane and a shared thru/left-turn lane. There are no prohibited movements at this intersection.

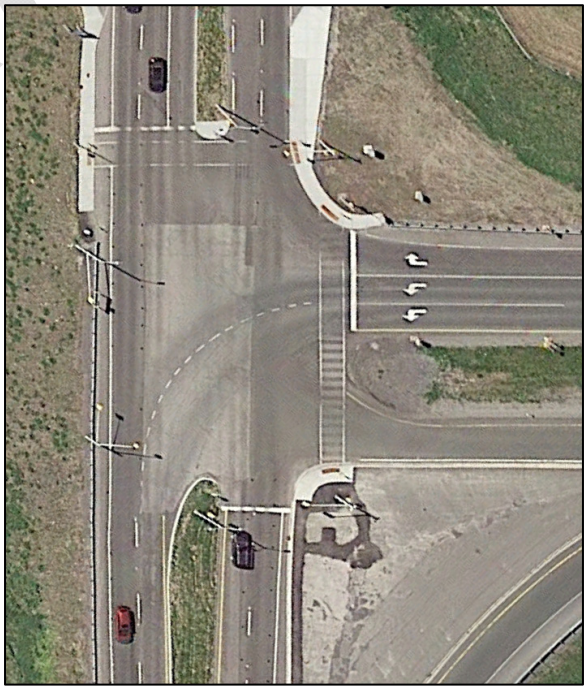
Cabela's/Palladium

The Cabela's/Palladium intersection is a 'T' intersection with STOP Control on the west leg of the intersection. The north leg of the intersection consists of a thru-lane and a shared thru/right-turn lane. The south leg consists of two thru lanes and an auxiliary left-turn lane. The west leg consists of a single right-turn lane. There is no left-turn movement coming from the west leg of the intersection.



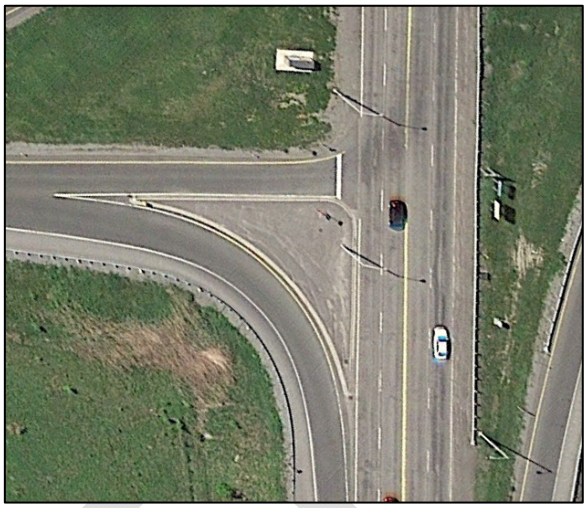
Hwy 417 WB On-Off Ramps/Palladium

The Hwy 417 Wb On-Off Ramps/Palladium intersection is a signalized 'T' intersection consisting of north, south and east legs. The north leg of the intersection consists of two thru lanes and an auxiliary left-turn lane. The south leg of the intersection consists of two thru lanes and the east leg of the intersection consists of two left-turn lanes and an auxiliary right-turn lane. There are no restricted movements at this intersection.



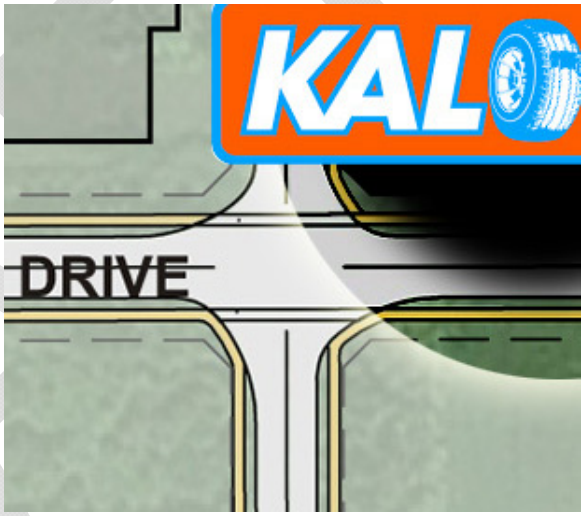
Hwy 417 EB Off Ramp/Palladium

The Hwy 417 EB Off ramp/Palladium intersection is a 'T' intersection with STOP Control on the west leg of the intersection. The north and south legs of the intersection consist of two thru lanes, while the west leg consists of a single left-turn lane and an auxiliary right-turn lane.



Nipissing-Upper Canada/Campeau (future)

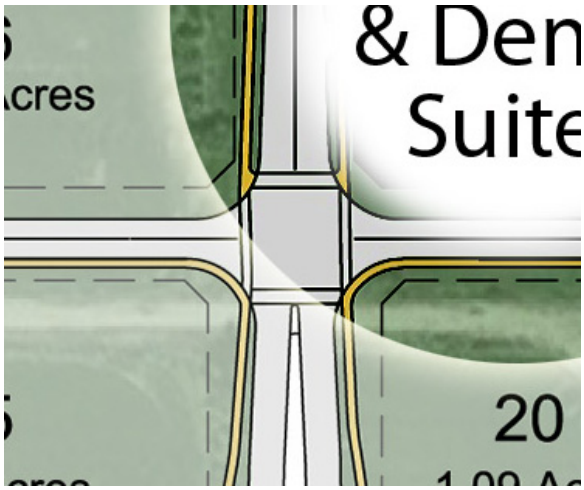
Based on the Kanata West Business Park Plan, it is assumed that the future Nipissing-Upper Canada/Campeau intersection is an unsignalized four-legged intersection with STOP control on the north and south approaches (Nipissing Court and Upper Canada Street). Each approach is assumed to consist of one full movement lane.



Source: http://kanatawest.ca/

Upper Canada/Palladium (future)

Based on the Kanata West Business Park Plan, it is assumed that the future Upper Canada/Palladium intersection is a STOP control four-legged intersection. Each approach is assumed to consist of one full movement lane.



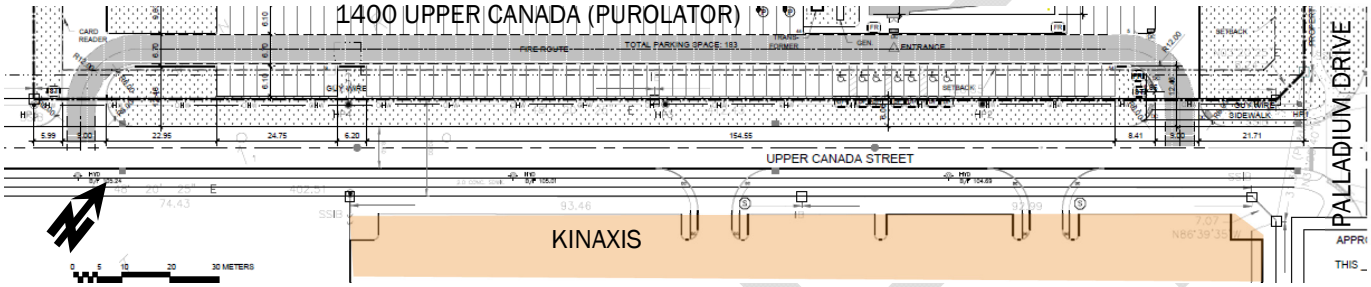
Source: http://kanatawest.ca/

Existing Driveways to Adjacent Developments

Within 200m of the proposed development:

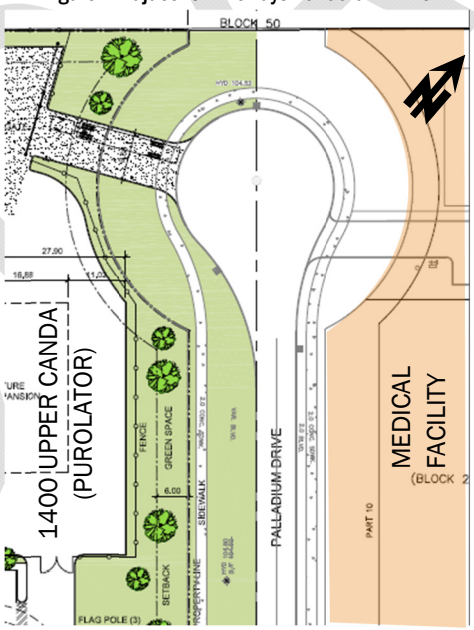
- As shown in Figure 3, three full-movement accesses are being constructed for the future Kinaxis development (8700 Campeau Drive). Two along Upper Canada Street, at the frontage of the proposed Purolator development, and one along Palladium Drive, approximately 70m north of the Campeau/Palladium intersection. The two closest opposing driveways between the Kinaxis and 1400 Upper Canada Street (Purolator) properties have a separation distance of approximately 25m and are located near the Palladium/Upper Canada Street intersection along the southeast corner of the proposed site.

Figure 3: Adjacent Driveways Upper Canada Street



- One full-movement access along Palladium Drive is being constructed for the future Wingate Hotel development (8600 Campeau Drive), which is near completion. The access is located approximately 70m north of the Campeau/Palladium intersection.
- As displayed in Figure 4, an existing driveway to a small medical facility is located on the east side of the of the Palladium Drive cul-de-sac, across from the future Purolator facility's Palladium Drive access.

Figure 4:Adjacent Driveways Palladium Drive



Existing Area Traffic Management Measures

Below are the existing area traffic management measures along both Palladium Drive and Campeau Drive:

- Roundabouts;
- Medians;
- Sidewalks;
- Streetscaping;

- Separated bike lanes; and,
- Zebra crosswalks at most major intersections.

Pedestrian/Cycling Network

Along Campeau Drive, starting from the Kanata West Centre Drive, sidewalks are provided along the north and south sides of roadway, within the study area, with the exception of the segment between Journeyman Street and Huntmar Drive, where no sidewalk is provided on north side. Along Palladium Drive, sidewalks are provided on the east and west sides of the roadway and end at the Hwy 417 WB On-Off Ramps. Along Journeyman Street, sidewalks are provided on the west side only, north of Campeau Drive, and on both sides south of Campeau Drive. Finally, sidewalks are provided on both sides of the roadway along Huntmar Drive between Campeau and the Tanger Outlets Shopping Centre access and on the east side only to the north of Campeau Drive.

With regards to the cycling network, bike lanes are provided as physically separated and raised unidirectional bike lanes, along side the aforementioned sidewalk facilities within the study area. However, bike lanes were not provided along Journeyman Street. Furthermore, bike signals are provided on the north and south sides of the Journeyman/Campeau intersection, for cyclists travelling east and west along Campeau Drive.

Transit Network

The following OC Transpo routes currently operate along Campeau Drive:

- **Route #62 (Street-Laurent, Hurdman <-> Terry Fox, Stittsville)**: identified by OC Transpo as a "Rapid Route", Route #62 operates 7 days a week, at an average rate of every 30 minutes during weekday peak hour periods. The nearest bus stops to the site are available at the intersection of Journeyman/Campeau.
- **Route #162 (Terry Fox <-> Stittsville)**: identified by OC Transpo as a "Local Route", this route provides customized routing and scheduling to serve local destinations. Route #162 operates at an hourly rate between 1 and 3 pm and between 7:30 and 10:30 pm on weekdays. The nearest bus stops to the site are available at the intersection of Journeyman/Campeau.

The noted OC Transpo route maps have been provided in Appendix B. Figure 5 below illustrates the area transit network, while Figure 6 provides the nearest bus stop locations to the development site.

Figure 5: Area Transit Network

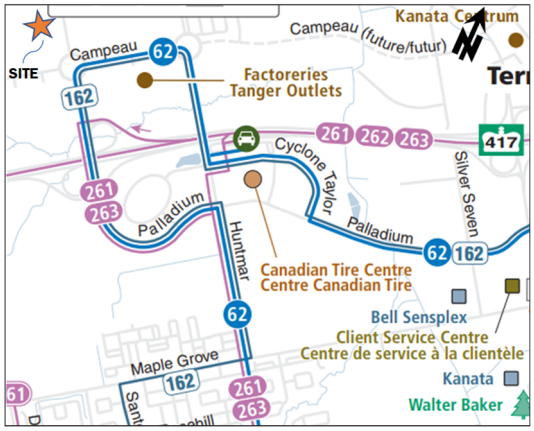
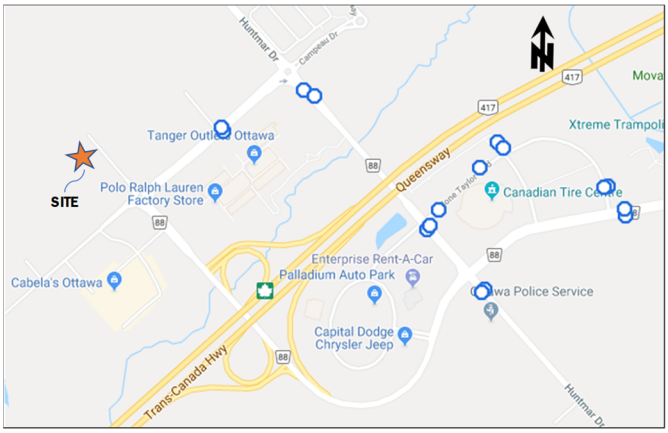


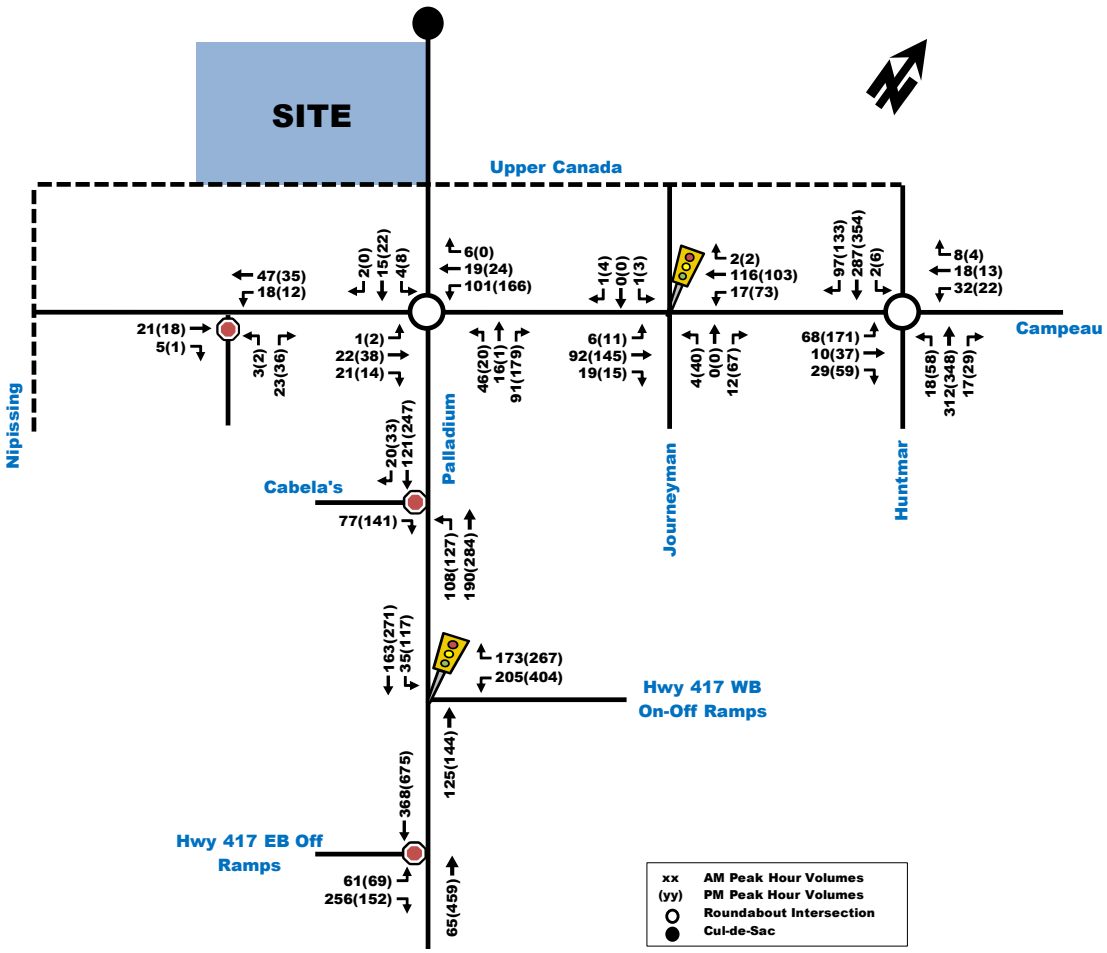
Figure 6: Bus Stop Locations



Peak Hour Travel Demand

The existing peak hour traffic volumes within the study area, as illustrated in Figure 7, were obtained from the City of Ottawa or conducted recently by Parsons. The peak hour traffic volume count data has been provided in Appendix C.

Figure 7: Existing Peak Hour Traffic Volumes



Existing Road Safety Conditions

Although many features of the surrounding road network are relatively new (i.e. some intersections were recently constructed), a five-year collision history data was requested and obtained from the City of Ottawa, which shows a total of 31 collisions occurring in the past five years at all intersections and road segments within the study area. Note that 29 of the collisions recorded resulted in property damage only and 2 resulted in a non-fatal injury. In total, the collisions were 7 (23%) rear end, 4 (13%) turning movement, 11 (35%) sideswipe, 7 (23%) angle and 2 (6%) "other" collisions.

Of the 31 collisions that occurred within the study area, 14 were at the intersection of Huntmar/Campeau alone, 7 of which were sideswipe collisions and 6 of which were angle collisions. Since the Huntmar/Campeau roundabout was opened to traffic in late 2014, collisions of this nature are expected to be encountered in the first few years due to the unfamiliarity of drivers with the intersection configuration. As such, the number of collisions is not necessarily indicative of future trends at this intersection.

There were 7 collisions at the intersection of Palladium/Hwy 417 WB On-Off Ramps, however, there are no particular collision trends taking place. The remaining 10 collisions that occurred at various intersections and road segments within the study area show no particular trends in collision patterns. It is worth noting that no collisions were recorded at the roundabout intersection of Campeau/Palladium. This is likely due to the recent opening of the intersection to traffic in 2017, as well as the relatively low current traffic volumes.

The collision data as provided by the City of Ottawa is attached as Appendix D.

2.1.3. PLANNED CONDITIONS

Planned Study Area Transportation Network Changes

Shown in Figure 8 below is the future plan of the Kanata West Business Park. The majority of the road network has been constructed over the past few years. Future additions and improvements to the road network include the construction of a new roadway named Upper Canada Street directly south of the proposed Purolator development site. Upper Canada Street will extend from Huntmar Drive in the east to connect to Campeau Drive in the west, where it continues as Nippising Way south of Campeau Drive and terminates in a cul-de-sac. Furthermore, Journeyman Street would extend north to connect to the future Upper Canada Street.

Figure 8: Kanata West Business Park

Source: http://kanatawest.ca

As mentioned previously, Campeau Dr extends from 650m west of Palladium Dr in the west to Eagleson Road/March Road in the east. However, the roadway is split into two segments between Country Glen Way in Arcadia and Didsbury Road. Nonetheless, it was announced recently by the City of Ottawa that the extension of Campeau Dr between these two roadways will be constructed by fall of 2021.

With regards to transit, the City of Ottawa Transportation Master Plan (TMP) does not identify any future changes to the existing transit network.

Other Area Developments

The following developments are planned near the subject site based on the latest available information from the City regarding adjacent site development applications:

Kanata West Business Park

The Kanata West Business Park (shown in Figure 8) is a major development node in Ottawa's west end. It contains a mix of retail, office and lodging developments, some of which have already been constructed in the past few years. A Community Transportation Study (CTS) was prepared in December 2011 by Parsons (previously Delcan) depicting the transportation requirements of the road network based on trip generation of the various future developments. To keep up with development changes being made to the area and provide proper recommendations from a transportation perspective, 12 Addendums were submitted by Parsons to the City after the initial CTS, with the latest Addendum submitted in May 2017.

8600 Campeau Drive (Wingate Hotel)

A Transportation Impact Assessment (TIA) was submitted by the IBI Group in May 2018 in support of a proposed hotel development to be located at 8600 Campeau Drive (northeast corner of the Campeau/Palladium intersection shown in Figure 8). The proposed hotel will consist of 120 hotel rooms within a four-storey building and is anticipated to generate up to 56 vehicles/hour during the respective peak hour period.

8700 Campeau Drive (Kinaxis)

A Transportation Impact Assessment (TIA) was submitted by the Parsons in October 2019 for a planned Kinaxis office building that will be located at 8700 Campeau Drive (northwest corner of the Campeau/Palladium intersection, blocks 24, 25 and 28 as shown in Figure 8). The proposed development will consist of a five-storey building with a gross floor area of 150,000 ft^2 and an anticipated buildout year of 2021. The development is expected to generate approximately 130 vehicles/hour during both the morning and afternoon peak hour periods.

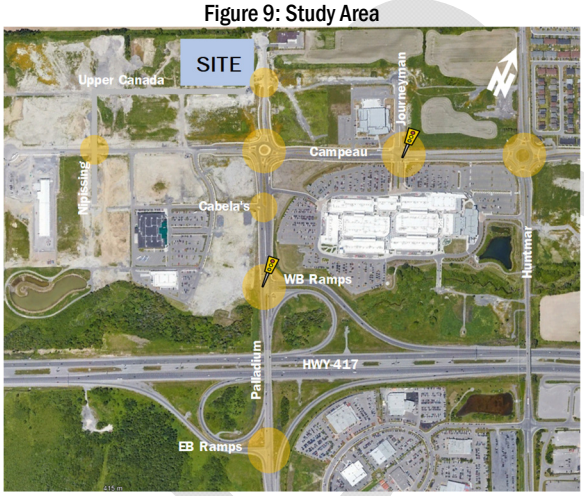
450 Huntmar Dr (Residential Development)

A Transportation Brief was prepared by Parsons in January 2017, addressing the transportation implications and requirements of Stages 3 and 4 of the Arcadia Subdivision. The residential development will be located on the north side of Campeau Dr, approximately 450 m east of the Huntmar/Campeau intersection and will consist of a total of 146 Single Family Units and 255 Townhome Units. Due to the significance of this development with regards to the traffic volumes it generates within the study area, it was included in the future analysis despite being located outside the 1 km radius.

2.2. STUDY AREA AND TIME PERIODS

The peak time periods to be assessed are the weekday morning and afternoon peak hour periods. The horizon years are the year of Phase 1 build-out (2021), Phase 2 buildout (2026) and five years after full-buildout (2031), as per the requirements of the TIA Guidelines. The proposed study area is outlined below and highlighted in Figure 9.

Figure 9: Study Area



- Nipissing-Upper Canada/Campeau;
- Upper Canada/Palladium
- Campeau/Palladium;
- Journeyman/Campeau;
- Huntmar/Campeau;
- Cabela's/Palladium;
- Hwy 417 WB On-Off Ramps/Palladium; and,
- Hwy 417 EB Off Ramp/Palladium.

2.3. EXEMPTION REVIEW

Based on the City's TIA guidelines and the subject site, the following modules/elements of the TIA process, summarized in Table 1, are recommended to be exempt in the subsequent steps of the TIA process:

Table 1: Exemptions Review Summary

Module	Element	Exemption Consideration
4.1 Development Design	4.1.3 New Streets Network	This element is only required for plans of subdivision.
4.2 Parking	4.2.2 Spillover Parking	Parking is anticipated to meet the development's demand.
4.6 Neighbourhood Traffic Management	4.6.1 Adjacent Neighbourhoods	Traffic along Upper Canada St is not impacted significantly as a result of this development. This is confirmed by the site-generated traffic volumes in the Forecasting section of the report.
4.8 Review of Network Concept	All elements	The site is not expected to generate 200 trips more than the established zoning. This will be confirmed in Step 3.

3. FORECASTING

3.1. DEVELOPMENT GENERATED TRAVEL DEMAND

3.1.1. TRIP GENERATION AND MODE SHARES

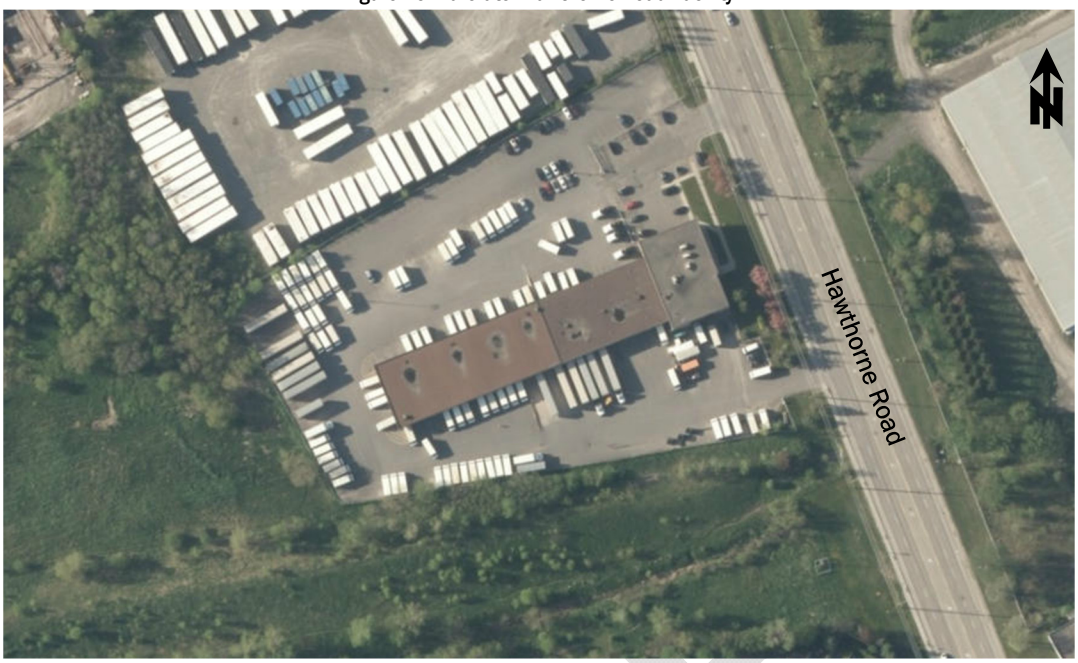
The proposed development will consist of 780m^2 (8,400ft^2) of office and a 5,300m^2 (57,000ft^2) sort/warehouse area bringing the total Gross Floor Area (GFA) to 6080m^2 (65,400 ft^2) in the Phase 1 buildout. Phase 2 buildout will be comprised of an expansion of the sort/warehouse and the addition of a maintenance building in the northwest corner of the site, bringing the total GFA to 7,100m^2 (76,400 ft^2). Due to the unique nature and the limited amount of studies related to the Package delivery/sorting warehouse facilities, the sites total trip generation will be assessed by combining the following:

- ITE 130 - trip generation for Industrial Park to assess the warehouse and office space;
- Average daily customer proxy trips taken from the existing Purolator facility off Hawthorne Road;
- Proxy trips for the departure and arrival of delivery vehicles based off the Purolator Hawthorne facilities daily averages provided by client; and,
- Proxy trips for the transport truck arrivals and departures based off Purolator Hawthorne Road facility.

As shown in Figure 10, the existing Purolator Hawthorne facility is comprised of approximately 1133m^2 (12,000 ft^2) office space/ancillary use space, 2443m^2 (26,300 ft^2) warehouse/sorting area, has 8 transport truck loading docks, and has 46 parcel delivery loading docks. The average trips generated by this facility, are as follows:

- Customer package pickup/drop-off
  - An average of 65 trips per day between 7:30AM - 8:00PM
- 50 Delivery trucks:
  - Depart facility between 7:45AM – 9:00AM (approximately 40 delivery veh/h)
  - Return to facility between 4:00PM - 6:00PM (approximately 25/delivery veh/h)
- Transport trucks:
  - Arrive at facility between 12:30AM – 7:30AM (approximately 1 transport truck/h)
  - Depart facility between 7:30PM – 9:00PM (approximately 1 transport truck/h)

Figure 10: Purolator Hawthorne Road Facility



Industrial Park (Office/Ancillary Space and Sort Area) *Trips Using ITE Trip Generation*

This portion of the site generated trips include only the trips related to the operations of only the warehouse and office/ancillary space and does not include the customer pick-up/drop-off or the delivery truck operations, these site generated trips will follow in the next few sections of the report. The office/ancillary space and the sort/warehouse area trip generation rates for Industrial Park land use were obtained from the ITE Trip Generation Manual (10th Edition) and are summarized in Table 2.

Table 2: ITE Trip Generation Trip Rates

Land Use	Data Source	Trip Rates (Fitted Curve Equations)	
		AM Peak	PM Peak
Industrial Park (Office/Ancillary Space and Sort Area)	ITE 130	T = 0.40(X);	T = 0.40(X);
Notes: *T = Average Vehicle Trip Ends* *X = 1000 Sq. ft GFA*			

The ITE vehicle trip rates shown in Table 2 were then multiplied by a factor of 1.28, which was calculated by assuming a default 10% non-auto mode share and an average vehicle occupancy of 1.15, in order to convert the vehicle trips provided by the ITE manual to person trips. The resulting person trips/h for Phases 1 and 2 are provided in Table 3 and Table 3 below. Note that the percentages of in and out traffic were also obtained from the ITE Trip Generation Manual.

Table 3: Estimated ITE 130 Person Trips (Phase 1)

Land Use	Area (ft^2)	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
		In (81%)	Out (19%)	Total	In (21%)	Out (79%)	Total
Industrial Park (Office/Ancillary Space and Sort/Warehouse Area)	65,400	26	7	33	6	27	33
Total Person Trips		26	7	33	6	27	33

Table 4: Estimated ITE 130 Person Trips (Phase 2)

Land Use	Area (ft^2)	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
		In (81%)	Out (19%)	Total	In (21%)	Out (79%)	Total
Industrial Park (Office/Ancillary Space and Sort/Warehouse Area)	76,400	31	8	39	8	31	39
Total Person Trips		31	8	39	8	31	39

As shown in Table 3, the total person trips generated by Phase 1 warehouse/office space are 33 person trips/hour during both the morning and afternoon weekday peak hour periods. As shown in Table 4, at Phase 2 buildout, the development will be generating approximately 39 person trips/hour during both the morning and afternoon weekday peak hour periods.

Vehicle trips may be determined using mode share percentages found in the 2011 NCR Household Origin-Destination Survey for the Kanata/Stittsville district (see Table 5). However, due to the location of the development at the edge of the urban boundaries of the City of Ottawa, as well as the delivery truck operations of the proposed Purolator facility, it is anticipated that there may be lower non-motorized trips and higher transit and auto driver trips. As such, the mode shares were slightly modified as shown in Table 6.

Table 5: O-D Survey Mode Share Percentages

Travel Mode	Mode Share
Auto Driver	60%
Auto Passenger	15%
Transit	10%
Non-motorized	15%
Total Person Trips	**100%**

Table 6: Modified O-D Survey Mode Share Percentages

Travel Mode	Mode Share
Auto Driver	65%
Auto Passenger	15%
Transit	15%
Non-motorized	5%
Total Person Trips	**100%**

Based on the 65% mode share in Table 6 and the estimated employee person trips in Table 3 and Table 4, the employee vehicle trips anticipated to be generated by Phases 1 and 2 of the proposed facility are summarized in Table 7 and Table 8 below.

Table 7: Estimated ITE 130 Vehicle Trips (Phase 1)

Travel Mode	Mode Share	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
		In (81%)	Out (19%)	Total	In (21%)	Out (79%)	Total
Auto Driver	65%	17	5	22	4	18	22
Auto Passenger	15%	4	1	5	1	4	5
Transit	15%	4	1	5	1	4	5
Non-motorized	5%	1	0	1	0	1	1
Total Person Trips	100%	26	7	33	6	27	33
Total 'New' Auto Trips		17	5	22	4	18	22

Table 8: Estimated ITE 130 Vehicle Trips (Phase 2)

Travel Mode	Mode Share	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
		In (81%)	Out (19%)	Total	In (21%)	Out (79%)	Total
Auto Driver	65%	20	5	25	5	21	26
Auto Passenger	15%	4	1	5	1	4	5
Transit	15%	5	2	7	2	5	7
Non-motorized	5%	2	0	2	0	1	1
Total Person Trips	100%	31	8	39	8	31	39
Total 'New' Auto Trips		20	5	25	5	21	26

As shown in Table 7, the total number of vehicle trips anticipated to be generated by the employees of the proposed Purolator facility at Phase 1 buildout are approximately 22 vehicles/hour during the morning and afternoon peak hour periods. Phase 2 buildout, the number of vehicle trips increases to 25 and 26 vehicles/hour during the morning and afternoon peak hour periods, respectively.

Package Pickup/Drop-off (Customer) Trips

Customer traffic is to be determined using information from the existing Hawthorne Road Purolator facility, which is anticipated to operate similar to the proposed site. Based on information provided by the client, the Hawthorne office operates from 7:30 am to 8:00 pm (approximately 12 hours) and receives an average of 65 customer traffic per day (i.e. approximately 65 vehicles/12 hours). In order to estimate the peak hour volumes from the average daily trips the expansion factor taken from Figure 11, where the 12-hour daily average volume is divided by factors of 9.04 for the AM peak and 8.66 for the PM peak. To factor in the mode share for these trips the AM and PM were multiplied by the 65% auto driver (vehicle) trips. Table 9 below provides the number of anticipated customer vehicle trips Furthermore, as customers are not likely to remain very long in the facility, the inbound and outbound customer traffic were assumed to be equal.

Figure 11: Expansion Factor Table

Expansion Factor Table

From\To	1 Hour am Pk	1 Hour pm Pk	2 Hour 7-9 am	2 Hour 3:30-5:30 pm	4 Hour 7-9 am 3:30-5:30 pm	6 Hour 7-10 am 3-6 pm	8 Hour 7-9 am 11-1 2-6 pm	12 Hour 7 am - 7 pm	24 Hour
1 Hour am Pk	1.0	1.04	1.79	1.96	3.76	5.12	6.49	9.04	12.05
1 Hour pm Pk	0.96	1.0	1.72	1.88	3.6	4.91	6.22	8.66	11.54
2 Hour 7-9 am	0.56	0.58	1.0	1.1	2.1	2.86	3.62	5.04	6.42
2 Hour 3:30-5:30 pm	0.51	0.53	0.91	1.0	1.91	2.61	3.31	4.61	6.13
4 Hour 7-9 am 3:30-5:30 pm	0.27	0.28	0.48	0.52	1.0	1.36	1.73	2.41	3.21
6 Hour 7-10 am 3-6 pm	0.2	0.2	0.35	0.38	0.73	1.0	1.27	1.77	2.35
8 Hour 7-9 am 11-1 pm 2-6 p	0.15	0.16	0.28	0.3	0.58	0.79	1.0	1.39	1.85
12 Hour 7 am - 7 pm	0.11	0.12	0.2	0.22	0.42	0.57	0.72	1.0	1.31
24 Hours	0.08	0.09	0.15	0.16	0.31	0.43	0.54	0.75	1.0

Table 9: Estimated Customer Package Pick-up/Drop-off Vehicle Trips

Travel Mode	Mode Share	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
		In	Out	Total	In	Out	Total
Auto Driver	65%	5	5	10	5	5	10
Auto Passenger	15%	1	1	2	1	1	2
Transit	15%	1	1	2	1	1	2
Non-motorized	5%	1	1	2	1	1	2
Total Person Trips	100%	8	8	16	8	8	16
Total 'New' Auto Trips		5	5	10	5	5	10

The anticipated customer site generated vehicle trips for the proposed new facility during Phase 1 and Phase 2, are 10 veh/h during the morning and afternoon peak hour periods, respectively.

Delivery and Transport Truck Trips

Similar to customer traffic volumes, traffic volumes generated by delivery and transport trucks are estimated using the existing Hawthorne Purolator facility. Converting the information provided for the Hawthorne facility indicates that it performs as follows:

- Delivery trucks: 50 trucks depart between 7:45 am and 9:00 am and return between 4:00 pm and 6:00 pm.

  The trips generated are anticipated to be as follows:

  AM outbound delivery vehicle trips = 50 veh / (1.25h) = 40 veh/h
  PM inbound delivery vehicle trips = 50 veh / (2h) = 25 veh/h

  To determine the AM inbound and PM outbound vehicle trips to account for the delivery truck drivers arriving/departing their work shifts during the peak period the number of delivery peak hour vehicle trips from above and multiplying them by the vehicle mode share of 65% presented in Table 6.

  AM inbound vehicle trips = 40 veh/h * 0.65 = 26 veh/h
  PM outbound vehicle trips = 25 veh/h * 0.65 = 17 veh/h

- Transport trucks: roughly 1 truck per hour arrives between 12:30AM and 7:30PM and 1 truck per hour departs between 7:30PM and 9:00PM

  Due to the transport trucks operating during off peak periods with a short period overlapping in the AM peak the transport peak hour trips are as follows:

  AM inbound transport vehicle trips = 1 veh/h
  AM outbound vehicle trips = 1 veh/h

  PM inbound vehicle trips = 0 veh/h (no trips until 7:30PM)
  PM outbound transport vehicle trips = 0 veh/h (no trips until 7:30PM)

Table 10 below provides a summary of the estimated delivery and transport vehicle trips for the Hawthorne facility.

Table 10: Hawthorne Facility Estimated Delivery and Transport Vehicle Trips

Trip Type	AM Peak (Vehicle Trips/h)			PM Peak (Vehicle Trips/h)		
	In	Out	Total	In	Out	Total
Delivery Trucks/Driver Personal Vehicle	26	40	66	25	17	42
Transport Trucks/Driver Personal Vehicle	1	1	2	0	0	0
Total	27	41	68	25	17	42

The proposed site delivery truck trips will be estimated using the existing Hawthorne facility trips for the sort/warehouse area of approximately 26,300ft^2 and applying a ratio of the proposed facility sort/warehouse area divided by the existing sort/warehouse area to the traffic volumes in Table 10. An example for each phase of how the calculations were done can be seen below.

Phase 1 (57,000ft^2)

AM inbound delivery trucks = 57,000ft^2/26,300ft^2 * 26veh/h = 57 veh/h

Phase 2 (68,200ft^2)

AM inbound delivery trucks = 68,200ft^2/26,300ft^2 * 26veh/h = 68 veh/h

The results for the projected trips of Phase 1 and Phase 2 are summarized in Table 11 and Table 12.

Table 11: Proposed Facility Estimated Delivery and Transport Vehicle Trips (Phase 1)

Trip Type	AM Peak (Vehicle Trips/h)			PM Peak (Vehicle Trips/h)		
	In	Out	Total	In	Out	Total
Delivery Trucks/Driver Personal Vehicle	57	87	144	54	36	90
Transport Trucks/Driver Personal Vehicle	1	1	2	0	0	0
Total	58	88	146	54	36	90

Table 12: Proposed Facility Estimated Delivery and Transport Vehicle Trips (Phase 2)

Trip Type	AM Peak (Vehicle Trips/h)			PM Peak (Vehicle Trips/h)		
	In	Out	Total	In	Out	Total
Delivery Trucks/Driver Personal Vehicle	68	104	172	65	43	108
Transport Trucks/Driver Personal Vehicle	1	1	2	0	0	0
Total	69	105	174	65	43	108

The total number of vehicle trips anticipated to be generated by the delivery and transport vehicles of the proposed Purolator facility during Phase 1 are 146 and 90 vehicles/hour during the AM and PM peak periods, respectively. Phase 2 combined transport and delivery vehicle trips are anticipated to be 163 and 101 vehicles/hour during the morning and afternoon peak hour periods, respectively.

The delivery/transport truck outbound AM and inbound PM peak trips account for 100% of the total trips generated by the delivery truck/transport trucks departing/arriving to and from the facility. Therefore, no modal shares have been applied to these trips. Table 13 and Table 14 below summarize the person trips per mode share for both Phase 1 and Phase 2.

Table 13: Delivery/Transport Person Trips– Phase 1

Travel Mode	Mode Share	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
		In	Out	Total	In	Out	Total
Delivery Service							
Truck/Delivery Driver	100 %	0	88	88	54	0	54
Auto Passenger	0 %	0	0	0	0	0	0
Transit	0 %	0	0	0	0	0	0
Non-motorized	0 %	0	0	0	0	0	0
Person Trips	100%	0	88	88	54	0	54
Employee Commute							
Auto Driver	65%	58	0	58	0	36	36
Auto Passenger	15%	13	0	13	0	9	9
Transit	15%	14	0	14	0	8	8
Non-motorized	5%	5	0	5	0	3	3
Person Trips	100%	90	0	90	0	56	56
Total Person Trips		90	88	178	54	56	110

Table 14: Delivery/Transport Person Trips– Phase 2

Travel Mode	Mode Share	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
		In	Out	Total	In	Out	Total
Delivery Service							
Truck/Delivery Driver	100 %	0	104	104	65	0	65
Auto Passenger	0 %	0	0	0	0	0	0
Transit	0 %	0	0	0	0	0	0
Non-motorized	0 %	0	0	0	0	0	0
Person Trips	100%	0	104	104	65	0	65
Employee Commute							
Auto Driver	65%	68	0	68	0	43	43
Auto Passenger	15%	15	0	15	0	11	11
Transit	15%	16	0	16	0	10	10
Non-motorized	5%	6	0	6	0	3	3
Person Trips	100%	105	0	105	0	67	67
Total Person Trips		105	104	204	65	67	132

Anticipated Total Trips of the Proposed Purolator Facility

The total site trips generated by the facility, employees, customers and delivery and transport vehicles, for Phases 1 and 2 are provided in Table 15 and Table 16. Table 15 provides a summed total of Phase 1 values from Table 7, Table 9 and Table 13. Table 16 provides a summed total of Phase 2 values provided in Table 8, Table 9 and Table 14.

Table 15: Total Site Generated Trips of the Proposed Purolator Facility (Phase 1)

Travel Mode	Mode Share	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
		In	Out	Total	In	Out	Total
Auto Driver	65%	80	98	178	63	59	122
Auto Passenger	15%	19	22	41	17	14	31
Transit	15%	19	23	42	18	13	31
Non-motorized	5%	7	7	14	6	5	11
Total Person Trips	100%	125	150	275	104	91	195
Total 'New' Auto Trips		80	98	178	63	59	122

Table 16 : Mode Share Total Person Trips of the Proposed Purolator Facility (Phase 2)

Travel Mode	Mode Share	AM Peak (Person Trips/h)			PM Peak (Person Trips/h)		
		In	Out	Total	In	Out	Total
Auto Driver	65%	96	117	213	78	72	150
Auto Passenger	15%	23	27	50	18	17	35
Transit	15%	22	27	49	18	17	35
Non-motorized	5%	7	9	16	6	5	11
Total Person Trips	100%	148	180	328	120	111	231
Total 'New' Auto Trips		96	117	213	78	72	150

The Phase 1 total number of site generated vehicle trips for the proposed Purolator facility are 178 and 122 vehicles/hour during the morning and afternoon peak hour periods, respectively. Phase 2 total site generated vehicle trips are 213 and 150 vehicles/hour, during the morning and afternoon peak hour periods, respectively.

3.1.2. TRIP DISTRIBUTION AND ASSIGNMENT

Based on the 2011 NCR Household Origin-Destination Survey (Kanata – Stittsville district) and the location of adjacent arterial roadways and neighbourhoods, the distribution of site-generated traffic volumes was estimated as follows:

- 25% to/from the north;
- 10% to/from the south;
- 60% to/from the east; and,
- 5% to/from the west.

The expected site-generated auto trips in Table 15 and Table 16 were then assigned to the road networks as shown in Figure 12 and Figure 13, by assessing the flow of existing traffic volumes and the estimated travel times.

Figure 12: Purolator Facility Site-Generated Traffic (Phase 1)

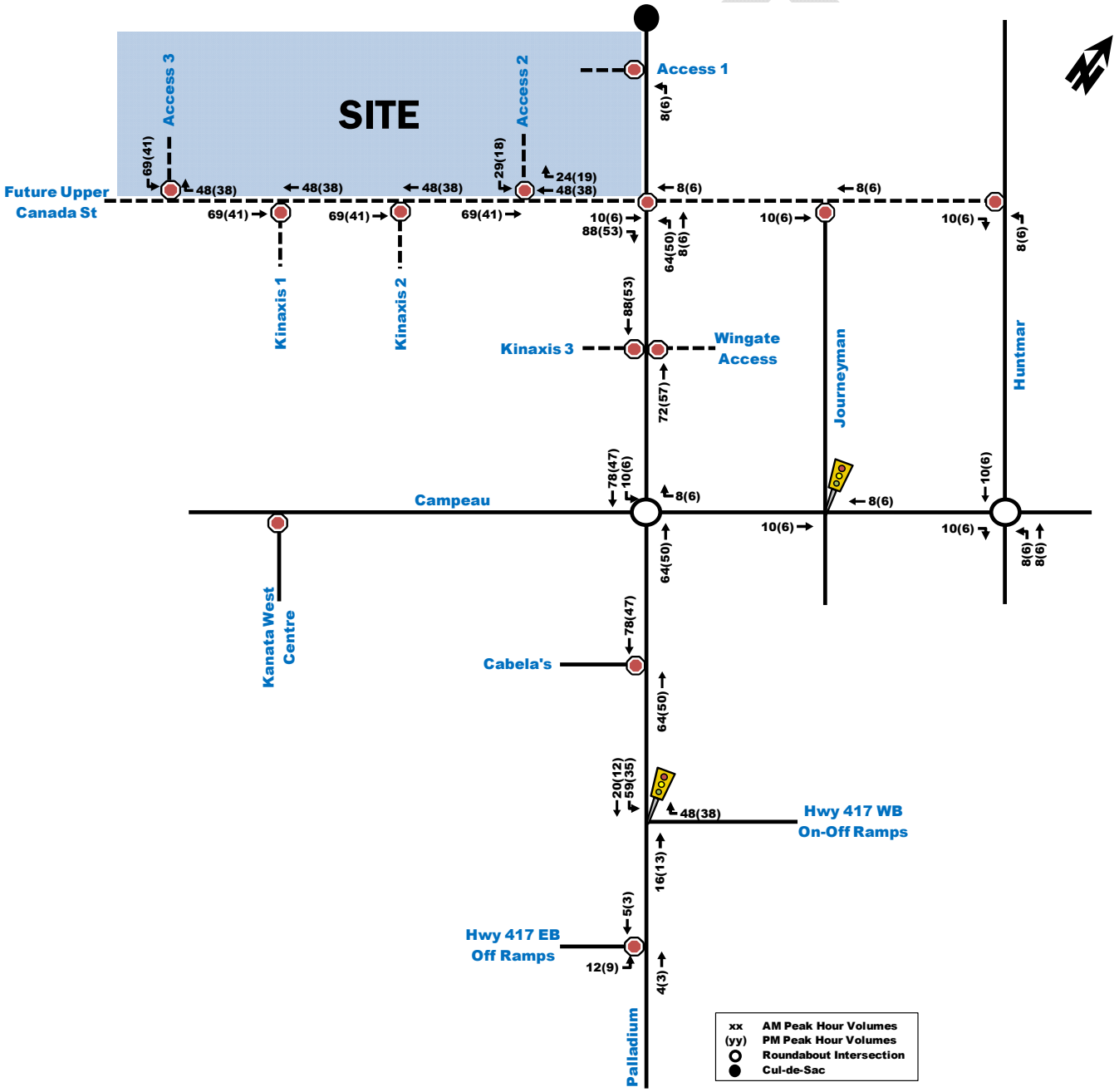
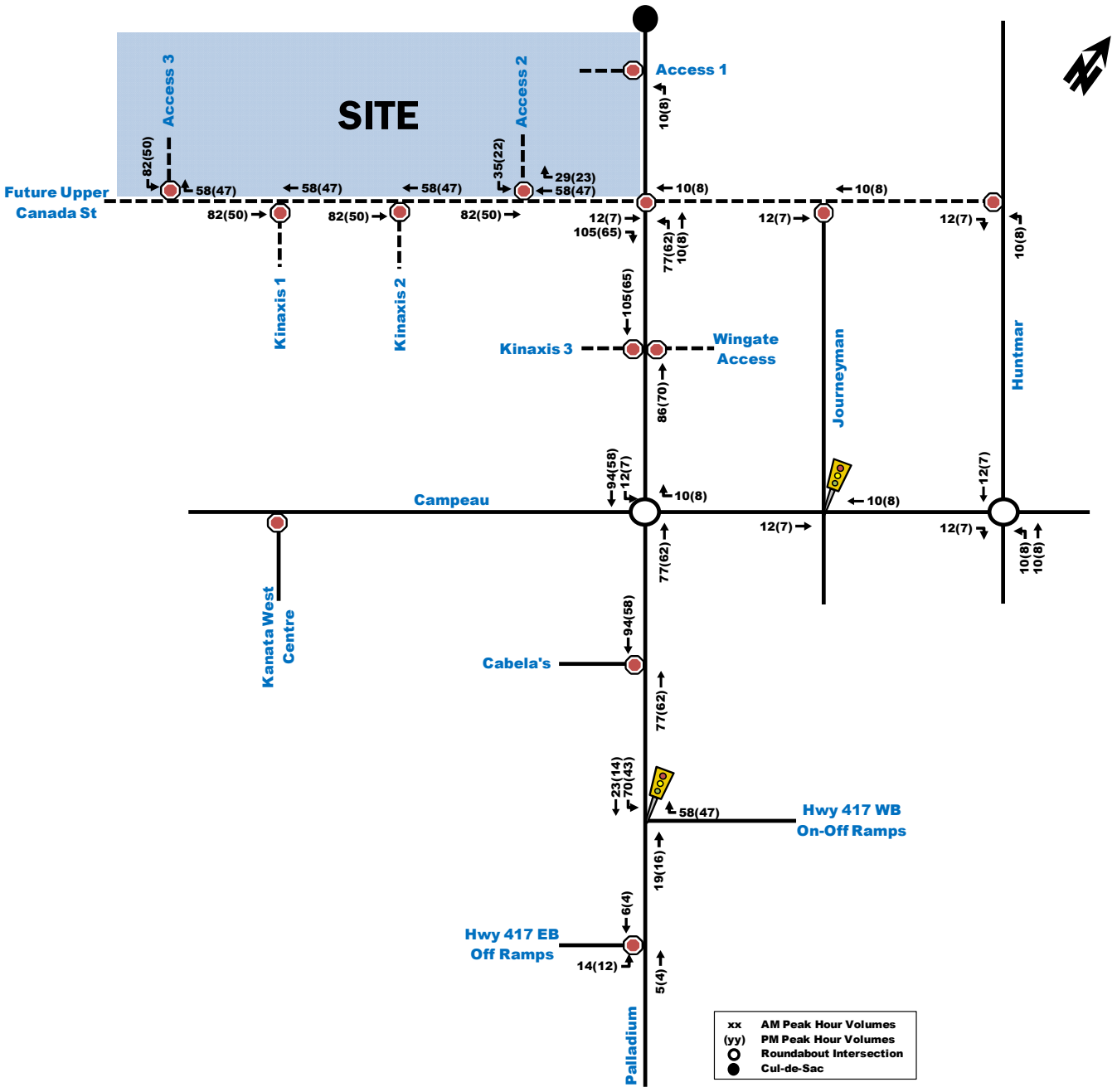


Figure 13: Purolator Facility Site-Generated Traffic (Phase 2)



It was assumed that 25% of site traffic would travel to/from Huntmar Rd, while 75% would use Hwy 417. The majority of employees and customers were anticipated to use Site Access 3, along the future Upper Canada Street, to enter and exit the development site. The remainder would use accesses 1 and 2, with access 1 being used mainly by inbound delivery and transport trucks.

