RESIDENTIAL DEVELOPMENT
1200 MARITIME WAY

TRANSPORTATION IMPACT ASSESSMENT

Prepared For:

CLARIDGE HOMES

Prepared By:

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February 4, 2021
Novatech File: 120144
Ref: R-2021-018

NOVATECH
Engineers, Planners & Landscape Architects

February 4, 2021

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

Attention: **Ms. Josiane Gervais**
Project Manager, Infrastructure Approvals

Dear Ms. Gervais:

Reference: **Claridge Homes Residential Development – 1200 Maritime Way**
Transportation Impact Assessment Report
Novatech File No. 120144

We are pleased to submit the following Transportation Impact Assessment Report Forecasting Report in support of Zoning By-law Amendment and Site Plan Control applications for Claridge's residential development at 1200 Maritime Way. The structure and format of this report is in accordance with the City of Ottawa Transportation Impact Assessment Guidelines (June 2017).

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

Yours truly,

NOVATECH

Brad Byvelds, P. Eng.
Project Coordinator | Transportation/Traffic

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1.0 SCREENING

1.1 Introduction

This Transportation Impact Assessment (TIA) Forecasting Report has been prepared in support of Zoning By-law Amendment and Site Plan Control applications for Claridge's residential development at 1200 Maritime Way.

The subject site is surrounded by the following:

- Maritime Way and Townplace Suites by Marriott hotel at 1251 Maritime Way to the north;
- Highway 417 and future Bus Rapid Transit(BRT)/Light Rail Transit (LRT) to the south;
- Vacant land to the east; and
- Timberwalk retirement residence at 1250 Maritime Way to the west.
- Holiday Inn at 101 Kanata Avenue to the south and across Kanata Avenue
- Kanata Centrum Retail Development to the west

A view of the subject site is provided in **Figure 1.**

Figure 1: View of the Subject Site

1.2 Proposed Development

The site is currently in two zones – the western part is Mixed Use Centre sub-zone 5 with a height limit (MC5 H[35]). The eastern part is Mixed Use Centre sub-zone 15 with an exception and a hold (MC15[2165]-h). The current zoning accommodates a broad range of uses including retail, service commercial, offices, residential and institutional uses in mixed-use buildings. However, a Zoning By-law Amendment is required to accommodate the 28 and 30-storey height of the proposed buildings.

The proposed development consists of two residential buildings providing a total of 632 units. The buildings are connected by an underground parking garage with 632 vehicle spaces and 301 bicycle spaces. At ground level between the buildings are 30 surface visitor parking spaces and 15 visitor bicycle stalls. Access to the proposed development will be located on Maritime Way. The proposed development is anticipated to be constructed in one phase with an assumed build-out year of 2028.

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

1.3 Screening Form

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

- Trip Generation Trigger – The development is anticipated to generate over 60 peak hour person trips; further assessment is required based on this trigger.

- Location Trigger – The development is located in a Transit Oriented Development (TOD) zone (within 600m of Dominion and Westboro Transit Stations) and a Design Priority Area; further assessment is required based on this trigger.

- Safety Trigger – No safety triggers outlined in the TIA Screening Form are met; no further assessment is required based on this trigger.

The proposed development satisfies the Trip Generation and Location Triggers for completing a TIA. A copy of the TIA screening form is included in **Appendix B**.

2.0 SCOPING

2.1 Existing Conditions

2.1.1 Roadways

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

Figure 2: Roadway Network

The Highway 417 is a provincial highway travelling east-west through the City of Ottawa. All other roadways within the study area fall under the jurisdiction of the City of Ottawa.

Kanata Avenue is an arterial roadway and generally runs on a northwest-southeast alignment within the study area. It has a two-lane undivided urban cross section with a posted speed limit of 50km/hr in the vicinity of the subject site. Kanata Avenue is designated as a truck route permitting full loads. The City of Ottawa Official Plan (OP) identifies a 44.5 right-of-way (ROW) to be protected along Kanata Avenue between Campeau Drive and Aird Place. No right-of-way widening is required as part of this application.

Castlefrank Road is the extension of Kanata Avenue south of Highway 417 that travels from Aird Place to Terry Fox Drive. It is classified as an arterial roadway north of Aird Place and a major collector roadway south of Aird Place. It has a two-lane undivided urban cross section with a posted speed limit of 50km/hr.

Campeau Drive is an arterial roadway that generally runs on an east-west alignment within the study area. Campeau Drive has a two-lane undivided urban cross section with a posted speed limit of 60km/hr.

Katimavik Road is an arterial roadway that runs on an east-west alignment between Terry Fox Drive and Eagleson Road. It has a two-lane undivided urban cross section and a posted speed limit of 50km/hr.

Maritime Way is a local roadway that runs between Kanata Avenue and Campeau Drive. Maritime Way has a two-lane divided urban cross section from Kanata Avenue to approximately 70m east of the 90-degree bend where it transitions to an undivided cross section. Maritime Way has a posted speed limit of 50km/hr.

Lord Byng Way is a local road that commences along Kanata Avenue and terminates approximately 160m to the south. Lord Byng Way provides access to the Holiday Inn Hotel, the Kanata Centrum Shopping Centre, and the Terry Fox Transit Station.

Earl Grey Drive is a local roadway that commences along Kanata Avenue and terminates approximately 530m to the south. Earl Grey Drive provides access to the Kanata Centrum Shopping Centre.

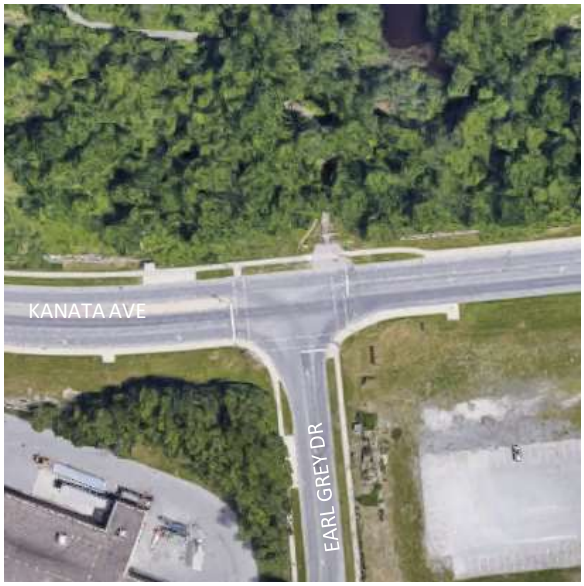
Aird Place travels from west of Castlefrank Road to Katimavik Road and is classified as a local roadway west of Castlefrank Road and a collector roadway east of Castlefrank Road. Aird Place has a two-lane undivided urban cross section with a posted speed limit of 40km/hr.

Knudson Drive is a collector roadway that travels between Kanata Avenue and Campeau Drive. It has a two-lane undivided urban cross section with a posted speed limit of 40km/hr.

2.1.2 Intersections

Kanata Ave/Earl Grey Dr

- Signalized intersection
- East approach: One through lane and one left turn lane
- West approach: One through lane and one right turn lane
- South approach: One left turn lane and one right turn lane
- Standard crosswalks are provided on all approaches



Kanata Ave/Maritime Way/Lord Byng Way

- Signalized intersection
- South, east, and west approaches: one left turn lane and one shared through/right turn lane
- North approach: one shared left/through/right turn lane on north approach
- Due to a wide lane width, the north approach functions as a two-lane approach.
- Standard crosswalks are provided on all approaches

Kanata Ave/Highway 417 Westbound Off-Ramp

- Signalized intersection
- North approach: two through lane
- South approach: one through lanes
- East approach: one left turn lane and one right turn lane
- Standard crosswalks are provided on north and east approaches

Kanata Ave/Highway 417 Eastbound On-Ramp

- Signalized intersection
- North approach: one through lane and one left turn lane
- South approach: one through lane and one right turn lane
- Standard crosswalks are provided on south and east approaches

Kanata Ave/Castlefrank Rd/Aird Pl

- Signalized intersection
- East and west approaches: one shared left/through/right turn lane
- North and south approaches: one left turn lane and one shared through/right turn lane
- Textured crosswalks are provided on the east and west approaches
- Standard sidewalks are provided on the north and south approaches

Castlefrank Rd/Katimavik Rd

- Signalized intersection
- East, west, and south approaches: one left turn lane and one shared through/right turn lane
- North approach: one left turn lane, one right turn lane, and one through lane
- Textured crosswalks are provided on all approaches

Campeau Dr/Maritime Way/Knudson Dr

- Signalized intersection
- All approaches: one left turn lane and one shared through/right turn lane
- Standard crosswalks are provided on all approaches

2.1.3 Driveways

In accordance with the City's 2017 TIA guidelines, a review of adjacent driveways along the boundary roads (within 200m of the subject site) are provided as follows:

Maritime Way, north side:

- One driveway to Townplace Suites Hotel at 1251 Maritime Way

Maritime Way, south side:

- One all movement access to the Timberwalk retirement home at 1250 Maritime Way
- One right-in right-out access to pick-up/drop-off lay-by to the Timberwalk retirement home at 1250 Maritime Way

2.1.4 Pedestrian and Cycling Facilities

The existing pedestrian and cycling infrastructure provided in the greater area surrounding the subject site is illustrated in **Figure 3**.

Figure 3: Existing Pedestrian and Cycling Infrastructure

Sidewalks are currently provided on both sides of Maritime Way, Castlefrank Road, and Campeau Drive. Sidewalks are provided on both sides of Kanata Avenue south/east of Maritime Way, and the north side west of Maritime Way. Sidewalks are also provided on the north side of Aird Place and the west side of Knudson Drive. A multi-use-pathway (MUP) is provided on the north side of Katimavik Road.

Bike lanes are currently provided along Kanata Avenue, Campeau Drive, Knudson Drive, and Castlefrank Road north of Katimavik Road. Campeau Drive is identified as a spine cycling route, and Kanata Avenue, Castlefrank Road, Katimavik Road, Maritime Way, Knudson Drive and Lord Byng Way are identified as local cycling routes in the City's Ultimate Cycling Network.

2.1.5 Transit

The subject site is located within approximately a 350m radius or a 485m walking distance, of the Terry Fox Transit Station, which provides access to numerous transit routes. OC Transpo Bus Stops #0431 and #0432 are located along Lord Byng Way south of Kanata Avenue, a walking distance of 350m from the subject site via Maritime Way. These bus stops serve OC Transpo Routes: 61, 62, 88, 161, 162, 164, 165, 167, 168, and 264.

Bus stops have been constructed along the length of Maritime Way but are not currently in use. Transit service will become available along Maritime Way as development increases within the Kanata Town Centre. Bus stops to the future transit route are located along Maritime Way west of the subject site.

The location of the aforementioned transit facilities in relation to the subject site is shown in **Figure 4**. Detailed route information and an excerpt from the OC Transpo System Map are included in **Appendix C**.

Figure 4: OC Transpo Bus Stop Locations

2.1.6 Existing Area Traffic Management Measures

Speed cushions have been implemented along Knudson Drive. On-road messaging (SLOW pavement markings) have been implemented along Maritime Way and Great Lakes Avenue, and all-way stop control was recently implemented at the Maritime Way/Great Lakes Avenue intersection. A raised median is provided along Maritime Way approaching Kanata Avenue. No other area traffic management measures have been implemented within the study area.

2.1.7 Existing Traffic Volumes

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

- Kanata Venue/Earl Grey Drive — November 28, 2018
- Kanata Avenue/Maritime Way/Lord Byng Way — March 20, 2018
- Kanata Avenue/Highway 417 WB Off-ramp — December 6, 2017
- Kanata Avenue/Highway 417 EB On-ramp — November 27, 2018
- Kanata Avenue/Castlefrank Road/Aird Place — April 11, 2018
- Castlefrank Road/Katimavik Road — March 30, 2017
- Campeau Drive/Maritime Way/Knudson Drive — March 10, 2020

Existing traffic volumes along the study area roadways are shown in **Figure 5**. Peak hour summary sheets of the above traffic counts are included in **Appendix D**.

2.1.8 Collision Records

Historical collision data from the last five years was obtained from the City's Public Works and Service Department for the study area intersection. Copies of the collision summary report are included in **Appendix E**.

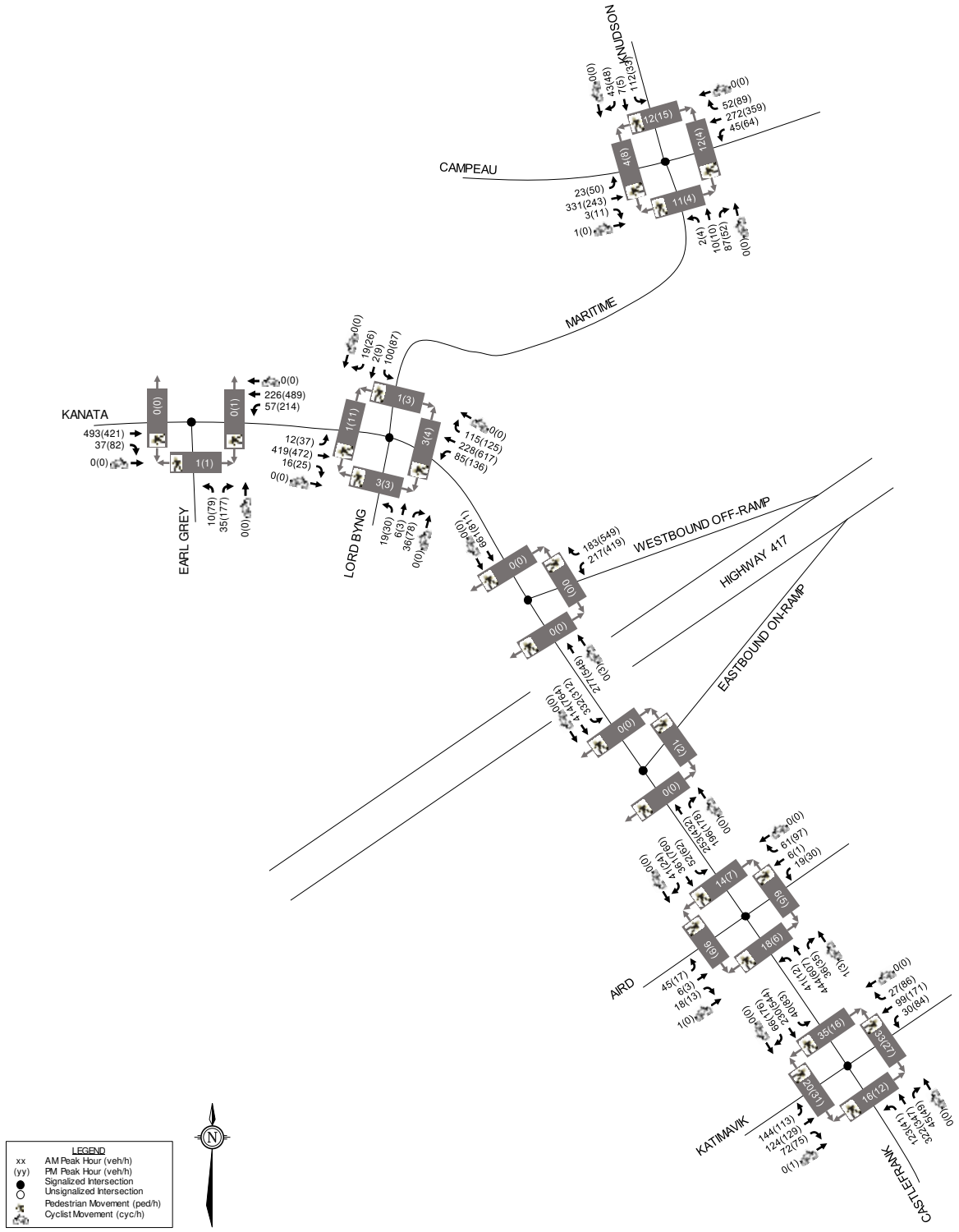
The collision data has been evaluated to determine if there are any identifiable collision patterns. The following summarizes the number of collisions at each intersection from January 1, 2014 to December 31, 2018.

Table 1: Reported Collisions

Intersection	Impact Types						Total Number of Collisions
	Angle	Sideswipe	Rear End	Turning Movement	Approach	SMV[1]/ Other	
Kanata Avenue/ Earl Grey Drive	0	0	8	2	0	1	**11**
Kanata Avenue/Maritime Way/Lord Byng Way	2	3	28	2	1	4	**40**
Kanata Avenue/Highway 417 WB Off-ramp	18	1	14	1	0	4	**38**
Kanata Avenue/Highway 417 EB On-ramp	1	0	6	2	0	1	**10**
Kanata Avenue/ Castlefrank Road/ Aird Place	2	0	13	0	0	0	**15**
Castlefrank Road/ Katimavik Road	9	2	8	8	0	2	**29**
Campeau Drive/Maritime Way/Knudson Drive	1	1	2	1	0	1	**6**

1. SMV = Single Motor Vehicle

Figure 5: Existing Traffic Volumes



Kanata Avenue/Earl Grey Drive
A total of 11 collisions were reported at this intersection over the last five years. Of the 11 collisions, eight were rear-end impacts, two were turning movement impacts, and one was a single motor vehicle impact. Ten of the total collisions caused property damage only, while the remaining collision caused personal injuries but no fatalities. None of the collisions involved pedestrians or cyclists.

Five of the eight rear-end impacts involved eastbound vehicles, two involved northbound vehicles, and one involved southbound vehicles. All of the rear-end impacts caused property damage only. Four of the rear-end impacts occurred under poor environmental conditions.

Kanata Avenue/Maritime Way/Lord Byng Way
A total of 40 collisions were reported at this intersection over the last five years. Of the 40 collisions, 28 were rear-end impacts, four were single motor vehicle/other impacts, three were sideswipe impacts, two were angle impacts, two were turning movement impacts, and one was an approach impact. Thirty-two of the total collisions caused property damage only, while the remaining eight caused personal injuries but no fatalities. Fourteen of the collisions occurred under poor environmental conditions. One of the collisions involved a pedestrian and none involved cyclists.

Twelve of the 28 rear-end impacts involved northbound vehicles, six involved southbound vehicles, six involved westbound vehicles, and four involved eastbound vehicles. Twenty-three of the rear-end impacts caused property damage only, while the remaining five caused personal injuries but no fatalities. Twelve of the rear-end impacts occurred under poor environmental conditions.

Kanata Avenue/Highway 417 Westbound Off-ramp
A total of 38 collisions were reported at this intersection over the last five years. Of the 38 collisions, 18 were angle impacts, 14 were rear-end impacts, four were single motor vehicle/other impacts, one was a sideswipe impact, and one was a turning movement impact. Thirty-two of the total collisions caused property damage only, while the remaining six caused personal injuries but no fatalities. Eight of the collisions occurred under poor environmental conditions. One of the collisions involved a pedestrian and none involved cyclists.

Eleven of the 18 angle impacts involved northbound and westbound vehicles, while the remaining eight involved southbound and westbound vehicles. Fifteen of the angle impacts caused property damage only, while the remaining three caused personal injuries but no fatalities. Two of the angle impacts occurred under poor environmental conditions. Twelve of the angle impacts were attributable to a vehicle disobeying the traffic signal control.

Eight of the 14 rear-end impacts involved westbound vehicles, four involved northbound vehicles, and two involved southbound vehicles. Thirteen of the rear-end impacts caused property damage only, while one caused personal injuries but no fatalities. Three of the rear-end impacts occurred under poor environmental conditions.

Kanata Avenue/Highway 417 Eastbound On-ramp
A total of ten collisions were reported at this intersection over the last five years. Of the ten collisions, six were rear-end impacts, two were turning movement impacts, one was an angle impact, and one was a single motor vehicle impact. All of the collisions caused property damage

only and five of the collisions occurred under poor environmental conditions. None of the collisions involved a pedestrian or cyclists.

Kanata Avenue/Castlefrank Road/Aird Place
A total of 15 collisions were reported at this intersection over the last five years. Of the 15 collisions, 13 were rear-end impacts and two were angle impacts. Thirteen of the total collisions caused property damage only, while the remaining two caused personal injuries but no fatalities. None of the collisions involved a pedestrian or cyclists.
Ten of the 13 rear-end impacts involved southbound vehicles, and three involved northbound vehicles. Twelve of the rear-end impacts caused property damage only, while one caused personal injuries but no fatalities. Five of the rear-end impacts occurred under poor environmental conditions.

Castlefrank Road/Katimavik Road
A total of 29 collisions were reported at this intersection over the last five years. Of the 29 collisions, nine were angle impacts, eight were rear-end impacts, eight were turning movement impacts, two were sideswipe impacts, and two were single motor vehicle impacts. Eleven of the collisions occurred under poor environmental conditions. Twenty of the total collisions caused property damage only, while the remaining nine caused personal injuries but no fatalities. One of the collisions involved a pedestrian and one involved a cyclist.

Three of the angle impacts involved northbound and westbound vehicles, three involved southbound and westbound vehicles, two involved northbound and eastbound vehicles, and one involved a southbound and eastbound vehicle. Six of the angle impacts caused property damage only, and three caused personal injuries but no fatalities. Four of the angle impacts occurred under poor environmental conditions.

Four of the rear-end impacts involved southbound vehicles, two involved northbound vehicles, and two involved eastbound vehicles. All of the rear-end impacts caused property damage only. Two of the rear-end impacts occurred under poor environmental conditions.

Four of the turning movement impacts involved southbound left turning vehicles, one involved a westbound left turning vehicle, one involved an eastbound left turning vehicle, one involved a northbound left turning vehicle, and one involved a northbound right turning vehicle and a cyclist. Five of the turning movement impacts caused property damage only, while the remaining three caused personal injuries but no fatalities. Three of the turning movement impacts occurred under poor environmental conditions.

Campeau Drive/Maritime Way/Knudson Drive
A total of six collisions occurred at this intersection over the last five years. Of the six collisions, two were rear-end impacts, one was an angle impact, one was a sideswipe impact, one was a turning movement impact, and one was a single motor vehicle impact. Five of the collisions caused property damage only, while one caused personal injuries but no fatalities. One of the collisions occurred under poor environmental conditions. None of the collisions involved a pedestrian and one involved a cyclist.

2.2 Planned Conditions

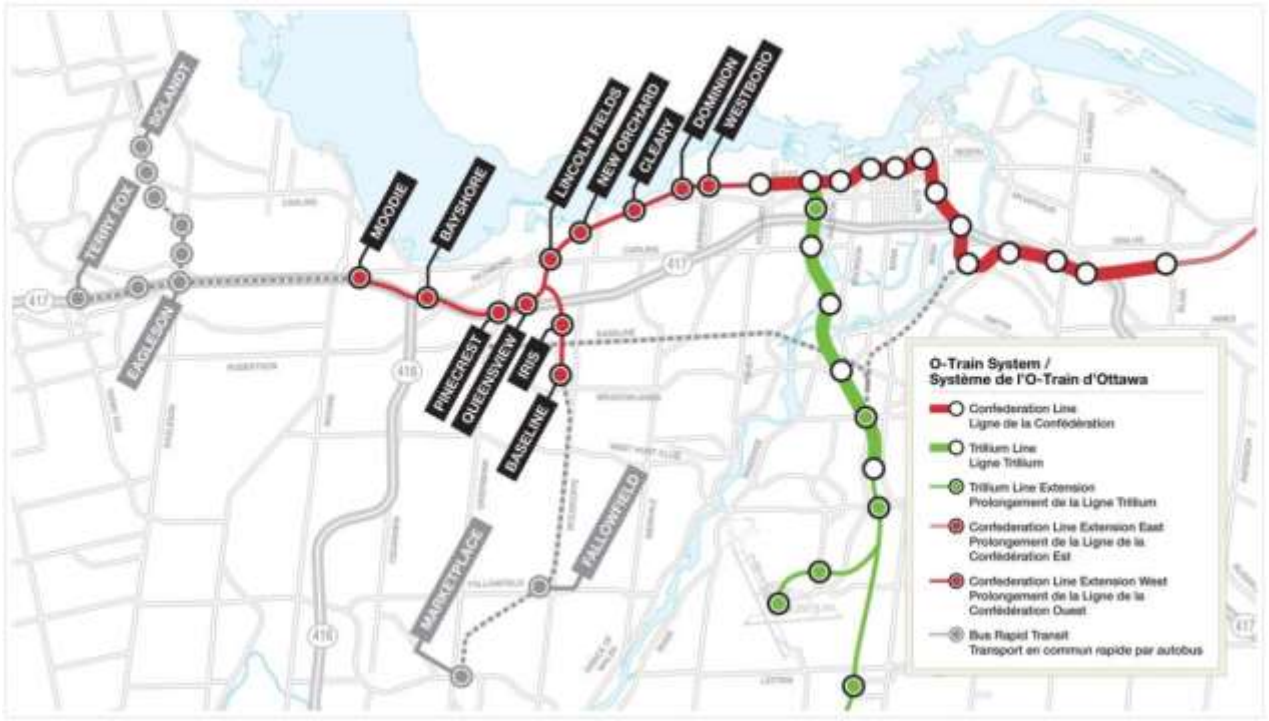
The City of Ottawa's Transportation Master Plan (TMP) 2031 Affordable Road Network identifies the widening of Kanata Avenue from two to four lanes between Highway 417 and Campeau Drive.

This widening will fulfill the urban design initiatives ongoing in the vicinity of the Kanata Town Centre. Based on the TMP, the widening of Kanata Avenue is anticipated between 2020 and 2025. However, based on discussions with City staff this widening will not be constructed until approximately 2031. The TMP's 2031 Network Concept also includes the widening of Campeau Drive from two to four lanes between Didsbury Road and March Road.

The TMP's Affordable Rapid Transit and Transit Priority Network identifies exclusive and at-grade Bus Rapid Transit (BRT) between the Terry Fox and Eagleson Transit Stations. The Rapid Transit Network Concept will include exclusive BRT between Fernbank Road and Eagleson Transit Stations.

Construction for Phase 2 of the Light Rail Transit (LRT) began in 2019. Phase 2 of LRT will extend the Confederation Line east and west and will extend the Trillium Line further south. The Confederation Line Extension West will travel from the Tunney's Pasture Transit Station to the Moodie and Baseline Transit Stations and is anticipated to be completed by 2025. The proposed western Confederation Line extension is shown in **Figure 6**.

Figure 6: LRT Phase 2 - Confederation Line Extension West



The TMP's Ultimate Transit Network Concept will extend light rail transit from the Moodie Transit Station to the Hazeldean Transit Station. This project will convert the Terry Fox Transit Station to LRT.

Other area development includes:

- The Timberwalk retirement home containing 154 units was recently constructed at 1250 Maritime Way, immediately west of the subject site. A Revised Transportation Brief was prepared by Novatech, dated May 2017, in support of this development.

- A six-storey apartment building containing 144 units and an eight-storey apartment building containing 154 units are proposed at 1088 and 1136 Maritime Way. A Transportation Brief was prepared by Novatech, dated March 2017 in support of this development. The apartment building at 1136 Maritime Way is currently under construction, while no timing has been identified for the 1088 Maritime Way building.

- A subdivision containing 1,544 residential dwelling units are proposed at 7000 Campeau Drive, which is currently occupied by the Kanata Golf & Country Club. A Transportation Impact Assessment was prepared by BA Group, dated June 2020 in support of this development. This development is anticipated to be constructed by 2024 but is subject to a legal challenge.

- A mixed-use development containing 798 residential units and 431m^2 of commercial is proposed at 6301 Campeau Drive. A Transportation Impact Assessment was prepared by Trans-Plan Transportation Engineering, dated November 2020 in support of this development. Phase 1 of this development is anticipated to be constructed by 2021 with the timing for Phase 2 to be determined.

- A retail/office development is proposed at 255 Kanata Avenue, within the Kanata Centrum lands. A Planning Rationale was prepared by Fotenn, dated June 2015, in support of this development. No transportation studies were submitted to the City in support of this development. The development appears to be have been put on hold indefinitely.

- A Mandarin Restaurant was recently constructed at 150 Katimavik Road. A Transportation Brief was prepared by Parsons, dated October 2016 in support of this development.

2.3 Study Area and Time Periods

A boundary street review will be conducted for Kanata Avenue and Maritime Way. The study area intersections include the proposed access and following intersections:

- Kanata Avenue/Earl Grey Drive
- Kanata Avenue/Maritime Way/Lord Byng Way
- Kanata Avenue/Highway 417 WB Off-ramp
- Kanata Avenue/Highway 417 EB On-ramp
- Kanata Avenue/Castlefrank Road/Aird Place
- Castlefrank Road/Katimavik Road
- Campeau Drive/Maritime Way/Knudson Drive

The selected time periods for the analysis are the weekday AM and PM peak hours, as they represent the 'worst case' combination of site generated traffic and adjacent street traffic. Analysis will be completed for the 2028 build-out year and the 5-year (2033) and 10-year (2038) horizon years per Ministry of Transportation Ontario (MTO) standards.

2.4 Exemptions Review

This module reviews possible exemptions from the final TIA, as outlined in the TIA Guidelines. The applicable exemptions for this site are shown in **Table 3**.

Table 2: TIA Exemptions

Module	Element	Exemption Criteria	Exemption Applies
Design Review Component			
4.1 Development Design	*4.1.2* Circulation and Access	• Only required for site plans	Not Exempt
	4.1.3 New Street Networks	• Only required for plans of subdivision	Exempt
4.2 Parking	*4.2.1* Parking Supply	• Only required for site plans	Not Exempt
	4.2.2 Spillover Parking	• Only required for site plans where parking supply is 15% below unconstrained demand	Exempt
Network Impact Component			
4.5 Transportation Demand Management	*All elements*	• Not required for non-residential site plans expected to have fewer than 60 employees and/or students on location at any given time	Not Exempt
4.6 Neighbourhood Traffic Management	*4.6.1* Adjacent Neighbourhoods	• Only required when the development relies on local or collector streets for access and total volumes exceed ATM capacity thresholds	Not Exempt
4.8 Network Concept	*All elements*	• Only required when proposed development generates more than 200 person-trips during the peak hour in excess of the equivalent volume permitted by the established zoning	Not Exempt

As the subject site is located within 600m of the Terry Fox Transit Station, the parking rates for Area X in the City's Zoning By-law apply to the development. Based on Area X, a minimum of 0.5 vehicle parking spaces per unit for residents and 0.1 parking spaces per unit for visitors (no more than 30 spaces per building) are required. This equates to a minimum requirement of 379 vehicle parking spaces. As the proposed 662 vehicle parking spaces exceed the required parking under the Zoning By-law, Module 4.2.2 is exempt from the analysis.

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

- Module 4.1: Development Design
- Module 4.2: Parking
- Module 4.3: Boundary Streets
- Module 4.4: Access Design
- Module 4.5: Transportation Demand Management
- Module 4.6: Neighbourhood Traffic Management
- Module 4.7: Transit
- Module 4.8: Network Concept
- Module 4.9: Intersection Design

3.0 FORECASTING

3.1 Development-Generated Traffic

3.1.1 Trip Generation

The proposed development consisting of two residential buildings, will provide a total of 689 dwelling units.

Trips generated by the proposed development during the weekday AM and PM peak hours have been estimated using the relevant recommended rates outlined in the 2009 TRANS *Trip Generation Manual*. The vehicle trip generation rates, taken from Table 6.3 of the TRANS report, correspond to High-Rise Apartments (10+ floors) in the Suburban Area (outside the greenbelt). The vehicle trip generation using the aforementioned rates have been converted to person trips using the assumed modal shares in the in Table 3.13 of the TRANS report. The directional split between inbound and outbound trips are based on the blended splits presented in Table 3.17 of the TRANS report.

Estimates of the person trips generated by the proposed development are summarized in **Table 3**.

Table 3: Person Trip Generation

Land Use	Units	AM Peak			PM Peak		
		In	Out	Total	In	Out	Total
High-Rise Apartments (10+ Floors)	632	100	316	416	321	197	518

The *2011 TRANS O-D Survey Report* indicates that the study area lies within the Kanata/Stittsville district. Additionally, the site is located within 600m of the Terry Fox Transit Station and is therefore considered a Transit-Oriented Development (TOD). In TOD zones, the transit share is assumed to increase significantly compared to any TRANS O-D district.

Using the *2011 TRANS O-D Survey Report*, the typical residential commuter pattern is represented by all observed trips from/within a district in the AM peak hour and all observed trips to/within a district in the PM peak hour. A comparison of the assumed modal shares for a TOD, and the modal shares for commuter trips in the Kanata/Stittsville District, is presented in **Table 4**.

Table 4: Modal Shares by District/Zone

Travel Mode	TOD Zone	Kanata/Stittsville
Auto Driver	15%	60%
Auto Passenger	5%	20%
Transit	65%	10%
Non-Auto	15%	10%

Given the sites proximity to Terry Fox Transit Station, the proposed development is anticipated to have a lower auto-modal share and a higher transit modal share compared to the Kanata/Stittsville District. However, as the subject site is located within a suburban context, the

City's TOD modal share targets may not be achievable. As such, the TOD modal share targets have been adjusted to reflect a higher auto-modal share associated with the Kanata/Stittsville District. The assumed modal shares for the proposed development are summarized as follows:

- 30% Auto Driver
- 5% Auto Passenger
- 55% Transit
- 10% Non-Auto

A full breakdown of the projected site-generated person trips by modal share is shown in **Table 5**.

Table 5: Person Trips by Modal Share

Travel Mode	Modal Share	AM Peak			PM Peak		
		In	Out	Total	In	Out	Total
Total Person Trips		*100*	*316*	*416*	*321*	*197*	*518*
Auto Driver	30%	30	95	125	96	59	155
Auto Passenger	5%	5	16	21	16	10	26
Transit	55%	55	173	228	177	108	285
Non-Auto	10%	10	32	42	32	20	52

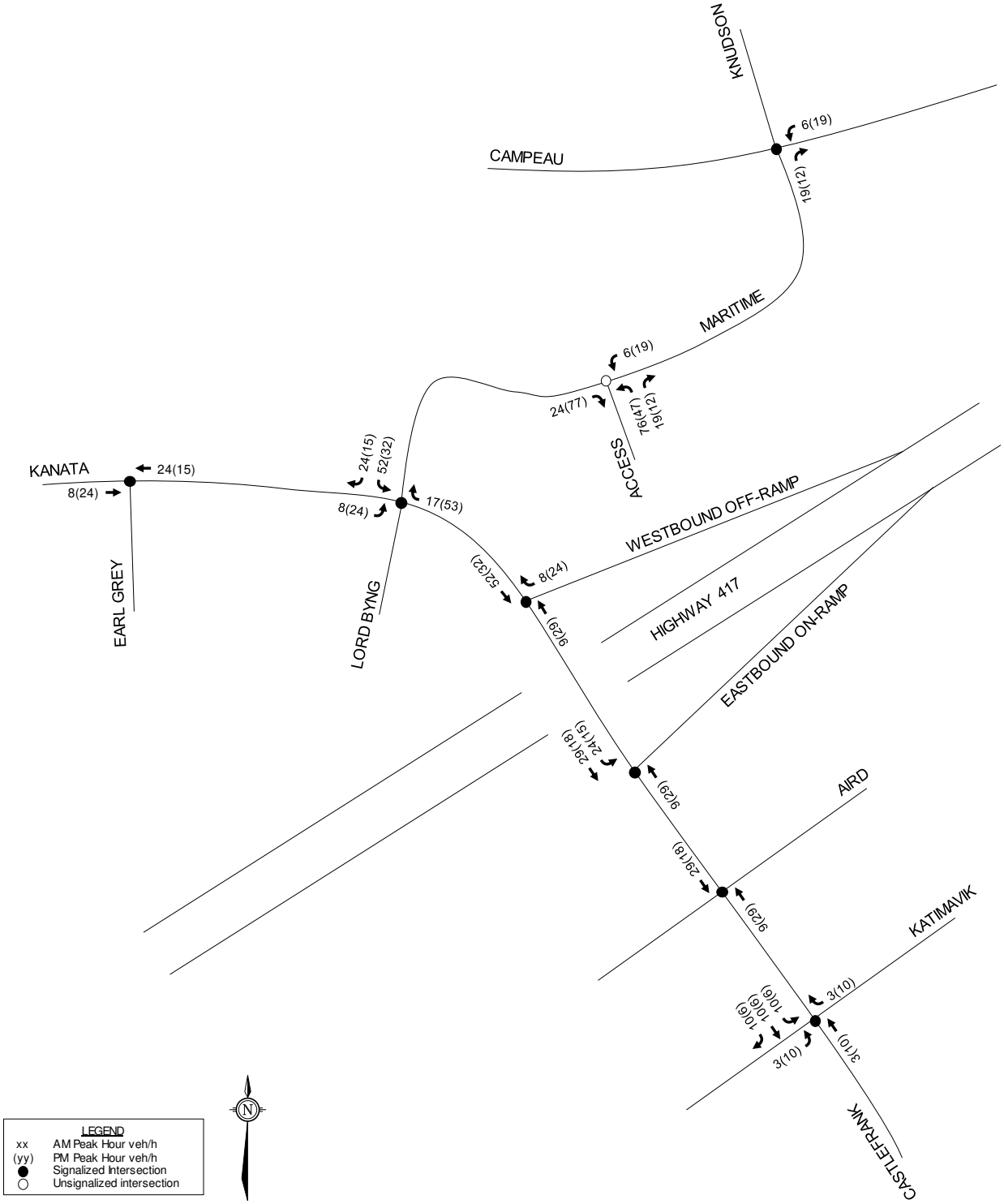
3.1.2 Trip Distribution

Site generated traffic was distributed based on the peak hour traffic patterns within the study area. The distribution can be described as follows:

- 25% to/from the west via Kanata Avenue
- 10% to/from the west via Katimavik Road
- 10% to/from the south via Castlefrank Road
- 10% to/from the east via Katimavik Road
- 25% to/from the east via Highway 417
- 20% to/from the east via Campeau Drive

Traffic generated by the proposed development during the weekday AM and PM peak hours is shown in **Figure 7**.

Figure 7: Site Generated Traffic



3.2 Background Traffic

3.2.1 General Background Growth Rate

A review of snapshots from the City's Long Range Transportation Model have been reviewed to determine an appropriate background growth rate in the area. Based on the 2011 and 2031 long-range model snapshots, Kanata Avenue and Maritime Way are anticipated to grow at a rate of 2% per annum, traffic on the Highway 417 on-ramp is anticipated to grow at a rate of 1% per annum, Katimavik Road and Campeau Drive are not anticipated to grow, and traffic on the Highway 417 off-ramp is anticipated to decrease.

A further review of historic traffic counts at the Kanata Avenue/Maritime Way/Lord Byng Way (2014 and 2018 counts), Campeau Drive/Maritime Way/Knudson Drive (2015 and 2020 counts), Highway 417 Westbound off-ramp (2015 and 2018 counts), and Highway 417 Eastbound on-ramp (2015 and 2017) has been conducted. Based on the annual average daily traffic (AADT), traffic at the Kanata Avenue/Maritime Way intersection has grown at a rate of 3% per annum, while traffic at the Campeau Drive/Maritime Way intersection has not grown significantly. Traffic on the Highway 417 westbound off-ramp has decreased at a rate of 12% per annum, while the on-ramp has increased at a rate of 18% per annum.

For the purposes of this analysis, a 2% per annum growth rate has been applied to traffic along Maritime Way and Kanata Avenue. Consistent with the 7000 Campeau Drive and 6301 Campeau Drive TIA's, a 2% per annum growth rate has also been conservatively applied to the Campeau Drive/Maritime Way/Knudson Drive intersection. Consistent with the City's long-range transportation model, no growth has been applied to Katimavik Road. This is consistent with the City's long-range transportation model.

As there was limited data within the last five years at the Highway 417 on/off-ramps, the historic growth should be treated with caution. However, consistent with the long-range model snapshots, traffic on the off-ramp has historically decreased while the on-ramp has increased. For the purposes of this analysis, no growth is assumed on the Highway 417 off-ramp, and a 2% per annum growth rate has been applied to the turning movements at the Highway 417 on-ramp.

3.2.2 Other Area Development

A description of other study area developments is included in Section 2.2.

Excerpts of site generated traffic figures from the respective traffic studies for the above developments are included in **Appendix F**.

Traffic generated by other area developments is shown in **Figure 8**. Background traffic volumes for the 2028 build-out and the 2033 and 2038 horizon years are shown in **Figures 9** to **11**. Total traffic volumes for the 2028 build-out and the 2033 and 2028 horizon years are shown in **Figures 12** to **14**.