3.2. BACKGROUND NETWORK TRAFFIC

3.2.1. TRANSPORTATION NETWORK PLANS

Refer to Section 2.1.3: Planned Study Area Transportation Network Changes.

3.2.2. BACKGROUND GROWTH

A large portion of the Kanata West Business Park and the ultimate road network to support it (see Figure 8) has already been constructed. Therefore, the existing traffic counts recently conducted by Parsons at study area intersections account for the current buildout. As previously noted, planned adjacent developments will be accounted for separately in this analysis. However, a 1% background growth rate was still applied to the existing traffic volumes to represent more conservative future buildout conditions.

The resulting future background traffic volumes for horizon years 2021, 2026 and 2031 are illustrated in Figure 14, Figure 15 and Figure 16.

Figure 14: Future Background 2021

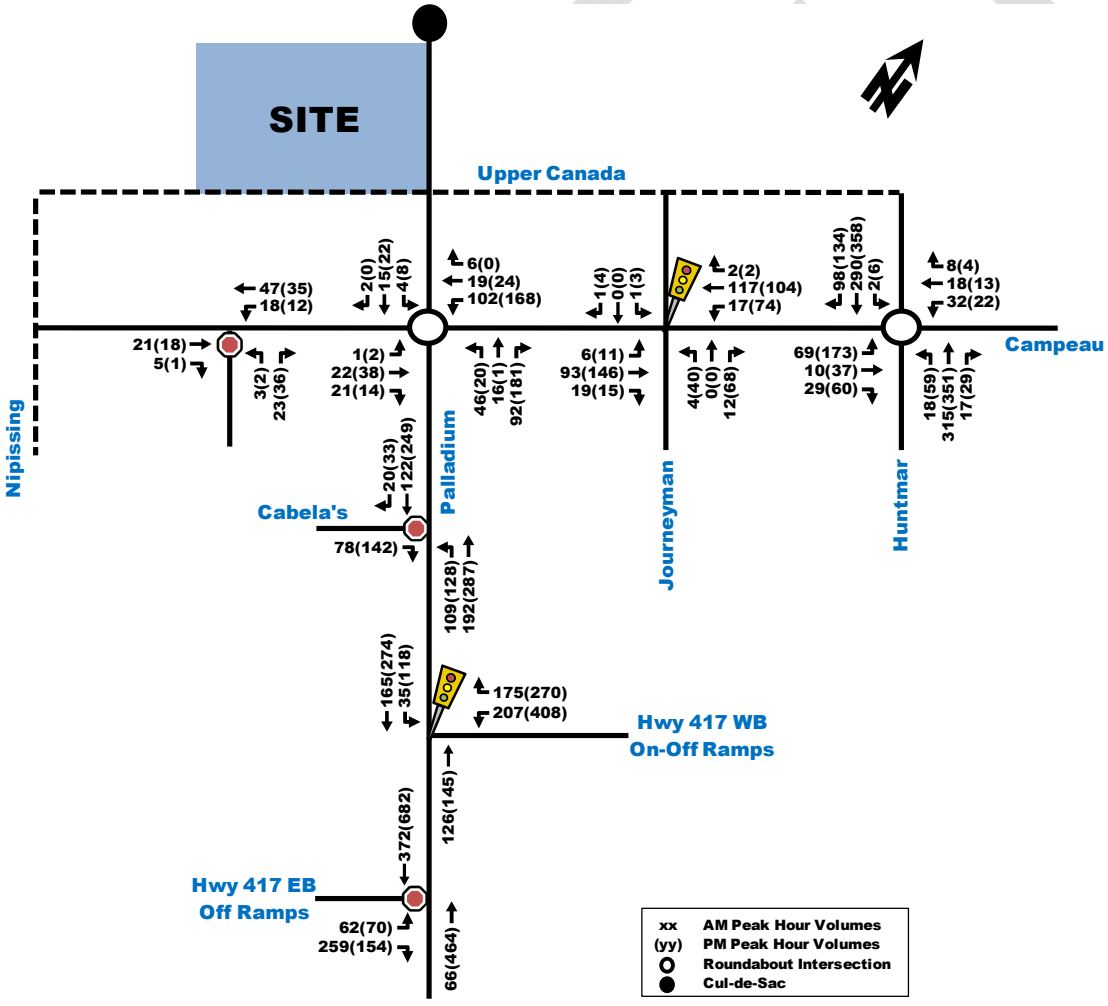


Figure 15: Future Background 2026

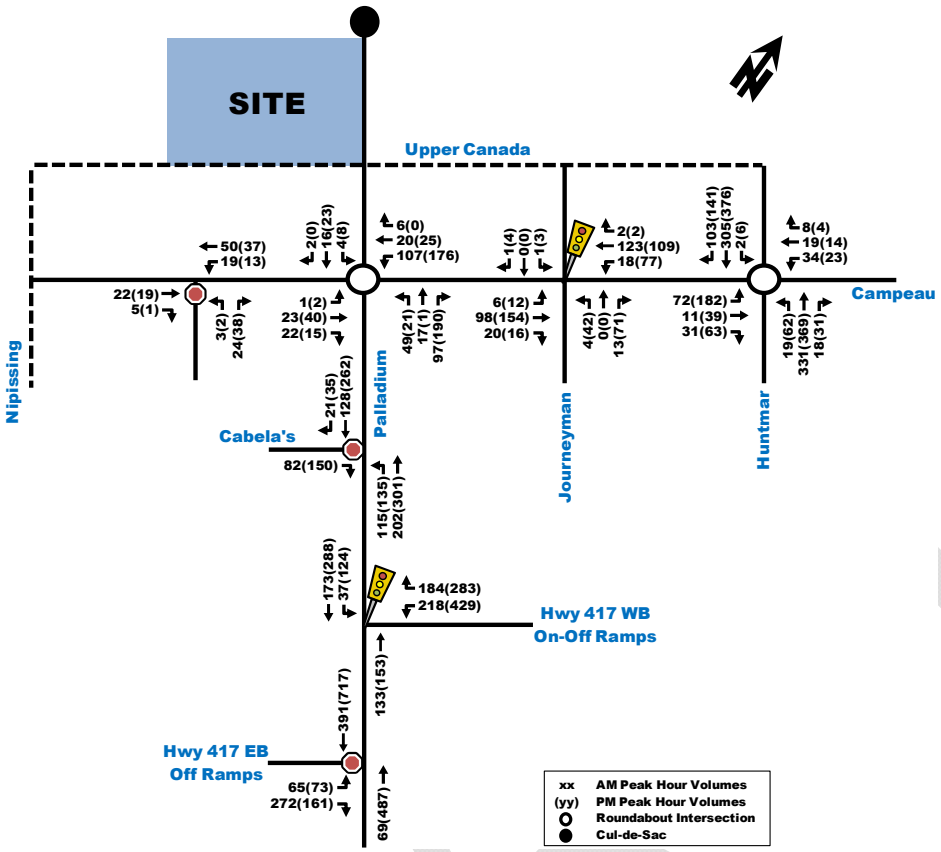
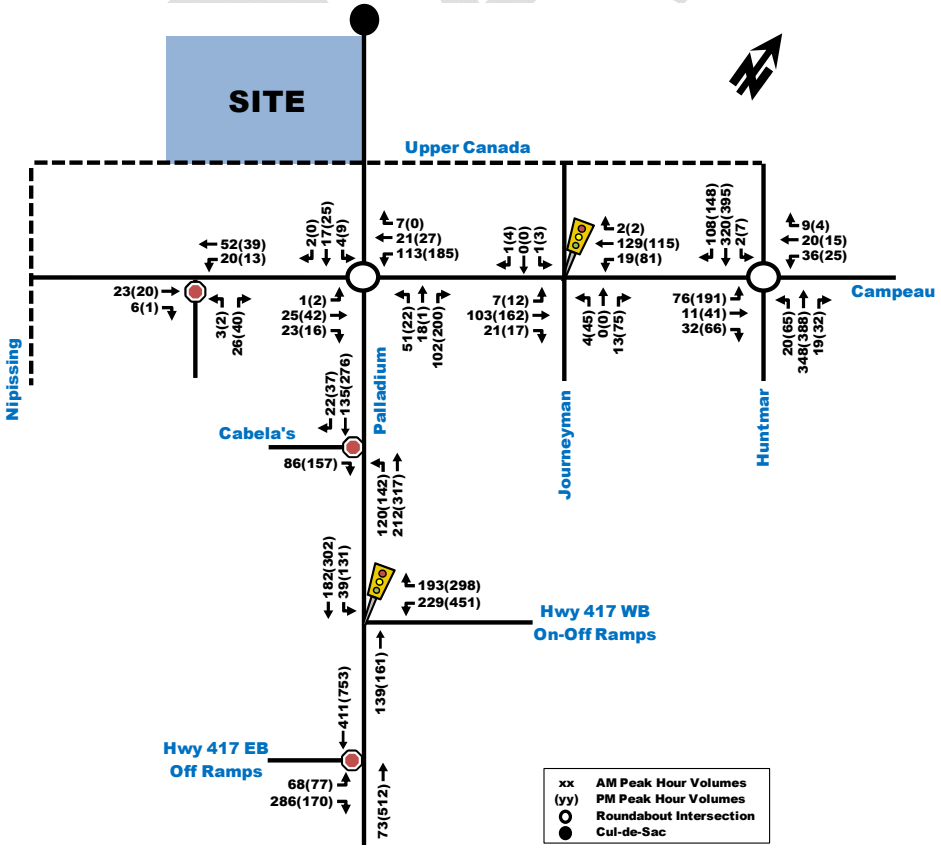


Figure 16: Future Background 2031



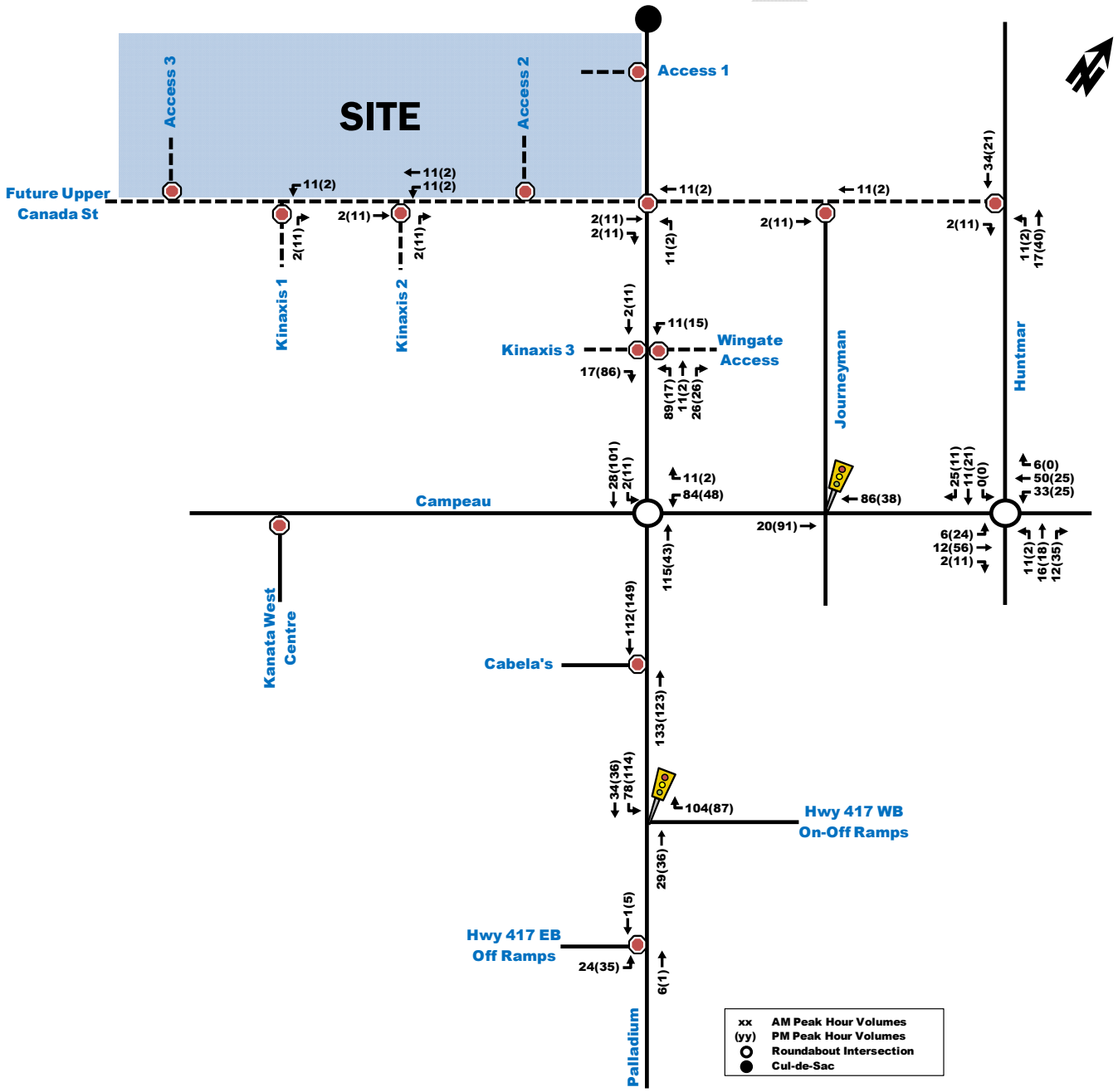
3.2.3. OTHER AREA DEVELOPMENTS

Other area developments that have initiated the City's development application process were outlined in Section 2.1.3: Other Area Developments. Based on the previous discussion, traffic volumes generated by the following other area developments were considered in future analysis (to be conducted in the Strategy section of the TIA process):

- 8600 Campeau Dr (Wingate Hotel)
- 8700 Campeau Dr (Kinaxis)
- 450 Huntmar Dr (Residential Subdivision)

Figure 17 illustrates the anticipated traffic volumes, generated within the study area by other area developments.

Figure 17: Other Area Developments Total Traffic Volumes



3.2.4. TOTAL BACKGROUND TRAFFIC

Total background traffic represents the summation of background traffic growth (based on the 1% growth rate) in Figure 14, Figure 15 and Figure 16 and adjacent development traffic in Figure 17. The resulting total background traffic volumes for horizon years 2021, 2026 and 2031 are illustrated in Figure 18, Figure 19 and Figure 20.

Figure 18: Total Future Background 2021 Traffic Volumes

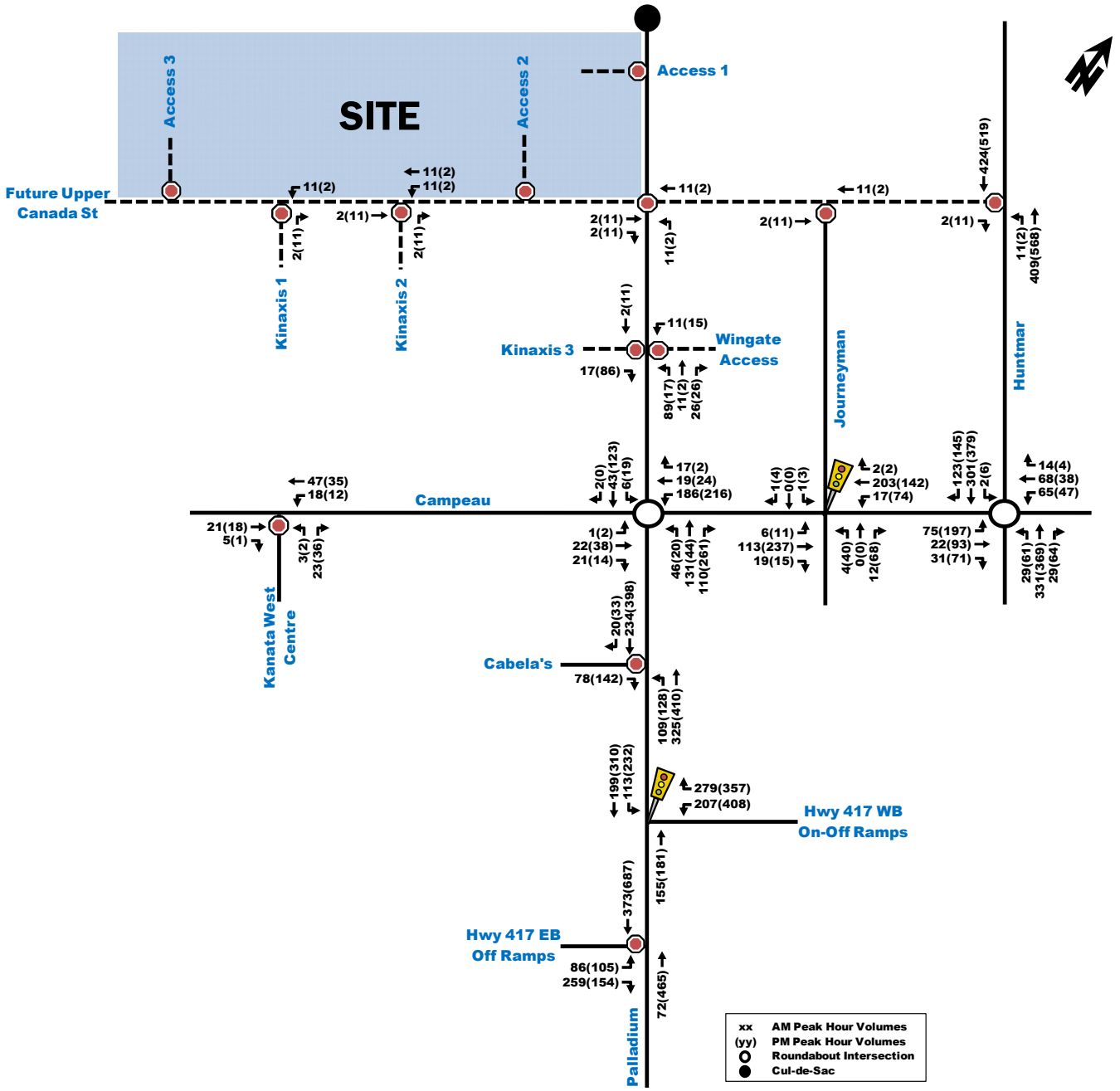


Figure 19: Total Future Background 2026 Traffic Volumes

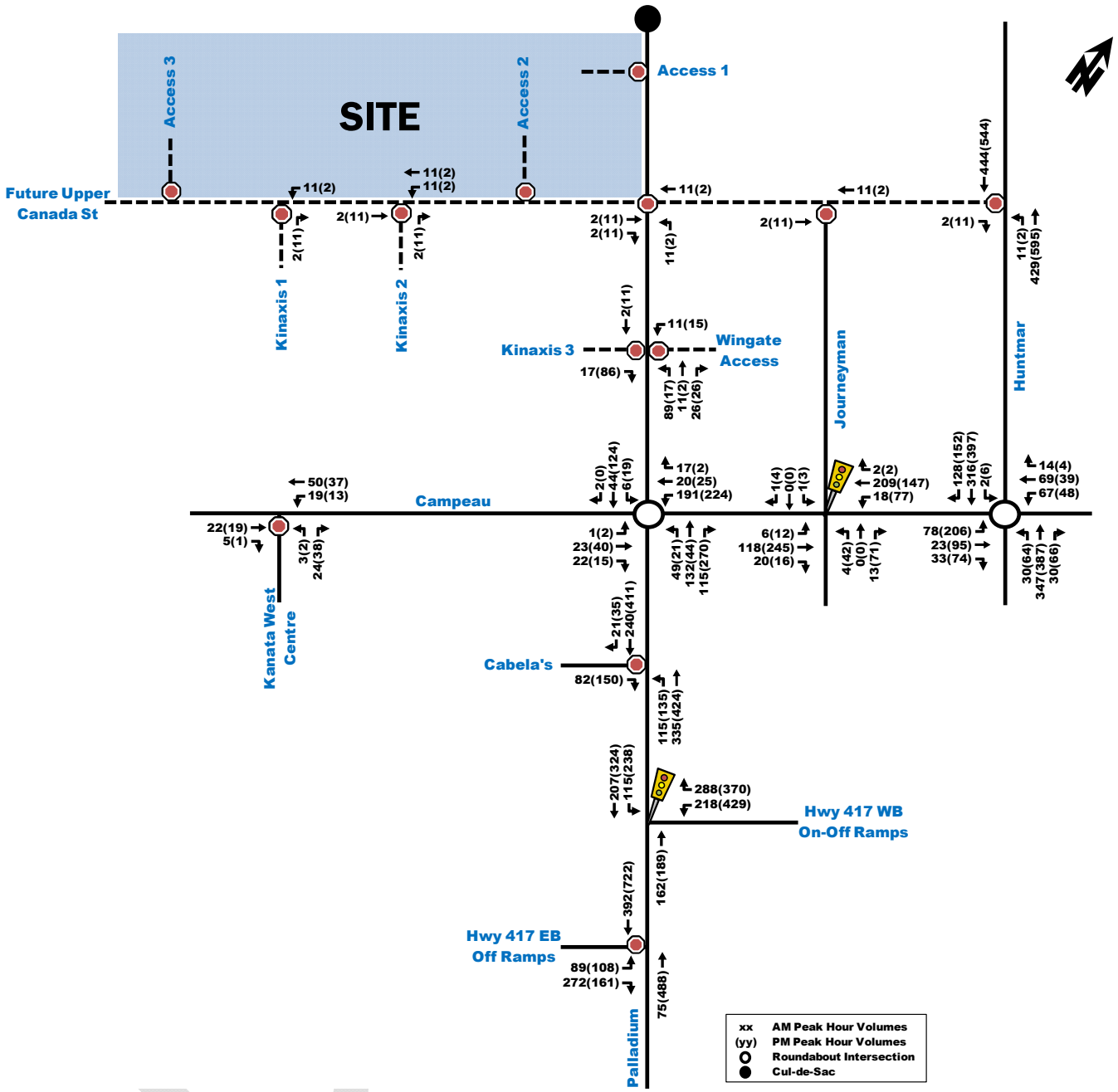
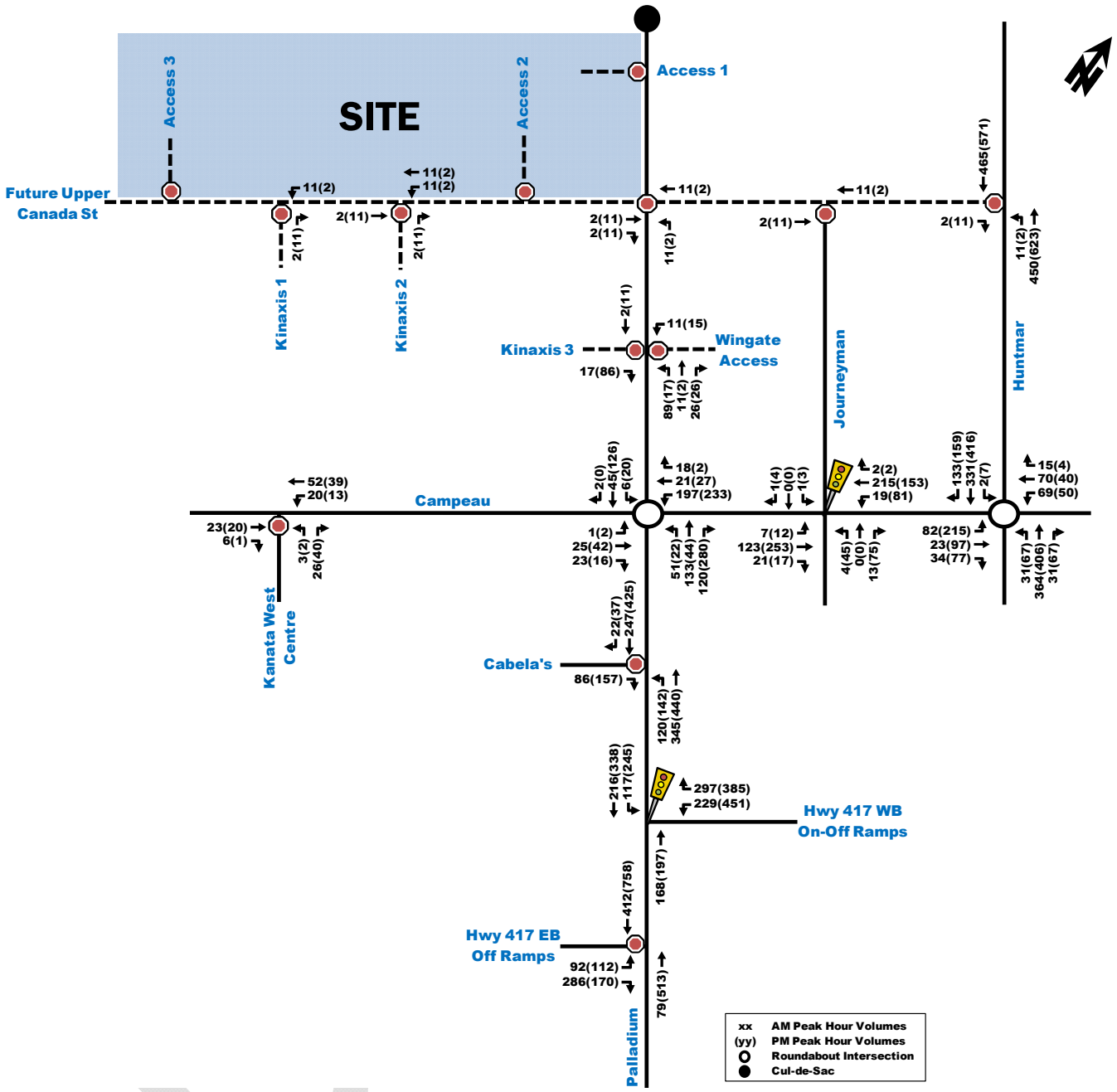


Figure 20: Total Future Background 2031 Traffic Volumes



3.3. DEMAND RATIONALIZATION

The study area road network is expected to accommodate projected volumes. There are currently no anticipated capacity issues. The capacity of the roadways will be further explored in a more detailed review of the total projected traffic volumes and intersection design in the following Analysis Section of the Report.

4. ANALYSIS

4.1. DEVELOPMENT DESIGN

4.1.1. DESIGN FOR SUSTAINABLE MODES

Pedestrians and cyclists can access the development site through the series of sidewalks and unidirectional bike lanes that are currently provided throughout the study area. Sidewalks facilities will also be provided along both sides of the future Upper Canada St, but there are no plans currently for bike lanes.

With regards to transit, two bus routes currently operate along Campeau Dr and Palladium Dr, as previously mentioned in Section 2.1.2. Furthermore, the nearest existing bus stop to the development site is along Campeau Dr, within approximately 450m walking distance. Nonetheless, OC Transpo has confirmed that bus stops within 150m of the proposed site will be provided along Palladium Dr, south of Campeau Dr, as early as September 2019.

The TDM-Supportive Development Design and Infrastructure Checklist is provided in Appendix E.

4.1.2. CIRCULATION AND ACCESS

There are no anticipated issues with vehicle accessibility to parking areas on site. The Palladium Dr access is located along the west side of the cul-de-sac, approximately 250m north of the Campeau/Palladium roundabout, while the two Upper Canada St accesses will be approximately 21m and 248m west of the future intersection of Upper Canada/Palladium The Palladium Dr access will be used by inbound transport and delivery trucks only. The Upper Canada St accesses will be used primarily by vehicles accessing the development's parking lots. However, it is to our understanding that delivery trucks may also use the east access of Upper Canada St to enter and exit the sort area, while transport trucks may exit the site through the west Upper Canada St access.

The parking lot driveway aisles within the proposed development site are at least 6.70m wide, which meets the minimum requirements of the City of Ottawa parking provisions. Further design review is provided in Section 4.4.1.

4.2. PARKING

4.2.1. PARKING SUPPLY

Vehicle Parking
A total of 169 vehicle parking spaces are expected to be provided for employees and customers of the planned development. The number of parking spaces provided exceeds the minimum parking space rates set by the City of Ottawa parking provisions. The parking spaces are 6.1m long and 2.75m wide, which meets the minimum requirements of 5.2m long and 2.6m wide permitted by the City of Ottawa's parking provisions By-Law. Within the gated complex, there are 24 delivery truck parking spaces and 3 trailer parking spaces.

Bicycle Parking
Four (4) bicycle parking spaces are provided as per parking provisions, given a truck transport terminal/warehouse land use. The parking spaces will be located near the office building entrance.

4.3. BOUNDARY STREET DESIGN

The proposed site's boundary street today is Palladium Dr. In the future, a new roadway, Upper Canada St, will be constructed to the south of the development site. Since there are no anticipated changes to the existing Palladium Dr in

future conditions, a Multi-Modal Level of Service (MMLOS) analysis was conducted for both boundary streets, based on future conditions.

The geometry of the existing *Palladium Dr* (Arterial Road) consists of the following features:

- 1 vehicle travel lane in each direction;
- 2.0m sidewalks on both sides of the roadway;
- 2.0m wide boulevards;
- Less than 3000 avg daily curb lane traffic volumes;
- Posted speed limit of 60 km/h; and
- 3.5m wide lanes.

The geometry of the future *Upper Canada St* (Local Road) is anticipated to consist of the following features:

- 1 vehicle travel lane in each direction;
- 2.0m sidewalks on the south side of the roadway;
- No planned bike lanes;
- Less than 3000 avg daily curb lane traffic volumes;
- Assumed posted speed limit of 50 km/h; and
- Approximately 4.25m wide lanes.

The multi-modal level of service analysis for the adjacent road segments of Palladium Dr and Upper Canada St is summarized in Table 17, with detailed analysis provided in Appendix F. The table also identifies the target LOS, with respect to each mode, based on the land-use designation and road classification of the development site and the boundary streets. The Transportation Master Plan (TMP) of the City of Ottawa identifies the land-use designation of the development site as an Urban Employment Area. The road classifications of each of the boundary streets were noted above.

Table 17: MMLOS – Boundary Road Analysis

Road Segment	Level of Service							
	Pedestrian (PLOS)		Bicycle (BLOS)		Transit (TLOS)		Truck (TkLOS)	
	PLOS	Target	BLOS	Target	TLOS	Target	TkLOS	Target
Palladium Dr	A	C	D	E	D	No target	C	D
Upper Canada St	A	C	B	No target	D	No target	B	E

Blue letters in the table above indicate that the respective LOS result meets its respective LOS target set by the MMLOS Guidelines. All travel modes related to each of the road segments are anticipated to meet the MMLOS requirements. Note that no targets are set for the Transit LOS as there is no transit corridor or transit priority area along the boundary streets.

4.4. ACCESS INTERSECTION DESIGN

4.4.1. LOCATION AND DESIGN OF ACCESS

As previously mentioned, three future accesses are planned to be provided for the future development. Based on information provided by the site plan (Figure 2), the location and design of each of the accesses is described as follows:

- A 9.0m wide access to Palladium Dr, on the east end of the site, allowing only inbound movements of transport and delivery trucks. Across from the proposed access is an access to an existing medical facility, which is expected to generate minimal traffic during peak hours.
- Two 9.0m wide full-movement driveway connections to the future Upper Canada St on the south side of the site, approximately 21m and 248m west of the Palladium Dr/Upper Canada St intersection. Note that two accesses are proposed along the south side of Upper Canada St to serve the future other area development at 8700

Campeau Dr (Kinaxis). These future accesses are anticipated to be located approximately 50m and 120m west of the Palladium Dr/Upper Canada St intersection.

Furthermore, truck turning templates are provided in Appendix G, which illustrate the movement of trucks to and from the site. As previously mentioned, transport trucks (size WB-20) will enter the site at the Palladium Dr access and exit at the west Upper Canada St access. Delivery trucks may also enter the site using the Palladium Dr access but can also enter and exit the site through the east Upper Canada St access. Note that the site's fire route takes place along the parking lot aisle fronting the development's office building, between the two Upper Canada St accesses. Overall, there are no anticipated issues regarding the ability of trucks to access the site.

4.4.2. INTERSECTION CONTROL AND DESIGN

STOP control will be provided for traffic exiting the site at the two Upper Canada St accesses. The future intersection of Upper Canada/Palladium is anticipated to provide an All-Way STOP control and single, full-movement lanes on all legs of the intersection. Intersection control at the existing study area intersections will remain unchanged.

Furthermore, intersection MMLOS analysis is typically conducted in TIAs for signalized intersections fronting the site, in either existing or future conditions. However, since there are no existing or proposed signalized intersections at the frontage of the development site, this analysis cannot be provided.

4.5. TRANSPORTATION DEMAND MANAGEMENT

The TDM Measures Checklist will be provided by the proponent.

4.6. NEIGHBOURHOOD TRAFFIC MANAGEMENT

Exempt – see Section 2.3.

4.7. TRANSIT

Refer to Section 2.1.2: Transit Network, for a description of the existing bus services within the study area. Based on the City of Ottawa TMP, there are no planned changes to the study area with regards to the transit network.

4.8. REVIEW OF NETWORK CONCEPT

Exempt – see Section 2.3.

4.9. INTERSECTION DESIGN

4.9.1. INTERSECTION CONTROL

Refer to Section 4.4.2: Intersection Control and Design.

4.9.2. INTERSECTION DESIGN

Signalized and unsignalized intersections were assessed using the Synchro 10 Trafficware, while roundabouts were assessed using the Sidra 8.0 Intersection software. Critical movements at each intersection are identified based on the movement or approach providing either the highest volume-to-capacity (v/c) ratio (signalized intersections), or the highest average delay (unsignalized and roundabout intersections) at the respective intersection. It should be noted that, as per the TIA Guidelines, the Peak Hour Factor (PHF) was set to 0.90 for existing conditions analysis and to 1.0 for all future

analysis scenarios. All detailed analysis results from Synchro and Sidra for existing and future conditions have been provided in Appendix H.

Existing Conditions

Table 18 below summarizes traffic operational results of the signalized, unsignalized and roundabout intersections within the study area, based on existing conditions traffic volumes (see Figure 7).

Table 18: Existing Conditions Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection 'As a Whole'		
	LOS	max. v/c or avg. delay (s)	Movement	Delay (s)	LOS	v/c
Journeyman St/Campeau Dr (S)	A(A)	0.45(0.55)	WBT(EBT)	26.0(23.8)	A(A)	0.39(0.40)
Palladium Dr/Hwy 417 WB On-Off Ramps (S)	A(A)	0.32(0.44)	WBR(WBL)	16.1(17.3)	A(A)	0.22(0.33)
Kanata West Centre Dr/Campeau Dr (U)	A(A)	8.6(8.6)	NB(NB)	3.0(4.0)	-	-
Cabelas Way/Palladium Dr (U)	A(B)	9.1(10.1)	EB(EB)	3.0(3.0)	-	-
Palladium Dr/Hwy 417 EB Off Ramp (U)	B(C)	12.1(17.4)	EB(EB)	5.1(2.8)	-	-
Campeau Dr/Palladium Dr (R)	A(A)	8.3(8.5)	WB(WB)	6.1(5.9)	-	-
Huntmar Dr/Palladium Dr (R)	A(A)	7.7(7.9)	WB(WB)	4.6(5.3)	-	-

Note: Analysis of signalized intersections assumes a PHF of 0.90 and a saturation flow rate of 1800 veh/h/lane.
(S) – Signalized intersection.
(U) – Unsignalized intersection.
(R) – Roundabout intersection.

As shown in Table 18, all critical movements at study area intersections are anticipated to result in a Level of Service (LOS) 'C' or better during morning and afternoon weekday peak hour periods. The signalized intersections 'as a whole' result in a LOS 'A' during both morning and afternoon weekday peak hour periods.

Total Future Background 2021 Conditions

Analysis of total future background 2021 was based on the traffic volumes shown in Figure 18. Table 19 below provides a summary of the analysis results.

Table 19: Total Future Background 2021 Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection 'As a Whole'		
	LOS	max. v/c or avg. delay (s)	Movement	Delay (s)	LOS	v/c
Journeyman St/Campeau Dr (S)	B(B)	0.61(0.65)	WBT(EBT)	28.6(25.6)	A(A)	0.56(0.50)
Palladium Dr/Hwy 417 WB On-Off Ramps (S)	A(A)	0.42(0.50)	WBR(WBR)	14.5(16.3)	A(A)	0.29(0.38)
Kanata West Centre Dr/Campeau Dr (U)	A(A)	8.6(8.6)	NB(NB)	3.0(4.0)	-	-
Cabelas Way/Palladium Dr (U)	A(B)	9.4(10.6)	EB(EB)	2.1(2.3)	-	-
Palladium Dr/Hwy 417 EB Off Ramp (U)	B(C)	11.8(18.2)	EB(EB)	5.0(3.3)	-	-
Palladium Dr/Upper Canada St (U)	A(A)	7.2(7.2)	NB(NB)	7.0(6.8)	-	-
Huntmar Dr/Upper Canada St (U)	A(A)	9.5(9.9)	EB(EB)	0.1(0.1)	-	-
Journeyman St/Upper Canada St (U)	A(A)	0.0(0.0)	NB(NB)	0.0(0.0)	-	-
Campeau Dr/Palladium Dr (R)	A(A)	8.9(8.8)	WB(WB)	6.1(5.6)	-	-
Huntmar Dr/Palladium Dr (R)	A(A)	7.4(7.4)	EB(EB)	4.9(5.4)	-	-

Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane.
(S) – Signalized intersection.
(U) – Unsignalized intersection.
(R) – Roundabout intersection.

As shown in Table 19, critical movements of signalized intersections operate at a LOS 'B' or better, with the intersections 'as a whole' operating at a LOS 'A' during the morning and afternoon peak hours. Stop control intersections operate at a LOS 'C' or better, while the roundabouts operate at a LOS 'A' during the morning and afternoon peak hours.

Total Future Background 2026 Conditions

Analysis of total future background 2026 was based on the traffic volumes shown in Figure 19. Table 20 below provides a summary of the analysis results.

Table 20: Total Future Background 2026 Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection 'As a Whole'		
	LOS	max. v/c or avg. delay (s)	Movement	Delay (s)	LOS	v/c
Journeyman St/Campeau Dr (S)	B(B)	0.62(0.66)	WBT(EBT)	28.6(25.6)	A(A)	0.57(0.50)
Palladium Dr/Hwy 417 WB On-Off Ramps (S)	A(A)	0.43(0.51)	WBR(WBR)	14.7(16.5)	A(A)	0.30(0.39)
Kanata West Centre Dr/Campeau Dr (U)	A(A)	8.6(8.6)	NB(NB)	3.0(4.0)	-	-
Cabelas Way/Palladium Dr (U)	A(B)	9.4(10.7)	EB(EB)	2.1(2.4)	-	-
Palladium Dr/Hwy 417 EB Off Ramp (U)	B(C)	12.1(19.6)	EB(EB)	5.1(3.5)	-	-
Palladium Dr/Upper Canada St (U)	A(A)	7.2(7.2)	NB(NB)	7.0(6.8)	-	-
Huntmar Dr/Upper Canada St (U)	A(B)	9.6(10.0)	EB(EB)	0.1(0.1)	-	-
Journeyman St/Upper Canada St (U)	A(A)	0.0(0.0)	NB(NB)	0.0(0.0)	-	-
Campeau Dr/Palladium Dr (R)	A(A)	8.9(8.8)	WB(WB)	6.1(5.6)	-	-
Huntmar Dr/Palladium Dr (R)	A(A)	7.4(7.8)	EB(WB)	4.9(5.5)	-	-

Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane.
(S) – Signalized intersection.
(U) – Unsignalized intersection.
(R) – Roundabout intersection.

The results show very slight increase in delays and v/c ratios at some intersections compared to total future background 2021 analysis results.

Total Future Background 2031 Conditions

Analysis of total future background 2031 was based on the traffic volumes shown in Figure 20. Table 21 below provides a summary of the analysis results.

Table 21: Total Future Background 2031 Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection 'As a Whole'		
	LOS	max. v/c or avg. delay (s)	Movement	Delay (s)	LOS	v/c
Journeyman St/Campeau Dr (S)	B(B)	0.62(0.67)	WBT(EBT)	28.7(25.7)	A(A)	0.57(0.51)
Palladium Dr/Hwy 417 WB On-Off Ramps (S)	A(A)	0.44(0.53)	WBR(WBR)	14.8(16.7)	A(A)	0.30(0.41)
Kanata West Centre Dr/Campeau Dr (U)	A(A)	8.6(8.6)	NB(NB)	3.0(4.0)	-	-
Cabelas Way/Palladium Dr (U)	A(B)	9.5(10.9)	EB(EB)	2.2(2.5)	-	-
Palladium Dr/Hwy 417 EB Off Ramp (U)	B(C)	12.5(21.5)	EB(EB)	5.3(3.9)	-	-
Palladium Dr/Upper Canada St (U)	A(A)	7.2(7.2)	NB(NB)	7.0(6.8)	-	-
Huntmar Dr/Upper Canada St (U)	A(B)	9.7(10.1)	EB(EB)	0.1(0.1)	-	-
Journeyman St/Upper Canada St (U)	A(A)	0.0(0.0)	NB(NB)	0.0(0.0)	-	-
Campeau Dr/Palladium Dr (R)	A(A)	8.9(8.8)	WB(WB)	6.1(5.6)	-	-
Huntmar Dr/Palladium Dr (R)	A(A)	7.5(7.9)	EB(WB)	4.9(5.5)	-	-

Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane.
(S) – Signalized intersection.
(U) – Unsignalized intersection.
(R) – Roundabout intersection.

The results show very slight increase in delays and v/c ratios at some intersections compared to total future background 2026 analysis results.

Total Projected 2021 Conditions – Phase 1 Build-Out

The total projected 2021 traffic volumes were derived by superimposing the Phase 1 site-generated traffic volumes (Figure 12) onto total future background 2021 traffic volumes (Figure 18). The resulting total projected 2021 traffic volumes are illustrated in Figure 21.

Figure 21: Total Projected 2021 Traffic Volumes

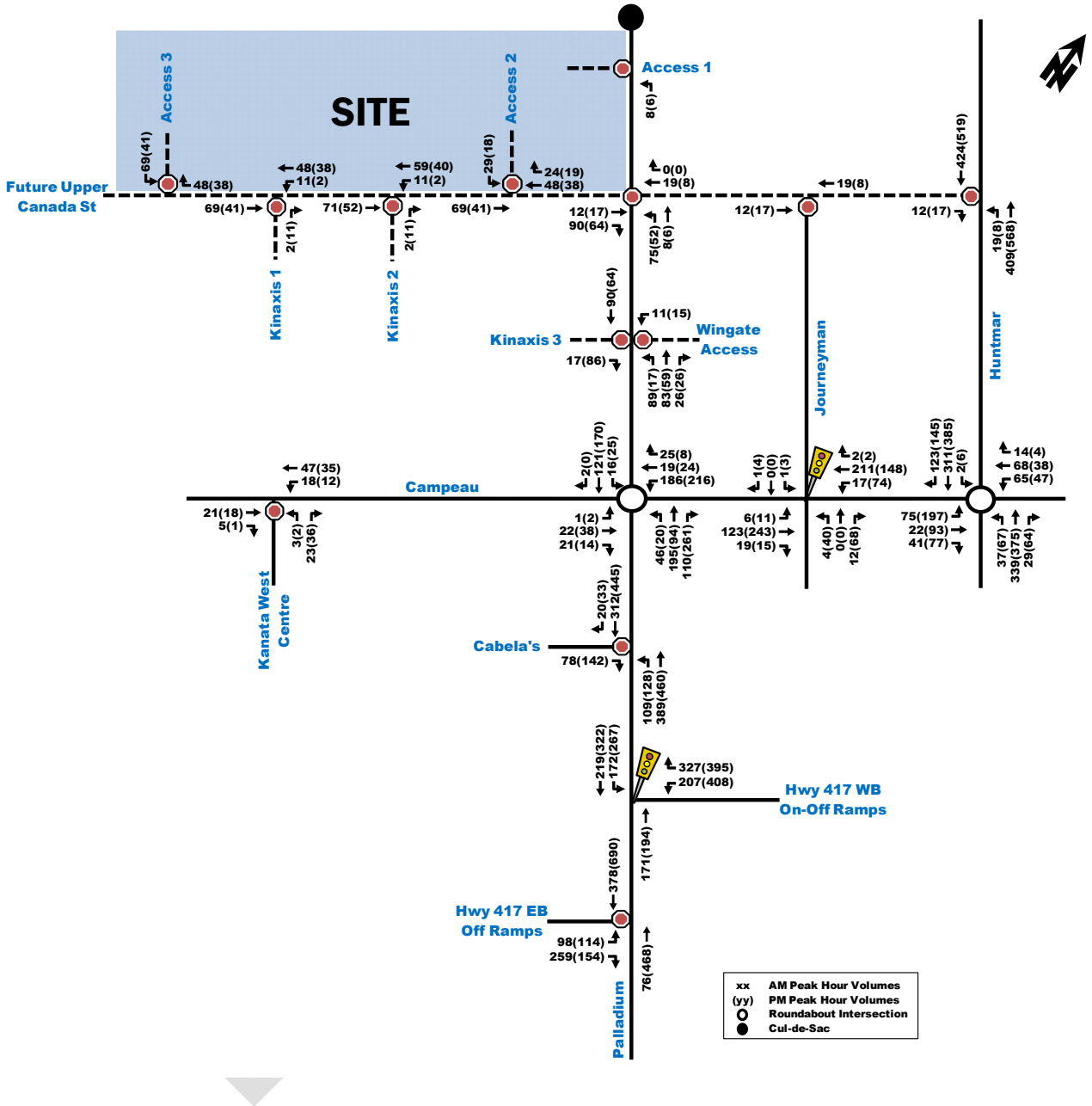


Table 22 below provides a summary of the critical Synchro analysis results at intersections within the study area, based on total projected 2021 traffic volumes.

Table 22: Total Projected 2021 Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection 'As a Whole'		
	LOS	max. v/c or avg. delay (s)	Movement	Delay (s)	LOS	v/c
Journeyman St/Campeau Dr (S)	B(B)	0.62(0.66)	WBT(EBT)	28.8(25.8)	A(A)	0.57(0.50)
Palladium Dr/Hwy 417 WB On-Off Ramps (S)	A(A)	0.47(0.53)	WBR(WBR)	14.2(16.2)	A(A)	0.34(0.42)
Kanata West Centre Dr/Campeau Dr (U)	A(A)	8.6(8.6)	NB(NB)	3.0(4.0)	A(A)	-
Cabelas Way/Palladium Dr (U)	A(B)	9.7(10.8)	EB(EB)	1.8(2.2)	A(A)	-
Palladium Dr/Hwy 417 EB Off Ramp (U)	B(D)	12.9(28.3)	EB(EB)	5.1(3.6)	A(A)	-
Palladium Dr/Upper Canada St (U)	A(A)	7.8(7.6)	NB(NB)	7.4(7.2)	A(A)	-
Huntmar Dr/Upper Canada St (U)	A(A)	9.6(10.0)	EB(EB)	0.4(0.2)	A(A)	-
Journeyman St/Upper Canada St (U)	A(A)	0.0(0.0)	NB(NB)	0.0(0.0)	A(A)	-
Palladium Dr/Site Access 1 (U)	A(A)	7.2(7.2)	EB(EB)	6.4(6.2)	A(A)	-
Upper Canada St/Site Access 2 (U)	A(A)	9.3(9.0)	SB(SB)	1.6(1.4)	A(A)	-
Upper Canada St/Site Access 3 (U)	A(A)	8.9(8.8)	SB(SB)	5.2(4.6)	A(A)	-
Campeau Dr/Palladium Dr (R)	B(B)	10.1(10.1)	WB(EB)	5.8(5.5)	A(A)	-
Huntmar Dr/Palladium Dr (R)	B(B)	10.3(10.2)	WB(WB)	4.9(5.4)	A(A)	-

Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane.
(S) – Signalized intersection.
(U) – Unsignalized intersection.
(R) – Roundabout intersection.

As shown in Table 22, all critical movements at study area intersections operate at a LOS 'D' or better during morning and afternoon weekday peak hour periods. The signalized intersections 'as a whole' result in a LOS 'A' during both morning and afternoon weekday peak hour periods. Moreover, the proposed development accesses are projected to operate at a LOS 'A' during both morning and afternoon weekday peak hour periods.

Total Projected 2026 Conditions – Phase 2 Build-Out

The total projected 2026 traffic volumes shown in Figure 22, were derived by superimposing the Phase 2 site-generated traffic volumes (Figure 13) onto total future 2026 background traffic volumes (Figure 19).

Figure 22: Total Projected 2026 Traffic Volumes

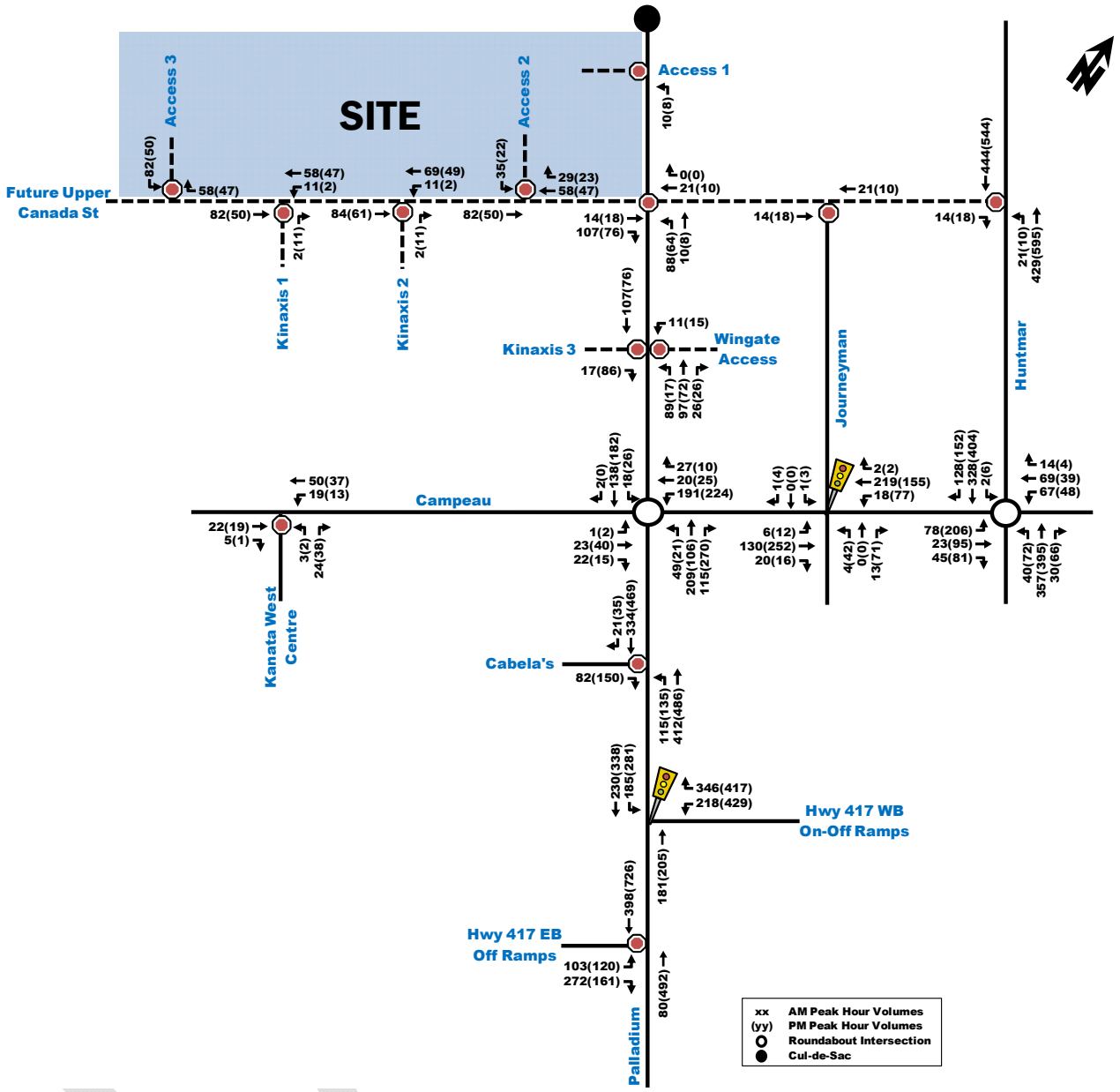


Table 23 below provides a summary of the critical Synchro analysis results at intersections within the study area, based on total projected 2026 traffic volumes.