Figure 8: Traffic Generated by Other Area Developments

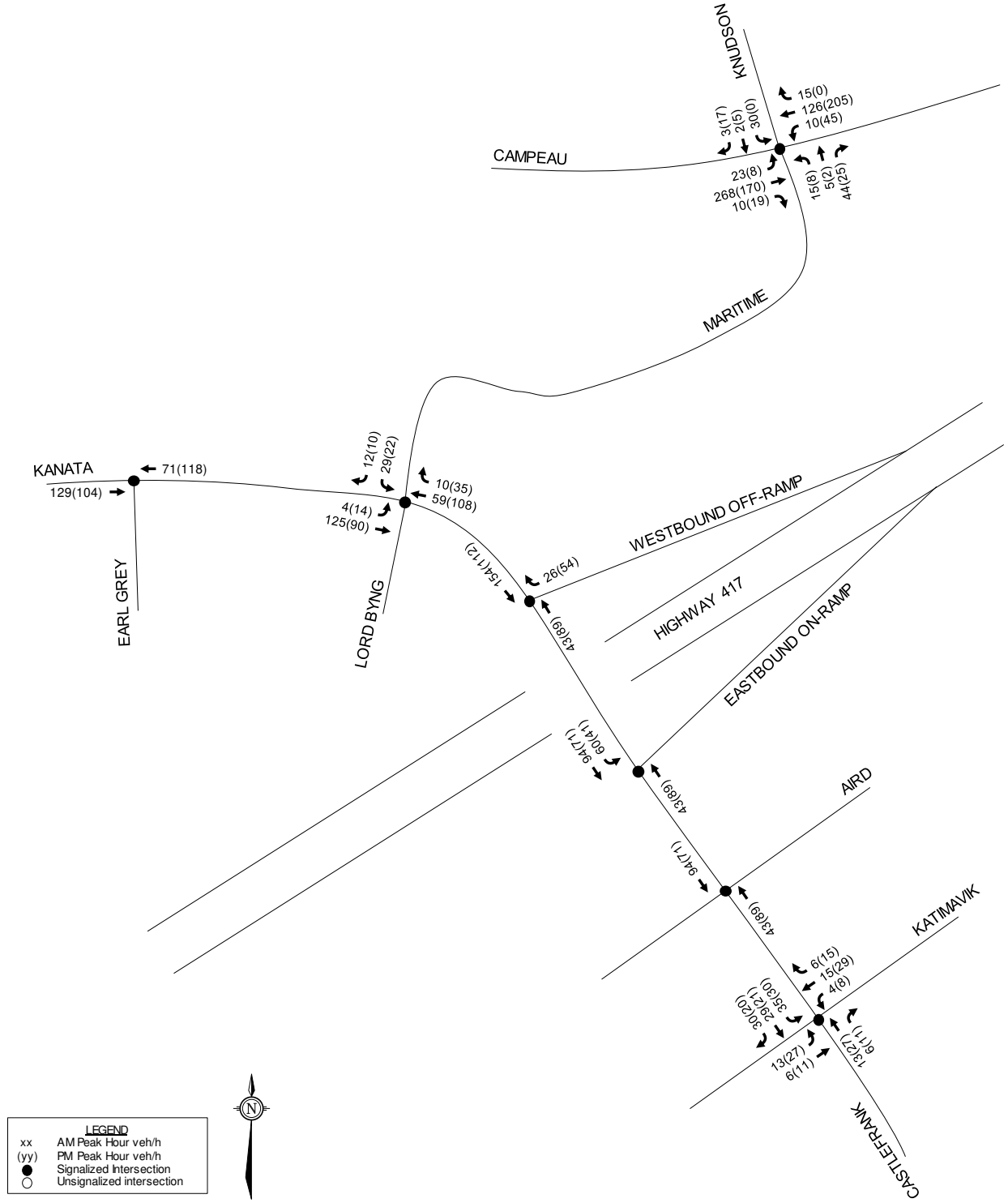


Figure 9: 2028 Background Traffic

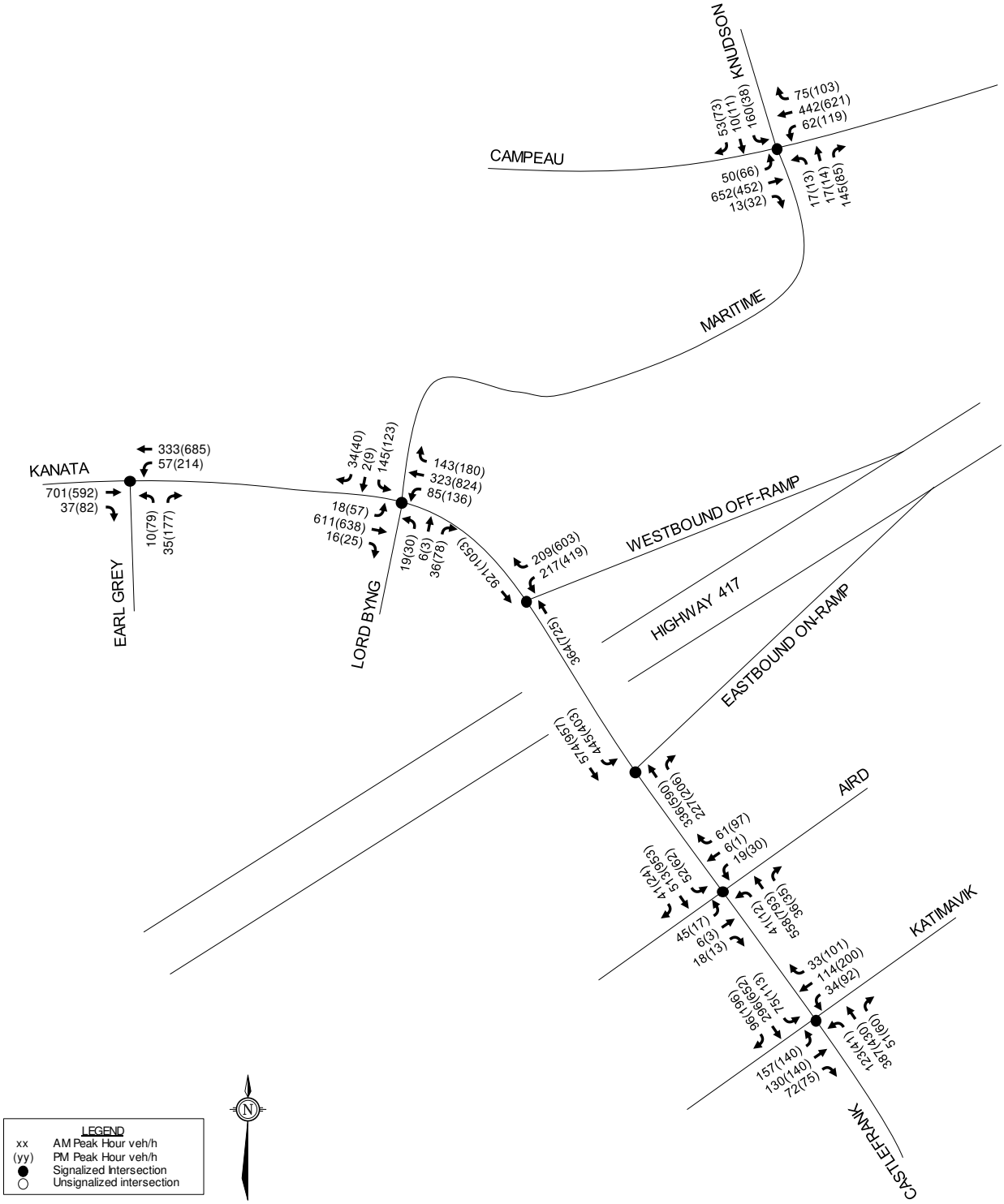


Figure 10: 2033 Background Traffic

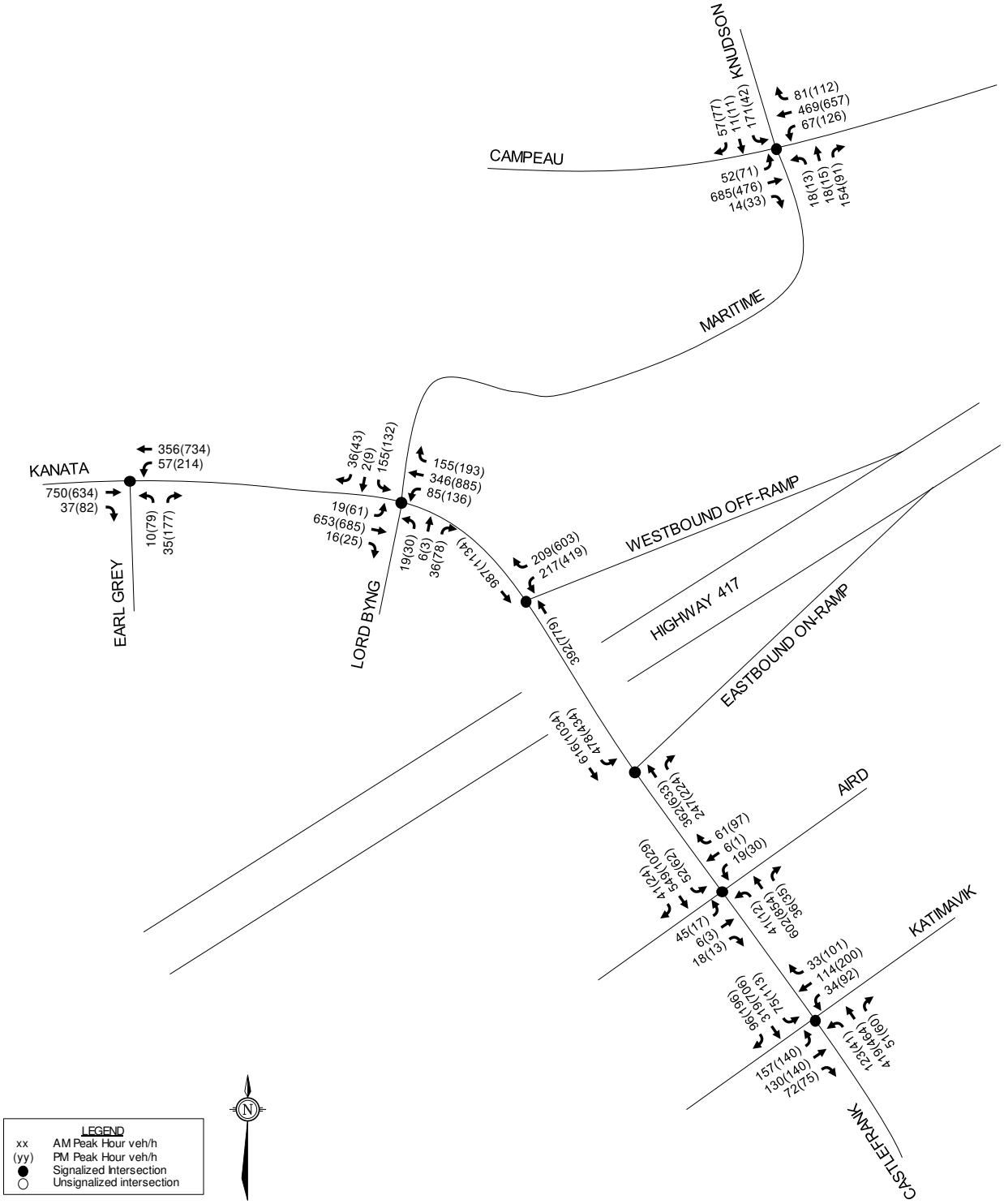


Figure 11: 2038 Background Traffic

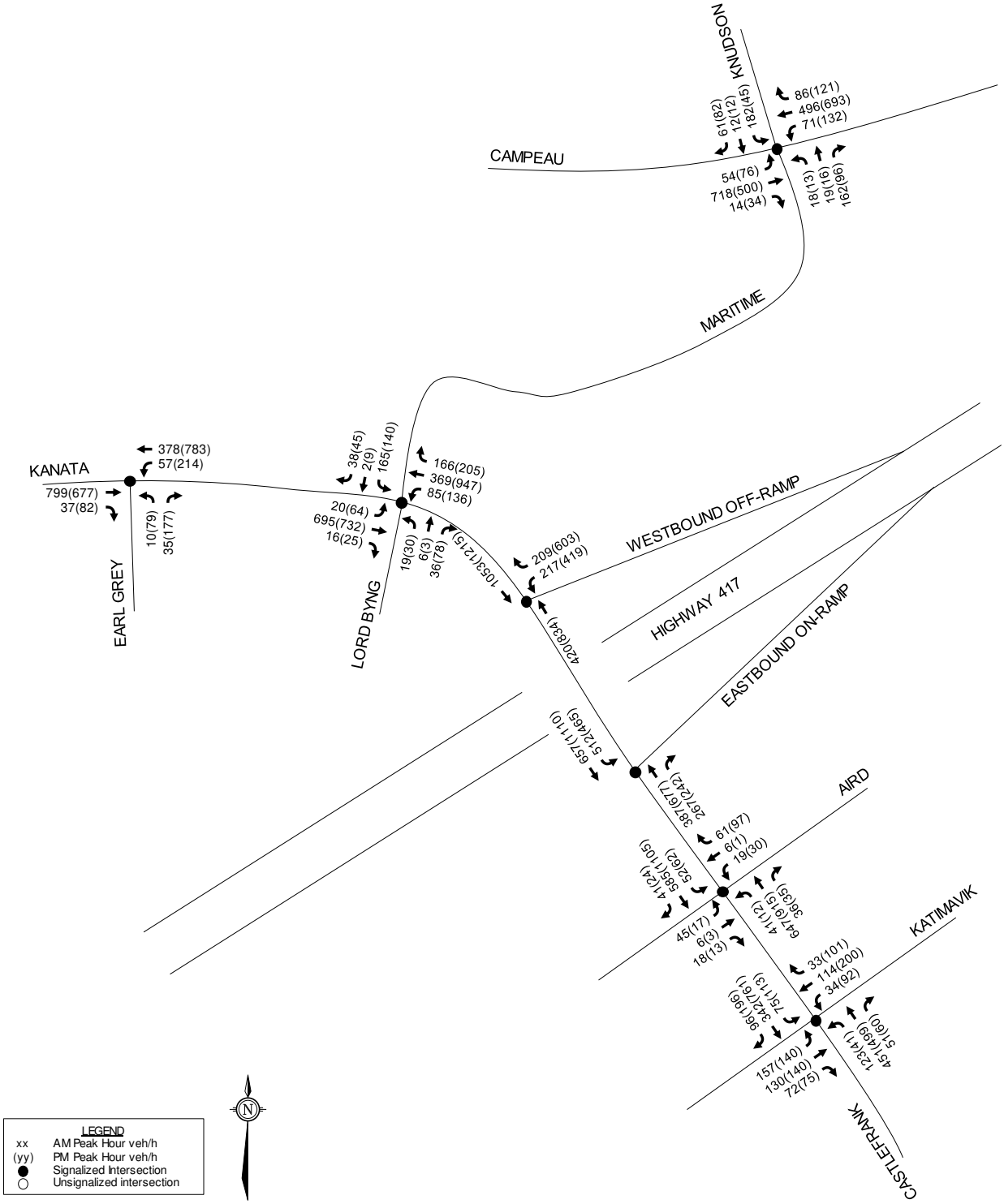


Figure 12: 2028 Total Traffic

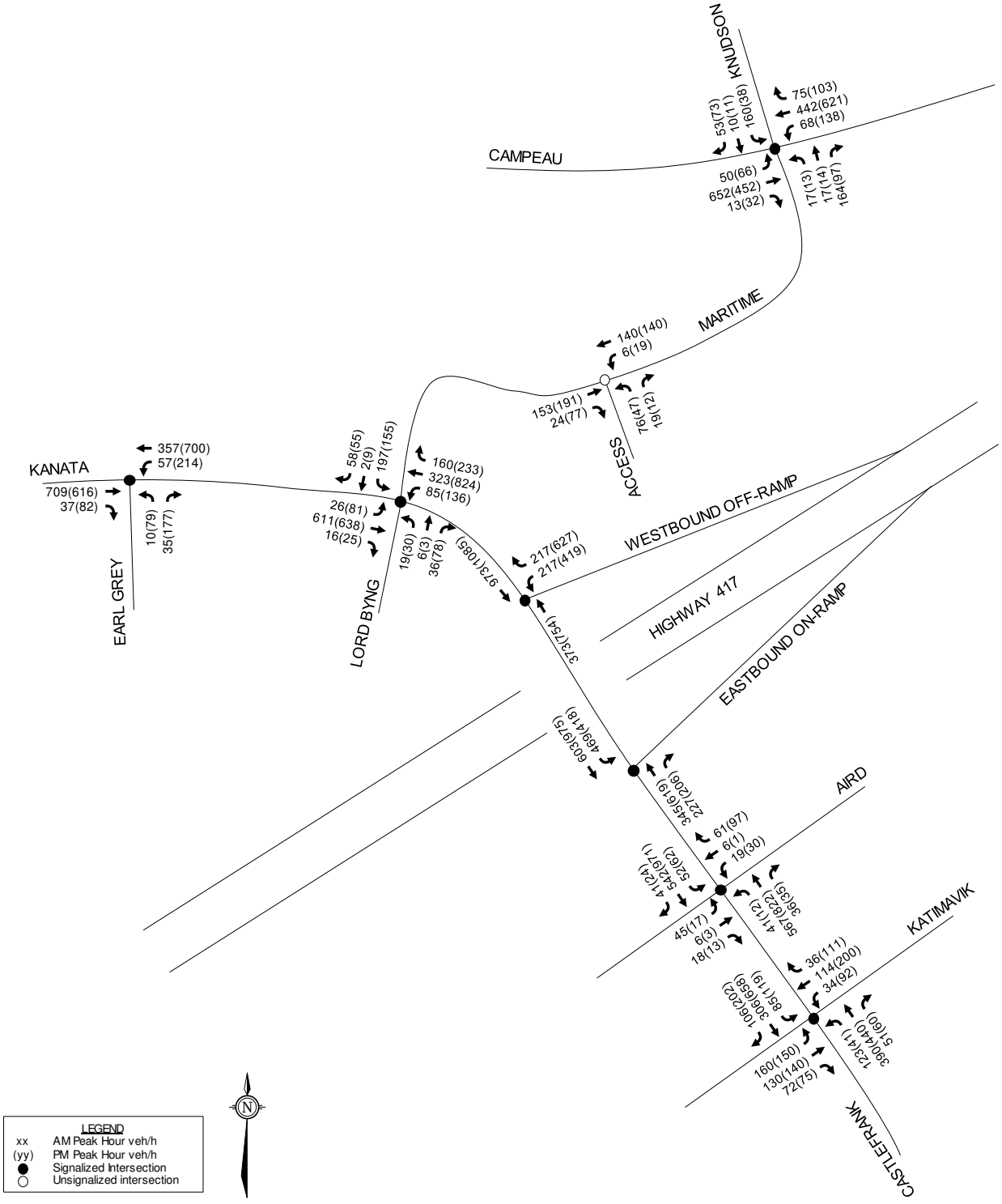


Figure 13: 2033 Total Traffic

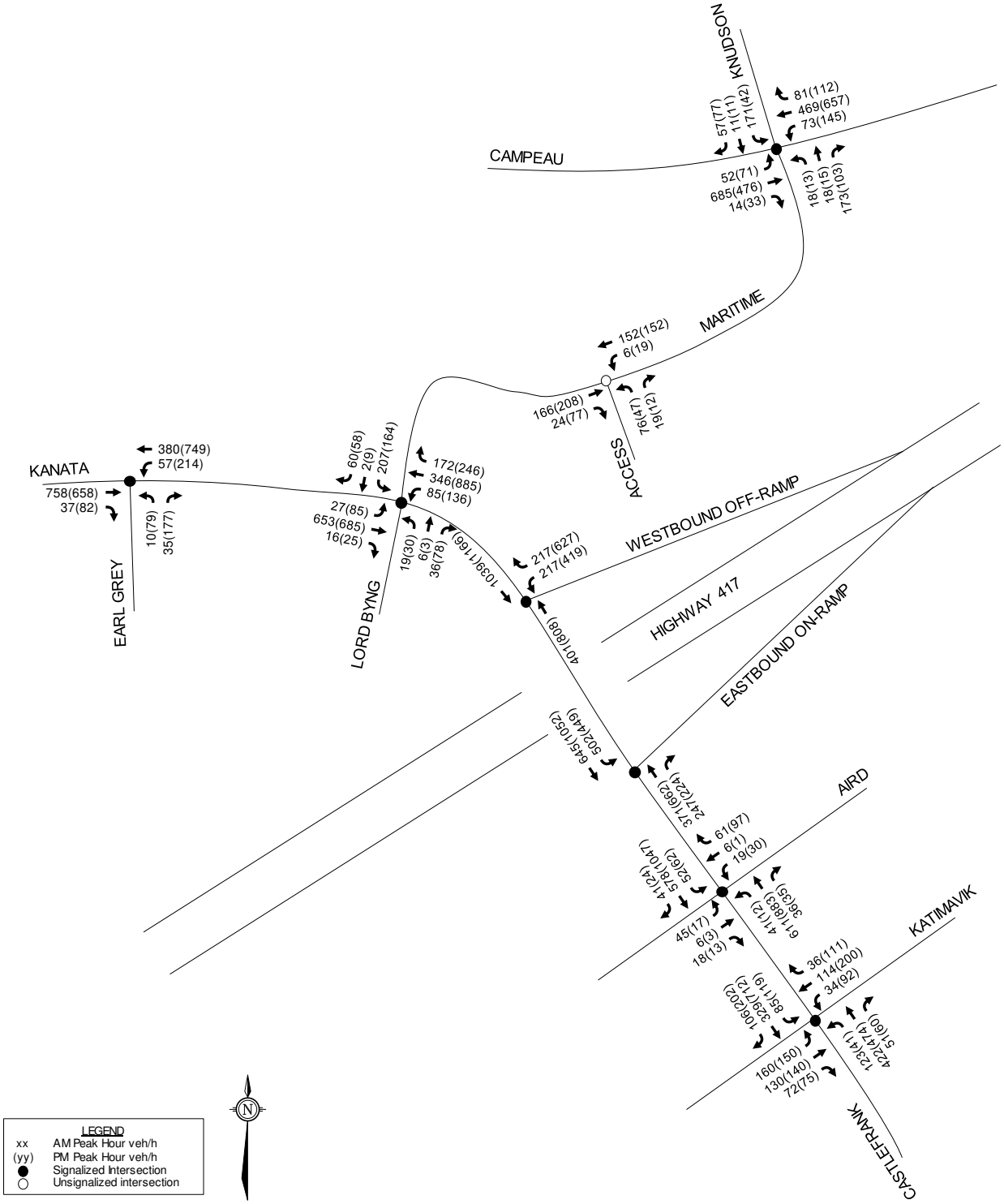
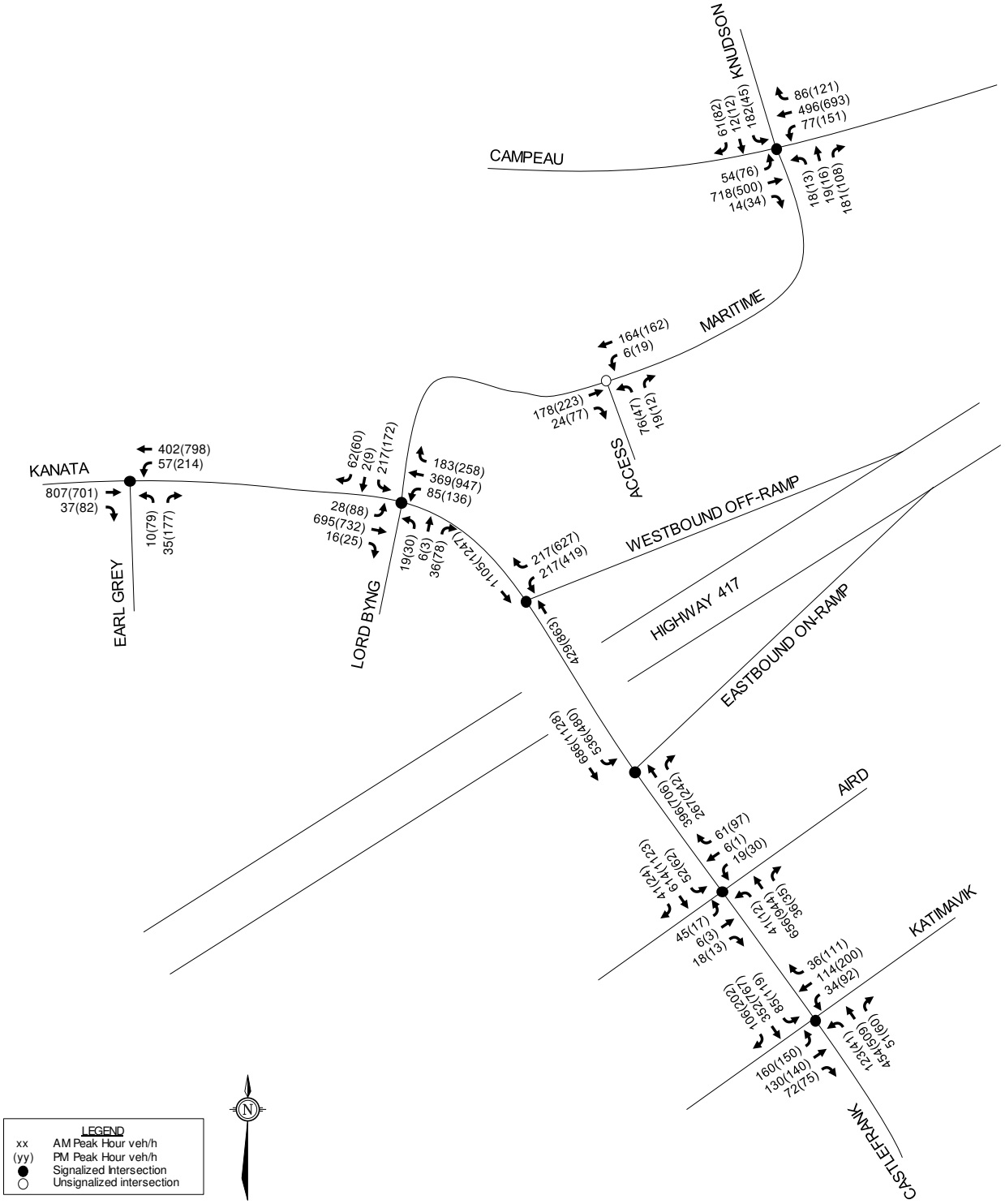


Figure 14: 2038 Total Traffic



3.3 Demand Rationalization

A review of the background intersection operations has been conducted to determine if and when the projected background traffic will exceed the capacity within the study area. For City intersections, the target Auto LOS corresponds to a vehicle-to-capacity (v/c) ratio of 1.0 or better (0.9 or better for the Campeau Drive/Knudson Drive/Maritime Way intersection). For the Highway 417 ramp terminals, MTO's target Auto LOS corresponds to a v/c ratio of 0.85 or better. The intersection parameters used in the analysis are consistent with the City of Ottawa's TIA guidelines (saturated flow rate: 1800 vphpl, PHF: 1.0).

3.3.1 2028 Background Traffic

Intersection capacity analysis has been completed for the 2028 background traffic conditions. The lane configurations at the study area intersections are based on the existing conditions presented in Section 2.1. The results of the analysis are summarized in the following table for the weekday AM and PM peak hours. Detailed reports are included in **Appendix G**.

Table 6: 2028 Background Intersection Operations

Intersection	AM Peak			PM Peak		
	V/C Ratio	LOS	Mvmt	V/C Ratio	LOS	Mvmt
Kanata Avenue/ Earl Grey Drive	0.53	A	EBT	0.58	A	EBT
Kanata Avenue/ Maritime Way/ Lord Byng Way[1]	0.67	B	WBL	0.83	D	NBT/R
Kanata Avenue/ Highway 417 WB Off Ramp	0.68	B	WBL	**0.90**	**D**	**WBR**
				0.86	**D**	**NB**
Kanata Avenue/ Highway 417 EB On Ramp	0.52	A	SBL	0.59	A	SBL
Kanata Avenue/ Aird Place	0.44	A	NBT/R	0.73	C	SBT/R
Kanata Avenue/ Castlefrank Road/ Katimavik Road	0.61	B	EBL	0.79	C	WBT/R
Campeau Drive/ Knudson Drive/ Maritime Way	0.68	B	SBL	0.61	B	WBT/R

1. Kanata Avenue is considered the north-south roadway

All intersections within the City's jurisdiction are anticipated to meet the target Auto LOS during the AM and PM peak hours.

The Kanata Avenue/Highway 417 Eastbound On-ramp is anticipated to meet the MTO target during the AM and PM peak hours. However, critical movements at the Kanata Avenue/Highway 417 Westbound Off-ramp are anticipated to exceed the MTO target during the PM peak hour. The 95th percentile northbound queue at the Highway 417 Westbound Off-ramp is anticipated to be 190m during the PM peak hour and extend through the Highway 417 Eastbound On-ramp intersection. The 95th percentile northbound queue at the Highway 417 Eastbound On-ramp is anticipated to be 110m during the PM peak hour and extend through the Kanata Avenue/Aird Place intersection.

An increased cycle length of 120 seconds and traffic signal optimization at the Highway 417 Westbound Off-ramp intersection is anticipated to reduce the critical v/c ratio to 0.86, slightly exceeding the MTO target during the PM peak hour. No further mitigation measures are identified for the 2028 background traffic condition.

3.3.2 2033 Background Traffic

Intersection capacity analysis has been completed for the 2033 background traffic conditions. The lane configurations at the Kanata Avenue/Earl Grey Drive and Kanata Avenue/Maritime Way/Lord Byng Way intersections are based on the functional design provided in the Kanata Avenue Environmental Assessment, included in **Appendix H**. The lane configurations at all other study area intersections are based on the existing conditions presented in Section 2.1. The results of the analysis are summarized in the following table for the weekday AM and PM peak hours. Detailed reports are included in **Appendix G**.

Table 7: Intersection Operations – 2033 Background Traffic

Intersection	AM Peak			PM Peak		
	V/C Ratio	LOS	Mvmt	V/C Ratio	LOS	Mvmt
Kanata Avenue/ Earl Grey Drive	0.30	A	EBT	0.55	A	NBR
Kanata Avenue/ Maritime Way/ Lord Byng Way[1]	0.55	A	WBL	0.63	B	SB
Kanata Avenue/ Highway 417 WB Off Ramp	0.68	B	WBL	**0.93**	**E**	**NB**
				0.91	**E**	**WBR**
Kanata Avenue/ Highway 417 EB On Ramp	0.57	A	SBL	0.65	B	SBL
Kanata Avenue/ Aird Place	0.48	A	NBT/R	0.78	C	SBT/R
Kanata Avenue/ Castlefrank Road/ Katimavik Road	0.61	B	EBL	0.79	C	WBT/R
Campeau Drive/ Knudson Drive/ Maritime Way	0.72	C	SBL	0.65	B	WBT/R

1. Kanata Avenue is considered the north-south roadway

Consistent with the 2028 background traffic condition, all intersections within the City's jurisdiction are anticipated to meet the target Auto LOS during the AM and PM peak hours.

The Kanata Avenue/Highway 417 Eastbound On-ramp is anticipated to meet the MTO target during the AM and PM peak hours. However, critical movements at the Kanata Avenue/Highway 417 Westbound Off-ramp are anticipated to exceed the MTO target during the PM peak hour.

An increased cycle length and traffic signal optimization at the Highway 417 Westbound Off-ramp intersection is not anticipated to yield MTO's target v/c ratio of 0.85 during the PM peak hour. To achieve the MTO target, either two northbound through lanes or dual westbound right turn lanes are required. This is identified for the City of Ottawa's and MTO consideration.

Operations at the Kanata Avenue/Highway 417 Westbound Off-ramp with two northbound through lanes, or dual westbound right turn lanes are summarized in the following table.

Table 8: 2033 Background Intersection Operations – Mitigations

Intersection	AM Peak			PM Peak		
	V/C Ratio	LOS	Mvmt	V/C Ratio	LOS	Mvmt
Kanata Avenue/ Highway 417 WB Off Ramp[1]	0.68	B	WBL	0.83	D	WBR
Kanata Avenue/ Highway 417 WB Off Ramp[2]	0.64	B	WBL	0.80	D	WBL

1. Two northbound through lanes
2. Dual westbound right turn lanes

3.3.3 2038 Background Traffic

Intersection capacity analysis has been completed for the 2038 background traffic conditions. The results of the analysis are summarized in the following table for the weekday AM and PM peak hours. Detailed reports are included in **Appendix G**.

Table 9: Intersection Operations – 2038 Background Traffic

Intersection	AM Peak			PM Peak		
	V/C Ratio	LOS	Mvmt	V/C Ratio	LOS	Mvmt
Kanata Avenue/ Earl Grey Drive	0.32	A	EBT	0.58	A	WBT/L
Kanata Avenue/ Maritime Way/ Lord Byng Way[1]	0.58	A	WBL	0.69	B	SB
Kanata Avenue/ Highway 417 WB Off Ramp	0.68	B	WBL	**1.01**	**F**	**NB**
				0.91	**E**	**WBR**
Kanata Avenue/ Highway 417 EB On Ramp	0.61	B	SBL	0.74	C	NBT
Kanata Avenue/ Aird Place	0.51	A	NBT/R	0.84	D	SBT/R
Kanata Avenue/ Castlefrank Road/ Katimavik Road	0.61	B	EBL	0.88	D	NBT/R
Campeau Drive/ Knudson Drive/ Maritime Way	0.74	C	SBL	0.69	B	WBT/R

1. Kanata Avenue is considered the north-south roadway

Consistent with the 2028 and 2033 background traffic condition, all intersections within the City's jurisdiction are anticipated to meet the target Auto LOS during the AM and PM peak hours.

The Kanata Avenue/Highway 417 Eastbound On-ramp is anticipated to meet the MTO target during the AM and PM peak hours. However, critical movements at the Kanata Avenue/Highway 417 Westbound Off-ramp are anticipated to exceed the MTO target during the PM peak hour.

An increased cycle length and traffic signal optimization at the Highway 417 Westbound Off-ramp intersection is not anticipated to yield MTO's target v/c ratio of 0.85 during the PM peak hour. To achieve the MTO target, either two northbound through lanes or dual westbound right turn lanes are required. This is identified for the City of Ottawa's and MTO consideration.

Operations at the Kanata Avenue/Highway 417 Westbound Off-ramp with two northbound through lanes, or dual westbound right turn lanes are summarized in the following table.

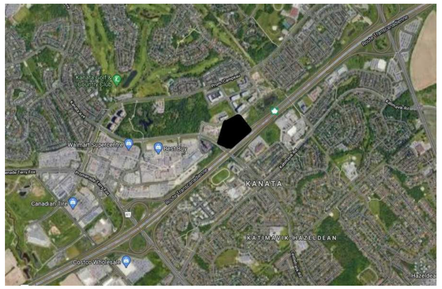
Table 10: 2038 Background Intersection Operations – Mitigations

Intersection	AM Peak			PM Peak		
	V/C Ratio	LOS	Mvmt	V/C Ratio	LOS	Mvmt
Kanata Avenue/ Highway 417 WB Off Ramp[1]	0.68	B	WBL	0.85	D	WBR
Kanata Avenue/ Highway 417 WB Off Ramp[2]	0.64	B	WBL	0.83	D	NBT

1. Two northbound through lanes
2. Dual westbound right turn lanes

APPENDIX A

Site Plan



KEY PLAN

ZONE AM10

PROVISION	REQUIRED	PROVIDED
Min Lot Width	no minimum	+/- 69.65 m
Min Lot Area	no minimum	+/- 12 808 m²
Max Building Height	67m	+/- 93.5 m
Min Front Yard Setback	no minimum	3.05 m / 3.09 m
Min Corner Side Yard Setback	no minimum	16.74 m
Min FSI	2	+/- 4.88
Min Interior Side Yard Setback	no minimum	14.70 m / 15.13 m

SITE AREA :		**+/- 12 808 sq.m. (To be confirmed by surveyor)**
SITE COVERAGE :		+/- 2 207 m² (East Tower)
		+/- 1 968 m² (West Tower)
	Total =	+/- 4 175 m² = **32.6 %**
GROUND PARKING AREA :		+/- 2 298 m² = **17.9%**
LANDSCAPED AREA (EXCLUDING PARKING) :		+/- 6 335 m² = **49.5 %**

RENTAL - EAST TOWER

PROPOSED GROSS FLOOR AREA :	**+/- 21 964 m²**
BASEMENT G.F.A. :	**+/- 0m²**
GROUND FLOOR G.F.A. :	**+/- 635 m²**
RENTAL FLOORS G.F.A. (2nd to 30th floor) :	**+/- 21 329 m²**
PRIVATE AMENITY AREA (G.F.A.) :	**+/- 1 953 m²**
COMMUNAL AMENITY AREA :	**+ /- 925 m²**
NUMBER OF FLOORS AND BUILDING HEIGHT :	**28 FLOORS + MECH.** / **+/- 87.50m**
DWELLING UNITS :	**300**
PARKING STALLS :	**315** (300 INSIDE / 15 VISITORS OUTSIDE)
PROVIDED BICYCLE STALLS :	**150** (142 INSIDE / 8 OUTSIDE)

NUMBER OF SUITES REQUIRED TO BE BARRIER-FREE :
300 UNITS = **45 UNITS** HAVE TO BE BARRIER-FREE
THEY WILL BE DISTRIBUTED BETWEEN THE 28 FLOORS

RENTAL - WEST TOWER

PROPOSED GROSS FLOOR AREA :	**+/- 30 179 m²**
BASEMENT G.F.A. :	**+/- 0m²**
GROUND FLOOR G.F.A. :	**+/- 375 m²**
RENTAL FLOORS G.F.A. (2nd to 30th floor) :	**+/- 29 804 m²**
PRIVATE AMENITY AREA (G.F.A.) :	**+/- 2 247 m²**
COMMUNAL AMENITY AREA :	**+ /- 1 045 m²**
NUMBER OF FLOORS AND BUILDING HEIGHT :	**30 FLOORS + MECH.** / **+/- 93.50m**
DWELLING UNITS :	**332**
PARKING STALLS :	**347** (332 INSIDE / 15 VISITORS OUTSIDE)
PROVIDED BICYCLE STALLS :	**166** (159 INSIDE / 7 OUTSIDE)

NUMBER OF SUITES REQUIRED TO BE BARRIER-FREE :
332 UNITS = **50 UNITS** HAVE TO BE BARRIER-FREE
THEY WILL BE DISTRIBUTED BETWEEN THE 30 FLOORS

- FOR EXISTING SITE CONDITIONS, SEE SURVEY PLAN BY ANNIS, O'SULLIVAN, VOLLEBEKK LTD., SUBMITTED SEPARATELY;
- FOR NEW GRADES AND SITE SERVICES, SEE CIVIL ENGINEERING PLAN BY NOVATECH ENGINEERING CONSULTANTS, SUBMITTED SEPARATELY;
- FOR PROPOSED VEGETATION AND LANDSCAPE INFORMATION, SEE LANDSCAPE PLAN BY JAMES B. LENNOX & ASSOCIATES, SUBMITTED SEPARATELY.

NOTES GÉNÉRALES General Notes

1. Ces documents d'architecture sont la propriété exclusive de NEUF architect(e)s et ne pourront être utilisés, reproduits ou copiés sans autorisation écrite préalable. / These architectural documents are the exclusive property of NEUF architect(e)s and cannot be used, copied or reproduced without written pre-authorisation
2. Les dimensions apparaissant aux documents devront être vérifiées par l'entrepreneur avant le début des travaux. / All dimensions which appear on the documents must be verify by the contractor before to start the work.
3. Veuillez aviser l'architecte de toute dimension erreur et/ou divergences entre ces documents et ceux des autres professionnels. / The architect must be notified of all errors, omissions and discrepancies between these documents and those of the others professionnals.
4. Les dimensions sur ces documents doivent être lues et non mesurées. / The dimensions on these documents must be read and not measured.

STRUCTURE Structural
Goodeve Structural Inc.
18-77, Auriga Drive, Ottawa ON K2E 7Z7
T 613 226 4558 goodevestructural.ca

ARCHITECTURE DE PAYSAGE Landscape Architect
James B. Lennox & Associates
3332, Carling Avenue, Ottawa ON K2H 5A8
T 613 722 5168 jbla.ca

CIVIL Civil
Novatech Eng. Consultants Ltd.
240, Michael Cowpland Drive, Suite 200, Ottawa ON K2M 1P6
T 613 234 9643 novatech-eng.com

ARCHITECTES Architect
NEUF architect(e)s SENCRL
630, boul. René-Lévesque O. 32e étages, Montréal QC H3B 1S6
T 514 847 1117 NEUFarchitectes.com

SCEAU / Seal

NEUF ARCHITECT(E)S
NEUF ARCHITECTES SENCRL

CLIENT Client

CLARIDGE HOMES

OUVRAGE Project

1200 MARITIME WAY (KANATA RENTAL)

EMPLACEMENT Location
OTTAWA

NO PROJET No.
12371.00

NO	RÉVISION	DATE (aa-mm-jj)
A	FOR COMMENTS	2020.05.28
B	FOR COMMENTS	2020.06.05
C	FOR COMMENTS	2020.07.23
D	IN PROGRESS	2020.09.16
E	SITE PLAN COORDINATION	2020.12.08
F	SITE PLAN COORDINATION	2020.12.16

DESSINÉ PAR Drawn by
PV

VÉRIFIÉ PAR Checked
LH

DATE (aa.mm.jj)
05/28/20

ÉCHELLE Scale
1 : 300

TITRE DU DESSIN Drawing Title

SITE PLAN AT GROUND FLOOR LEVEL

RÉVISION Revision
F

NO. DESSIN Dwg Number
A203

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APPENDIX B

TIA Screening Form

City of Ottawa 2017 TIA Guidelines Screening Form

1. Description of Proposed Development

Municipal Address	**1200 Maritime Way**
Description of Location	**South side of Maritime Way, West of Great Lakes Ave**
Land Use Classification	**Residential**
Development Size (units)	**689 Residential Units**
Development Size (m^2)	
Number of Accesses and Locations	**One on Maritime Way**
Phase of Development	
Buildout Year	

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

2. Trip Generation Trigger

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

Land Use Type	Minimum Development Size
Single-family homes	40 units
Townhomes or apartments	90 units
Office	3,500 m^2
Industrial	5,000 m^2
Fast-food restaurant or coffee shop	100 m^2
Destination retail	1,000 m^2
Gas station or convenience market	75 m^2

** If the development has a land use type other than what is presented in the table above, estimates of person-trip generation may be made based on average trip generation characteristics represented in the current edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual.*

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

3. Location Triggers

	Yes	No
Does the development propose a new driveway to a boundary street that is designated as part of the City's Transit Priority, Rapid Transit or Spine Bicycle Networks?		X
Is the development in a Design Priority Area (DPA) or Transit-oriented Development (TOD) zone?*	✓	

**DPA and TOD are identified in the City of Ottawa Official Plan (DPA in Section 2.5.1 and Schedules A and B; TOD in Annex 6). See Chapter 4 for a list of City of Ottawa Planning and Engineering documents that support the completion of TIA).*

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

4. Safety Triggers

	Yes	No
Are posted speed limits on a boundary street are 80 km/hr or greater?		X
Are there any horizontal/vertical curvatures on a boundary street limits sight lines at a proposed driveway?		X
Is the proposed driveway 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)?		X
Is the proposed driveway within auxiliary lanes of an intersection?		X
Does the proposed driveway make use of an existing median break that serves an existing site?		X
Is there is a documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development?		X
Does the development include a drive-thru facility?		X

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

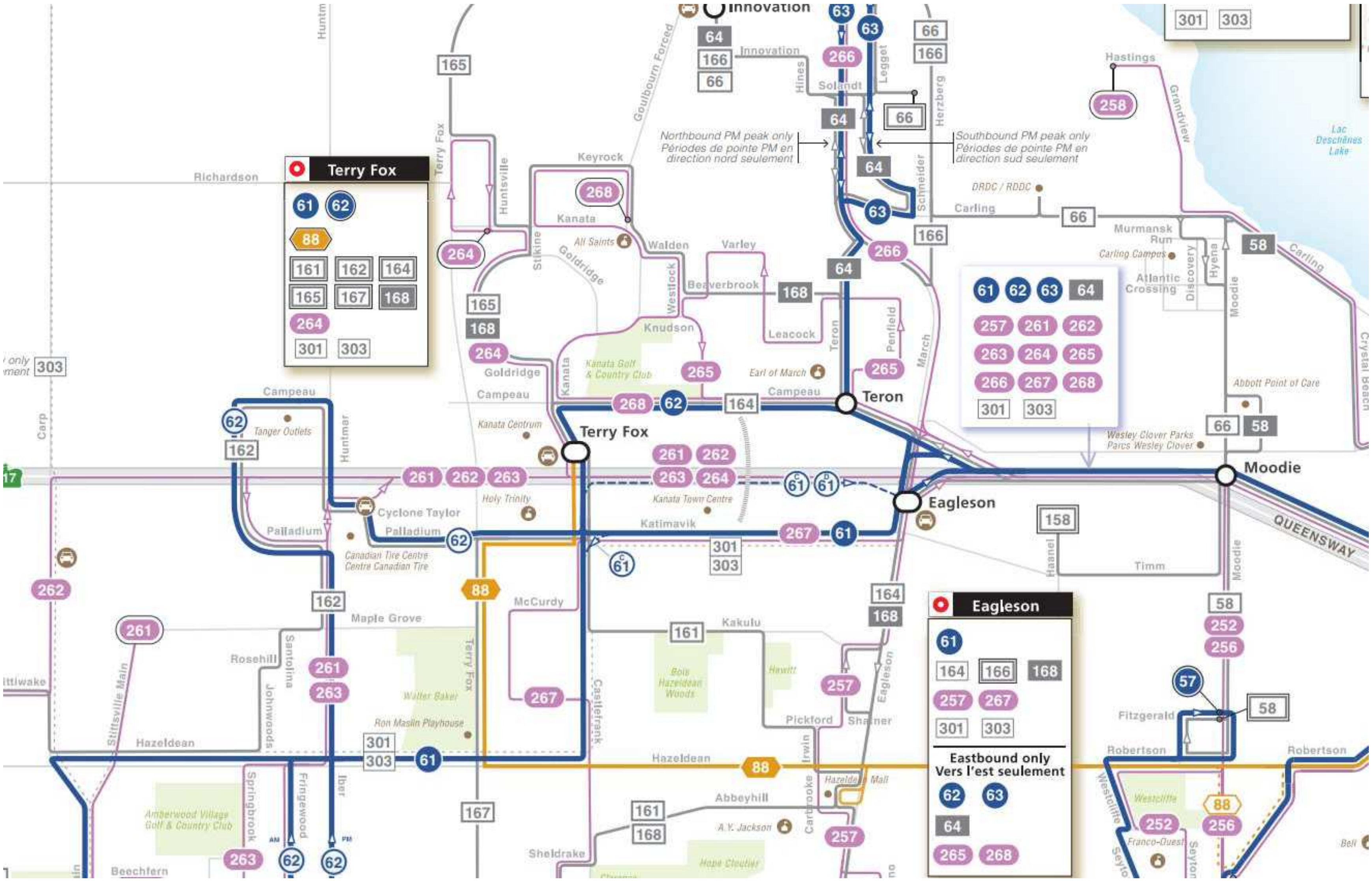
5. Summary

	Yes	No
Does the development satisfy the Trip Generation Trigger?	✓	
Does the development satisfy the Location Trigger?	✓	
Does the development satisfy the Safety Trigger?		X

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

APPENDIX C

OC Transpo System Information

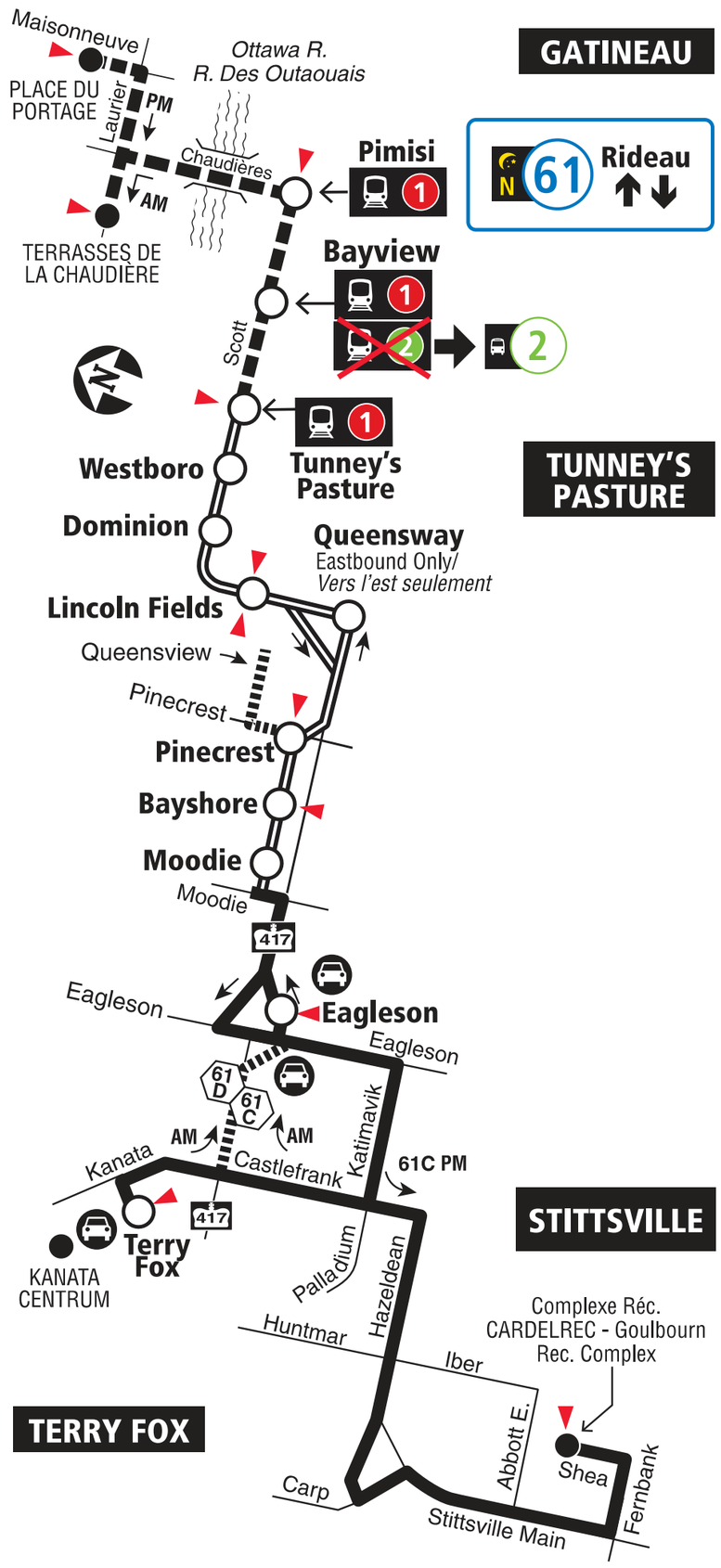

Innovation
Terry Fox
Teron
Moodie
Eagleson
Northbound PM peak only
Périodes de pointe PM en direction nord seulement
Southbound PM peak only
Périodes de pointe PM en direction sud seulement
Eastbound only
Vers l'est seulement
QUEENSWAY
Richardson
Campeau
Palladium
Cyclone Taylor
Maple Grove
Hazeldean
Katimavik
Kakulu
Pickford
Abbeyhill
Sheldrake
Beechfern
Carling
Hastings
Robertson
Fitzgerald
Timm
Keyrock
Kanata
Walden
Varley
Beaverbrook
Knudson
Leacock
Goldridge
McCurdy
Tanger Outlets
Kanata Centrum
Holy Trinity
Kanata Town Centre
Canadian Tire Centre
Centre Canadian Tire
Walter Baker
Ron Maslin Playhouse
Earl of March
All Saints
DRDC / RDDC
Carling Campus
Abbott Point of Care
Wesley Clover Parks
Parcs Wesley Clover
Hazeldean Mall
A.Y. Jackson
Kanata Golf & Country Club
Amberwood Village Golf & Country Club
Bois Hazeldean Woods
Lac Deschênes Lake

61 Rapide

TERRY FOX STITTSVILLE
TUNNEY'S PASTURE GATINEAU

7 days a week / 7 jours par semaine

All day service and limited overnight
Service toute la journée et limité la nuit



Transitway & Station
Peak trips / Trajets de pointe
Selected time periods / Périodes sélectionnées
Park & Ride / Parc-o-bus
Timepoint / Heures de passage

When O-Train Line 1 is not running overnight, Route 61 will be extended downtown to Rideau Station. / Lorsque la ligne 1 de l'O-Train ne circule pas la nuit, le circuit 61 sera prolongée au centre-ville jusqu'à la station Rideau.