Table 23: Total Projected 2026 Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection 'As a Whole'		
	LOS	max. v/c or avg. delay (s)	Movement	Delay (s)	LOS	v/c
Journeyman St/Campeau Dr (S)	B(B)	0.63(0.67)	WBT(EBT)	28.9(25.9)	A(A)	0.58(0.51)
Palladium Dr/Hwy 417 WB On-Off Ramps (S)	A(A)	0.49(0.55)	WBR(WBR)	14.3(16.4)	A(A)	0.35(0.43)
Kanata West Centre Dr/Campeau Dr (U)	A(A)	8.6(8.6)	NB(NB)	3.0(4.0)	A(A)	-
Cabelas Way/Palladium Dr (U)	A(B)	9.8(11.0)	EB(EB)	1.8(2.2)	A(A)	-
Palladium Dr/Hwy 417 EB Off Ramp (U)	B(D)	13.3(32.6)	EB(EB)	5.2(3.9)	A(A)	-
Palladium Dr/Upper Canada St (U)	A(A)	8.0(7.7)	NB(NB)	7.5(7.3)	A(A)	-
Huntmar Dr/Upper Canada St (U)	A(B)	9.7(10.1)	EB(EB)	0.4(0.3)	A(A)	-
Journeyman St/Upper Canada St (U)	A(A)	0.0(0.0)	NB(NB)	0.0(0.0)	A(A)	-
Palladium Dr/Site Access 1 (U)	A(A)	7.2(7.2)	NB(NB)	6.5(6.4)	A(A)	-
Upper Canada St/Site Access 2 (U)	A(A)	9.5(9.2)	SB(SB)	1.6(1.4)	A(A)	-
Upper Canada St/Site Access 3 (U)	A(A)	9.0(8.8)	SB(SB)	5.3(4.5)	A(A)	-
Campeau Dr/Palladium Dr (R)	B(B)	10.2(10.2)	WB(EB)	5.8(5.5)	A(A)	-
Huntmar Dr/Palladium Dr (R)	B(B)	10.4(10.2)	WB(EB)	4.9(5.5)	A(A)	-

Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane.
(S) – Signalized intersection.
(U) – Unsignalized intersection.
(R) – Roundabout intersection.

As shown in Table 23, the study area intersections are anticipated to operate similar to total projected 2021 conditions, with slight increase in delays and v/c ratios at some intersections.

Total Projected 2031 Conditions – Full Build-Out plus Five Years

The total projected 2031 traffic volumes shown in Figure 23 were derived by superimposing the total site-generated traffic volumes at Phase 2 full build-out (Figure 13) onto total future 2031 background traffic volumes (Figure 20).

Figure 23: Total Projected 2031 Traffic Volumes

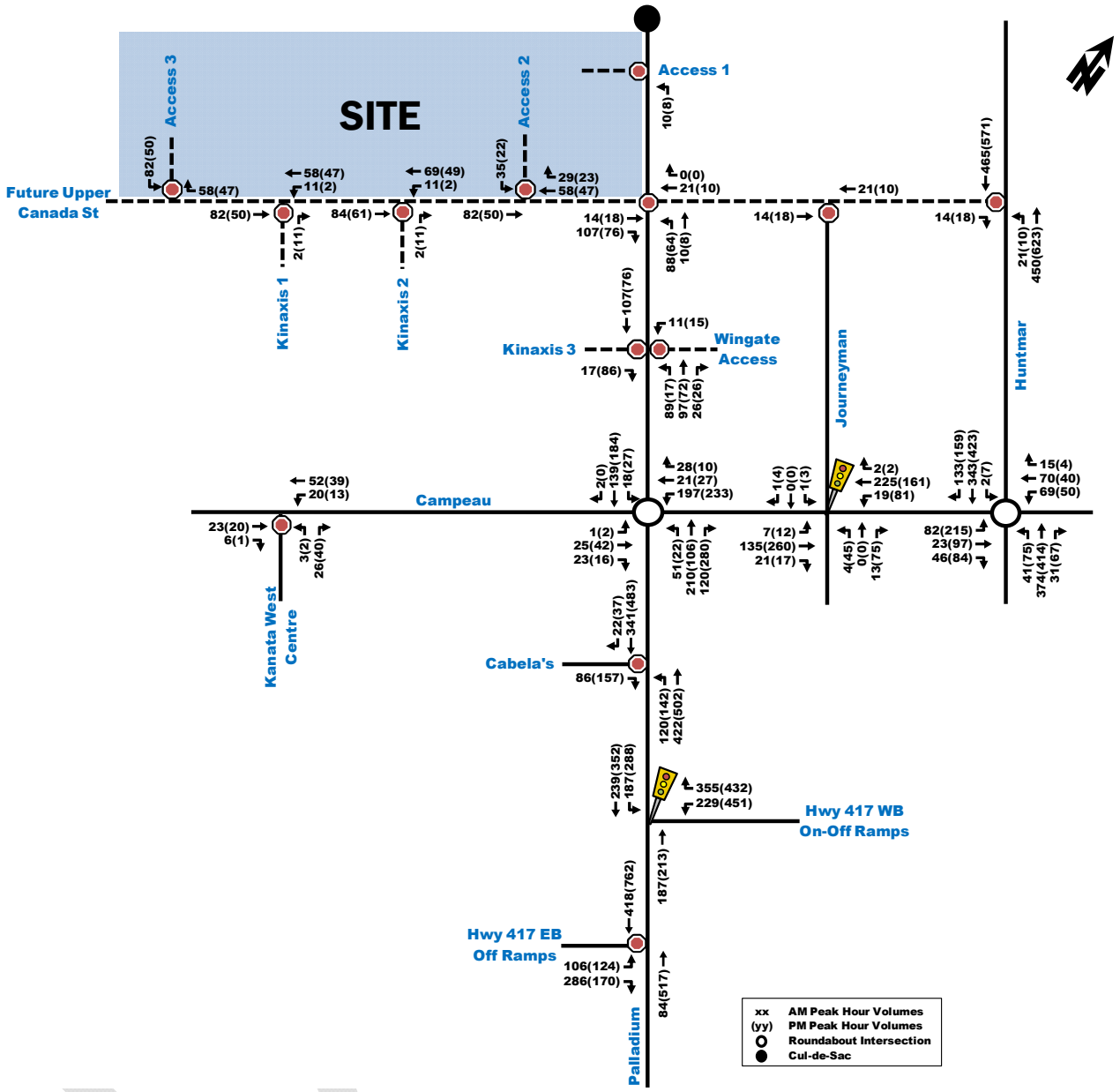


Table 24 below provides a summary of the critical Synchro analysis results at intersections within the study area, based on total projected 2031 traffic volumes.

Table 24: Total Projected 2031 Intersection Performance

Intersection	Weekday AM Peak (PM Peak)					
	Critical Movement			Intersection 'As a Whole'		
	LOS	max. v/c or avg. delay (s)	Movement	Delay (s)	LOS	v/c
Journeyman St/Campeau Dr (S)	B(B)	0.64(0.68)	WBT(EBT)	29.0(26.0)	A(A)	0.59(0.53)
Palladium Dr/Hwy 417 WB On-Off Ramps (S)	A(A)	0.50(0.56)	WBR(WBR)	14.4(16.6)	A(A)	0.36(0.44)
Kanata West Centre Dr/Campeau Dr (U)	A(A)	8.6(8.6)	NB(NB)	3.0(4.0)	A(A)	-
Cabelas Way/Palladium Dr (U)	A(B)	9.8(11.2)	EB(EB)	1.9(2.3)	A(A)	-
Palladium Dr/Hwy 417 EB Off Ramp (U)	B(E)	13.7(37.3)	EB(EB)	5.4(4.3)	A(A)	-
Palladium Dr/Upper Canada St (U)	A(A)	8.0(7.7)	NB(NB)	7.5(7.3)	A(A)	-
Huntmar Dr/Upper Canada St (U)	A(B)	9.8(10.2)	EB(EB)	0.4(0.3)	A(A)	-
Journeyman St/Upper Canada St (U)	A(A)	0.0(0.0)	NB(NB)	0.0(0.0)	A(A)	-
Palladium Dr/Site Access 1 (U)	A(A)	7.2(7.2)	NB(NB)	6.5(6.4)	A(A)	-
Upper Canada St/Site Access 2 (U)	A(A)	9.5(9.2)	SB(SB)	1.6(1.4)	A(A)	-
Upper Canada St/Site Access 3 (U)	A(A)	9.0(8.8)	SB(SB)	5.3(4.5)	A(A)	-
Campeau Dr/Palladium Dr (R)	B(B)	10.2(10.2)	WB(EB)	5.8(5.5)	A(A)	-
Huntmar Dr/Palladium Dr (R)	B(B)	10.5(10.3)	WB(EB)	5.0(5.5)	A(A)	-

Note: Analysis of signalized intersections assumes a PHF of 1.0 and a saturation flow rate of 1800 veh/h/lane.
(S) – Signalized intersection.
(U) – Unsignalized intersection.
(R) – Roundabout intersection.

As shown in Table 24, the study area intersections are anticipated to operate similar to total projected 2026 conditions, with slight increase in delays and v/c ratios at some intersections.

The City has asked that the queuing impacts be examined in the Strategy report along two sections, the Hwy 417 WB off ramp and the mid-block section of Palladium Dr, between the Campeau Dr roundabout and Hwy 417 WB off ramps. Since Total Projected 2031 conditions represents the worse case future scenario, the 95th percentile queue results were reviewed in this scenario. Based on the analysis, the 95th percentile queue length experienced by the WBL movement (occurs during afternoon peak) along Hwy 417 WB off ramp is approximately 50m, while the 95th percentile queue length experienced by the NB approach (occurs during morning peak) of the Campeau Dr/Palladium Dr roundabout is approximately 6m.

5. FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Based on the results summarized herein the following transportation related conclusions are offered:

Proposed Development

- The proposed development will be constructed in two phases. Phase 1 will consist of 780m^2 (8,400ft^2) of ancillary use/office space and a 5,300m^2 (57,000ft^2) sort/warehouse area with a build-out year of 2021. Phase 2 will consist of a future expansion to the sort/warehouse area, adding approximately 1,000 m^2 (~11,000 ft^2) to the Phase 1 building, with a build-out year of 2026.
- The development is planned to provide a total of 169 vehicle parking spaces for employee, visitor use and 4 bicycle parking spaces, both of which meet what is required by the City of Ottawa's parking provisions. Within the gated complex there are 24 spaces dedicated for delivery trucks and 3 trailer parking spaces.
- Three new accesses are proposed to serve the development. Two full-movement accesses will be located along the future Upper Canada St, on the south end of the site, while one inbound only access will be located along Palladium Dr, on the east end of the site.

- The projected number of vehicle trips anticipated to be generated by Phase 1 is 178 and 122 veh/h during the morning and afternoon weekday peak hour periods. At Phase 2 buildout, the development is anticipated to generate 213 and 150 veh/h during the morning and afternoon weekday peak hour periods.
- Truck turning templates indicated that there are no issues regarding truck movements throughout the site.

Existing and Background Conditions

- All existing study area intersections were projected to operate at a LOS 'C' or better during morning and afternoon weekday peak hour periods.
- Background traffic growth rate was assumed to be 1% per year at all existing study area intersections.
- The operational analysis of total future background 2021, 2026 and 2031 conditions indicated the following:
    - Study area intersections operate similar to existing conditions, with a LOS 'C' or better during morning and afternoon weekday peak hour periods; and,
    - MMLOS analysis of boundary streets was conducted based on future conditions of the study area. The boundary streets analyzed were Palladium Dr and the future Upper Canada St. The analysis indicated that all MMLOS targets were met, with respect to each travel mode and boundary street.

Projected Conditions

- In total projected 2021, 2026 and 2031 conditions, analysis was extended to include the three proposed accesses to the development.
- Based on the analysis, all study area intersections in total projected 2021, 2026 and 2031 conditions are projected to operate at a LOS 'C' or better during morning and afternoon weekday peak hour periods.

Based on the foregoing, the proposed Purolator development can be accommodated by the adjacent transportation network and is recommended to proceed from a transportation perspective.

Prepared By:	Reviewed By:
Rani Nahas, EIT. Transportation Planner	Matthew Mantle, P.Eng. Senior Transportation Engineer

Appendix A

Screening Form and City Comment Responses

PARSONS

1223 Michael Street, Suite 100, Ottawa, Ontario, K1J 7T2
P: +1 613.738.4160 | F: +1 613.739.7105 | www.parsons.com

City of Ottawa 2017 TIA Guidelines

TIA Screening Form

Date	Novemeber 4, 2019
Project	Purolater
Project Number	908489-50076

Results of Screening	Yes/No
Development Satisfies the Trip Generation Trigger	Yes
Development Satisfies the Location Trigger	No
Development Satisfies the Safety Trigger	Yes

Module 1.1 - Description of Proposed Development	
Municipal Address	8700 Campeau Drive
Description of location	Located in the north-west quadrant of the future Upper Canada/Palladium intersection. Currently a vacant lot.
Land Use	Package sorting facility
Development Size	6,700 sq. m facility consisting of office space, sort area, and repair garage.
Number of Accesses and Locations	Four proposed full movement accesses to Upper Canada Street and 2 Full movement accessed to Palladium Drive
Development Phasing	Two phases
Buildout Year	Assumed 2021 for Phase 1 and 2023 for Phase 2
Sketch Plan / Site Plan	See attached

Module 1.2 - Trip Generation Trigger		
Land Use Type	Industrial	
Development Size	6700	sq. m
Trip Generation Trigger Met?	Yes	

Module 1.3 - Location Triggers	
Development Proposes a new driveway to a boundary street that is designated as part of the City's Transit Priority, Rapid Transit, or Spine Bicycle Networks (See Sheet 3)	No
Development is in a Design Priority Area (DPA) or Transit-oriented Development (TOD) zone. (See Sheet 3)	No
Location Trigger Met?	No

Module 1.4 - Safety Triggers		
Posted Speed Limit on any boundary road	<80	km/h
Horizontal / Vertical Curvature on a boundary street limits sight lines at a proposed driveway	No	
A proposed driveway is within the area of influence of an adjacent traffic signal or roundabout (i.e. within 300 m of intersection in rural conditions, or within 150 m of intersection in urban/ suburban conditions) or within auxiliary lanes of an intersection;	Yes	
A proposed driveway makes use of an existing median break that serves an existing site	No	
There is a documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development	No	
The development includes a drive-thru facility	No	
Safety Trigger Met?	Yes	

Appendix B

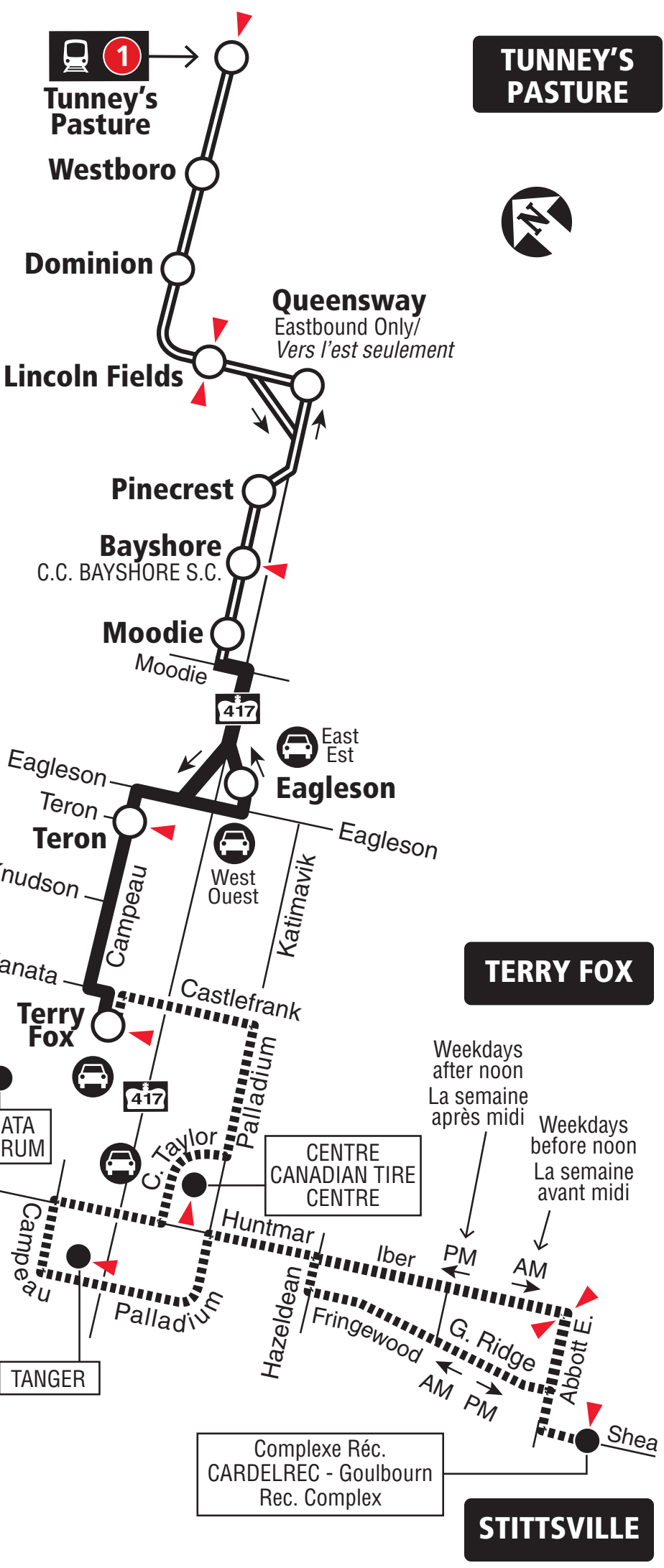
Transit Route Maps

62 Rapide

TERRY FOX STITTSVILLE
TUNNEY'S PASTURE

7 days a week / 7 jours par semaine

All day service
Service toute la journée



Transitway & Station

Monday to Friday only (limited evening service)
Lundi au vendredi seulement (service de soirée limité)

Park & Ride / Parc-o-bus

Timepoint / Heures de passage

2019.07

1

Starting July 14, 2019
À partir du 14 juillet 2019

Lost and Found / Objets perdus..... **613-563-4011**
Security / Sécurité **613-741-2478**

OC Transpo

INFO 613-741-4390
octranspo.com

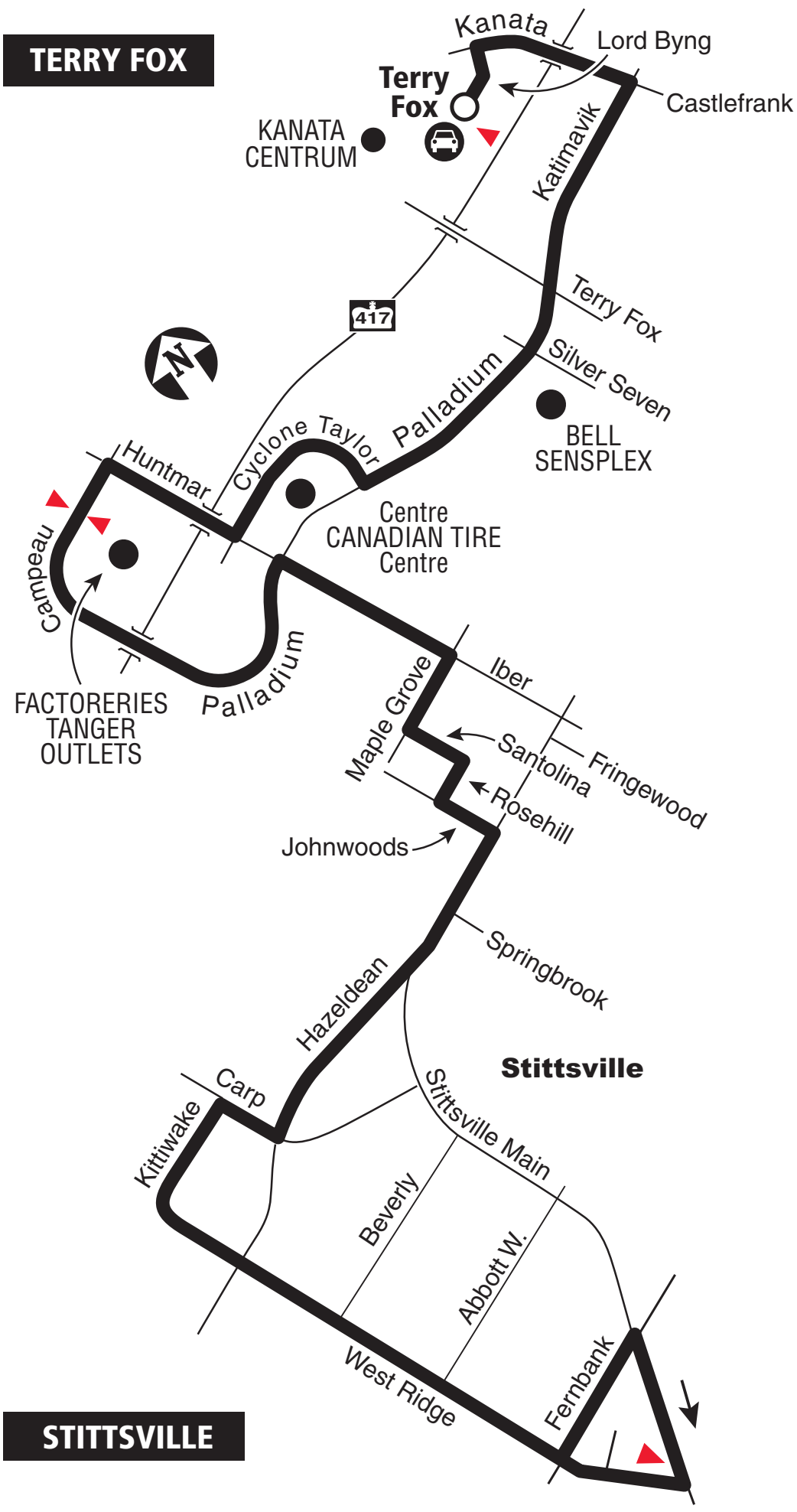
162

TERRY FOX
STITTSVILLE

Local

Monday to Friday/ Lundi au vendredi

Selected trips Mon. to Fri. All day on weekends / Service limité du lun. au ven. Toute la journée les fins de semaine



Transitway Station / Station du Transitway

Park & Ride / Parc-o-bus

Timepoint / Heures de passage

2019.06

Schedule / Horaire.....613-560-1000
Text / Texto 560560

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**

Security / Sécurité **613-741-2478**

Effective November 15, 2017
En vigueur 15 novembre 2017

OC Transpo

INFO 613-741-4390
octranspo.com

Appendix C

Traffic Data

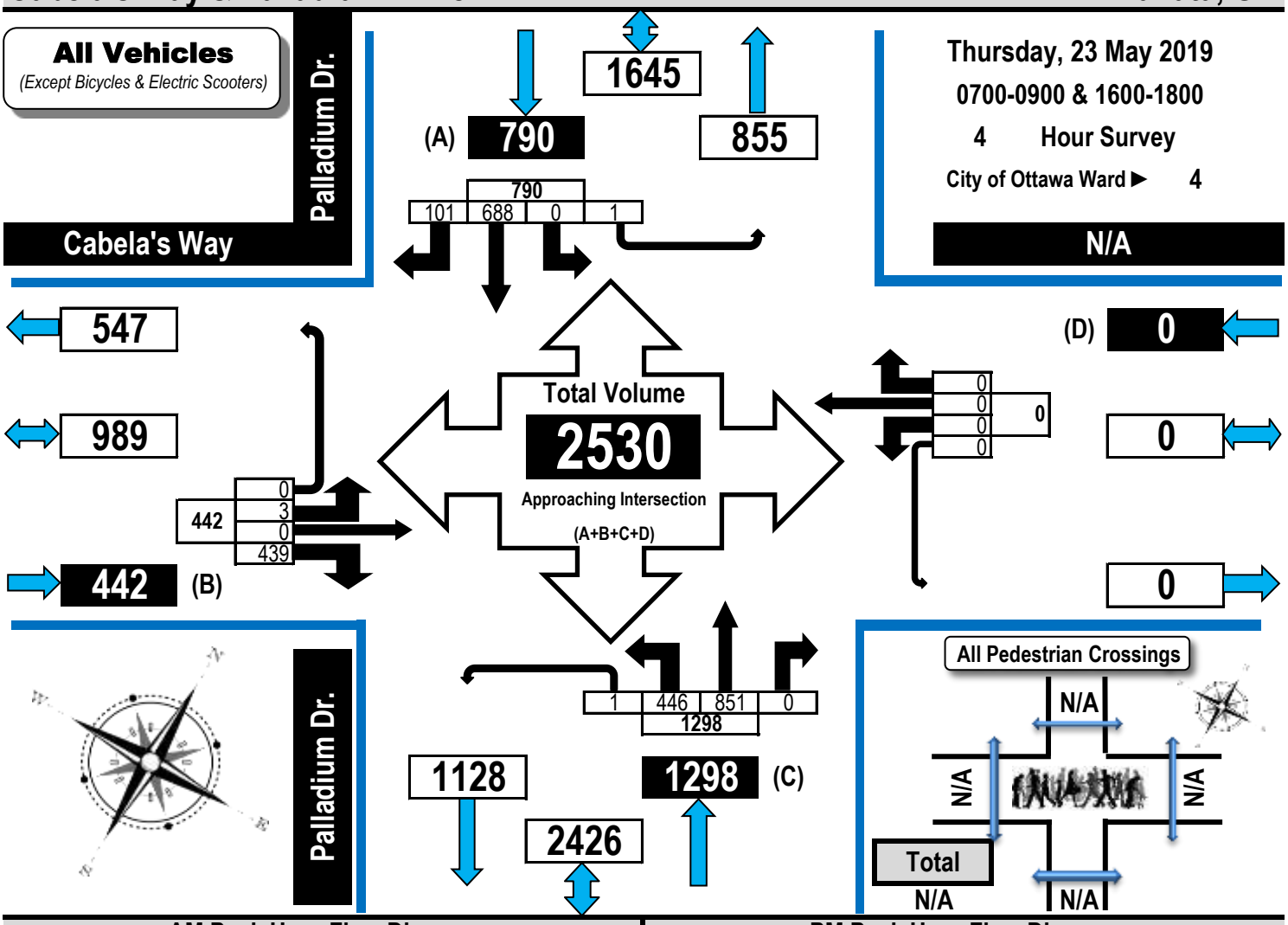
Turning Movement Count
Summary, AM and PM Peak Hour Flow Diagrams

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

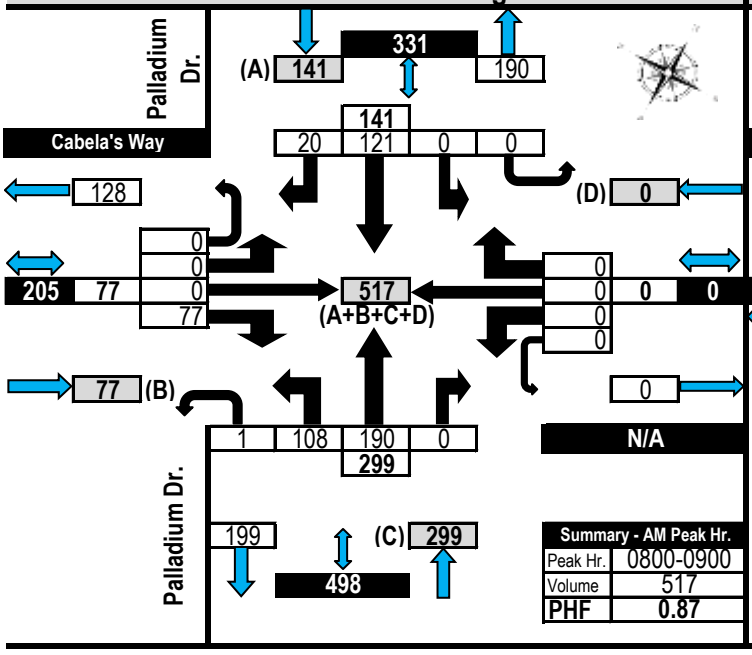
Cabela's Way & Palladium Drive — Kanata, ON

All Vehicles
(Except Bicycles & Electric Scooters)

Thursday, 23 May 2019
0700-0900 & 1600-1800
4 Hour Survey
City of Ottawa Ward ▶ 4

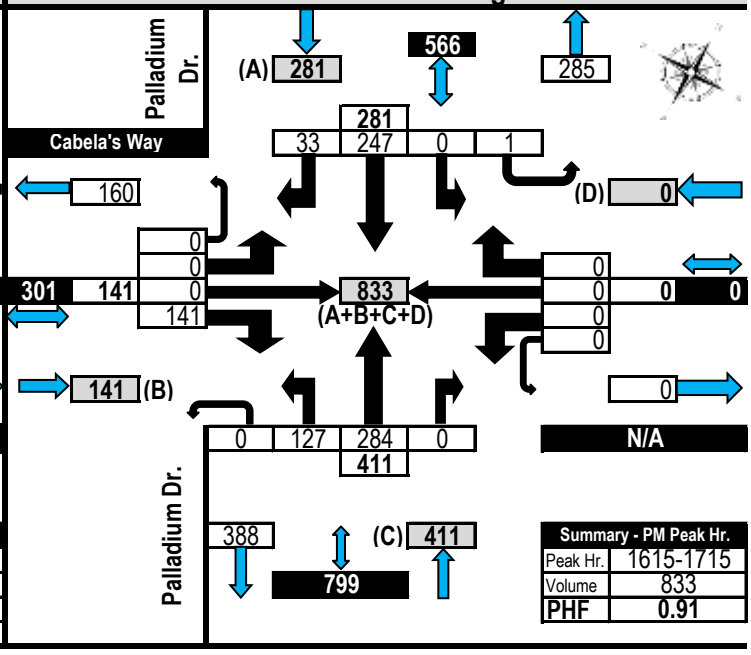


AM Peak Hour Flow Diagram



Summary - AM Peak Hr.	
Peak Hr.	0800-0900
Volume	517
PHF	0.87

PM Peak Hour Flow Diagram



Summary - PM Peak Hr.	
Peak Hr.	1615-1715
Volume	833
PHF	0.91

ACCURATE TRUSTED TRAFFIC DATA

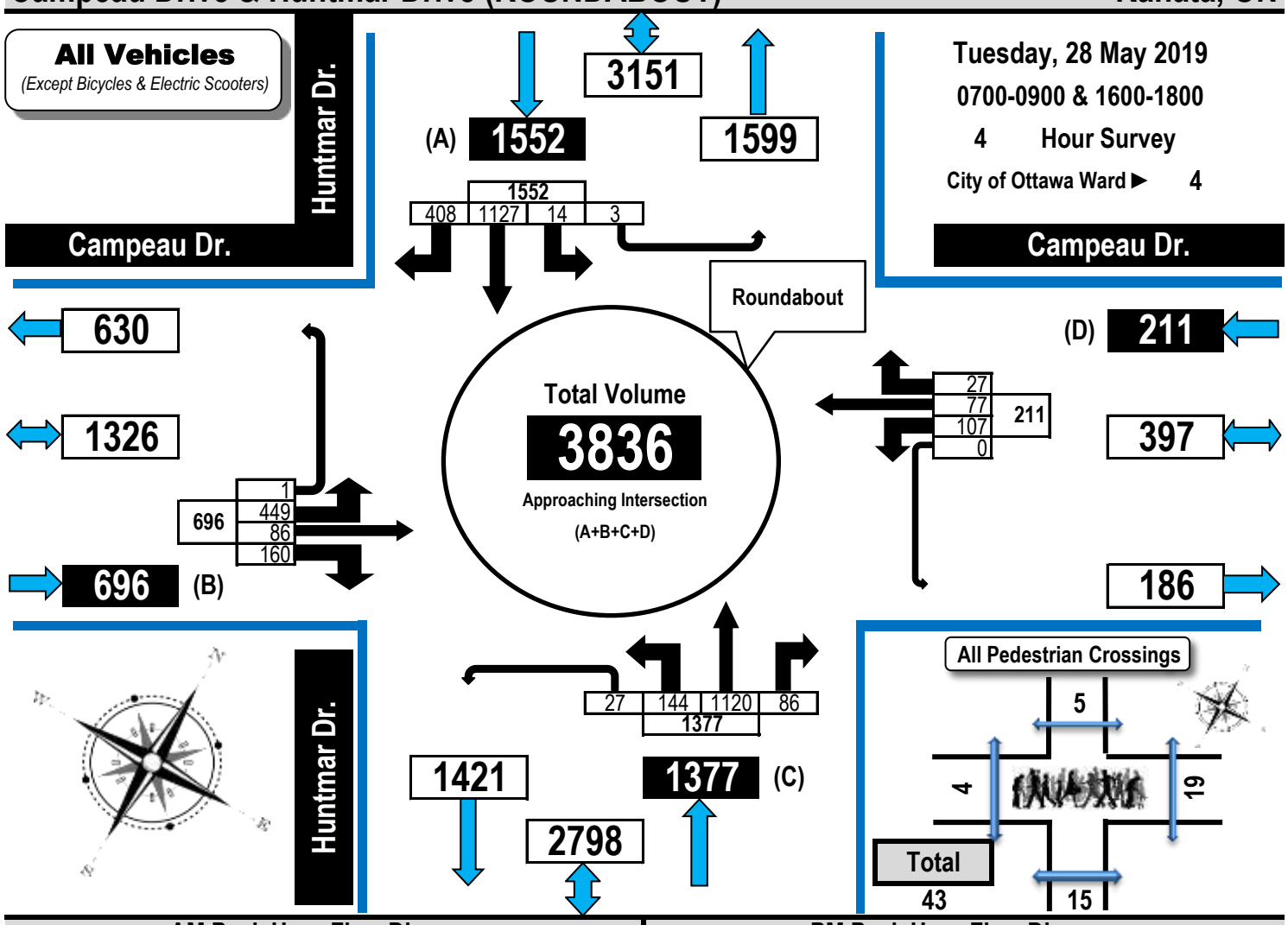
Turning Movement Count
Summary, AM and PM Peak Hour Flow Diagrams

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

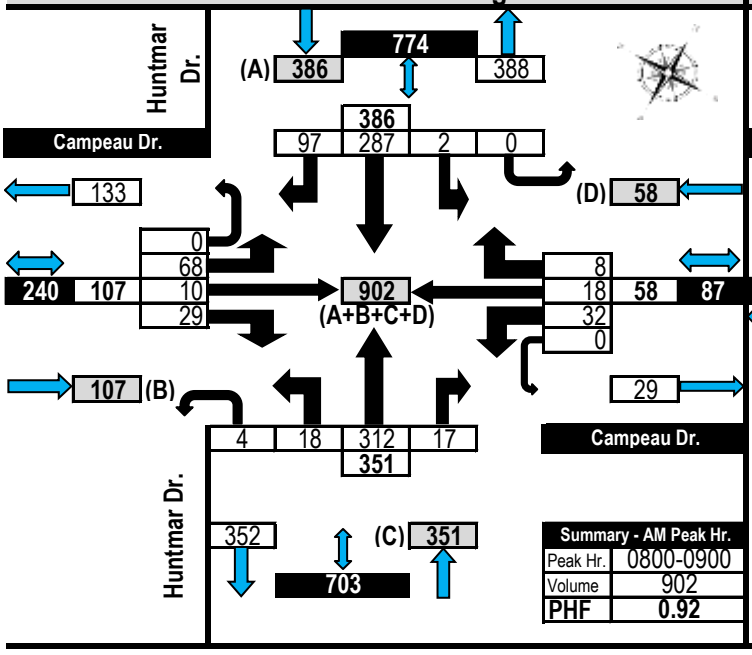
Campeau Drive & Huntmar Drive (ROUNDABOUT) — Kanata, ON

All Vehicles
(Except Bicycles & Electric Scooters)

Tuesday, 28 May 2019
0700-0900 & 1600-1800
4 Hour Survey
City of Ottawa Ward ▶ 4

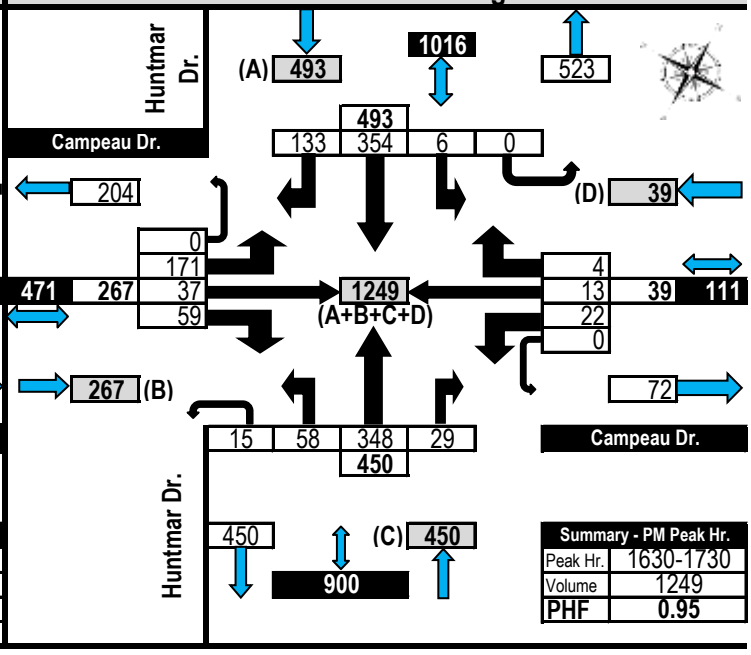


AM Peak Hour Flow Diagram



Summary - AM Peak Hr.	
Peak Hr.	0800-0900
Volume	902
PHF	0.92

PM Peak Hour Flow Diagram



Summary - PM Peak Hr.	
Peak Hr.	1630-1730
Volume	1249
PHF	0.95

ACCURATE TRUSTED TRAFFIC DATA

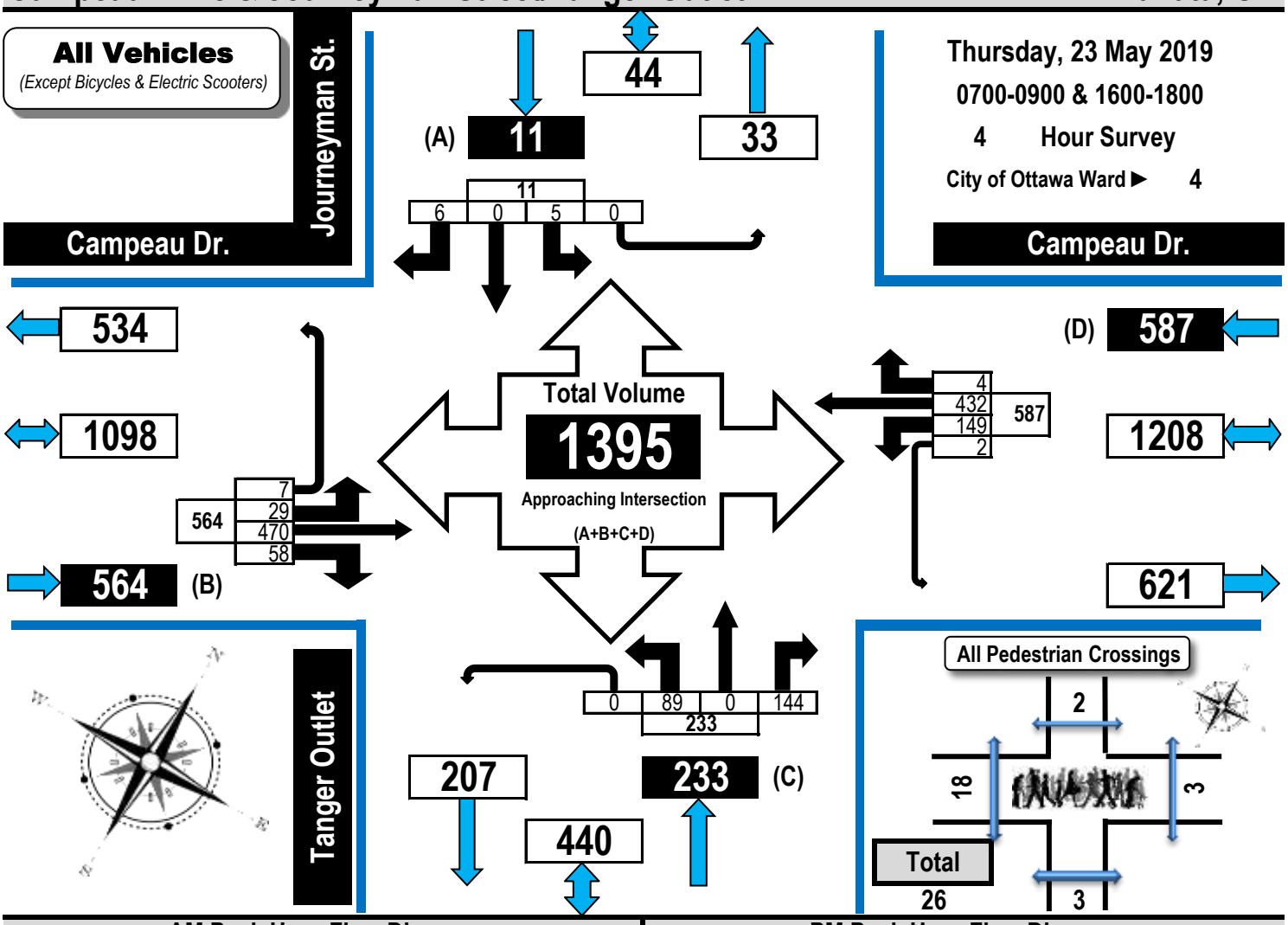
Turning Movement Count
Summary, AM and PM Peak Hour Flow Diagrams

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

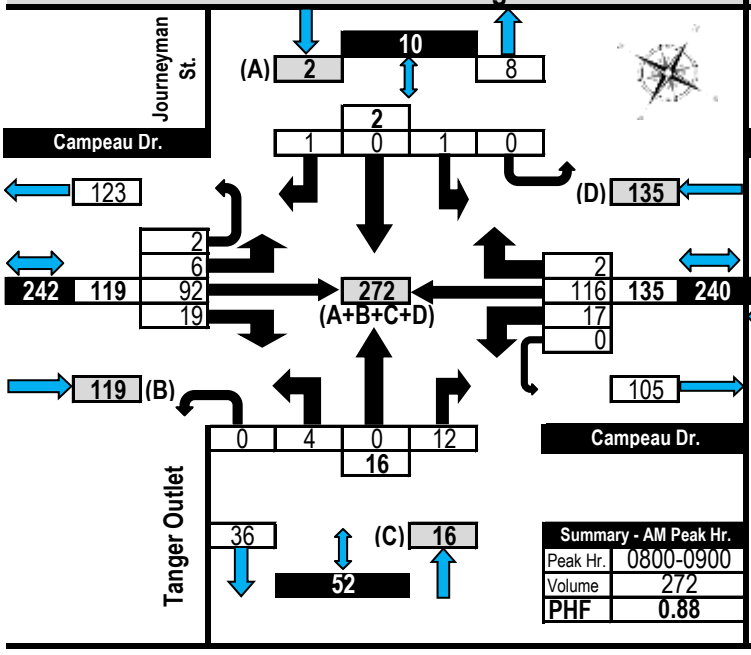
Campeau Drive & Journeyman Street/Tanger Outlet — Kanata, ON

All Vehicles
(Except Bicycles & Electric Scooters)

Thursday, 23 May 2019
0700-0900 & 1600-1800
4 Hour Survey
City of Ottawa Ward ▶ 4

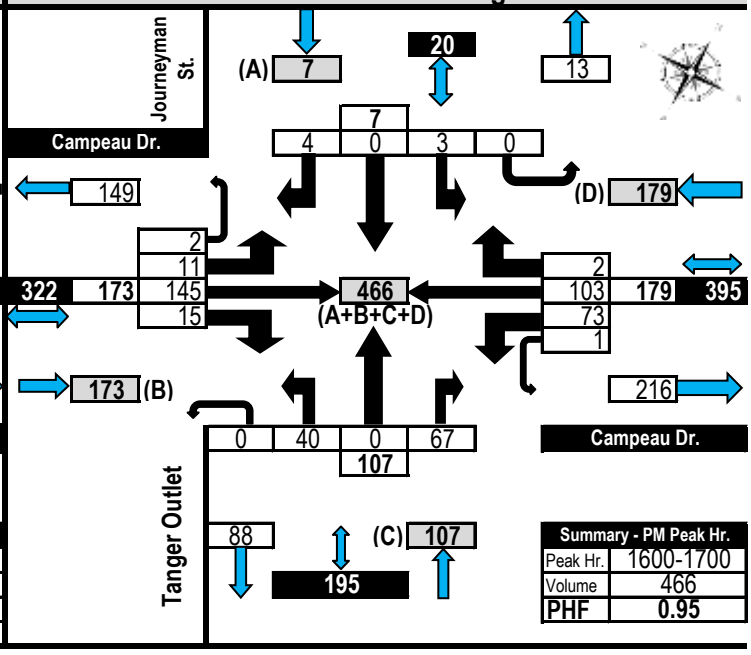


AM Peak Hour Flow Diagram



Summary - AM Peak Hr.	
Peak Hr.	0800-0900
Volume	272
PHF	0.88

PM Peak Hour Flow Diagram



Summary - PM Peak Hr.	
Peak Hr.	1600-1700
Volume	466
PHF	0.95

ACCURATE TRUSTED TRAFFIC DATA

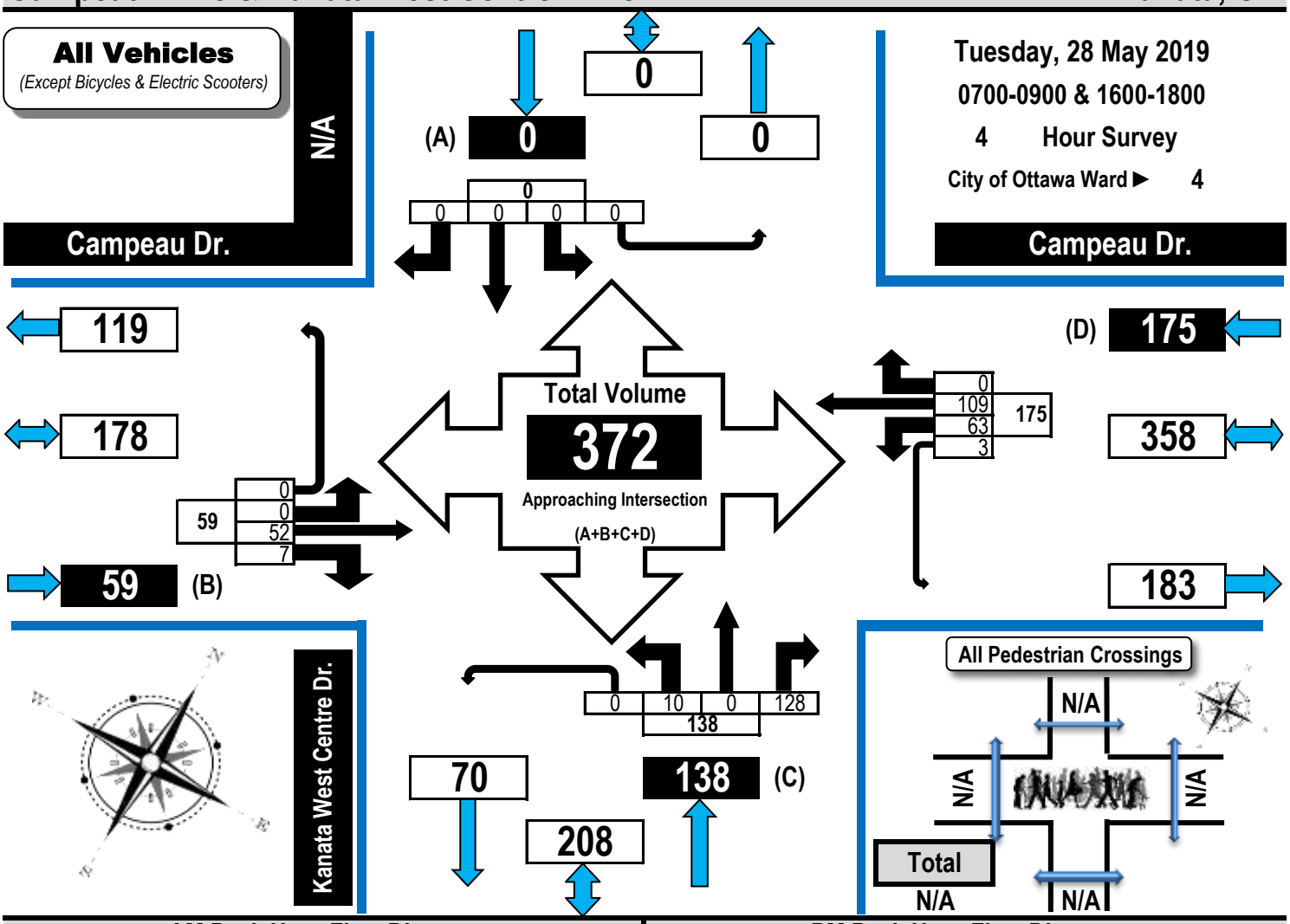
Turning Movement Count
Summary, AM and PM Peak Hour Flow Diagrams

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

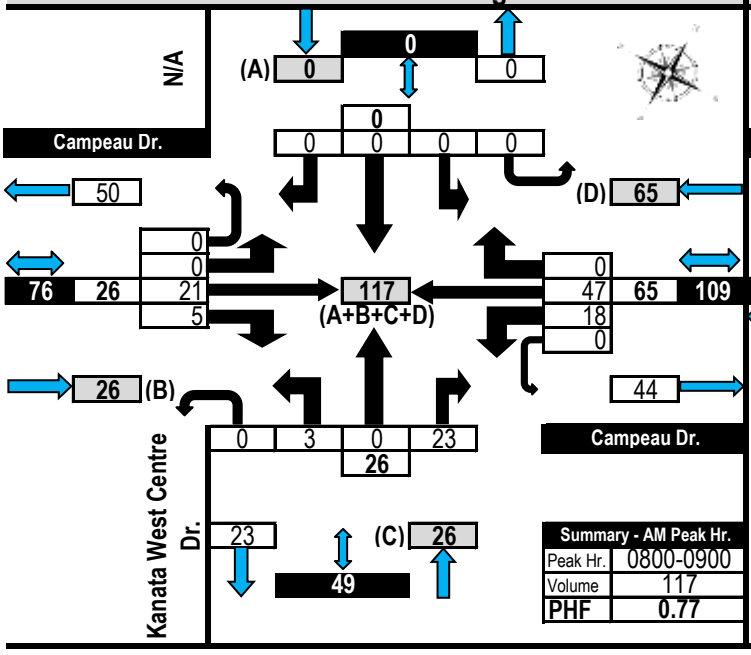
Campeau Drive & Kanata West Centre Drive — Kanata, ON