2020.05

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 May 3, 2020
En vigueur 3 mai 2020

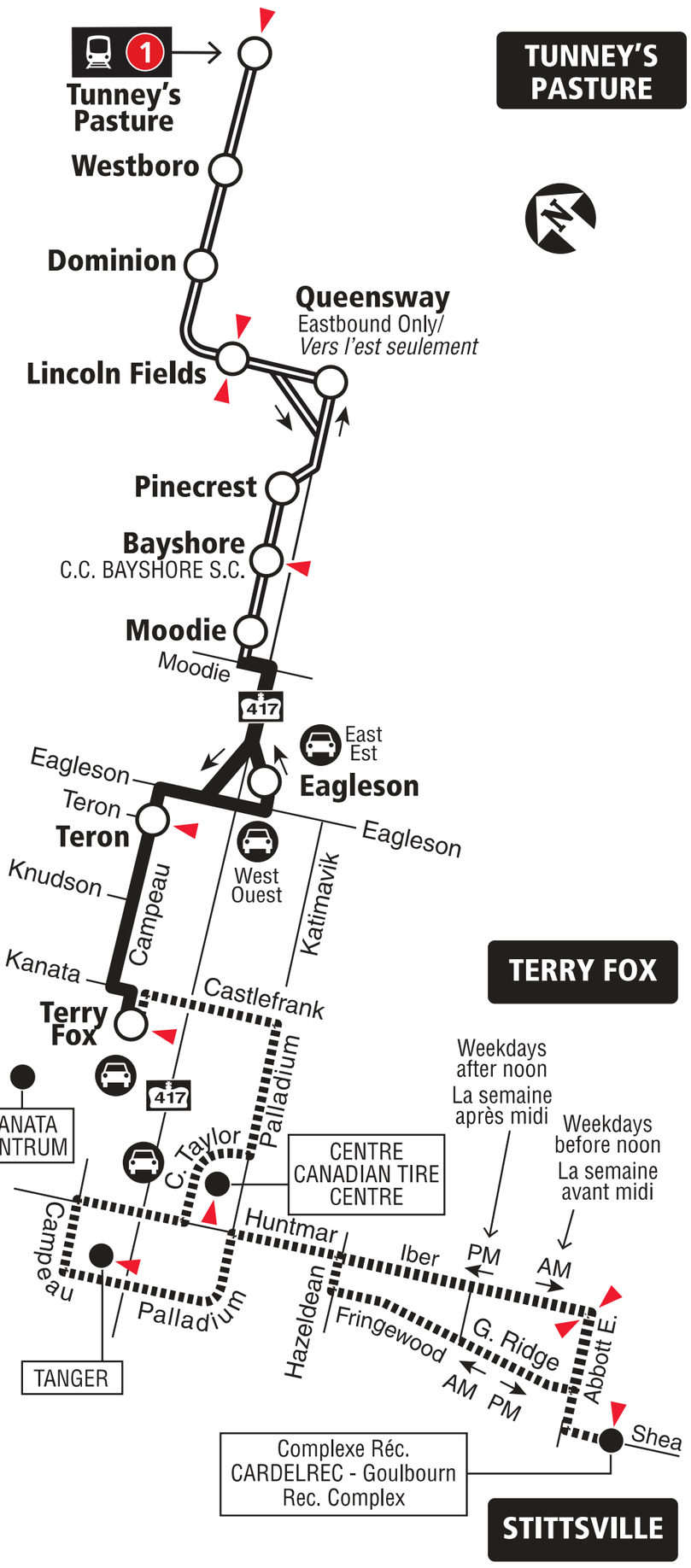
OC Transpo
INFO 613-741-4390
octranspo.com

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

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

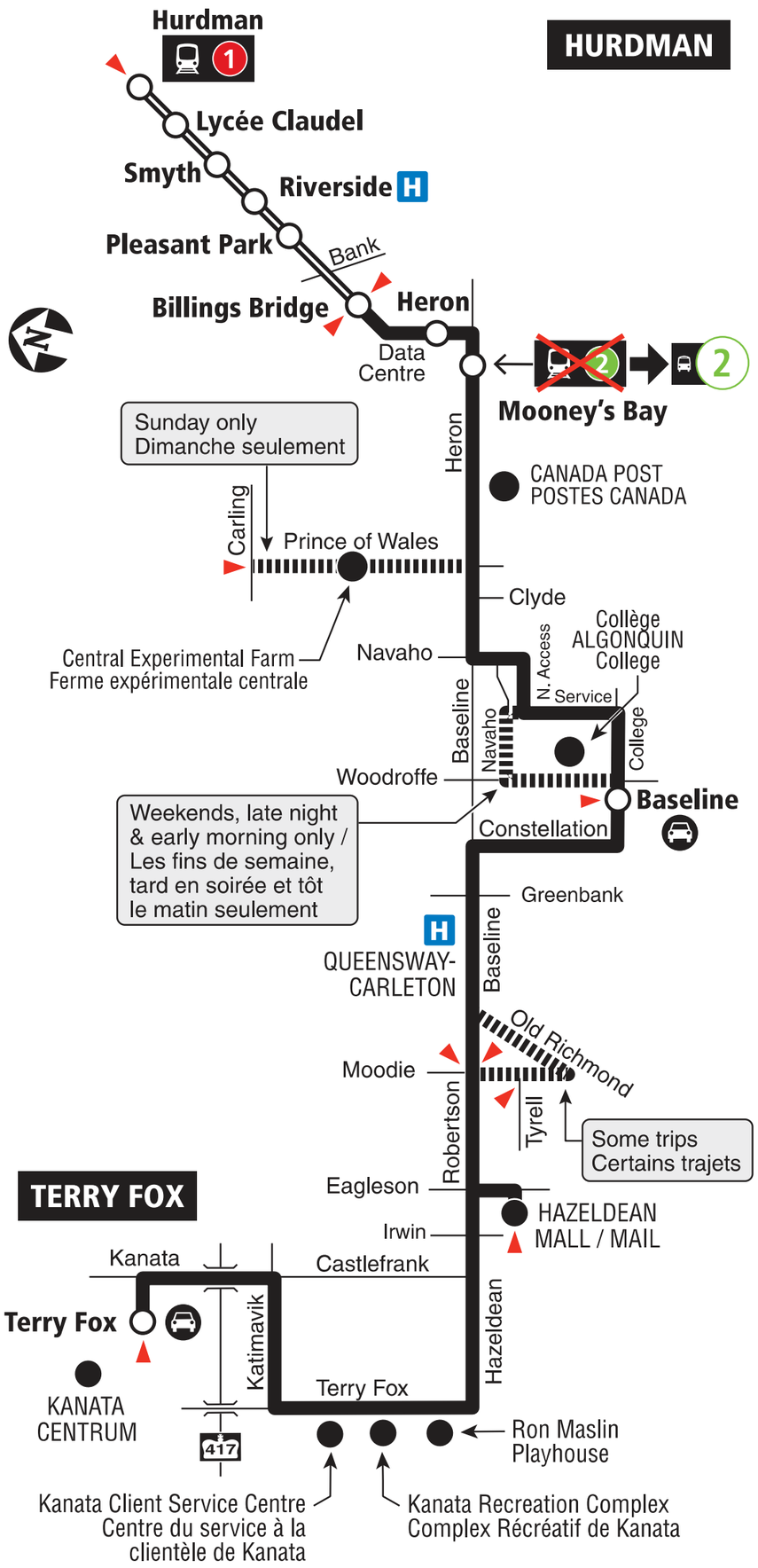
88

HURDMAN
TERRY FOX

Fréquent

7 days a week / 7 jours par semaine

All day service
Service toute la journée



Transitway & Station

Limited service / Service limité

Park & Ride / Parc-o-Bus

Timepoint / Heures de passage

2020.05

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 May 3, 2020
En vigueur 3 mai 2020

OC Transpo

INFO 613-741-4390
octranspo.com

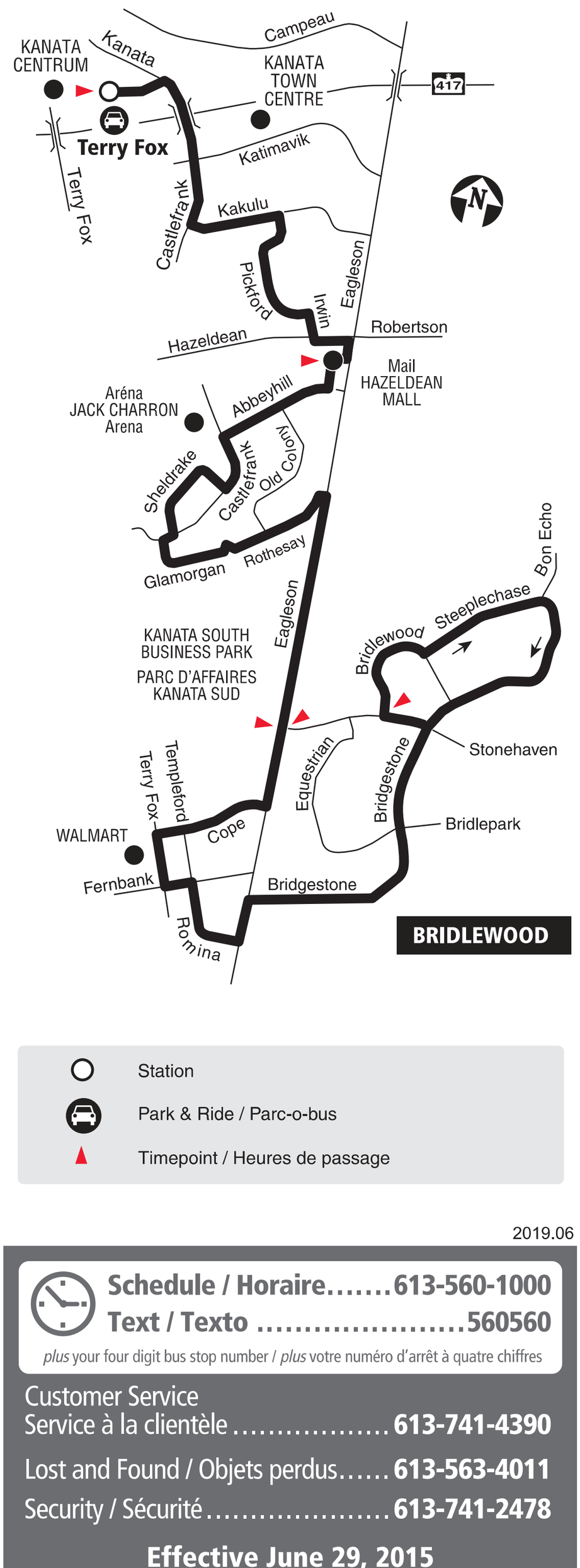
161

TERRY FOX
BRIDLEWOOD

Local

Monday to Friday/ Lundi au vendredi

All day service. No weekend service
Service toute la journée.
Aucun service les fins de semaine



Station

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 June 29, 2015
En vigueur 29 juin 2015

Transpo **INFO 613-741-4390**
octranspo.com

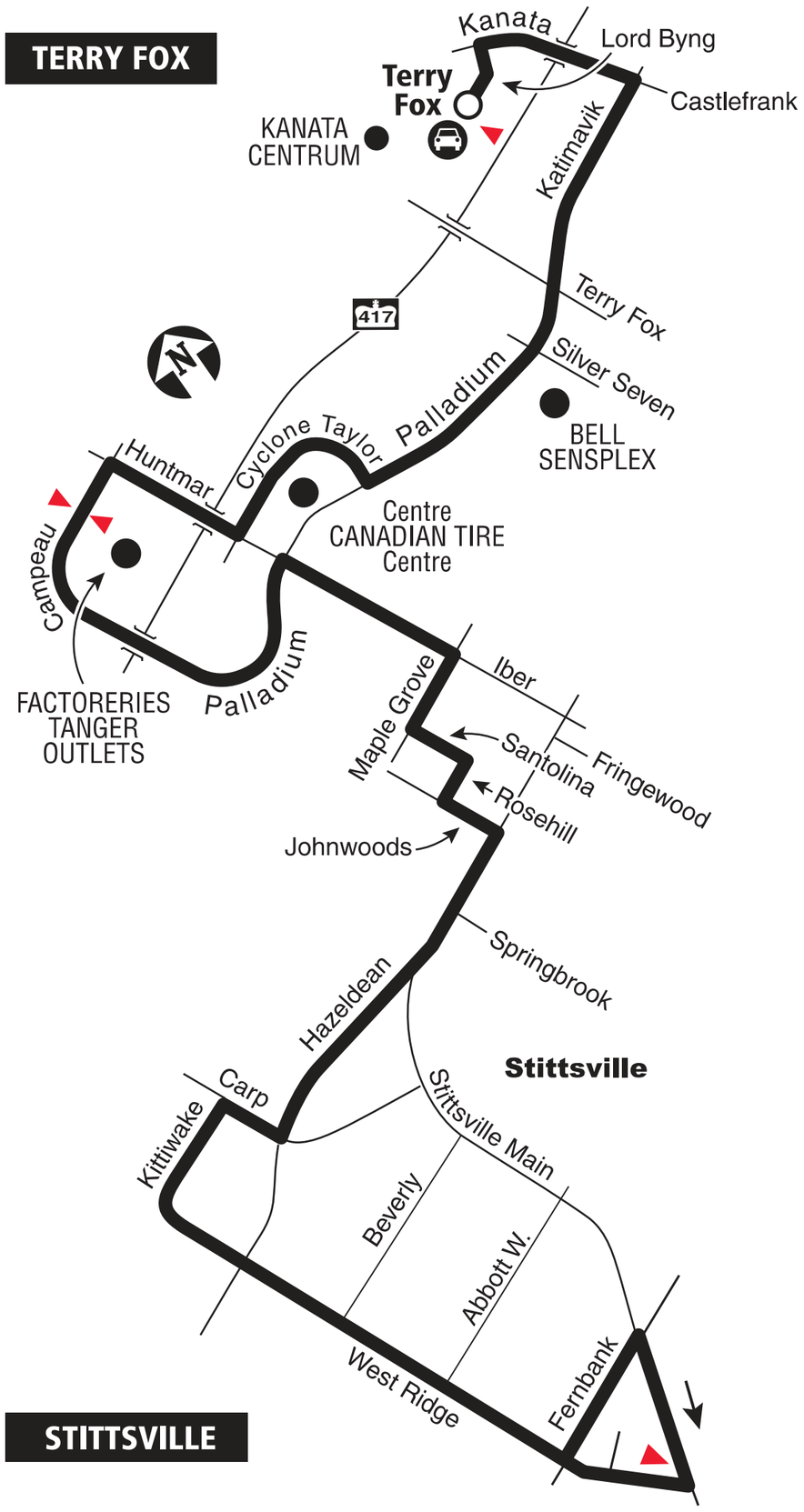
162

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

164

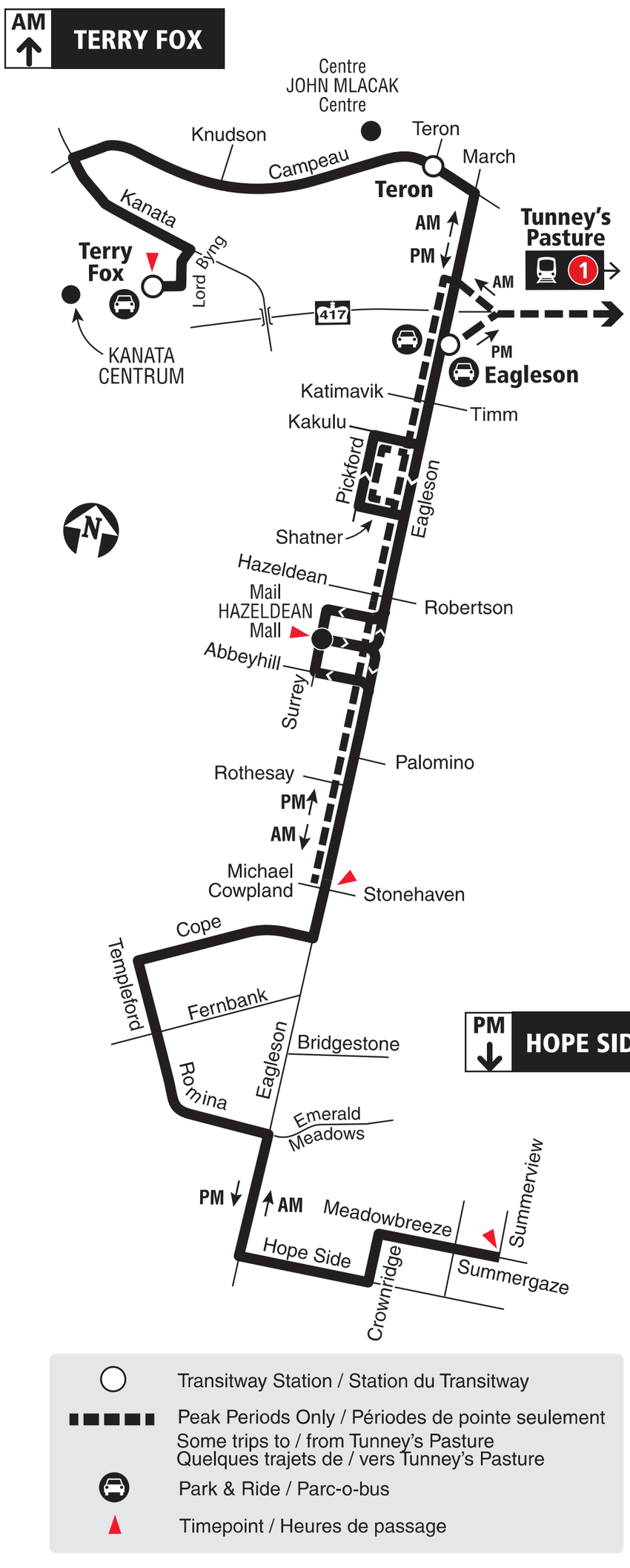
Local

TERRY FOX

HOPE SIDE

Monday to Friday/ Lundi au vendredi

Peak periods only
Périodes de pointe seulement



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 December 24, 2017
En vigueur 24 décembre 2017

OC Transpo

INFO 613-741-4390
octranspo.com

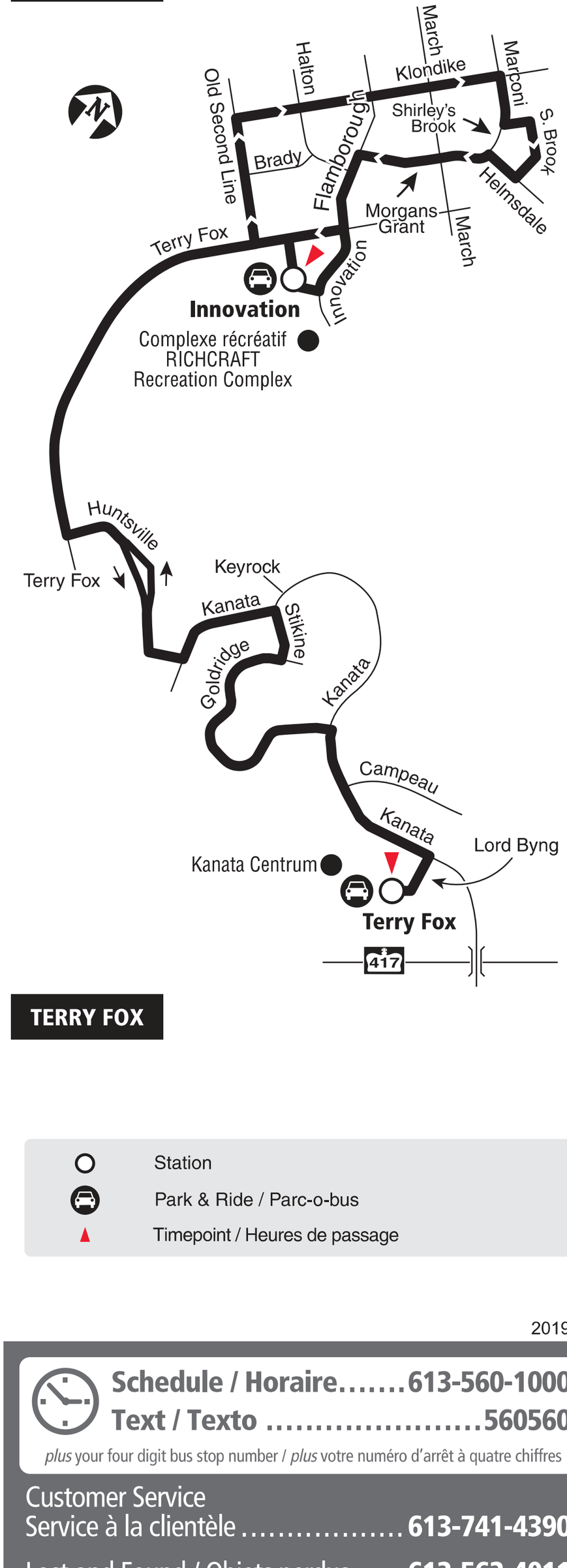
165 Local

INNOVATION
TERRY FOX

Monday to Friday/ Lundi au vendredi

Selected time periods
Périodes sélectionnées

INNOVATION



TERRY FOX

	Station
	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 December 25, 2016
En vigueur 25 décembre 2016

OC Transpo

INFO 613-741-4390
octranspo.com

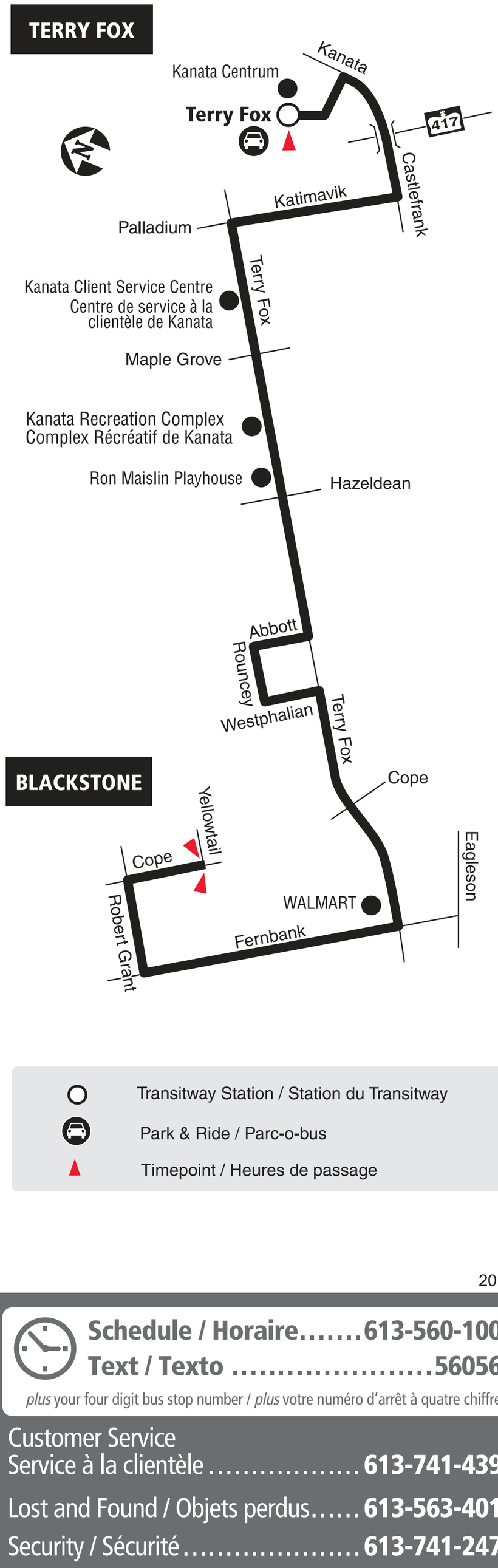
167

TERRY FOX
BLACKSTONE

Local

Monday to Friday/ Lundi au vendredi

Selected time periods
Périodes selectionnées



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 December 24, 2017
En vigueur 24 décembre 2017

OC Transpo

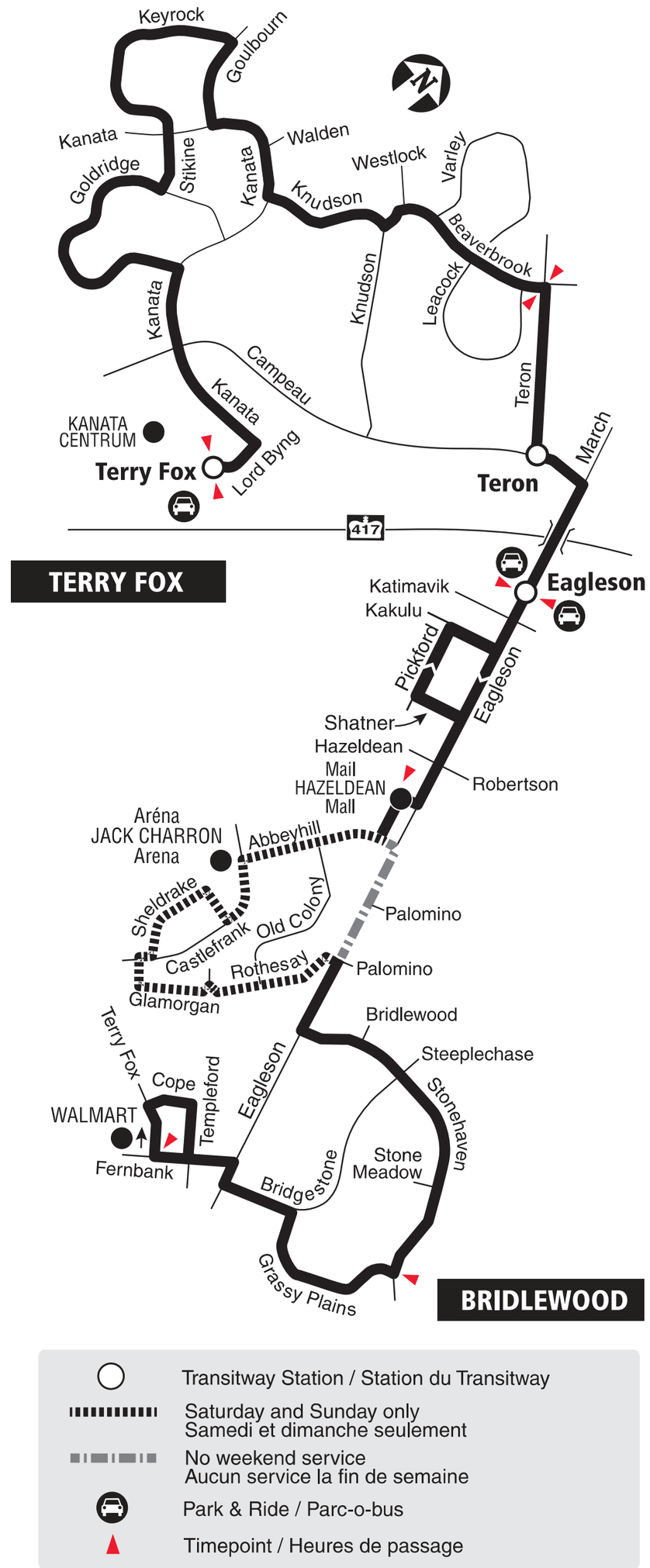
INFO 613-741-4390
octranspo.com

168

TERRY FOX
BRIDLEWOOD

Local

7 days a week / 7 jours par semaine
All day service
Service toute la journée



○	Transitway Station / Station du Transitway
▮▮▮▮▮▮▮▮▮▮▮▮	Saturday and Sunday only Samedi et dimanche seulement
▮ ▮ ▮ ▮ ▮ ▮	No weekend service Aucun service la fin de semaine
P	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 December 24, 2017
En vigueur 24 décembre 2017

OC Transpo

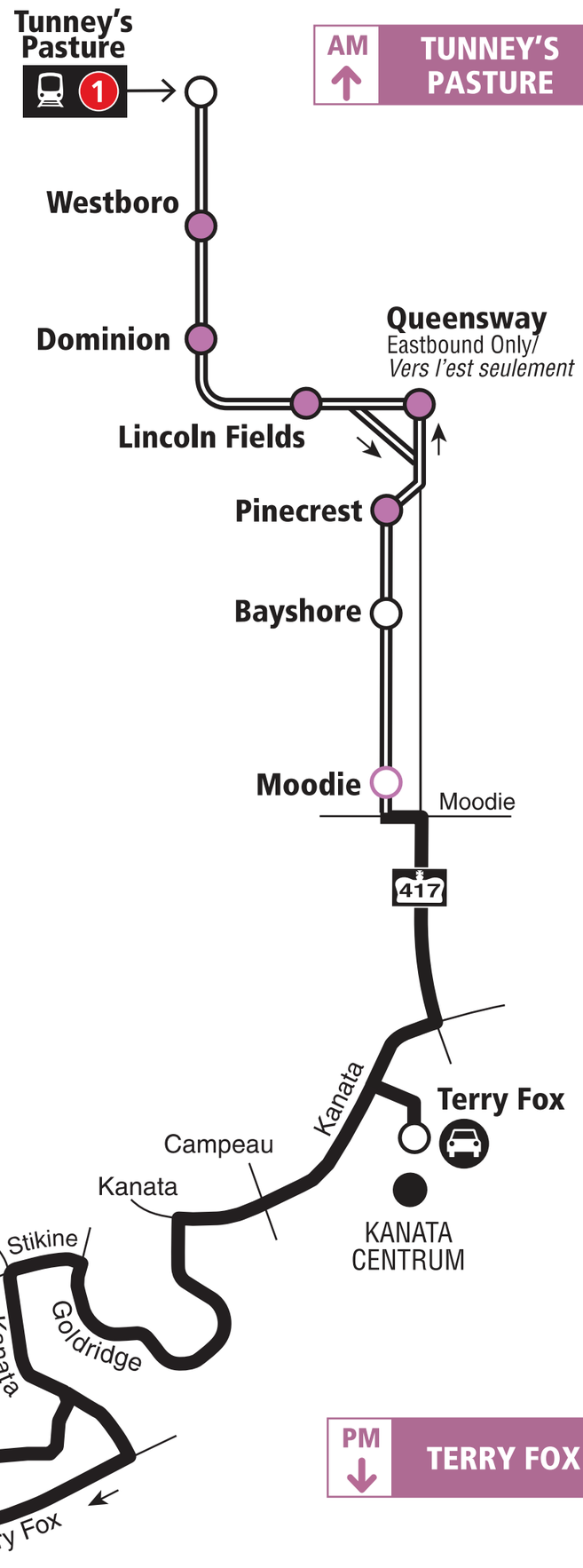
INFO 613-741-4390
octranspo.com

264 Connexion

TERRY FOX
TUNNEY'S PASTURE

Monday to Friday / Lundi au vendredi

Peak periods only
Périodes de pointe seulement



AM ↑ **TUNNEY'S PASTURE**

PM ↓ **TERRY FOX**

Transitway & Station

Limited stops: Off only in AM / No stop in PM
Arrêts limités : Débarquement en AM seul. / Aucun arrêt en PM

AM: Off only - PM: Full Service
AM: Débarquement seul. - PM: Service complet

Park & Ride / Parc-o-bus

2019.07

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

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

OC Transpo **INFO 613-741-4390**
octranspo.com

APPENDIX D

Traffic Count Data, Long Range Model Snapshots,
and Signal Timings

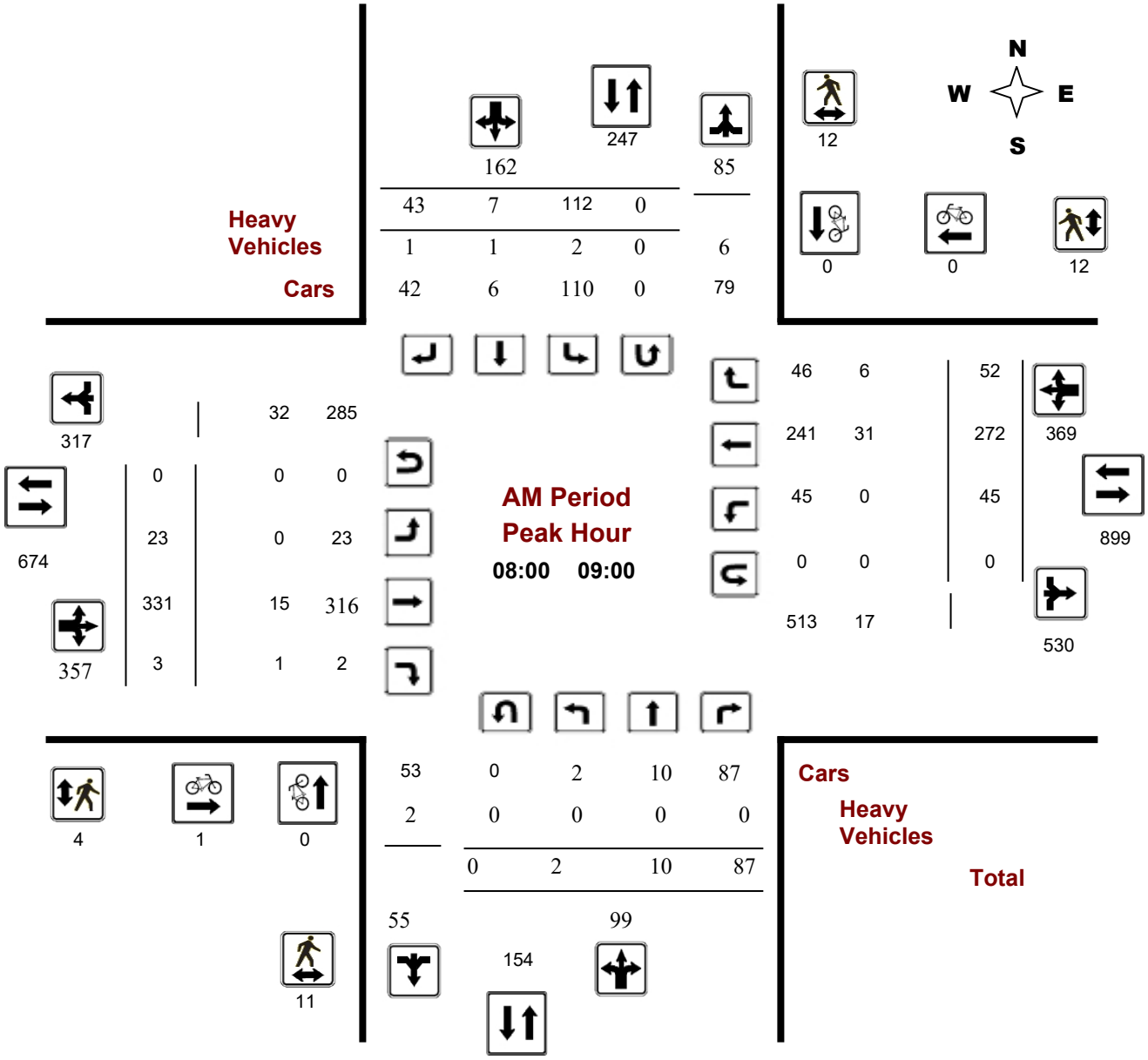
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CAMPEAU DR @ KNUDSON DR

Survey Date: Tuesday, March 10, 2020 **WO No:** 39594

Start Time: 07:00 **Device:** Miovision



Comments 5479344 - MAR 10 2020 - 8HRS - LORETTA

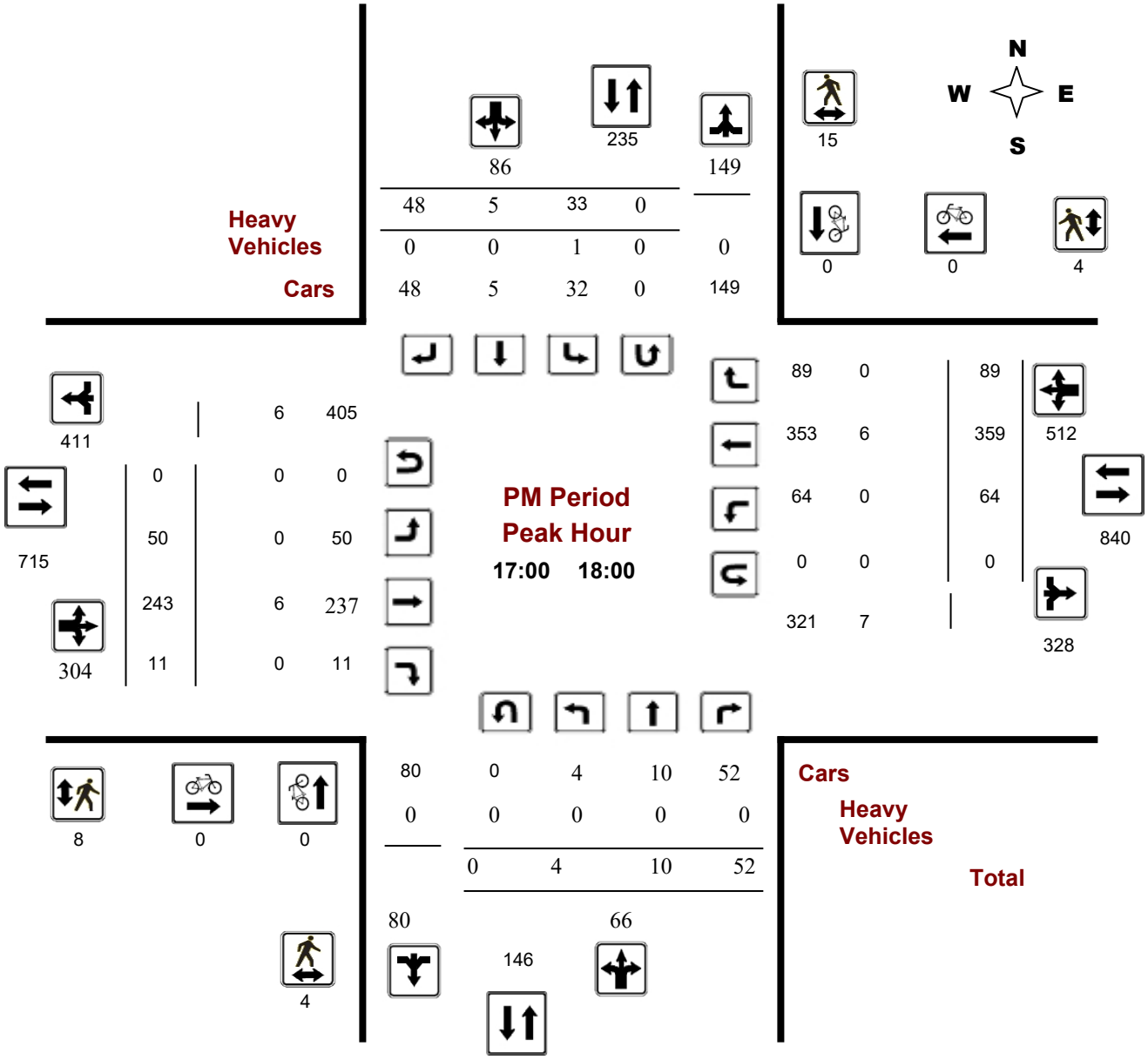
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CAMPEAU DR @ KNUDSON DR

Survey Date: Tuesday, March 10, 2020 **WO No:** 39594

Start Time: 07:00 **Device:** Miovision



Comments 5479344 - MAR 10 2020 - 8HRS - LORETTA

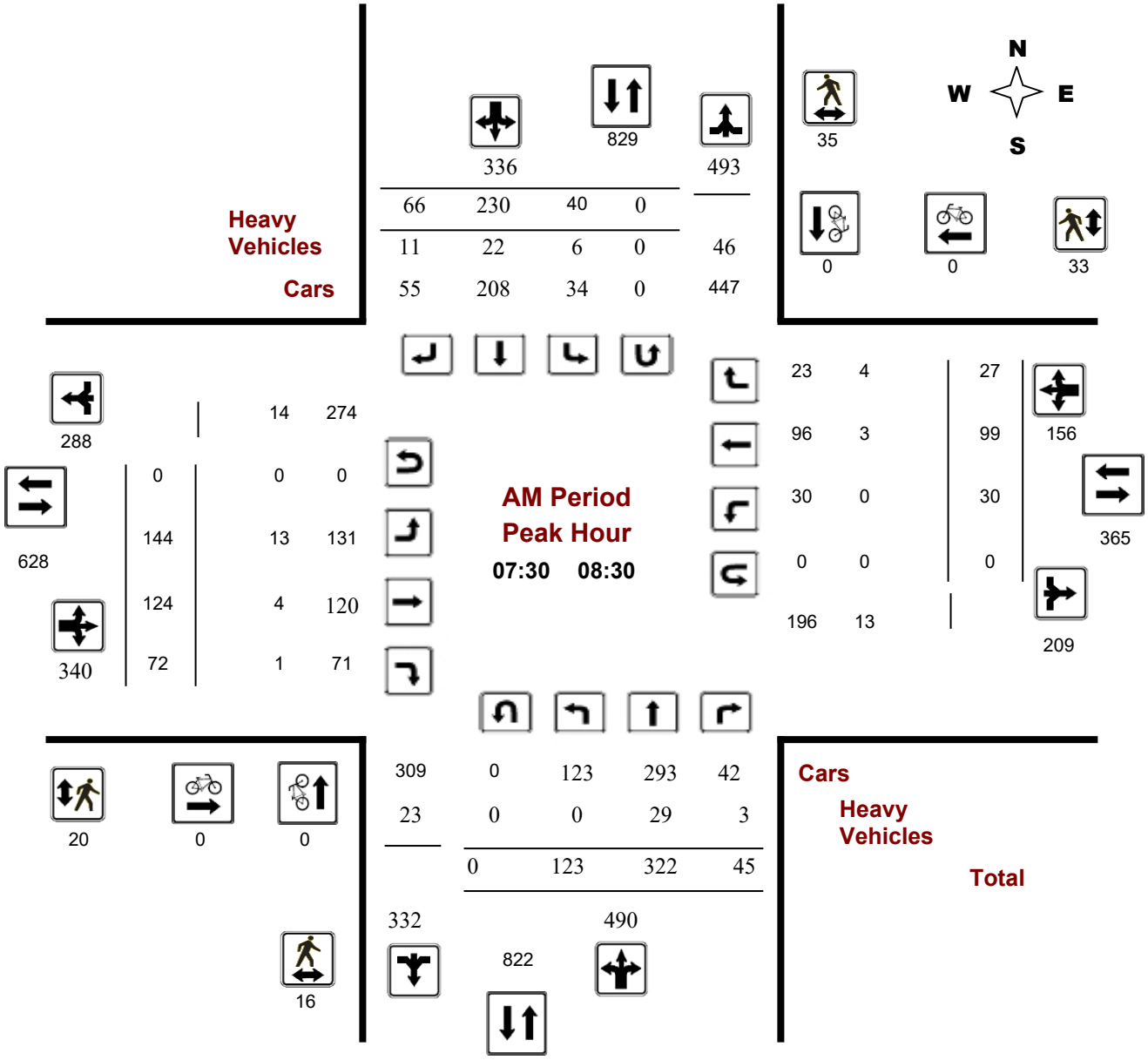
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CASTLEFRANK RD @ KATIMAVIK RD

Survey Date: Thursday, March 30, 2017
Start Time: 07:00

WO No: 36822
Device: Miovision



Comments

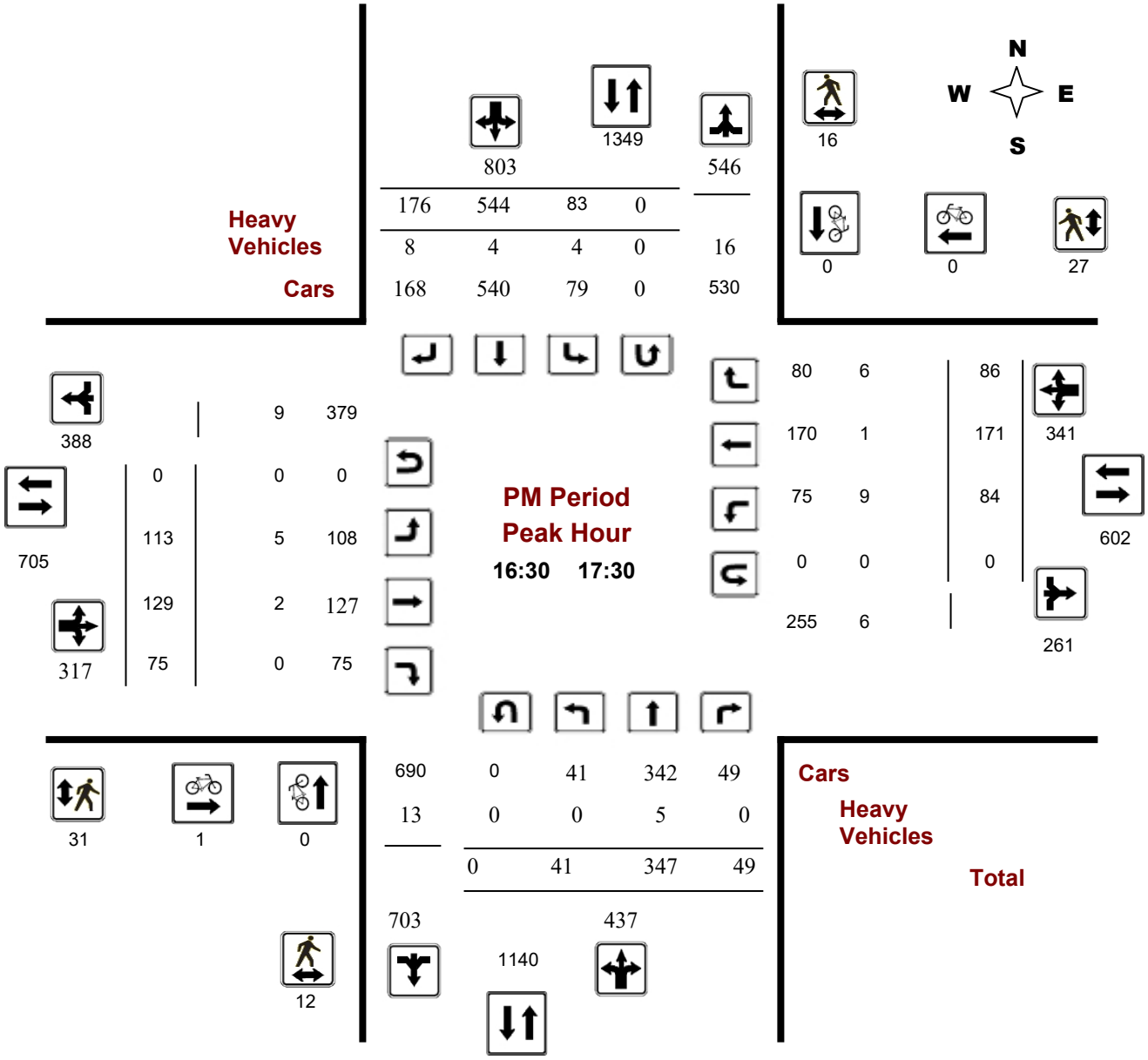
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CASTLEFRANK RD @ KATIMAVIK RD

Survey Date: Thursday, March 30, 2017
Start Time: 07:00

WO No: 36822
Device: Miovision



Comments

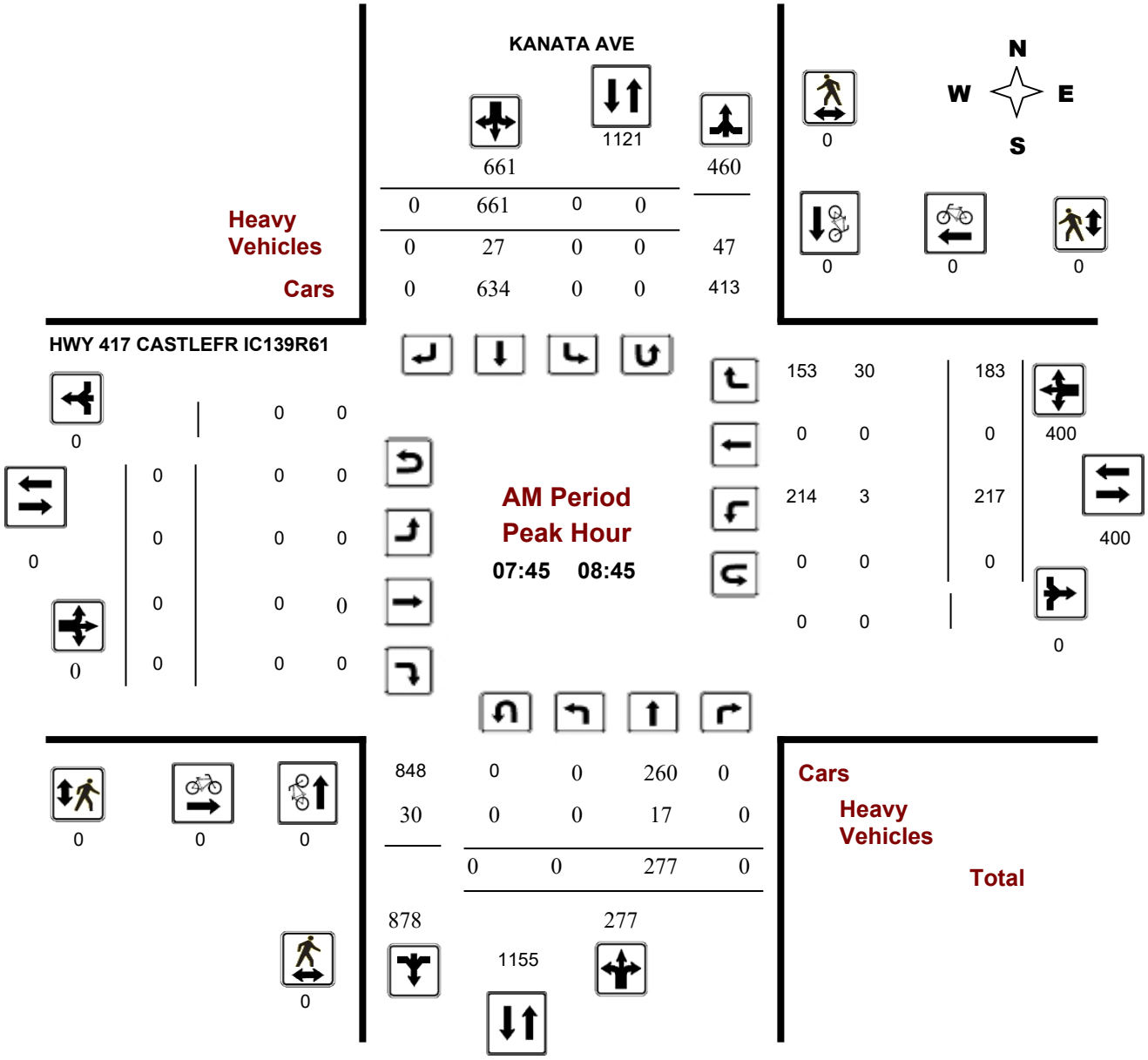
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HWY 417 CASTLEFR IC139R61 @ KANATA AVE

Survey Date: Wednesday, December 06, 2017 **WO No:** 37364

Start Time: 07:00 **Device:** Miovision



Comments

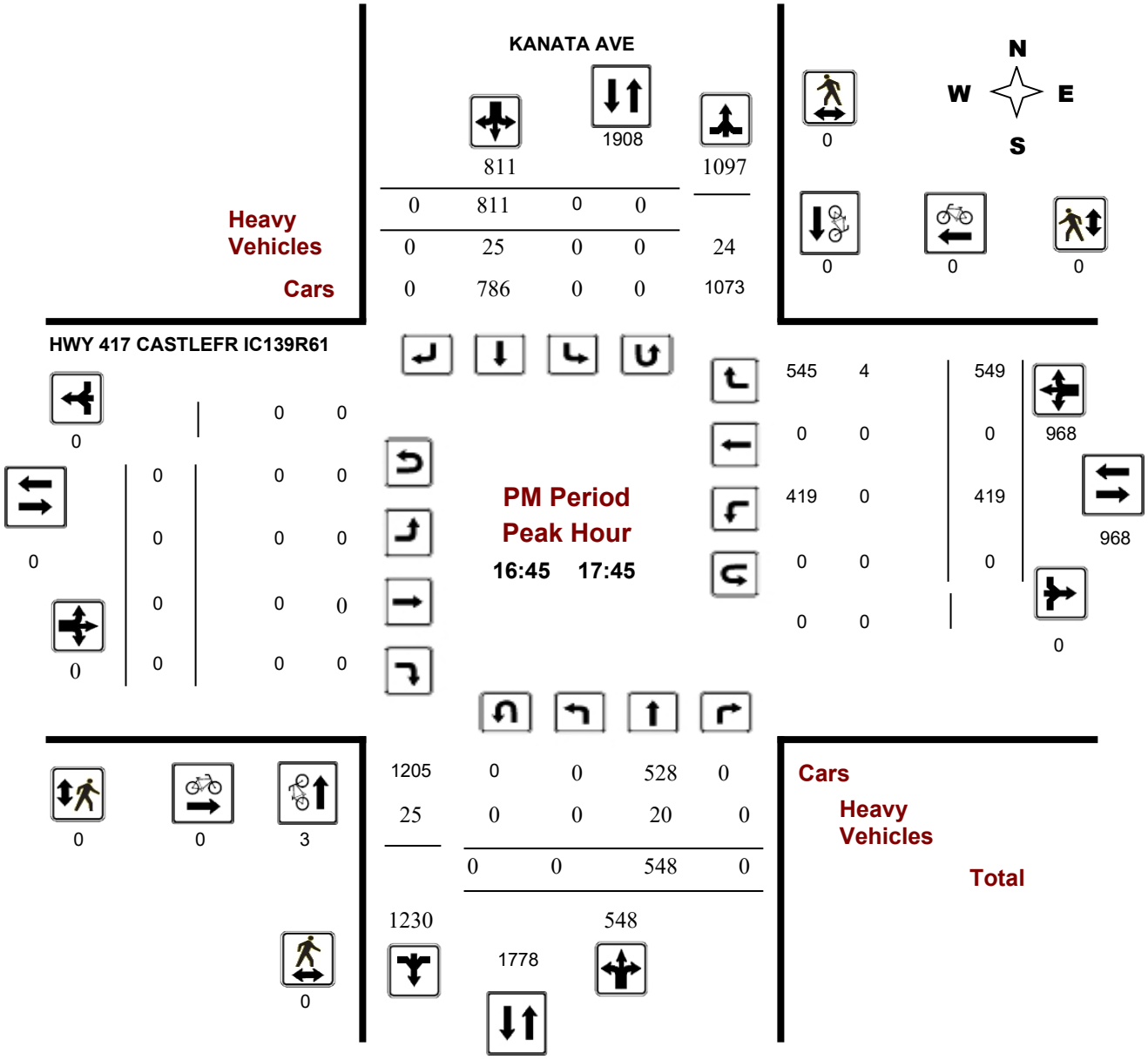
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HWY 417 CASTLEFR IC139R61 @ KANATA AVE

Survey Date: Wednesday, December 06, 2017 **WO No:** 37364

Start Time: 07:00 **Device:** Miovision



Comments

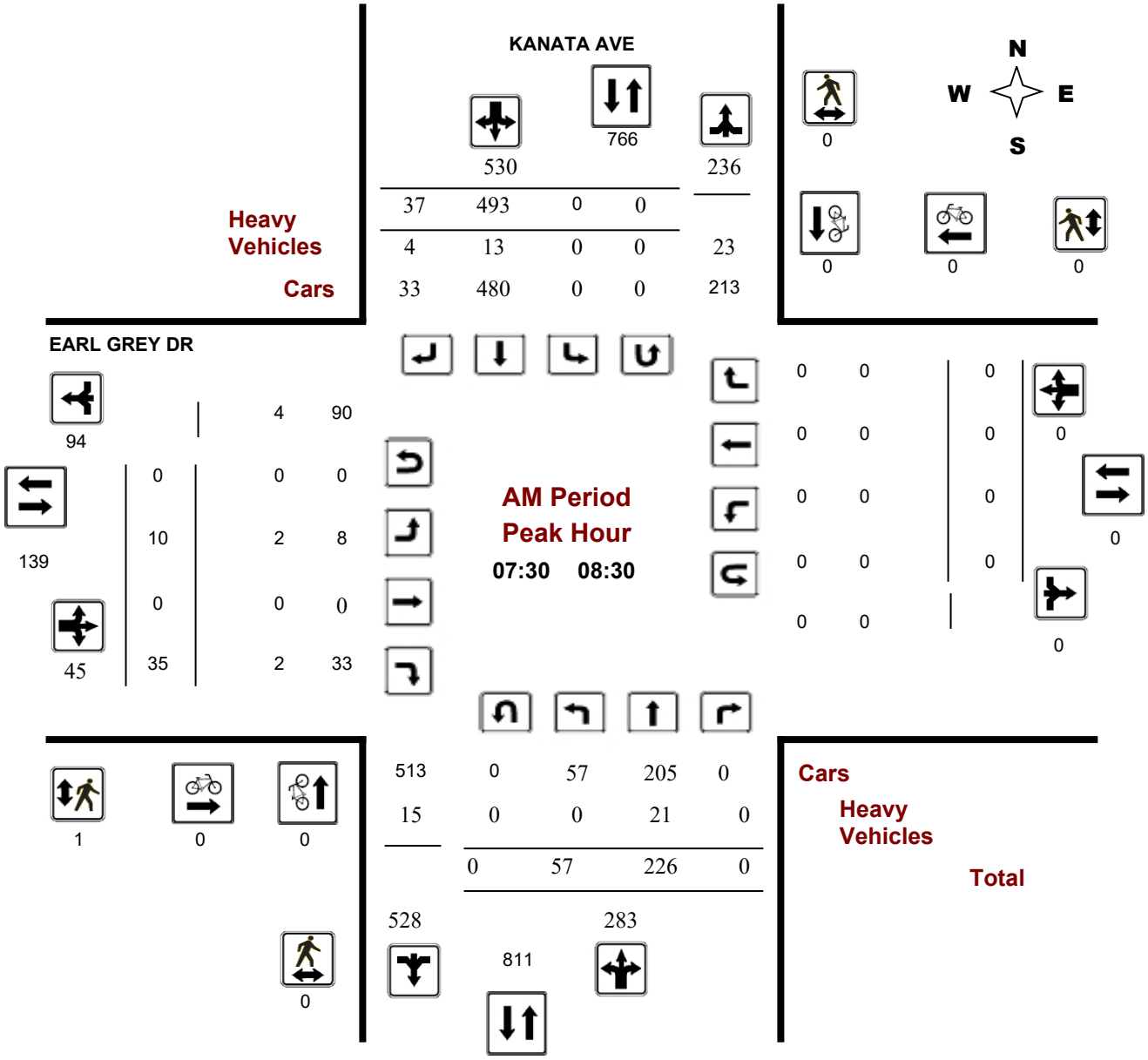
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

KANATA AVE @ EARL GREY DR

Survey Date: Wednesday, November 28, 2018 **WO No:** 38176

Start Time: 07:00 **Device:** Miovision



Comments

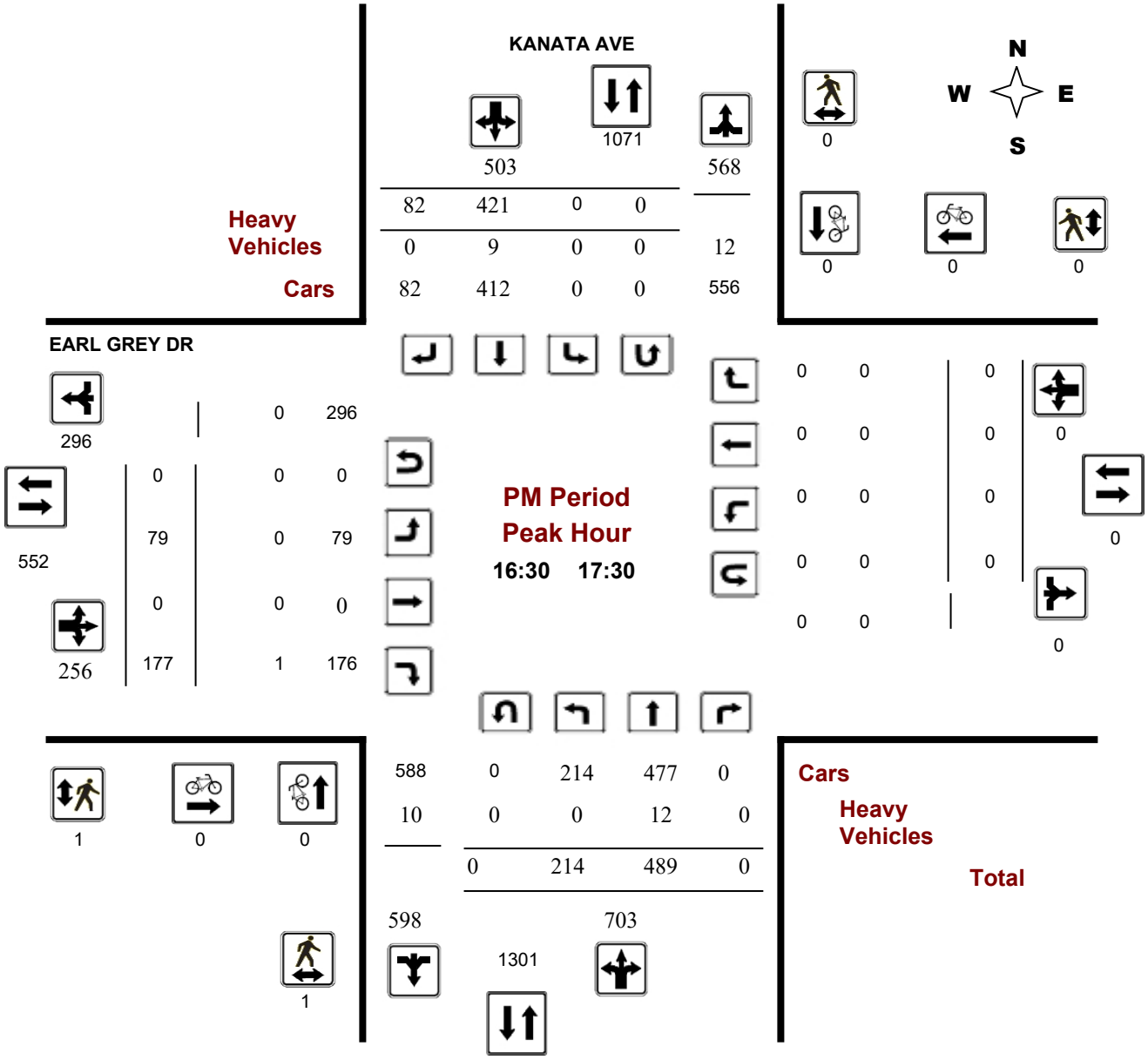
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

KANATA AVE @ EARL GREY DR

Survey Date: Wednesday, November 28, 2018 **WO No:** 38176

Start Time: 07:00 **Device:** Miovision



Comments

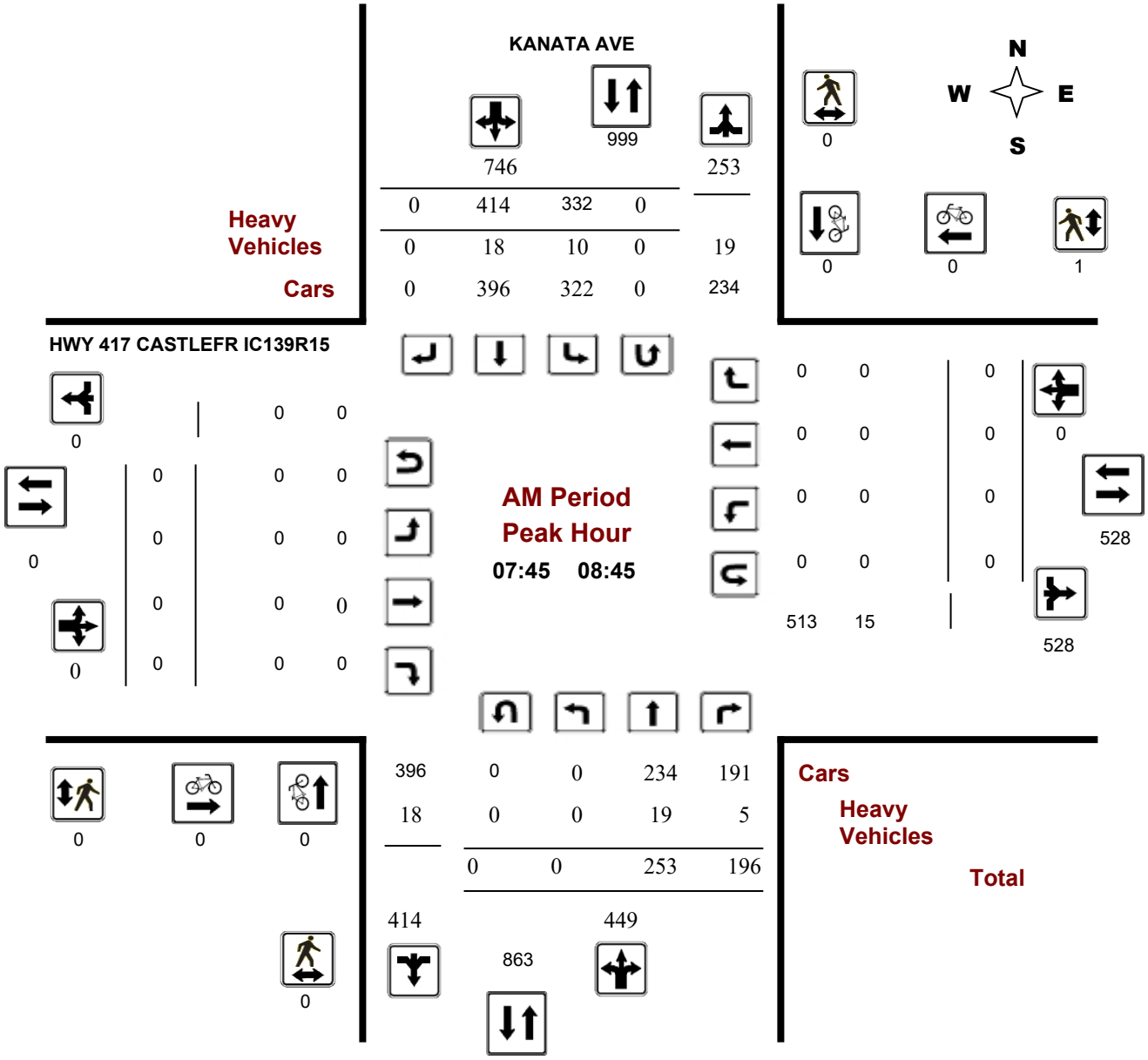
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

KANATA AVE @ HWY 417 CASTLEFR IC139R15

Survey Date: Tuesday, November 27, 2018 **WO No:** 38168

Start Time: 07:00 **Device:** Miovision



Comments

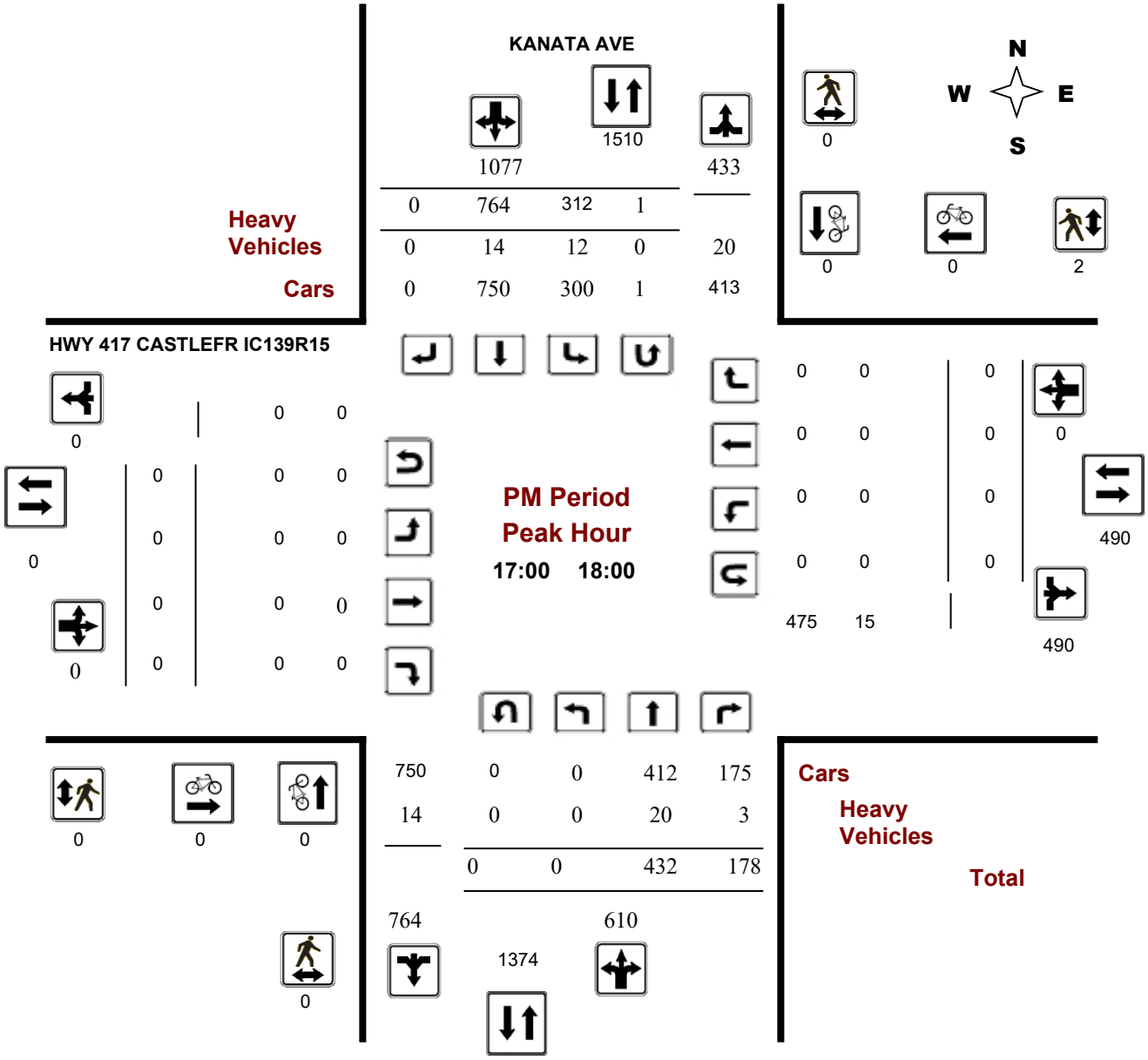
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

KANATA AVE @ HWY 417 CASTLEFR IC139R15

Survey Date: Tuesday, November 27, 2018 **WO No:** 38168

Start Time: 07:00 **Device:** Miovision



Comments

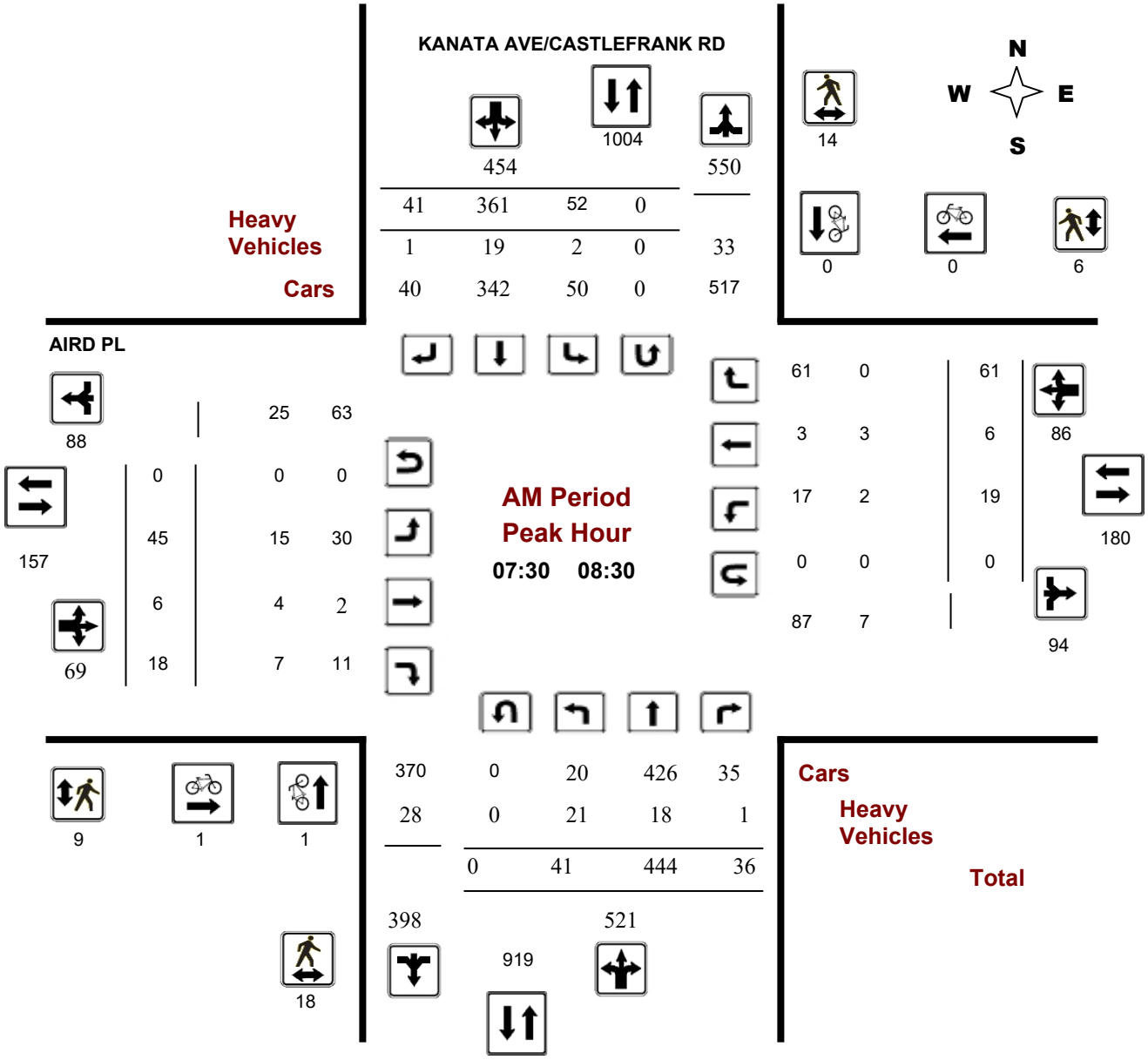
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

KANATA AVE/CASTLEFRANK RD @ AIRD PL

Survey Date: Wednesday, April 11, 2018 **WO No:** 37727

Start Time: 07:00 **Device:** Miovision



Comments

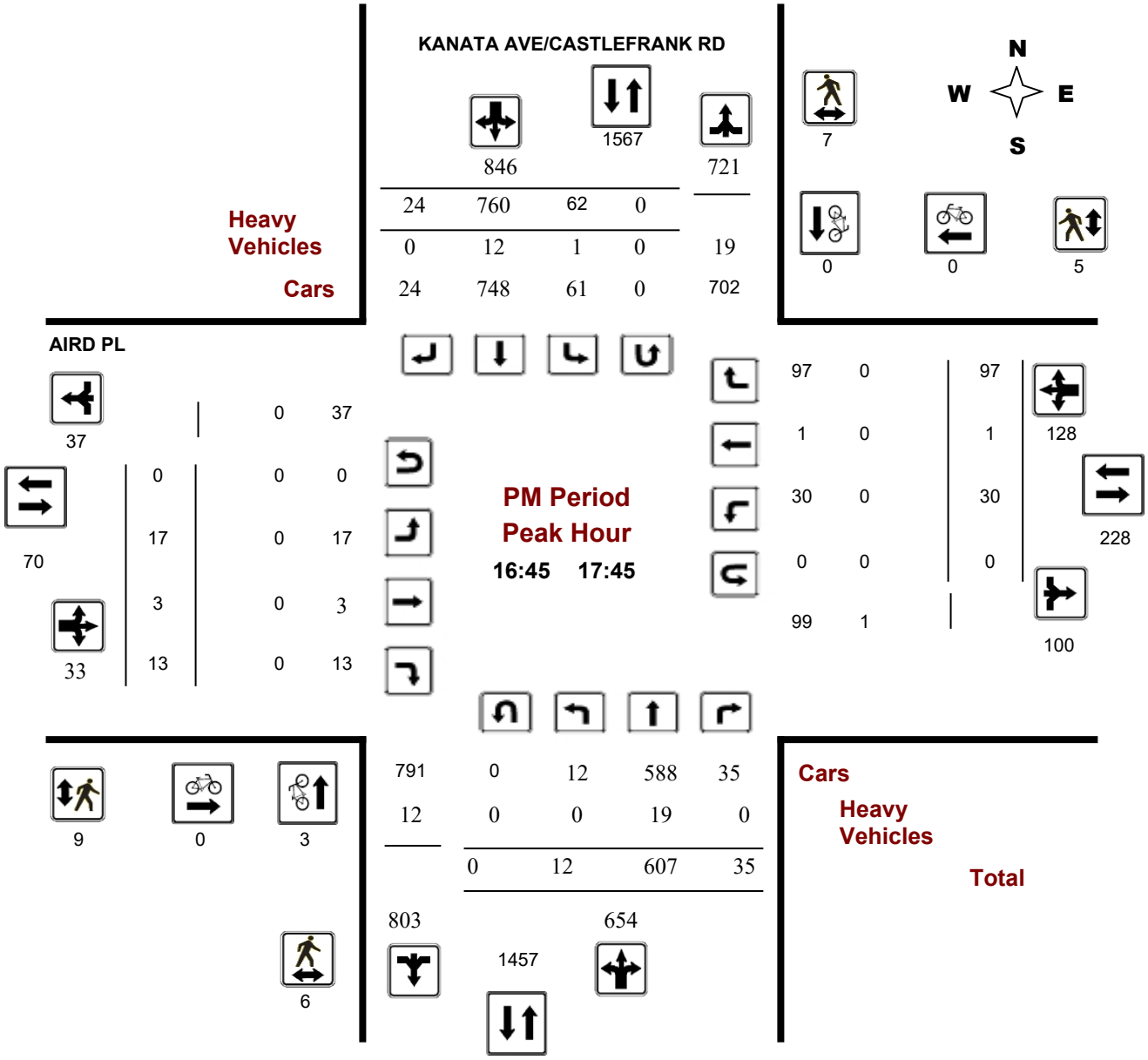
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

KANATA AVE/CASTLEFRANK RD @ AIRD PL

Survey Date: Wednesday, April 11, 2018 **WO No:** 37727

Start Time: 07:00 **Device:** Miovision



Comments

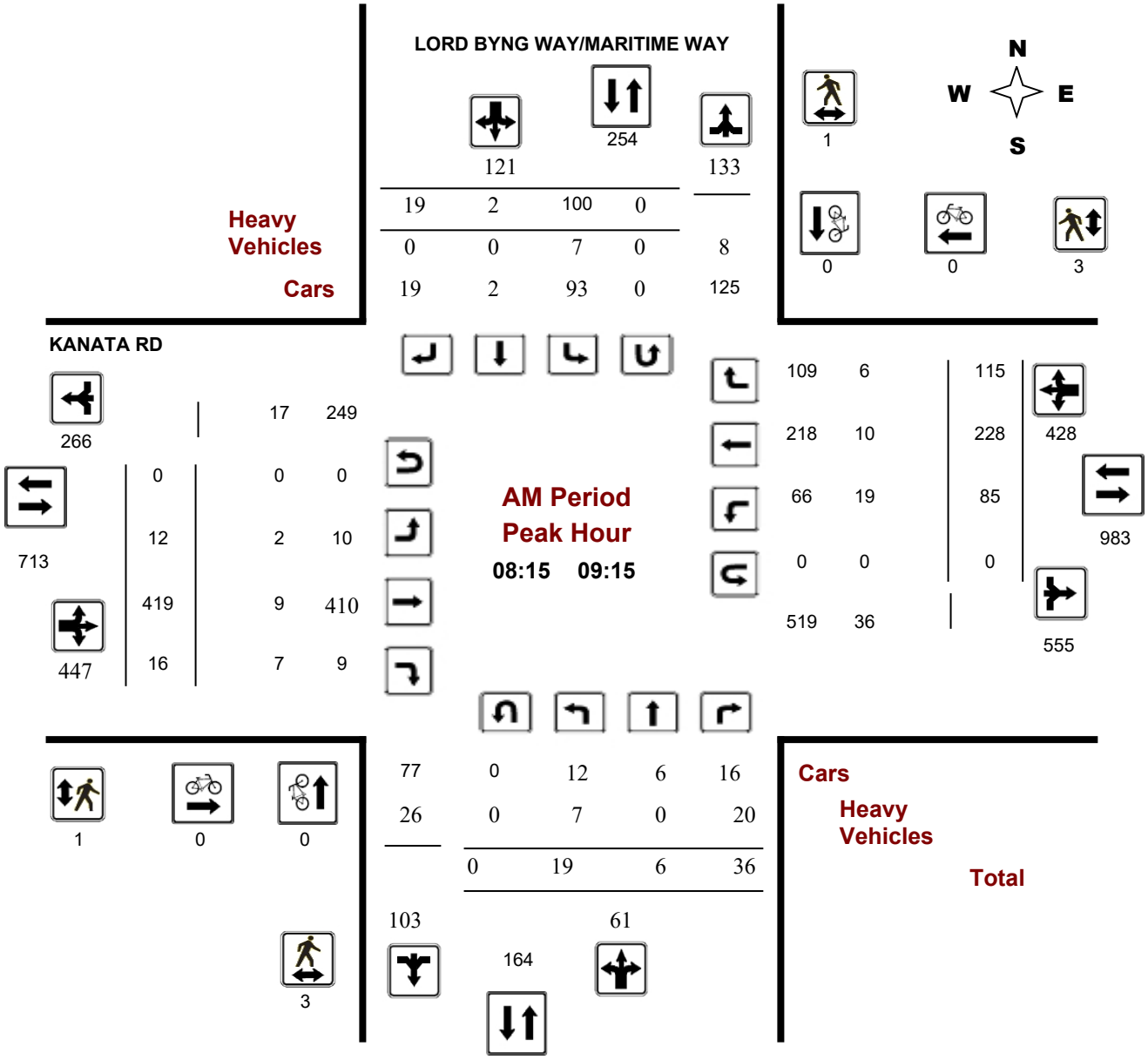
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

KANATA RD @ LORD BYNG WAY/MARITIME WAY

Survey Date: Tuesday, March 20, 2018 **WO No:** 37606

Start Time: 07:00 **Device:** Miovision



Comments

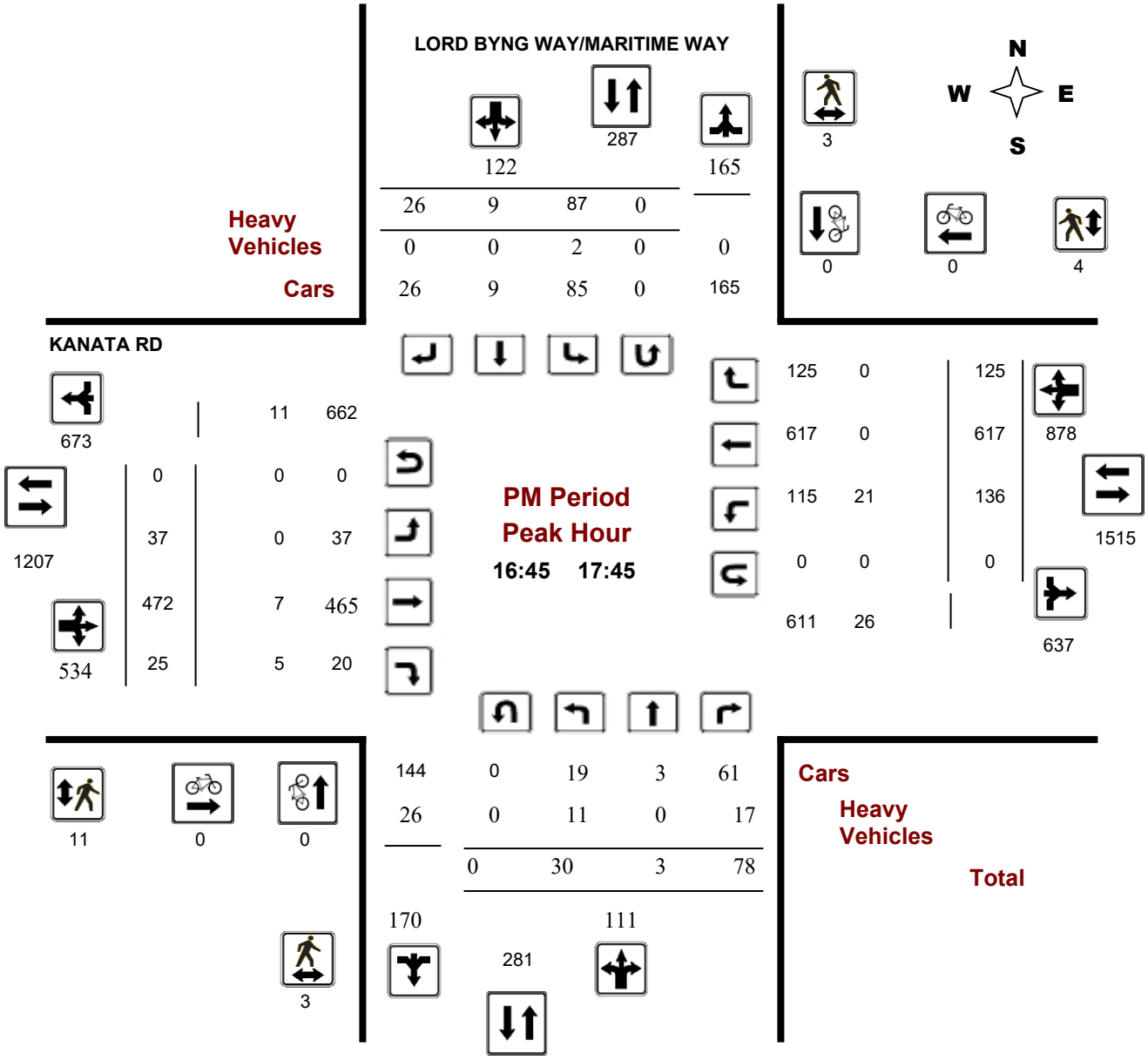
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