All Vehicles
(Except Bicycles & Electric Scooters)

Tuesday, 28 May 2019
0700-0900 & 1600-1800
4 Hour Survey
City of Ottawa Ward ► 4

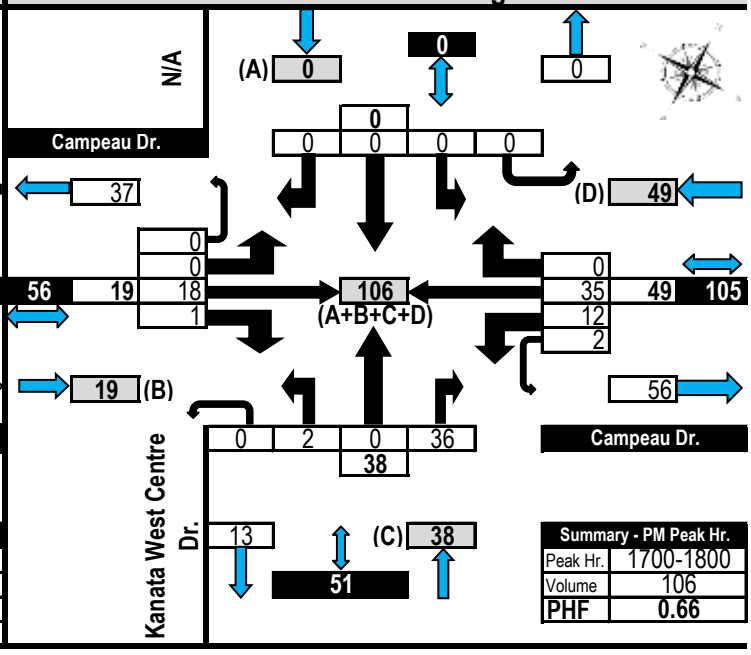


AM Peak Hour Flow Diagram



Summary - AM Peak Hr.	
Peak Hr.	0800-0900
Volume	117
PHF	0.77

PM Peak Hour Flow Diagram



Summary - PM Peak Hr.	
Peak Hr.	1700-1800
Volume	106
PHF	0.66

ACCURATE TRUSTED TRAFFIC DATA

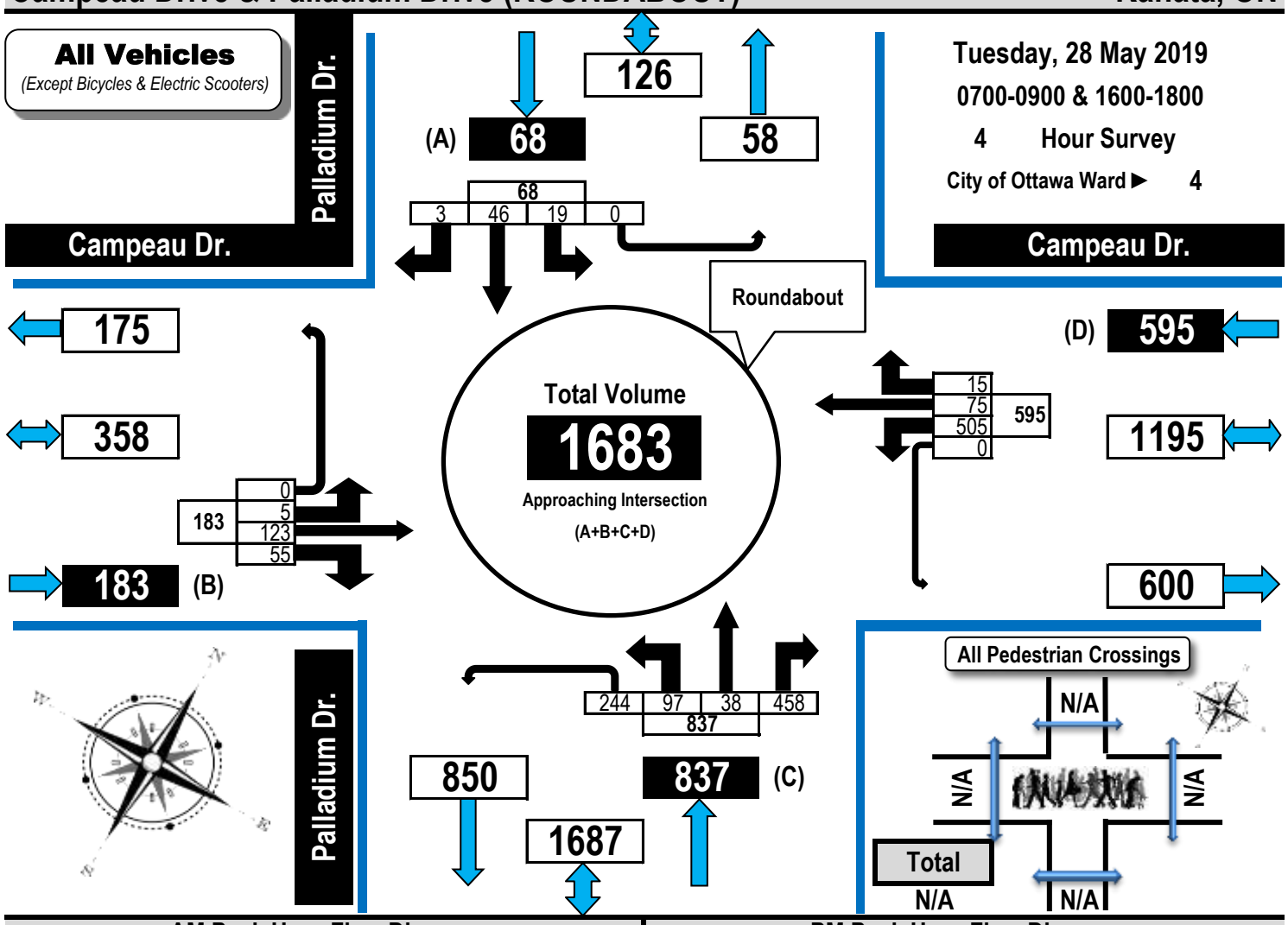
Turning Movement Count
Summary, AM and PM Peak Hour Flow Diagrams

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

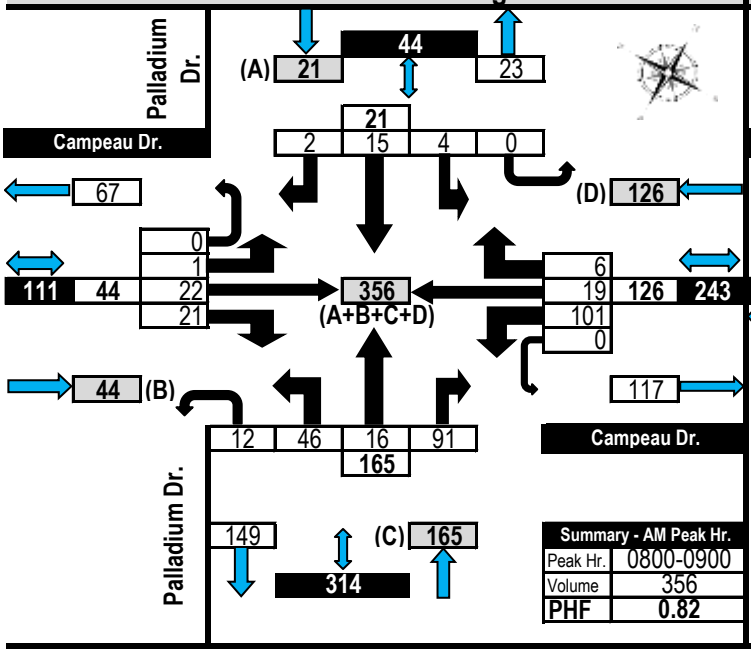
Campeau Drive & Palladium Drive (ROUNDABOUT) — Kanata, ON

All Vehicles
(Except Bicycles & Electric Scooters)

Tuesday, 28 May 2019
0700-0900 & 1600-1800
4 Hour Survey
City of Ottawa Ward ▶ 4

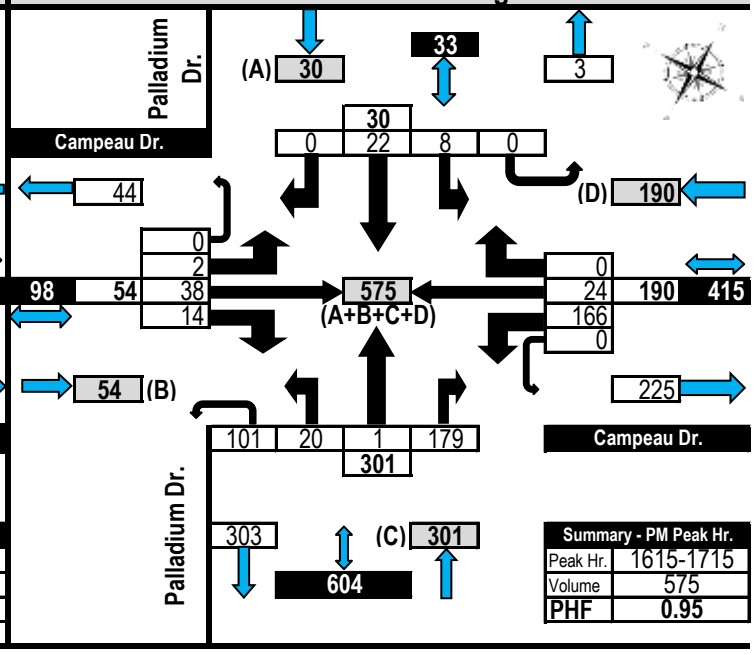


AM Peak Hour Flow Diagram



Summary - AM Peak Hr.	
Peak Hr.	0800-0900
Volume	356
PHF	0.82

PM Peak Hour Flow Diagram



Summary - PM Peak Hr.	
Peak Hr.	1615-1715
Volume	575
PHF	0.95

15 MIN REPORT

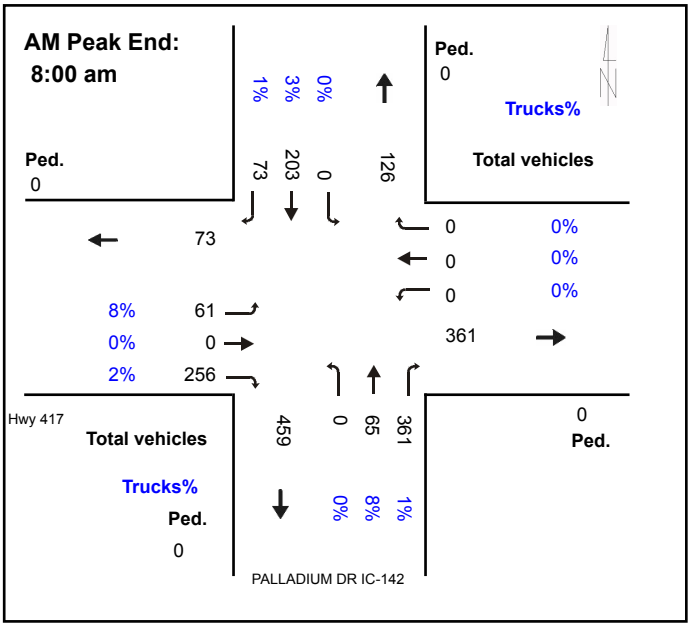
Intersection ID:495620000(--S--) **Hwy 417 @ PALLADIUM DR IC-142** **Municipality: Eastern** **Date: 24-Apr-2018**

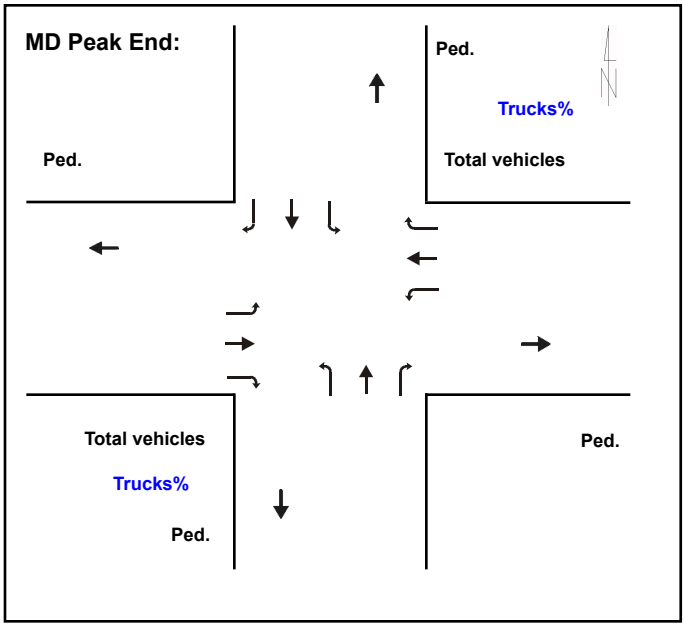
	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
Time	**Cars**			**Trucks**			**Heavies**			**Ped**	**Cars**			**Trucks**			**Heavies**			**Ped**	**Cars**			**Trucks**			**Heavies**			**Ped**	**Cars**			**Trucks**			**Heavies**			**Ped**	**Total**
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period1																																									
14:15	0	70	44	0	0	1	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	57	32	0	0	0	0	1	1	0	12	0	23	0	0	0	0	0	1	0	245
14:30	0	76	40	0	1	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	61	35	0	0	1	0	3	0	0	10	0	33	1	0	0	0	0	1	0	266
14:45	0	82	57	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	58	46	0	1	2	0	1	0	0	13	0	24	0	0	0	0	0	0	0	288
15:00	0	65	36	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	67	30	0	2	3	0	2	2	0	12	0	32	0	0	0	0	0	3	0	258
15:15	0	99	47	0	1	1	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	64	47	0	0	3	0	1	1	0	13	0	23	1	0	1	0	0	3	0	312
15:30	0	104	39	0	1	3	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	79	47	0	0	3	0	1	0	0	11	0	26	0	0	2	0	0	0	0	321
15:45	0	75	44	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	92	44	0	0	1	0	2	0	0	11	0	20	0	0	0	0	0	1	0	294
16:00	0	125	27	0	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	89	44	0	1	1	0	2	1	0	14	0	29	0	0	1	0	0	0	0	338
16:15	0	109	43	0	2	0	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	113	61	0	0	2	0	1	0	0	14	0	18	1	0	0	1	0	0	0	371
16:30	0	131	43	0	1	1	0	5	1	0	0	0	0	0	0	0	0	0	0	0	0	112	42	0	1	2	0	3	1	0	14	0	35	1	0	0	1	0	0	0	394
16:45	0	113	46	0	0	1	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	118	53	0	1	1	0	0	1	0	18	0	32	0	0	1	0	0	0	0	391
17:00	0	111	42	0	0	0	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	85	45	0	0	3	0	4	2	0	21	0	42	1	0	1	0	0	0	0	362
17:15	0	109	43	0	0	1	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	133	45	0	1	0	0	1	0	0	13	0	40	0	0	0	0	0	1	0	392
17:30	0	107	35	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	81	49	0	1	0	0	3	1	0	25	0	29	0	0	0	0	0	0	0	333
17:45	0	97	37	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	77	47	0	0	0	0	0	2	0	17	0	41	0	0	0	0	0	0	0	319
18:00	0	81	42	0	1	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	60	27	0	0	0	0	1	0	0	10	0	22	0	0	0	0	0	0	0	247
Period2																																									
7:15	0	34	24	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	100	0	0	0	0	1	0	0	12	0	58	0	0	0	2	0	1	0	243
7:30	0	50	16	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	16	85	0	1	1	0	0	0	0	8	0	52	0	0	0	0	0	0	0	230
7:45	0	50	19	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	20	86	0	0	1	0	0	0	0	20	0	81	0	0	3	0	0	1	0	283
8:00	0	62	13	0	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	14	85	0	2	1	0	1	2	0	16	0	60	1	0	0	2	0	0	0	263
8:15	0	35	23	0	1	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	19	80	0	2	2	0	0	1	0	14	0	40	1	0	0	1	0	0	0	222
8:30	0	45	15	0	0	1	0	4	2	0	0	0	0	0	0	0	0	0	0	0	0	18	72	0	0	0	0	1	1	0	10	0	66	0	0	2	2	0	2	0	241
8:45	0	54	18	0	3	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	26	51	0	3	1	0	0	1	0	10	0	44	0	0	0	1	0	0	0	216
9:00	0	60	16	0	0	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	15	63	0	1	1	0	2	1	0	24	0	51	0	0	0	0	0	0	0	238
9:15	0	52	17	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	15	44	0	1	2	0	3	0	0	14	0	58	0	0	0	0	0	1	0	208
9:30	0	55	7	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	20	31	0	2	2	0	1	4	0	9	0	37	0	0	0	0	0	0	0	176
9:45	0	50	20	0	1	1	0	4	1	0	0	0	0	0	0	0	0	0	0	0	0	21	43	0	2	1	0	0	2	0	18	0	31	1	0	0	0	0	0	0	196
10:00	0	45	15	0	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	22	27	0	0	4	0	1	2	0	23	0	48	1	0	0	0	0	3	0	194
10:15	0	32	17	0	2	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	29	21	0	0	1	0	0	1	0	11	0	45	0	0	0	0	0	1	0	163
10:30	0	52	26	0	1	1	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	31	39	0	2	5	0	2	2	0	22	0	47	0	0	1	0	0	0	0	234
10:45	0	48	23	0	2	0	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0	40	29	0	0	1	0	3	3	0	17	0	34	0	0	2	1	0	0	0	207
11:00	0	47	25	0	2	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	41	35	0	3	2	0	1	0	0	17	0	34	0	0	1	0	0	0	0	211

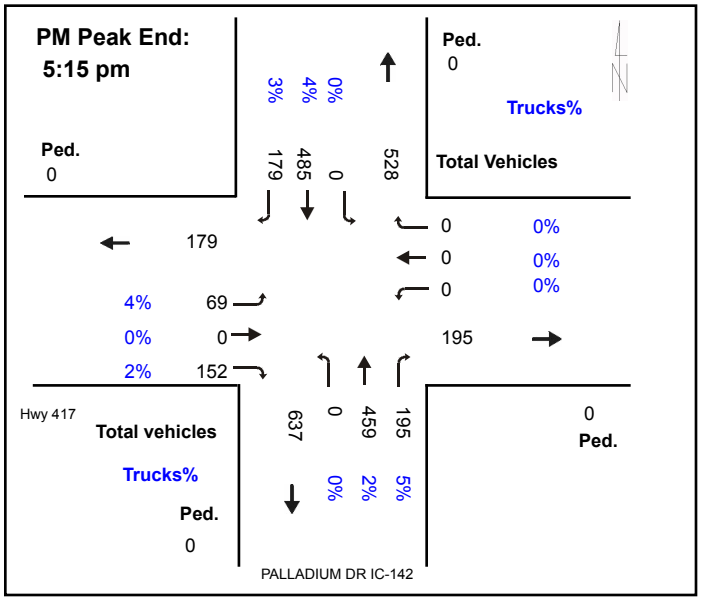
Hwy 417 @ PALLADIUM DR IC-142

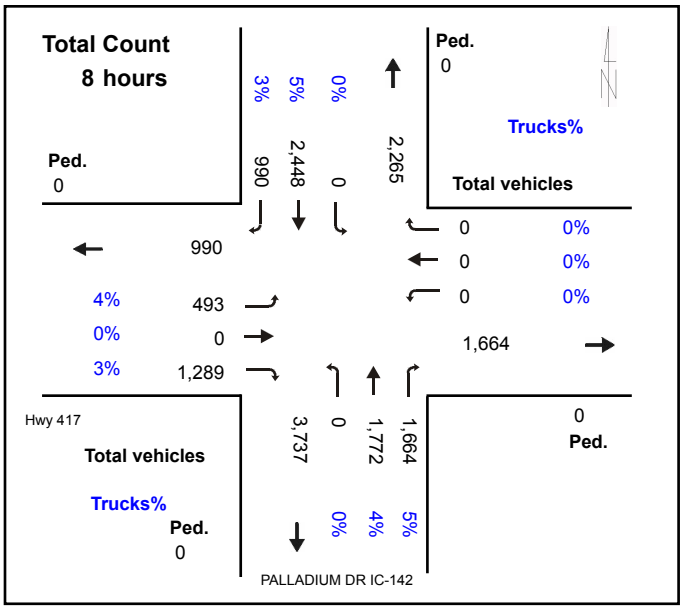
Eastern

Intersection ID:495620000(--S--) **Count Day: Tuesday** **Count Date: 24-Apr-2018**









15 MIN REPORT

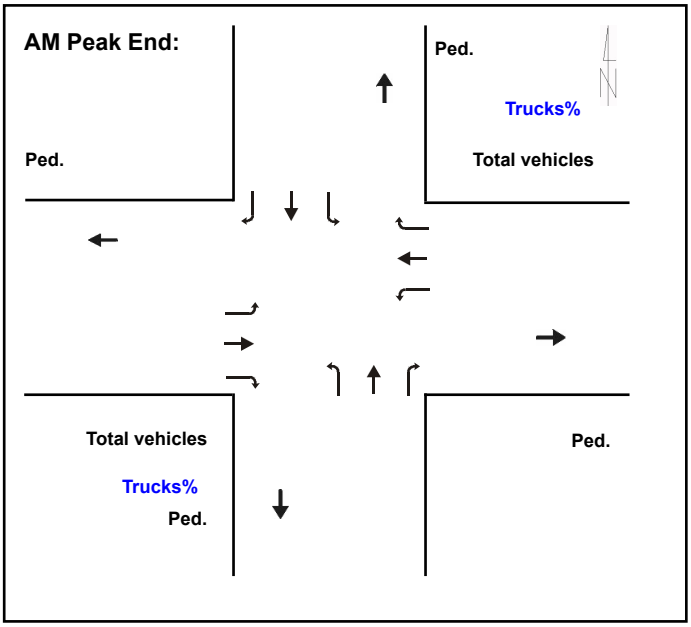
Intersection ID:495620000(--N--) **Hwy 417 @ PALLADIUM DR IC-142** **Municipality: Eastern** **Date: 24-Apr-2018**

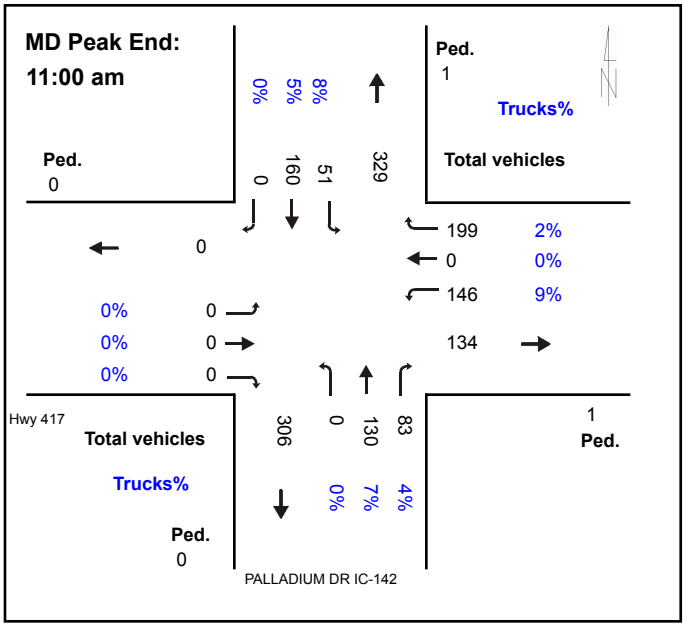
	NORTH APPROACH										EAST APPROACH										SOUTH APPROACH										WEST APPROACH										
Time	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Cars			Trucks			Heavies			Ped	Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Period1																																									
14:15	13	60	0	0	1	0	0	3	0	0	54	0	59	0	0	1	0	0	0	0	0	27	41	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	260
14:30	22	54	0	0	1	0	0	0	0	0	60	0	55	1	0	1	3	0	0	0	0	29	38	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	267
14:45	27	77	0	2	0	0	0	2	0	0	60	0	44	0	0	2	2	0	0	0	0	22	49	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	289
15:00	24	47	0	0	1	0	0	1	0	0	56	0	56	1	0	0	3	0	0	0	0	22	56	0	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	271
15:15	21	65	0	0	1	0	0	2	0	0	78	0	48	0	0	0	4	0	0	0	0	23	53	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	297
15:30	13	54	0	0	2	0	0	1	0	0	86	0	57	1	0	0	5	0	3	0	0	26	61	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	310
15:45	15	62	0	0	2	0	0	2	0	0	66	0	65	0	0	0	2	0	0	1	0	25	71	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	313
16:00	35	52	0	0	0	0	1	1	0	0	105	0	48	0	0	1	4	0	0	0	0	31	72	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	352
16:15	26	63	0	0	3	0	0	0	0	0	83	0	62	0	0	0	5	0	0	0	0	27	96	0	1	1	0	1	1	0	0	0	0	0	0	0	0	0	0	0	369
16:30	32	59	0	1	1	0	1	1	0	0	113	0	68	0	0	0	5	0	0	0	0	32	93	0	0	2	0	1	3	0	0	0	0	0	0	0	0	0	0	0	412
16:45	33	67	0	1	1	0	0	1	0	0	96	0	53	0	0	0	5	0	0	0	0	35	98	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	392
17:00	23	53	0	0	0	0	0	1	0	0	94	0	63	0	0	0	4	0	0	0	0	27	83	0	1	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	353
17:15	21	72	0	0	0	0	0	2	0	0	83	0	64	0	0	0	4	0	0	0	0	36	106	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	390
17:30	24	47	0	0	1	0	0	0	0	2	97	0	65	0	0	0	2	0	0	0	0	38	73	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	352
17:45	33	51	0	1	0	0	0	0	0	2	83	0	67	0	0	0	1	0	0	0	0	25	63	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	326
18:00	16	49	0	0	0	0	0	0	0	0	76	0	49	1	0	0	3	0	0	0	0	23	42	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	260
Period2																																									
7:15	3	31	0	0	0	0	0	1	0	0	35	0	14	1	0	0	0	0	0	0	0	11	9	0	0	1	0	2	0	0	0	0	0	0	0	0	0	0	0	0	108
7:30	2	15	0	0	0	0	0	0	0	0	47	0	17	0	0	1	1	0	0	0	0	10	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102
7:45	6	27	0	0	0	0	0	0	0	0	46	0	12	0	0	0	2	0	0	0	0	24	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	132
8:00	6	21	0	1	0	0	0	0	0	0	56	0	20	1	0	1	3	0	1	0	0	19	12	0	1	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	146
8:15	2	26	0	0	0	0	0	2	0	0	32	0	14	1	0	0	1	0	2	0	0	18	14	0	1	2	0	1	1	0	0	0	0	0	0	0	0	0	0	0	117
8:30	4	26	0	0	0	0	1	2	0	0	45	0	17	1	0	1	4	0	0	0	0	16	12	0	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	132
8:45	5	17	0	0	1	0	0	1	0	0	46	0	26	1	0	0	2	0	0	0	0	13	20	0	0	3	0	1	0	0	0	0	0	0	0	0	0	0	0	0	136
9:00	8	23	0	0	1	0	0	0	0	0	54	0	34	0	0	1	3	0	0	0	0	28	10	0	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	166
9:15	2	25	0	0	0	0	1	1	0	0	49	0	31	0	0	0	0	0	0	0	0	18	11	0	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	141
9:30	1	22	0	0	1	0	1	0	0	0	46	0	39	3	0	0	4	0	1	0	0	22	7	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0	0	0	150
9:45	3	21	0	0	1	0	1	2	0	0	44	0	40	1	0	1	3	0	0	0	0	24	14	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	158
10:00	4	24	0	1	2	0	1	0	0	0	34	0	41	0	0	4	1	0	1	0	0	40	8	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	163
10:15	9	28	0	1	1	0	0	0	0	0	23	0	41	2	0	0	3	0	0	0	0	29	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	151
10:30	8	36	0	0	1	0	0	1	0	1	41	0	59	1	0	0	2	0	0	1	0	30	20	0	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	205
10:45	15	45	0	0	2	0	2	0	0	0	33	0	42	0	0	2	2	0	0	0	0	29	26	0	1	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	202
11:00	15	43	0	1	3	0	0	0	0	0	36	0	54	1	0	1	2	0	0	0	0	33	20	0	3	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	213

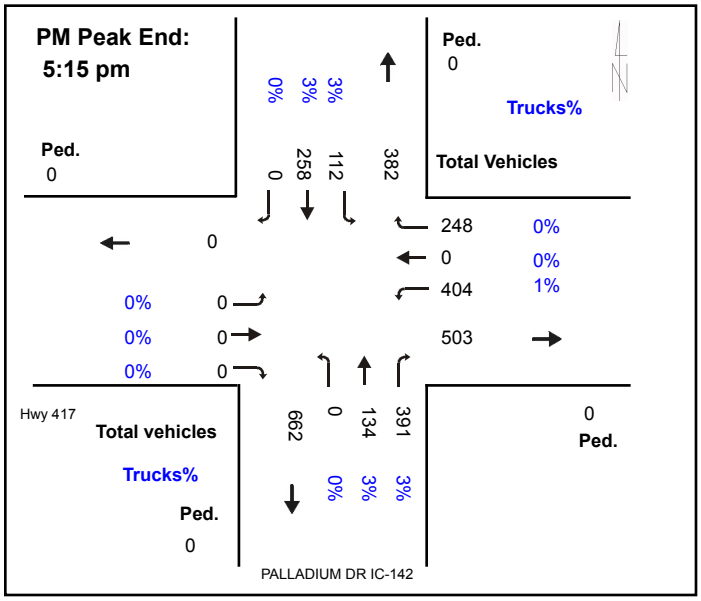
Hwy 417 @ PALLADIUM DR IC-142

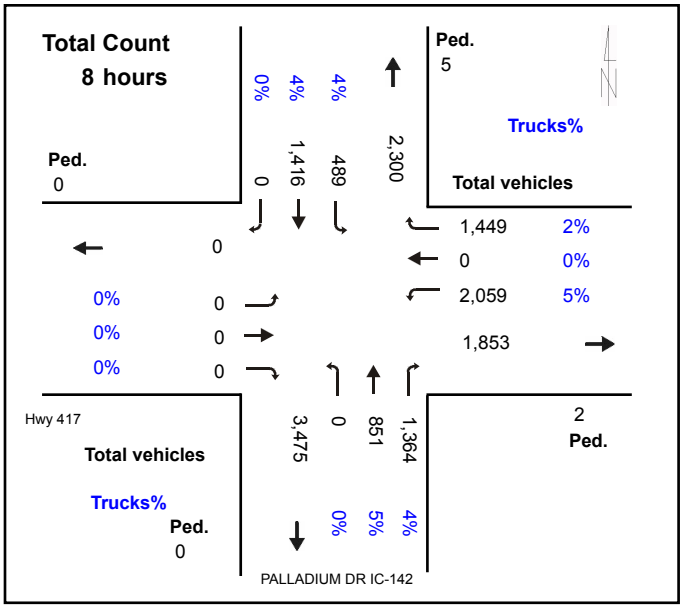
Eastern

Intersection ID:495620000(--N--) **Count Day: Tuesday** **Count Date: 24-Apr-2018**









Appendix D

City of Ottawa Collision Data

Total Area

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	7	3	10	7	0	0	0	2	29	94%
Non-fatal injury	0	1	1	0	0	0	0	0	2	6%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**7**	**4**	**11**	**7**	**0**	**0**	**0**	**2**	**31**	100%
	#2 or 23%	#4 or 13%	#1 or 35%	#2 or 23%	#6 or 0%	#6 or 0%	#6 or 0%	#5 or 6%		

CAMPEAU DR / HUNTMAR DR

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2014-2019	14	n/a	1825	**n/a**

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	1	0	6	6	0	0	0	0	13	93%
Non-fatal injury	0	0	1	0	0	0	0	0	1	7%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**1**	**0**	**7**	**6**	**0**	**0**	**0**	**0**	**14**	100%
	7%	0%	50%	43%	0%	0%	0%	0%		

CAMPEAU DR / JOURNEYMAN ST

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2014-2019	1	n/a	1825	**n/a**

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	0	0	1	0	0	0	0	0	1	100%
Non-fatal injury	0	0	0	0	0	0	0	0	0	0%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	100%
	0%	0%	100%	0%	0%	0%	0%	0%		

HUNTMAR DR / PALLADIUM DR N

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2014-2019	2	n/a	1825	**n/a**

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	1	0	0	0	0	0	0	1	2	100%
Non-fatal injury	0	0	0	0	0	0	0	0	0	0%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	100%
	50%	0%	0%	0%	0%	0%	0%	50%		

HWY 417 PALLADI IC142R36 / PALLADIUM DR

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2014-2019	7	n/a	1825	**n/a**

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	1	2	2	1	0	0	0	1	7	100%
Non-fatal injury	0	0	0	0	0	0	0	0	0	0%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**1**	**2**	**2**	**1**	**0**	**0**	**0**	**1**	**7**	100%
	14%	29%	29%	14%	0%	0%	0%	14%		

PALLADIUM DR, HWY417 IC142 RAMP52 to HWY417 IC142 RAMP53

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2014-2019	1	n/a	1825	**n/a**

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	0	0	0	0	0	0	0	0	0	0%
Non-fatal injury	0	1	0	0	0	0	0	0	1	100%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	100%
	0%	100%	0%	0%	0%	0%	0%	0%		

PALLADIUM DR, HWY417 IC142 RAMP53 to HWY417 IC142 RAMP25

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2014-2019	2	n/a	1825	**n/a**

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	2	0	0	0	0	0	0	0	2	100%
Non-fatal injury	0	0	0	0	0	0	0	0	0	0%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	100%
	100%	0%	0%	0%	0%	0%	0%	0%		

PALLADIUM DR, HWY417 IC142 RAMP62 to HUNTMAR DR

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2014-2019	3	n/a	1825	**n/a**

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	1	1	1	0	0	0	0	0	3	100%
Non-fatal injury	0	0	0	0	0	0	0	0	0	0%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**1**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**3**	100%
	33%	33%	33%	0%	0%	0%	0%	0%		

PALLADIUM DR / HWY 417 PALLADIU IC142R52

Years	Total # Collisions	24 Hr AADT Veh Volume	Days	Collisions/MEV
2014-2019	1	n/a	1825	**n/a**

Classification of Accident	Rear End	Turning Movement	Sideswipe	Angle	Approaching	Single Vehicle (other)	Single vehicle (Unattended vehicle)	Other	Total	
P.D. only	1	0	0	0	0	0	0	0	1	100%
Non-fatal injury	0	0	0	0	0	0	0	0	0	0%
Non reportable	0	0	0	0	0	0	0	0	0	0%
Total	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	100%
	100%	0%	0%	0%	0%	0%	0%	0%		

City Operations - Transportation Services

Collision Details Report - Public Version

From: January 1, 2013 **To:** December 31, 2017

Location: CAMPEAU DR @ HUNTMAR DR

Traffic Control: Roundabout **Total Collisions:** 14

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Oct-17, Fri,10:50	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	
					North	Slowing or stopping	Pick-up truck	Other motor vehicle	
2014-Oct-17, Fri,14:04	Rain	Sideswipe	Non-fatal injury	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2014-Dec-06, Sat,10:00	Clear	Angle	P.D. only	Dry	South	Merging	Automobile, station wagon	Other motor vehicle	
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-May-12, Tue,07:38	Clear	Angle	P.D. only	Dry	East	Going ahead	Delivery van	Other motor vehicle	
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Mar-14, Sat,13:27	Rain	Angle	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Apr-29, Wed,18:22	Clear	Sideswipe	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	

					North	Going ahead	Automobile, station wagon	Other motor vehicle
2015-Jan-04, Sun,22:34	Freezing Rain	Sideswipe	P.D. only	Slush	West	Going ahead	Automobile, station wagon	Other motor vehicle
					West	Going ahead	Automobile, station wagon	Other motor vehicle
2014-Dec-26, Fri,13:11	Clear	Sideswipe	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle
					South	Going ahead	Automobile, station wagon	Other motor vehicle
2015-Jul-14, Tue,09:09	Clear	Angle	P.D. only	Dry	South	Merging	Pick-up truck	Other motor vehicle
					West	Going ahead	Automobile, station wagon	Other motor vehicle
2016-May-24, Tue,17:27	Clear	Sideswipe	P.D. only	Dry	North	Overtaking	Automobile, station wagon	Other motor vehicle
					North	Going ahead	Farm tractor	Other motor vehicle
2016-Sep-12, Mon,18:14	Clear	Angle	P.D. only	Dry	East	Going ahead	Pick-up truck	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle
2017-Oct-02, Mon,07:36	Clear	Angle	P.D. only	Dry	South	Merging	Automobile, station wagon	Other motor vehicle
					West	Going ahead	Automobile, station wagon	Other motor vehicle
2017-Jun-14, Wed,09:50	Clear	Sideswipe	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle
					West	Going ahead	Automobile, station wagon	Other motor vehicle

2017-Jul-10, Mon,17:47	Clear	Sideswipe	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Pick-up truck	Other motor vehicle	

Location: CAMPEAU DR @ JOURNEYMAN ST

Traffic Control: Traffic signal **Total Collisions:** 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Dec-26, Sat,11:05	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Pick-up truck	Other motor vehicle	
					West	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: HUNTMAR DR @ PALLADIUM DR N

Traffic Control: Stop sign **Total Collisions:** 2

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Jan-30, Thu,19:30	Clear	Rear end	P.D. only	Loose snow	South	Going ahead	Automobile, station wagon	Other motor vehicle	
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2016-Dec-18, Sun,15:12	Clear	SMV other	P.D. only	Slush	North	Going ahead	Automobile, station wagon	Curb	

Location: HWY 417 PALLADI IC142R36 @ PALLADIUM DR

Traffic Control: Traffic signal **Total Collisions:** 7

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Mar-19, Wed,10:30	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	

2016-May-07, Sat,14:32	Clear	Turning movement	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle
					South	Going ahead	Pick-up truck	Other motor vehicle
2016-Sep-21, Wed,17:30	Clear	Sideswipe	P.D. only	Dry	South	Turning left	Pick-up truck	Other motor vehicle
					South	Turning left	Pick-up truck	Other motor vehicle
2016-Dec-19, Mon,16:35	Clear	Other	P.D. only	Wet	East	Reversing	Pick-up truck	Other motor vehicle
					West	Turning left	Pick-up truck	Other motor vehicle
2017-Nov-01, Wed,17:18	Rain	Turning movement	P.D. only	Wet	South	Turning left	Automobile, station wagon	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle
2017-Dec-29, Fri,14:40	Clear	Sideswipe	P.D. only	Dry	South	Making "U" turn	Pick-up truck	Other motor vehicle
					South	Going ahead	Automobile, station wagon	Other motor vehicle
2017-Dec-08, Fri,12:04	Clear	Angle	P.D. only	Dry	West	Turning right	Automobile, station wagon	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle

Location: PALLADIUM DR btwn HWY417 IC142 RAMP52 & HWY417 IC142 RAMP53

Traffic Control: No control **Total Collisions:** 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Nov-24, Fri,16:16	Clear	Turning movement	Non-fatal injury	Dry	South	Making "U" turn	Automobile, station wagon	Other motor vehicle	

					South	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: PALLADIUM DR btwn HWY417 IC142 RAMP53 & HWY417 IC142 RAMP25

Traffic Control: No control

Total Collisions: 2

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Nov-09, Sun,17:36	Clear	Rear end	P.D. only	Wet	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Pick-up truck	Other motor vehicle	
2013-Feb-25, Mon,19:00	Clear	Rear end	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	

Location: PALLADIUM DR btwn HWY417 IC142 RAMP62 & HUNTMAR DR

Traffic Control: No control

Total Collisions: 3

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Oct-17, Fri,10:50	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	
					East	Changing lanes	Pick-up truck	Other motor vehicle	
2015-Jul-26, Sun,15:15	Clear	Turning movement	P.D. only	Dry	North	Making "U" turn	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Motorcycle	Other motor vehicle	
2016-Nov-24, Thu,08:09	Snow	Rear end	P.D. only	Loose snow	North	Going ahead	Pick-up truck	Other motor vehicle	
					North	Making "U" turn	Automobile, station wagon	Other motor vehicle	

Location: PALLADIUM DR/HWY 417 PALLADIU IC142R52 @ HWY 4

Traffic Control: Stop sign **Total Collisions:** 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Mar-18, Sat,17:31	Clear	Rear end	P.D. only	Dry	South	Making "U" turn	Pick-up truck	Other motor vehicle	
					South	Going ahead	Automobile, station wagon	Other motor vehicle	

Appendix E

TDM-Supportive Development Design and Infrastructure Checklist

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: *Non-residential developments*	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 *(see Official Plan policy 4.3.3)*	☐ *There are no rapid transit routes 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 *(see Official Plan policy 4.3.12)*	☑

		TDM-supportive design & infrastructure measures: *Non-residential developments*	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 *(see Official Plan policy 4.3.10)*	☑
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 *(see Official Plan policy 4.3.10)*	☑
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 *(see Official Plan policy 4.3.11)*	☑
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: *Non-residential developments*	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 *(see Official Plan policy 4.3.6)*	☑
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 *(see Zoning By-law Section 111)*	☑
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 *(see Zoning By-law Section 111)*	☑
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 *(see Zoning By-law Section 111)*	☐ *Less than 50 bicycle parking spaces are provided.*
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: *Non-residential developments*		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 *(see Zoning By-law Section 94)*	☐
	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: *Non-residential developments*	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	☐ *More parking spaces than required by zoning is proposed.*
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 *(see Zoning By-law Section 104)*	☐
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 *(see Zoning By-law Section 111)*	☐
	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	☐

Appendix F

MMLOS Analysis for Boundary Streets

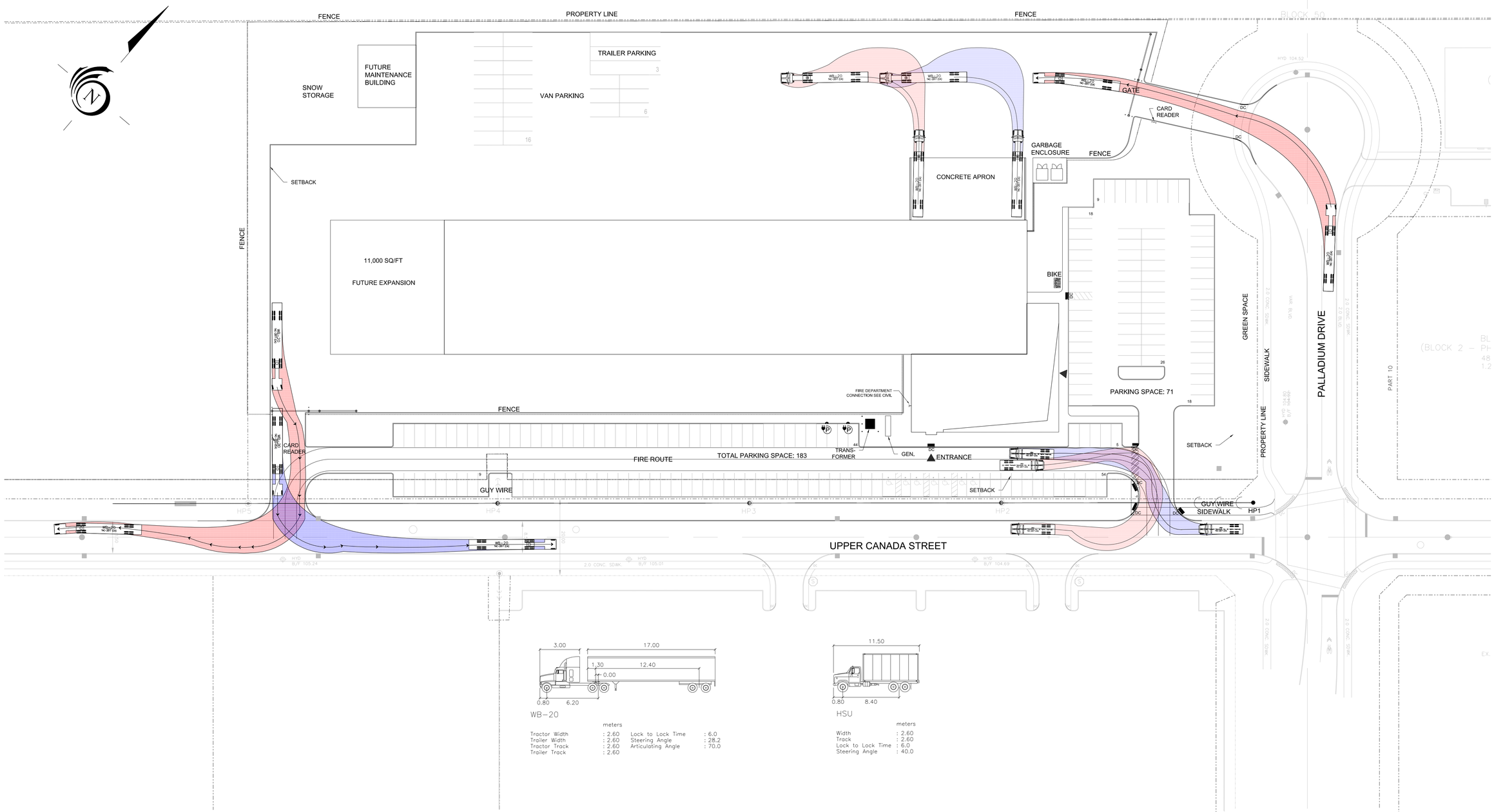
Multi-Modal Level of Service - Segments Form

Consultant	**Parsons**	**Project**	**477406**
Scenario	**Future**	**Date**	**27-Jan-19**
Comments			

SEGMENTS		Street	Palladium	Upper Canada
			1	2
Pedestrian	Sidewalk Width Boulevard Width	-	≥ 2 m > 2 m	≥ 2 m 0.5 - 2 m
	Avg Daily Curb Lane Traffic Volume		≤ 3000	≤ 3000
	Operating Speed On-Street Parking		> 50 to 60 km/h no	> 30 to 50 km/h no
	Exposure to Traffic PLoS		**A**	**A**
	Effective Sidewalk Width			
	Pedestrian Volume			
	Crowding PLoS		-	-
	Level of Service		**-**	**-**
Bicycle	Type of Cycling Facility	**D**	Mixed Traffic	Mixed Traffic
	Number of Travel Lanes		≤ 2 (no centreline)	≤ 2 (no centreline)
	Operating Speed		≥ 50 to 60 km/h	>40 to <50 km/h
	# of Lanes & Operating Speed LoS		**D**	**B**
	Bike Lane (+ Parking Lane) Width			
	Bike Lane Width LoS		-	-
	Bike Lane Blockages			
	Blockage LoS		-	-
	Median Refuge Width (no median = < 1.8 m)		< 1.8 m refuge	< 1.8 m refuge
	No. of Lanes at Unsignalized Crossing		≤ 3 lanes	≤ 3 lanes
	Sidestreet Operating Speed		>40 to 50 km/h	>40 to 50 km/h
	Unsignalized Crossing - Lowest LoS		**B**	**B**
	Level of Service		**D**	**B**
Transit	Facility Type	**D**	Mixed Traffic	Mixed Traffic
	Friction or Ratio Transit:Posted Speed		Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8
	Level of Service		**D**	**D**
Truck	Truck Lane Width	**C**	≤ 3.5 m	> 3.7 m
	Travel Lanes per Direction		1	1
	Level of Service		**C**	**B**

Appendix G

Truck Turning Templates



WB–20

meters

Tractor Width	: 2.60	Lock to Lock Time	: 6.0
Trailer Width	: 2.60	Steering Angle	: 28.2
Tractor Track	: 2.60	Articulating Angle	: 70.0
Trailer Track	: 2.60		

HSU

meters

Width	: 2.60
Track	: 2.60
Lock to Lock Time	: 6.0
Steering Angle	: 40.0

PARSONS

NOTE: The location of utilities is approximate only, the exact location should be determined by consulting the municipal authorities and utility companies concerned. The contractor shall prove the location of utilities and shall be responsible for adequate protection from damage.