KANATA RD @ LORD BYNG WAY/MARITIME WAY

Survey Date: Tuesday, March 20, 2018 **WO No:** 37606

Start Time: 07:00 **Device:** Miovision



Comments

Public Works - Traffic Services

Work Order
34386

Turning Movement Count - Full Study Summary Report

CAMPEAU DR @ KNUDSON DR

Survey Date: Thursday, February 26, 2015

Total Observed U-Turns

Northbound: 0 Southbound: 0
Eastbound: 0 Westbound: 0

AADT Factor
.90

Full Study

	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	**NB TOT**	LT	ST	RT	**SB TOT**	**STR TOT**	LT	ST	RT	**EB TOT**	LT	ST	RT	**WB TOT**	**STR TOT**	**Grand Total**
07:00 08:00	5	2	24	**31**	135	0	21	**156**	**187**	28	206	1	**235**	7	160	24	**191**	**426**	**613**
08:00 09:00	7	0	22	**29**	156	2	57	**215**	**244**	39	302	5	**346**	17	235	65	**317**	**663**	**907**
09:00 10:00	12	2	25	**39**	78	4	37	**119**	**158**	20	141	12	**173**	10	202	27	**239**	**412**	**570**
11:30 12:30	14	0	14	**28**	46	0	40	**86**	**114**	40	225	14	**279**	24	272	50	**346**	**625**	**739**
12:30 13:30	20	0	20	**40**	58	4	37	**99**	**139**	44	235	23	**302**	16	250	55	**321**	**623**	**762**
15:00 16:00	8	4	25	**37**	52	4	44	**100**	**137**	47	274	10	**331**	31	316	99	**446**	**777**	**914**
16:00 17:00	10	1	24	**35**	72	4	43	**119**	**154**	48	277	7	**332**	29	349	113	**491**	**823**	**977**
17:00 18:00	4	5	16	**25**	69	2	52	**123**	**148**	59	262	6	**327**	38	378	123	**539**	**866**	**1014**
Sub Total	80	14	170	**264**	666	20	331	**1017**	**1281**	325	1922	78	**2325**	172	2162	556	**2890**	**5215**	**6496**
U Turns				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	80	14	170	**264**	666	20	331	**1017**	**1281**	325	1922	78	**2325**	172	2162	556	**2890**	**5215**	**6496**
EQ 12Hr	111	19	236	**367**	926	28	460	**1414**	**1781**	452	2672	108	**3232**	239	3005	773	**4017**	**7249**	**9030**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													**1.39**						
AVG 12Hr	100	18	213	**330**	833	25	414	**1272**	**1602**	407	2404	98	**2909**	215	2705	696	**3615**	**6524**	**8126**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													**.90**						
AVG 24Hr	131	23	279	**433**	1091	33	542	**1667**	**2100**	533	3150	128	**3810**	282	3543	911	**4736**	**8546**	**10646**
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.													**1.31**						

Comments:

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

Public Works - Traffic Services

Work Order
35042

Turning Movement Count - Full Study Summary Report

KANATA RD @ LORD BYNG WAY/MARITIME WAY

Survey Date: Friday, July 31, 2015

Total Observed U-Turns

Northbound: 0 Southbound: 0
Eastbound: 0 Westbound: 0

AADT Factor
.90

Full Study

	LORD BYNG WAY/MARITIME WAY									KANATA RD									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	13	8	43	**64**	18	2	3	**23**	**87**	5	325	11	**341**	42	114	29	**185**	**526**	**613**
08:00 09:00	11	3	44	**58**	24	1	3	**28**	**86**	2	552	10	**564**	43	230	34	**307**	**871**	**957**
09:00 10:00	18	5	52	**75**	25	2	13	**40**	**115**	9	437	16	**462**	55	320	39	**414**	**876**	**991**
11:30 12:30	19	3	64	**86**	45	7	19	**71**	**157**	17	512	16	**545**	114	578	53	**745**	**1290**	**1447**
12:30 13:30	16	8	79	**103**	31	9	9	**49**	**152**	28	602	15	**645**	106	411	34	**551**	**1196**	**1348**
15:00 16:00	25	8	75	**108**	9	0	2	**11**	**119**	13	569	19	**601**	128	549	53	**730**	**1331**	**1450**
16:00 17:00	26	7	78	**111**	27	3	5	**35**	**146**	19	559	11	**589**	128	572	38	**738**	**1327**	**1473**
17:00 18:00	30	6	67	**103**	2	0	0	**2**	**105**	24	575	11	**610**	110	421	43	**574**	**1184**	**1289**
Sub Total	158	48	502	**708**	181	24	54	**259**	**967**	117	4131	109	**4357**	726	3195	323	**4244**	**8601**	**9568**
U Turns				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	158	48	502	**708**	181	24	54	**259**	**967**	117	4131	109	**4357**	726	3195	323	**4244**	**8601**	**9568**
EQ 12Hr	220	67	698	**984**	252	33	75	**360**	**1344**	163	5742	152	**6056**	1009	4441	449	**5899**	**11955**	**13299**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													**1.39**						
AVG 12Hr	198	60	628	**886**	226	30	68	**324**	**1210**	146	5168	136	**5451**	908	3997	404	**5309**	**10760**	**11970**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													**.90**						
AVG 24Hr	259	79	823	**1160**	297	39	88	**424**	**1584**	192	6770	179	**7140**	1190	5236	529	**6955**	**14095**	**15679**
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.													**1.31**						

Comments:

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

Transportation Services - Traffic Services

Turning Movement Count - Study Results

CAMPEAU DR @ KNUDSON DR

Survey Date: Tuesday, March 10, 2020 **WO No:** 39594

Start Time: 07:00 **Device:** Miovision

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, March 10, 2020

Total Observed U-Turns

Northbound: 1 Southbound: 0

Eastbound: 0 Westbound: 1

AADT Factor

1.00

	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	1	6	50	**57**	92	2	19	**113**	**170**	10	186	4	**200**	10	121	14	**145**	**345**	**515**
08:00 09:00	2	10	87	**99**	112	7	43	**162**	**261**	23	331	3	**357**	45	272	52	**369**	**726**	**987**
09:00 10:00	13	8	42	**63**	46	9	37	**92**	**155**	20	159	7	**186**	30	164	25	**219**	**405**	**560**
11:30 12:30	8	4	39	**51**	37	4	36	**77**	**128**	35	217	2	**254**	44	291	36	**371**	**625**	**753**
12:30 13:30	7	3	47	**57**	27	10	31	**68**	**125**	37	204	5	**246**	36	217	28	**281**	**527**	**652**
15:00 16:00	8	11	48	**67**	46	7	35	**88**	**155**	43	222	13	**278**	57	360	71	**488**	**766**	**921**
16:00 17:00	7	10	50	**67**	37	5	49	**91**	**158**	52	243	8	**303**	58	359	68	**485**	**788**	**946**
17:00 18:00	4	10	52	**66**	33	5	48	**86**	**152**	50	243	11	**304**	64	359	89	**512**	**816**	**968**
Sub Total	50	62	415	**527**	430	49	298	**777**	**1304**	270	1805	53	**2128**	344	2143	383	**2870**	**4998**	**6302**
U Turns				**1**				**0**	**1**				**0**				**1**	**1**	**2**
Total	50	62	415	**528**	430	49	298	**777**	**1305**	270	1805	53	**2128**	344	2143	383	**2871**	**4999**	**6304**
EQ 12Hr	70	86	577	**734**	598	68	414	**1080**	**1814**	375	2509	74	**2958**	478	2979	532	**3991**	**6949**	**8763**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	66	81	544	**692**	563	64	390	**1018**	**1814**	354	2365	69	**2788**	451	2807	502	**3761**	**6949**	**8763**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**1**					
AVG 24Hr	86	106	712	**906**	738	84	511	**1333**	**2239**	463	3098	91	**3652**	590	3678	657	**4927**	**8579**	**10818**
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.														**1.31**					

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

Transportation Services - Traffic Services

Turning Movement Count - Study Results

KANATA RD @ LORD BYNG WAY/MARITIME WAY

Survey Date: Tuesday, March 20, 2018 **WO No:** 37606

Start Time: 07:00 **Device:** Miovision

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, March 20, 2018

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 0 Westbound: 2

AADT Factor

1.00

	LORD BYNG WAY/MARITIME WAY									KANATA RD									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	**NB TOT**	LT	ST	RT	**SB TOT**	**STR TOT**	LT	ST	RT	**EB TOT**	LT	ST	RT	**WB TOT**	**STR TOT**	**Grand Total**
07:00 08:00	15	1	50	**66**	81	2	24	**107**	**173**	2	482	12	**496**	44	163	65	**272**	**768**	**941**
08:00 09:00	18	6	35	**59**	92	4	20	**116**	**175**	14	423	14	**451**	79	214	119	**412**	**863**	**1038**
09:00 10:00	11	5	55	**71**	69	1	33	**103**	**174**	15	323	14	**352**	57	256	67	**380**	**732**	**906**
11:30 12:30	14	3	54	**71**	79	6	38	**123**	**194**	28	355	12	**395**	87	432	70	**589**	**984**	**1178**
12:30 13:30	12	3	60	**75**	76	4	20	**100**	**175**	17	451	12	**480**	77	416	74	**567**	**1047**	**1222**
15:00 16:00	15	5	75	**95**	93	4	27	**124**	**219**	27	397	18	**442**	99	533	116	**748**	**1190**	**1409**
16:00 17:00	24	3	93	**120**	101	8	34	**143**	**263**	26	448	21	**495**	122	598	130	**850**	**1345**	**1608**
17:00 18:00	24	7	82	**113**	91	9	29	**129**	**242**	39	458	21	**518**	144	617	120	**881**	**1399**	**1641**
Sub Total	133	33	504	**670**	682	38	225	**945**	**1615**	168	3337	124	**3629**	709	3229	761	**4699**	**8328**	**9943**
U Turns				**0**				**0**	**0**				**0**				**2**	**2**	**2**
Total	133	33	504	**670**	682	38	225	**945**	**1615**	168	3337	124	**3629**	709	3229	761	**4701**	**8330**	**9945**
EQ 12Hr	185	46	701	**931**	948	53	313	**1314**	**2245**	234	4638	172	**5044**	986	4488	1058	**6534**	**11579**	**13824**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	174	43	660	**878**	893	50	295	**1238**	**2245**	220	4371	162	**4754**	929	4230	997	**6158**	**11579**	**13824**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**1**					
AVG 24Hr	228	57	865	**1150**	1170	65	386	**1622**	**2772**	288	5727	213	**6228**	1217	5541	1306	**8067**	**14295**	**17067**
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.														**1.31**					

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

Transportation Services - Traffic Services

Turning Movement Count - Study Results

KANATA AVE @ HWY 417 CASTLEFR IC139R15

Survey Date: Friday, July 24, 2015 **WO No:** 35007

Start Time: 07:00 **Device:** Jamar Technologies, Inc

Full Study Summary (8 HR Standard)

Survey Date: Friday, July 24, 2015

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 0 Westbound: 0

AADT Factor

.90

	KANATA AVE								HWY 417 CASTLEFR IC139R15									
	Northbound				Southbound				Eastbound				Westbound					
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	0	98	213	**311**	534	324	0	**858**	**1169**	0	0	0	**0**	0	0	0	**0**	**0**	**1169**
08:00 09:00	0	193	216	**409**	979	469	0	**1448**	**1857**	0	0	0	**0**	0	0	0	**0**	**0**	**1857**
09:00 10:00	0	254	162	**416**	649	570	0	**1219**	**1635**	0	0	0	**0**	0	0	0	**0**	**0**	**1635**
11:30 12:30	0	339	180	**519**	670	999	0	**1669**	**2188**	0	0	0	**0**	0	0	0	**0**	**0**	**2188**
12:30 13:30	0	292	136	**428**	788	1171	0	**1959**	**2387**	0	0	0	**0**	0	0	0	**0**	**0**	**2387**
15:00 16:00	0	342	131	**473**	333	909	0	**1242**	**1715**	0	0	0	**0**	0	0	0	**0**	**0**	**1715**
16:00 17:00	0	441	134	**575**	409	1139	0	**1548**	**2123**	0	0	0	**0**	0	0	0	**0**	**0**	**2123**
17:00 18:00	0	385	155	**540**	554	1138	0	**1692**	**2232**	0	0	0	**0**	0	0	0	**0**	**0**	**2232**
Sub Total	0	2344	1327	**3671**	4916	6719	0	**11635**	**15306**	0	0	0	**0**	0	0	0	**0**	**0**	**15306**
U Turns	0			**0**	0			**0**	**0**	**0**			**0**	0			**0**	**0**	**0**
Total	0	2344	1327	**3671**	4916	6719	0	**11635**	**15306**	0	0	0	**0**	0	0	0	**0**	**0**	**15306**
EQ 12Hr	0	3258	1845	**5103**	6833	9339	0	**16172**	**21275**	0	0	0	**0**	0	0	0	**0**	**0**	**21275**

Note: These values are calculated by multiplying the totals by the appropriate expansion factor. **1.39**

AVG 12Hr	0	2932	1660	**4592**	6150	8405	0	**14555**	**19147**	0	0	0	**0**	0	0	0	**0**	**0**	**19147**

Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor. **.90**

AVG 24Hr	0	3841	2175	**6016**	8056	11011	0	**19067**	**25083**	0	0	0	**0**	0	0	0	**0**	**0**	**25083**

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

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

Transportation Services - Traffic Services

Turning Movement Count - Study Results

KANATA AVE @ HWY 417 CASTLEFR IC139R15

Survey Date: Tuesday, November 27, 2018 **WO No:** 38168

Start Time: 07:00 **Device:** Miovision

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, November 27, 2018

Total Observed U-Turns

Northbound: 0 Southbound: 1

Eastbound: 0 Westbound: 0

AADT Factor

1.00

	KANATA AVE									HWY 417 CASTLEFR IC139R15									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	0	137	264	**401**	393	312	0	**705**	**1106**	0	0	0	**0**	0	0	0	**0**	**0**	**1106**
08:00 09:00	0	282	169	**451**	328	386	0	**714**	**1165**	0	0	0	**0**	0	0	0	**0**	**0**	**1165**
09:00 10:00	0	199	151	**350**	265	388	0	**653**	**1003**	0	0	0	**0**	0	0	0	**0**	**0**	**1003**
11:30 12:30	0	277	147	**424**	236	419	0	**655**	**1079**	0	0	0	**0**	0	0	0	**0**	**0**	**1079**
12:30 13:30	0	312	136	**448**	268	449	0	**717**	**1165**	0	0	0	**0**	0	0	0	**0**	**0**	**1165**
15:00 16:00	0	356	158	**514**	259	637	0	**896**	**1410**	0	0	0	**0**	0	0	0	**0**	**0**	**1410**
16:00 17:00	0	432	182	**614**	284	668	0	**952**	**1566**	0	0	0	**0**	0	0	0	**0**	**0**	**1566**
17:00 18:00	0	432	178	**610**	312	764	0	**1076**	**1686**	0	0	0	**0**	0	0	0	**0**	**0**	**1686**
Sub Total	0	2427	1385	**3812**	2345	4023	0	**6368**	**10180**	0	0	0	**0**	0	0	0	**0**	**0**	**10180**
U Turns				**0**				**1**	**1**				**0**				**0**	**0**	**1**
Total	0	2427	1385	**3812**	2345	4023	0	**6369**	**10181**	0	0	0	**0**	0	0	0	**0**	**0**	**10181**
EQ 12Hr	0	3374	1925	**5299**	3260	5592	0	**8853**	**14152**	0	0	0	**0**	0	0	0	**0**	**0**	**14152**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													**1.39**						
AVG 12Hr	0	3179	1814	**4994**	3072	5270	0	**8343**	**14152**	0	0	0	**0**	0	0	0	**0**	**0**	**14152**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													**1**						
AVG 24Hr	0	4165	2377	**6542**	4024	6904	0	**10930**	**17472**	0	0	0	**0**	0	0	0	**0**	**0**	**17472**
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.													**1.31**						

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

Transportation Services - Traffic Services

Turning Movement Count - Study Results

HWY 417 CASTLEFR IC139R61 @ KANATA AVE

Survey Date: Tuesday, March 03, 2015 **WO No:** 34391

Start Time: 07:00 **Device:** Miovision

Full Study Summary (8 HR Standard)

Survey Date: Tuesday, March 03, 2015

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 0 Westbound: 0

AADT Factor

1.00

	KANATA AVE								HWY 417 CASTLEFR IC139R61									
	Northbound				Southbound				Eastbound				Westbound					
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	0	143	0	**143**	0	560	0	**560**	**703**	0	0	0	**0**	132	0	94	**226**	**226**	**929**
08:00 09:00	0	266	0	**266**	0	587	0	**587**	**853**	0	0	0	**0**	150	0	125	**275**	**275**	**1128**
09:00 10:00	0	212	0	**212**	0	465	0	**465**	**677**	0	0	0	**0**	131	0	112	**243**	**243**	**920**
11:30 12:30	0	302	0	**302**	0	463	0	**463**	**765**	0	0	0	**0**	174	0	248	**422**	**422**	**1187**
12:30 13:30	0	292	1	**293**	0	499	0	**499**	**792**	0	0	0	**0**	134	0	227	**361**	**361**	**1153**
15:00 16:00	0	372	0	**372**	0	575	0	**575**	**947**	0	0	0	**0**	276	0	350	**626**	**626**	**1573**
16:00 17:00	0	361	0	**361**	0	557	0	**557**	**918**	0	0	0	**0**	364	0	368	**732**	**732**	**1650**
17:00 18:00	0	408	0	**408**	0	578	0	**578**	**986**	0	0	0	**0**	323	0	329	**652**	**652**	**1638**
Sub Total	0	2356	1	**2357**	0	4284	0	**4284**	**6641**	0	0	0	**0**	1684	0	1853	**3537**	**3537**	**10178**
U Turns	0			**0**	0			**0**	**0**	**0**			**0**	0			**0**	**0**	**0**
Total	0	2356	1	**2357**	0	4284	0	**4284**	**6641**	0	0	0	**0**	1684	0	1853	**3537**	**3537**	**10178**
EQ 12Hr	0	3275	1	**3276**	0	5955	0	**5955**	**9231**	0	0	0	**0**	2341	0	2576	**4917**	**4917**	**14148**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														**1.39**					
AVG 12Hr	0	3275	1	**3276**	0	5955	0	**5955**	**9231**	0	0	0	**0**	2341	0	2576	**4917**	**4917**	**14148**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														**1.00**					
AVG 24Hr	0	4290	1	**4291**	0	7801	0	**7801**	**12092**	0	0	0	**0**	3067	0	3375	**6442**	**6442**	**18534**
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.														**1.31**					

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

Transportation Services - Traffic Services

Turning Movement Count - Study Results

HWY 417 CASTLEFR IC139R61 @ KANATA AVE

Survey Date: Wednesday, December 06, 2017 **WO No:** 37364

Start Time: 07:00 **Device:** Miovision

Full Study Summary (8 HR Standard)

Survey Date: Wednesday, December 06, 2017

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 0 Westbound: 0

AADT Factor

1.00

	KANATA AVE								HWY 417 CASTLEFR IC139R61								
	Northbound				Southbound				Eastbound				Westbound				
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	0	149	0	**149**	0	642	0	**642**	**791**	0	0	0	**0**	170	0	153	**323**	**323**	**1114**
08:00 09:00	0	310	0	**310**	0	620	0	**620**	**930**	0	0	0	**0**	203	0	186	**389**	**389**	**1319**
09:00 10:00	0	272	0	**272**	0	577	0	**577**	**849**	0	0	0	**0**	162	0	206	**368**	**368**	**1217**
11:30 12:30	0	397	0	**397**	0	610	0	**610**	**1007**	0	0	0	**0**	188	0	399	**587**	**587**	**1594**
12:30 13:30	0	387	0	**387**	0	663	0	**663**	**1050**	0	0	0	**0**	206	0	329	**535**	**535**	**1585**
15:00 16:00	0	405	0	**405**	0	645	0	**645**	**1050**	0	0	0	**0**	495	0	569	**1064**	**1064**	**2114**
16:00 17:00	0	423	0	**423**	0	708	0	**708**	**1131**	0	0	0	**0**	422	0	475	**897**	**897**	**2028**
17:00 18:00	0	556	0	**556**	0	810	0	**810**	**1366**	0	0	0	**0**	409	0	526	**935**	**935**	**2301**
Sub Total	0	2899	0	**2899**	0	5275	0	**5275**	**8174**	0	0	0	**0**	2255	0	2843	**5098**	**5098**	**13272**
U Turns				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	0	2899	0	**2899**	0	5275	0	**5275**	**8174**	0	0	0	**0**	2255	0	2843	**5098**	**5098**	**13272**
EQ 12Hr	0	4030	0	**4030**	0	7332	0	**7332**	**11362**	0	0	0	**0**	3134	0	3952	**7086**	**7086**	**18448**

Note: These values are calculated by multiplying the totals by the appropriate expansion factor. **1.39**

AVG 12Hr	0	3798	0	**3798**	0	6910	0	**6910**	**11362**	0	0	0	**0**	2954	0	3724	**6678**	**7086**	**18448**

Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor. **1**

AVG 24Hr	0	4975	0	**4975**	0	9052	0	**9052**	**14027**	0	0	0	**0**	3870	0	4879	**8749**	**8749**	**22776**

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

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

TRANS Regional Model

Version 2.15 - Assigned June 16, 2020

AM Peak Hour Total Traffic Volume

Campeau Drive and Kanata Ave

2011 Model - Basecase

N/A

User Initials: TIMW
Plot Prepared: August 10, 2020
EMME Scenario: 21711

Legend

AM Peak Hour Total Traffic Volume

1000 2000 3000 4000 5000

Distance (m)

100 200 300 400 500

N

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

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

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

TRANS Regional Model

Version 2.15 - Assigned June 16, 2020

AM Peak Hour Total Traffic Volume

Campeau Drive and Kanata Ave

2031 Model - Basecase

N/A

User Initials: TIMW
Plot Prepared: August 10, 2020
EMME Scenario: 21711

TRANS

Legend

AM Peak Hour Total Traffic Volume

1000 2000 3000 4000 5000

N

Distance (m)

100 200 300 400 500

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

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

Traffic Signal Timing

City of Ottawa, Transportation Services Department

Traffic Signal Operations Unit

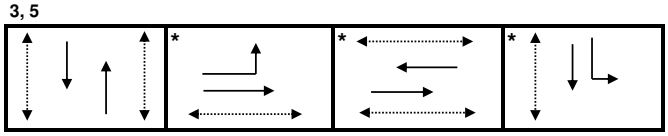
Intersection:	***Main:*** Castlefrank	***Side:***	Katimavik
Controller:	**MS 3200**	**TSD:**	**5995**
Author:	Matthew Anderson	**Date:**	16-Oct-2020

Existing Timing Plans†

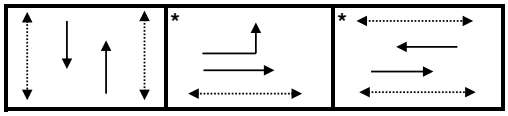
	Plan					Ped Minimum Time		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	**Weekend** 5	***Walk***	***DW***	***A+R***
Cycle	90	75	90	60	85			
Offset	25	19	25	X	12			
NB Thru	40	33	35	30	32	7	16	3.3+2.9
SB Thru	40	33	47	30	43	7	16	3.3+2.9
EB Left	12	12	12	-	12	-	-	3.3+3.4
EB Thru	50	42	43	30	42	7	16	3.3+3.4
WB Thru	38	30	31	30	30	7	16	3.3+3.4
SB Left	-	-	12	-	11	-	-	3.3+2.9

Phasing Sequence‡

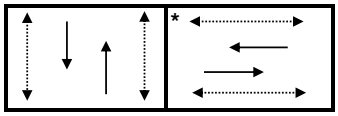
Plan: 3, 5



Plan: 1, 2



Plan: 4



Note: 1) For plan 4, if the EB pedestrian phase is not acuated, the EB movement will force off after 13s

Schedule

Weekday

Time	Plan
0:10	4
6:30	1
9:30	2
15:00	3
19:00	2
23:00	4

Saturday

Time	Plan
0:10	4
9:00	5
22:30	4

Sunday

Time	Plan
0:10	4
8:00	5
22:30	4

Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $58.78 ($52.02 + HST)

Traffic Signal Timing

City of Ottawa, Transportation Services Department

Traffic Signal Operations Unit

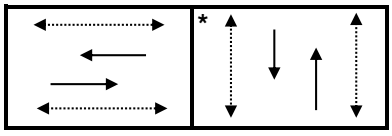
Intersection:	***Main:***	Campeau	***Side:***	Knudson / Maritime
Controller:	**MS 3200**		**TSD:**	**6548**
Author:	Matthew Anderson		**Date:**	16-Oct-2020

Existing Timing Plans†

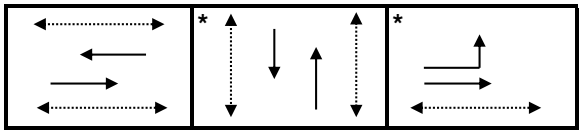
	Plan				**Ped Minimum Time**		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	***Walk***	***DW***	***A+R***
Cycle	80	60	90	60			
Offset	0	0	0	x			
EB Thru	45	35	66	max=45.7	7	15	3.7+2.0
WB Thru	45	35	51	max=45.7	7	15	3.7+2.0
NB Thru	35	25	24	max=26	7	10	3.0+3.0
SB Thru	35	25	24	max=26	7	10	3.0+3.0
EB Left	-	-	15	-	-	-	3.7+2.0

Phasing Sequence‡

Plan: 1, 2, & 4



Plan: 3



Schedule

Weekday

Time	Plan
0:10	4
6:30	2
7:00	1
9:30	2
15:30	3
18:00	2
20:00	4

Weekend

Time	Plan
0:10	4
10:00	2
19:00	4

Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $58.78 ($52.02 + HST)

Traffic Signal Timing

City of Ottawa, Transportation Services Department

Traffic Signal Operations Unit

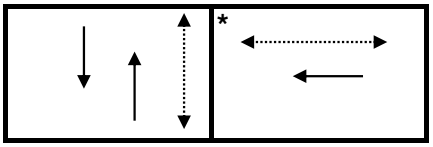
Intersection:	***Main:*** Kanata	***Side:***	417 WB Ramp
Controller:	**MS 3200**	**TSD:**	**6556**
Author:	Matthew Anderson	**Date:**	16-Oct-2020

Existing Timing Plans†

	Plan					**Ped Minimum Time**		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	**Weekend** 5	***Walk***	***DW***	***A+R***
Cycle	90	75	90	60	85			
Offset	35	15	32	X	19			
NB Thru	53	38	45	35	45	7	15	3.3+2.8
SB Thru	53	38	45	35	45	-	-	3.3+2.8
WB Thru	37	37	45	25	40	7	11	3.3+1.7

Phasing Sequence‡

Plan: All



Schedule

Weekday

Time	Plan
0:15	4
6:30	1
9:30	2
15:00	3
19:00	2
23:00	4

Saturday

Time	Plan
0:10	4
9:00	5
22:30	4

Sunday

Time	Plan
0:15	4
8:00	5
22:00	4

Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $58.78 ($52.02 + HST)

Traffic Signal Timing

City of Ottawa, Transportation Services Department

Traffic Signal Operations Unit

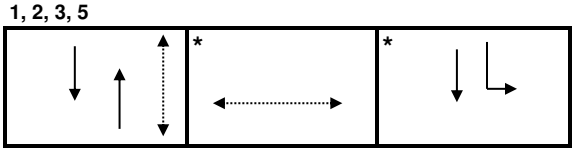
Intersection:	***Main:*** Kanata	***Side:***	417 EB Ramp
Controller:	**ATC 3**	**TSD:**	**6557**
Author:	Matthew Anderson	**Date:**	16-Oct-2020

Existing Timing Plans†

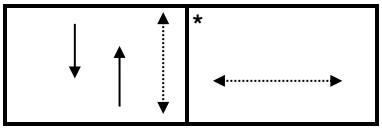
	Plan					**Ped Minimum Time**		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	**Weekend** 5	***Walk***	***DW***	***A+R***
Cycle	90	75	90	60	85			
Offset	42	27	27	X	19			
NB Thru	50	35	50	32	45	7	11	3.3+2.4
SB Thru	62	47	62	32	57	-	-	3.3+2.4
EW Ped	28	28	28	28	28	7	15	3.0+2.0
SB Left	12	12	12	-	12	-	-	3.3+2.4

Phasing Sequence‡

Plan: 1, 2, 3, 5



Plan: 4



Schedule

Weekday

Time	Plan
0:15	4
6:30	1
9:30	2
15:00	3
19:00	2
23:00	4

Saturday

Time	Plan
0:10	4
9:00	5
22:30	4

Sunday

Time	Plan
0:15	4
8:00	5
22:00	4

Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $58.78 ($52.02 + HST)

Traffic Signal Timing

City of Ottawa, Transportation Services Department

Traffic Signal Operations Unit

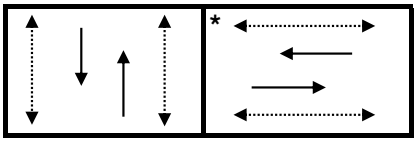
Intersection:	***Main:***	Kanata / Castlefrank	***Side:***	Aird
Controller:	**MS 3200**		**TSD:**	**6582**
Author:	Matthew Anderson		**Date:**	16-Oct-2020

Existing Timing Plans†

	Plan					**Ped Minimum Time**		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	**Weekend** 5	***Walk***	***DW***	***A+R***
Cycle	90	75	90	60	85			
Offset	17	11	10	X	84			
NB Thru	60	45	60	30	55	7	12	3.3+2.4
SB Thru	60	45	60	30	55	7	12	3.3+2.4
EB Thru	30	30	30	30	30	7	15	3.0+3.2
WB Thru	30	30	30	30	30	7	15	3.0+3.2

Phasing Sequence‡

Plan: All



Schedule

Weekday

Time	Plan
0:15	4
6:30	1
9:30	2
15:00	3
19:00	2
23:00	4

Saturday

Time	Plan
0:10	4
9:00	5
22:30	4

Sunday

Time	Plan
0:10	4
8:00	5
22:30	4

Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $58.78 ($52.02 + HST)

Traffic Signal Timing

City of Ottawa, Transportation Services Department

Traffic Signal Operations Unit

Intersection:	**Main:**	Kanata	**Side:**	Lord Byng / Maritime Way	
Controller:	**MS-3200**			**TSD:**	6593
Author:	Matthew Anderson			**Date:**	16-Oct-2020

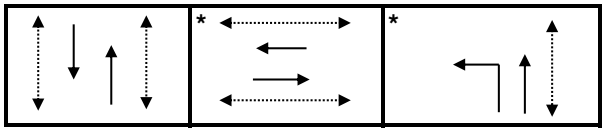
Existing Timing Plans†

	Plan					**Ped Minimum Time**		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	**Weekend** 5	***Walk***	***DW***	***A+R***
Cycle	90	75	90	65	85			
Offset	40	14	31	X	9			
NB Thru	62	47	62	37	56	7	20	3.3+3.0
SB Thru	48	34	47	37	41	7	20	3.3+3.0
EB Thru	28	28	28	28	29	7	15	3.0+3.3
WB Thru	28	28	28	28	29	7	15	3.0+3.3
NB Left	14	13	15	-	15	-	-	3.3+3.0

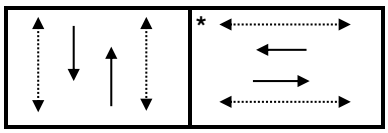
Note: Kanata is considered the NS movement

Phasing Sequence‡

Plan: 1,2,3



Plan: 4



Schedule

Weekday

Time	Plan
0:10	4
6:30	1
9:30	2
15:00	3
19:00	2
23:00	4

Saturday

Time	Plan
0:10	4
9:00	5
22:30	4

Sunday

Time	Plan
0:10	4
8:00	5
22:30	4

Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $58.78 ($52.02 + HST)

Traffic Signal Timing

City of Ottawa, Transportation Services Department

Traffic Signal Operations Unit

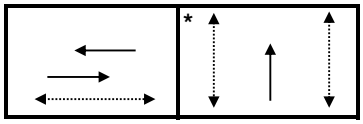
Intersection:	***Main:*** Kanata	***Side:*** Earl Grey	
Controller:	**ATC-3**	**TSD:**	6658
Author:	Matthew Anderson	**Date:**	16-Oct-20

Existing Timing Plans†

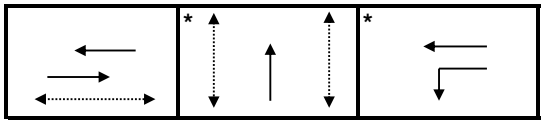
	Plan				**Ped Minimum Time**		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 9	***Walk***	***DW***	***A+R***
Cycle	55	80	100	Free			
Offset	0	0	0	X			
EB Thru	30	55	70	max=56.4	7	16	3.3+3.1
WB Thru	30	43	58	max=56.4	7	16	3.3+3.1
NB Thru	25	25	30	max=40.9	7	12	3.3+2.6
WB Left	-	12	12	-	-	-	3.3+2.5

Phasing Sequence‡

Plans: 1 & 9



Plans: 2 & 3



Schedule

Weekday

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

Weekend

Time	Plan
0:15	9
8:30	2
22:30	9

Notes

†: Time for each direction includes amber and all red intervals

‡: Start of first phase should be used as reference point for offset

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $58.78 ($52.02 + HST)

APPENDIX E

Collision Records

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2014 **To:** December 31, 2018

Location: CASTLEFRANK RD @ KATIMAVIK RD

Traffic Control: Traffic signal **Total Collisions:** 29

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Mar-06, Thu,11:24	Clear	Turning movement	P.D. only	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
					West	Turning left	Passenger van	Other motor vehicle	
2014-Jun-03, Tue,10:00	Rain	Turning movement	P.D. only	Wet	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2014-Jul-10, Thu,06:49	Clear	Angle	Non-fatal injury	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2014-Aug-02, Sat,18:57	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2014-Sep-10, Wed,12:20	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Passenger van	Other motor vehicle	
2015-Jan-04, Sun,10:07	Drifting Snow	Angle	P.D. only	Ice	South	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Pick-up truck	Other motor vehicle	
2015-Feb-13, Fri,15:35	Clear	Turning movement	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Sep-10, Thu,15:55	Clear	Turning movement	Non-fatal injury	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Sep-24, Thu,08:20	Clear	SMV other	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Pedestrian	1
2015-Sep-29, Tue,18:11	Rain	SMV other	Non-fatal injury	Wet	North	Slowing or stopping	Motorcycle	Skidding/sliding	0
2015-Oct-21, Wed,07:59	Clear	Turning movement	P.D. only	Dry	North	Turning right	Automobile, station wagon	Cyclist	0
					North	Going ahead	Bicycle	Other motor vehicle	
2015-Oct-28, Wed,12:24	Rain	Angle	Non-fatal injury	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Pick-up truck	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2014 **To:** December 31, 2018

Location: CASTLEFRANK RD @ KATIMAVIK RD

Traffic Control: Traffic signal **Total Collisions:** 29

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Dec-17, Thu,22:57	Clear	Turning movement	Non-fatal injury	Wet	West	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning left	Automobile, station wagon	Other motor vehicle	
2016-Jan-18, Mon,08:55	Clear	Angle	P.D. only	Slush	North	Going ahead	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Truck - closed	Other motor vehicle	
2016-Feb-25, Thu,21:03	Drifting Snow	Angle	P.D. only	Packed snow	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
2016-Jul-04, Mon,16:00	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2016-Oct-20, Thu,13:19	Rain	Rear end	P.D. only	Wet	East	Going ahead	Passenger van	Other motor vehicle	0
					East	Stopped	Passenger van	Other motor vehicle	
2017-Jan-31, Tue,22:02	Clear	Angle	Non-fatal injury	Dry	West	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Passenger van	Other motor vehicle	
2017-Jun-20, Tue,22:27	Clear	Angle	P.D. only	Dry	West	Going ahead	Unknown	Other motor vehicle	0
					North	Going ahead	Passenger van	Other motor vehicle	
2017-Sep-29, Fri,16:11	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2017-Nov-01, Wed,07:18	Rain	Turning movement	P.D. only	Wet	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Nov-26, Sun,15:11	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2014 **To:** December 31, 2018

Location: CASTLEFRANK RD @ KATIMAVIK RD

Traffic Control: Traffic signal **Total Collisions:** 29

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Dec-18, Mon,09:34	Snow	Rear end	P.D. only	Loose snow	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Mar-09, Fri,19:47	Clear	Rear end	P.D. only	Wet	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-May-22, Tue,15:52	Rain	Angle	P.D. only	Wet	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jul-02, Mon,08:20	Clear	Angle	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Aug-24, Fri,17:11	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2018-Oct-27, Sat,23:17	Snow	Sideswipe	Non-fatal injury	Slush	South	Overtaking	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Oct-29, Mon,15:36	Rain	Turning movement	Non-fatal injury	Wet	North	Turning left	Passenger van	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: KANATA AVE @ EARL GREY DR

Traffic Control: Traffic signal **Total Collisions:** 11

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Jan-03, Fri,08:22	Snow	SMV other	Non-fatal injury	Ice	South	Going ahead	Pick-up truck	Pole (utility, power)	0
2014-Feb-10, Mon,14:40	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2014 **To:** December 31, 2018

Location: KANATA AVE @ EARL GREY DR

Traffic Control: Traffic signal **Total Collisions:** 11

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Sep-06, Sat,11:48	Rain	Rear end	P.D. only	Wet	East	Slowing or stopping	Passenger van	Other motor vehicle	0
					East	Turning left	Automobile, station wagon	Other motor vehicle	
2015-Jan-28, Wed,17:53	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2015-Jun-15, Mon,19:45	Rain	Rear end	P.D. only	Wet	North	Turning left	Pick-up truck	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2016-Mar-22, Tue,18:45	Rain	Rear end	P.D. only	Wet	East	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2016-Aug-12, Fri,16:08	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Nov-25, Fri,16:40	Rain	Turning movement	P.D. only	Wet	North	Turning left	Passenger van	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Dec-17, Sat,11:46	Snow	Rear end	P.D. only	Ice	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Jan-12, Thu,16:50	Clear	Turning movement	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Dec-20, Thu,13:07	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	

Location: KANATA AVE/CASTLEFRANK RD @ AIRD PL

Traffic Control: Traffic signal **Total Collisions:** 15

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2014 **To:** December 31, 2018

Location: KANATA AVE/CASTLEFRANK RD @ AIRD PL

Traffic Control: Traffic signal **Total Collisions:** 15

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Jan-03, Fri,12:38	Clear	Rear end	P.D. only	Ice	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2014-May-12, Mon,10:53	Clear	Angle	P.D. only	Dry	West	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Municipal transit bus	Other motor vehicle	
2014-Jul-03, Thu,17:23	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Passenger van	Other motor vehicle	
2014-Jul-28, Mon,14:06	Rain	Rear end	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2014-Oct-04, Sat,16:30	Rain	Rear end	Non-fatal injury	Wet	South	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
					South	Turning left	Pick-up truck	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2014-Oct-20, Mon,18:46	Rain	Rear end	P.D. only	Wet	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Aug-03, Mon,11:47	Rain	Rear end	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2015-Nov-23, Mon,10:06	Clear	Angle	Non-fatal injury	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Jan-21, Thu,13:09	Clear	Rear end	P.D. only	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2014 **To:** December 31, 2018

Location: KANATA AVE/CASTLEFRANK RD @ AIRD PL

Traffic Control: Traffic signal **Total Collisions:** 15

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Apr-05, Tue,16:19	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2016-Sep-10, Sat,11:20	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Mar-27, Mon,15:50	Rain	Rear end	P.D. only	Ice	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Apr-21, Fri,11:38	Clear	Rear end	P.D. only	Dry	South	Going ahead	Delivery van	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Jul-18, Tue,10:50	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Aug-14, Mon,17:00	Clear	Rear end	P.D. only	Dry	South	Changing lanes	Passenger van	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	

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Collision Details Report - Public Version

From: January 1, 2014 **To:** December 31, 2018

Location: CAMPEAU DR @ KNUDSON DR

Traffic Control: Traffic signal **Total Collisions:** 6

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Mar-04, Wed,16:39	Snow	Rear end	P.D. only	Loose snow	East	Slowing or stopping	Automobile, station wagon	Skidding/sliding	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
2015-Dec-02, Wed,15:14	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2016-Jun-08, Wed,21:47	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Pick-up truck	Other motor vehicle	0
					East	Turning left	Pick-up truck	Other motor vehicle	
2017-Apr-27, Thu,08:36	Clear	Angle	Non-fatal injury	Dry	East	Going ahead	Bicycle	Other motor vehicle	0
					South	Turning right	Automobile, station wagon	Cyclist	
2017-Jul-21, Fri,14:23	Clear	Turning movement	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Turning right	Delivery van	Other motor vehicle	
2018-Aug-23, Thu,12:17	Clear	SMV other	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Debris on road	0

Location: HWY 417 CASTLEFR IC139R61 @ KANATA AVE

Traffic Control: Traffic signal **Total Collisions:** 38

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped

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Collision Details Report - Public Version

From: January 1, 2014 **To:** December 31, 2018

Location: HWY 417 CASTLEFR IC139R61 @ KANATA AVE

Traffic Control: Traffic signal **Total Collisions:** 38

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Jan-30, Thu,13:37	Clear	Angle	P.D. only	Packed snow	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2014-Mar-04, Tue,16:35	Snow	Angle	P.D. only	Ice	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Passenger van	Other motor vehicle	
2014-Jun-29, Sun,16:31	Clear	Angle	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2014-Jul-28, Mon,13:38	Rain	SMV other	P.D. only	Wet	West	Going ahead	Passenger van	Curb	0
2014-Aug-23, Sat,16:27	Clear	Angle	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Pick-up truck	Other motor vehicle	
2014-Sep-19, Fri,10:02	Clear	Angle	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	
2015-Jan-21, Wed,08:26	Clear	Angle	P.D. only	Dry	West	Turning left	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Aug-17, Mon,07:29	Clear	Angle	Non-fatal injury	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Municipal transit bus	Other motor vehicle	
2015-Sep-12, Sat,14:21	Rain	Rear end	P.D. only	Wet	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Nov-14, Sat,18:16	Clear	Angle	P.D. only	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					West	Turning left	Pick-up truck	Other motor vehicle	
2016-Jan-21, Thu,08:17	Clear	Angle	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2016-Feb-12, Fri,08:30	Snow	Rear end	P.D. only	Loose snow	West	Going ahead	Pick-up truck	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	

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Collision Details Report - Public Version

From: January 1, 2014 **To:** December 31, 2018

Location: HWY 417 CASTLEFR IC139R61 @ KANATA AVE

Traffic Control: Traffic signal **Total Collisions:** 38

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Mar-09, Wed,16:40	Clear	Rear end	P.D. only	Dry	West	Going ahead	Pick-up truck	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Jun-19, Sun,17:16	Clear	Angle	P.D. only	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Pick-up truck	Other motor vehicle	
2016-Jul-12, Tue,12:45	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Aug-11, Thu,14:30	Clear	Angle	Non-fatal injury	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2016-Dec-13, Tue,19:27	Clear	Rear end	P.D. only	Loose snow	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2016-Dec-14, Wed,15:45	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Jan-29, Sun,16:12	Clear	Rear end	Non-fatal injury	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Mar-17, Fri,21:15	Clear	Sideswipe	P.D. only	Dry	West	Turning left	Pick-up truck	Other motor vehicle	0
					West	Turning left	Pick-up truck	Other motor vehicle	
2017-Apr-16, Sun,15:50	Rain	SMV other	P.D. only	Wet	West	Turning left	Automobile, station wagon	Building or wall	0
2017-May-17, Wed,16:00	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Sep-08, Fri,10:42	Clear	Angle	P.D. only	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Sep-24, Sun,13:38	Clear	Turning movement	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Nov-02, Thu,18:12	Rain	SMV other	Non-fatal injury	Wet	West	Turning left	Pick-up truck	Pole (utility, power)	0

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2014 **To:** December 31, 2018

Location: HWY 417 CASTLEFR IC139R61 @ KANATA AVE

Traffic Control: Traffic signal **Total Collisions:** 38

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Dec-14, Thu,15:27	Clear	Angle	P.D. only	Dry	South	Going ahead	Unknown	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Jan-06, Sat,15:30	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jan-31, Wed,07:54	Clear	Angle	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Mar-17, Sat,12:09	Clear	Angle	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Apr-04, Wed,17:44	Clear	Rear end	P.D. only	Wet	West	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Other motor vehicle	
2018-Apr-25, Wed,09:00	Rain	Angle	P.D. only	Wet	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Slowing or stopping	Municipal transit bus	Other motor vehicle	
2018-May-05, Sat,11:44	Clear	Angle	Non-fatal injury	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2018-May-26, Sat,00:11	Clear	Angle	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jun-08, Fri,11:17	Clear	SMV other	Non-fatal injury	Dry	West	Turning right	Automobile, station wagon	Pedestrian	1
2018-Jul-23, Mon,17:29	Rain	Rear end	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jul-28, Sat,17:30	Clear	Rear end	P.D. only	Dry	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Nov-24, Sat,13:32	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Passenger van	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	

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Collision Details Report - Public Version

From: January 1, 2014 **To:** December 31, 2018

Location: HWY 417 CASTLEFR IC139R61 @ KANATA AVE

Traffic Control: Traffic signal **Total Collisions:** 38

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Dec-19, Wed,18:00	Clear	Rear end	P.D. only	Dry	West	Turning right	Pick-up truck	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Other motor vehicle	