PUROLATOR DISTRIBUTION KANATA

UPPER CANADA STREET

TRUCK TURNING MOVEMENTS

Client: Ottawa

Project Number: 477406	Dwn. M.J.P.	Dwg. No. 001
Date: August 31st, 2020	Sheet 1 of 1	
Scale: HORIZONTAL 0m 5 10 20		

Appendix H

Synchro and Sidra Detailed Analysis Results

Existing Conditions

MOVEMENT SUMMARY

Site: 101 [Huntmar / Campeau Existing AM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Huntmar Dr												
1	L2	20	2.0	0.016	9.5	LOS A	0.1	0.5	0.20	0.60	0.20	53.5
2	T1	347	2.0	0.200	3.7	LOS A	1.0	7.0	0.20	0.36	0.20	57.4
3	R2	19	2.0	0.015	4.2	LOS A	0.1	0.4	0.20	0.43	0.20	55.3
Approach		386	2.0	0.200	4.1	LOS A	1.0	7.0	0.20	0.38	0.20	57.0
East: Campeau Dr												
4	L2	36	2.0	0.024	10.0	LOS A	0.1	0.7	0.37	0.63	0.37	52.9
5	T1	20	2.0	0.017	4.7	LOS A	0.1	0.5	0.39	0.45	0.39	56.3
6	R2	9	2.0	0.008	5.1	LOS A	0.0	0.2	0.40	0.50	0.40	54.5
Approach		64	2.0	0.024	7.7	LOS A	0.1	0.7	0.38	0.56	0.38	54.1
North: Huntmar Dr												
7	L2	2	2.0	0.002	9.5	LOS A	0.0	0.0	0.18	0.59	0.18	53.6
8	T1	319	2.0	0.182	3.7	LOS A	0.9	6.1	0.17	0.36	0.17	57.5
9	R2	108	2.0	0.082	4.1	LOS A	0.3	2.4	0.18	0.44	0.18	55.4
Approach		429	2.0	0.182	3.8	LOS A	0.9	6.1	0.18	0.38	0.18	56.9
West: Campeau Dr												
10	L2	76	2.0	0.049	9.9	LOS A	0.2	1.5	0.35	0.63	0.35	53.0
11	T1	11	2.0	0.010	4.6	LOS A	0.0	0.3	0.37	0.43	0.37	56.4
12	R2	32	2.0	0.017	3.3	LOS A	0.0	0.0	0.00	0.42	0.00	56.8
Approach		119	2.0	0.049	7.6	LOS A	0.2	1.5	0.25	0.55	0.25	54.3
All Vehicles		998	2.0	0.200	4.6	LOS A	1.0	7.0	0.21	0.41	0.21	56.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Huntmar / Campeau Existing PM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Huntmar Dr												
1	L2	64	2.0	0.057	10.0	LOS B	0.2	1.7	0.34	0.63	0.34	53.0
2	T1	387	2.0	0.244	4.1	LOS A	1.3	8.9	0.35	0.40	0.35	56.5
3	R2	32	2.0	0.029	4.6	LOS A	0.1	0.8	0.33	0.48	0.33	54.8
Approach		483	2.0	0.244	4.9	LOS A	1.3	8.9	0.35	0.44	0.35	55.9
East: Campeau Dr												
4	L2	24	2.0	0.017	10.2	LOS B	0.1	0.5	0.44	0.64	0.44	52.7
5	T1	14	2.0	0.014	5.0	LOS A	0.1	0.4	0.46	0.49	0.46	55.9
6	R2	4	2.0	0.004	5.3	LOS A	0.0	0.1	0.46	0.52	0.46	54.3
Approach		43	2.0	0.017	7.9	LOS A	0.1	0.5	0.45	0.58	0.45	53.9
North: Huntmar Dr												
7	L2	7	2.0	0.006	9.5	LOS A	0.0	0.1	0.20	0.59	0.20	53.5
8	T1	393	2.0	0.229	3.8	LOS A	1.1	7.8	0.21	0.37	0.21	57.3
9	R2	148	2.0	0.113	4.2	LOS A	0.5	3.4	0.22	0.45	0.22	55.2
Approach		548	2.0	0.229	4.0	LOS A	1.1	7.8	0.21	0.40	0.21	56.7
West: Campeau Dr												
10	L2	190	2.0	0.128	10.2	LOS B	0.6	4.3	0.41	0.66	0.41	52.8
11	T1	41	2.0	0.039	4.9	LOS A	0.2	1.1	0.42	0.48	0.42	56.1
12	R2	66	2.0	0.035	3.3	LOS A	0.0	0.0	0.00	0.42	0.00	56.8
Approach		297	2.0	0.128	7.9	LOS A	0.6	4.3	0.32	0.58	0.32	54.0
All Vehicles		1371	2.0	0.244	5.3	LOS A	1.3	8.9	0.29	0.46	0.29	55.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Campeau / Palladium Existing AM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Campeau Dr												
1	L2	51	2.0	0.039	9.3	LOS A	0.2	1.4	0.11	0.56	0.11	55.0
2	T1	18	2.0	0.039	3.6	LOS A	0.2	1.4	0.11	0.56	0.11	54.7
3	R2	101	2.0	0.053	3.1	LOS A	0.0	0.0	0.00	0.40	0.00	57.1
Approach		170	2.0	0.053	5.0	LOS A	0.2	1.4	0.04	0.47	0.04	56.2
East: Palladium Dr												
4	L2	112	2.0	0.045	9.4	LOS A	0.2	1.5	0.18	0.57	0.18	54.2
5	T1	21	2.0	0.045	3.7	LOS A	0.2	1.5	0.17	0.54	0.17	54.9
6	R2	7	2.0	0.045	3.8	LOS A	0.2	1.5	0.17	0.54	0.17	53.2
Approach		140	2.0	0.045	8.3	LOS A	0.2	1.5	0.18	0.56	0.18	54.3
North: Campeau Dr												
7	L2	4	2.0	0.009	9.7	LOS A	0.0	0.2	0.26	0.49	0.26	55.8
8	T1	17	2.0	0.009	4.0	LOS A	0.0	0.2	0.25	0.43	0.25	56.4
9	R2	2	2.0	0.009	4.1	LOS A	0.0	0.2	0.25	0.38	0.25	55.3
Approach		23	2.0	0.009	5.1	LOS A	0.0	0.2	0.25	0.43	0.25	56.2
West: Palladium Dr												
10	L2	1	2.0	0.018	9.5	LOS A	0.1	0.5	0.21	0.38	0.21	57.5
11	T1	24	2.0	0.018	3.9	LOS A	0.1	0.5	0.21	0.38	0.21	57.1
12	R2	23	2.0	0.017	3.7	LOS A	0.1	0.4	0.21	0.42	0.21	55.9
Approach		49	2.0	0.018	3.9	LOS A	0.1	0.5	0.21	0.40	0.21	56.6
All Vehicles		382	2.0	0.053	6.1	LOS A	0.2	1.5	0.13	0.49	0.13	55.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

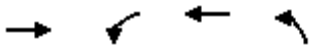
MOVEMENT SUMMARY

Site: 101 [Campeau / Palladium Existing PM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Campeau Dr												
1	L2	22	2.0	0.014	9.3	LOS A	0.1	0.5	0.15	0.59	0.15	53.9
2	T1	1	2.0	0.014	3.7	LOS A	0.1	0.5	0.15	0.59	0.15	53.6
3	R2	199	2.0	0.105	3.1	LOS A	0.0	0.0	0.00	0.40	0.00	57.1
Approach		222	2.0	0.105	3.8	LOS A	0.1	0.5	0.02	0.42	0.02	56.7
East: Palladium Dr												
4	L2	184	2.0	0.065	9.3	LOS A	0.3	2.3	0.10	0.59	0.10	54.4
5	T1	27	2.0	0.065	3.6	LOS A	0.3	2.3	0.10	0.57	0.10	54.6
6	R2	1	2.0	0.065	3.7	LOS A	0.3	2.3	0.10	0.57	0.10	52.9
Approach		212	2.0	0.065	8.5	LOS A	0.3	2.3	0.10	0.59	0.10	54.4
North: Campeau Dr												
7	L2	9	2.0	0.014	9.8	LOS A	0.0	0.3	0.29	0.54	0.29	55.1
8	T1	24	2.0	0.014	4.1	LOS A	0.0	0.3	0.28	0.44	0.28	56.3
9	R2	1	2.0	0.014	4.2	LOS A	0.0	0.3	0.27	0.39	0.27	55.1
Approach		34	2.0	0.014	5.6	LOS A	0.0	0.3	0.28	0.46	0.28	55.9
West: Palladium Dr												
10	L2	2	2.0	0.033	9.7	LOS A	0.1	0.9	0.27	0.41	0.27	57.1
11	T1	42	2.0	0.033	4.1	LOS A	0.1	0.9	0.27	0.41	0.27	56.8
12	R2	16	2.0	0.012	3.9	LOS A	0.0	0.3	0.26	0.43	0.26	55.7
Approach		60	2.0	0.033	4.2	LOS A	0.1	0.9	0.27	0.42	0.27	56.5
All Vehicles		529	2.0	0.105	5.9	LOS A	0.3	2.3	0.10	0.49	0.10	55.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.



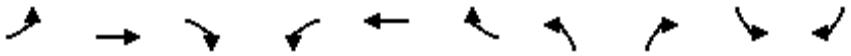
Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Traffic Volume (vph)	21	18	47	3
Future Volume (vph)	21	18	47	3
Lane Group Flow (vph)	29	20	52	29
Sign Control	Free		Free	Stop

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization	17.7%	ICU Level of Service A
Analysis Period (min)	15	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	21	5	18	47	3	23
Future Volume (Veh/h)	21	5	18	47	3	23
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	23	6	20	52	3	26
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			29		118	26
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			29		118	26
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	98
cM capacity (veh/h)			1584		867	1050

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	29	20	52	29
Volume Left	0	20	0	3
Volume Right	6	0	0	26
cSH	1700	1584	1700	1027
Volume to Capacity	0.02	0.01	0.03	0.03
Queue Length 95th (m)	0.0	0.3	0.0	0.7
Control Delay (s)	0.0	7.3	0.0	8.6
Lane LOS		A		A
Approach Delay (s)	0.0	2.0		8.6
Approach LOS				A

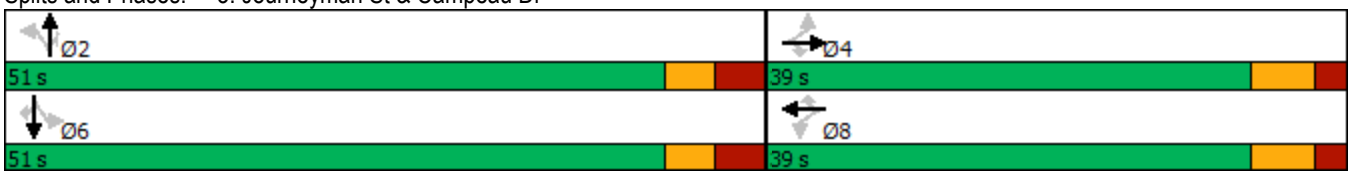
Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	17.7%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	6	92	19	17	116	2	4	12	1	1
Future Volume (vph)	6	92	19	17	116	2	4	12	1	1
Lane Group Flow (vph)	7	102	21	19	129	2	4	13	1	1
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	Perm	Perm	Perm
Protected Phases		4			8					
Permitted Phases	4		4	8		8	2	2	6	6
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	44.5	44.5	44.5	44.5	44.5	44.5	39.8	39.8	39.8	39.8
Total Split (s)	39.0	39.0	39.0	39.0	39.0	39.0	51.0	51.0	51.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%	56.7%	56.7%	56.7%	56.7%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	3.5	3.5	3.5	3.5
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.8	6.8	6.8	6.8
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	11.1	11.1	11.1	11.1	11.1	11.1	48.9	48.9	48.9	48.9
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16	0.16	0.71	0.71	0.71	0.71
v/c Ratio	0.04	0.35	0.07	0.10	0.45	0.01	0.00	0.01	0.00	0.00
Control Delay	24.3	29.3	3.7	25.5	31.3	0.0	5.0	0.0	5.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.3	29.3	3.7	25.5	31.3	0.0	5.0	0.0	5.0	0.0
LOS	C	C	A	C	C	A	A	A	A	A
Approach Delay		24.9			30.2					
Approach LOS		C			C					
Queue Length 50th (m)	0.8	11.8	0.0	2.1	15.1	0.0	0.2	0.0	0.0	0.0
Queue Length 95th (m)	3.8	24.2	2.4	7.2	29.6	0.0	1.1	0.0	0.5	0.0
Internal Link Dist (m)		319.9			296.6					
Turn Bay Length (m)	45.0			50.0			20.0		45.0	
Base Capacity (vph)	570	846	743	585	846	743	965	1301	965	1281
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	0.01	0.12	0.03	0.03	0.15	0.00	0.00	0.01	0.00	0.00

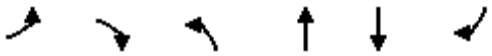
Intersection Summary			
Cycle Length: 90			
Actuated Cycle Length: 68.5			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.45			
Intersection Signal Delay: 26.0		Intersection LOS: C	
Intersection Capacity Utilization 41.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Journeyman St & Campeau Dr



Lane Group	EBR	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	77	108	190	121
Future Volume (vph)	77	108	190	121
Lane Group Flow (vph)	86	120	211	156
Sign Control			Free	Free

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization 17.2%		ICU Level of Service A
Analysis Period (min) 15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	77	108	190	121	20
Future Volume (Veh/h)	0	77	108	190	121	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	86	120	211	134	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				207		
pX, platoon unblocked						
vC, conflicting volume	490	78	156			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	490	78	156			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	91	92			
cM capacity (veh/h)	464	967	1422			

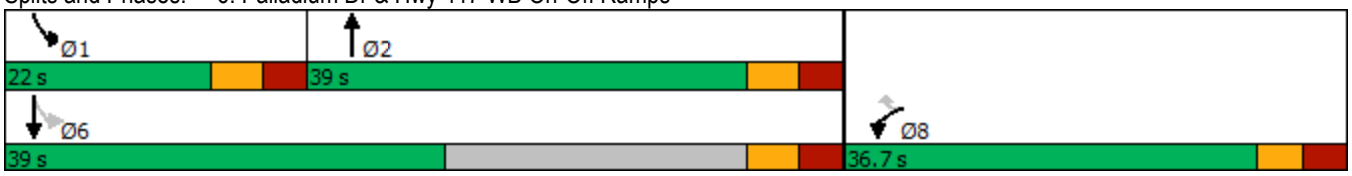
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	86	120	106	106	89	67
Volume Left	0	120	0	0	0	0
Volume Right	86	0	0	0	0	22
cSH	967	1422	1700	1700	1700	1700
Volume to Capacity	0.09	0.08	0.06	0.06	0.05	0.04
Queue Length 95th (m)	2.2	2.1	0.0	0.0	0.0	0.0
Control Delay (s)	9.1	7.8	0.0	0.0	0.0	0.0
Lane LOS	A	A				
Approach Delay (s)	9.1	2.8			0.0	
Approach LOS	A					

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	17.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	205	173	125	35	163
Future Volume (vph)	205	173	125	35	163
Lane Group Flow (vph)	228	192	139	39	181
Turn Type	Prot	Perm	NA	pm+pt	NA
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	32.7	32.7	39.0	12.0	25.0
Total Split (s)	36.7	36.7	39.0	22.0	39.0
Total Split (%)	37.6%	37.6%	39.9%	22.5%	39.9%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	3.3	3.3	3.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	7.0	7.0	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	30.0	30.0	32.0	54.0	54.0
Actuated g/C Ratio	0.31	0.31	0.33	0.55	0.55
v/c Ratio	0.23	0.32	0.13	0.06	0.10
Control Delay	26.0	5.4	23.5	10.3	10.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	26.0	5.4	23.5	10.3	10.5
LOS	C	A	C	B	B
Approach Delay	16.6		23.5		10.5
Approach LOS	B		C		B
Queue Length 50th (m)	16.4	0.0	9.6	3.2	8.0
Queue Length 95th (m)	25.5	14.7	16.4	7.7	13.0
Internal Link Dist (m)	322.5		403.5		183.1
Turn Bay Length (m)		125.0		115.0	
Base Capacity (vph)	1009	598	1110	648	1873
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.23	0.32	0.13	0.06	0.10

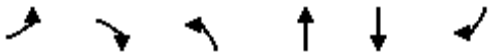
Intersection Summary	
Cycle Length: 97.7	
Actuated Cycle Length: 97.7	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.32	
Intersection Signal Delay: 16.1	Intersection LOS: B
Intersection Capacity Utilization 38.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Palladium Dr & Hwy 417 WB On-Off Ramps



Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	61	256	65	368
Future Volume (vph)	61	256	65	368
Lane Group Flow (vph)	68	284	72	409
Sign Control	Stop		Free	Free

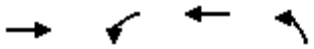
Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization	34.1%	ICU Level of Service A
Analysis Period (min)	15	



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	61	256	0	65	368	0
Future Volume (Veh/h)	61	256	0	65	368	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	68	284	0	72	409	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)		3				
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	445	204	409			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	445	204	409			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	87	65	100			
cM capacity (veh/h)	542	802	1146			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	352	36	36	204	204
Volume Left	68	0	0	0	0
Volume Right	284	0	0	0	0
cSH	994	1700	1700	1700	1700
Volume to Capacity	0.35	0.02	0.02	0.12	0.12
Queue Length 95th (m)	12.3	0.0	0.0	0.0	0.0
Control Delay (s)	12.1	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	12.1	0.0		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	34.1%	ICU Level of Service	A
Analysis Period (min)	15		



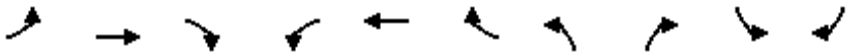
Lane Group	EBT	WBL	WBT	NBL
Lane Configurations				
Traffic Volume (vph)	18	12	35	2
Future Volume (vph)	18	12	35	2
Lane Group Flow (vph)	21	13	39	42
Sign Control	Free		Free	Stop

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization	17.4%	ICU Level of Service A
Analysis Period (min)	15	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	18	1	12	35	2	36
Future Volume (Veh/h)	18	1	12	35	2	36
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	20	1	13	39	2	40
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			21		86	20
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			21		86	20
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	96
cM capacity (veh/h)			1595		908	1057

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	21	13	39	42
Volume Left	0	13	0	2
Volume Right	1	0	0	40
cSH	1700	1595	1700	1049
Volume to Capacity	0.01	0.01	0.02	0.04
Queue Length 95th (m)	0.0	0.2	0.0	1.0
Control Delay (s)	0.0	7.3	0.0	8.6
Lane LOS		A		A
Approach Delay (s)	0.0	1.8		8.6
Approach LOS				A

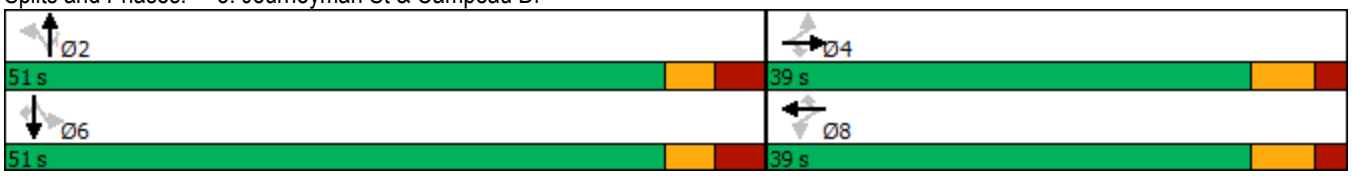
Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	17.4%	ICU Level of Service	A
Analysis Period (min)	15		

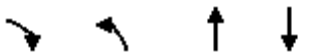


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	11	145	15	73	103	2	40	67	3	4
Future Volume (vph)	11	145	15	73	103	2	40	67	3	4
Lane Group Flow (vph)	12	161	17	81	114	2	44	74	3	4
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	Perm	Perm	Perm
Protected Phases		4			8					
Permitted Phases	4		4	8		8	2	2	6	6
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	44.5	44.5	44.5	44.5	44.5	44.5	39.8	39.8	39.8	39.8
Total Split (s)	39.0	39.0	39.0	39.0	39.0	39.0	51.0	51.0	51.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%	56.7%	56.7%	56.7%	56.7%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	3.5	3.5	3.5	3.5
Lost Time Adjust (s)	0.3	0.3	0.3	0.3	0.3	0.3	-0.3	-0.3	-0.3	-0.3
Total Lost Time (s)	6.8	6.8	6.8	6.8	6.8	6.8	6.5	6.5	6.5	6.5
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	11.8	11.8	11.8	11.8	11.8	11.8	47.0	47.0	47.0	47.0
Actuated g/C Ratio	0.16	0.16	0.16	0.16	0.16	0.16	0.65	0.65	0.65	0.65
v/c Ratio	0.06	0.55	0.06	0.42	0.39	0.01	0.05	0.06	0.00	0.00
Control Delay	24.5	34.4	2.1	33.0	29.9	0.0	5.5	0.1	5.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.5	34.4	2.1	33.0	29.9	0.0	5.5	0.1	5.3	0.0
LOS	C	C	A	C	C	A	A	A	A	A
Approach Delay		30.8			30.9					
Approach LOS		C			C					
Queue Length 50th (m)	1.3	19.4	0.0	9.5	13.3	0.0	1.8	0.0	0.2	0.0
Queue Length 95th (m)	5.4	35.7	1.3	21.3	26.5	0.0	5.7	0.0	1.0	0.0
Internal Link Dist (m)		319.9			296.6					
Turn Bay Length (m)	45.0			50.0			20.0		45.0	
Base Capacity (vph)	545	798	704	523	798	704	879	1201	879	1240
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	0.02	0.20	0.02	0.15	0.14	0.00	0.05	0.06	0.00	0.00

Intersection Summary			
Cycle Length: 90			
Actuated Cycle Length: 72.2			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 23.8		Intersection LOS: C	
Intersection Capacity Utilization 42.4%		ICU Level of Service A	
Analysis Period (min) 15			

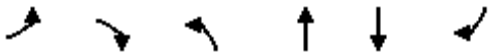
Splits and Phases: 3: Journeyman St & Campeau Dr





Lane Group	EBR	NBL	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	141	127	284	247
Future Volume (vph)	141	127	284	247
Lane Group Flow (vph)	157	141	316	311
Sign Control			Free	Free

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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	141	127	284	247	33
Future Volume (Veh/h)	0	141	127	284	247	33
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	157	141	316	274	37
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				207		
pX, platoon unblocked						
vC, conflicting volume	732	156	311			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	732	156	311			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	82	89			
cM capacity (veh/h)	316	862	1246			

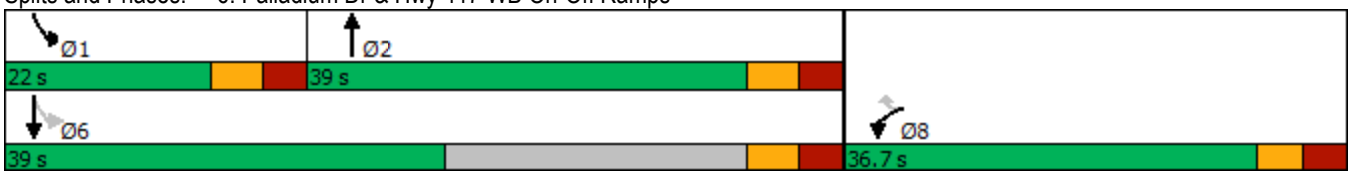
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	157	141	158	158	183	128
Volume Left	0	141	0	0	0	0
Volume Right	157	0	0	0	0	37
cSH	862	1246	1700	1700	1700	1700
Volume to Capacity	0.18	0.11	0.09	0.09	0.11	0.08
Queue Length 95th (m)	5.0	2.9	0.0	0.0	0.0	0.0
Control Delay (s)	10.1	8.3	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	10.1	2.5			0.0	
Approach LOS	B					

Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	24.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	404	267	144	117	271
Future Volume (vph)	404	267	144	117	271
Lane Group Flow (vph)	449	297	160	130	301
Turn Type	Prot	Perm	NA	pm+pt	NA
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	32.7	32.7	39.0	12.0	25.0
Total Split (s)	36.7	36.7	39.0	22.0	39.0
Total Split (%)	37.6%	37.6%	39.9%	22.5%	39.9%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	3.3	3.3	3.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	7.0	7.0	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	30.0	30.0	32.0	54.0	54.0
Actuated g/C Ratio	0.31	0.31	0.33	0.55	0.55
v/c Ratio	0.44	0.44	0.14	0.20	0.16
Control Delay	28.9	5.4	23.7	11.5	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	28.9	5.4	23.7	11.5	11.0
LOS	C	A	C	B	B
Approach Delay	19.5		23.7		11.2
Approach LOS	B		C		B
Queue Length 50th (m)	34.9	0.0	11.1	11.2	13.8
Queue Length 95th (m)	48.8	17.8	18.4	20.1	20.4
Internal Link Dist (m)	322.5		403.5		183.1
Turn Bay Length (m)		125.0		115.0	
Base Capacity (vph)	1009	671	1110	640	1873
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.44	0.44	0.14	0.20	0.16

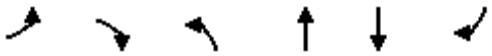
Intersection Summary	
Cycle Length: 97.7	
Actuated Cycle Length: 97.7	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.44	
Intersection Signal Delay: 17.3	Intersection LOS: B
Intersection Capacity Utilization 44.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Palladium Dr & Hwy 417 WB On-Off Ramps



Lane Group	EBL	EBR	NBT	SBT
Lane Configurations				
Traffic Volume (vph)	69	152	459	675
Future Volume (vph)	69	152	459	675
Lane Group Flow (vph)	77	169	510	750
Sign Control	Stop		Free	Free

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization 36.3%		ICU Level of Service A
Analysis Period (min) 15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	69	152	0	459	675	0
Future Volume (Veh/h)	69	152	0	459	675	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	77	169	0	510	750	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)		3				
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1005	375	750			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1005	375	750			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	68	73	100			
cM capacity (veh/h)	238	623	855			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	246	255	255	375	375
Volume Left	77	0	0	0	0
Volume Right	169	0	0	0	0
cSH	760	1700	1700	1700	1700
Volume to Capacity	0.32	0.15	0.15	0.22	0.22
Queue Length 95th (m)	10.7	0.0	0.0	0.0	0.0
Control Delay (s)	17.4	0.0	0.0	0.0	0.0
Lane LOS	C				
Approach Delay (s)	17.4	0.0		0.0	
Approach LOS	C				

Intersection Summary			
Average Delay	2.8		
Intersection Capacity Utilization	36.3%	ICU Level of Service	A
Analysis Period (min)	15		

Total Future Background 2021

MOVEMENT SUMMARY

Site: 101 [Huntmar / Campeau FB2021 AM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Huntmar Dr												
1	L2	29	2.0	0.024	9.5	LOS A	0.1	0.7	0.21	0.60	0.21	53.5
2	T1	331	2.0	0.192	3.8	LOS A	0.9	6.7	0.21	0.37	0.21	57.3
3	R2	29	2.0	0.024	4.2	LOS A	0.1	0.7	0.21	0.44	0.21	55.3
Approach		389	2.0	0.192	4.2	LOS A	0.9	6.7	0.21	0.39	0.21	56.8
East: Campeau Dr												
4	L2	65	2.0	0.054	10.3	LOS B	0.2	1.5	0.40	0.66	0.40	52.8
5	T1	68	2.0	0.045	4.3	LOS A	0.2	1.3	0.37	0.42	0.37	56.4
6	R2	14	2.0	0.013	5.1	LOS A	0.0	0.4	0.40	0.51	0.40	54.5
Approach		147	2.0	0.054	7.0	LOS A	0.2	1.5	0.38	0.54	0.38	54.6
North: Huntmar Dr												
7	L2	2	2.0	0.002	9.7	LOS A	0.0	0.0	0.26	0.58	0.26	53.3
8	T1	301	2.0	0.181	3.9	LOS A	0.8	5.9	0.26	0.38	0.26	57.0
9	R2	123	2.0	0.096	4.4	LOS A	0.4	2.8	0.27	0.48	0.27	55.0
Approach		426	2.0	0.181	4.1	LOS A	0.8	5.9	0.26	0.41	0.26	56.4
West: Campeau Dr												
10	L2	75	2.0	0.049	9.9	LOS A	0.2	1.5	0.35	0.63	0.35	53.0
11	T1	22	2.0	0.020	4.6	LOS A	0.1	0.5	0.38	0.44	0.38	56.4
12	R2	31	2.0	0.016	3.3	LOS A	0.0	0.0	0.00	0.42	0.00	56.8
Approach		128	2.0	0.049	7.4	LOS A	0.2	1.5	0.27	0.55	0.27	54.4
All Vehicles		1090	2.0	0.192	4.9	LOS A	0.9	6.7	0.26	0.44	0.26	56.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Huntmar / Campeau FB2021 PM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Huntmar Dr												
1	L2	61	2.0	0.056	10.1	LOS B	0.2	1.6	0.37	0.65	0.37	52.9
2	T1	369	2.0	0.238	4.2	LOS A	1.2	8.4	0.38	0.41	0.38	56.4
3	R2	64	2.0	0.058	4.8	LOS A	0.2	1.7	0.37	0.52	0.37	54.6
Approach		494	2.0	0.238	5.0	LOS A	1.2	8.4	0.38	0.46	0.38	55.7
East: Campeau Dr												
4	L2	47	2.0	0.034	10.2	LOS B	0.1	1.0	0.44	0.66	0.44	52.8
5	T1	38	2.0	0.034	4.9	LOS A	0.1	1.0	0.46	0.49	0.46	55.8
6	R2	4	2.0	0.004	5.3	LOS A	0.0	0.1	0.46	0.52	0.46	54.3
Approach		89	2.0	0.034	7.7	LOS A	0.1	1.0	0.45	0.58	0.45	54.1
North: Huntmar Dr												
7	L2	6	2.0	0.005	9.7	LOS A	0.0	0.1	0.25	0.59	0.25	53.4
8	T1	379	2.0	0.226	3.9	LOS A	1.1	7.8	0.26	0.38	0.26	57.0
9	R2	145	2.0	0.114	4.4	LOS A	0.5	3.4	0.26	0.47	0.26	55.1
Approach		530	2.0	0.226	4.1	LOS A	1.1	7.8	0.26	0.41	0.26	56.5
West: Campeau Dr												
10	L2	197	2.0	0.133	10.1	LOS B	0.6	4.4	0.41	0.67	0.41	52.8
11	T1	93	2.0	0.082	4.8	LOS A	0.3	2.5	0.43	0.47	0.43	56.1
12	R2	71	2.0	0.037	3.3	LOS A	0.0	0.0	0.00	0.42	0.00	56.8
Approach		361	2.0	0.133	7.4	LOS A	0.6	4.4	0.34	0.57	0.34	54.3
All Vehicles		1474	2.0	0.238	5.4	LOS A	1.2	8.4	0.33	0.47	0.33	55.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Campeau / Palladium FB2021 AM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Campeau Dr												
1	L2	46	2.0	0.099	9.3	LOS A	0.5	3.7	0.11	0.43	0.11	57.1
2	T1	131	2.0	0.099	3.6	LOS A	0.5	3.7	0.11	0.43	0.11	56.7
3	R2	110	2.0	0.058	3.1	LOS A	0.0	0.0	0.00	0.40	0.00	57.1
Approach		287	2.0	0.099	4.3	LOS A	0.5	3.7	0.07	0.42	0.07	56.9
East: Palladium Dr												
4	L2	186	2.0	0.077	9.8	LOS A	0.4	2.8	0.31	0.59	0.31	53.7
5	T1	19	2.0	0.077	4.1	LOS A	0.4	2.8	0.30	0.57	0.30	54.1
6	R2	17	2.0	0.077	4.2	LOS A	0.4	2.8	0.30	0.57	0.30	52.5
Approach		222	2.0	0.077	8.9	LOS A	0.4	2.8	0.31	0.59	0.31	53.6
North: Campeau Dr												
7	L2	6	2.0	0.021	9.9	LOS A	0.1	0.6	0.31	0.48	0.31	56.2
8	T1	43	2.0	0.021	4.2	LOS A	0.1	0.6	0.31	0.44	0.31	56.4
9	R2	2	2.0	0.021	4.2	LOS A	0.1	0.6	0.30	0.41	0.30	55.0
Approach		51	2.0	0.021	4.9	LOS A	0.1	0.6	0.31	0.44	0.31	56.3
West: Palladium Dr												
10	L2	1	2.0	0.018	9.8	LOS A	0.1	0.5	0.29	0.41	0.29	57.0
11	T1	22	2.0	0.018	4.1	LOS A	0.1	0.5	0.29	0.41	0.29	56.7
12	R2	21	2.0	0.016	3.9	LOS A	0.1	0.4	0.29	0.44	0.29	55.6
Approach		44	2.0	0.018	4.1	LOS A	0.1	0.5	0.29	0.42	0.29	56.2
All Vehicles		604	2.0	0.099	6.1	LOS A	0.5	3.7	0.19	0.48	0.19	55.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Campeau / Palladium FB2021 PM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

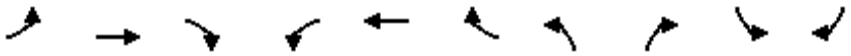
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Campeau Dr												
1	L2	20	2.0	0.038	9.4	LOS A	0.2	1.3	0.16	0.45	0.16	56.6
2	T1	44	2.0	0.038	3.7	LOS A	0.2	1.3	0.16	0.45	0.16	56.2
3	R2	261	2.0	0.138	3.2	LOS A	0.0	0.0	0.00	0.40	0.00	57.1
Approach		325	2.0	0.138	3.6	LOS A	0.2	1.3	0.03	0.41	0.03	56.9
East: Palladium Dr												
4	L2	216	2.0	0.077	9.4	LOS A	0.4	2.7	0.18	0.58	0.18	54.0
5	T1	24	2.0	0.077	3.7	LOS A	0.4	2.7	0.17	0.57	0.17	54.2
6	R2	2	2.0	0.077	3.8	LOS A	0.4	2.7	0.17	0.57	0.17	52.5
Approach		242	2.0	0.077	8.8	LOS A	0.4	2.7	0.18	0.58	0.18	54.0
North: Campeau Dr												
7	L2	19	2.0	0.057	10.0	LOS A	0.2	1.5	0.32	0.50	0.32	56.0
8	T1	123	2.0	0.057	4.2	LOS A	0.2	1.5	0.31	0.45	0.31	56.3
9	R2	1	2.0	0.057	4.3	LOS A	0.2	1.5	0.30	0.41	0.30	54.9
Approach		143	2.0	0.057	5.0	LOS A	0.2	1.5	0.31	0.46	0.31	56.3
West: Palladium Dr												
10	L2	2	2.0	0.032	10.0	LOS B	0.1	0.8	0.34	0.44	0.34	56.7
11	T1	38	2.0	0.032	4.4	LOS A	0.1	0.8	0.34	0.44	0.34	56.4
12	R2	14	2.0	0.011	4.1	LOS A	0.0	0.3	0.33	0.46	0.33	55.5
Approach		54	2.0	0.032	4.5	LOS A	0.1	0.8	0.34	0.45	0.34	56.2
All Vehicles		764	2.0	0.138	5.6	LOS A	0.4	2.7	0.15	0.48	0.15	55.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	21	5	18	47	3	23
Future Volume (Veh/h)	21	5	18	47	3	23
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)	21	5	18	47	3	23
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			26		106	24
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			26		106	24
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	98
cM capacity (veh/h)			1588		881	1053

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	26	18	47	26
Volume Left	0	18	0	3
Volume Right	5	0	0	23
cSH	1700	1588	1700	1030
Volume to Capacity	0.02	0.01	0.03	0.03
Queue Length 95th (m)	0.0	0.3	0.0	0.6
Control Delay (s)	0.0	7.3	0.0	8.6
Lane LOS		A		A
Approach Delay (s)	0.0	2.0		8.6
Approach LOS				A

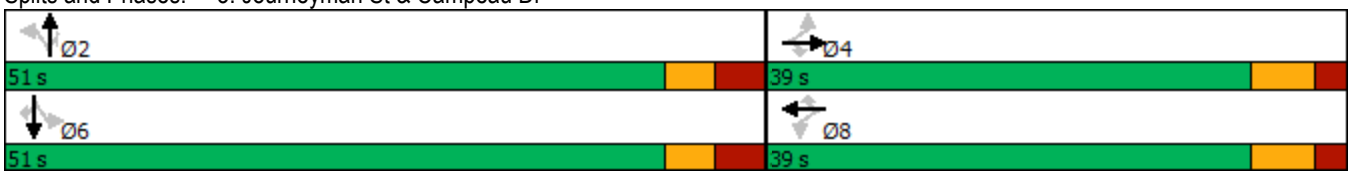
Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	17.7%	ICU Level of Service	A
Analysis Period (min)	15		

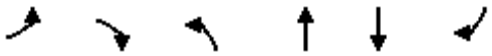


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	6	113	19	17	203	2	4	12	1	1
Future Volume (vph)	6	113	19	17	203	2	4	12	1	1
Lane Group Flow (vph)	6	113	19	17	203	2	4	12	1	1
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	Perm	Perm	Perm
Protected Phases		4			8					
Permitted Phases	4		4	8		8	2	2	6	6
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	44.5	44.5	44.5	44.5	44.5	44.5	39.8	39.8	39.8	39.8
Total Split (s)	39.0	39.0	39.0	39.0	39.0	39.0	51.0	51.0	51.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%	56.7%	56.7%	56.7%	56.7%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	3.5	3.5	3.5	3.5
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.8	6.8	6.8	6.8
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	13.6	13.6	13.6	13.6	13.6	13.6	45.9	45.9	45.9	45.9
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.19	0.63	0.63	0.63	0.63
v/c Ratio	0.03	0.34	0.06	0.07	0.61	0.01	0.00	0.01	0.00	0.00
Control Delay	23.0	27.7	2.5	23.8	34.8	0.0	6.2	0.0	6.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.0	27.7	2.5	23.8	34.8	0.0	6.2	0.0	6.0	0.0
LOS	C	C	A	C	C	A	A	A	A	A
Approach Delay		24.0			33.7					
Approach LOS		C			C					
Queue Length 50th (m)	0.7	13.1	0.0	1.9	24.9	0.0	0.2	0.0	0.1	0.0
Queue Length 95th (m)	3.5	25.9	1.7	6.6	43.7	0.0	1.3	0.0	0.6	0.0
Internal Link Dist (m)		319.9			296.6					
Turn Bay Length (m)	45.0			50.0			20.0		45.0	
Base Capacity (vph)	465	797	704	545	797	704	851	1226	851	1152
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	0.01	0.14	0.03	0.03	0.25	0.00	0.00	0.01	0.00	0.00

Intersection Summary			
Cycle Length: 90			
Actuated Cycle Length: 72.8			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 28.6		Intersection LOS: C	
Intersection Capacity Utilization 44.7%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Journeyman St & Campeau Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	78	109	325	234	20
Future Volume (Veh/h)	0	78	109	325	234	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	78	109	325	234	20
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				207		
pX, platoon unblocked						
vC, conflicting volume	624	127	254			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	624	127	254			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	91	92			
cM capacity (veh/h)	382	900	1308			

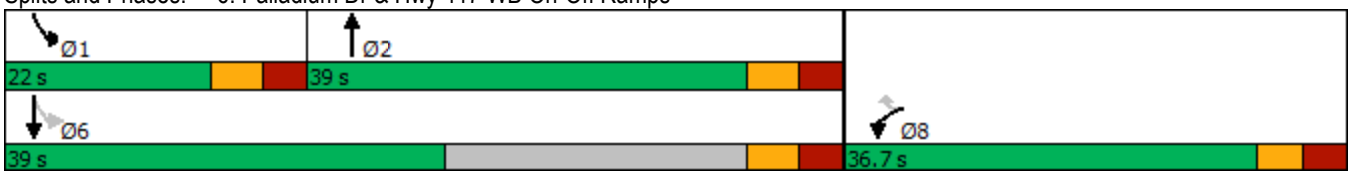
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	78	109	162	162	156	98
Volume Left	0	109	0	0	0	0
Volume Right	78	0	0	0	0	20
cSH	900	1308	1700	1700	1700	1700
Volume to Capacity	0.09	0.08	0.10	0.10	0.09	0.06
Queue Length 95th (m)	2.2	2.1	0.0	0.0	0.0	0.0
Control Delay (s)	9.4	8.0	0.0	0.0	0.0	0.0
Lane LOS	A	A				
Approach Delay (s)	9.4	2.0			0.0	
Approach LOS	A					

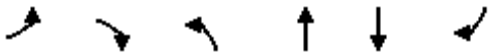
Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	20.5%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	207	279	155	113	199
Future Volume (vph)	207	279	155	113	199
Lane Group Flow (vph)	207	279	155	113	199
Turn Type	Prot	Perm	NA	pm+pt	NA
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	32.7	32.7	39.0	12.0	25.0
Total Split (s)	36.7	36.7	39.0	22.0	39.0
Total Split (%)	37.6%	37.6%	39.9%	22.5%	39.9%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	3.3	3.3	3.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	7.0	7.0	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	30.0	30.0	32.0	54.0	54.0
Actuated g/C Ratio	0.31	0.31	0.33	0.55	0.55
v/c Ratio	0.21	0.42	0.14	0.18	0.11
Control Delay	25.7	5.4	23.6	11.3	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	25.7	5.4	23.6	11.3	10.6
LOS	C	A	C	B	B
Approach Delay	14.0		23.6		10.8
Approach LOS	B		C		B
Queue Length 50th (m)	14.8	0.0	10.7	9.7	8.8
Queue Length 95th (m)	23.4	17.3	18.0	17.8	14.1
Internal Link Dist (m)	322.5		403.5		183.1
Turn Bay Length (m)		125.0		115.0	
Base Capacity (vph)	1009	659	1110	641	1873
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.21	0.42	0.14	0.18	0.11

Intersection Summary	
Cycle Length: 97.7	
Actuated Cycle Length: 97.7	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.42	
Intersection Signal Delay: 14.5	Intersection LOS: B
Intersection Capacity Utilization 40.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Palladium Dr & Hwy 417 WB On-Off Ramps

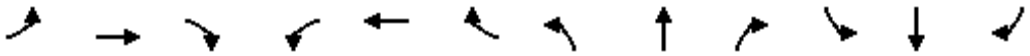




Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	86	259	0	72	373	30
Future Volume (Veh/h)	86	259	0	72	373	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	86	259	0	72	373	30
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)		3				
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	424	202	403			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	424	202	403			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	85	68	100			
cM capacity (veh/h)	558	806	1152			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	345	36	36	249	154
Volume Left	86	0	0	0	0
Volume Right	259	0	0	0	30
cSH	1073	1700	1700	1700	1700
Volume to Capacity	0.32	0.02	0.02	0.15	0.09
Queue Length 95th (m)	10.6	0.0	0.0	0.0	0.0
Control Delay (s)	11.8	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	11.8	0.0		0.0	
Approach LOS	B				

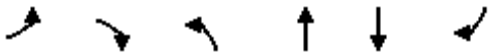
Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	35.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	2	2	0	11	0	11	0	0	0	0	0
Future Volume (vph)	0	2	2	0	11	0	11	0	0	0	0	0
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
Hourly flow rate (vph)	0	2	2	0	11	0	11	0	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	4	11	11	0
Volume Left (vph)	0	0	11	0
Volume Right (vph)	2	0	0	0
Hadj (s)	-0.27	0.03	0.23	0.00
Departure Headway (s)	3.7	4.0	4.2	3.9
Degree Utilization, x	0.00	0.01	0.01	0.00
Capacity (veh/h)	970	901	848	900
Control Delay (s)	6.7	7.0	7.2	6.9
Approach Delay (s)	6.7	7.0	7.2	0.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.0			
Level of Service	A			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	2	11	409	424	0
Future Volume (Veh/h)	0	2	11	409	424	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	2	11	409	424	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	650	212	424			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	650	212	424			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	398	793	1132			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	2	147	273	283	141
Volume Left	0	11	0	0	0
Volume Right	2	0	0	0	0
cSH	793	1132	1700	1700	1700
Volume to Capacity	0.00	0.01	0.16	0.17	0.08
Queue Length 95th (m)	0.1	0.2	0.0	0.0	0.0
Control Delay (s)	9.5	0.7	0.0	0.0	0.0
Lane LOS	A	A			
Approach Delay (s)	9.5	0.2		0.0	
Approach LOS	A				

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	30.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2	0	0	11	0	0
Future Volume (Veh/h)	2	0	0	11	0	0
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)	2	0	0	11	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			2		13	2
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			2		13	2
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		100	100
cM capacity (veh/h)			1620		1006	1082

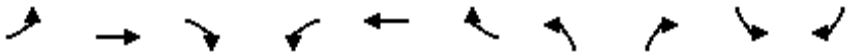
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	2	11	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1620	1700
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	18	1	12	35	2	36
Future Volume (Veh/h)	18	1	12	35	2	36
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)	18	1	12	35	2	36
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			19		78	18
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			19		78	18
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	97
cM capacity (veh/h)			1597		918	1060

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	19	12	35	38
Volume Left	0	12	0	2
Volume Right	1	0	0	36
cSH	1700	1597	1700	1051
Volume to Capacity	0.01	0.01	0.02	0.04
Queue Length 95th (m)	0.0	0.2	0.0	0.9
Control Delay (s)	0.0	7.3	0.0	8.6
Lane LOS		A		A
Approach Delay (s)	0.0	1.9		8.6
Approach LOS				A

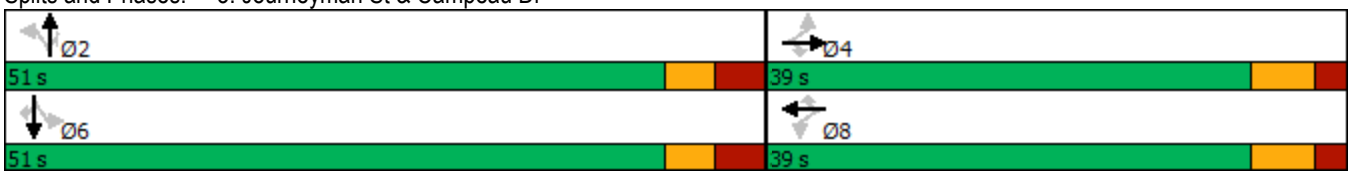
Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	17.4%	ICU Level of Service	A
Analysis Period (min)	15		

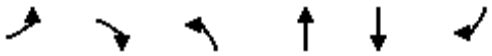


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	11	237	15	74	142	2	40	68	3	4
Future Volume (vph)	11	237	15	74	142	2	40	68	3	4
Lane Group Flow (vph)	11	237	15	74	142	2	40	68	3	4
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	Perm	Perm	Perm
Protected Phases		4			8					
Permitted Phases	4		4	8		8	2	2	6	6
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	44.5	44.5	44.5	44.5	44.5	44.5	39.8	39.8	39.8	39.8
Total Split (s)	39.0	39.0	39.0	39.0	39.0	39.0	51.0	51.0	51.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%	56.7%	56.7%	56.7%	56.7%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	3.5	3.5	3.5	3.5
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.8	6.8	6.8	6.8
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	14.8	14.8	14.8	14.8	14.8	14.8	44.7	44.7	44.7	44.7
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.20	0.20	0.61	0.61	0.61	0.61
v/c Ratio	0.05	0.65	0.04	0.40	0.39	0.01	0.05	0.06	0.00	0.00
Control Delay	22.6	35.4	0.9	31.2	27.9	0.0	6.9	0.1	7.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.6	35.4	0.9	31.2	27.9	0.0	6.9	0.1	7.0	0.0
LOS	C	D	A	C	C	A	A	A	A	A
Approach Delay		32.9			28.8					
Approach LOS		C			C					
Queue Length 50th (m)	1.2	29.7	0.0	8.8	16.8	0.0	1.9	0.0	0.2	0.0
Queue Length 95th (m)	4.9	50.5	0.7	20.0	31.4	0.0	6.4	0.0	1.2	0.0
Internal Link Dist (m)		319.9			296.6					
Turn Bay Length (m)	45.0			50.0			20.0		45.0	
Base Capacity (vph)	531	797	703	411	797	703	829	1111	829	1185
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	0.02	0.30	0.02	0.18	0.18	0.00	0.05	0.06	0.00	0.00

Intersection Summary			
Cycle Length: 90			
Actuated Cycle Length: 72.8			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 25.6		Intersection LOS: C	
Intersection Capacity Utilization 47.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Journeyman St & Campeau Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	142	128	410	398	33
Future Volume (Veh/h)	0	142	128	410	398	33
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	142	128	410	398	33
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				207		
pX, platoon unblocked						
vC, conflicting volume	876	216	431			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	876	216	431			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	82	89			
cM capacity (veh/h)	256	789	1125			

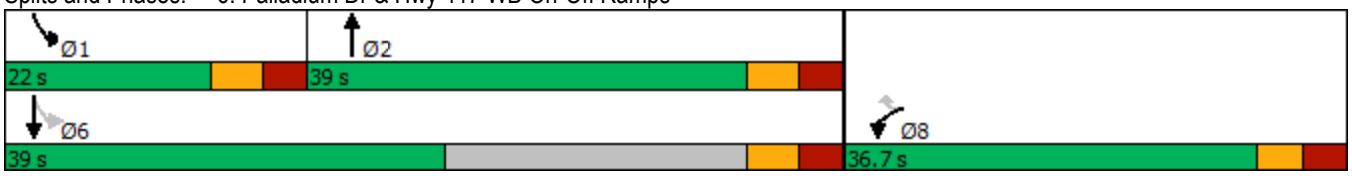
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	142	128	205	205	265	166
Volume Left	0	128	0	0	0	0
Volume Right	142	0	0	0	0	33
cSH	789	1125	1700	1700	1700	1700
Volume to Capacity	0.18	0.11	0.12	0.12	0.16	0.10
Queue Length 95th (m)	5.0	2.9	0.0	0.0	0.0	0.0
Control Delay (s)	10.6	8.6	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	10.6	2.0			0.0	
Approach LOS	B					

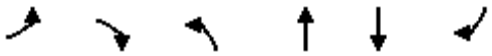
Intersection Summary				
Average Delay	2.3			
Intersection Capacity Utilization	28.7%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	408	357	181	232	310
Future Volume (vph)	408	357	181	232	310
Lane Group Flow (vph)	408	357	181	232	310
Turn Type	Prot	Perm	NA	pm+pt	NA
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	32.7	32.7	39.0	12.0	25.0
Total Split (s)	36.7	36.7	39.0	22.0	39.0
Total Split (%)	37.6%	37.6%	39.9%	22.5%	39.9%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	3.3	3.3	3.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	7.0	7.0	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	30.0	30.0	32.0	54.0	54.0
Actuated g/C Ratio	0.31	0.31	0.33	0.55	0.55
v/c Ratio	0.40	0.50	0.16	0.37	0.17
Control Delay	28.3	5.5	23.9	13.2	11.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	28.3	5.5	23.9	13.2	11.0
LOS	C	A	C	B	B
Approach Delay	17.7		23.9		12.0
Approach LOS	B		C		B
Queue Length 50th (m)	31.2	0.0	12.6	21.4	14.2
Queue Length 95th (m)	44.2	19.2	20.5	34.7	21.0
Internal Link Dist (m)	322.5		403.5		183.1
Turn Bay Length (m)		125.0		115.0	
Base Capacity (vph)	1009	713	1110	632	1873
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.40	0.50	0.16	0.37	0.17

Intersection Summary	
Cycle Length: 97.7	
Actuated Cycle Length: 97.7	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.50	
Intersection Signal Delay: 16.3	Intersection LOS: B
Intersection Capacity Utilization 51.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Palladium Dr & Hwy 417 WB On-Off Ramps

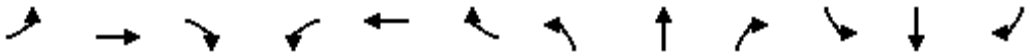




Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	105	154	0	465	687	14
Future Volume (Veh/h)	105	154	0	465	687	14
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	105	154	0	465	687	14
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)		3				
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	926	350	701			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	926	350	701			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	61	76	100			
cM capacity (veh/h)	267	646	892			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	259	232	232	458	243
Volume Left	105	0	0	0	0
Volume Right	154	0	0	0	14
cSH	660	1700	1700	1700	1700
Volume to Capacity	0.39	0.14	0.14	0.27	0.14
Queue Length 95th (m)	14.2	0.0	0.0	0.0	0.0
Control Delay (s)	18.2	0.0	0.0	0.0	0.0
Lane LOS	C				
Approach Delay (s)	18.2	0.0		0.0	
Approach LOS	C				

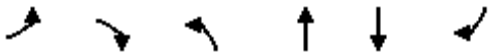
Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	37.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	11	11	0	2	0	2	0	0	0	0	0
Future Volume (vph)	0	11	11	0	2	0	2	0	0	0	0	0
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
Hourly flow rate (vph)	0	11	11	0	2	0	2	0	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	22	2	2	0
Volume Left (vph)	0	0	2	0
Volume Right (vph)	11	0	0	0
Hadj (s)	-0.27	0.03	0.23	0.00
Departure Headway (s)	3.6	4.0	4.2	3.9
Degree Utilization, x	0.02	0.00	0.00	0.00
Capacity (veh/h)	981	903	843	900
Control Delay (s)	6.7	7.0	7.2	6.9
Approach Delay (s)	6.7	7.0	7.2	0.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	6.8			
Level of Service	A			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	11	2	568	519	0
Future Volume (Veh/h)	0	11	2	568	519	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	11	2	568	519	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	807	260	519			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	807	260	519			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	319	739	1043			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	11	191	379	346	173
Volume Left	0	2	0	0	0
Volume Right	11	0	0	0	0
cSH	739	1043	1700	1700	1700
Volume to Capacity	0.01	0.00	0.22	0.20	0.10
Queue Length 95th (m)	0.3	0.0	0.0	0.0	0.0
Control Delay (s)	9.9	0.1	0.0	0.0	0.0
Lane LOS	A	A			
Approach Delay (s)	9.9	0.0		0.0	
Approach LOS	A				

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	28.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	11	0	0	2	0	0
Future Volume (Veh/h)	11	0	0	2	0	0
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)	11	0	0	2	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			11		13	11
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			11		13	11
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		100	100
cM capacity (veh/h)			1608		1006	1070

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	11	2	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1608	1700
Volume to Capacity	0.01	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Total Future Background 2026

MOVEMENT SUMMARY

Site: 101 [Huntmar / Campeau FB2021 AM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Huntmar Dr												
1	L2	29	2.0	0.024	9.5	LOS A	0.1	0.7	0.21	0.60	0.21	53.5
2	T1	331	2.0	0.192	3.8	LOS A	0.9	6.7	0.21	0.37	0.21	57.3
3	R2	29	2.0	0.024	4.2	LOS A	0.1	0.7	0.21	0.44	0.21	55.3
Approach		389	2.0	0.192	4.2	LOS A	0.9	6.7	0.21	0.39	0.21	56.8
East: Campeau Dr												
4	L2	65	2.0	0.054	10.3	LOS B	0.2	1.5	0.40	0.66	0.40	52.8
5	T1	68	2.0	0.045	4.3	LOS A	0.2	1.3	0.37	0.42	0.37	56.4
6	R2	14	2.0	0.013	5.1	LOS A	0.0	0.4	0.40	0.51	0.40	54.5
Approach		147	2.0	0.054	7.0	LOS A	0.2	1.5	0.38	0.54	0.38	54.6
North: Huntmar Dr												
7	L2	2	2.0	0.002	9.7	LOS A	0.0	0.0	0.26	0.58	0.26	53.3
8	T1	301	2.0	0.181	3.9	LOS A	0.8	5.9	0.26	0.38	0.26	57.0
9	R2	123	2.0	0.096	4.4	LOS A	0.4	2.8	0.27	0.48	0.27	55.0
Approach		426	2.0	0.181	4.1	LOS A	0.8	5.9	0.26	0.41	0.26	56.4
West: Campeau Dr												
10	L2	75	2.0	0.049	9.9	LOS A	0.2	1.5	0.35	0.63	0.35	53.0
11	T1	22	2.0	0.020	4.6	LOS A	0.1	0.5	0.38	0.44	0.38	56.4
12	R2	31	2.0	0.016	3.3	LOS A	0.0	0.0	0.00	0.42	0.00	56.8
Approach		128	2.0	0.049	7.4	LOS A	0.2	1.5	0.27	0.55	0.27	54.4
All Vehicles		1090	2.0	0.192	4.9	LOS A	0.9	6.7	0.26	0.44	0.26	56.1

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Huntmar / Campeau FB2021 PM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Huntmar Dr												
1	L2	61	2.0	0.056	10.1	LOS B	0.2	1.6	0.37	0.65	0.37	52.9
2	T1	369	2.0	0.238	4.2	LOS A	1.2	8.4	0.38	0.41	0.38	56.4
3	R2	64	2.0	0.058	4.8	LOS A	0.2	1.7	0.37	0.52	0.37	54.6
Approach		494	2.0	0.238	5.0	LOS A	1.2	8.4	0.38	0.46	0.38	55.7
East: Campeau Dr												
4	L2	47	2.0	0.034	10.2	LOS B	0.1	1.0	0.44	0.66	0.44	52.8
5	T1	38	2.0	0.034	4.9	LOS A	0.1	1.0	0.46	0.49	0.46	55.8
6	R2	4	2.0	0.004	5.3	LOS A	0.0	0.1	0.46	0.52	0.46	54.3
Approach		89	2.0	0.034	7.7	LOS A	0.1	1.0	0.45	0.58	0.45	54.1
North: Huntmar Dr												
7	L2	6	2.0	0.005	9.7	LOS A	0.0	0.1	0.25	0.59	0.25	53.4
8	T1	379	2.0	0.226	3.9	LOS A	1.1	7.8	0.26	0.38	0.26	57.0
9	R2	145	2.0	0.114	4.4	LOS A	0.5	3.4	0.26	0.47	0.26	55.1
Approach		530	2.0	0.226	4.1	LOS A	1.1	7.8	0.26	0.41	0.26	56.5
West: Campeau Dr												
10	L2	197	2.0	0.133	10.1	LOS B	0.6	4.4	0.41	0.67	0.41	52.8
11	T1	93	2.0	0.082	4.8	LOS A	0.3	2.5	0.43	0.47	0.43	56.1
12	R2	71	2.0	0.037	3.3	LOS A	0.0	0.0	0.00	0.42	0.00	56.8
Approach		361	2.0	0.133	7.4	LOS A	0.6	4.4	0.34	0.57	0.34	54.3
All Vehicles		1474	2.0	0.238	5.4	LOS A	1.2	8.4	0.33	0.47	0.33	55.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Campeau / Palladium FB2026 AM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Campeau Dr												
1	L2	49	2.0	0.102	9.3	LOS A	0.5	3.8	0.12	0.44	0.12	57.0
2	T1	132	2.0	0.102	3.6	LOS A	0.5	3.8	0.12	0.44	0.12	56.6
3	R2	115	2.0	0.061	3.1	LOS A	0.0	0.0	0.00	0.40	0.00	57.1
Approach		296	2.0	0.102	4.4	LOS A	0.5	3.8	0.07	0.42	0.07	56.9
East: Palladium Dr												
4	L2	191	2.0	0.079	9.9	LOS A	0.4	2.9	0.32	0.59	0.32	53.7
5	T1	20	2.0	0.079	4.1	LOS A	0.4	2.9	0.30	0.57	0.30	54.1
6	R2	17	2.0	0.079	4.2	LOS A	0.4	2.9	0.30	0.57	0.30	52.5
Approach		228	2.0	0.079	8.9	LOS A	0.4	2.9	0.31	0.59	0.31	53.6
North: Campeau Dr												
7	L2	6	2.0	0.021	9.9	LOS A	0.1	0.6	0.32	0.48	0.32	56.1
8	T1	44	2.0	0.021	4.2	LOS A	0.1	0.6	0.31	0.44	0.31	56.4
9	R2	2	2.0	0.021	4.3	LOS A	0.1	0.6	0.31	0.41	0.31	54.9
Approach		52	2.0	0.021	4.9	LOS A	0.1	0.6	0.31	0.44	0.31	56.3
West: Palladium Dr												
10	L2	1	2.0	0.018	9.8	LOS A	0.1	0.5	0.29	0.41	0.29	57.0
11	T1	23	2.0	0.018	4.1	LOS A	0.1	0.5	0.29	0.41	0.29	56.7
12	R2	22	2.0	0.017	3.9	LOS A	0.1	0.5	0.29	0.44	0.29	55.6
Approach		46	2.0	0.018	4.1	LOS A	0.1	0.5	0.29	0.43	0.29	56.2
All Vehicles		622	2.0	0.102	6.1	LOS A	0.5	3.8	0.20	0.49	0.20	55.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Campeau / Palladium FB2026 PM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

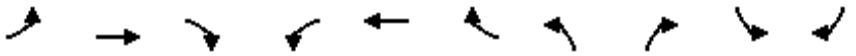
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Campeau Dr												
1	L2	21	2.0	0.038	9.4	LOS A	0.2	1.4	0.17	0.45	0.17	56.5
2	T1	44	2.0	0.038	3.7	LOS A	0.2	1.4	0.17	0.45	0.17	56.2
3	R2	270	2.0	0.142	3.2	LOS A	0.0	0.0	0.00	0.40	0.00	57.1
Approach		335	2.0	0.142	3.6	LOS A	0.2	1.4	0.03	0.41	0.03	56.9
East: Palladium Dr												
4	L2	224	2.0	0.080	9.4	LOS A	0.4	2.9	0.18	0.58	0.18	54.0
5	T1	25	2.0	0.080	3.7	LOS A	0.4	2.9	0.18	0.57	0.18	54.2
6	R2	2	2.0	0.080	3.8	LOS A	0.4	2.9	0.18	0.57	0.18	52.5
Approach		251	2.0	0.080	8.8	LOS A	0.4	2.9	0.18	0.58	0.18	54.0
North: Campeau Dr												
7	L2	19	2.0	0.058	10.0	LOS A	0.2	1.6	0.32	0.51	0.32	56.0
8	T1	124	2.0	0.058	4.3	LOS A	0.2	1.6	0.32	0.45	0.32	56.3
9	R2	1	2.0	0.058	4.3	LOS A	0.2	1.6	0.31	0.41	0.31	54.9
Approach		144	2.0	0.058	5.0	LOS A	0.2	1.6	0.32	0.46	0.32	56.3
West: Palladium Dr												
10	L2	2	2.0	0.034	10.0	LOS B	0.1	0.9	0.34	0.44	0.34	56.7
11	T1	40	2.0	0.034	4.4	LOS A	0.1	0.9	0.34	0.44	0.34	56.4
12	R2	15	2.0	0.012	4.1	LOS A	0.0	0.3	0.33	0.46	0.33	55.4
Approach		57	2.0	0.034	4.5	LOS A	0.1	0.9	0.34	0.45	0.34	56.1
All Vehicles		787	2.0	0.142	5.6	LOS A	0.4	2.9	0.15	0.48	0.15	55.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	22	5	19	50	3	24
Future Volume (Veh/h)	22	5	19	50	3	24
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)	22	5	19	50	3	24
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			27		112	24
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			27		112	24
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	98
cM capacity (veh/h)			1587		874	1052

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	27	19	50	27
Volume Left	0	19	0	3
Volume Right	5	0	0	24
cSH	1700	1587	1700	1028
Volume to Capacity	0.02	0.01	0.03	0.03
Queue Length 95th (m)	0.0	0.3	0.0	0.6
Control Delay (s)	0.0	7.3	0.0	8.6
Lane LOS		A		A
Approach Delay (s)	0.0	2.0		8.6
Approach LOS				A

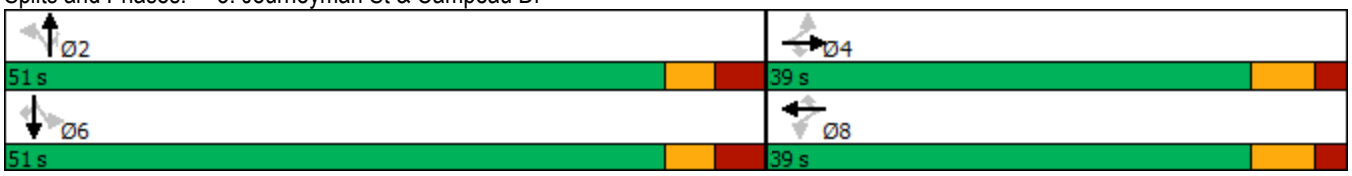
Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	17.8%	ICU Level of Service	A
Analysis Period (min)	15		

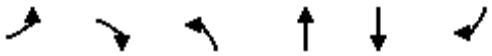


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	6	118	20	18	209	2	4	13	1	1
Future Volume (vph)	6	118	20	18	209	2	4	13	1	1
Lane Group Flow (vph)	6	118	20	18	209	2	4	13	1	1
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	Perm	Perm	Perm
Protected Phases		4			8					
Permitted Phases	4		4	8		8	2	2	6	6
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	44.5	44.5	44.5	44.5	44.5	44.5	39.8	39.8	39.8	39.8
Total Split (s)	39.0	39.0	39.0	39.0	39.0	39.0	51.0	51.0	51.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%	56.7%	56.7%	56.7%	56.7%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	3.5	3.5	3.5	3.5
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.8	6.8	6.8	6.8
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	13.8	13.8	13.8	13.8	13.8	13.8	45.6	45.6	45.6	45.6
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.19	0.63	0.63	0.63	0.63
v/c Ratio	0.03	0.35	0.06	0.08	0.62	0.01	0.00	0.01	0.00	0.00
Control Delay	22.8	27.7	2.8	23.7	34.9	0.0	6.2	0.0	6.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.8	27.7	2.8	23.7	34.9	0.0	6.2	0.0	6.0	0.0
LOS	C	C	A	C	C	A	A	A	A	A
Approach Delay		24.0			33.7					
Approach LOS		C			C					
Queue Length 50th (m)	0.7	13.8	0.0	2.0	25.7	0.0	0.2	0.0	0.1	0.0
Queue Length 95th (m)	3.5	26.9	1.9	6.8	44.8	0.0	1.4	0.0	0.6	0.0
Internal Link Dist (m)		319.9			296.6					
Turn Bay Length (m)	45.0			50.0			20.0		45.0	
Base Capacity (vph)	456	798	704	543	798	704	847	1219	847	1145
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	0.01	0.15	0.03	0.03	0.26	0.00	0.00	0.01	0.00	0.00

Intersection Summary			
Cycle Length: 90			
Actuated Cycle Length: 72.7			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 28.6		Intersection LOS: C	
Intersection Capacity Utilization 45.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Journeyman St & Campeau Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	82	115	335	240	21
Future Volume (Veh/h)	0	82	115	335	240	21
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	82	115	335	240	21
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				207		
pX, platoon unblocked						
vC, conflicting volume	648	130	261			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	648	130	261			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	91	91			
cM capacity (veh/h)	367	895	1300			

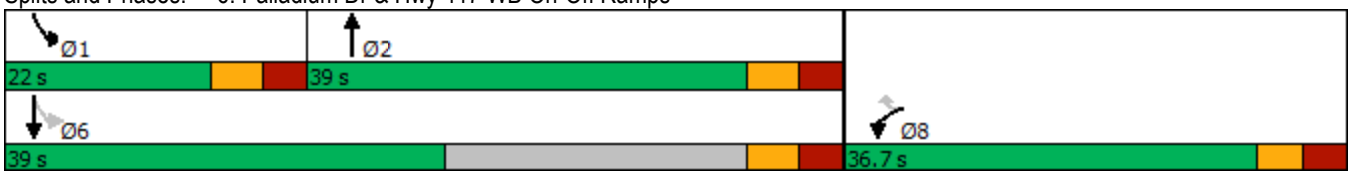
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	82	115	168	168	160	101
Volume Left	0	115	0	0	0	0
Volume Right	82	0	0	0	0	21
cSH	895	1300	1700	1700	1700	1700
Volume to Capacity	0.09	0.09	0.10	0.10	0.09	0.06
Queue Length 95th (m)	2.3	2.2	0.0	0.0	0.0	0.0
Control Delay (s)	9.4	8.0	0.0	0.0	0.0	0.0
Lane LOS	A	A				
Approach Delay (s)	9.4	2.1			0.0	
Approach LOS	A					

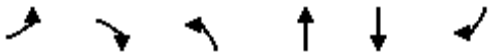
Intersection Summary				
Average Delay	2.1			
Intersection Capacity Utilization	21.1%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	218	288	162	115	207
Future Volume (vph)	218	288	162	115	207
Lane Group Flow (vph)	218	288	162	115	207
Turn Type	Prot	Perm	NA	pm+pt	NA
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	32.7	32.7	39.0	12.0	25.0
Total Split (s)	36.7	36.7	39.0	22.0	39.0
Total Split (%)	37.6%	37.6%	39.9%	22.5%	39.9%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	3.3	3.3	3.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	7.0	7.0	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	30.0	30.0	32.0	54.0	54.0
Actuated g/C Ratio	0.31	0.31	0.33	0.55	0.55
v/c Ratio	0.22	0.43	0.15	0.18	0.11
Control Delay	25.9	5.4	23.7	11.3	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	25.9	5.4	23.7	11.3	10.6
LOS	C	A	C	B	B
Approach Delay	14.2		23.7		10.9
Approach LOS	B		C		B
Queue Length 50th (m)	15.7	0.0	11.2	9.8	9.2
Queue Length 95th (m)	24.5	17.5	18.6	18.0	14.5
Internal Link Dist (m)	322.5		403.5		183.1
Turn Bay Length (m)		125.0		115.0	
Base Capacity (vph)	1009	665	1110	639	1873
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.22	0.43	0.15	0.18	0.11

Intersection Summary	
Cycle Length: 97.7	
Actuated Cycle Length: 97.7	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.43	
Intersection Signal Delay: 14.7	Intersection LOS: B
Intersection Capacity Utilization 40.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Palladium Dr & Hwy 417 WB On-Off Ramps

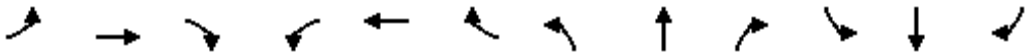




Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	89	272	0	75	392	30
Future Volume (Veh/h)	89	272	0	75	392	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	89	272	0	75	392	30
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)		3				
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	444	211	422			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	444	211	422			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	84	66	100			
cM capacity (veh/h)	542	794	1134			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	361	38	38	261	161
Volume Left	89	0	0	0	0
Volume Right	272	0	0	0	30
cSH	1054	1700	1700	1700	1700
Volume to Capacity	0.34	0.02	0.02	0.15	0.09
Queue Length 95th (m)	11.7	0.0	0.0	0.0	0.0
Control Delay (s)	12.1	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	12.1	0.0		0.0	
Approach LOS	B				

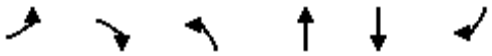
Intersection Summary				
Average Delay	5.1			
Intersection Capacity Utilization	36.9%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	2	2	0	11	0	11	0	0	0	0	0
Future Volume (vph)	0	2	2	0	11	0	11	0	0	0	0	0
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
Hourly flow rate (vph)	0	2	2	0	11	0	11	0	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	4	11	11	0
Volume Left (vph)	0	0	11	0
Volume Right (vph)	2	0	0	0
Hadj (s)	-0.27	0.03	0.23	0.00
Departure Headway (s)	3.7	4.0	4.2	3.9
Degree Utilization, x	0.00	0.01	0.01	0.00
Capacity (veh/h)	970	901	848	900
Control Delay (s)	6.7	7.0	7.2	6.9
Approach Delay (s)	6.7	7.0	7.2	0.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.0			
Level of Service	A			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	2	11	429	444	0
Future Volume (Veh/h)	0	2	11	429	444	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	2	11	429	444	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	680	222	444			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	680	222	444			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	381	782	1112			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	2	154	286	296	148
Volume Left	0	11	0	0	0
Volume Right	2	0	0	0	0
cSH	782	1112	1700	1700	1700
Volume to Capacity	0.00	0.01	0.17	0.17	0.09
Queue Length 95th (m)	0.1	0.2	0.0	0.0	0.0
Control Delay (s)	9.6	0.7	0.0	0.0	0.0
Lane LOS	A	A			
Approach Delay (s)	9.6	0.2		0.0	
Approach LOS	A				

Intersection Summary				
Average Delay	0.1			
Intersection Capacity Utilization	30.9%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2	0	0	11	0	0
Future Volume (Veh/h)	2	0	0	11	0	0
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)	2	0	0	11	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			2		13	2
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			2		13	2
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		100	100
cM capacity (veh/h)			1620		1006	1082

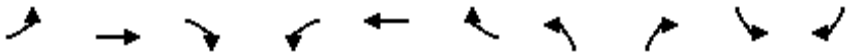
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	2	11	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1620	1700
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	19	1	13	37	2	38
Future Volume (Veh/h)	19	1	13	37	2	38
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)	19	1	13	37	2	38
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			20		82	20
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			20		82	20
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	96
cM capacity (veh/h)			1596		912	1058

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	20	13	37	40
Volume Left	0	13	0	2
Volume Right	1	0	0	38
cSH	1700	1596	1700	1050
Volume to Capacity	0.01	0.01	0.02	0.04
Queue Length 95th (m)	0.0	0.2	0.0	0.9
Control Delay (s)	0.0	7.3	0.0	8.6
Lane LOS		A		A
Approach Delay (s)	0.0	1.9		8.6
Approach LOS				A

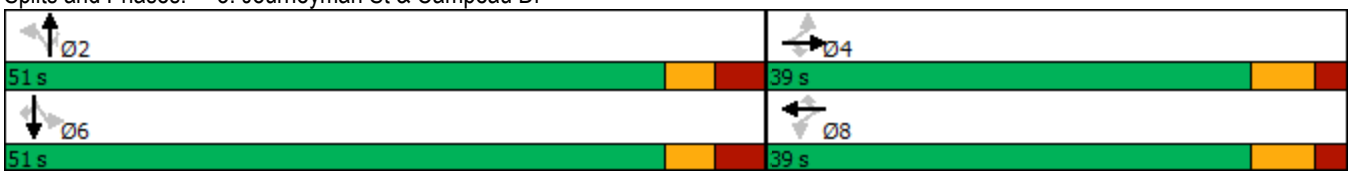
Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	17.4%	ICU Level of Service	A
Analysis Period (min)	15		

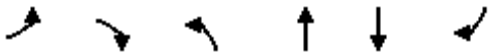


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	12	245	16	77	147	2	42	71	3	4
Future Volume (vph)	12	245	16	77	147	2	42	71	3	4
Lane Group Flow (vph)	12	245	16	77	147	2	42	71	3	4
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	Perm	Perm	Perm
Protected Phases		4			8					
Permitted Phases	4		4	8		8	2	2	6	6
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	44.5	44.5	44.5	44.5	44.5	44.5	39.8	39.8	39.8	39.8
Total Split (s)	39.0	39.0	39.0	39.0	39.0	39.0	51.0	51.0	51.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%	56.7%	56.7%	56.7%	56.7%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	3.5	3.5	3.5	3.5
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.8	6.8	6.8	6.8
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	15.1	15.1	15.1	15.1	15.1	15.1	44.5	44.5	44.5	44.5
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.21	0.21	0.61	0.61	0.61	0.61
v/c Ratio	0.05	0.66	0.05	0.41	0.40	0.01	0.05	0.06	0.00	0.00
Control Delay	22.6	35.5	1.3	31.8	27.9	0.0	7.1	0.1	7.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.6	35.5	1.3	31.8	27.9	0.0	7.1	0.1	7.0	0.0
LOS	C	D	A	C	C	A	A	A	A	A
Approach Delay		33.0			29.0					
Approach LOS		C			C					
Queue Length 50th (m)	1.3	30.9	0.0	9.2	17.4	0.0	2.1	0.0	0.2	0.0
Queue Length 95th (m)	5.2	52.0	0.9	20.9	32.2	0.0	6.7	0.0	1.2	0.0
Internal Link Dist (m)		319.9			296.6					
Turn Bay Length (m)	45.0			50.0			20.0		45.0	
Base Capacity (vph)	528	796	703	400	796	703	823	1102	823	1177
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	0.02	0.31	0.02	0.19	0.18	0.00	0.05	0.06	0.00	0.00

Intersection Summary			
Cycle Length: 90			
Actuated Cycle Length: 72.9			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 25.6		Intersection LOS: C	
Intersection Capacity Utilization 47.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Journeyman St & Campeau Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	150	135	424	411	35
Future Volume (Veh/h)	0	150	135	424	411	35
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	150	135	424	411	35
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				207		
pX, platoon unblocked						
vC, conflicting volume	910	223	446			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	910	223	446			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	81	88			
cM capacity (veh/h)	241	780	1111			

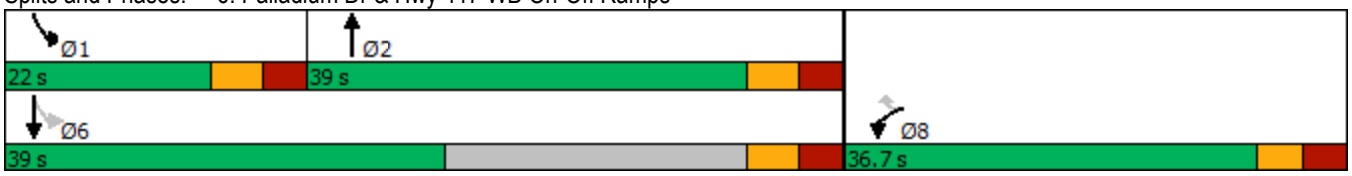
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	150	135	212	212	274	172
Volume Left	0	135	0	0	0	0
Volume Right	150	0	0	0	0	35
cSH	780	1111	1700	1700	1700	1700
Volume to Capacity	0.19	0.12	0.12	0.12	0.16	0.10
Queue Length 95th (m)	5.4	3.1	0.0	0.0	0.0	0.0
Control Delay (s)	10.7	8.7	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	10.7	2.1			0.0	
Approach LOS	B					

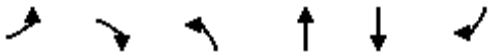
Intersection Summary				
Average Delay	2.4			
Intersection Capacity Utilization	29.6%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	429	370	189	238	324
Future Volume (vph)	429	370	189	238	324
Lane Group Flow (vph)	429	370	189	238	324
Turn Type	Prot	Perm	NA	pm+pt	NA
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	32.7	32.7	39.0	12.0	25.0
Total Split (s)	36.7	36.7	39.0	22.0	39.0
Total Split (%)	37.6%	37.6%	39.9%	22.5%	39.9%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	3.3	3.3	3.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	7.0	7.0	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	30.0	30.0	32.0	54.0	54.0
Actuated g/C Ratio	0.31	0.31	0.33	0.55	0.55
v/c Ratio	0.43	0.51	0.17	0.38	0.17
Control Delay	28.6	5.6	23.9	13.4	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	28.6	5.6	23.9	13.4	11.1
LOS	C	A	C	B	B
Approach Delay	17.9		23.9		12.1
Approach LOS	B		C		B
Queue Length 50th (m)	33.1	0.0	13.2	22.0	15.0
Queue Length 95th (m)	46.5	19.6	21.2	35.4	22.0
Internal Link Dist (m)	322.5		403.5		183.1
Turn Bay Length (m)		125.0		115.0	
Base Capacity (vph)	1009	722	1110	629	1873
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.43	0.51	0.17	0.38	0.17

Intersection Summary	
Cycle Length: 97.7	
Actuated Cycle Length: 97.7	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.51	
Intersection Signal Delay: 16.5	Intersection LOS: B
Intersection Capacity Utilization 52.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Palladium Dr & Hwy 417 WB On-Off Ramps

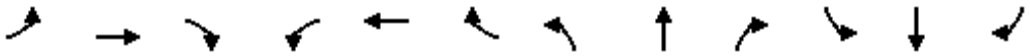




Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	108	161	0	488	722	14
Future Volume (Veh/h)	108	161	0	488	722	14
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	108	161	0	488	722	14
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)		3				
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	973	368	736			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	973	368	736			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	57	74	100			
cM capacity (veh/h)	250	629	865			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	269	244	244	481	255
Volume Left	108	0	0	0	0
Volume Right	161	0	0	0	14
cSH	622	1700	1700	1700	1700
Volume to Capacity	0.43	0.14	0.14	0.28	0.15
Queue Length 95th (m)	16.6	0.0	0.0	0.0	0.0
Control Delay (s)	19.6	0.0	0.0	0.0	0.0
Lane LOS	C				
Approach Delay (s)	19.6	0.0		0.0	
Approach LOS	C				

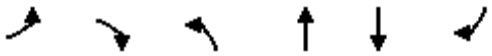
Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	11	11	0	2	0	2	0	0	0	0	0
Future Volume (vph)	0	11	11	0	2	0	2	0	0	0	0	0
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
Hourly flow rate (vph)	0	11	11	0	2	0	2	0	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	22	2	2	0
Volume Left (vph)	0	0	2	0
Volume Right (vph)	11	0	0	0
Hadj (s)	-0.27	0.03	0.23	0.00
Departure Headway (s)	3.6	4.0	4.2	3.9
Degree Utilization, x	0.02	0.00	0.00	0.00
Capacity (veh/h)	981	903	843	900
Control Delay (s)	6.7	7.0	7.2	6.9
Approach Delay (s)	6.7	7.0	7.2	0.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	6.8			
Level of Service	A			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	11	2	595	544	0
Future Volume (Veh/h)	0	11	2	595	544	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	11	2	595	544	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	846	272	544			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	846	272	544			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	100			
cM capacity (veh/h)	301	726	1021			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	11	200	397	363	181
Volume Left	0	2	0	0	0
Volume Right	11	0	0	0	0
cSH	726	1021	1700	1700	1700
Volume to Capacity	0.02	0.00	0.23	0.21	0.11
Queue Length 95th (m)	0.4	0.0	0.0	0.0	0.0
Control Delay (s)	10.0	0.1	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	10.0	0.0		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	28.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	11	0	0	2	0	0
Future Volume (Veh/h)	11	0	0	2	0	0
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)	11	0	0	2	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			11		13	11
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			11		13	11
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		100	100
cM capacity (veh/h)			1608		1006	1070

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	11	2	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1608	1700
Volume to Capacity	0.01	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Total Future Background 2031

MOVEMENT SUMMARY

Site: 101 [Huntmar / Campeau FB2031 AM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Huntmar Dr												
1	L2	31	2.0	0.026	9.6	LOS A	0.1	0.7	0.22	0.60	0.22	53.4
2	T1	364	2.0	0.213	3.8	LOS A	1.1	7.6	0.23	0.37	0.23	57.2
3	R2	31	2.0	0.026	4.2	LOS A	0.1	0.7	0.22	0.44	0.22	55.2
Approach		426	2.0	0.213	4.2	LOS A	1.1	7.6	0.23	0.39	0.23	56.8
East: Campeau Dr												
4	L2	69	2.0	0.059	10.4	LOS B	0.2	1.7	0.42	0.67	0.42	52.7
5	T1	70	2.0	0.047	4.4	LOS A	0.2	1.4	0.39	0.43	0.39	56.3
6	R2	15	2.0	0.014	5.2	LOS A	0.1	0.4	0.42	0.52	0.42	54.5
Approach		154	2.0	0.059	7.2	LOS A	0.2	1.7	0.41	0.55	0.41	54.4
North: Huntmar Dr												
7	L2	2	2.0	0.002	9.7	LOS A	0.0	0.0	0.27	0.58	0.27	53.3
8	T1	331	2.0	0.201	3.9	LOS A	0.9	6.7	0.28	0.38	0.28	56.9
9	R2	133	2.0	0.105	4.4	LOS A	0.4	3.1	0.28	0.48	0.28	55.0
Approach		466	2.0	0.201	4.1	LOS A	0.9	6.7	0.28	0.41	0.28	56.4
West: Campeau Dr												
10	L2	82	2.0	0.054	10.0	LOS A	0.2	1.7	0.37	0.64	0.37	52.9
11	T1	23	2.0	0.021	4.7	LOS A	0.1	0.6	0.40	0.46	0.40	56.2
12	R2	34	2.0	0.018	3.3	LOS A	0.0	0.0	0.00	0.42	0.00	56.8
Approach		139	2.0	0.054	7.5	LOS A	0.2	1.7	0.29	0.55	0.29	54.3
All Vehicles		1185	2.0	0.213	4.9	LOS A	1.1	7.6	0.28	0.44	0.28	56.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Huntmar / Campeau FB2031 PM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Huntmar Dr												
1	L2	67	2.0	0.062	10.2	LOS B	0.3	1.8	0.38	0.65	0.38	52.9
2	T1	406	2.0	0.265	4.3	LOS A	1.4	9.7	0.40	0.42	0.40	56.2
3	R2	67	2.0	0.062	4.9	LOS A	0.3	1.8	0.38	0.53	0.38	54.6
Approach		540	2.0	0.265	5.1	LOS A	1.4	9.7	0.40	0.46	0.40	55.6
East: Campeau Dr												
4	L2	50	2.0	0.037	10.3	LOS B	0.2	1.1	0.46	0.67	0.46	52.7
5	T1	40	2.0	0.037	5.1	LOS A	0.2	1.1	0.48	0.51	0.48	55.6
6	R2	4	2.0	0.004	5.4	LOS A	0.0	0.1	0.48	0.52	0.48	54.2
Approach		94	2.0	0.037	7.9	LOS A	0.2	1.1	0.47	0.59	0.47	54.0
North: Huntmar Dr												
7	L2	7	2.0	0.006	9.7	LOS A	0.0	0.2	0.26	0.59	0.26	53.3
8	T1	416	2.0	0.250	3.9	LOS A	1.2	8.8	0.27	0.39	0.27	56.9
9	R2	159	2.0	0.126	4.4	LOS A	0.5	3.8	0.27	0.48	0.27	55.0
Approach		582	2.0	0.250	4.1	LOS A	1.2	8.8	0.27	0.41	0.27	56.4
West: Campeau Dr												
10	L2	215	2.0	0.148	10.2	LOS B	0.7	5.0	0.44	0.68	0.44	52.7
11	T1	97	2.0	0.088	4.9	LOS A	0.4	2.7	0.45	0.49	0.45	56.0
12	R2	77	2.0	0.041	3.3	LOS A	0.0	0.0	0.00	0.42	0.00	56.8
Approach		389	2.0	0.148	7.6	LOS A	0.7	5.0	0.36	0.58	0.36	54.2
All Vehicles		1605	2.0	0.265	5.5	LOS A	1.4	9.7	0.35	0.48	0.35	55.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Campeau / Palladium FB2031 AM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Campeau Dr												
1	L2	51	2.0	0.104	9.3	LOS A	0.6	3.9	0.12	0.44	0.12	56.9
2	T1	133	2.0	0.104	3.6	LOS A	0.6	3.9	0.12	0.44	0.12	56.6
3	R2	120	2.0	0.063	3.1	LOS A	0.0	0.0	0.00	0.40	0.00	57.1
Approach		304	2.0	0.104	4.4	LOS A	0.6	3.9	0.07	0.42	0.07	56.8
East: Palladium Dr												
4	L2	197	2.0	0.082	9.9	LOS A	0.4	3.0	0.32	0.59	0.32	53.7
5	T1	21	2.0	0.082	4.1	LOS A	0.4	3.0	0.31	0.57	0.31	54.1
6	R2	18	2.0	0.082	4.2	LOS A	0.4	3.0	0.31	0.57	0.31	52.5
Approach		236	2.0	0.082	8.9	LOS A	0.4	3.0	0.32	0.59	0.32	53.6
North: Campeau Dr												
7	L2	6	2.0	0.022	10.0	LOS A	0.1	0.6	0.32	0.48	0.32	56.1
8	T1	45	2.0	0.022	4.2	LOS A	0.1	0.6	0.32	0.44	0.32	56.3
9	R2	2	2.0	0.022	4.3	LOS A	0.1	0.6	0.31	0.41	0.31	54.9
Approach		53	2.0	0.022	4.9	LOS A	0.1	0.6	0.32	0.45	0.32	56.3
West: Palladium Dr												
10	L2	1	2.0	0.020	9.8	LOS A	0.1	0.5	0.30	0.41	0.30	57.0
11	T1	25	2.0	0.020	4.1	LOS A	0.1	0.5	0.30	0.41	0.30	56.7
12	R2	23	2.0	0.018	3.9	LOS A	0.1	0.5	0.30	0.45	0.30	55.6
Approach		49	2.0	0.020	4.2	LOS A	0.1	0.5	0.30	0.43	0.30	56.2
All Vehicles		642	2.0	0.104	6.1	LOS A	0.6	3.9	0.20	0.49	0.20	55.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Campeau / Palladium FB2031 PM]

New Site
Site Category: (None)
Roundabout

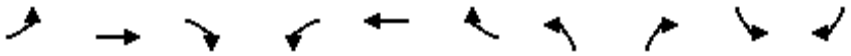
Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Campeau Dr												
1	L2	22	2.0	0.039	9.4	LOS A	0.2	1.4	0.17	0.46	0.17	56.5
2	T1	44	2.0	0.039	3.7	LOS A	0.2	1.4	0.17	0.46	0.17	56.1
3	R2	280	2.0	0.148	3.2	LOS A	0.0	0.0	0.00	0.40	0.00	57.1
Approach		346	2.0	0.148	3.6	LOS A	0.2	1.4	0.03	0.41	0.03	56.9
East: Palladium Dr												
4	L2	233	2.0	0.083	9.4	LOS A	0.4	3.0	0.19	0.58	0.19	54.0
5	T1	27	2.0	0.083	3.7	LOS A	0.4	3.0	0.18	0.57	0.18	54.2
6	R2	2	2.0	0.083	3.8	LOS A	0.4	3.0	0.18	0.57	0.18	52.5
Approach		262	2.0	0.083	8.8	LOS A	0.4	3.0	0.19	0.58	0.19	54.0
North: Campeau Dr												
7	L2	20	2.0	0.060	10.0	LOS B	0.2	1.6	0.33	0.51	0.33	55.9
8	T1	126	2.0	0.060	4.3	LOS A	0.2	1.6	0.32	0.45	0.32	56.3
9	R2	1	2.0	0.060	4.3	LOS A	0.2	1.6	0.32	0.42	0.32	54.9
Approach		147	2.0	0.060	5.1	LOS A	0.2	1.6	0.32	0.46	0.32	56.2
West: Palladium Dr												
10	L2	2	2.0	0.035	10.1	LOS B	0.1	0.9	0.35	0.45	0.35	56.7
11	T1	42	2.0	0.035	4.4	LOS A	0.1	0.9	0.35	0.45	0.35	56.4
12	R2	16	2.0	0.013	4.2	LOS A	0.0	0.3	0.34	0.47	0.34	55.4
Approach		60	2.0	0.035	4.5	LOS A	0.1	0.9	0.35	0.45	0.35	56.1
All Vehicles		815	2.0	0.148	5.6	LOS A	0.4	3.0	0.16	0.48	0.16	55.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	23	6	20	52	3	26
Future Volume (Veh/h)	23	6	20	52	3	26
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)	23	6	20	52	3	26
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			29		118	26
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			29		118	26
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	98
cM capacity (veh/h)			1584		867	1050

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	29	20	52	29
Volume Left	0	20	0	3
Volume Right	6	0	0	26
cSH	1700	1584	1700	1027
Volume to Capacity	0.02	0.01	0.03	0.03
Queue Length 95th (m)	0.0	0.3	0.0	0.7
Control Delay (s)	0.0	7.3	0.0	8.6
Lane LOS		A		A
Approach Delay (s)	0.0	2.0		8.6
Approach LOS				A

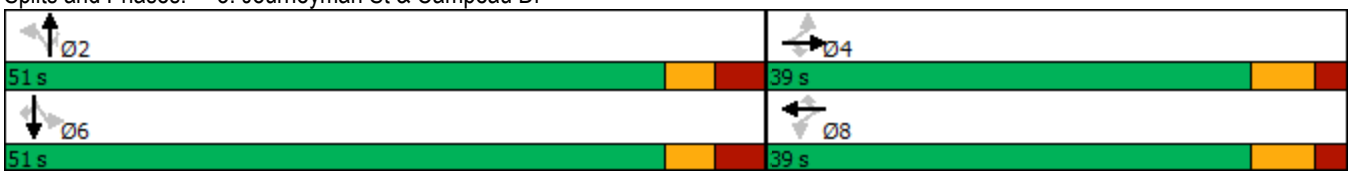
Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	17.8%	ICU Level of Service	A
Analysis Period (min)	15		

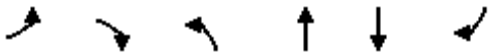


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	7	123	21	19	215	2	4	13	1	1
Future Volume (vph)	7	123	21	19	215	2	4	13	1	1
Lane Group Flow (vph)	7	123	21	19	215	2	4	13	1	1
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	Perm	Perm	Perm
Protected Phases		4			8					
Permitted Phases	4		4	8		8	2	2	6	6
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	44.5	44.5	44.5	44.5	44.5	44.5	39.8	39.8	39.8	39.8
Total Split (s)	39.0	39.0	39.0	39.0	39.0	39.0	51.0	51.0	51.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%	56.7%	56.7%	56.7%	56.7%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	3.5	3.5	3.5	3.5
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.8	6.8	6.8	6.8
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	14.0	14.0	14.0	14.0	14.0	14.0	45.4	45.4	45.4	45.4
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.19	0.62	0.62	0.62	0.62
v/c Ratio	0.04	0.36	0.06	0.08	0.62	0.01	0.00	0.01	0.00	0.00
Control Delay	22.9	27.7	3.0	23.6	35.0	0.0	6.5	0.0	7.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.9	27.7	3.0	23.6	35.0	0.0	6.5	0.0	7.0	0.0
LOS	C	C	A	C	C	A	A	A	A	A
Approach Delay		24.1			33.8					
Approach LOS		C			C					
Queue Length 50th (m)	0.8	14.4	0.0	2.1	26.6	0.0	0.2	0.0	0.1	0.0
Queue Length 95th (m)	3.7	27.8	2.2	7.0	46.0	0.0	1.4	0.0	0.6	0.0
Internal Link Dist (m)		319.9			296.6					
Turn Bay Length (m)	45.0			50.0			20.0		45.0	
Base Capacity (vph)	445	798	704	541	798	704	842	1211	842	1137
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	0.02	0.15	0.03	0.04	0.27	0.00	0.00	0.01	0.00	0.00

Intersection Summary			
Cycle Length: 90			
Actuated Cycle Length: 72.7			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 28.7		Intersection LOS: C	
Intersection Capacity Utilization 45.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Journeyman St & Campeau Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	86	120	345	247	22
Future Volume (Veh/h)	0	86	120	345	247	22
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	86	120	345	247	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				207		
pX, platoon unblocked						
vC, conflicting volume	670	134	269			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	670	134	269			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	90	91			
cM capacity (veh/h)	354	890	1292			

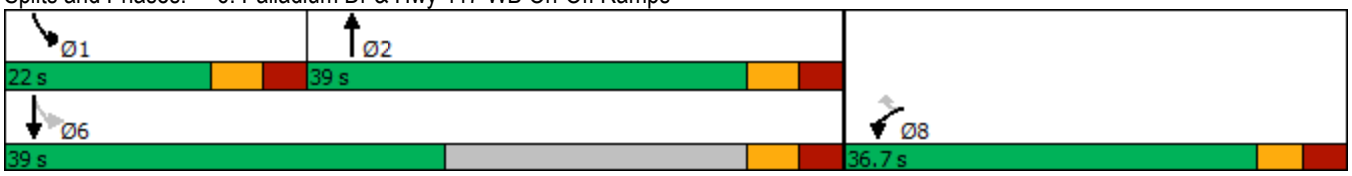
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	86	120	172	172	165	104
Volume Left	0	120	0	0	0	0
Volume Right	86	0	0	0	0	22
cSH	890	1292	1700	1700	1700	1700
Volume to Capacity	0.10	0.09	0.10	0.10	0.10	0.06
Queue Length 95th (m)	2.4	2.3	0.0	0.0	0.0	0.0
Control Delay (s)	9.5	8.1	0.0	0.0	0.0	0.0
Lane LOS	A	A				
Approach Delay (s)	9.5	2.1			0.0	
Approach LOS	A					

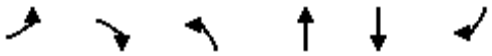
Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	21.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	229	297	168	117	216
Future Volume (vph)	229	297	168	117	216
Lane Group Flow (vph)	229	297	168	117	216
Turn Type	Prot	Perm	NA	pm+pt	NA
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	32.7	32.7	39.0	12.0	25.0
Total Split (s)	36.7	36.7	39.0	22.0	39.0
Total Split (%)	37.6%	37.6%	39.9%	22.5%	39.9%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	3.3	3.3	3.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	7.0	7.0	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	30.0	30.0	32.0	54.0	54.0
Actuated g/C Ratio	0.31	0.31	0.33	0.55	0.55
v/c Ratio	0.23	0.44	0.15	0.18	0.12
Control Delay	26.0	5.4	23.7	11.3	10.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	26.0	5.4	23.7	11.3	10.6
LOS	C	A	C	B	B
Approach Delay	14.4		23.7		10.9
Approach LOS	B		C		B
Queue Length 50th (m)	16.5	0.0	11.7	10.0	9.6
Queue Length 95th (m)	25.6	17.8	19.2	18.4	15.1
Internal Link Dist (m)	322.5		403.5		183.1
Turn Bay Length (m)		125.0		115.0	
Base Capacity (vph)	1009	671	1110	637	1873
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.23	0.44	0.15	0.18	0.12

Intersection Summary	
Cycle Length: 97.7	
Actuated Cycle Length: 97.7	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.44	
Intersection Signal Delay: 14.8	Intersection LOS: B
Intersection Capacity Utilization 40.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Palladium Dr & Hwy 417 WB On-Off Ramps

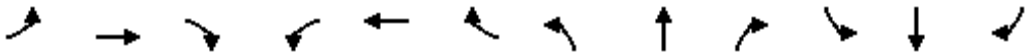




Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	92	286	0	79	412	30
Future Volume (Veh/h)	92	286	0	79	412	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	92	286	0	79	412	30
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)		3				
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	466	221	442			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	466	221	442			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	82	63	100			
cM capacity (veh/h)	525	783	1114			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	378	40	40	275	167
Volume Left	92	0	0	0	0
Volume Right	286	0	0	0	30
cSH	1035	1700	1700	1700	1700
Volume to Capacity	0.37	0.02	0.02	0.16	0.10
Queue Length 95th (m)	12.9	0.0	0.0	0.0	0.0
Control Delay (s)	12.5	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	12.5	0.0		0.0	
Approach LOS	B				

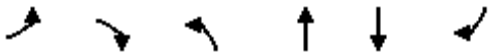
Intersection Summary				
Average Delay	5.3			
Intersection Capacity Utilization	38.4%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	2	2	0	11	0	11	0	0	0	0	0
Future Volume (vph)	0	2	2	0	11	0	11	0	0	0	0	0
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
Hourly flow rate (vph)	0	2	2	0	11	0	11	0	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	4	11	11	0
Volume Left (vph)	0	0	11	0
Volume Right (vph)	2	0	0	0
Hadj (s)	-0.27	0.03	0.23	0.00
Departure Headway (s)	3.7	4.0	4.2	3.9
Degree Utilization, x	0.00	0.01	0.01	0.00
Capacity (veh/h)	970	901	848	900
Control Delay (s)	6.7	7.0	7.2	6.9
Approach Delay (s)	6.7	7.0	7.2	0.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.0			
Level of Service	A			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	2	11	450	465	0
Future Volume (Veh/h)	0	2	11	450	465	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	2	11	450	465	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	712	232	465			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	712	232	465			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	363	770	1093			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	2	161	300	310	155
Volume Left	0	11	0	0	0
Volume Right	2	0	0	0	0
cSH	770	1093	1700	1700	1700
Volume to Capacity	0.00	0.01	0.18	0.18	0.09
Queue Length 95th (m)	0.1	0.2	0.0	0.0	0.0
Control Delay (s)	9.7	0.7	0.0	0.0	0.0
Lane LOS	A	A			
Approach Delay (s)	9.7	0.2		0.0	
Approach LOS	A				

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2	0	0	11	0	0
Future Volume (Veh/h)	2	0	0	11	0	0
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)	2	0	0	11	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			2		13	2
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			2		13	2
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		100	100
cM capacity (veh/h)			1620		1006	1082

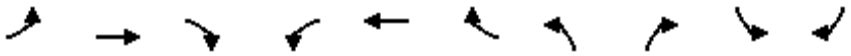
Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	2	11	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1620	1700
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	20	1	13	39	2	40
Future Volume (Veh/h)	20	1	13	39	2	40
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)	20	1	13	39	2	40
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			21		86	20
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			21		86	20
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	96
cM capacity (veh/h)			1595		908	1057

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	21	13	39	42
Volume Left	0	13	0	2
Volume Right	1	0	0	40
cSH	1700	1595	1700	1049
Volume to Capacity	0.01	0.01	0.02	0.04
Queue Length 95th (m)	0.0	0.2	0.0	1.0
Control Delay (s)	0.0	7.3	0.0	8.6
Lane LOS		A		A
Approach Delay (s)	0.0	1.8		8.6
Approach LOS				A

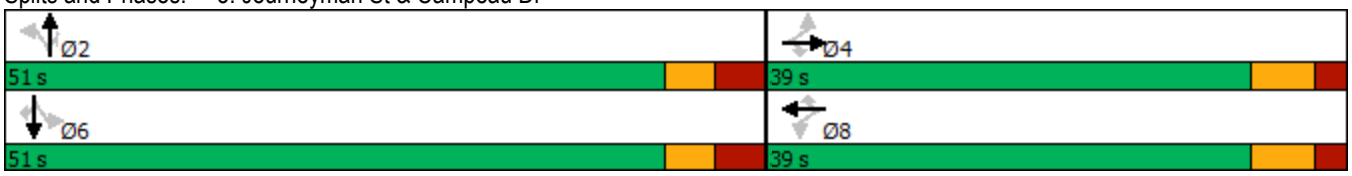
Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	17.4%	ICU Level of Service	A
Analysis Period (min)	15		

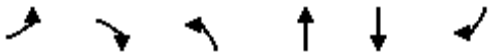


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	12	253	17	81	153	2	45	75	3	4
Future Volume (vph)	12	253	17	81	153	2	45	75	3	4
Lane Group Flow (vph)	12	253	17	81	153	2	45	75	3	4
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	Perm	Perm	Perm
Protected Phases		4			8					
Permitted Phases	4		4	8		8	2	2	6	6
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	44.5	44.5	44.5	44.5	44.5	44.5	39.8	39.8	39.8	39.8
Total Split (s)	39.0	39.0	39.0	39.0	39.0	39.0	51.0	51.0	51.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%	56.7%	56.7%	56.7%	56.7%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	3.5	3.5	3.5	3.5
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.8	6.8	6.8	6.8
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	15.4	15.4	15.4	15.4	15.4	15.4	44.3	44.3	44.3	44.3
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.21	0.21	0.61	0.61	0.61	0.61
v/c Ratio	0.05	0.67	0.05	0.44	0.41	0.01	0.05	0.07	0.00	0.00
Control Delay	22.4	35.7	1.6	32.8	27.9	0.0	7.3	0.1	7.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.4	35.7	1.6	32.8	27.9	0.0	7.3	0.1	7.3	0.0
LOS	C	D	A	C	C	A	A	A	A	A
Approach Delay		33.1			29.3					
Approach LOS		C			C					
Queue Length 50th (m)	1.3	32.1	0.0	9.7	18.2	0.0	2.2	0.0	0.2	0.0
Queue Length 95th (m)	5.1	53.6	1.2	21.8	33.3	0.0	7.1	0.0	1.2	0.0
Internal Link Dist (m)		319.9			296.6					
Turn Bay Length (m)	45.0			50.0			20.0		45.0	
Base Capacity (vph)	525	795	701	388	795	701	819	1093	819	1169
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	0.02	0.32	0.02	0.21	0.19	0.00	0.05	0.07	0.00	0.00

Intersection Summary			
Cycle Length: 90			
Actuated Cycle Length: 73.1			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 25.7		Intersection LOS: C	
Intersection Capacity Utilization 48.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Journeyman St & Campeau Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	157	142	440	425	37
Future Volume (Veh/h)	0	157	142	440	425	37
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	157	142	440	425	37
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				207		
pX, platoon unblocked						
vC, conflicting volume	948	231	462			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	948	231	462			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	80	87			
cM capacity (veh/h)	226	771	1095			

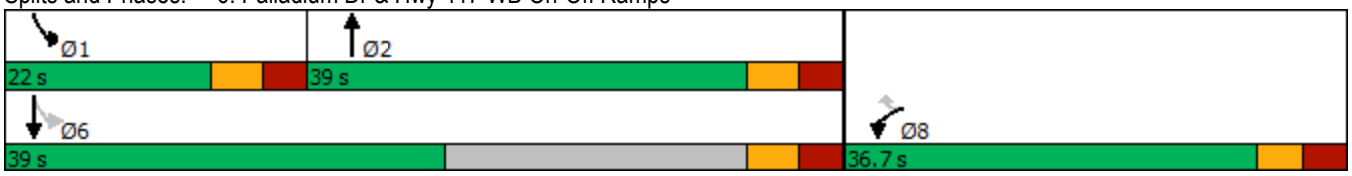
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	157	142	220	220	283	179
Volume Left	0	142	0	0	0	0
Volume Right	157	0	0	0	0	37
cSH	771	1095	1700	1700	1700	1700
Volume to Capacity	0.20	0.13	0.13	0.13	0.17	0.11
Queue Length 95th (m)	5.8	3.4	0.0	0.0	0.0	0.0
Control Delay (s)	10.9	8.8	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	10.9	2.1			0.0	
Approach LOS	B					