Location: KANATA AVE @ HWY 417 CASTLEFR IC139R15

Traffic Control: Traffic signal **Total Collisions:** 10

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Oct-21, Tue,13:06	Rain	Rear end	P.D. only	Wet	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Aug-23, Sun,15:50	Clear	Turning movement	P.D. only	Dry	North	Making "U" turn	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Aug-29, Sat,17:09	Rain	Turning movement	P.D. only	Wet	South	Turning left	Pick-up truck	Skidding/sliding	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Oct-17, Sat,00:53	Rain	Rear end	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Nov-25, Fri,10:40	Clear	Angle	P.D. only	Slush	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Pick-up truck	Other motor vehicle	
2017-Oct-04, Wed,17:21	Rain	Rear end	P.D. only	Wet	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jan-06, Sat,20:23	Clear	Rear end	P.D. only	Dry	South	Going ahead	Passenger van	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-May-23, Wed,15:15	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	

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From: January 1, 2014 **To:** December 31, 2018

Location: KANATA AVE @ HWY 417 CASTLEFR IC139R15

Traffic Control: Traffic signal **Total Collisions:** 10

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Oct-16, Tue,18:21	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Oct-28, Sun,03:12	Rain	SMV other	P.D. only	Wet	Unknown	Going ahead	Automobile, station wagon	Ran off road	0

Location: KANATA RD @ LORD BYNG WAY/MARITIME WAY

Traffic Control: Traffic signal **Total Collisions:** 40

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Jan-02, Thu,15:00	Clear	Rear end	P.D. only	Dry	North	Unknown	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2014-Jan-07, Tue,14:59	Drifting Snow	Rear end	Non-fatal injury	Ice	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2014-Jan-25, Sat,17:20	Drifting Snow	Rear end	P.D. only	Loose snow	South	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2014-May-16, Fri,07:10	Rain	Rear end	P.D. only	Wet	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2014-Jun-24, Tue,12:27	Rain	Rear end	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2014-Jul-30, Wed,18:35	Rain	Rear end	P.D. only	Wet	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2014-Aug-05, Tue,08:28	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2014-Aug-20, Wed,21:05	Rain	Rear end	P.D. only	Wet	South	Slowing or stopping	Passenger van	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	

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From: January 1, 2014 **To:** December 31, 2018

Location: KANATA RD @ LORD BYNG WAY/MARITIME WAY

Traffic Control: Traffic signal **Total Collisions:** 40

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Dec-22, Mon,16:10	Clear	Turning movement	P.D. only	Dry	North	Turning left	Pick-up truck	Other motor vehicle	0
					North	Turning left	Municipal transit bus	Other motor vehicle	
2015-Mar-21, Sat,21:53	Clear	Rear end	P.D. only	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2015-Apr-06, Mon,13:58	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Apr-08, Wed,14:51	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Jun-21, Sun,12:32	Clear	Rear end	P.D. only	Dry	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Aug-04, Tue,20:02	Clear	Rear end	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2015-Nov-13, Fri,17:29	Rain	Rear end	P.D. only	Wet	West	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Turning right	Pick-up truck	Other motor vehicle	
2016-Feb-19, Fri,11:45	Clear	Rear end	P.D. only	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Feb-25, Thu,20:00	Freezing Rain	Sideswipe	P.D. only	Ice	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Pick-up truck	Other motor vehicle	
2016-Feb-25, Thu,21:40	Clear	Rear end	P.D. only	Ice	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Sep-13, Tue,13:52	Clear	SMV other	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Pole (sign, parking meter)	0
2016-Sep-22, Thu,09:19	Clear	SMV other	Non-fatal injury	Dry	South	Turning left	Automobile, station wagon	Pedestrian	1
2016-Oct-02, Sun,13:52	Rain	Angle	P.D. only	Wet	North	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	

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Collision Details Report - Public Version

From: January 1, 2014 **To:** December 31, 2018

Location: KANATA RD @ LORD BYNG WAY/MARITIME WAY

Traffic Control: Traffic signal **Total Collisions:** 40

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Dec-14, Wed,18:33	Clear	Rear end	Non-fatal injury	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Passenger van	Other motor vehicle	
2017-Apr-13, Thu,15:32	Clear	Rear end	Non-fatal injury	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Jun-07, Wed,10:58	Clear	Approaching	P.D. only	Dry	North	Unknown	Unknown	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Aug-04, Fri,22:21	Rain	Rear end	P.D. only	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Aug-17, Thu,17:30	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Sep-01, Fri,20:00	Clear	Rear end	P.D. only	Dry	West	Going ahead	Unknown	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Other motor vehicle	
2017-Sep-04, Mon,17:52	Rain	Rear end	Non-fatal injury	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Sep-16, Sat,17:33	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2017-Oct-29, Sun,11:45	Rain	Rear end	P.D. only	Wet	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Nov-15, Wed,11:53	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Passenger van	Other motor vehicle	
2017-Dec-07, Thu,10:13	Clear	Angle	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Municipal transit bus	Other motor vehicle	

Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2014 **To:** December 31, 2018

Location: KANATA RD @ LORD BYNG WAY/MARITIME WAY

Traffic Control: Traffic signal **Total Collisions:** 40

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Jan-05, Fri,11:45	Strong wind	Rear end	P.D. only	Ice	North	Going ahead	Pick-up truck	Skidding/sliding	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jan-05, Fri,17:50	Drifting Snow	Rear end	P.D. only	Slush	South	Going ahead	Unknown	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jul-03, Tue,17:00	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Aug-11, Sat,15:32	Clear	Rear end	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2018-Oct-20, Sat,14:53	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Nov-14, Wed,00:02	Clear	SMV other	Non-fatal injury	Dry	South	Going ahead	Automobile, station wagon	Skidding/sliding	0
2018-Nov-30, Fri,11:00	Clear	Other	P.D. only	Dry	South	Reversing	Pick-up truck	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Dec-15, Sat,14:44	Clear	Turning movement	P.D. only	Wet	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Passenger van	Other motor vehicle	

APPENDIX F

Relevant Excerpts from Other Reports

Figure 7: Site Generated Traffic Volumes

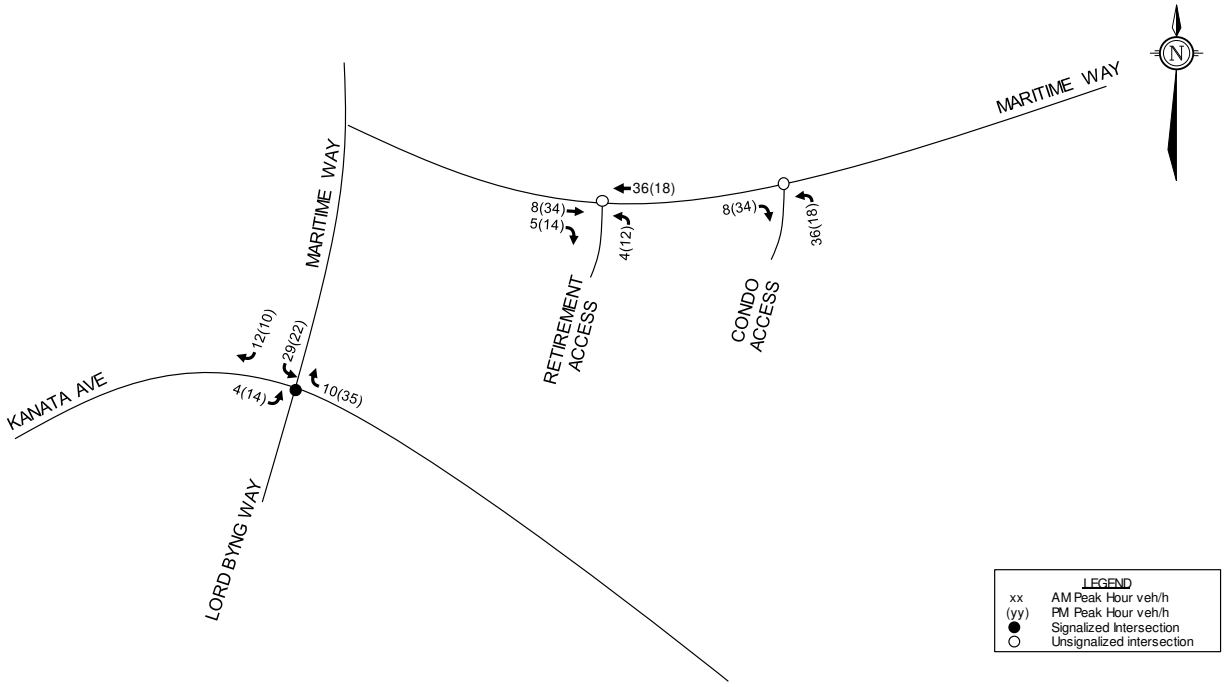


Figure 8: Total Traffic Volumes

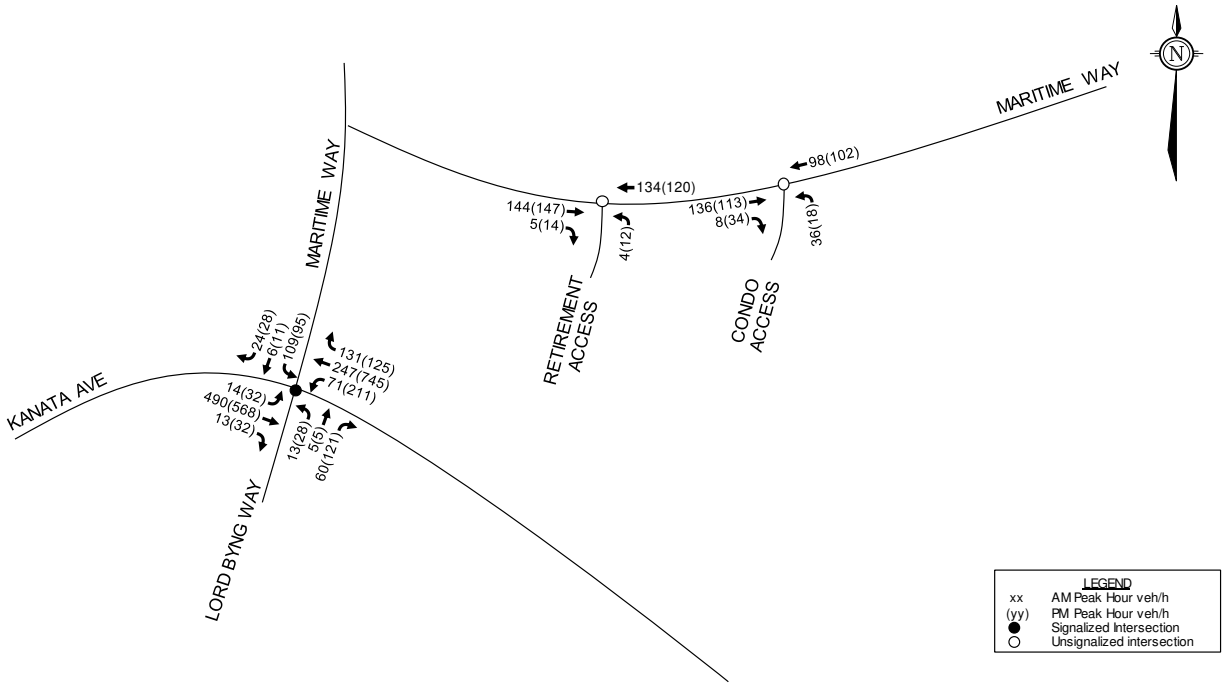


Figure 9: Projected Site-Generated Traffic

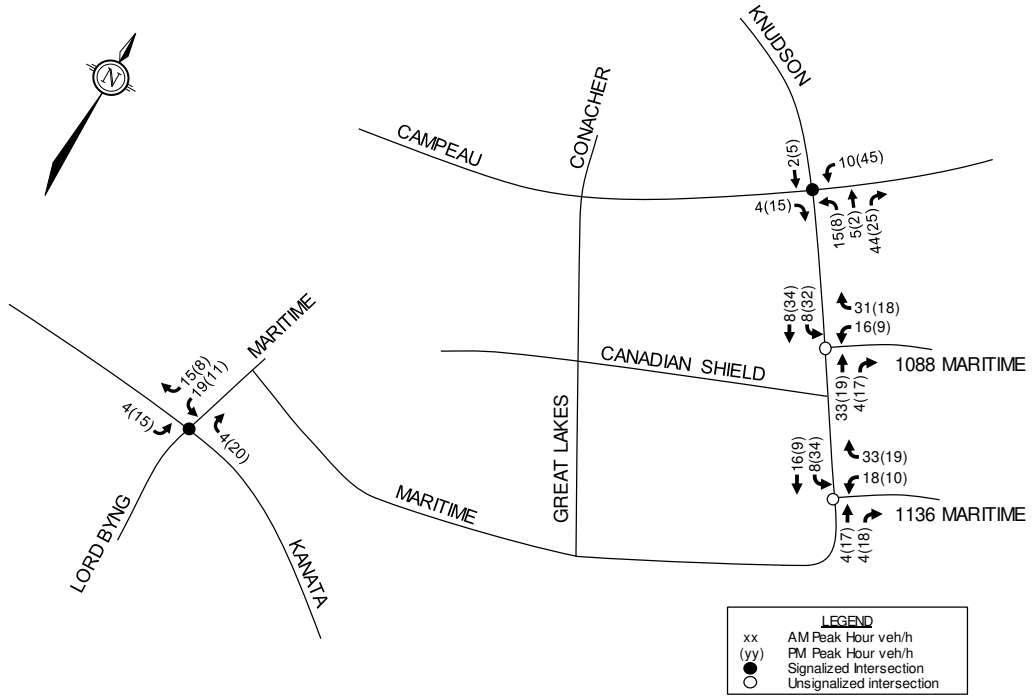
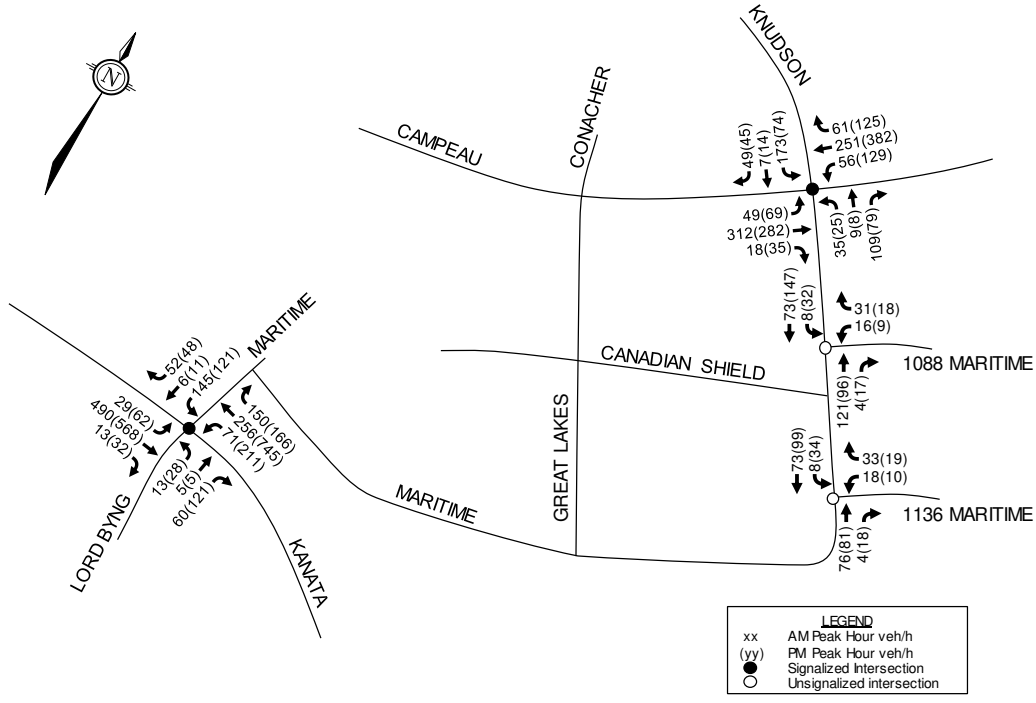
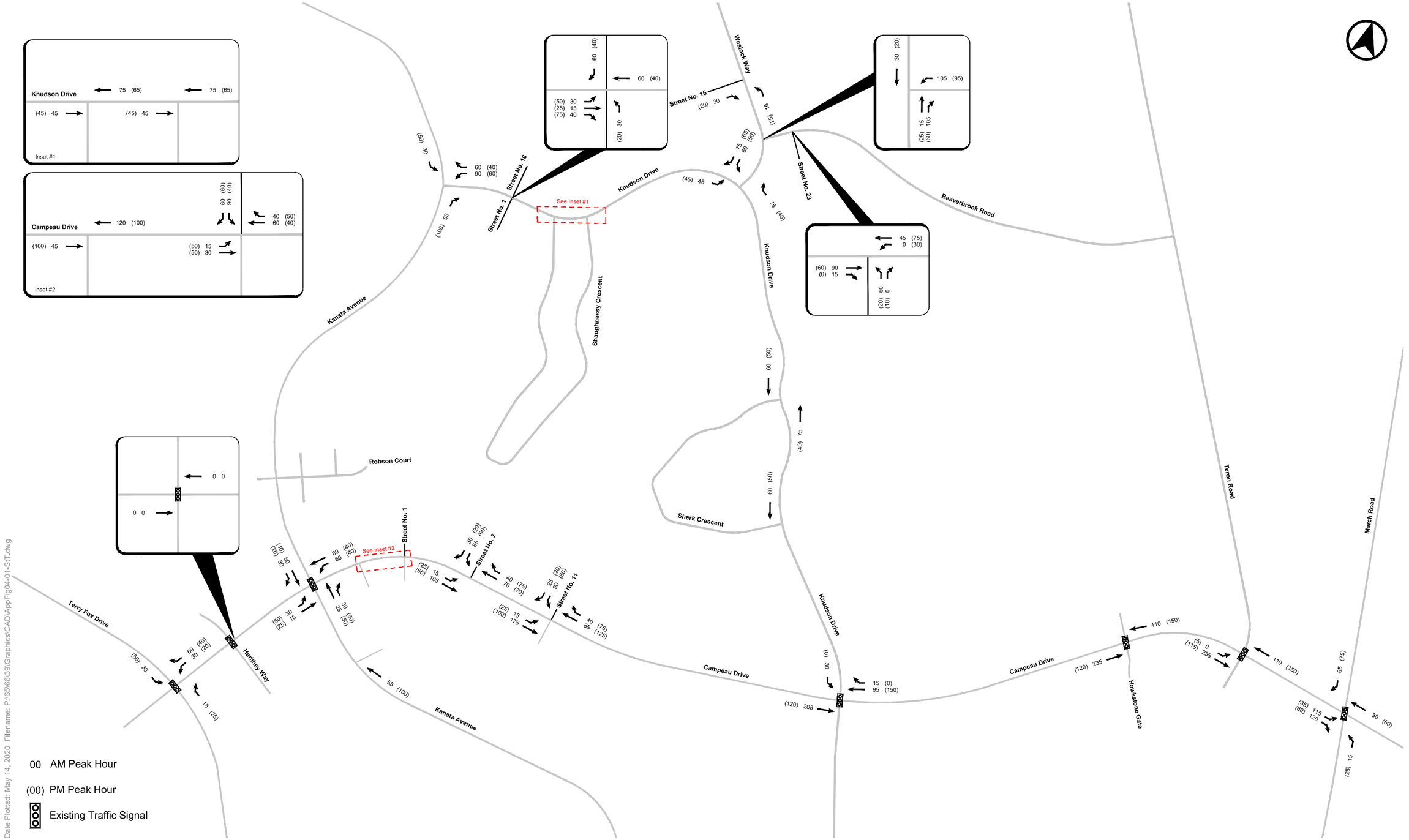


Figure 10: Total Traffic





Date Plotted: May 14, 2020 Filename: P:\6566\39\Graphics\CAD\AppFig\04-01-Str.dwg

APPENDIX C FIGURE 4 SITE TRAFFIC VOLUMES

Figure 6: Percent Assignment

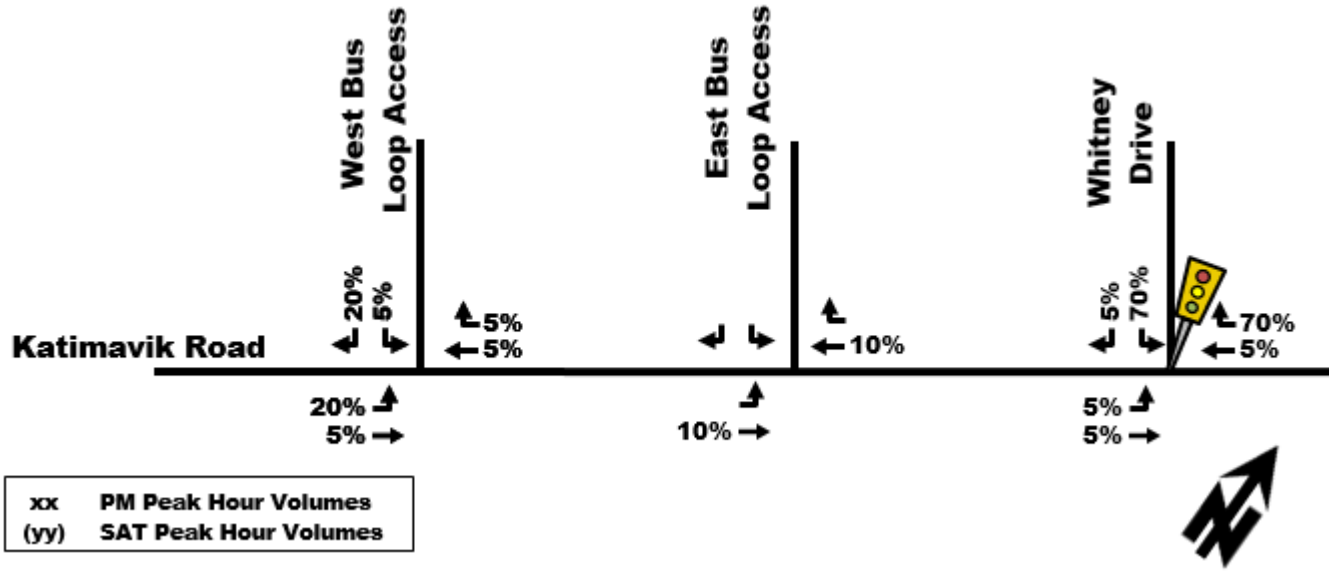
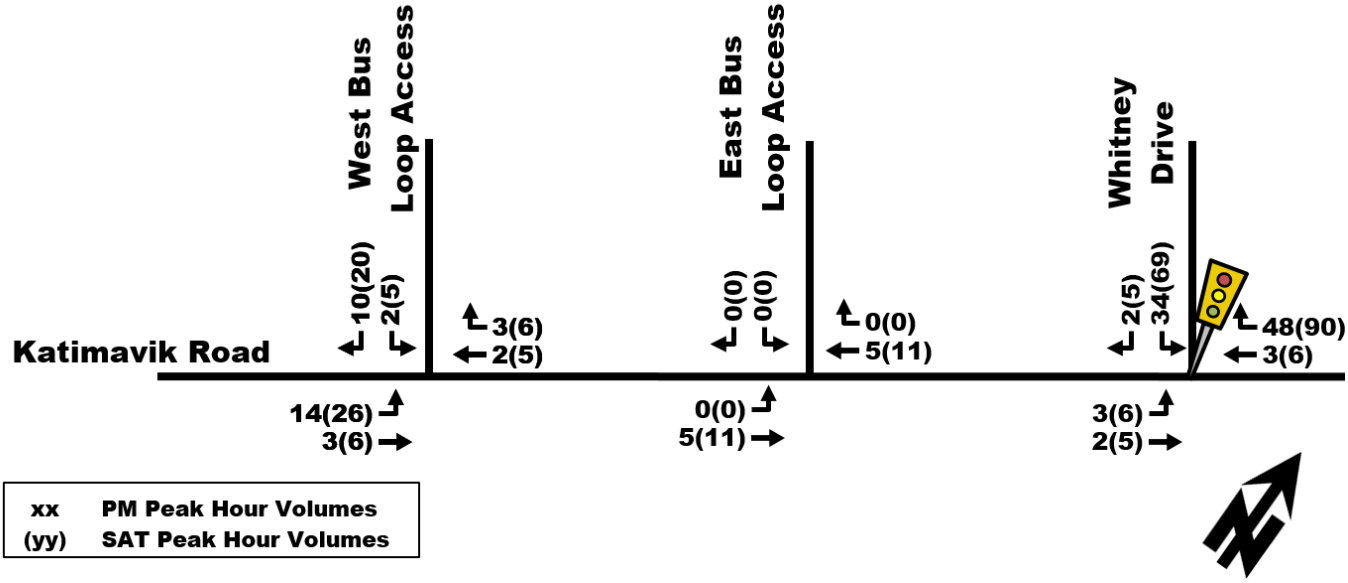


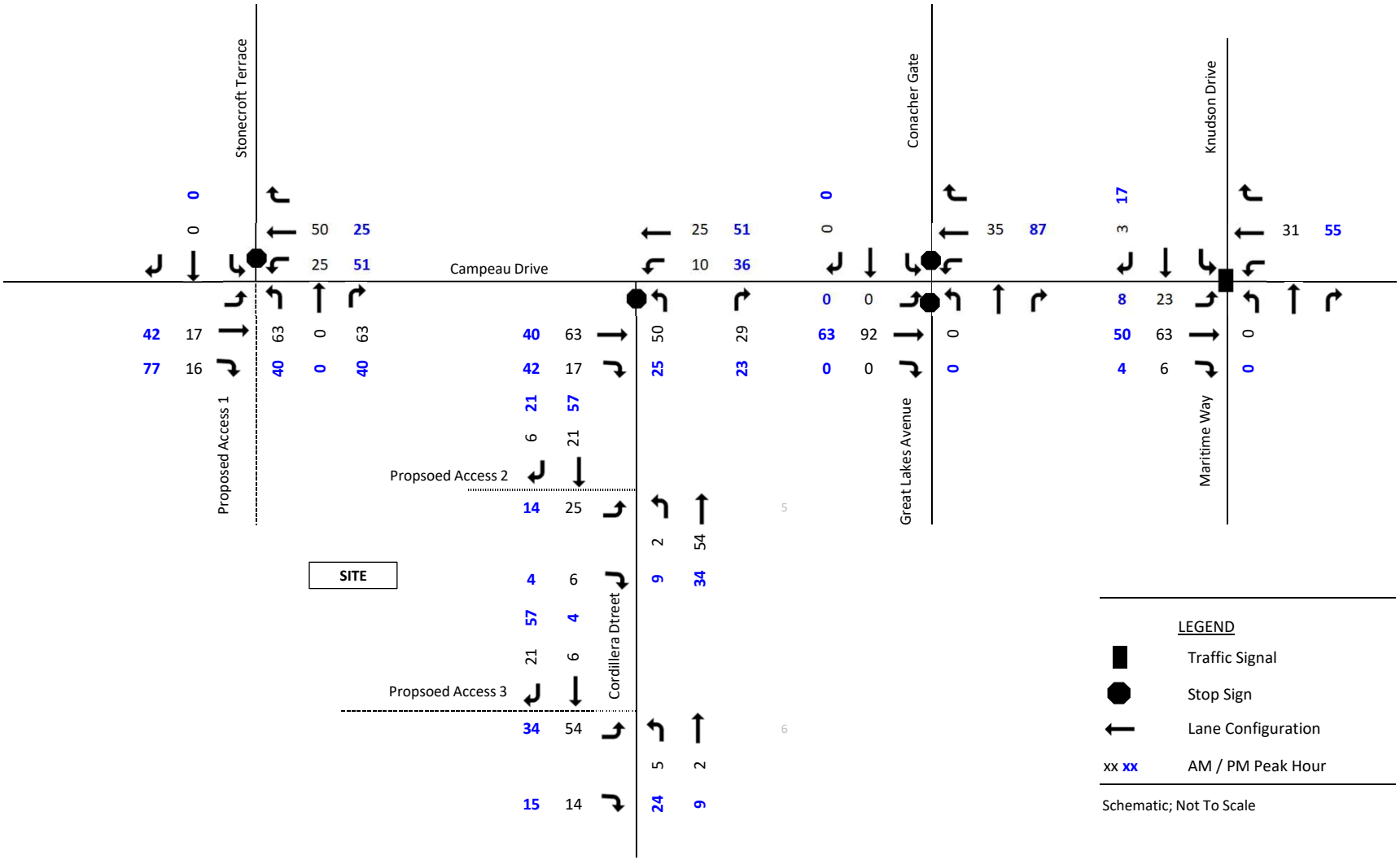
Figure 7: Site Generated Traffic Volumes



3.4. Future Background Projected Intersection Volumes

The future background traffic for the 2017 horizon year was projected by adding 1% background growth for 1 year to the through movements along Katimavik Road. The future background traffic for the 2022 horizon year was projected by adding 1% background growth for 6 years to the through movements along Katimavik Road. The future background traffic volumes for the 2017 and 2022 are illustrated in *Figure 8* and *Figure 9*, respectively.

Figure 7: Site Traffic Assignment, Weekday AM and PM Peak Hours



APPENDIX G

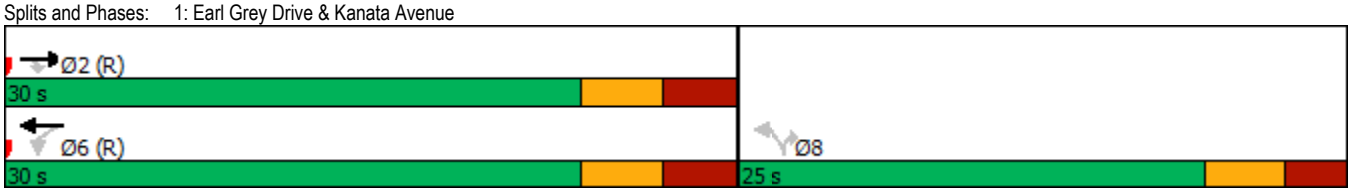
Synchro Analysis Reports – Background Traffic

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	701	37	57	333	10	35
Future Volume (vph)	701	37	57	333	10	35
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		55.0	110.0		30.0	0.0
Storage Lanes		1	1		1	1
Taper Length (m)			100.0		45.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor			1.00			
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1767	1394	1695	1670	1441	1459
Flt Permitted			0.340		0.950	
Satd. Flow (perm)	1767	1394	606	1670	1441	1459
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		37				35
Link Speed (k/h)	50			50	50	
Link Distance (m)	287.1			471.4	128.3	
Travel Time (s)	20.7			33.9	9.2	
Confl. Peds. (#/hr)			1			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	11%	2%	9%	20%	6%
Adj. Flow (vph)	701	37	57	333	10	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	701	37	57	333	10	35
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)		14	24		24	14
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (m)	30.5	6.1	6.1	30.5	6.1	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	1.8	6.1	6.1	1.8	6.1	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)	28.7			28.7		
Detector 2 Size(m)	1.8			1.8		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Perm	NA	Perm	Perm
Protected Phases	2			6		
Permitted Phases		2	6		8	8
Detector Phase	2	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	30.0	30.0	29.4	29.4	24.9	24.9
Total Split (s)	30.0	30.0	30.0	30.0	25.0	25.0
Total Split (%)	54.5%	54.5%	54.5%	54.5%	45.5%	45.5%
Maximum Green (s)	23.6	23.6	23.6	23.6	19.1	19.1
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.1	3.1	3.1	3.1	2.6	2.6

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	6.4	6.4	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	12.0	12.0
Pedestrian Calls (#/hr)	10	10	10	10	10	10
Act Effct Green (s)	41.4	41.4	41.4	41.4	8.4	8.4
Actuated g/C Ratio	0.75	0.75	0.75	0.75	0.15	0.15
v/c Ratio	0.53	0.03	0.12	0.27	0.05	0.14
Control Delay	10.9	3.2	7.3	6.4	16.8	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.9	3.2	7.3	6.4	16.8	7.6
LOS	B	A	A	A	B	A
Approach Delay	10.5			6.5	9.6	
Approach LOS	B			A	A	
Queue Length 50th (m)	29.8	0.0	1.6	10.7	0.9	0.0
Queue Length 95th (m)	#122.3	3.9	9.8	40.1	3.1	4.5
Internal Link Dist (m)	263.1			447.4	104.3	
Turn Bay Length (m)		55.0	110.0		30.0	
Base Capacity (vph)	1329	1058	456	1256	500	529
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.53	0.03	0.13	0.27	0.02	0.07

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay: 9.2		Intersection LOS: A	
Intersection Capacity Utilization 64.4%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: Earl Grey Drive & Kanata Avenue

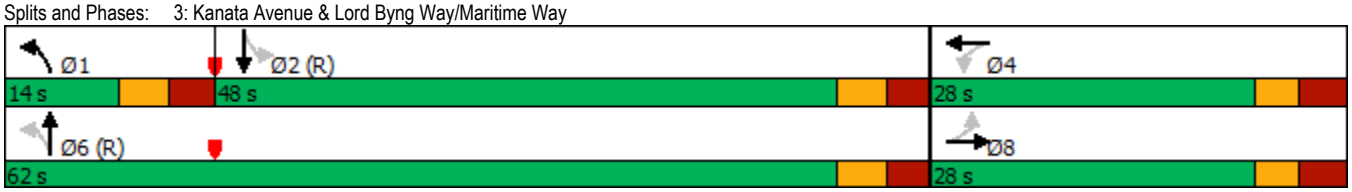


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	6	36	145	2	34	85	323	143	18	611	16
Future Volume (vph)	19	6	36	145	2	34	85	323	143	18	611	16
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	20.0		0.0	40.0		0.0	35.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	25.0			40.0			75.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	0.98		0.99	0.98		1.00	0.99		1.00	1.00	
Frt		0.871			0.858			0.954			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1262	1045	0	1616	1499	0	1417	1654	0	1478	1758	0
Flt Permitted	0.734			0.730			0.261			0.495		
Satd. Flow (perm)	973	1045	0	1234	1499	0	389	1654	0	769	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			34			46			2	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		119.6			99.0			110.4			471.4	
Travel Time (s)		8.6			7.1			7.9			33.9	
Confl. Peds. (#/hr)	1		3	3		1	3		1	1		3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	37%	2%	56%	7%	2%	2%	22%	4%	5%	17%	2%	44%
Adj. Flow (vph)	19	6	36	145	2	34	85	323	143	18	611	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	42	0	145	36	0	85	466	0	18	627	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		8			4		1	6			2	
Permitted Phases	8			4			6			2		
Detector Phase	8	8		4	4		1	6		2	2	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	28.3	28.3		28.3	28.3		11.3	33.3		33.3	33.3	
Total Split (s)	28.0	28.0		28.0	28.0		14.0	62.0		48.0	48.0	
Total Split (%)	31.1%	31.1%		31.1%	31.1%		15.6%	68.9%		53.3%	53.3%	
Maximum Green (s)	21.7	21.7		21.7	21.7		7.7	55.7		41.7	41.7	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.3	3.3		3.3	3.3		3.0	3.0		3.0	3.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3		6.3	6.3		6.3	6.3	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			20.0		20.0	20.0	
Pedestrian Calls (#/hr)	10	10		10	10			10		10	10	
Act Effct Green (s)	15.8	15.8		15.8	15.8		61.6	61.6		50.6	50.6	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.68	0.68		0.56	0.56	
v/c Ratio	0.11	0.20		0.67	0.12		0.25	0.41		0.04	0.63	
Control Delay	30.2	13.9		49.2	11.6		7.6	6.6		12.7	19.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	30.2	13.9		49.2	11.6		7.6	6.6		12.7	19.6	
LOS	C	B		D	B		A	A		B	B	
Approach Delay		19.0			41.7			6.8			19.4	
Approach LOS		B			D			A			B	
Queue Length 50th (m)	2.8	0.9		23.7	0.3		2.8	14.2		1.4	73.9	
Queue Length 95th (m)	8.1	8.7		39.8	7.4		13.2	52.2		5.4	130.6	
Internal Link Dist (m)		95.6			75.0			86.4			447.4	
Turn Bay Length (m)	20.0			40.0			35.0			35.0		
Base Capacity (vph)	234	279		297	387		355	1146		432	989	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.08	0.15		0.49	0.09		0.24	0.41		0.04	0.63	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 40 (44%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 17.4		Intersection LOS: B	
Intersection Capacity Utilization 70.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Kanata Avenue & Lord Byng Way/Maritime Way

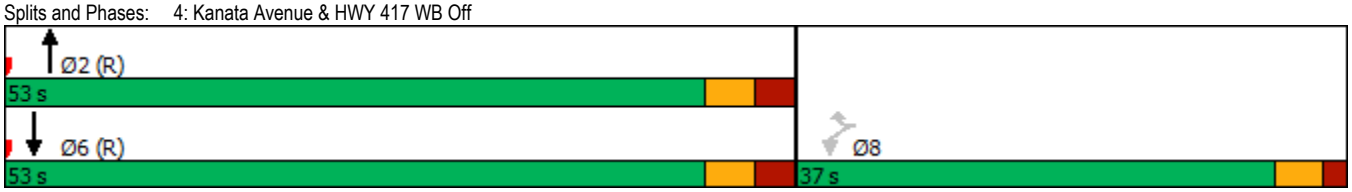


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	217	209	364	0	0	921
Future Volume (vph)	217	209	364	0	0	921
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1695	1334	1717	0	0	3325
Flt Permitted	0.950					
Satd. Flow (perm)	1695	1334	1717	0	0	3325
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		209				
Link Speed (k/h)	50		50			50
Link Distance (m)	332.8		126.6			114.0
Travel Time (s)	24.0		9.1			8.2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	16%	6%	0%	0%	4%
Adj. Flow (vph)	217	209	364	0	0	921
Shared Lane Traffic (%)						
Lane Group Flow (vph)	217	209	364	0	0	921
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0			10.0
Minimum Split (s)	23.0	23.0	28.1			24.1
Total Split (s)	37.0	37.0	53.0			53.0
Total Split (%)	41.1%	41.1%	58.9%			58.9%
Maximum Green (s)	32.0	32.0	46.9			46.9
Yellow Time (s)	3.3	3.3	3.3			3.3
All-Red Time (s)	1.7	1.7	2.8			2.8
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	6.1			6.1
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	11.0	11.0	15.0			
Pedestrian Calls (#/hr)	10	10	10			
Act Effct Green (s)	16.9	16.9	62.0			62.0
Actuated g/C Ratio	0.19	0.19	0.69			0.69
v/c Ratio	0.68	0.50	0.31			0.40
Control Delay	44.4	8.6	2.7			7.1
Queue Delay	0.0	0.0	0.2			0.0
Total Delay	44.4	8.6	2.9			7.1
LOS	D	A	A			A
Approach Delay	26.8		2.9			7.1
Approach LOS	C		A			A
Queue Length 50th (m)	35.3	0.0	6.5			25.9
Queue Length 95th (m)	53.2	16.0	8.2			56.8
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	602	609	1182			2289
Starvation Cap Reductn	0	0	245			0
Spillback Cap Reductn	0	0	0			24
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.36	0.34	0.39			0.41

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 35 (39%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 11.1		Intersection LOS: B	
Intersection Capacity Utilization 54.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Kanata Avenue & HWY 417 WB Off

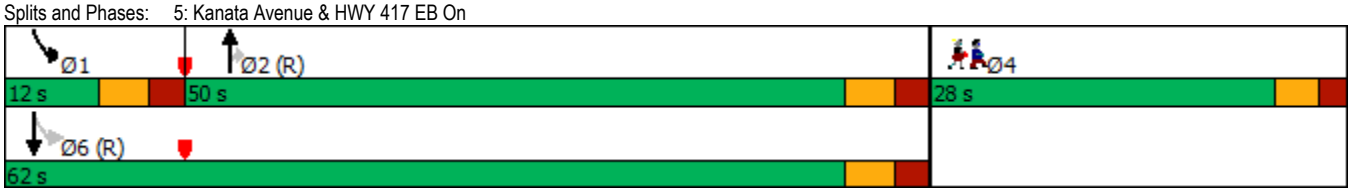


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lane Configurations							
Traffic Volume (vph)	0	0	336	227	445	574	
Future Volume (vph)	0	0	336	227	445	574	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0		50.0	0.0		
Storage Lanes	0	0		1	1		
Taper Length (m)	7.6				7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor				0.98	1.00		
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	0	1685	1502	1679	1750	
Flt Permitted					0.503		
Satd. Flow (perm)	0	0	1685	1468	888	1750	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)				227			
Link Speed (k/h)	48		50			50	
Link Distance (m)	278.4		119.2			126.6	
Travel Time (s)	20.9		8.6			9.1	
Confl. Peds. (#/hr)				1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	0%	0%	8%	3%	3%	4%	
Adj. Flow (vph)	0	0	336	227	445	574	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	336	227	445	574	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(m)	0.0		3.7			3.7	
Link Offset(m)	0.0		0.0			0.0	
Crosswalk Width(m)	4.9		4.9			4.9	
Two way Left Turn Lane							
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	
Turning Speed (k/h)	24	14		14	24		
Number of Detectors			2	1	1	2	
Detector Template			Thru	Right	Left	Thru	
Leading Detector (m)			30.5	6.1	6.1	30.5	
Trailing Detector (m)			0.0	0.0	0.0	0.0	
Detector 1 Position(m)			0.0	0.0	0.0	0.0	
Detector 1 Size(m)			1.8	6.1	6.1	1.8	
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)			0.0	0.0	0.0	0.0	
Detector 1 Queue (s)			0.0	0.0	0.0	0.0	
Detector 1 Delay (s)			0.0	0.0	0.0	0.0	
Detector 2 Position(m)			28.7			28.7	
Detector 2 Size(m)			1.8			1.8	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type			NA	Perm	pm+pt	NA	
Protected Phases			2		1	6	4
Permitted Phases				2	6		
Detector Phase			2	2	1	6	
Switch Phase							
Minimum Initial (s)			10.0	10.0	5.0	10.0	5.0
Minimum Split (s)			23.7	23.7	10.7	23.7	27.0
Total Split (s)			50.0	50.0	12.0	62.0	28.0
Total Split (%)			55.6%	55.6%	13.3%	68.9%	31%
Maximum Green (s)			44.3	44.3	6.3	56.3	23.0
Yellow Time (s)			3.3	3.3	3.3	3.3	3.0
All-Red Time (s)			2.4	2.4	2.4	2.4	2.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lost Time Adjust (s)			0.0	0.0	0.0	0.0	
Total Lost Time (s)			5.7	5.7	5.7	5.7	
Lead/Lag			Lag	Lag	Lead		
Lead-Lag Optimize?			Yes	Yes	Yes		
Vehicle Extension (s)			3.0	3.0	3.0	3.0	3.0
Recall Mode			C-Max	C-Max	None	C-Max	None
Walk Time (s)			7.0	7.0			7.0
Flash Dont Walk (s)			11.0	11.0			15.0
Pedestrian Calls (#/hr)			10	10			10
Act Effct Green (s)			65.0	65.0	78.9	83.5	
Actuated g/C Ratio			0.72	0.72	0.88	0.93	
v/c Ratio			0.28	0.20	0.52	0.35	
Control Delay			6.1	1.6	5.3	2.6	
Queue Delay			0.3	0.0	0.0	0.0	
Total Delay			6.4	1.6	5.3	2.6	
LOS			A	A	A	A	
Approach Delay			4.5			3.8	
Approach LOS			A			A	
Queue Length 50th (m)			4.7	0.0	3.2	0.0	
Queue Length 95th (m)			59.1	11.0	29.4	36.3	
Internal Link Dist (m)	254.4		95.2			102.6	
Turn Bay Length (m)				50.0			
Base Capacity (vph)			1216	1122	850	1623	
Starvation Cap Reductn			406	0	0	18	
Spillback Cap Reductn			0	0	0	0	
Storage Cap Reductn			0	0	0	0	
Reduced v/c Ratio			0.41	0.20	0.52	0.36	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 42 (47%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.52			
Intersection Signal Delay: 4.0		Intersection LOS: A	
Intersection Capacity Utilization 54.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Kanata Avenue & HWY 417 EB On



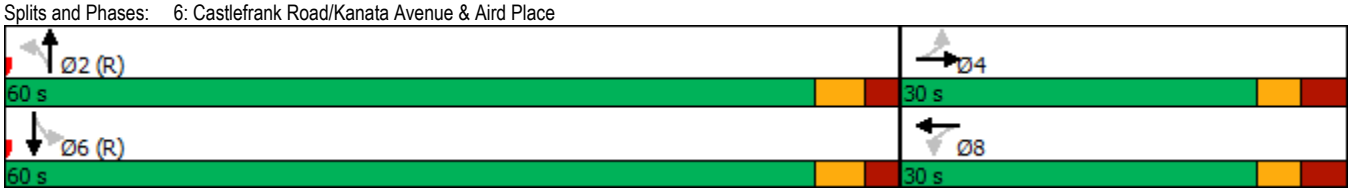
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	6	18	19	6	61	41	558	36	52	513	41
Future Volume (vph)	45	6	18	19	6	61	41	558	36	52	513	41
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		0.0	30.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.6			7.6			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.97			0.96		0.99	1.00		1.00	1.00	
Frt		0.965			0.904			0.991			0.989	
Flt Protected		0.968			0.989		0.950			0.950		
Satd. Flow (prot)	0	1218	0	0	1464	0	1145	1732	0	1662	1713	0
Flt Permitted		0.809			0.909		0.426			0.404		
Satd. Flow (perm)	0	1001	0	0	1336	0	510	1732	0	704	1713	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			61			7			8	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		125.4			132.9			192.1			119.2	
Travel Time (s)		11.3			12.0			13.8			8.6	
Confl. Peds. (#/hr)	14		18	18		14	9		6	6		9
Confl. Bikes (#/hr)			1						1			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	33%	67%	39%	11%	50%	2%	51%	4%	3%	4%	5%	2%
Adj. Flow (vph)	45	6	18	19	6	61	41	558	36	52	513	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	69	0	0	86	0	41	594	0	52	554	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		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	
Minimum Split (s)	28.2	28.2		28.2	28.2		24.7	24.7		24.7	24.7	
Total Split (s)	30.0	30.0		30.0	30.0		60.0	60.0		60.0	60.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%		66.7%	66.7%		66.7%	66.7%	
Maximum Green (s)	23.8	23.8		23.8	23.8		54.3	54.3		54.3	54.3	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	