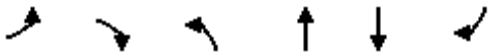
Intersection Summary				
Average Delay	2.5			
Intersection Capacity Utilization	30.6%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	451	385	197	245	338
Future Volume (vph)	451	385	197	245	338
Lane Group Flow (vph)	451	385	197	245	338
Turn Type	Prot	Perm	NA	pm+pt	NA
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	32.7	32.7	39.0	12.0	25.0
Total Split (s)	36.7	36.7	39.0	22.0	39.0
Total Split (%)	37.6%	37.6%	39.9%	22.5%	39.9%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	3.3	3.3	3.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	7.0	7.0	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	30.0	30.0	32.0	54.0	54.0
Actuated g/C Ratio	0.31	0.31	0.33	0.55	0.55
v/c Ratio	0.45	0.53	0.18	0.39	0.18
Control Delay	28.9	5.7	24.0	13.5	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	28.9	5.7	24.0	13.5	11.2
LOS	C	A	C	B	B
Approach Delay	18.2		24.0		12.2
Approach LOS	B		C		B
Queue Length 50th (m)	35.1	0.0	13.8	22.8	15.7
Queue Length 95th (m)	49.0	20.0	22.0	36.6	22.8
Internal Link Dist (m)	322.5		403.5		183.1
Turn Bay Length (m)		125.0		115.0	
Base Capacity (vph)	1009	732	1110	627	1873
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.45	0.53	0.18	0.39	0.18

Intersection Summary	
Cycle Length: 97.7	
Actuated Cycle Length: 97.7	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 16.7	Intersection LOS: B
Intersection Capacity Utilization 53.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Palladium Dr & Hwy 417 WB On-Off Ramps

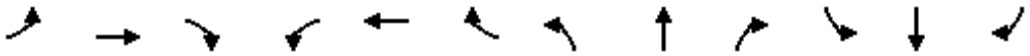




Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	112	170	0	513	758	14
Future Volume (Veh/h)	112	170	0	513	758	14
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	112	170	0	513	758	14
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)		3				
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1022	386	772			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1022	386	772			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	52	72	100			
cM capacity (veh/h)	232	612	839			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	282	256	256	505	267
Volume Left	112	0	0	0	0
Volume Right	170	0	0	0	14
cSH	585	1700	1700	1700	1700
Volume to Capacity	0.48	0.15	0.15	0.30	0.16
Queue Length 95th (m)	19.9	0.0	0.0	0.0	0.0
Control Delay (s)	21.5	0.0	0.0	0.0	0.0
Lane LOS	C				
Approach Delay (s)	21.5	0.0		0.0	
Approach LOS	C				

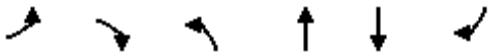
Intersection Summary			
Average Delay	3.9		
Intersection Capacity Utilization	40.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	11	11	0	2	0	2	0	0	0	0	0
Future Volume (vph)	0	11	11	0	2	0	2	0	0	0	0	0
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
Hourly flow rate (vph)	0	11	11	0	2	0	2	0	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	22	2	2	0
Volume Left (vph)	0	0	2	0
Volume Right (vph)	11	0	0	0
Hadj (s)	-0.27	0.03	0.23	0.00
Departure Headway (s)	3.6	4.0	4.2	3.9
Degree Utilization, x	0.02	0.00	0.00	0.00
Capacity (veh/h)	981	903	843	900
Control Delay (s)	6.7	7.0	7.2	6.9
Approach Delay (s)	6.7	7.0	7.2	0.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	6.8			
Level of Service	A			
Intersection Capacity Utilization	13.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	11	2	623	571	0
Future Volume (Veh/h)	0	11	2	623	571	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	11	2	623	571	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	886	286	571			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	886	286	571			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	100			
cM capacity (veh/h)	283	711	998			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	11	210	415	381	190
Volume Left	0	2	0	0	0
Volume Right	11	0	0	0	0
cSH	711	998	1700	1700	1700
Volume to Capacity	0.02	0.00	0.24	0.22	0.11
Queue Length 95th (m)	0.4	0.0	0.0	0.0	0.0
Control Delay (s)	10.1	0.1	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	10.1	0.0		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	29.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	11	0	0	2	0	0
Future Volume (Veh/h)	11	0	0	2	0	0
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)	11	0	0	2	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			11		13	11
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			11		13	11
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		100	100
cM capacity (veh/h)			1608		1006	1070

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	11	2	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1608	1700
Volume to Capacity	0.01	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

Total Projected 2021

MOVEMENT SUMMARY

Site: 101 [Huntmar / Campeau FT2021 AM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Huntmar Dr												
1	L2	37	2.0	0.031	9.6	LOS A	0.1	0.9	0.21	0.60	0.21	53.5
2	T1	339	2.0	0.197	3.8	LOS A	1.0	6.9	0.21	0.37	0.21	57.3
3	R2	29	2.0	0.024	4.2	LOS A	0.1	0.7	0.21	0.44	0.21	55.3
Approach		405	2.0	0.197	4.3	LOS A	1.0	6.9	0.21	0.39	0.21	56.8
East: Campeau Dr												
4	L2	65	2.0	0.055	10.3	LOS B	0.2	1.5	0.40	0.67	0.40	52.8
5	T1	68	2.0	0.045	4.3	LOS A	0.2	1.3	0.37	0.43	0.37	56.4
6	R2	14	2.0	0.013	5.1	LOS A	0.0	0.4	0.40	0.52	0.40	54.5
Approach		147	2.0	0.055	7.1	LOS A	0.2	1.5	0.39	0.54	0.39	54.5
North: Huntmar Dr												
7	L2	2	2.0	0.002	9.7	LOS A	0.0	0.0	0.27	0.58	0.27	53.3
8	T1	310	2.0	0.187	3.9	LOS A	0.9	6.2	0.27	0.38	0.27	57.0
9	R2	123	2.0	0.097	4.4	LOS A	0.4	2.9	0.28	0.48	0.28	55.0
Approach		435	2.0	0.187	4.1	LOS A	0.9	6.2	0.27	0.41	0.27	56.4
West: Campeau Dr												
10	L2	75	2.0	0.049	9.9	LOS A	0.2	1.5	0.36	0.63	0.36	53.0
11	T1	22	2.0	0.020	4.6	LOS A	0.1	0.6	0.38	0.45	0.38	56.3
12	R2	40	2.0	0.021	3.3	LOS A	0.0	0.0	0.00	0.42	0.00	56.8
Approach		137	2.0	0.049	7.1	LOS A	0.2	1.5	0.26	0.54	0.26	54.5
All Vehicles		1124	2.0	0.197	4.9	LOS A	1.0	6.9	0.26	0.44	0.26	56.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Huntmar / Campeau FT2021 PM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Huntmar Dr												
1	L2	67	2.0	0.061	10.1	LOS B	0.2	1.8	0.37	0.65	0.37	52.9
2	T1	375	2.0	0.242	4.2	LOS A	1.2	8.6	0.38	0.41	0.38	56.3
3	R2	64	2.0	0.058	4.8	LOS A	0.2	1.7	0.37	0.52	0.37	54.6
Approach		506	2.0	0.242	5.1	LOS A	1.2	8.6	0.38	0.46	0.38	55.6
East: Campeau Dr												
4	L2	47	2.0	0.034	10.2	LOS B	0.1	1.0	0.44	0.66	0.44	52.8
5	T1	38	2.0	0.034	5.0	LOS A	0.1	1.0	0.46	0.50	0.46	55.7
6	R2	4	2.0	0.004	5.3	LOS A	0.0	0.1	0.46	0.52	0.46	54.3
Approach		89	2.0	0.034	7.7	LOS A	0.1	1.0	0.45	0.58	0.45	54.1
North: Huntmar Dr												
7	L2	6	2.0	0.005	9.7	LOS A	0.0	0.1	0.25	0.59	0.25	53.3
8	T1	385	2.0	0.231	3.9	LOS A	1.1	7.9	0.26	0.38	0.26	57.0
9	R2	145	2.0	0.115	4.4	LOS A	0.5	3.4	0.27	0.47	0.27	55.0
Approach		536	2.0	0.231	4.1	LOS A	1.1	7.9	0.26	0.41	0.26	56.4
West: Campeau Dr												
10	L2	197	2.0	0.133	10.1	LOS B	0.6	4.4	0.42	0.67	0.42	52.7
11	T1	93	2.0	0.083	4.8	LOS A	0.4	2.5	0.43	0.47	0.43	56.1
12	R2	77	2.0	0.041	3.3	LOS A	0.0	0.0	0.00	0.42	0.00	56.8
Approach		367	2.0	0.133	7.4	LOS A	0.6	4.4	0.33	0.57	0.33	54.3
All Vehicles		1498	2.0	0.242	5.4	LOS A	1.2	8.6	0.33	0.47	0.33	55.5

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Campeau / Palladium FT2021 AM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Campeau Dr												
1	L2	46	2.0	0.134	9.3	LOS A	0.7	5.1	0.13	0.41	0.13	57.2
2	T1	191	2.0	0.134	3.7	LOS A	0.7	5.1	0.13	0.41	0.13	56.9
3	R2	110	2.0	0.058	3.1	LOS A	0.0	0.0	0.00	0.40	0.00	57.1
Approach		347	2.0	0.134	4.2	LOS A	0.7	5.1	0.09	0.41	0.09	57.0
East: Palladium Dr												
4	L2	186	2.0	0.083	10.1	LOS B	0.4	3.1	0.37	0.60	0.37	53.6
5	T1	19	2.0	0.083	4.3	LOS A	0.4	3.1	0.35	0.57	0.35	54.1
6	R2	25	2.0	0.083	4.4	LOS A	0.4	3.1	0.35	0.57	0.35	52.5
Approach		230	2.0	0.083	9.0	LOS A	0.4	3.1	0.36	0.60	0.36	53.5
North: Campeau Dr												
7	L2	15	2.0	0.053	9.9	LOS A	0.2	1.5	0.33	0.49	0.33	56.1
8	T1	115	2.0	0.053	4.2	LOS A	0.2	1.5	0.32	0.44	0.32	56.3
9	R2	2	2.0	0.053	4.3	LOS A	0.2	1.5	0.31	0.41	0.31	54.9
Approach		132	2.0	0.053	4.9	LOS A	0.2	1.5	0.32	0.45	0.32	56.3
West: Palladium Dr												
10	L2	1	2.0	0.018	9.9	LOS A	0.1	0.5	0.33	0.43	0.33	56.8
11	T1	22	2.0	0.018	4.3	LOS A	0.1	0.5	0.33	0.43	0.33	56.5
12	R2	21	2.0	0.016	4.1	LOS A	0.1	0.4	0.32	0.46	0.32	55.5
Approach		44	2.0	0.018	4.3	LOS A	0.1	0.5	0.33	0.45	0.33	56.0
All Vehicles		753	2.0	0.134	5.8	LOS A	0.7	5.1	0.23	0.48	0.23	55.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Campeau / Palladium FT2021 PM]

New Site
Site Category: (None)
Roundabout

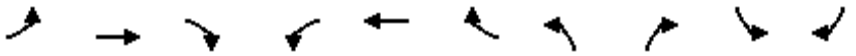
Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Campeau Dr												
1	L2	20	2.0	0.065	9.4	LOS A	0.3	2.4	0.18	0.41	0.18	57.1
2	T1	91	2.0	0.065	3.7	LOS A	0.3	2.4	0.18	0.41	0.18	56.7
3	R2	261	2.0	0.138	3.2	LOS A	0.0	0.0	0.00	0.40	0.00	57.1
Approach		372	2.0	0.138	3.6	LOS A	0.3	2.4	0.05	0.40	0.05	57.0
East: Palladium Dr												
4	L2	216	2.0	0.082	9.6	LOS A	0.4	3.0	0.25	0.58	0.25	53.8
5	T1	24	2.0	0.082	3.9	LOS A	0.4	3.0	0.24	0.57	0.24	54.1
6	R2	8	2.0	0.082	4.0	LOS A	0.4	3.0	0.24	0.57	0.24	52.4
Approach		248	2.0	0.082	8.9	LOS A	0.4	3.0	0.25	0.58	0.25	53.8
North: Campeau Dr												
7	L2	25	2.0	0.077	10.0	LOS A	0.3	2.2	0.33	0.50	0.33	56.0
8	T1	167	2.0	0.077	4.2	LOS A	0.3	2.2	0.32	0.45	0.32	56.3
9	R2	1	2.0	0.077	4.3	LOS A	0.3	2.2	0.32	0.41	0.32	54.9
Approach		193	2.0	0.077	5.0	LOS A	0.3	2.2	0.32	0.46	0.32	56.2
West: Palladium Dr												
10	L2	2	2.0	0.033	10.1	LOS B	0.1	0.8	0.36	0.45	0.36	56.6
11	T1	38	2.0	0.033	4.5	LOS A	0.1	0.8	0.36	0.45	0.36	56.3
12	R2	14	2.0	0.011	4.2	LOS A	0.0	0.3	0.35	0.47	0.35	55.4
Approach		54	2.0	0.033	4.6	LOS A	0.1	0.8	0.36	0.46	0.36	56.1
All Vehicles		867	2.0	0.138	5.5	LOS A	0.4	3.0	0.19	0.47	0.19	55.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	21	5	18	47	3	23
Future Volume (Veh/h)	21	5	18	47	3	23
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)	21	5	18	47	3	23
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			26		106	24
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			26		106	24
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	98
cM capacity (veh/h)			1588		881	1053

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	26	18	47	26
Volume Left	0	18	0	3
Volume Right	5	0	0	23
cSH	1700	1588	1700	1030
Volume to Capacity	0.02	0.01	0.03	0.03
Queue Length 95th (m)	0.0	0.3	0.0	0.6
Control Delay (s)	0.0	7.3	0.0	8.6
Lane LOS		A		A
Approach Delay (s)	0.0	2.0		8.6
Approach LOS				A

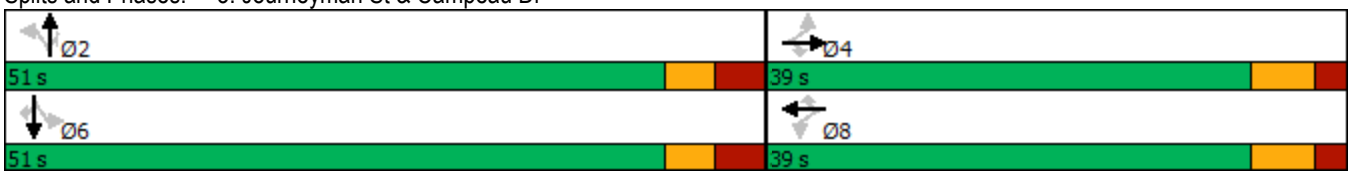
Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	17.7%	ICU Level of Service	A
Analysis Period (min)	15		

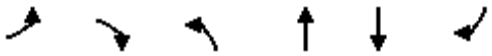


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	6	122	19	17	211	2	4	12	1	1
Future Volume (vph)	6	122	19	17	211	2	4	12	1	1
Lane Group Flow (vph)	6	122	19	17	211	2	4	12	1	1
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	Perm	Perm	Perm
Protected Phases		4			8					
Permitted Phases	4		4	8		8	2	2	6	6
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	44.5	44.5	44.5	44.5	44.5	44.5	39.8	39.8	39.8	39.8
Total Split (s)	39.0	39.0	39.0	39.0	39.0	39.0	51.0	51.0	51.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%	56.7%	56.7%	56.7%	56.7%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	3.5	3.5	3.5	3.5
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.8	6.8	6.8	6.8
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	13.9	13.9	13.9	13.9	13.9	13.9	45.5	45.5	45.5	45.5
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.19	0.63	0.63	0.63	0.63
v/c Ratio	0.03	0.36	0.06	0.07	0.62	0.01	0.00	0.01	0.00	0.00
Control Delay	22.8	27.9	2.5	23.6	34.9	0.0	6.2	0.0	6.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.8	27.9	2.5	23.6	34.9	0.0	6.2	0.0	6.0	0.0
LOS	C	C	A	C	C	A	A	A	A	A
Approach Delay		24.4			33.8					
Approach LOS		C			C					
Queue Length 50th (m)	0.7	14.3	0.0	1.9	26.0	0.0	0.2	0.0	0.1	0.0
Queue Length 95th (m)	3.5	27.6	1.7	6.6	45.4	0.0	1.4	0.0	0.6	0.0
Internal Link Dist (m)		319.9			296.6					
Turn Bay Length (m)	45.0			50.0			20.0		45.0	
Base Capacity (vph)	452	798	704	542	798	704	845	1214	845	1141
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	0.01	0.15	0.03	0.03	0.26	0.00	0.00	0.01	0.00	0.00

Intersection Summary			
Cycle Length: 90			
Actuated Cycle Length: 72.7			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 28.8		Intersection LOS: C	
Intersection Capacity Utilization 45.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Journeyman St & Campeau Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	78	109	385	306	20
Future Volume (Veh/h)	0	78	109	385	306	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	78	109	385	306	20
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				207		
pX, platoon unblocked						
vC, conflicting volume	726	163	326			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	726	163	326			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	91	91			
cM capacity (veh/h)	327	853	1230			

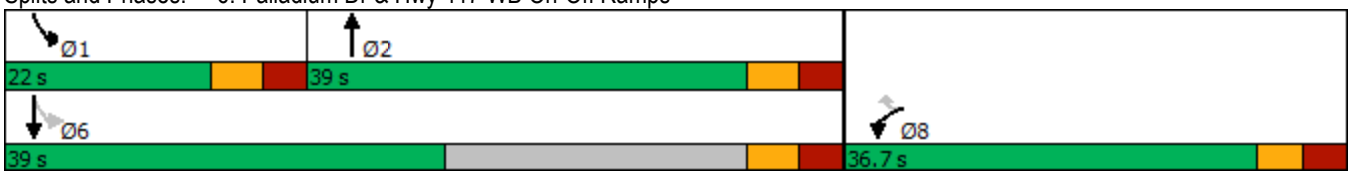
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	78	109	192	192	204	122
Volume Left	0	109	0	0	0	0
Volume Right	78	0	0	0	0	20
cSH	853	1230	1700	1700	1700	1700
Volume to Capacity	0.09	0.09	0.11	0.11	0.12	0.07
Queue Length 95th (m)	2.3	2.2	0.0	0.0	0.0	0.0
Control Delay (s)	9.6	8.2	0.0	0.0	0.0	0.0
Lane LOS	A	A				
Approach Delay (s)	9.6	1.8			0.0	
Approach LOS	A					

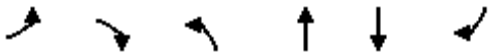
Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	22.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	207	324	170	167	217
Future Volume (vph)	207	324	170	167	217
Lane Group Flow (vph)	207	324	170	167	217
Turn Type	Prot	Perm	NA	pm+pt	NA
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	32.7	32.7	39.0	12.0	25.0
Total Split (s)	36.7	36.7	39.0	22.0	39.0
Total Split (%)	37.6%	37.6%	39.9%	22.5%	39.9%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	3.3	3.3	3.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	7.0	7.0	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	30.0	30.0	32.0	54.0	54.0
Actuated g/C Ratio	0.31	0.31	0.33	0.55	0.55
v/c Ratio	0.21	0.47	0.15	0.26	0.12
Control Delay	25.7	5.5	23.7	12.1	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	25.7	5.5	23.7	12.1	10.7
LOS	C	A	C	B	B
Approach Delay	13.4		23.7		11.3
Approach LOS	B		C		B
Queue Length 50th (m)	14.8	0.0	11.8	14.8	9.7
Queue Length 95th (m)	23.4	18.5	19.4	25.1	15.2
Internal Link Dist (m)	322.5		403.5		183.1
Turn Bay Length (m)		125.0		115.0	
Base Capacity (vph)	1009	690	1110	637	1873
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.21	0.47	0.15	0.26	0.12

Intersection Summary	
Cycle Length: 97.7	
Actuated Cycle Length: 97.7	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.47	
Intersection Signal Delay: 14.2	Intersection LOS: B
Intersection Capacity Utilization 43.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Palladium Dr & Hwy 417 WB On-Off Ramps

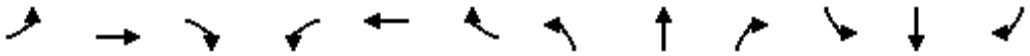




Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	97	259	0	76	378	30
Future Volume (Veh/h)	97	259	0	76	378	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	97	259	0	76	378	30
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)		3				
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	431	204	408			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	431	204	408			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	82	68	100			
cM capacity (veh/h)	553	803	1147			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	356	38	38	252	156
Volume Left	97	0	0	0	0
Volume Right	259	0	0	0	30
cSH	1103	1700	1700	1700	1700
Volume to Capacity	0.32	0.02	0.02	0.15	0.09
Queue Length 95th (m)	10.7	0.0	0.0	0.0	0.0
Control Delay (s)	12.0	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	12.0	0.0		0.0	
Approach LOS	B				

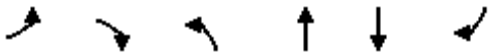
Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	35.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	11	83	0	19	0	71	8	0	0	0	0
Future Volume (vph)	0	11	83	0	19	0	71	8	0	0	0	0
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
Hourly flow rate (vph)	0	11	83	0	19	0	71	8	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	94	19	79	0
Volume Left (vph)	0	0	71	0
Volume Right (vph)	83	0	0	0
Hadj (s)	-0.50	0.03	0.21	0.00
Departure Headway (s)	3.6	4.2	4.3	4.2
Degree Utilization, x	0.09	0.02	0.10	0.00
Capacity (veh/h)	971	833	802	834
Control Delay (s)	7.0	7.3	7.8	7.2
Approach Delay (s)	7.0	7.3	7.8	0.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.3			
Level of Service	A			
Intersection Capacity Utilization	17.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	11	19	409	424	0
Future Volume (Veh/h)	0	11	19	409	424	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	11	19	409	424	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	666	212	424			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	666	212	424			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	98			
cM capacity (veh/h)	386	793	1132			

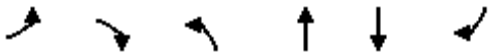
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	11	155	273	283	141
Volume Left	0	19	0	0	0
Volume Right	11	0	0	0	0
cSH	793	1132	1700	1700	1700
Volume to Capacity	0.01	0.02	0.16	0.17	0.08
Queue Length 95th (m)	0.3	0.4	0.0	0.0	0.0
Control Delay (s)	9.6	1.1	0.0	0.0	0.0
Lane LOS	A	A			
Approach Delay (s)	9.6	0.4		0.0	
Approach LOS	A				

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	11	0	0	19	0	0
Future Volume (Veh/h)	11	0	0	19	0	0
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)	11	0	0	19	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			11		30	11
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			11		30	11
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		100	100
cM capacity (veh/h)			1608		984	1070

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	11	19	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1608	1700
Volume to Capacity	0.01	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

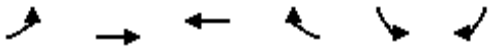
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	8	0	0	0
Future Volume (Veh/h)	0	0	8	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	8	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	16	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	16	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	997	1085	1623			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	0	8	0
Volume Left	0	8	0
Volume Right	0	0	0
cSH	1700	1623	1700
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.1	0.0
Control Delay (s)	0.0	7.2	0.0
Lane LOS	A	A	
Approach Delay (s)	0.0	7.2	0.0
Approach LOS	A		

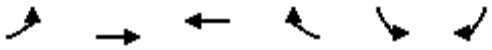
Intersection Summary			
Average Delay	7.2		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	63	45	23	27	0
Future Volume (Veh/h)	0	63	45	23	27	0
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)	0	63	45	23	27	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	68				120	56
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	68				120	56
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				97	100
cM capacity (veh/h)	1533				876	1010

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	63	68	27
Volume Left	0	0	27
Volume Right	0	23	0
cSH	1533	1700	876
Volume to Capacity	0.00	0.04	0.03
Queue Length 95th (m)	0.0	0.0	0.7
Control Delay (s)	0.0	0.0	9.2
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.2
Approach LOS			A

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	14.0%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	45	63	0
Future Volume (Veh/h)	0	0	0	45	63	0
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)	0	0	0	45	63	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	45				22	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	45				22	22
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)	1563				994	1054

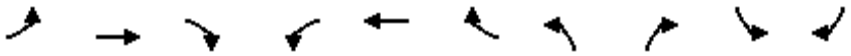
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	0	45	63
Volume Left	0	0	63
Volume Right	0	45	0
cSH	1700	1700	994
Volume to Capacity	0.00	0.03	0.06
Queue Length 95th (m)	0.0	0.0	1.5
Control Delay (s)	0.0	0.0	8.9
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.9
Approach LOS			A

Intersection Summary			
Average Delay		5.2	
Intersection Capacity Utilization		13.7%	ICU Level of Service A
Analysis Period (min)		15	

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	18	1	12	35	2	36
Future Volume (Veh/h)	18	1	12	35	2	36
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)	18	1	12	35	2	36
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			19		78	18
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			19		78	18
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	97
cM capacity (veh/h)			1597		918	1060

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	19	12	35	38
Volume Left	0	12	0	2
Volume Right	1	0	0	36
cSH	1700	1597	1700	1051
Volume to Capacity	0.01	0.01	0.02	0.04
Queue Length 95th (m)	0.0	0.2	0.0	0.9
Control Delay (s)	0.0	7.3	0.0	8.6
Lane LOS		A		A
Approach Delay (s)	0.0	1.9		8.6
Approach LOS				A

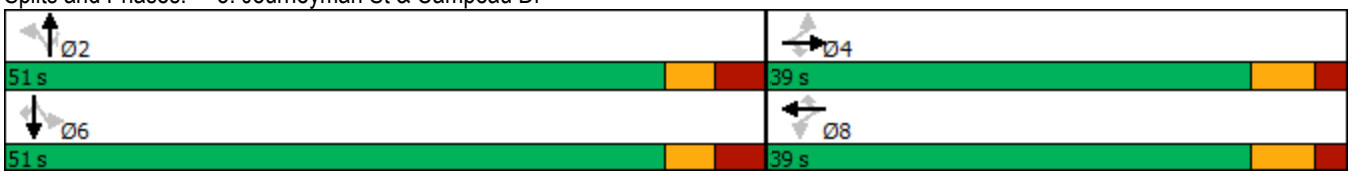
Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	17.4%	ICU Level of Service	A
Analysis Period (min)	15		

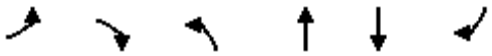


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	11	243	15	74	148	2	40	68	3	4
Future Volume (vph)	11	243	15	74	148	2	40	68	3	4
Lane Group Flow (vph)	11	243	15	74	148	2	40	68	3	4
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	Perm	Perm	Perm
Protected Phases		4			8					
Permitted Phases	4		4	8		8	2	2	6	6
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	44.5	44.5	44.5	44.5	44.5	44.5	39.8	39.8	39.8	39.8
Total Split (s)	39.0	39.0	39.0	39.0	39.0	39.0	51.0	51.0	51.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%	56.7%	56.7%	56.7%	56.7%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	3.5	3.5	3.5	3.5
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.8	6.8	6.8	6.8
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	15.0	15.0	15.0	15.0	15.0	15.0	44.5	44.5	44.5	44.5
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.21	0.21	0.61	0.61	0.61	0.61
v/c Ratio	0.05	0.66	0.04	0.40	0.40	0.01	0.05	0.06	0.00	0.00
Control Delay	22.5	35.5	0.9	31.3	28.0	0.0	7.0	0.1	7.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.5	35.5	0.9	31.3	28.0	0.0	7.0	0.1	7.0	0.0
LOS	C	D	A	C	C	A	A	A	A	A
Approach Delay		33.1			28.9					
Approach LOS		C			C					
Queue Length 50th (m)	1.2	30.6	0.0	8.8	17.6	0.0	1.9	0.0	0.2	0.0
Queue Length 95th (m)	4.9	51.7	0.7	20.0	32.3	0.0	6.4	0.0	1.2	0.0
Internal Link Dist (m)		319.9			296.6					
Turn Bay Length (m)	45.0			50.0			20.0		45.0	
Base Capacity (vph)	528	797	703	403	797	703	825	1105	825	1178
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	0.02	0.30	0.02	0.18	0.19	0.00	0.05	0.06	0.00	0.00

Intersection Summary			
Cycle Length: 90			
Actuated Cycle Length: 72.9			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 25.8		Intersection LOS: C	
Intersection Capacity Utilization 47.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Journeyman St & Campeau Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	142	128	457	442	33
Future Volume (Veh/h)	0	142	128	457	442	33
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	142	128	457	442	33
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				207		
pX, platoon unblocked						
vC, conflicting volume	943	238	475			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	943	238	475			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	81	88			
cM capacity (veh/h)	230	764	1083			

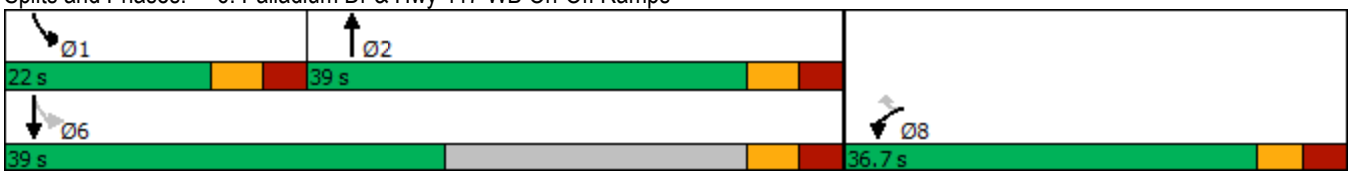
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	142	128	228	228	295	180
Volume Left	0	128	0	0	0	0
Volume Right	142	0	0	0	0	33
cSH	764	1083	1700	1700	1700	1700
Volume to Capacity	0.19	0.12	0.13	0.13	0.17	0.11
Queue Length 95th (m)	5.2	3.0	0.0	0.0	0.0	0.0
Control Delay (s)	10.8	8.8	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	10.8	1.9			0.0	
Approach LOS	B					

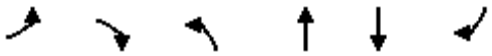
Intersection Summary			
Average Delay	2.2		
Intersection Capacity Utilization	30.0%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	408	392	193	265	321
Future Volume (vph)	408	392	193	265	321
Lane Group Flow (vph)	408	392	193	265	321
Turn Type	Prot	Perm	NA	pm+pt	NA
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	32.7	32.7	39.0	12.0	25.0
Total Split (s)	36.7	36.7	39.0	22.0	39.0
Total Split (%)	37.6%	37.6%	39.9%	22.5%	39.9%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	3.3	3.3	3.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	7.0	7.0	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	30.0	30.0	32.0	54.0	54.0
Actuated g/C Ratio	0.31	0.31	0.33	0.55	0.55
v/c Ratio	0.40	0.53	0.17	0.42	0.17
Control Delay	28.3	5.7	24.0	13.9	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	28.3	5.7	24.0	13.9	11.1
LOS	C	A	C	B	B
Approach Delay	17.2		24.0		12.4
Approach LOS	B		C		B
Queue Length 50th (m)	31.2	0.0	13.5	25.0	14.8
Queue Length 95th (m)	44.2	20.3	21.7	39.7	21.7
Internal Link Dist (m)	322.5		403.5		183.1
Turn Bay Length (m)		125.0		115.0	
Base Capacity (vph)	1009	737	1110	628	1873
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.40	0.53	0.17	0.42	0.17

Intersection Summary	
Cycle Length: 97.7	
Actuated Cycle Length: 97.7	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.53	
Intersection Signal Delay: 16.2	Intersection LOS: B
Intersection Capacity Utilization 53.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Palladium Dr & Hwy 417 WB On-Off Ramps

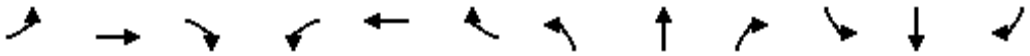




Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	114	154	0	468	690	14
Future Volume (Veh/h)	114	154	0	468	690	14
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	114	154	0	468	690	14
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)		3				
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	931	352	704			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	931	352	704			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	57	76	100			
cM capacity (veh/h)	266	644	890			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	268	234	234	460	244
Volume Left	114	0	0	0	0
Volume Right	154	0	0	0	14
cSH	625	1700	1700	1700	1700
Volume to Capacity	0.43	0.14	0.14	0.27	0.14
Queue Length 95th (m)	16.3	0.0	0.0	0.0	0.0
Control Delay (s)	19.2	0.0	0.0	0.0	0.0
Lane LOS	C				
Approach Delay (s)	19.2	0.0		0.0	
Approach LOS	C				

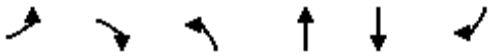
Intersection Summary			
Average Delay	3.6		
Intersection Capacity Utilization	37.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	17	61	0	8	0	49	6	0	0	0	0
Future Volume (vph)	0	17	61	0	8	0	49	6	0	0	0	0
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
Hourly flow rate (vph)	0	17	61	0	8	0	49	6	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	78	8	55	0
Volume Left (vph)	0	0	49	0
Volume Right (vph)	61	0	0	0
Hadj (s)	-0.44	0.03	0.21	0.00
Departure Headway (s)	3.6	4.1	4.3	4.1
Degree Utilization, x	0.08	0.01	0.07	0.00
Capacity (veh/h)	979	853	815	864
Control Delay (s)	6.9	7.2	7.6	7.1
Approach Delay (s)	6.9	7.2	7.6	0.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.2			
Level of Service	A			
Intersection Capacity Utilization	14.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	17	8	568	519	0
Future Volume (Veh/h)	0	17	8	568	519	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	17	8	568	519	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	819	260	519			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	819	260	519			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	99			
cM capacity (veh/h)	311	739	1043			

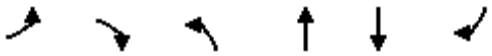
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	17	197	379	346	173
Volume Left	0	8	0	0	0
Volume Right	17	0	0	0	0
cSH	739	1043	1700	1700	1700
Volume to Capacity	0.02	0.01	0.22	0.20	0.10
Queue Length 95th (m)	0.5	0.2	0.0	0.0	0.0
Control Delay (s)	10.0	0.4	0.0	0.0	0.0
Lane LOS	A	A			
Approach Delay (s)	10.0	0.1		0.0	
Approach LOS	A				

Intersection Summary				
Average Delay	0.2			
Intersection Capacity Utilization	32.5%	ICU Level of Service		A
Analysis Period (min)	15			

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	17	0	0	8	0	0
Future Volume (Veh/h)	17	0	0	8	0	0
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)	17	0	0	8	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			17		25	17
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			17		25	17
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		100	100
cM capacity (veh/h)			1600		991	1062

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	17	8	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1600	1700
Volume to Capacity	0.01	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

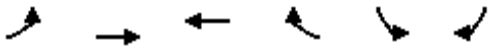
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	6	0	0	0
Future Volume (Veh/h)	0	0	6	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	6	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	12	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	12	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1004	1085	1623			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	0	6	0
Volume Left	0	6	0
Volume Right	0	0	0
cSH	1700	1623	1700
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.1	0.0
Control Delay (s)	0.0	7.2	0.0
Lane LOS	A	A	
Approach Delay (s)	0.0	7.2	0.0
Approach LOS	A		

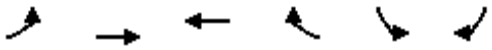
Intersection Summary			
Average Delay	7.2		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	39	35	18	17	0
Future Volume (Veh/h)	0	39	35	18	17	0
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)	0	39	35	18	17	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	53				83	44
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	53				83	44
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				98	100
cM capacity (veh/h)	1553				919	1026

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	39	53	17
Volume Left	0	0	17
Volume Right	0	18	0
cSH	1553	1700	919
Volume to Capacity	0.00	0.03	0.02
Queue Length 95th (m)	0.0	0.0	0.4
Control Delay (s)	0.0	0.0	9.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.0
Approach LOS			A

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	35	39	0
Future Volume (Veh/h)	0	0	0	35	39	0
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)	0	0	0	35	39	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	35				18	18
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	35				18	18
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)	1576				1000	1061

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	0	35	39
Volume Left	0	0	39
Volume Right	0	35	0
cSH	1700	1700	1000
Volume to Capacity	0.00	0.02	0.04
Queue Length 95th (m)	0.0	0.0	0.9
Control Delay (s)	0.0	0.0	8.7
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.7
Approach LOS			A

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Total Projected 2026

MOVEMENT SUMMARY

Site: 101 [Huntmar / Campeau FT2026 AM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Huntmar Dr												
1	L2	39	2.0	0.032	9.6	LOS A	0.1	0.9	0.22	0.60	0.22	53.5
2	T1	356	2.0	0.208	3.8	LOS A	1.0	7.4	0.22	0.37	0.22	57.3
3	R2	30	2.0	0.025	4.2	LOS A	0.1	0.7	0.22	0.44	0.22	55.2
Approach		425	2.0	0.208	4.3	LOS A	1.0	7.4	0.22	0.40	0.22	56.7
East: Campeau Dr												
4	L2	67	2.0	0.057	10.4	LOS B	0.2	1.6	0.41	0.67	0.41	52.8
5	T1	69	2.0	0.046	4.4	LOS A	0.2	1.4	0.39	0.43	0.39	56.3
6	R2	14	2.0	0.013	5.2	LOS A	0.1	0.4	0.41	0.52	0.41	54.5
Approach		150	2.0	0.057	7.1	LOS A	0.2	1.6	0.40	0.55	0.40	54.5
North: Huntmar Dr												
7	L2	2	2.0	0.002	9.7	LOS A	0.0	0.0	0.27	0.58	0.27	53.3
8	T1	327	2.0	0.199	3.9	LOS A	0.9	6.6	0.28	0.39	0.28	56.9
9	R2	128	2.0	0.102	4.4	LOS A	0.4	3.0	0.28	0.48	0.28	55.0
Approach		457	2.0	0.199	4.1	LOS A	0.9	6.6	0.28	0.41	0.28	56.4
West: Campeau Dr												
10	L2	78	2.0	0.052	10.0	LOS A	0.2	1.6	0.37	0.64	0.37	52.9
11	T1	23	2.0	0.021	4.7	LOS A	0.1	0.6	0.40	0.45	0.40	56.3
12	R2	44	2.0	0.023	3.3	LOS A	0.0	0.0	0.00	0.42	0.00	56.8
Approach		145	2.0	0.052	7.1	LOS A	0.2	1.6	0.26	0.54	0.26	54.5
All Vehicles		1177	2.0	0.208	4.9	LOS A	1.0	7.4	0.27	0.44	0.27	56.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Huntmar / Campeau FT2026 PM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles												
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Huntmar Dr												
1	L2	71	2.0	0.065	10.2	LOS B	0.3	1.9	0.38	0.65	0.38	52.9
2	T1	394	2.0	0.255	4.2	LOS A	1.3	9.2	0.39	0.42	0.39	56.3
3	R2	66	2.0	0.061	4.8	LOS A	0.2	1.8	0.38	0.53	0.38	54.6
Approach		531	2.0	0.255	5.1	LOS A	1.3	9.2	0.39	0.46	0.39	55.6
East: Campeau Dr												
4	L2	48	2.0	0.035	10.2	LOS B	0.1	1.1	0.45	0.66	0.45	52.8
5	T1	39	2.0	0.035	5.0	LOS A	0.1	1.1	0.48	0.51	0.48	55.7
6	R2	4	2.0	0.004	5.4	LOS A	0.0	0.1	0.47	0.52	0.47	54.2
Approach		91	2.0	0.035	7.8	LOS A	0.1	1.1	0.46	0.59	0.46	54.0
North: Huntmar Dr												
7	L2	6	2.0	0.005	9.7	LOS A	0.0	0.1	0.26	0.59	0.26	53.3
8	T1	404	2.0	0.243	3.9	LOS A	1.2	8.4	0.27	0.38	0.27	57.0
9	R2	152	2.0	0.121	4.4	LOS A	0.5	3.6	0.27	0.48	0.27	55.0
Approach		562	2.0	0.243	4.1	LOS A	1.2	8.4	0.27	0.41	0.27	56.4
West: Campeau Dr												
10	L2	206	2.0	0.141	10.2	LOS B	0.7	4.8	0.43	0.67	0.43	52.7
11	T1	95	2.0	0.086	4.9	LOS A	0.4	2.6	0.44	0.48	0.44	56.0
12	R2	81	2.0	0.043	3.3	LOS A	0.0	0.0	0.00	0.42	0.00	56.8
Approach		382	2.0	0.141	7.4	LOS A	0.7	4.8	0.34	0.57	0.34	54.3
All Vehicles		1566	2.0	0.255	5.5	LOS A	1.3	9.2	0.34	0.48	0.34	55.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Campeau / Palladium FT2026 AM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Campeau Dr												
1	L2	49	2.0	0.143	9.3	LOS A	0.8	5.5	0.14	0.41	0.14	57.2
2	T1	204	2.0	0.143	3.7	LOS A	0.8	5.5	0.14	0.41	0.14	56.9
3	R2	115	2.0	0.061	3.1	LOS A	0.0	0.0	0.00	0.40	0.00	57.1
Approach		368	2.0	0.143	4.3	LOS A	0.8	5.5	0.10	0.41	0.10	57.0
East: Palladium Dr												
4	L2	191	2.0	0.086	10.1	LOS B	0.5	3.2	0.38	0.61	0.38	53.5
5	T1	20	2.0	0.086	4.3	LOS A	0.5	3.2	0.37	0.58	0.37	54.1
6	R2	26	2.0	0.086	4.4	LOS A	0.5	3.2	0.37	0.58	0.37	52.4
Approach		237	2.0	0.086	9.0	LOS A	0.5	3.2	0.38	0.60	0.38	53.4
North: Campeau Dr												
7	L2	17	2.0	0.061	10.0	LOS A	0.2	1.7	0.33	0.49	0.33	56.1
8	T1	131	2.0	0.061	4.2	LOS A	0.2	1.7	0.33	0.45	0.33	56.3
9	R2	2	2.0	0.061	4.3	LOS A	0.2	1.7	0.32	0.41	0.32	54.8
Approach		150	2.0	0.061	4.9	LOS A	0.2	1.7	0.33	0.45	0.33	56.3
West: Palladium Dr												
10	L2	1	2.0	0.019	10.0	LOS A	0.1	0.5	0.34	0.44	0.34	56.8
11	T1	23	2.0	0.019	4.3	LOS A	0.1	0.5	0.34	0.44	0.34	56.4
12	R2	22	2.0	0.017	4.1	LOS A	0.1	0.5	0.33	0.47	0.33	55.4
Approach		46	2.0	0.019	4.3	LOS A	0.1	0.5	0.34	0.45	0.34	56.0
All Vehicles		801	2.0	0.143	5.8	LOS A	0.8	5.5	0.24	0.48	0.24	55.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Campeau / Palladium FT2026 PM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

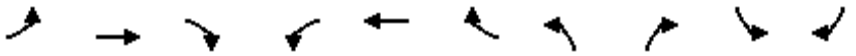
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Campeau Dr												
1	L2	21	2.0	0.072	9.4	LOS A	0.4	2.7	0.18	0.41	0.18	57.1
2	T1	102	2.0	0.072	3.7	LOS A	0.4	2.7	0.18	0.41	0.18	56.8
3	R2	270	2.0	0.142	3.2	LOS A	0.0	0.0	0.00	0.40	0.00	57.1
Approach		393	2.0	0.142	3.6	LOS A	0.4	2.7	0.06	0.40	0.06	57.0
East: Palladium Dr												
4	L2	224	2.0	0.086	9.6	LOS A	0.4	3.2	0.26	0.59	0.26	53.8
5	T1	25	2.0	0.086	3.9	LOS A	0.4	3.2	0.25	0.57	0.25	54.1
6	R2	9	2.0	0.086	4.0	LOS A	0.4	3.2	0.25	0.57	0.25	52.4
Approach		258	2.0	0.086	8.9	LOS A	0.4	3.2	0.26	0.58	0.26	53.8
North: Campeau Dr												
7	L2	26	2.0	0.083	10.0	LOS B	0.3	2.3	0.34	0.51	0.34	56.0
8	T1	178	2.0	0.083	4.3	LOS A	0.3	2.4	0.33	0.45	0.33	56.2
9	R2	1	2.0	0.083	4.3	LOS A	0.3	2.4	0.33	0.42	0.33	54.8
Approach		205	2.0	0.083	5.0	LOS A	0.3	2.4	0.33	0.46	0.33	56.2
West: Palladium Dr												
10	L2	2	2.0	0.035	10.2	LOS B	0.1	0.9	0.37	0.46	0.37	56.6
11	T1	40	2.0	0.035	4.5	LOS A	0.1	0.9	0.37	0.46	0.37	56.2
12	R2	15	2.0	0.012	4.2	LOS A	0.0	0.3	0.36	0.48	0.36	55.3
Approach		57	2.0	0.035	4.6	LOS A	0.1	0.9	0.37	0.46	0.37	56.0
All Vehicles		913	2.0	0.142	5.5	LOS A	0.4	3.2	0.20	0.47	0.20	55.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	22	5	19	50	3	24
Future Volume (Veh/h)	22	5	19	50	3	24
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)	22	5	19	50	3	24
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			27		112	24
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			27		112	24
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	98
cM capacity (veh/h)			1587		874	1052

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	27	19	50	27
Volume Left	0	19	0	3
Volume Right	5	0	0	24
cSH	1700	1587	1700	1028
Volume to Capacity	0.02	0.01	0.03	0.03
Queue Length 95th (m)	0.0	0.3	0.0	0.6
Control Delay (s)	0.0	7.3	0.0	8.6
Lane LOS		A		A
Approach Delay (s)	0.0	2.0		8.6
Approach LOS				A

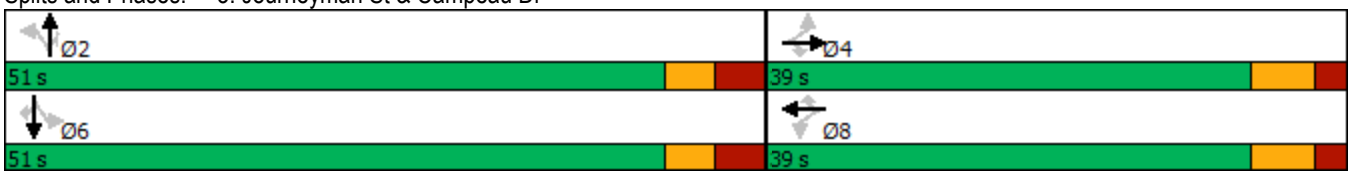
Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	17.8%	ICU Level of Service	A
Analysis Period (min)	15		

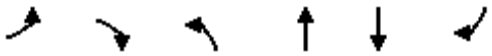


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	6	129	20	18	218	2	4	13	1	1
Future Volume (vph)	6	129	20	18	218	2	4	13	1	1
Lane Group Flow (vph)	6	129	20	18	218	2	4	13	1	1
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	Perm	Perm	Perm
Protected Phases		4			8					
Permitted Phases	4		4	8		8	2	2	6	6
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	44.5	44.5	44.5	44.5	44.5	44.5	39.8	39.8	39.8	39.8
Total Split (s)	39.0	39.0	39.0	39.0	39.0	39.0	51.0	51.0	51.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%	56.7%	56.7%	56.7%	56.7%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	3.5	3.5	3.5	3.5
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.8	6.8	6.8	6.8
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	14.1	14.1	14.1	14.1	14.1	14.1	45.3	45.3	45.3	45.3
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.19	0.62	0.62	0.62	0.62
v/c Ratio	0.03	0.37	0.06	0.08	0.63	0.01	0.00	0.01	0.00	0.00
Control Delay	22.8	28.0	2.8	23.5	35.0	0.0	6.5	0.0	7.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.8	28.0	2.8	23.5	35.0	0.0	6.5	0.0	7.0	0.0
LOS	C	C	A	C	D	A	A	A	A	A
Approach Delay		24.5			33.9					
Approach LOS		C			C					
Queue Length 50th (m)	0.7	15.1	0.0	2.0	27.0	0.0	0.2	0.0	0.1	0.0
Queue Length 95th (m)	3.5	28.8	1.9	6.8	46.7	0.0	1.3	0.0	0.6	0.0
Internal Link Dist (m)		319.9			296.6					
Turn Bay Length (m)	45.0			50.0			20.0		45.0	
Base Capacity (vph)	441	798	704	538	798	704	840	1205	840	1133
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	0.01	0.16	0.03	0.03	0.27	0.00	0.00	0.01	0.00	0.00

Intersection Summary			
Cycle Length: 90			
Actuated Cycle Length: 72.7			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 28.9		Intersection LOS: C	
Intersection Capacity Utilization 45.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Journeyman St & Campeau Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	82	115	407	327	21
Future Volume (Veh/h)	0	82	115	407	327	21
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	82	115	407	327	21
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				207		
pX, platoon unblocked						
vC, conflicting volume	771	174	348			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	771	174	348			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	90	90			
cM capacity (veh/h)	304	839	1208			

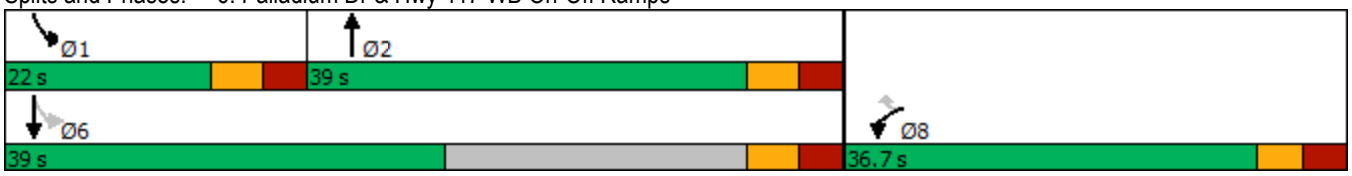
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	82	115	204	204	218	130
Volume Left	0	115	0	0	0	0
Volume Right	82	0	0	0	0	21
cSH	839	1208	1700	1700	1700	1700
Volume to Capacity	0.10	0.10	0.12	0.12	0.13	0.08
Queue Length 95th (m)	2.5	2.4	0.0	0.0	0.0	0.0
Control Delay (s)	9.8	8.3	0.0	0.0	0.0	0.0
Lane LOS	A	A				
Approach Delay (s)	9.8	1.8			0.0	
Approach LOS	A					

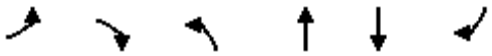
Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	23.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	218	342	180	180	229
Future Volume (vph)	218	342	180	180	229
Lane Group Flow (vph)	218	342	180	180	229
Turn Type	Prot	Perm	NA	pm+pt	NA
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	32.7	32.7	39.0	12.0	25.0
Total Split (s)	36.7	36.7	39.0	22.0	39.0
Total Split (%)	37.6%	37.6%	39.9%	22.5%	39.9%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	3.3	3.3	3.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	7.0	7.0	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	30.0	30.0	32.0	54.0	54.0
Actuated g/C Ratio	0.31	0.31	0.33	0.55	0.55
v/c Ratio	0.22	0.49	0.16	0.28	0.12
Control Delay	25.9	5.5	23.8	12.3	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	25.9	5.5	23.8	12.3	10.7
LOS	C	A	C	B	B
Approach Delay	13.4		23.8		11.4
Approach LOS	B		C		B
Queue Length 50th (m)	15.7	0.0	12.6	16.0	10.3
Queue Length 95th (m)	24.5	18.9	20.4	27.0	15.9
Internal Link Dist (m)	322.5		403.5		183.1
Turn Bay Length (m)		125.0		115.0	
Base Capacity (vph)	1009	702	1110	633	1873
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.22	0.49	0.16	0.28	0.12