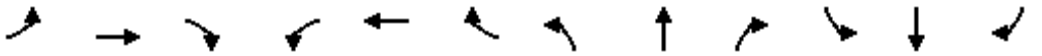
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.2	3.2		3.2	3.2		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.2			6.2		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	10	10		10	10		10	10		10	10	
Act Effct Green (s)		13.0			13.0		69.5	69.5		69.5	69.5	
Actuated g/C Ratio		0.14			0.14		0.77	0.77		0.77	0.77	
v/c Ratio		0.43			0.35		0.10	0.44		0.10	0.42	
Control Delay		34.5			17.0		4.9	5.6		6.3	7.3	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.2	
Total Delay		34.5			17.0		4.9	5.6		6.3	7.4	
LOS		C			B		A	A		A	A	
Approach Delay		34.5			17.0			5.6			7.3	
Approach LOS		C			B			A			A	
Queue Length 50th (m)		8.4			4.0		1.8	34.3		3.2	43.2	
Queue Length 95th (m)		18.3			14.6		m5.0	50.3		6.7	42.0	
Internal Link Dist (m)		101.4			108.9			168.1			95.2	
Turn Bay Length (m)							30.0			50.0		
Base Capacity (vph)		277			398		393	1339		543	1324	
Starvation Cap Reductn		0			0		0	0		0	209	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.25			0.22		0.10	0.44		0.10	0.50	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 17 (19%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.44			
Intersection Signal Delay: 8.5		Intersection LOS: A	
Intersection Capacity Utilization 69.6%		ICU Level of Service C	
Analysis Period (min) 15			

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

Splits and Phases: 6: Castlefrank Road/Kanata Avenue & Aird Place



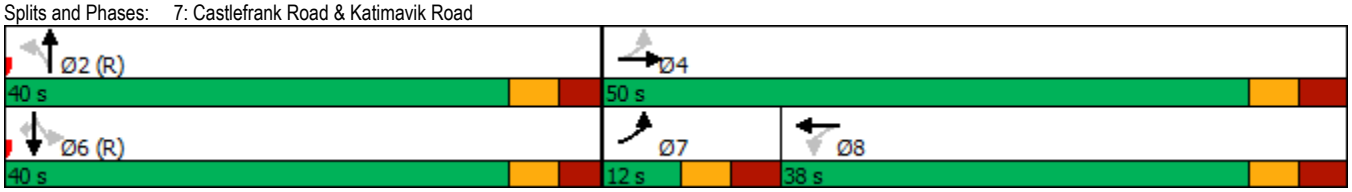


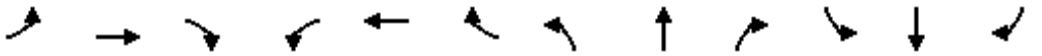
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	130	72	34	114	33	123	387	51	75	296	96
Future Volume (vph)	157	130	72	34	114	33	123	387	51	75	296	96
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	35.0		0.0	55.0		0.0	35.0		0.0	90.0		60.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	55.0			55.0			55.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95	0.98		0.98	0.98		0.98	0.99		0.97		0.94
Frt		0.947			0.966			0.983				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1586	1649	0	1695	1631	0	1695	1629	0	1503	1655	1322
Flt Permitted	0.448			0.631			0.562			0.445		
Satd. Flow (perm)	712	1649	0	1099	1631	0	980	1629	0	686	1655	1245
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			18			8				126
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		313.1			295.7			254.6			192.1	
Travel Time (s)		22.5			21.3			18.3			13.8	
Confl. Peds. (#/hr)	35		16	16		35	20		33	33		20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	9%	3%	2%	2%	3%	15%	2%	9%	7%	15%	10%	17%
Adj. Flow (vph)	157	130	72	34	114	33	123	387	51	75	296	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	202	0	34	147	0	123	438	0	75	296	96
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	11.7	29.7		29.7	29.7		29.2	29.2		29.2	29.2	29.2
Total Split (s)	12.0	50.0		38.0	38.0		40.0	40.0		40.0	40.0	40.0
Total Split (%)	13.3%	55.6%		42.2%	42.2%		44.4%	44.4%		44.4%	44.4%	44.4%
Maximum Green (s)	5.3	43.3		31.3	31.3		33.8	33.8		33.8	33.8	33.8
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	3.4	3.4		3.4	3.4		2.9	2.9		2.9	2.9	2.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7		6.7	6.7		6.2	6.2		6.2	6.2	6.2
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	C-Max
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		16.0		16.0	16.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)		10		10	10		10	10		10	10	10
Act Effct Green (s)	26.1	26.1		14.1	14.1		51.0	51.0		51.0	51.0	51.0
Actuated g/C Ratio	0.29	0.29		0.16	0.16		0.57	0.57		0.57	0.57	0.57
v/c Ratio	0.61	0.40		0.20	0.54		0.22	0.47		0.19	0.32	0.13
Control Delay	35.3	21.3		33.4	37.0		12.5	14.7		12.6	11.3	3.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	35.3	21.3		33.4	37.0		12.5	14.7		12.6	11.3	3.9
LOS	D	C		C	D		B	B		B	B	A
Approach Delay		27.4			36.3			14.2			10.0	
Approach LOS		C			D			B			B	
Queue Length 50th (m)	21.9	22.1		5.3	21.1		9.4	39.0		2.5	10.1	0.2
Queue Length 95th (m)	31.9	34.2		12.0	34.4		24.2	80.6		14.9	43.0	8.8
Internal Link Dist (m)		289.1			271.7			230.6			168.1	
Turn Bay Length (m)	35.0			55.0			35.0			90.0		60.0
Base Capacity (vph)	258	815		382	578		554	925		388	937	759
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.61	0.25		0.09	0.25		0.22	0.47		0.19	0.32	0.13

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 25 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 18.5		Intersection LOS: B	
Intersection Capacity Utilization 80.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 7: Castlefrank Road & Katimavik Road





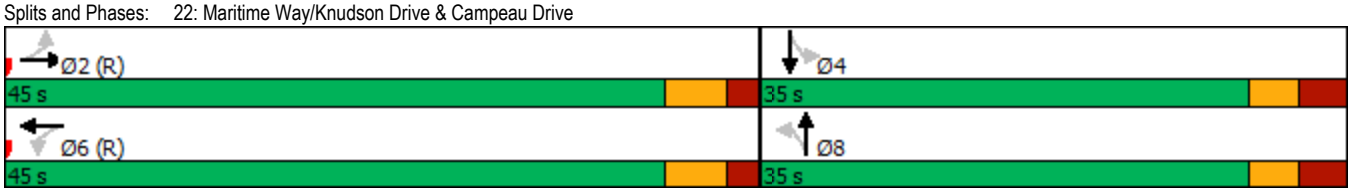
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	652	13	62	442	75	17	17	145	160	10	53
Future Volume (vph)	50	652	13	62	442	75	17	17	145	160	10	53
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	30.0		0.0	30.0		0.0	40.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	40.0			55.0			40.0			35.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		1.00	0.99		0.99	0.96		0.98	0.98	
Frt		0.997			0.978			0.866			0.874	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1718	0	1695	1592	0	1695	1479	0	1695	1493	0
Flt Permitted	0.420			0.324			0.716			0.645		
Satd. Flow (perm)	743	1718	0	575	1592	0	1267	1479	0	1125	1493	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			15			145			53	
Link Speed (k/h)		50			50			50			40	
Link Distance (m)		248.0			203.8			223.0			144.1	
Travel Time (s)		17.9			14.7			16.1			13.0	
Confl. Peds. (#/hr)	12		11	11		12	4		12	12		4
Confl. Bikes (#/hr)			1									
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	5%	33%	2%	11%	12%	2%	2%	2%	2%	14%	2%
Adj. Flow (vph)	50	652	13	62	442	75	17	17	145	160	10	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	665	0	62	517	0	17	162	0	160	63	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	27.7	27.7		27.7	27.7		24.0	24.0		24.0	24.0	
Total Split (s)	45.0	45.0		45.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	56.3%	56.3%		56.3%	56.3%		43.8%	43.8%		43.8%	43.8%	
Maximum Green (s)	39.3	39.3		39.3	39.3		29.0	29.0		29.0	29.0	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.0	3.0		3.0	3.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.7	5.7		5.7	5.7		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	10	10		10	10		10	10		10	10	
Act Effct Green (s)	51.5	51.5		51.5	51.5		16.8	16.8		16.8	16.8	
Actuated g/C Ratio	0.64	0.64		0.64	0.64		0.21	0.21		0.21	0.21	
v/c Ratio	0.10	0.60		0.17	0.50		0.06	0.38		0.68	0.18	
Control Delay	7.8	12.5		8.9	10.6		22.7	8.3		42.8	9.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	7.8	12.5		8.9	10.6		22.7	8.3		42.8	9.7	
LOS	A	B		A	B		C	A		D	A	
Approach Delay		12.2			10.4			9.7			33.4	
Approach LOS		B			B			A			C	
Queue Length 50th (m)	2.5	50.9		3.3	34.7		2.1	2.1		22.6	1.2	
Queue Length 95th (m)	8.6	107.0		11.0	74.9		6.2	14.6		37.4	9.3	
Internal Link Dist (m)		224.0			179.8			199.0			120.1	
Turn Bay Length (m)	30.0			30.0			40.0			35.0		
Base Capacity (vph)	478	1107		370	1030		459	628		407	575	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.10	0.60		0.17	0.50		0.04	0.26		0.39	0.11	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 14.1 Intersection LOS: B
Intersection Capacity Utilization 86.6% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 22: Maritime Way/Knudson Drive & Campeau Drive

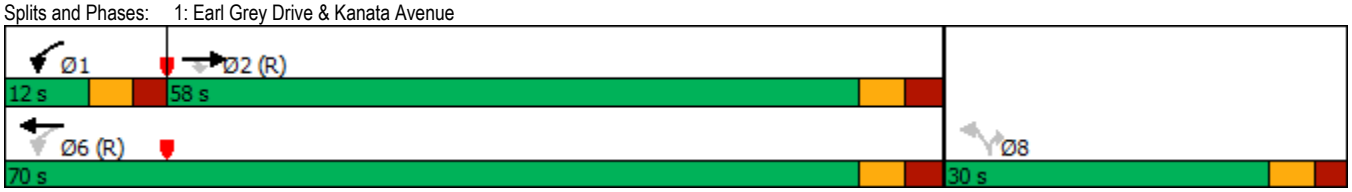


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	592	82	214	685	79	177
Future Volume (vph)	592	82	214	685	79	177
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		55.0	110.0		30.0	0.0
Storage Lanes		1	1		1	1
Taper Length (m)			100.0		45.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98				0.98
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1640	1517	1695	1784	1695	1517
Flt Permitted			0.324		0.950	
Satd. Flow (perm)	1640	1483	578	1784	1695	1482
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		82				177
Link Speed (k/h)	50			50	50	
Link Distance (m)	287.1			471.4	128.3	
Travel Time (s)	20.7			33.9	9.2	
Confl. Peds. (#/hr)		1	1			1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	11%	2%	2%	2%	2%	2%
Adj. Flow (vph)	592	82	214	685	79	177
Shared Lane Traffic (%)						
Lane Group Flow (vph)	592	82	214	685	79	177
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	3.7			3.7	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)		14	24		24	14
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (m)	30.5	6.1	6.1	30.5	6.1	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	1.8	6.1	6.1	1.8	6.1	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)	28.7			28.7		
Detector 2 Size(m)	1.8			1.8		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases		2	6		8	8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	5.0	5.0
Minimum Split (s)	29.4	29.4	10.8	29.4	24.9	24.9
Total Split (s)	58.0	58.0	12.0	70.0	30.0	30.0
Total Split (%)	58.0%	58.0%	12.0%	70.0%	30.0%	30.0%
Maximum Green (s)	51.6	51.6	6.2	63.6	24.1	24.1
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.1	3.1	2.5	3.1	2.6	2.6

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	5.8	6.4	5.9	5.9
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	None	C-Max	None	None
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0		16.0	12.0	12.0
Pedestrian Calls (#/hr)	10	10		10	10	10
Act Effct Green (s)	62.1	62.1	77.3	76.7	11.0	11.0
Actuated g/C Ratio	0.62	0.62	0.77	0.77	0.11	0.11
v/c Ratio	0.58	0.09	0.39	0.50	0.42	0.55
Control Delay	15.7	2.8	5.7	6.6	46.9	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	15.7	2.8	5.7	6.6	46.9	12.7
LOS	B	A	A	A	D	B
Approach Delay	14.1			6.4	23.3	
Approach LOS	B			A	C	
Queue Length 50th (m)	60.1	0.0	8.2	38.2	14.7	0.0
Queue Length 95th (m)	123.4	6.8	20.7	86.7	26.1	17.0
Internal Link Dist (m)	263.1			447.4	104.3	
Turn Bay Length (m)		55.0	110.0		30.0	
Base Capacity (vph)	1018	951	544	1367	408	491
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.58	0.09	0.39	0.50	0.19	0.36

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 11.6		Intersection LOS: B	
Intersection Capacity Utilization 65.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Earl Grey Drive & Kanata Avenue

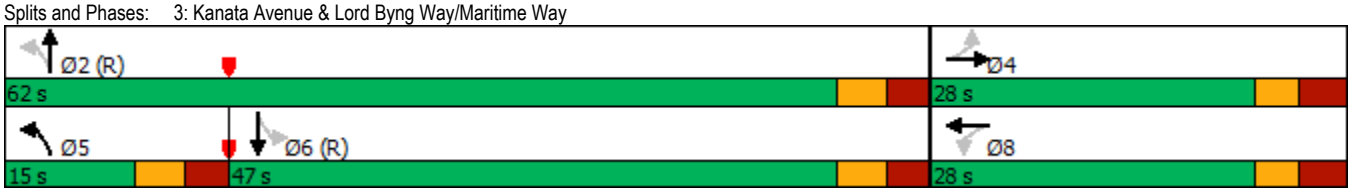


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	3	78	123	9	40	136	824	180	57	638	25
Future Volume (vph)	30	3	78	123	9	40	136	824	180	57	638	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	20.0		0.0	40.0		0.0	35.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	25.0			40.0			75.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98	0.97		0.99	0.97			1.00		1.00	1.00	
Frt		0.856			0.878			0.973			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1262	1250	0	1695	1513	0	1503	1728	0	1695	1760	0
Flt Permitted	0.725			0.704			0.230			0.213		
Satd. Flow (perm)	943	1250	0	1247	1513	0	364	1728	0	380	1760	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		78			40			23			3	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		119.6			99.0			110.4			471.4	
Travel Time (s)		8.6			7.1			7.9			33.9	
Confl. Peds. (#/hr)	11		4	4		11	3		3	3		3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	37%	2%	22%	2%	2%	2%	15%	2%	2%	2%	2%	20%
Adj. Flow (vph)	30	3	78	123	9	40	136	824	180	57	638	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	81	0	123	49	0	136	1004	0	57	663	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	28.3	28.3		28.3	28.3		11.3	33.3		33.3	33.3	
Total Split (s)	28.0	28.0		28.0	28.0		15.0	62.0		47.0	47.0	
Total Split (%)	31.1%	31.1%		31.1%	31.1%		16.7%	68.9%		52.2%	52.2%	
Maximum Green (s)	21.7	21.7		21.7	21.7		8.7	55.7		40.7	40.7	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.3	3.3		3.3	3.3		3.0	3.0		3.0	3.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3		6.3	6.3		6.3	6.3	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			20.0		20.0	20.0	
Pedestrian Calls (#/hr)	10	10		10	10			10		10	10	
Act Effct Green (s)	14.8	14.8		14.8	14.8		62.6	62.6		48.4	48.4	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.70	0.70		0.54	0.54	
v/c Ratio	0.19	0.30		0.60	0.17		0.39	0.83		0.28	0.70	
Control Delay	33.3	10.8		39.7	8.7		7.4	15.0		18.5	22.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.3		0.0	0.0	
Total Delay	33.3	10.8		39.7	8.7		7.4	15.3		18.5	22.2	
LOS	C	B		D	A		A	B		B	C	
Approach Delay		16.8			30.8			14.4			21.9	
Approach LOS		B			C			B			C	
Queue Length 50th (m)	4.6	0.5		20.2	2.8		5.5	103.3		5.0	78.5	
Queue Length 95th (m)	11.2	11.3		34.3	9.7		m10.4	m#230.6		16.5	#159.6	
Internal Link Dist (m)		95.6			75.0			86.4			447.4	
Turn Bay Length (m)	20.0			40.0			35.0			35.0		
Base Capacity (vph)	227	360		300	395		364	1208		204	948	
Starvation Cap Reductn	0	0		0	0		0	23		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.13	0.23		0.41	0.12		0.37	0.85		0.28	0.70	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 31 (34%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 18.3		Intersection LOS: B	
Intersection Capacity Utilization 96.7%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 3: Kanata Avenue & Lord Byng Way/Maritime Way

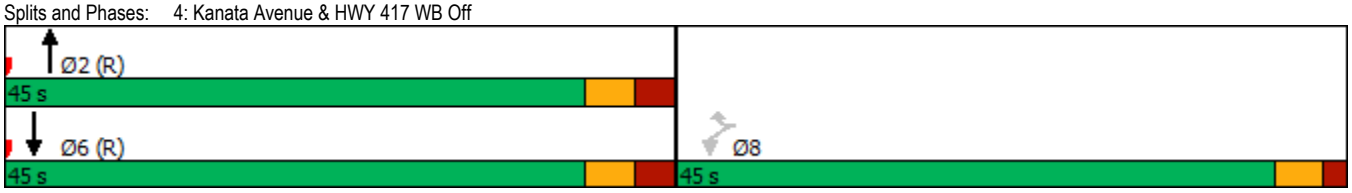


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	419	603	725	0	0	1053
Future Volume (vph)	419	603	725	0	0	1053
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1695	1517	1750	0	0	3357
Flt Permitted	0.950					
Satd. Flow (perm)	1695	1517	1750	0	0	3357
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		119				
Link Speed (k/h)	50		50			50
Link Distance (m)	332.8		126.6			114.0
Travel Time (s)	24.0		9.1			8.2
Confl. Bikes (#/hr)				3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	4%	0%	0%	3%
Adj. Flow (vph)	419	603	725	0	0	1053
Shared Lane Traffic (%)						
Lane Group Flow (vph)	419	603	725	0	0	1053
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0			10.0
Minimum Split (s)	23.0	23.0	28.1			24.1
Total Split (s)	45.0	45.0	45.0			45.0
Total Split (%)	50.0%	50.0%	50.0%			50.0%
Maximum Green (s)	40.0	40.0	38.9			38.9
Yellow Time (s)	3.3	3.3	3.3			3.3
All-Red Time (s)	1.7	1.7	2.8			2.8
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	6.1			6.1
Lead/Lag						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	11.0	11.0	15.0			
Pedestrian Calls (#/hr)	10	10	10			
Act Effct Green (s)	35.4	35.4	43.5			43.5
Actuated g/C Ratio	0.39	0.39	0.48			0.48
v/c Ratio	0.63	0.90	0.86			0.65
Control Delay	25.9	38.0	27.0			17.5
Queue Delay	0.2	0.1	3.5			0.0
Total Delay	26.1	38.1	30.6			17.5
LOS	C	D	C			B
Approach Delay	33.2		30.6			17.5
Approach LOS	C		C			B
Queue Length 50th (m)	53.6	74.7	93.2			42.4
Queue Length 95th (m)	79.6	#133.7	#187.1			72.4
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	753	740	845			1620
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	53	4	63			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.60	0.82	0.93			0.65

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 32 (36%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 26.6		Intersection LOS: C	
Intersection Capacity Utilization 116.9%		ICU Level of Service H	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 4: Kanata Avenue & HWY 417 WB Off



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations							
Traffic Volume (vph)	0	0	590	206	403	957	
Future Volume (vph)	0	0	590	206	403	957	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0		50.0	0.0		
Storage Lanes	0	0		1	1		
Taper Length (m)	7.6				7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor				0.98			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	0	1733	1517	1662	1784	
Flt Permitted					0.296		
Satd. Flow (perm)	0	0	1733	1479	518	1784	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)				206			
Link Speed (k/h)	48		50			50	
Link Distance (m)	278.4		119.2			126.6	
Travel Time (s)	20.9		8.6			9.1	
Confl. Peds. (#/hr)				2	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	0%	0%	5%	2%	4%	2%	
Adj. Flow (vph)	0	0	590	206	403	957	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	590	206	403	957	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(m)	0.0		3.7			3.7	
Link Offset(m)	0.0		0.0			0.0	
Crosswalk Width(m)	4.9		4.9			4.9	
Two way Left Turn Lane							
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	
Turning Speed (k/h)	24	14		14	24		
Number of Detectors			2	1	1	2	
Detector Template			Thru	Right	Left	Thru	
Leading Detector (m)			30.5	6.1	6.1	30.5	
Trailing Detector (m)			0.0	0.0	0.0	0.0	
Detector 1 Position(m)			0.0	0.0	0.0	0.0	
Detector 1 Size(m)			1.8	6.1	6.1	1.8	
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)			0.0	0.0	0.0	0.0	
Detector 1 Queue (s)			0.0	0.0	0.0	0.0	
Detector 1 Delay (s)			0.0	0.0	0.0	0.0	
Detector 2 Position(m)			28.7			28.7	
Detector 2 Size(m)			1.8			1.8	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type			NA	Perm	pm+pt	NA	
Protected Phases			2		1	6	8
Permitted Phases				2	6		
Detector Phase			2	2	1	6	
Switch Phase							
Minimum Initial (s)			10.0	10.0	5.0	10.0	5.0
Minimum Split (s)			23.7	23.7	10.7	23.7	27.0
Total Split (s)			50.0	50.0	12.0	62.0	28.0
Total Split (%)			55.6%	55.6%	13.3%	68.9%	31%
Maximum Green (s)			44.3	44.3	6.3	56.3	23.0
Yellow Time (s)			3.3	3.3	3.3	3.3	3.0
All-Red Time (s)			2.4	2.4	2.4	2.4	2.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lost Time Adjust (s)			0.0	0.0	0.0	0.0	
Total Lost Time (s)			5.7	5.7	5.7	5.7	
Lead/Lag			Lag	Lag	Lead		
Lead-Lag Optimize?			Yes	Yes	Yes		
Vehicle Extension (s)			3.0	3.0	3.0	3.0	3.0
Recall Mode			C-Max	C-Max	None	C-Max	None
Walk Time (s)			7.0	7.0			7.0
Flash Dont Walk (s)			11.0	11.0			15.0
Pedestrian Calls (#/hr)			10	10			10
Act Effct Green (s)			55.3	55.3	78.9	83.5	
Actuated g/C Ratio			0.61	0.61	0.88	0.93	
v/c Ratio			0.55	0.21	0.59	0.58	
Control Delay			8.2	0.9	14.8	6.1	
Queue Delay			0.7	0.0	0.0	0.1	
Total Delay			8.9	0.9	14.8	6.2	
LOS			A	A	B	A	
Approach Delay			6.8			8.7	
Approach LOS			A			A	
Queue Length 50th (m)			31.2	0.6	18.1	11.2	
Queue Length 95th (m)			80.9	3.0	#62.3	#108.1	
Internal Link Dist (m)	254.4		95.2			102.6	
Turn Bay Length (m)				50.0			
Base Capacity (vph)			1065	988	681	1654	
Starvation Cap Reductn			202	0	0	6	
Spillback Cap Reductn			71	0	0	85	
Storage Cap Reductn			0	0	0	0	
Reduced v/c Ratio			0.68	0.21	0.59	0.61	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 27 (30%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 8.0		Intersection LOS: A	
Intersection Capacity Utilization 116.9%		ICU Level of Service H	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 5: Kanata Avenue & HWY 417 EB On

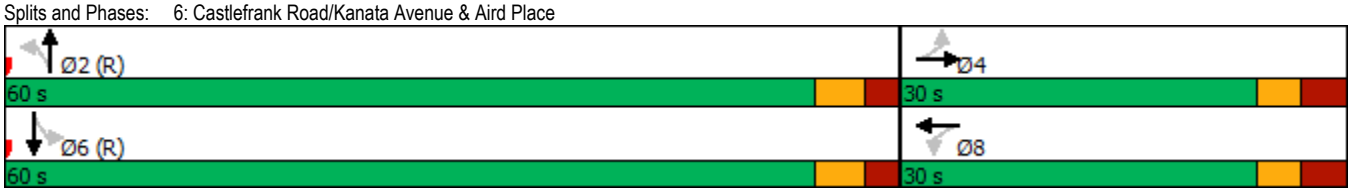
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	3	13	30	1	97	12	793	35	62	953	24
Future Volume (vph)	17	3	13	30	1	97	12	793	35	62	953	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		0.0	30.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.6			7.6			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.97			1.00			1.00	
Frt		0.947			0.898			0.994			0.996	
Flt Protected		0.975			0.988		0.950			0.950		
Satd. Flow (prot)	0	1627	0	0	1542	0	1695	1755	0	1695	1775	0
Flt Permitted		0.735			0.909		0.215			0.286		
Satd. Flow (perm)	0	1219	0	0	1415	0	384	1755	0	510	1775	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			97			4			3	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		125.4			132.9			192.1			119.2	
Travel Time (s)		11.3			12.0			13.8			8.6	
Confl. Peds. (#/hr)	7		6	6		7	9		5	5		9
Confl. Bikes (#/hr)									3			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%	2%	2%
Adj. Flow (vph)	17	3	13	30	1	97	12	793	35	62	953	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	128	0	12	828	0	62	977	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	28.2	28.2		28.2	28.2		24.7	24.7		24.7	24.7	
Total Split (s)	30.0	30.0		30.0	30.0		60.0	60.0		60.0	60.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%		66.7%	66.7%		66.7%	66.7%	
Maximum Green (s)	23.8	23.8		23.8	23.8		54.3	54.3		54.3	54.3	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.2	3.2		3.2	3.2		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.2			6.2		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	10	10		10	10		10	10		10	10	
Act Effct Green (s)		10.1			10.1		68.0	68.0		68.0	68.0	
Actuated g/C Ratio		0.11			0.11		0.76	0.76		0.76	0.76	
v/c Ratio		0.22			0.52		0.04	0.62		0.16	0.73	
Control Delay		26.2			19.2		4.8	7.9		6.7	11.8	
Queue Delay		0.0			0.0		0.0	0.1		0.0	0.0	
Total Delay		26.2			19.2		4.8	8.0		6.7	11.9	
LOS		C			B		A	A		A	B	
Approach Delay		26.2			19.2			7.9			11.5	
Approach LOS		C			B			A			B	
Queue Length 50th (m)		3.3			5.1		0.3	33.3		3.8	81.1	
Queue Length 95th (m)		9.9			17.8		m1.3	92.9		m5.8	#220.0	
Internal Link Dist (m)		101.4			108.9			168.1			95.2	
Turn Bay Length (m)							30.0			50.0		
Base Capacity (vph)		331			445		290	1327		385	1342	
Starvation Cap Reductn		0			0		0	20		0	7	
Spillback Cap Reductn		0			1		0	26		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.10			0.29		0.04	0.64		0.16	0.73	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 10 (11%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 10.8 Intersection LOS: B
Intersection Capacity Utilization 75.4% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Castlefrank Road/Kanata Avenue & Aird Place



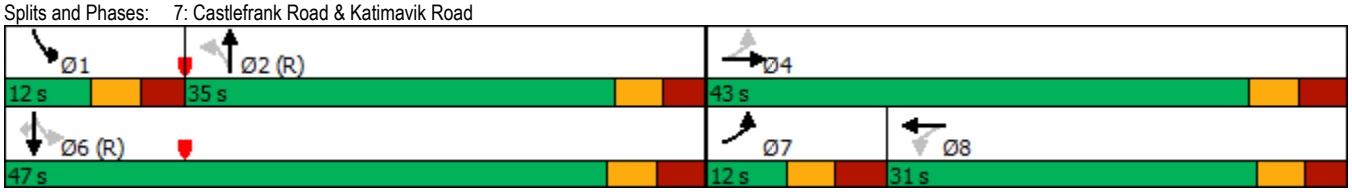
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	140	75	92	200	101	41	430	60	113	652	196
Future Volume (vph)	140	140	75	92	200	101	41	430	60	113	652	196
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	35.0		0.0	55.0		0.0	35.0		0.0	90.0		60.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	55.0			55.0			55.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.98		0.98	0.98		0.98	0.99		0.99		0.92
Frt		0.948			0.950			0.982				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	1666	0	1558	1639	0	1695	1737	0	1647	1784	1473
Flt Permitted	0.255			0.624			0.333			0.227		
Satd. Flow (perm)	440	1666	0	1005	1639	0	583	1737	0	388	1784	1356
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			28			8				194
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		313.1			295.7			254.6			192.1	
Travel Time (s)		22.5			21.3			18.3			13.8	
Confl. Peds. (#/hr)	16		12	12		16	31		27	27		31
Confl. Bikes (#/hr)			1									
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	2%	2%	11%	2%	7%	2%	2%	2%	5%	2%	5%
Adj. Flow (vph)	140	140	75	92	200	101	41	430	60	113	652	196
Shared Lane Traffic (%)												
Lane Group Flow (vph)	140	215	0	92	301	0	41	490	0	113	652	196
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	Perm
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		8	8		2	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		10.0	10.0		5.0	10.0	10.0
Minimum Split (s)	11.7	29.7		29.2	29.2		29.2	29.2		11.2	29.7	29.7
Total Split (s)	12.0	43.0		31.0	31.0		35.0	35.0		12.0	47.0	47.0
Total Split (%)	13.3%	47.8%		34.4%	34.4%		38.9%	38.9%		13.3%	52.2%	52.2%
Maximum Green (s)	5.3	36.3		24.8	24.8		28.8	28.8		5.8	40.3	40.3
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	3.3

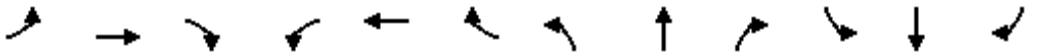
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.4	3.4		2.9	2.9		2.9	2.9		2.9	3.4	3.4
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7		6.2	6.2		6.2	6.2		6.2	6.7	6.7
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	C-Max
Walk Time (s)		7.0		7.0	7.0		7.0	7.0			7.0	7.0
Flash Dont Walk (s)		16.0		16.0	16.0		16.0	16.0			16.0	16.0
Pedestrian Calls (#/hr)		10		10	10		10	10			10	10
Act Effct Green (s)	31.4	31.4		19.9	19.9		35.1	35.1		45.7	45.2	45.2
Actuated g/C Ratio	0.35	0.35		0.22	0.22		0.39	0.39		0.51	0.50	0.50
v/c Ratio	0.62	0.36		0.42	0.79		0.18	0.72		0.38	0.73	0.25
Control Delay	33.1	18.8		34.6	44.2		24.8	33.2		15.8	22.5	4.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	33.1	18.8		34.6	44.2		24.8	33.2		15.8	22.5	4.4
LOS	C	B		C	D		C	C		B	C	A
Approach Delay		24.4			42.0			32.5			18.0	
Approach LOS		C			D			C			B	
Queue Length 50th (m)	16.8	22.1		13.6	44.5		5.0	76.2		7.6	90.9	3.6
Queue Length 95th (m)	27.9	36.5		26.1	68.6		13.6	#133.2		m13.4	#131.9	m10.8
Internal Link Dist (m)		289.1			271.7			230.6			168.1	
Turn Bay Length (m)	35.0			55.0			35.0			90.0		60.0
Base Capacity (vph)	225	693		276	471		227	682		294	896	778
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.62	0.31		0.33	0.64		0.18	0.72		0.38	0.73	0.25

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 25 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 26.7 Intersection LOS: C
Intersection Capacity Utilization 92.8% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Castlefrank Road & Katimavik Road



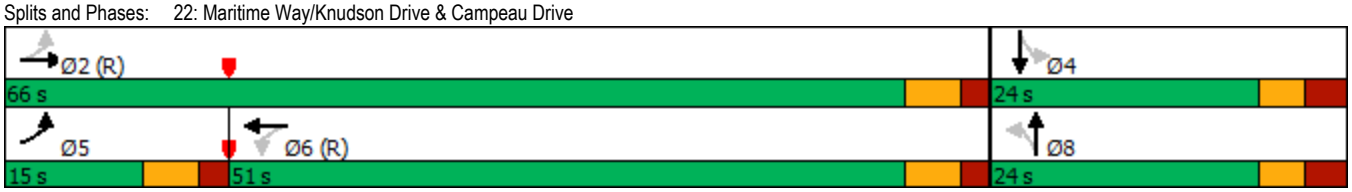


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	452	32	119	621	103	13	14	85	38	11	73
Future Volume (vph)	66	452	32	119	621	103	13	14	85	38	11	73
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	30.0		0.0	30.0		0.0	40.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	40.0			55.0			40.0			35.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		1.00	0.99		0.98	0.97		0.99	0.96	
Frt		0.990			0.979			0.871			0.870	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1763	0	1695	1734	0	1695	1514	0	1679	1497	0
Flt Permitted	0.257			0.487			0.702			0.693		
Satd. Flow (perm)	459	1763	0	865	1734	0	1229	1514	0	1213	1497	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			13			85			73	
Link Speed (k/h)		50			50			50			40	
Link Distance (m)		248.0			203.8			223.0			144.1	
Travel Time (s)		17.9			14.7			16.1			13.0	
Confl. Peds. (#/hr)	15		4	4		15	8		4	4		8
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%
Adj. Flow (vph)	66	452	32	119	621	103	13	14	85	38	11	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	484	0	119	724	0	13	99	0	38	84	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	10.7	27.7		27.7	27.7		24.0	24.0		24.0	24.0	
Total Split (s)	15.0	66.0		51.0	51.0		24.0	24.0		24.0	24.0	
Total Split (%)	16.7%	73.3%		56.7%	56.7%		26.7%	26.7%		26.7%	26.7%	
Maximum Green (s)	9.3	60.3		45.3	45.3		18.0	18.0		18.0	18.0	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.7	5.7		5.7	5.7		6.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)		10		10	10		10	10		10	10	
Act Effct Green (s)	70.1	71.2		61.3	61.3		11.4	11.4		11.4	11.4	
Actuated g/C Ratio	0.78	0.79		0.68	0.68		0.13	0.13		0.13	0.13	
v/c Ratio	0.15	0.35		0.20	0.61		0.08	0.37		0.25	0.33	
Control Delay	4.3	4.8		9.8	14.4		37.5	21.4		38.6	14.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	4.3	4.8		9.8	14.4		37.5	21.4		38.6	14.4	
LOS	A	A		A	B		D	C		D	B	
Approach Delay		4.7			13.8			23.3			21.9	
Approach LOS		A			B			C			C	
Queue Length 50th (m)	2.3	21.6		8.1	71.1		2.4	6.2		6.1	1.8	
Queue Length 95th (m)	7.1	47.6		21.1	142.5		m4.5	m14.8		14.1	13.2	
Internal Link Dist (m)		224.0			179.8			199.0			120.1	
Turn Bay Length (m)	30.0			30.0			40.0			35.0		
Base Capacity (vph)	485	1397		589	1185		245	370		242	357	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.14	0.35		0.20	0.61		0.05	0.27		0.16	0.24	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 12.0		Intersection LOS: B	
Intersection Capacity Utilization 70.1%		ICU Level of Service C	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 22: Maritime Way/Knudson Drive & Campeau Drive

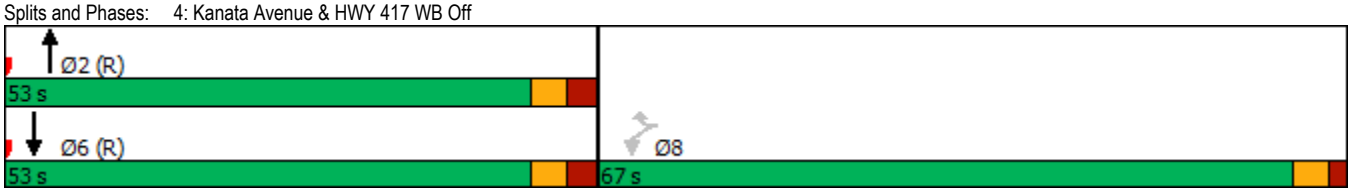


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	419	603	725	0	0	1053
Future Volume (vph)	419	603	725	0	0	1053
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1695	1517	1750	0	0	3357
Flt Permitted	0.950					
Satd. Flow (perm)	1695	1517	1750	0	0	3357
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		93				
Link Speed (k/h)	50		50			50
Link Distance (m)	332.8		126.6			114.0
Travel Time (s)	24.0		9.1			8.2
Confl. Bikes (#/hr)				3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	4%	0%	0%	3%
Adj. Flow (vph)	419	603	725	0	0	1053
Shared Lane Traffic (%)						
Lane Group Flow (vph)	419	603	725	0	0	1053
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0			10.0
Minimum Split (s)	23.0	23.0	28.1			24.1
Total Split (s)	67.0	67.0	53.0			53.0
Total Split (%)	55.8%	55.8%	44.2%			44.2%
Maximum Green (s)	62.0	62.0	46.9			46.9
Yellow Time (s)	3.3	3.3	3.3			3.3
All-Red Time (s)	1.7	1.7	2.8			2.8
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	6.1			6.1
Lead/Lag						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	11.0	11.0	15.0			
Pedestrian Calls (#/hr)	10	10	10			
Act Effct Green (s)	51.0	51.0	57.9			57.9
Actuated g/C Ratio	0.42	0.42	0.48			0.48
v/c Ratio	0.58	0.86	0.86			0.65
Control Delay	28.7	38.8	41.5			27.7
Queue Delay	0.0	0.0	49.3			0.0
Total Delay	28.7	38.8	90.8			27.7
LOS	C	D	F			C
Approach Delay	34.7		90.8			27.7
Approach LOS	C		F			C
Queue Length 50th (m)	72.0	107.4	151.3			98.7
Queue Length 95th (m)	87.8	137.2	#259.2			141.3
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	875	828	844			1619
Starvation Cap Reductn	0	0	214			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.48	0.73	1.15			0.65

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 46.6		Intersection LOS: D	
Intersection Capacity Utilization 116.9%		ICU Level of Service H	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 4: Kanata Avenue & HWY 417 WB Off

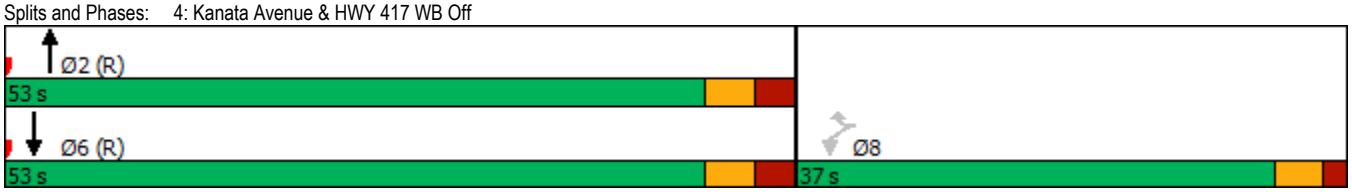


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	217	209	364	0	0	921
Future Volume (vph)	217	209	364	0	0	921
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1695	1334	3262	0	0	3325
Flt Permitted	0.950					
Satd. Flow (perm)	1695	1334	3262	0	0	3325
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		209				
Link Speed (k/h)	50		50			50
Link Distance (m)	332.8		126.6			114.0
Travel Time (s)	24.0		9.1			8.2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	16%	6%	0%	0%	4%
Adj. Flow (vph)	217	209	364	0	0	921
Shared Lane Traffic (%)						
Lane Group Flow (vph)	217	209	364	0	0	921
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0			10.0
Minimum Split (s)	23.0	23.0	28.1			24.1
Total Split (s)	37.0	37.0	53.0			53.0
Total Split (%)	41.1%	41.1%	58.9%			58.9%
Maximum Green (s)	32.0	32.0	46.9			46.9
Yellow Time (s)	3.3	3.3	3.3			3.3
All-Red Time (s)	1.7	1.7	2.8			2.8
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	6.1			6.1
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	11.0	11.0	15.0			
Pedestrian Calls (#/hr)	10	10	10			
Act Effct Green (s)	16.9	16.9	62.0			62.0
Actuated g/C Ratio	0.19	0.19	0.69			0.69
v/c Ratio	0.68	0.50	0.16			0.40
Control Delay	44.4	8.6	2.1			7.1
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	44.4	8.6	2.1			7.1
LOS	D	A	A			A
Approach Delay	26.8		2.1			7.1
Approach LOS	C		A			A
Queue Length 50th (m)	35.3	0.0	3.3			25.9
Queue Length 95th (m)	53.2	16.0	4.2			56.8
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	602	609	2245			2289
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			24
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.36	0.34	0.16			0.41

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 35 (39%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 11.0		Intersection LOS: B	
Intersection Capacity Utilization 54.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Kanata Avenue & HWY 417 WB Off

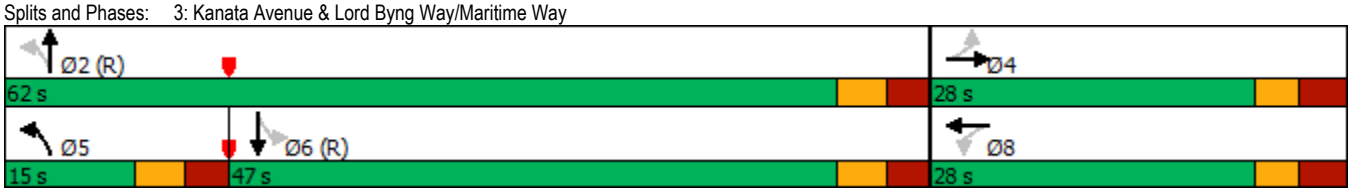


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	3	78	123	9	40	136	824	180	57	638	25
Future Volume (vph)	30	3	78	123	9	40	136	824	180	57	638	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	20.0		0.0	40.0		0.0	35.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	25.0			40.0			75.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.98	0.97		0.99	0.97			1.00		1.00	1.00	
Frt		0.856			0.878			0.973			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1262	1250	0	1695	1513	0	1503	1728	0	1695	1760	0
Flt Permitted	0.725			0.704			0.230			0.213		
Satd. Flow (perm)	943	1250	0	1247	1513	0	364	1728	0	380	1760	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		78			40			23			3	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		119.6			99.0			110.4			471.4	
Travel Time (s)		8.6			7.1			7.9			33.9	
Confl. Peds. (#/hr)	11		4	4		11	3		3	3		3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	37%	2%	22%	2%	2%	2%	15%	2%	2%	2%	2%	20%
Adj. Flow (vph)	30	3	78	123	9	40	136	824	180	57	638	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	81	0	123	49	0	136	1004	0	57	663	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases		4			8		5	2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		5.0	10.0		10.0	10.0	
Minimum Split (s)	28.3	28.3		28.3	28.3		11.3	33.3		33.3	33.3	
Total Split (s)	28.0	28.0		28.0	28.0		15.0	62.0		47.0	47.0	
Total Split (%)	31.1%	31.1%		31.1%	31.1%		16.7%	68.9%		52.2%	52.2%	
Maximum Green (s)	21.7	21.7		21.7	21.7		8.7	55.7		40.7	40.7	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	
All-Red Time (s)	3.3	3.3		3.3	3.3		3.0	3.0		3.0	3.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.3	6.3		6.3	6.3		6.3	6.3		6.3	6.3	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0			20.0		20.0	20.0	
Pedestrian Calls (#/hr)	10	10		10	10			10		10	10	
Act Effct Green (s)	14.8	14.8		14.8	14.8		62.6	62.6		48.4	48.4	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.70	0.70		0.54	0.54	
v/c Ratio	0.19	0.30		0.60	0.17		0.39	0.83		0.28	0.70	
Control Delay	33.3	10.8		40.5	9.1		7.8	16.8		18.5	22.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	33.3	10.8		40.5	9.1		7.8	16.8		18.5	22.2	
LOS	C	B		D	A		A	B		B	C	
Approach Delay		16.8			31.5			15.8			21.9	
Approach LOS		B			C			B			C	
Queue Length 50th (m)	4.6	0.5		20.1	2.6		5.1	85.1		5.0	78.5	
Queue Length 95th (m)	11.2	11.3		34.4	9.9		m11.6	#238.7		16.5	#159.6	
Internal Link Dist (m)		95.6			75.0			86.4			447.4	
Turn Bay Length (m)	20.0			40.0			35.0			35.0		
Base Capacity (vph)	227	360		300	395		364	1208		204	948	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.13	0.23		0.41	0.12		0.37	0.83		0.28	0.70	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 31 (34%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 19.1		Intersection LOS: B	
Intersection Capacity Utilization 96.7%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 3: Kanata Avenue & Lord Byng Way/Maritime Way