Intersection Summary	
Cycle Length: 97.7	
Actuated Cycle Length: 97.7	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.49	
Intersection Signal Delay: 14.3	Intersection LOS: B
Intersection Capacity Utilization 44.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Palladium Dr & Hwy 417 WB On-Off Ramps

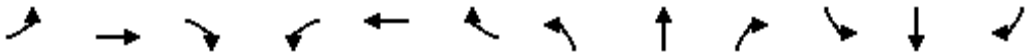




Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	103	272	0	80	397	30
Future Volume (Veh/h)	103	272	0	80	397	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	103	272	0	80	397	30
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)		3				
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	452	214	427			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	452	214	427			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	81	66	100			
cM capacity (veh/h)	536	792	1129			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	375	40	40	265	162
Volume Left	103	0	0	0	0
Volume Right	272	0	0	0	30
cSH	1091	1700	1700	1700	1700
Volume to Capacity	0.34	0.02	0.02	0.16	0.10
Queue Length 95th (m)	11.7	0.0	0.0	0.0	0.0
Control Delay (s)	12.3	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	12.3	0.0		0.0	
Approach LOS	B				

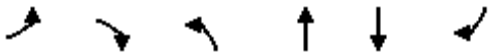
Intersection Summary				
Average Delay	5.2			
Intersection Capacity Utilization	37.0%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	13	100	0	20	0	83	9	0	0	0	0
Future Volume (vph)	0	13	100	0	20	0	83	9	0	0	0	0
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
Hourly flow rate (vph)	0	13	100	0	20	0	83	9	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	113	20	92	0
Volume Left (vph)	0	0	83	0
Volume Right (vph)	100	0	0	0
Hadj (s)	-0.50	0.03	0.21	0.00
Departure Headway (s)	3.6	4.3	4.4	4.3
Degree Utilization, x	0.11	0.02	0.11	0.00
Capacity (veh/h)	960	820	792	819
Control Delay (s)	7.1	7.4	7.9	7.3
Approach Delay (s)	7.1	7.4	7.9	0.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.5			
Level of Service	A			
Intersection Capacity Utilization	19.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	13	20	429	444	0
Future Volume (Veh/h)	0	13	20	429	444	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	13	20	429	444	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	698	222	444			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	698	222	444			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	98			
cM capacity (veh/h)	368	782	1112			

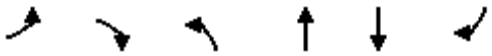
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	13	163	286	296	148
Volume Left	0	20	0	0	0
Volume Right	13	0	0	0	0
cSH	782	1112	1700	1700	1700
Volume to Capacity	0.02	0.02	0.17	0.17	0.09
Queue Length 95th (m)	0.4	0.4	0.0	0.0	0.0
Control Delay (s)	9.7	1.2	0.0	0.0	0.0
Lane LOS	A	A			
Approach Delay (s)	9.7	0.4		0.0	
Approach LOS	A				

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	38.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	13	0	0	20	0	0
Future Volume (Veh/h)	13	0	0	20	0	0
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)	13	0	0	20	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			13		33	13
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			13		33	13
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		100	100
cM capacity (veh/h)			1606		980	1067

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	13	20	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1606	1700
Volume to Capacity	0.01	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

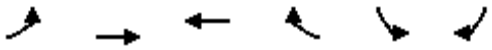
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	9	0	0	0
Future Volume (Veh/h)	0	0	9	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	9	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	18	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	18	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	994	1085	1623			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	0	9	0
Volume Left	0	9	0
Volume Right	0	0	0
cSH	1700	1623	1700
Volume to Capacity	0.00	0.01	0.00
Queue Length 95th (m)	0.0	0.1	0.0
Control Delay (s)	0.0	7.2	0.0
Lane LOS	A	A	
Approach Delay (s)	0.0	7.2	0.0
Approach LOS	A		

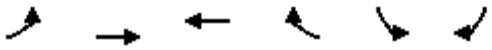
Intersection Summary			
Average Delay	7.2		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	76	54	27	33	0
Future Volume (Veh/h)	0	76	54	27	33	0
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)	0	76	54	27	33	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	81				144	68
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	81				144	68
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)	1517				849	996

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	76	81	33
Volume Left	0	0	33
Volume Right	0	27	0
cSH	1517	1700	849
Volume to Capacity	0.00	0.05	0.04
Queue Length 95th (m)	0.0	0.0	0.9
Control Delay (s)	0.0	0.0	9.4
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.4
Approach LOS			A

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	14.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	54	76	0
Future Volume (Veh/h)	0	0	0	54	76	0
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)	0	0	0	54	76	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	54				27	27
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	54				27	27
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				92	100
cM capacity (veh/h)	1551				988	1048

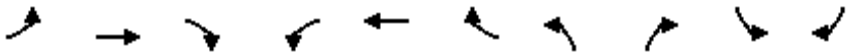
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	0	54	76
Volume Left	0	0	76
Volume Right	0	54	0
cSH	1700	1700	988
Volume to Capacity	0.00	0.03	0.08
Queue Length 95th (m)	0.0	0.0	1.9
Control Delay (s)	0.0	0.0	8.9
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.9
Approach LOS			A

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	14.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	19	1	13	37	2	38
Future Volume (Veh/h)	19	1	13	37	2	38
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)	19	1	13	37	2	38
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			20		82	20
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			20		82	20
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	96
cM capacity (veh/h)			1596		912	1058

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	20	13	37	40
Volume Left	0	13	0	2
Volume Right	1	0	0	38
cSH	1700	1596	1700	1050
Volume to Capacity	0.01	0.01	0.02	0.04
Queue Length 95th (m)	0.0	0.2	0.0	0.9
Control Delay (s)	0.0	7.3	0.0	8.6
Lane LOS		A		A
Approach Delay (s)	0.0	1.9		8.6
Approach LOS				A

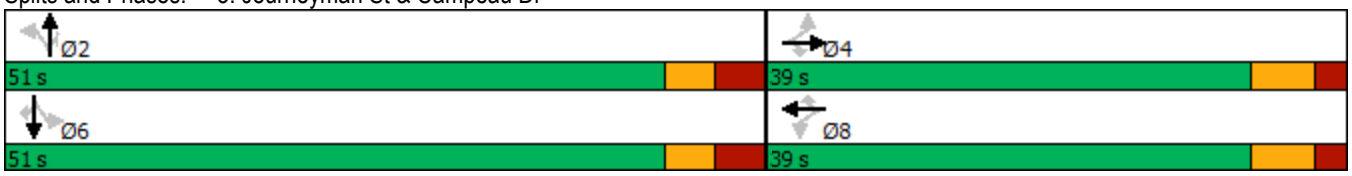
Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	17.4%	ICU Level of Service	A
Analysis Period (min)	15		

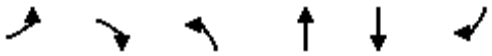


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	12	252	16	77	154	2	42	71	3	4
Future Volume (vph)	12	252	16	77	154	2	42	71	3	4
Lane Group Flow (vph)	12	252	16	77	154	2	42	71	3	4
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	Perm	Perm	Perm
Protected Phases		4			8					
Permitted Phases	4		4	8		8	2	2	6	6
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	44.5	44.5	44.5	44.5	44.5	44.5	39.8	39.8	39.8	39.8
Total Split (s)	39.0	39.0	39.0	39.0	39.0	39.0	51.0	51.0	51.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%	56.7%	56.7%	56.7%	56.7%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	3.5	3.5	3.5	3.5
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.8	6.8	6.8	6.8
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	15.4	15.4	15.4	15.4	15.4	15.4	44.4	44.4	44.4	44.4
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.21	0.21	0.61	0.61	0.61	0.61
v/c Ratio	0.05	0.67	0.05	0.42	0.41	0.01	0.05	0.06	0.00	0.00
Control Delay	22.4	35.7	1.3	32.0	28.0	0.0	7.2	0.1	7.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.4	35.7	1.3	32.0	28.0	0.0	7.2	0.1	7.3	0.0
LOS	C	D	A	C	C	A	A	A	A	A
Approach Delay		33.2			29.1					
Approach LOS		C			C					
Queue Length 50th (m)	1.3	31.9	0.0	9.2	18.3	0.0	2.1	0.0	0.2	0.0
Queue Length 95th (m)	5.1	53.5	0.9	20.8	33.6	0.0	6.8	0.0	1.2	0.0
Internal Link Dist (m)		319.9			296.6					
Turn Bay Length (m)	45.0			50.0			20.0		45.0	
Base Capacity (vph)	524	795	702	389	795	702	820	1095	820	1168
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	0.02	0.32	0.02	0.20	0.19	0.00	0.05	0.06	0.00	0.00

Intersection Summary			
Cycle Length: 90			
Actuated Cycle Length: 73.1			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 25.9		Intersection LOS: C	
Intersection Capacity Utilization 48.0%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Journeyman St & Campeau Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	150	135	482	465	35
Future Volume (Veh/h)	0	150	135	482	465	35
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	150	135	482	465	35
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				207		
pX, platoon unblocked						
vC, conflicting volume	994	250	500			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	994	250	500			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	80	87			
cM capacity (veh/h)	211	750	1060			

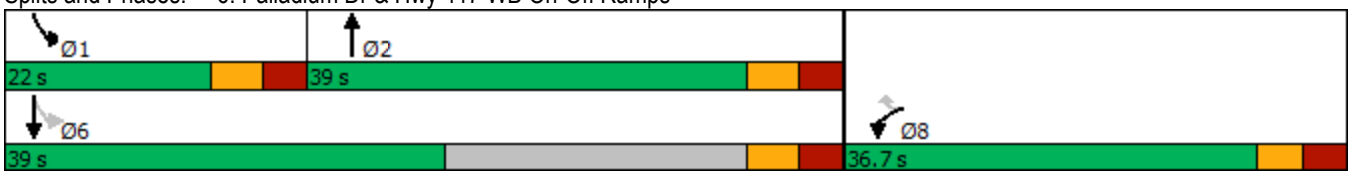
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	150	135	241	241	310	190
Volume Left	0	135	0	0	0	0
Volume Right	150	0	0	0	0	35
cSH	750	1060	1700	1700	1700	1700
Volume to Capacity	0.20	0.13	0.14	0.14	0.18	0.11
Queue Length 95th (m)	5.6	3.3	0.0	0.0	0.0	0.0
Control Delay (s)	11.0	8.9	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	11.0	1.9			0.0	
Approach LOS	B					

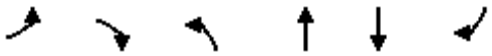
Intersection Summary				
Average Delay	2.2			
Intersection Capacity Utilization	31.2%	ICU Level of Service		A
Analysis Period (min)	15			

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	429	413	203	279	338
Future Volume (vph)	429	413	203	279	338
Lane Group Flow (vph)	429	413	203	279	338
Turn Type	Prot	Perm	NA	pm+pt	NA
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	32.7	32.7	39.0	12.0	25.0
Total Split (s)	36.7	36.7	39.0	22.0	39.0
Total Split (%)	37.6%	37.6%	39.9%	22.5%	39.9%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	3.3	3.3	3.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	7.0	7.0	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	30.0	30.0	32.0	54.0	54.0
Actuated g/C Ratio	0.31	0.31	0.33	0.55	0.55
v/c Ratio	0.43	0.55	0.18	0.45	0.18
Control Delay	28.6	5.8	24.1	14.3	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	28.6	5.8	24.1	14.3	11.2
LOS	C	A	C	B	B
Approach Delay	17.4		24.1		12.6
Approach LOS	B		C		B
Queue Length 50th (m)	33.1	0.0	14.3	26.6	15.7
Queue Length 95th (m)	46.5	20.8	22.7	41.9	22.8
Internal Link Dist (m)	322.5		403.5		183.1
Turn Bay Length (m)		125.0		115.0	
Base Capacity (vph)	1009	751	1110	625	1873
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.43	0.55	0.18	0.45	0.18

Intersection Summary	
Cycle Length: 97.7	
Actuated Cycle Length: 97.7	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.55	
Intersection Signal Delay: 16.4	Intersection LOS: B
Intersection Capacity Utilization 54.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Palladium Dr & Hwy 417 WB On-Off Ramps

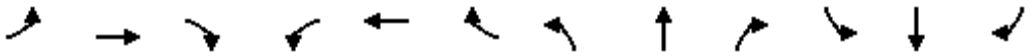




Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	119	161	0	492	725	14
Future Volume (Veh/h)	119	161	0	492	725	14
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	119	161	0	492	725	14
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)		3				
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	978	370	739			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	978	370	739			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	52	74	100			
cM capacity (veh/h)	248	628	863			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	280	246	246	483	256
Volume Left	119	0	0	0	0
Volume Right	161	0	0	0	14
cSH	583	1700	1700	1700	1700
Volume to Capacity	0.48	0.14	0.14	0.28	0.15
Queue Length 95th (m)	19.7	0.0	0.0	0.0	0.0
Control Delay (s)	21.0	0.0	0.0	0.0	0.0
Lane LOS	C				
Approach Delay (s)	21.0	0.0		0.0	
Approach LOS	C				

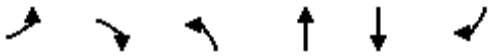
Intersection Summary				
Average Delay	3.9			
Intersection Capacity Utilization	38.8%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	18	72	0	9	0	60	7	0	0	0	0
Future Volume (vph)	0	18	72	0	9	0	60	7	0	0	0	0
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
Hourly flow rate (vph)	0	18	72	0	9	0	60	7	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	90	9	67	0
Volume Left (vph)	0	0	60	0
Volume Right (vph)	72	0	0	0
Hadj (s)	-0.45	0.03	0.21	0.00
Departure Headway (s)	3.6	4.2	4.3	4.2
Degree Utilization, x	0.09	0.01	0.08	0.00
Capacity (veh/h)	971	842	809	845
Control Delay (s)	7.0	7.2	7.7	7.2
Approach Delay (s)	7.0	7.2	7.7	0.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.3			
Level of Service	A			
Intersection Capacity Utilization	16.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	18	9	595	544	0
Future Volume (Veh/h)	0	18	9	595	544	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	18	9	595	544	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	860	272	544			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	860	272	544			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	99			
cM capacity (veh/h)	293	726	1021			

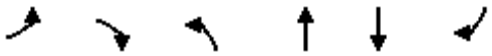
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	18	207	397	363	181
Volume Left	0	9	0	0	0
Volume Right	18	0	0	0	0
cSH	726	1021	1700	1700	1700
Volume to Capacity	0.02	0.01	0.23	0.21	0.11
Queue Length 95th (m)	0.6	0.2	0.0	0.0	0.0
Control Delay (s)	10.1	0.5	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	10.1	0.2		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	34.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	18	0	0	9	0	0
Future Volume (Veh/h)	18	0	0	9	0	0
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)	18	0	0	9	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			18		27	18
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			18		27	18
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		100	100
cM capacity (veh/h)			1599		988	1061

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	18	9	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1599	1700
Volume to Capacity	0.01	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

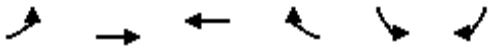
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	7	0	0	0
Future Volume (Veh/h)	0	0	7	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	7	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	14	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	14	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1001	1085	1623			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	0	7	0
Volume Left	0	7	0
Volume Right	0	0	0
cSH	1700	1623	1700
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.1	0.0
Control Delay (s)	0.0	7.2	0.0
Lane LOS	A	A	
Approach Delay (s)	0.0	7.2	0.0
Approach LOS	A		

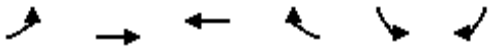
Intersection Summary			
Average Delay	7.2		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	48	43	22	20	0
Future Volume (Veh/h)	0	48	43	22	20	0
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)	0	48	43	22	20	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	65				102	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	65				102	54
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				98	100
cM capacity (veh/h)	1537				896	1013

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	48	65	20
Volume Left	0	0	20
Volume Right	0	22	0
cSH	1537	1700	896
Volume to Capacity	0.00	0.04	0.02
Queue Length 95th (m)	0.0	0.0	0.5
Control Delay (s)	0.0	0.0	9.1
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.1
Approach LOS			A

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	13.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	43	48	0
Future Volume (Veh/h)	0	0	0	43	48	0
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)	0	0	0	43	48	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	43				22	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	43				22	22
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				95	100
cM capacity (veh/h)	1566				995	1056

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	0	43	48
Volume Left	0	0	48
Volume Right	0	43	0
cSH	1700	1700	995
Volume to Capacity	0.00	0.03	0.05
Queue Length 95th (m)	0.0	0.0	1.2
Control Delay (s)	0.0	0.0	8.8
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.8
Approach LOS			A

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		

Total Projected 2031

MOVEMENT SUMMARY

Site: 101 [Huntmar / Campeau FT2031 AM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Huntmar Dr												
1	L2	40	2.0	0.033	9.6	LOS A	0.1	1.0	0.22	0.60	0.22	53.4
2	T1	373	2.0	0.218	3.8	LOS A	1.1	7.9	0.23	0.37	0.23	57.2
3	R2	31	2.0	0.026	4.2	LOS A	0.1	0.7	0.22	0.44	0.22	55.2
Approach		444	2.0	0.218	4.3	LOS A	1.1	7.9	0.23	0.40	0.23	56.7
East: Campeau Dr												
4	L2	69	2.0	0.060	10.5	LOS B	0.2	1.7	0.43	0.68	0.43	52.7
5	T1	70	2.0	0.047	4.4	LOS A	0.2	1.4	0.40	0.43	0.40	56.2
6	R2	15	2.0	0.014	5.2	LOS A	0.1	0.4	0.42	0.53	0.42	54.4
Approach		154	2.0	0.060	7.2	LOS A	0.2	1.7	0.41	0.55	0.41	54.4
North: Huntmar Dr												
7	L2	2	2.0	0.002	9.7	LOS A	0.0	0.0	0.27	0.58	0.27	53.3
8	T1	342	2.0	0.208	3.9	LOS A	1.0	7.0	0.28	0.39	0.28	56.9
9	R2	133	2.0	0.106	4.4	LOS A	0.4	3.2	0.29	0.48	0.29	54.9
Approach		477	2.0	0.208	4.1	LOS A	1.0	7.0	0.28	0.41	0.28	56.3
West: Campeau Dr												
10	L2	82	2.0	0.055	10.0	LOS A	0.2	1.7	0.38	0.64	0.38	52.9
11	T1	23	2.0	0.021	4.7	LOS A	0.1	0.6	0.40	0.46	0.40	56.2
12	R2	45	2.0	0.024	3.3	LOS A	0.0	0.0	0.00	0.42	0.00	56.8
Approach		150	2.0	0.055	7.2	LOS A	0.2	1.7	0.27	0.55	0.27	54.5
All Vehicles		1225	2.0	0.218	5.0	LOS A	1.1	7.9	0.28	0.44	0.28	56.0

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Huntmar / Campeau FT2031 PM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Huntmar Dr												
1	L2	74	2.0	0.068	10.2	LOS B	0.3	2.0	0.39	0.66	0.39	52.9
2	T1	413	2.0	0.269	4.3	LOS A	1.4	9.9	0.41	0.42	0.41	56.2
3	R2	67	2.0	0.062	4.9	LOS A	0.3	1.8	0.38	0.53	0.38	54.6
Approach		554	2.0	0.269	5.1	LOS A	1.4	9.9	0.40	0.46	0.40	55.5
East: Campeau Dr												
4	L2	50	2.0	0.037	10.3	LOS B	0.2	1.1	0.46	0.67	0.46	52.7
5	T1	40	2.0	0.037	5.1	LOS A	0.2	1.1	0.49	0.51	0.49	55.6
6	R2	4	2.0	0.004	5.4	LOS A	0.0	0.1	0.48	0.53	0.48	54.2
Approach		94	2.0	0.037	7.9	LOS A	0.2	1.1	0.48	0.60	0.48	54.0
North: Huntmar Dr												
7	L2	7	2.0	0.006	9.7	LOS A	0.0	0.2	0.26	0.59	0.26	53.3
8	T1	423	2.0	0.255	3.9	LOS A	1.3	9.0	0.28	0.39	0.28	56.9
9	R2	159	2.0	0.127	4.4	LOS A	0.5	3.8	0.28	0.48	0.28	55.0
Approach		589	2.0	0.255	4.1	LOS A	1.3	9.0	0.28	0.41	0.28	56.3
West: Campeau Dr												
10	L2	215	2.0	0.148	10.3	LOS B	0.7	5.1	0.45	0.68	0.45	52.6
11	T1	97	2.0	0.089	5.0	LOS A	0.4	2.7	0.45	0.49	0.45	55.9
12	R2	84	2.0	0.044	3.3	LOS A	0.0	0.0	0.00	0.42	0.00	56.8
Approach		396	2.0	0.148	7.5	LOS A	0.7	5.1	0.35	0.58	0.35	54.2
All Vehicles		1633	2.0	0.269	5.5	LOS A	1.4	9.9	0.35	0.48	0.35	55.4

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Campeau / Palladium FT2031 AM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Campeau Dr												
1	L2	51	2.0	0.145	9.3	LOS A	0.8	5.6	0.15	0.41	0.15	57.2
2	T1	205	2.0	0.145	3.7	LOS A	0.8	5.6	0.15	0.41	0.15	56.8
3	R2	120	2.0	0.063	3.1	LOS A	0.0	0.0	0.00	0.40	0.00	57.1
Approach		376	2.0	0.145	4.3	LOS A	0.8	5.6	0.10	0.41	0.10	56.9
East: Palladium Dr												
4	L2	197	2.0	0.089	10.2	LOS B	0.5	3.4	0.39	0.61	0.39	53.5
5	T1	21	2.0	0.089	4.3	LOS A	0.5	3.4	0.37	0.58	0.37	54.1
6	R2	27	2.0	0.089	4.4	LOS A	0.5	3.4	0.37	0.58	0.37	52.4
Approach		245	2.0	0.089	9.0	LOS A	0.5	3.4	0.38	0.60	0.38	53.4
North: Campeau Dr												
7	L2	17	2.0	0.062	10.0	LOS B	0.2	1.7	0.34	0.49	0.34	56.1
8	T1	132	2.0	0.062	4.3	LOS A	0.2	1.8	0.33	0.45	0.33	56.3
9	R2	2	2.0	0.062	4.3	LOS A	0.2	1.8	0.33	0.42	0.33	54.8
Approach		151	2.0	0.062	4.9	LOS A	0.2	1.8	0.33	0.45	0.33	56.2
West: Palladium Dr												
10	L2	1	2.0	0.021	10.0	LOS A	0.1	0.6	0.34	0.44	0.34	56.8
11	T1	25	2.0	0.021	4.3	LOS A	0.1	0.6	0.34	0.44	0.34	56.4
12	R2	23	2.0	0.018	4.1	LOS A	0.1	0.5	0.34	0.47	0.34	55.4
Approach		49	2.0	0.021	4.3	LOS A	0.1	0.6	0.34	0.45	0.34	56.0
All Vehicles		821	2.0	0.145	5.8	LOS A	0.8	5.6	0.24	0.48	0.24	55.7

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT SUMMARY

Site: 101 [Campeau / Palladium FT2031 PM]

New Site
Site Category: (None)
Roundabout

Movement Performance - Vehicles

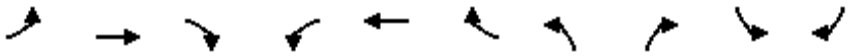
Mov ID	Turn	Demand Flows Total veh/h	HV %	Deg. Satn v/c	Average Delay sec	Level of Service	95% Back of Queue Vehicles veh	Distance m	Prop. Queued	Effective Stop Rate	Aver. No. Cycles	Average Speed km/h
South: Campeau Dr												
1	L2	22	2.0	0.073	9.4	LOS A	0.4	2.7	0.19	0.41	0.19	57.0
2	T1	102	2.0	0.073	3.7	LOS A	0.4	2.7	0.19	0.41	0.19	56.7
3	R2	280	2.0	0.148	3.2	LOS A	0.0	0.0	0.00	0.40	0.00	57.1
Approach		404	2.0	0.148	3.6	LOS A	0.4	2.7	0.06	0.40	0.06	57.0
East: Palladium Dr												
4	L2	233	2.0	0.090	9.7	LOS A	0.5	3.3	0.27	0.59	0.27	53.8
5	T1	27	2.0	0.090	3.9	LOS A	0.5	3.3	0.26	0.57	0.26	54.1
6	R2	9	2.0	0.090	4.0	LOS A	0.5	3.3	0.26	0.57	0.26	52.4
Approach		269	2.0	0.090	8.9	LOS A	0.5	3.3	0.27	0.58	0.27	53.8
North: Campeau Dr												
7	L2	27	2.0	0.085	10.1	LOS B	0.3	2.4	0.34	0.51	0.34	55.9
8	T1	180	2.0	0.085	4.3	LOS A	0.3	2.4	0.34	0.46	0.34	56.2
9	R2	1	2.0	0.085	4.4	LOS A	0.3	2.4	0.33	0.42	0.33	54.8
Approach		208	2.0	0.085	5.1	LOS A	0.3	2.4	0.34	0.46	0.34	56.2
West: Palladium Dr												
10	L2	2	2.0	0.036	10.2	LOS B	0.1	0.9	0.38	0.46	0.38	56.6
11	T1	42	2.0	0.036	4.5	LOS A	0.1	0.9	0.38	0.46	0.38	56.2
12	R2	16	2.0	0.013	4.3	LOS A	0.0	0.3	0.36	0.48	0.36	55.3
Approach		60	2.0	0.036	4.6	LOS A	0.1	0.9	0.37	0.46	0.37	56.0
All Vehicles		941	2.0	0.148	5.5	LOS A	0.5	3.3	0.20	0.47	0.20	55.8

Site Level of Service (LOS) Method: Delay (SIDRA). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay per movement.
Intersection and Approach LOS values are based on average delay for all vehicle movements.
Roundabout Capacity Model: SIDRA Standard.
SIDRA Standard Delay Model is used. Control Delay includes Geometric Delay.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	23	6	20	52	3	26
Future Volume (Veh/h)	23	6	20	52	3	26
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)	23	6	20	52	3	26
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			29		118	26
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			29		118	26
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	98
cM capacity (veh/h)			1584		867	1050

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	29	20	52	29
Volume Left	0	20	0	3
Volume Right	6	0	0	26
cSH	1700	1584	1700	1027
Volume to Capacity	0.02	0.01	0.03	0.03
Queue Length 95th (m)	0.0	0.3	0.0	0.7
Control Delay (s)	0.0	7.3	0.0	8.6
Lane LOS		A		A
Approach Delay (s)	0.0	2.0		8.6
Approach LOS				A

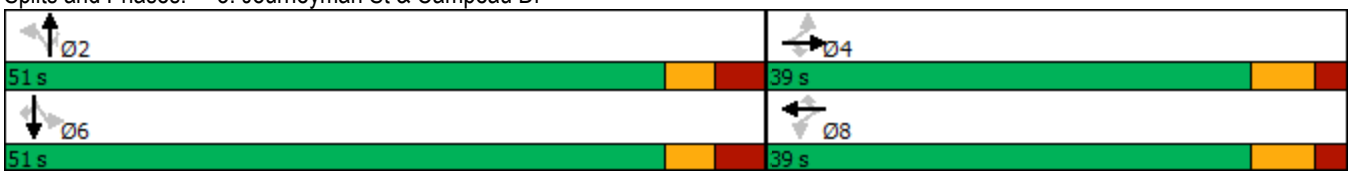
Intersection Summary			
Average Delay	3.0		
Intersection Capacity Utilization	17.8%	ICU Level of Service	A
Analysis Period (min)	15		

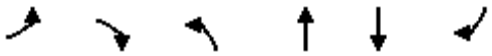


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	7	134	21	19	224	2	4	13	1	1
Future Volume (vph)	7	134	21	19	224	2	4	13	1	1
Lane Group Flow (vph)	7	134	21	19	224	2	4	13	1	1
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	Perm	Perm	Perm
Protected Phases		4			8					
Permitted Phases	4		4	8		8	2	2	6	6
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	44.5	44.5	44.5	44.5	44.5	44.5	39.8	39.8	39.8	39.8
Total Split (s)	39.0	39.0	39.0	39.0	39.0	39.0	51.0	51.0	51.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%	56.7%	56.7%	56.7%	56.7%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	3.5	3.5	3.5	3.5
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.8	6.8	6.8	6.8
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	14.3	14.3	14.3	14.3	14.3	14.3	45.0	45.0	45.0	45.0
Actuated g/C Ratio	0.20	0.20	0.20	0.20	0.20	0.20	0.62	0.62	0.62	0.62
v/c Ratio	0.04	0.38	0.06	0.08	0.64	0.01	0.00	0.01	0.00	0.00
Control Delay	22.9	28.0	3.0	23.5	35.2	0.0	6.5	0.0	7.0	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.9	28.0	3.0	23.5	35.2	0.0	6.5	0.0	7.0	0.0
LOS	C	C	A	C	D	A	A	A	A	A
Approach Delay		24.5			34.0					
Approach LOS		C			C					
Queue Length 50th (m)	0.8	15.8	0.0	2.1	27.9	0.0	0.2	0.0	0.1	0.0
Queue Length 95th (m)	3.7	29.9	2.1	7.0	47.8	0.0	1.4	0.0	0.6	0.0
Internal Link Dist (m)		319.9			296.6					
Turn Bay Length (m)	45.0			50.0			20.0		45.0	
Base Capacity (vph)	431	798	704	536	798	704	837	1198	837	1126
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	0.02	0.17	0.03	0.04	0.28	0.00	0.00	0.01	0.00	0.00

Intersection Summary			
Cycle Length: 90			
Actuated Cycle Length: 72.7			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 29.0		Intersection LOS: C	
Intersection Capacity Utilization 45.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Journeyman St & Campeau Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	86	120	417	334	22
Future Volume (Veh/h)	0	86	120	417	334	22
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	86	120	417	334	22
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				207		
pX, platoon unblocked						
vC, conflicting volume	794	178	356			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	794	178	356			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	90	90			
cM capacity (veh/h)	293	834	1199			

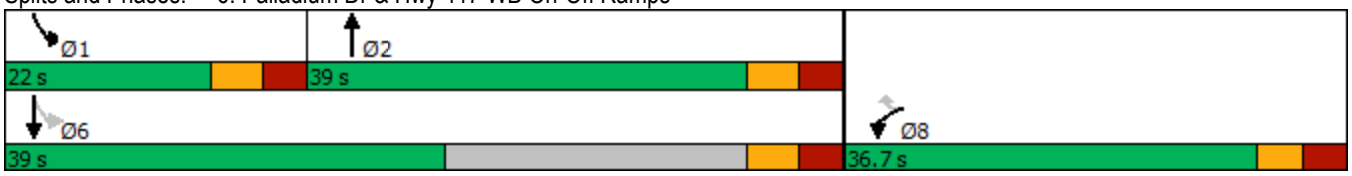
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	86	120	208	208	223	133
Volume Left	0	120	0	0	0	0
Volume Right	86	0	0	0	0	22
cSH	834	1199	1700	1700	1700	1700
Volume to Capacity	0.10	0.10	0.12	0.12	0.13	0.08
Queue Length 95th (m)	2.6	2.5	0.0	0.0	0.0	0.0
Control Delay (s)	9.8	8.3	0.0	0.0	0.0	0.0
Lane LOS	A	A				
Approach Delay (s)	9.8	1.9			0.0	
Approach LOS	A					

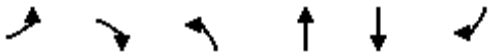
Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	24.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	229	351	186	182	238
Future Volume (vph)	229	351	186	182	238
Lane Group Flow (vph)	229	351	186	182	238
Turn Type	Prot	Perm	NA	pm+pt	NA
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	32.7	32.7	39.0	12.0	25.0
Total Split (s)	36.7	36.7	39.0	22.0	39.0
Total Split (%)	37.6%	37.6%	39.9%	22.5%	39.9%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	3.3	3.3	3.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	7.0	7.0	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	30.0	30.0	32.0	54.0	54.0
Actuated g/C Ratio	0.31	0.31	0.33	0.55	0.55
v/c Ratio	0.23	0.50	0.17	0.29	0.13
Control Delay	26.0	5.5	23.9	12.3	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	26.0	5.5	23.9	12.3	10.7
LOS	C	A	C	B	B
Approach Delay	13.6		23.9		11.4
Approach LOS	B		C		B
Queue Length 50th (m)	16.5	0.0	13.0	16.2	10.7
Queue Length 95th (m)	25.6	19.0	21.0	27.3	16.5
Internal Link Dist (m)	322.5		403.5		183.1
Turn Bay Length (m)		125.0		115.0	
Base Capacity (vph)	1009	709	1110	631	1873
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.23	0.50	0.17	0.29	0.13

Intersection Summary	
Cycle Length: 97.7	
Actuated Cycle Length: 97.7	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.50	
Intersection Signal Delay: 14.4	Intersection LOS: B
Intersection Capacity Utilization 44.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 6: Palladium Dr & Hwy 417 WB On-Off Ramps

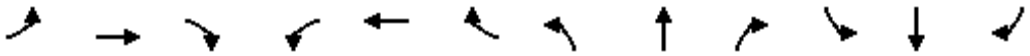




Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	106	286	0	84	417	30
Future Volume (Veh/h)	106	286	0	84	417	30
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	106	286	0	84	417	30
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)		3				
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	474	224	447			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	474	224	447			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	80	63	100			
cM capacity (veh/h)	519	780	1110			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	392	42	42	278	169
Volume Left	106	0	0	0	0
Volume Right	286	0	0	0	30
cSH	1069	1700	1700	1700	1700
Volume to Capacity	0.37	0.02	0.02	0.16	0.10
Queue Length 95th (m)	12.9	0.0	0.0	0.0	0.0
Control Delay (s)	12.7	0.0	0.0	0.0	0.0
Lane LOS	B				
Approach Delay (s)	12.7	0.0		0.0	
Approach LOS	B				

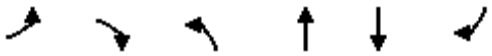
Intersection Summary			
Average Delay	5.4		
Intersection Capacity Utilization	38.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	13	100	0	20	0	83	9	0	0	0	0
Future Volume (vph)	0	13	100	0	20	0	83	9	0	0	0	0
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
Hourly flow rate (vph)	0	13	100	0	20	0	83	9	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	113	20	92	0
Volume Left (vph)	0	0	83	0
Volume Right (vph)	100	0	0	0
Hadj (s)	-0.50	0.03	0.21	0.00
Departure Headway (s)	3.6	4.3	4.4	4.3
Degree Utilization, x	0.11	0.02	0.11	0.00
Capacity (veh/h)	960	820	792	819
Control Delay (s)	7.1	7.4	7.9	7.3
Approach Delay (s)	7.1	7.4	7.9	0.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay		7.5		
Level of Service		A		
Intersection Capacity Utilization	19.3%	ICU Level of Service	A	
Analysis Period (min)		15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	13	20	450	465	0
Future Volume (Veh/h)	0	13	20	450	465	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	13	20	450	465	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	730	232	465			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	730	232	465			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	98	98			
cM capacity (veh/h)	351	770	1093			

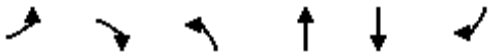
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	13	170	300	310	155
Volume Left	0	20	0	0	0
Volume Right	13	0	0	0	0
cSH	770	1093	1700	1700	1700
Volume to Capacity	0.02	0.02	0.18	0.18	0.09
Queue Length 95th (m)	0.4	0.4	0.0	0.0	0.0
Control Delay (s)	9.8	1.1	0.0	0.0	0.0
Lane LOS	A	A			
Approach Delay (s)	9.8	0.4		0.0	
Approach LOS	A				

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	38.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	13	0	0	20	0	0
Future Volume (Veh/h)	13	0	0	20	0	0
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)	13	0	0	20	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			13		33	13
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			13		33	13
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		100	100
cM capacity (veh/h)			1606		980	1067

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	13	20	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1606	1700
Volume to Capacity	0.01	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

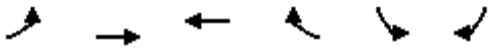
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	9	0	0	0
Future Volume (Veh/h)	0	0	9	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	9	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	18	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	18	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	99			
cM capacity (veh/h)	994	1085	1623			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	0	9	0
Volume Left	0	9	0
Volume Right	0	0	0
cSH	1700	1623	1700
Volume to Capacity	0.00	0.01	0.00
Queue Length 95th (m)	0.0	0.1	0.0
Control Delay (s)	0.0	7.2	0.0
Lane LOS	A	A	
Approach Delay (s)	0.0	7.2	0.0
Approach LOS	A		

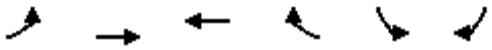
Intersection Summary			
Average Delay	7.2		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	76	54	27	33	0
Future Volume (Veh/h)	0	76	54	27	33	0
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)	0	76	54	27	33	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	81				144	68
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	81				144	68
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)	1517				849	996

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	76	81	33
Volume Left	0	0	33
Volume Right	0	27	0
cSH	1517	1700	849
Volume to Capacity	0.00	0.05	0.04
Queue Length 95th (m)	0.0	0.0	0.9
Control Delay (s)	0.0	0.0	9.4
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.4
Approach LOS			A

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	14.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	54	76	0
Future Volume (Veh/h)	0	0	0	54	76	0
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)	0	0	0	54	76	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	54				27	27
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	54				27	27
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				92	100
cM capacity (veh/h)	1551				988	1048

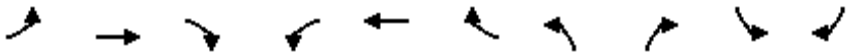
Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	0	54	76
Volume Left	0	0	76
Volume Right	0	54	0
cSH	1700	1700	988
Volume to Capacity	0.00	0.03	0.08
Queue Length 95th (m)	0.0	0.0	1.9
Control Delay (s)	0.0	0.0	8.9
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.9
Approach LOS			A

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	14.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	20	1	13	39	2	40
Future Volume (Veh/h)	20	1	13	39	2	40
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)	20	1	13	39	2	40
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			21		86	20
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			21		86	20
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		100	96
cM capacity (veh/h)			1595		908	1057

Direction, Lane #	EB 1	WB 1	WB 2	NB 1
Volume Total	21	13	39	42
Volume Left	0	13	0	2
Volume Right	1	0	0	40
cSH	1700	1595	1700	1049
Volume to Capacity	0.01	0.01	0.02	0.04
Queue Length 95th (m)	0.0	0.2	0.0	1.0
Control Delay (s)	0.0	7.3	0.0	8.6
Lane LOS		A		A
Approach Delay (s)	0.0	1.8		8.6
Approach LOS				A

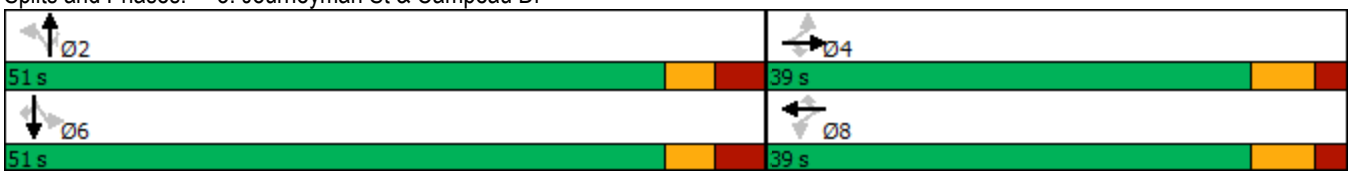
Intersection Summary			
Average Delay	4.0		
Intersection Capacity Utilization	17.4%	ICU Level of Service	A
Analysis Period (min)	15		

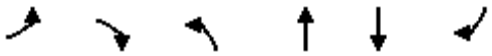


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	12	260	17	81	160	2	45	75	3	4
Future Volume (vph)	12	260	17	81	160	2	45	75	3	4
Lane Group Flow (vph)	12	260	17	81	160	2	45	75	3	4
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	Perm	Perm	Perm
Protected Phases		4			8					
Permitted Phases	4		4	8		8	2	2	6	6
Detector Phase	4	4	4	8	8	8	2	2	6	6
Switch Phase										
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	44.5	44.5	44.5	44.5	44.5	44.5	39.8	39.8	39.8	39.8
Total Split (s)	39.0	39.0	39.0	39.0	39.0	39.0	51.0	51.0	51.0	51.0
Total Split (%)	43.3%	43.3%	43.3%	43.3%	43.3%	43.3%	56.7%	56.7%	56.7%	56.7%
Yellow Time (s)	4.2	4.2	4.2	4.2	4.2	4.2	3.3	3.3	3.3	3.3
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3	2.3	3.5	3.5	3.5	3.5
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)	6.5	6.5	6.5	6.5	6.5	6.5	6.8	6.8	6.8	6.8
Lead/Lag										
Lead-Lag Optimize?										
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max
Act Effct Green (s)	15.7	15.7	15.7	15.7	15.7	15.7	44.3	44.3	44.3	44.3
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.21	0.21	0.60	0.60	0.60	0.60
v/c Ratio	0.05	0.68	0.05	0.45	0.42	0.01	0.06	0.07	0.00	0.00
Control Delay	22.2	35.9	1.6	32.9	28.0	0.0	7.4	0.1	7.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	35.9	1.6	32.9	28.0	0.0	7.4	0.1	7.3	0.0
LOS	C	D	A	C	C	A	A	A	A	A
Approach Delay		33.3			29.4					
Approach LOS		C			C					
Queue Length 50th (m)	1.3	33.1	0.0	9.7	19.1	0.0	2.3	0.0	0.2	0.0
Queue Length 95th (m)	5.1	54.9	1.2	21.8	34.6	0.0	7.3	0.0	1.3	0.0
Internal Link Dist (m)		319.9			296.6					
Turn Bay Length (m)	45.0			50.0			20.0		45.0	
Base Capacity (vph)	519	791	699	376	791	699	815	1086	815	1161
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	0.02	0.33	0.02	0.22	0.20	0.00	0.06	0.07	0.00	0.00

Intersection Summary			
Cycle Length: 90			
Actuated Cycle Length: 73.4			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 26.0		Intersection LOS: C	
Intersection Capacity Utilization 48.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 3: Journeyman St & Campeau Dr





Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	157	142	498	479	37
Future Volume (Veh/h)	0	157	142	498	479	37
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	157	142	498	479	37
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)				207		
pX, platoon unblocked						
vC, conflicting volume	1030	258	516			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1030	258	516			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	79	86			
cM capacity (veh/h)	198	741	1046			

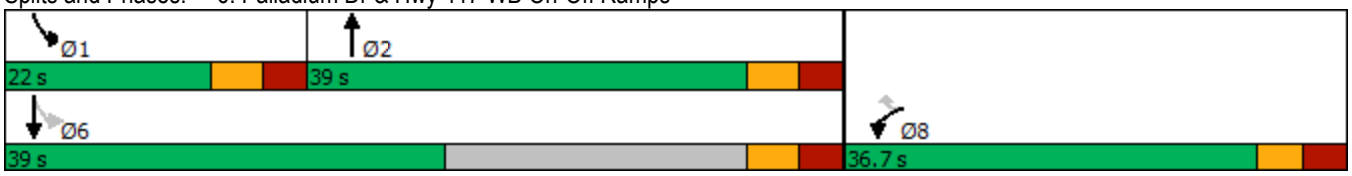
Direction, Lane #	EB 1	NB 1	NB 2	NB 3	SB 1	SB 2
Volume Total	157	142	249	249	319	197
Volume Left	0	142	0	0	0	0
Volume Right	157	0	0	0	0	37
cSH	741	1046	1700	1700	1700	1700
Volume to Capacity	0.21	0.14	0.15	0.15	0.19	0.12
Queue Length 95th (m)	6.1	3.6	0.0	0.0	0.0	0.0
Control Delay (s)	11.2	9.0	0.0	0.0	0.0	0.0
Lane LOS	B	A				
Approach Delay (s)	11.2	2.0			0.0	
Approach LOS	B					

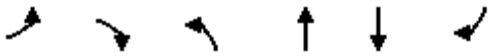
Intersection Summary			
Average Delay	2.3		
Intersection Capacity Utilization	32.1%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	SBL	SBT
Lane Configurations					
Traffic Volume (vph)	451	428	211	286	352
Future Volume (vph)	451	428	211	286	352
Lane Group Flow (vph)	451	428	211	286	352
Turn Type	Prot	Perm	NA	pm+pt	NA
Protected Phases	8		2	1	6
Permitted Phases		8		6	
Detector Phase	8	8	2	1	6
Switch Phase					
Minimum Initial (s)	10.0	10.0	10.0	5.0	10.0
Minimum Split (s)	32.7	32.7	39.0	12.0	25.0
Total Split (s)	36.7	36.7	39.0	22.0	39.0
Total Split (%)	37.6%	37.6%	39.9%	22.5%	39.9%
Yellow Time (s)	3.3	3.3	3.7	3.7	3.7
All-Red Time (s)	3.4	3.4	3.3	3.3	3.3
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7	7.0	7.0	7.0
Lead/Lag			Lag	Lead	
Lead-Lag Optimize?			Yes	Yes	
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	30.0	30.0	32.0	54.0	54.0
Actuated g/C Ratio	0.31	0.31	0.33	0.55	0.55
v/c Ratio	0.45	0.56	0.19	0.46	0.19
Control Delay	28.9	5.8	24.1	14.5	11.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	28.9	5.8	24.1	14.5	11.2
LOS	C	A	C	B	B
Approach Delay	17.7		24.1		12.7
Approach LOS	B		C		B
Queue Length 50th (m)	35.1	0.0	14.9	27.4	16.4
Queue Length 95th (m)	49.0	21.5	23.4	43.1	23.6
Internal Link Dist (m)	322.5		403.5		183.1
Turn Bay Length (m)		125.0		115.0	
Base Capacity (vph)	1009	762	1110	621	1873
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.45	0.56	0.19	0.46	0.19

Intersection Summary	
Cycle Length: 97.7	
Actuated Cycle Length: 97.7	
Natural Cycle: 85	
Control Type: Actuated-Uncoordinated	
Maximum v/c Ratio: 0.56	
Intersection Signal Delay: 16.6	Intersection LOS: B
Intersection Capacity Utilization 55.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: Palladium Dr & Hwy 417 WB On-Off Ramps

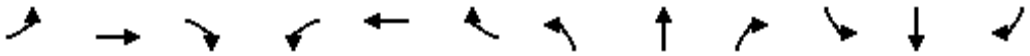




Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	123	170	0	517	761	14
Future Volume (Veh/h)	123	170	0	517	761	14
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	123	170	0	517	761	14
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)		3				
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	1026	388	775			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1026	388	775			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	47	72	100			
cM capacity (veh/h)	230	611	837			

Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	293	258	258	507	268
Volume Left	123	0	0	0	0
Volume Right	170	0	0	0	14
cSH	549	1700	1700	1700	1700
Volume to Capacity	0.53	0.15	0.15	0.30	0.16
Queue Length 95th (m)	23.8	0.0	0.0	0.0	0.0
Control Delay (s)	23.2	0.0	0.0	0.0	0.0
Lane LOS	C				
Approach Delay (s)	23.2	0.0		0.0	
Approach LOS	C				

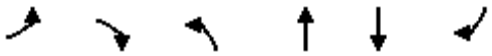
Intersection Summary				
Average Delay	4.3			
Intersection Capacity Utilization	40.5%	ICU Level of Service		A
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	18	72	0	9	0	60	7	0	0	0	0
Future Volume (vph)	0	18	72	0	9	0	60	7	0	0	0	0
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
Hourly flow rate (vph)	0	18	72	0	9	0	60	7	0	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	90	9	67	0
Volume Left (vph)	0	0	60	0
Volume Right (vph)	72	0	0	0
Hadj (s)	-0.45	0.03	0.21	0.00
Departure Headway (s)	3.6	4.2	4.3	4.2
Degree Utilization, x	0.09	0.01	0.08	0.00
Capacity (veh/h)	971	842	809	845
Control Delay (s)	7.0	7.2	7.7	7.2
Approach Delay (s)	7.0	7.2	7.7	0.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.3			
Level of Service	A			
Intersection Capacity Utilization	16.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	18	9	623	571	0
Future Volume (Veh/h)	0	18	9	623	571	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	18	9	623	571	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	900	286	571			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	900	286	571			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	97	99			
cM capacity (veh/h)	275	711	998			

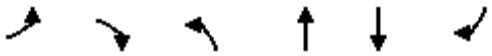
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	18	217	415	381	190
Volume Left	0	9	0	0	0
Volume Right	18	0	0	0	0
cSH	711	998	1700	1700	1700
Volume to Capacity	0.03	0.01	0.24	0.22	0.11
Queue Length 95th (m)	0.6	0.2	0.0	0.0	0.0
Control Delay (s)	10.2	0.4	0.0	0.0	0.0
Lane LOS	B	A			
Approach Delay (s)	10.2	0.2		0.0	
Approach LOS	B				

Intersection Summary			
Average Delay	0.2		
Intersection Capacity Utilization	34.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	18	0	0	9	0	0
Future Volume (Veh/h)	18	0	0	9	0	0
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)	18	0	0	9	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume			18		27	18
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			18		27	18
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		100	100
cM capacity (veh/h)			1599		988	1061

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	18	9	0
Volume Left	0	0	0
Volume Right	0	0	0
cSH	1700	1599	1700
Volume to Capacity	0.01	0.00	0.00
Queue Length 95th (m)	0.0	0.0	0.0
Control Delay (s)	0.0	0.0	0.0
Lane LOS			A
Approach Delay (s)	0.0	0.0	0.0
Approach LOS			A

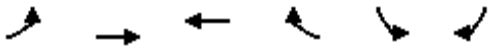
Intersection Summary			
Average Delay	0.0		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	7	0	0	0
Future Volume (Veh/h)	0	0	7	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	7	0	0	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	14	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	14	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1001	1085	1623			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	0	7	0
Volume Left	0	7	0
Volume Right	0	0	0
cSH	1700	1623	1700
Volume to Capacity	0.00	0.00	0.00
Queue Length 95th (m)	0.0	0.1	0.0
Control Delay (s)	0.0	7.2	0.0
Lane LOS	A	A	
Approach Delay (s)	0.0	7.2	0.0
Approach LOS	A		

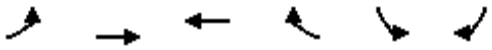
Intersection Summary			
Average Delay	7.2		
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	48	43	22	20	0
Future Volume (Veh/h)	0	48	43	22	20	0
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)	0	48	43	22	20	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	65				102	54
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	65				102	54
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				98	100
cM capacity (veh/h)	1537				896	1013

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	48	65	20
Volume Left	0	0	20
Volume Right	0	22	0
cSH	1537	1700	896
Volume to Capacity	0.00	0.04	0.02
Queue Length 95th (m)	0.0	0.0	0.5
Control Delay (s)	0.0	0.0	9.1
Lane LOS			A
Approach Delay (s)	0.0	0.0	9.1
Approach LOS			A

Intersection Summary			
Average Delay	1.4		
Intersection Capacity Utilization	13.8%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	43	48	0
Future Volume (Veh/h)	0	0	0	43	48	0
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)	0	0	0	43	48	0
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	43				22	22
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	43				22	22
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				95	100
cM capacity (veh/h)	1566				995	1056

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	0	43	48
Volume Left	0	0	48
Volume Right	0	43	0
cSH	1700	1700	995
Volume to Capacity	0.00	0.03	0.05
Queue Length 95th (m)	0.0	0.0	1.2
Control Delay (s)	0.0	0.0	8.8
Lane LOS			A
Approach Delay (s)	0.0	0.0	8.8
Approach LOS			A

Intersection Summary			
Average Delay	4.6		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		