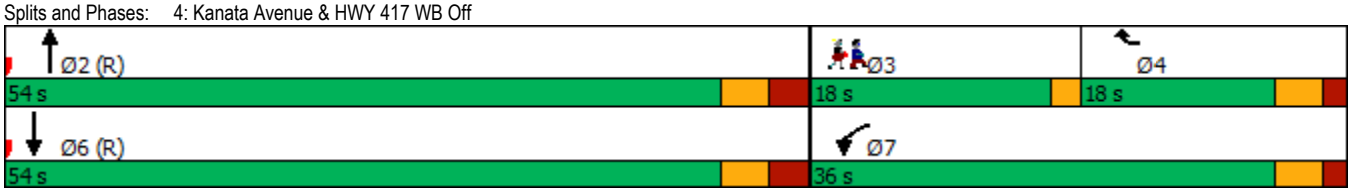


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lane Configurations							
Traffic Volume (vph)	217	209	364	0	0	921	
Future Volume (vph)	217	209	364	0	0	921	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Lane Util. Factor	1.00	0.88	1.00	1.00	1.00	0.95	
Frt		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	1695	2347	1717	0	0	3325	
Flt Permitted	0.950						
Satd. Flow (perm)	1695	2347	1717	0	0	3325	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		209					
Link Speed (k/h)	50		50			50	
Link Distance (m)	332.8		126.6			114.0	
Travel Time (s)	24.0		9.1			8.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	2%	16%	6%	0%	0%	4%	
Adj. Flow (vph)	217	209	364	0	0	921	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	217	209	364	0	0	921	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(m)	3.7		0.0			0.0	
Link Offset(m)	0.0		0.0			0.0	
Crosswalk Width(m)	4.9		4.9			4.9	
Two way Left Turn Lane							
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	
Turning Speed (k/h)	24	14		14	24		
Number of Detectors	1	1	2			2	
Detector Template	Left	Right	Thru			Thru	
Leading Detector (m)	6.1	6.1	30.5			30.5	
Trailing Detector (m)	0.0	0.0	0.0			0.0	
Detector 1 Position(m)	0.0	0.0	0.0			0.0	
Detector 1 Size(m)	6.1	6.1	1.8			1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0	
Detector 2 Position(m)			28.7			28.7	
Detector 2 Size(m)			1.8			1.8	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type	Prot	Prot	NA			NA	
Protected Phases	7	4	2			6	3
Permitted Phases							
Detector Phase	7	4	2			6	
Switch Phase							
Minimum Initial (s)	5.0	5.0	10.0			10.0	1.0
Minimum Split (s)	10.0	10.0	28.1			24.1	18.0
Total Split (s)	36.0	18.0	54.0			54.0	18.0
Total Split (%)	40.0%	20.0%	60.0%			60.0%	20%
Maximum Green (s)	31.0	13.0	47.9			47.9	16.0
Yellow Time (s)	3.3	3.3	3.3			3.3	2.0
All-Red Time (s)	1.7	1.7	2.8			2.8	0.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.0	6.1			6.1	
Lead/Lag		Lag					Lead
Lead-Lag Optimize?		Yes					Yes
Vehicle Extension (s)	3.0	3.0	3.0			3.0	3.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Recall Mode	None	None	C-Max			C-Max	None
Walk Time (s)			7.0				7.0
Flash Dont Walk (s)			15.0				9.0
Pedestrian Calls (#/hr)			10				10
Act Effct Green (s)	17.9	14.3	61.0			61.0	
Actuated g/C Ratio	0.20	0.16	0.68			0.68	
v/c Ratio	0.64	0.38	0.31			0.41	
Control Delay	41.0	7.5	14.1			12.6	
Queue Delay	0.0	0.0	0.5			0.0	
Total Delay	41.0	7.5	14.6			12.6	
LOS	D	A	B			B	
Approach Delay	24.6		14.6			12.6	
Approach LOS	C		B			B	
Queue Length 50th (m)	35.3	0.0	18.1			60.0	
Queue Length 95th (m)	48.9	10.6	93.7			84.7	
Internal Link Dist (m)	308.8		102.6			90.0	
Turn Bay Length (m)							
Base Capacity (vph)	583	573	1163			2253	
Starvation Cap Reductn	0	0	435			0	
Spillback Cap Reductn	0	0	0			144	
Storage Cap Reductn	0	0	0			0	
Reduced v/c Ratio	0.37	0.36	0.50			0.44	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 16.0		Intersection LOS: B	
Intersection Capacity Utilization 54.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: Kanata Avenue & HWY 417 WB Off

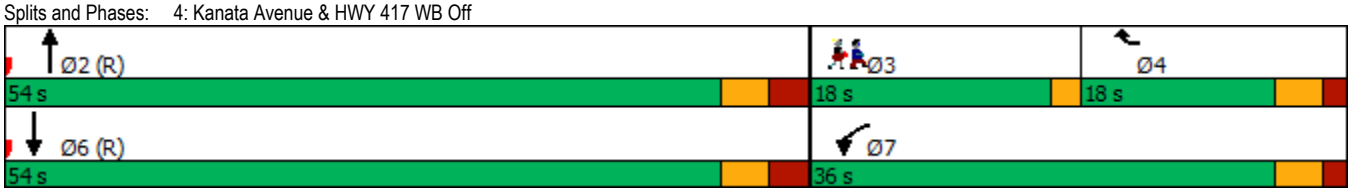


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lane Configurations							
Traffic Volume (vph)	419	603	725	0	0	1053	
Future Volume (vph)	419	603	725	0	0	1053	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Lane Util. Factor	1.00	0.88	1.00	1.00	1.00	0.95	
Ped Bike Factor							
Frt		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	1695	2669	1750	0	0	3357	
Flt Permitted	0.950						
Satd. Flow (perm)	1695	2669	1750	0	0	3357	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		603					
Link Speed (k/h)	50		50			50	
Link Distance (m)	332.8		126.6			114.0	
Travel Time (s)	24.0		9.1			8.2	
Confl. Bikes (#/hr)				3			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	2%	2%	4%	0%	0%	3%	
Adj. Flow (vph)	419	603	725	0	0	1053	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	419	603	725	0	0	1053	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(m)	3.7		0.0			0.0	
Link Offset(m)	0.0		0.0			0.0	
Crosswalk Width(m)	4.9		4.9			4.9	
Two way Left Turn Lane							
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	
Turning Speed (k/h)	24	14		14	24		
Number of Detectors	1	1	2			2	
Detector Template	Left	Right	Thru			Thru	
Leading Detector (m)	6.1	6.1	30.5			30.5	
Trailing Detector (m)	0.0	0.0	0.0			0.0	
Detector 1 Position(m)	0.0	0.0	0.0			0.0	
Detector 1 Size(m)	6.1	6.1	1.8			1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0	
Detector 2 Position(m)			28.7			28.7	
Detector 2 Size(m)			1.8			1.8	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type	Prot	Prot	NA			NA	
Protected Phases	7	4	2			6	3
Permitted Phases							
Detector Phase	7	4	2			6	
Switch Phase							
Minimum Initial (s)	5.0	5.0	10.0			10.0	1.0
Minimum Split (s)	10.0	10.0	28.1			24.1	18.0
Total Split (s)	36.0	18.0	54.0			54.0	18.0
Total Split (%)	40.0%	20.0%	60.0%			60.0%	20%
Maximum Green (s)	31.0	13.0	47.9			47.9	16.0
Yellow Time (s)	3.3	3.3	3.3			3.3	2.0
All-Red Time (s)	1.7	1.7	2.8			2.8	0.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.0	6.1			6.1	
Lead/Lag		Lag					Lead

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lead-Lag Optimize?		Yes					Yes
Vehicle Extension (s)	3.0	3.0	3.0			3.0	3.0
Recall Mode	None	None	C-Max			C-Max	None
Walk Time (s)			7.0				7.0
Flash Dont Walk (s)			15.0				9.0
Pedestrian Calls (#/hr)			10				10
Act Effct Green (s)	26.4	22.8	52.5			52.5	
Actuated g/C Ratio	0.29	0.25	0.58			0.58	
v/c Ratio	0.84	0.54	0.71			0.54	
Control Delay	45.5	4.8	22.0			19.9	
Queue Delay	0.0	0.1	0.4			0.1	
Total Delay	45.5	4.8	22.4			20.0	
LOS	D	A	C			B	
Approach Delay	21.5		22.4			20.0	
Approach LOS	C		C			B	
Queue Length 50th (m)	66.6	0.0	73.1			71.1	
Queue Length 95th (m)	95.9	15.3	125.8			115.9	
Internal Link Dist (m)	308.8		102.6			90.0	
Turn Bay Length (m)							
Base Capacity (vph)	583	1125	1021			1958	
Starvation Cap Reductn	0	0	55			0	
Spillback Cap Reductn	0	34	59			125	
Storage Cap Reductn	0	0	0			0	
Reduced v/c Ratio	0.72	0.55	0.75			0.57	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 21.2		Intersection LOS: C	
Intersection Capacity Utilization 102.0%		ICU Level of Service G	
Analysis Period (min) 15			

Splits and Phases: 4: Kanata Avenue & HWY 417 WB Off

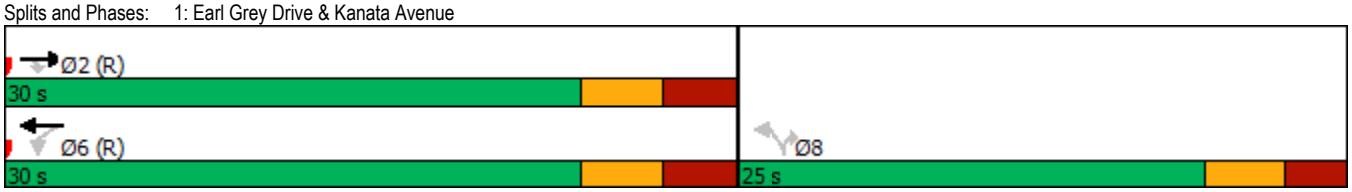


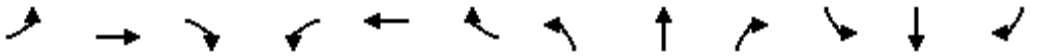
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	750	37	57	356	10	35
Future Volume (vph)	750	37	57	356	10	35
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		40.0	110.0		30.0	0.0
Storage Lanes		1	0		1	1
Taper Length (m)			100.0		45.0	
Lane Util. Factor	0.95	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor				1.00		
Frt		0.850				0.850
Flt Protected				0.993	0.950	
Satd. Flow (prot)	3357	1394	0	3178	1441	1459
Flt Permitted				0.802	0.950	
Satd. Flow (perm)	3357	1394	0	2567	1441	1459
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		37				35
Link Speed (k/h)	50			50	50	
Link Distance (m)	287.1			471.4	128.3	
Travel Time (s)	20.7			33.9	9.2	
Confl. Peds. (#/hr)			1			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	11%	2%	9%	20%	6%
Adj. Flow (vph)	750	37	57	356	10	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	750	37	0	413	10	35
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)		14	24		24	14
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (m)	30.5	6.1	6.1	30.5	6.1	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	1.8	6.1	6.1	1.8	6.1	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)	28.7			28.7		
Detector 2 Size(m)	1.8			1.8		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Perm	NA	Perm	Perm
Protected Phases	2			6		
Permitted Phases		2	6		8	8
Detector Phase	2	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	30.0	30.0	29.4	29.4	24.9	24.9
Total Split (s)	30.0	30.0	30.0	30.0	25.0	25.0
Total Split (%)	54.5%	54.5%	54.5%	54.5%	45.5%	45.5%
Maximum Green (s)	23.6	23.6	23.6	23.6	19.1	19.1
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.1	3.1	3.1	3.1	2.6	2.6

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4		6.4	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	12.0	12.0
Pedestrian Calls (#/hr)	10	10	10	10	10	10
Act Effct Green (s)	41.4	41.4		41.4	8.4	8.4
Actuated g/C Ratio	0.75	0.75		0.75	0.15	0.15
v/c Ratio	0.30	0.03		0.21	0.05	0.14
Control Delay	5.6	3.2		5.5	16.8	7.6
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	5.6	3.2		5.5	16.8	7.6
LOS	A	A		A	B	A
Approach Delay	5.5			5.5	9.6	
Approach LOS	A			A	A	
Queue Length 50th (m)	13.0	0.0		6.6	0.9	0.0
Queue Length 95th (m)	40.3	3.9		22.7	3.1	4.5
Internal Link Dist (m)	263.1			447.4	104.3	
Turn Bay Length (m)		40.0			30.0	
Base Capacity (vph)	2525	1058		1931	500	529
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	0.30	0.03		0.21	0.02	0.07

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.30			
Intersection Signal Delay: 5.6		Intersection LOS: A	
Intersection Capacity Utilization 53.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Earl Grey Drive & Kanata Avenue



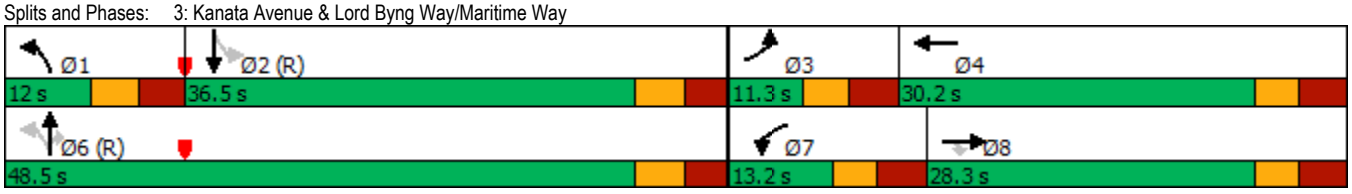


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	6	36	155	2	36	85	346	155	19	653	16
Future Volume (vph)	19	6	36	155	2	36	85	346	155	19	653	16
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		0.0	40.0		0.0	35.0		20.0	35.0		0.0
Storage Lanes	2		1	2		0	1		1	0		0
Taper Length (m)	25.0			40.0			75.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor	1.00		0.98	0.99	0.99		1.00		0.98		1.00	
Frt			0.850		0.858				0.850		0.997	
Flt Protected	0.950			0.950			0.950				0.999	
Satd. Flow (prot)	1262	1784	992	3135	1512	0	1417	3325	1473	0	3329	0
Flt Permitted	0.950			0.950			0.290				0.939	
Satd. Flow (perm)	1261	1784	976	3116	1512	0	432	3325	1441	0	3129	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			193		36				155		3	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		119.6			99.0			110.4			471.4	
Travel Time (s)		8.6			7.1			7.9			33.9	
Confl. Peds. (#/hr)	1		3	3		1	3		1	1		3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	37%	2%	56%	7%	2%	2%	22%	4%	5%	17%	2%	44%
Adj. Flow (vph)	19	6	36	155	2	36	85	346	155	19	653	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	6	36	155	38	0	85	346	155	0	688	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA	Perm	Perm	NA	
Protected Phases	3	8		7	4		1	6			2	
Permitted Phases			8				6		6	2		
Detector Phase	3	8	8	7	4		1	6	6	2	2	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	11.3	28.3	28.3	11.3	28.3		11.3	33.3	33.3	33.3	33.3	
Total Split (s)	11.3	28.3	28.3	13.2	30.2		12.0	48.5	48.5	36.5	36.5	
Total Split (%)	12.6%	31.4%	31.4%	14.7%	33.6%		13.3%	53.9%	53.9%	40.6%	40.6%	
Maximum Green (s)	5.0	22.0	22.0	6.9	23.9		5.7	42.2	42.2	30.2	30.2	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	3.3	3.3	3.3	3.3	3.3		3.0	3.0	3.0	3.0	3.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3		6.3	6.3	6.3		6.3	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	C-Max	C-Max	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0	7.0	7.0	
Flash Dont Walk (s)		15.0	15.0		15.0			20.0	20.0	20.0	20.0	
Pedestrian Calls (#/hr)		10	10		10			10	10	10	10	
Act Effct Green (s)	5.0	12.4	12.4	8.1	15.8		57.1	57.1	57.1		46.4	
Actuated g/C Ratio	0.06	0.14	0.14	0.09	0.18		0.63	0.63	0.63		0.52	
v/c Ratio	0.27	0.02	0.12	0.55	0.13		0.24	0.16	0.16		0.43	
Control Delay	50.7	30.5	0.8	47.9	11.4		10.1	8.6	3.2		17.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	50.7	30.5	0.8	47.9	11.4		10.1	8.6	3.2		17.8	
LOS	D	C	A	D	B		B	A	A		B	
Approach Delay		19.3			40.7			7.4			17.8	
Approach LOS		B			D			A			B	
Queue Length 50th (m)	3.2	1.0	0.0	13.7	0.3		8.8	20.4	4.6		42.6	
Queue Length 95th (m)	10.1	3.7	0.0	#25.6	7.4		12.3	21.2	6.1		71.2	
Internal Link Dist (m)		95.6			75.0			86.4			447.4	
Turn Bay Length (m)	40.0			40.0			35.0		20.0			
Base Capacity (vph)	70	436	384	283	427		348	2109	970		1614	
Starvation Cap Reductn	0	0	0	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.27	0.01	0.09	0.55	0.09		0.24	0.16	0.16		0.43	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 16.8		Intersection LOS: B	
Intersection Capacity Utilization 72.3%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 3: Kanata Avenue & Lord Byng Way/Maritime Way

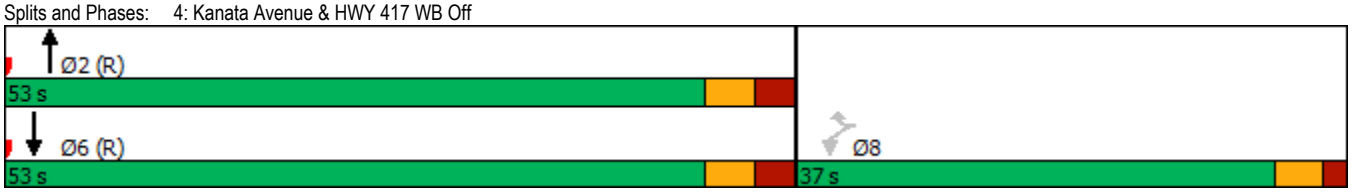


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	217	209	392	0	0	987
Future Volume (vph)	217	209	392	0	0	987
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1695	1334	1717	0	0	3325
Flt Permitted	0.950					
Satd. Flow (perm)	1695	1334	1717	0	0	3325
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		209				
Link Speed (k/h)	50		50			50
Link Distance (m)	332.8		126.6			114.0
Travel Time (s)	24.0		9.1			8.2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	16%	6%	0%	0%	4%
Adj. Flow (vph)	217	209	392	0	0	987
Shared Lane Traffic (%)						
Lane Group Flow (vph)	217	209	392	0	0	987
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0			10.0
Minimum Split (s)	23.0	23.0	28.1			24.1
Total Split (s)	37.0	37.0	53.0			53.0
Total Split (%)	41.1%	41.1%	58.9%			58.9%
Maximum Green (s)	32.0	32.0	46.9			46.9
Yellow Time (s)	3.3	3.3	3.3			3.3
All-Red Time (s)	1.7	1.7	2.8			2.8
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	6.1			6.1
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	11.0	11.0	15.0			
Pedestrian Calls (#/hr)	10	10	10			
Act Effct Green (s)	16.9	16.9	62.0			62.0
Actuated g/C Ratio	0.19	0.19	0.69			0.69
v/c Ratio	0.68	0.50	0.33			0.43
Control Delay	44.4	8.6	2.8			9.5
Queue Delay	0.0	0.0	0.1			0.0
Total Delay	44.4	8.6	2.9			9.5
LOS	D	A	A			A
Approach Delay	26.8		2.9			9.5
Approach LOS	C		A			A
Queue Length 50th (m)	35.3	0.0	7.0			61.5
Queue Length 95th (m)	53.2	16.0	8.7			89.1
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	602	609	1182			2289
Starvation Cap Reductn	0	0	206			0
Spillback Cap Reductn	0	0	0			11
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.36	0.34	0.40			0.43

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 35 (39%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 12.1		Intersection LOS: B	
Intersection Capacity Utilization 57.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 4: Kanata Avenue & HWY 417 WB Off

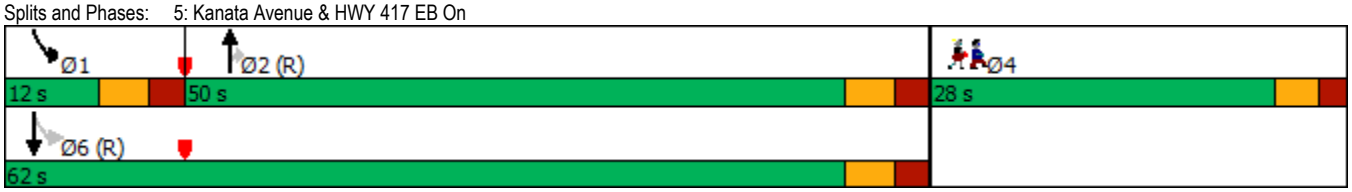


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lane Configurations							
Traffic Volume (vph)	0	0	362	247	478	616	
Future Volume (vph)	0	0	362	247	478	616	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0		50.0	0.0		
Storage Lanes	0	0		1	1		
Taper Length (m)	7.6				7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor				0.98	1.00		
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	0	1685	1502	1679	1750	
Flt Permitted					0.480		
Satd. Flow (perm)	0	0	1685	1468	847	1750	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)				247			
Link Speed (k/h)	48		50			50	
Link Distance (m)	278.4		119.2			126.6	
Travel Time (s)	20.9		8.6			9.1	
Confl. Peds. (#/hr)				1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	0%	0%	8%	3%	3%	4%	
Adj. Flow (vph)	0	0	362	247	478	616	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	362	247	478	616	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(m)	0.0		3.7			3.7	
Link Offset(m)	0.0		0.0			0.0	
Crosswalk Width(m)	4.9		4.9			4.9	
Two way Left Turn Lane							
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	
Turning Speed (k/h)	24	14		14	24		
Number of Detectors			2	1	1	2	
Detector Template			Thru	Right	Left	Thru	
Leading Detector (m)			30.5	6.1	6.1	30.5	
Trailing Detector (m)			0.0	0.0	0.0	0.0	
Detector 1 Position(m)			0.0	0.0	0.0	0.0	
Detector 1 Size(m)			1.8	6.1	6.1	1.8	
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)			0.0	0.0	0.0	0.0	
Detector 1 Queue (s)			0.0	0.0	0.0	0.0	
Detector 1 Delay (s)			0.0	0.0	0.0	0.0	
Detector 2 Position(m)			28.7			28.7	
Detector 2 Size(m)			1.8			1.8	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type			NA	Perm	pm+pt	NA	
Protected Phases			2		1	6	4
Permitted Phases				2	6		
Detector Phase			2	2	1	6	
Switch Phase							
Minimum Initial (s)			10.0	10.0	5.0	10.0	5.0
Minimum Split (s)			23.7	23.7	10.7	23.7	27.0
Total Split (s)			50.0	50.0	12.0	62.0	28.0
Total Split (%)			55.6%	55.6%	13.3%	68.9%	31%
Maximum Green (s)			44.3	44.3	6.3	56.3	23.0
Yellow Time (s)			3.3	3.3	3.3	3.3	3.0
All-Red Time (s)			2.4	2.4	2.4	2.4	2.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lost Time Adjust (s)			0.0	0.0	0.0	0.0	
Total Lost Time (s)			5.7	5.7	5.7	5.7	
Lead/Lag			Lag	Lag	Lead		
Lead-Lag Optimize?			Yes	Yes	Yes		
Vehicle Extension (s)			3.0	3.0	3.0	3.0	3.0
Recall Mode			C-Max	C-Max	None	C-Max	None
Walk Time (s)			7.0	7.0			7.0
Flash Dont Walk (s)			11.0	11.0			15.0
Pedestrian Calls (#/hr)			10	10			10
Act Effct Green (s)			63.2	63.2	78.9	83.5	
Actuated g/C Ratio			0.70	0.70	0.88	0.93	
v/c Ratio			0.31	0.22	0.57	0.38	
Control Delay			6.5	1.7	9.1	1.9	
Queue Delay			0.3	0.0	0.0	0.0	
Total Delay			6.8	1.7	9.1	1.9	
LOS			A	A	A	A	
Approach Delay			4.7			5.0	
Approach LOS			A			A	
Queue Length 50th (m)			14.4	1.2	17.6	0.0	
Queue Length 95th (m)			62.0	11.2	#40.4	28.2	
Internal Link Dist (m)	254.4		95.2			102.6	
Turn Bay Length (m)				50.0			
Base Capacity (vph)			1183	1104	834	1623	
Starvation Cap Reductn			369	0	0	3	
Spillback Cap Reductn			0	0	0	0	
Storage Cap Reductn			0	0	0	0	
Reduced v/c Ratio			0.44	0.22	0.57	0.38	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 42 (47%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.57			
Intersection Signal Delay: 4.9		Intersection LOS: A	
Intersection Capacity Utilization 57.6%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 5: Kanata Avenue & HWY 417 EB On



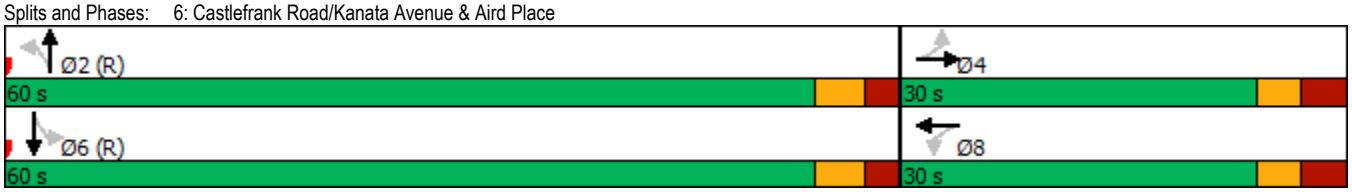
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	6	18	19	6	61	41	602	36	52	549	41
Future Volume (vph)	45	6	18	19	6	61	41	602	36	52	549	41
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		0.0	30.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.6			7.6			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.97			0.96		0.99	1.00		1.00	1.00	
Frt		0.965			0.904			0.992			0.990	
Flt Protected		0.968			0.989		0.950			0.950		
Satd. Flow (prot)	0	1218	0	0	1464	0	1145	1734	0	1662	1715	0
Flt Permitted		0.809			0.909		0.406			0.379		
Satd. Flow (perm)	0	1001	0	0	1336	0	486	1734	0	661	1715	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			61			6			8	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		125.4			132.9			192.1			119.2	
Travel Time (s)		11.3			12.0			13.8			8.6	
Confl. Peds. (#/hr)	14		18	18		14	9		6	6		9
Confl. Bikes (#/hr)			1						1			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	33%	67%	39%	11%	50%	2%	51%	4%	3%	4%	5%	2%
Adj. Flow (vph)	45	6	18	19	6	61	41	602	36	52	549	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	69	0	0	86	0	41	638	0	52	590	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		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	
Minimum Split (s)	28.2	28.2		28.2	28.2		24.7	24.7		24.7	24.7	
Total Split (s)	30.0	30.0		30.0	30.0		60.0	60.0		60.0	60.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%		66.7%	66.7%		66.7%	66.7%	
Maximum Green (s)	23.8	23.8		23.8	23.8		54.3	54.3		54.3	54.3	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.2	3.2		3.2	3.2		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.2			6.2		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	10	10		10	10		10	10		10	10	
Act Effct Green (s)		13.0			13.0		69.5	69.5		69.5	69.5	
Actuated g/C Ratio		0.14			0.14		0.77	0.77		0.77	0.77	
v/c Ratio		0.43			0.35		0.11	0.48		0.10	0.44	
Control Delay		34.5			17.0		4.8	5.6		4.5	4.5	
Queue Delay		0.0			0.0		0.0	0.1		0.0	0.2	
Total Delay		34.5			17.0		4.8	5.6		4.5	4.7	
LOS		C			B		A	A		A	A	
Approach Delay		34.5			17.0			5.6			4.6	
Approach LOS		C			B			A			A	
Queue Length 50th (m)		8.4			4.0		1.7	35.6		1.3	15.0	
Queue Length 95th (m)		18.3			14.6		m4.5	51.7		4.5	29.1	
Internal Link Dist (m)		101.4			108.9			168.1			95.2	
Turn Bay Length (m)							30.0			50.0		
Base Capacity (vph)		277			398		375	1340		510	1326	
Starvation Cap Reductn		0			0		0	65		0	184	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.25			0.22		0.11	0.50		0.10	0.52	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 17 (19%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay: 7.2		Intersection LOS: A	
Intersection Capacity Utilization 69.6%		ICU Level of Service C	
Analysis Period (min) 15			

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

Splits and Phases: 6: Castlefrank Road/Kanata Avenue & Aird Place

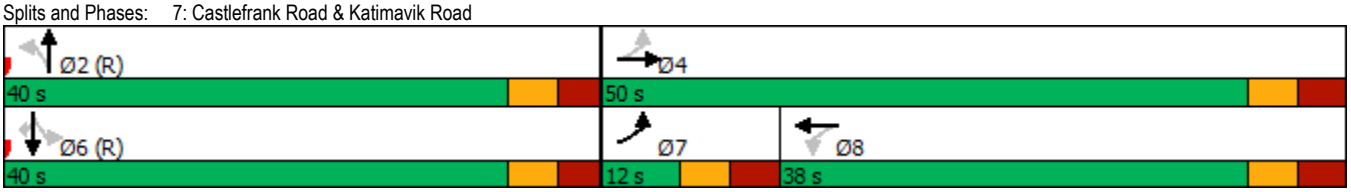


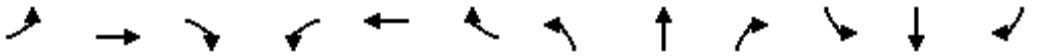
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	130	72	34	114	33	123	419	51	75	319	96
Future Volume (vph)	157	130	72	34	114	33	123	419	51	75	319	96
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	35.0		0.0	55.0		0.0	35.0		0.0	90.0		60.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	55.0			55.0			55.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95	0.98		0.98	0.98		0.98	0.99		0.98		0.94
Frt		0.947			0.966			0.984				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1586	1649	0	1695	1631	0	1695	1631	0	1503	1655	1322
Flt Permitted	0.448			0.631			0.543			0.420		
Satd. Flow (perm)	712	1649	0	1099	1631	0	948	1631	0	649	1655	1245
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			18			8				126
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		313.1			295.7			254.6			192.1	
Travel Time (s)		22.5			21.3			18.3			13.8	
Confl. Peds. (#/hr)	35		16	16		35	20		33	33		20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	9%	3%	2%	2%	3%	15%	2%	9%	7%	15%	10%	17%
Adj. Flow (vph)	157	130	72	34	114	33	123	419	51	75	319	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	202	0	34	147	0	123	470	0	75	319	96
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	11.7	29.7		29.7	29.7		29.2	29.2		29.2	29.2	29.2
Total Split (s)	12.0	50.0		38.0	38.0		40.0	40.0		40.0	40.0	40.0
Total Split (%)	13.3%	55.6%		42.2%	42.2%		44.4%	44.4%		44.4%	44.4%	44.4%
Maximum Green (s)	5.3	43.3		31.3	31.3		33.8	33.8		33.8	33.8	33.8
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	3.4	3.4		3.4	3.4		2.9	2.9		2.9	2.9	2.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7		6.7	6.7		6.2	6.2		6.2	6.2	6.2
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	C-Max
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		16.0		16.0	16.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)		10		10	10		10	10		10	10	10
Act Effct Green (s)	26.1	26.1		14.1	14.1		51.0	51.0		51.0	51.0	51.0
Actuated g/C Ratio	0.29	0.29		0.16	0.16		0.57	0.57		0.57	0.57	0.57
v/c Ratio	0.61	0.40		0.20	0.54		0.23	0.51		0.20	0.34	0.13
Control Delay	35.3	21.3		33.4	37.0		12.6	15.3		19.4	17.7	6.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	35.3	21.3		33.4	37.0		12.6	15.3		19.4	17.7	6.9
LOS	D	C		C	D		B	B		B	B	A
Approach Delay		27.4			36.3			14.7			15.8	
Approach LOS		C			D			B			B	
Queue Length 50th (m)	21.9	22.1		5.3	21.1		9.4	43.1		6.6	27.9	1.5
Queue Length 95th (m)	31.9	34.2		12.0	34.4		24.5	88.6		18.1	55.0	11.9
Internal Link Dist (m)		289.1			271.7			230.6			168.1	
Turn Bay Length (m)	35.0			55.0			35.0			90.0		60.0
Base Capacity (vph)	258	815		382	578		536	927		367	937	759
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.61	0.25		0.09	0.25		0.23	0.51		0.20	0.34	0.13

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 25 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 20.3		Intersection LOS: C	
Intersection Capacity Utilization 81.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 7: Castlefrank Road & Katimavik Road





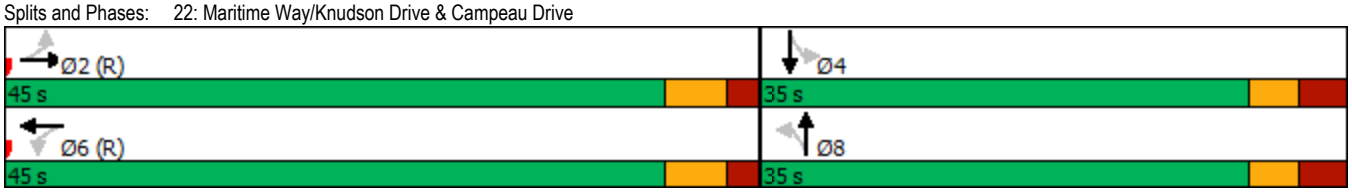
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	685	14	67	469	81	18	18	154	171	11	57
Future Volume (vph)	52	685	14	67	469	81	18	18	154	171	11	57
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	30.0		0.0	30.0		0.0	40.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	40.0			55.0			40.0			35.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		1.00	0.99		0.99	0.96		0.98	0.98	
Frt		0.997			0.978			0.866			0.874	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1718	0	1695	1592	0	1695	1479	0	1695	1493	0
Flt Permitted	0.394			0.298			0.713			0.626		
Satd. Flow (perm)	698	1718	0	530	1592	0	1261	1479	0	1092	1493	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			15			154			57	
Link Speed (k/h)		50			50			50			40	
Link Distance (m)		248.0			203.8			223.0			144.1	
Travel Time (s)		17.9			14.7			16.1			13.0	
Confl. Peds. (#/hr)	12		11	11		12	4		12	12		4
Confl. Bikes (#/hr)			1									
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	5%	33%	2%	11%	12%	2%	2%	2%	2%	14%	2%
Adj. Flow (vph)	52	685	14	67	469	81	18	18	154	171	11	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	699	0	67	550	0	18	172	0	171	68	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	27.7	27.7		27.7	27.7		24.0	24.0		24.0	24.0	
Total Split (s)	45.0	45.0		45.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	56.3%	56.3%		56.3%	56.3%		43.8%	43.8%		43.8%	43.8%	
Maximum Green (s)	39.3	39.3		39.3	39.3		29.0	29.0		29.0	29.0	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.0	3.0		3.0	3.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.7	5.7		5.7	5.7		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	10	10		10	10		10	10		10	10	
Act Effct Green (s)	50.8	50.8		50.8	50.8		17.5	17.5		17.5	17.5	
Actuated g/C Ratio	0.64	0.64		0.64	0.64		0.22	0.22		0.22	0.22	
v/c Ratio	0.12	0.64		0.20	0.54		0.07	0.39		0.72	0.18	
Control Delay	8.5	14.0		10.0	11.8		22.0	8.0		44.7	9.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	8.5	14.0		10.0	11.8		22.0	8.0		44.7	9.3	
LOS	A	B		A	B		C	A		D	A	
Approach Delay		13.6			11.6			9.3			34.6	
Approach LOS		B			B			A			C	
Queue Length 50th (m)	2.8	57.5		3.8	39.8		2.2	2.2		24.2	1.3	
Queue Length 95th (m)	9.4	120.8		12.6	85.4		6.4	14.8		39.6	9.4	
Internal Link Dist (m)		224.0			179.8			199.0			120.1	
Turn Bay Length (m)	30.0			30.0			40.0			35.0		
Base Capacity (vph)	443	1091		336	1016		457	634		395	577	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.12	0.64		0.20	0.54		0.04	0.27		0.43	0.12	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 15.2 Intersection LOS: B
Intersection Capacity Utilization 89.6% ICU Level of Service E
Analysis Period (min) 15

Splits and Phases: 22: Maritime Way/Knudson Drive & Campeau Drive

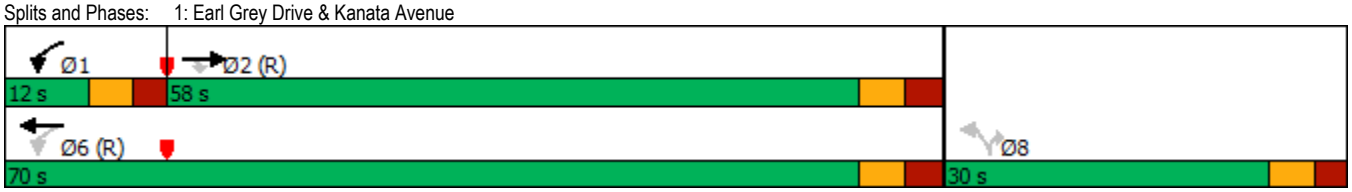


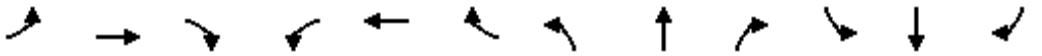
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	634	82	214	734	79	177
Future Volume (vph)	634	82	214	734	79	177
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		40.0	110.0		30.0	0.0
Storage Lanes		1	0		1	1
Taper Length (m)			100.0		45.0	
Lane Util. Factor	0.95	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor		0.98		1.00		0.99
Frt		0.850				0.850
Flt Protected				0.989	0.950	
Satd. Flow (prot)	3115	1517	0	3353	1695	1517
Flt Permitted				0.673	0.950	
Satd. Flow (perm)	3115	1483	0	2281	1695	1496
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		82				177
Link Speed (k/h)	50			50	50	
Link Distance (m)	287.1			471.4	128.3	
Travel Time (s)	20.7			33.9	9.2	
Confl. Peds. (#/hr)		1	1			1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	11%	2%	2%	2%	2%	2%
Adj. Flow (vph)	634	82	214	734	79	177
Shared Lane Traffic (%)						
Lane Group Flow (vph)	634	82	0	948	79	177
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)		14	24		24	14
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (m)	30.5	6.1	6.1	30.5	6.1	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	1.8	6.1	6.1	1.8	6.1	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)	28.7			28.7		
Detector 2 Size(m)	1.8			1.8		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases		2	6		8	8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	5.0	5.0
Minimum Split (s)	29.4	29.4	10.8	29.4	24.9	24.9
Total Split (s)	58.0	58.0	12.0	70.0	30.0	30.0
Total Split (%)	58.0%	58.0%	12.0%	70.0%	30.0%	30.0%
Maximum Green (s)	51.6	51.6	6.2	63.6	24.1	24.1
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.1	3.1	2.5	3.1	2.6	2.6

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4		6.4	5.9	5.9
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	None	C-Max	None	None
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0		16.0	12.0	12.0
Pedestrian Calls (#/hr)	10	10		10	10	10
Act Effct Green (s)	76.7	76.7		76.7	11.0	11.0
Actuated g/C Ratio	0.77	0.77		0.77	0.11	0.11
v/c Ratio	0.27	0.07		0.54	0.42	0.55
Control Delay	4.2	1.2		6.8	46.9	12.6
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	4.2	1.2		6.8	46.9	12.6
LOS	A	A		A	D	B
Approach Delay	3.9			6.8	23.2	
Approach LOS	A			A	C	
Queue Length 50th (m)	14.4	0.0		29.4	14.7	0.0
Queue Length 95th (m)	30.0	4.1		62.6	26.1	17.0
Internal Link Dist (m)	263.1			447.4	104.3	
Turn Bay Length (m)		40.0			30.0	
Base Capacity (vph)	2388	1156		1749	408	494
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	0.27	0.07		0.54	0.19	0.36

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.55			
Intersection Signal Delay: 7.9		Intersection LOS: A	
Intersection Capacity Utilization 67.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Earl Grey Drive & Kanata Avenue



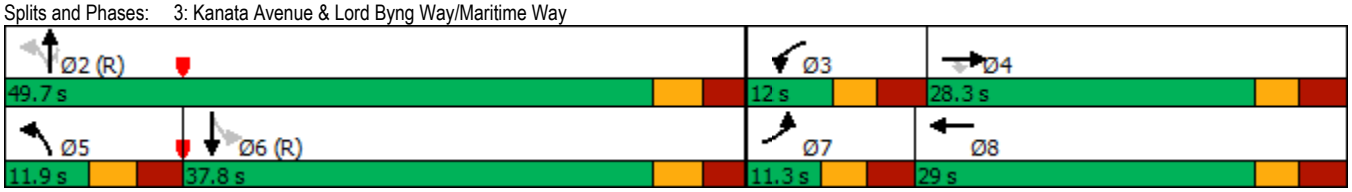


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	3	78	132	9	43	136	885	193	61	685	25
Future Volume (vph)	30	3	78	132	9	43	136	885	193	61	685	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		0.0	40.0		0.0	35.0		20.0	35.0		0.0
Storage Lanes	2		1	2		0	1		1	0		0
Taper Length (m)	25.0			40.0			75.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor	0.99		0.98	0.99	0.98		1.00		0.98		1.00	
Frt			0.850		0.876				0.850		0.995	
Flt Protected	0.950			0.950			0.950				0.996	
Satd. Flow (prot)	1262	1784	1268	3288	1530	0	1503	3390	1517	0	3338	0
Flt Permitted	0.950			0.950			0.241				0.795	
Satd. Flow (perm)	1246	1784	1247	3262	1530	0	381	3390	1479	0	2664	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			193		43				116		4	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		119.6			99.0			110.4			471.4	
Travel Time (s)		8.6			7.1			7.9			33.9	
Confl. Peds. (#/hr)	11		4	4		11	3		3	3		3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	37%	2%	22%	2%	2%	2%	15%	2%	2%	2%	2%	20%
Adj. Flow (vph)	30	3	78	132	9	43	136	885	193	61	685	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	3	78	132	52	0	136	885	193	0	771	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases			4				2		2	6		
Detector Phase	7	4	4	3	8		5	2	2	6	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	11.3	28.3	28.3	11.3	28.3		11.3	33.3	33.3	33.3	33.3	
Total Split (s)	11.3	28.3	28.3	12.0	29.0		11.9	49.7	49.7	37.8	37.8	
Total Split (%)	12.6%	31.4%	31.4%	13.3%	32.2%		13.2%	55.2%	55.2%	42.0%	42.0%	
Maximum Green (s)	5.0	22.0	22.0	5.7	22.7		5.6	43.4	43.4	31.5	31.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	3.3	3.3	3.3	3.3	3.3		3.0	3.0	3.0	3.0	3.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3		6.3	6.3	6.3		6.3	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	C-Max	C-Max	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0	7.0	7.0	
Flash Dont Walk (s)		15.0	15.0		15.0			20.0	20.0	20.0	20.0	
Pedestrian Calls (#/hr)		10	10		10			10	10	10	10	
Act Effct Green (s)	5.0	12.4	12.4	6.6	15.2		55.4	55.4	55.4		41.3	
Actuated g/C Ratio	0.06	0.14	0.14	0.07	0.17		0.62	0.62	0.62		0.46	
v/c Ratio	0.43	0.01	0.23	0.55	0.18		0.41	0.42	0.20		0.63	
Control Delay	60.3	30.0	1.6	61.6	13.3		11.1	10.0	4.4		23.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	60.3	30.0	1.6	61.6	13.3		11.1	10.0	4.4		23.4	
LOS	E	C	A	E	B		B	A	A		C	
Approach Delay		18.2			48.0			9.2			23.4	
Approach LOS		B			D			A			C	
Queue Length 50th (m)	5.1	0.5	0.0	12.5	0.8		7.3	34.0	4.4		52.6	
Queue Length 95th (m)	#15.6	2.5	0.0	#23.9	6.7		m16.5	m71.4	m11.5		#89.3	
Internal Link Dist (m)		95.6			75.0			86.4			447.4	
Turn Bay Length (m)	40.0			40.0			35.0		20.0			
Base Capacity (vph)	70	436	450	239	418		331	2086	955		1225	
Starvation Cap Reductn	0	0	0	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.43	0.01	0.17	0.55	0.12		0.41	0.42	0.20		0.63	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 17.6		Intersection LOS: B	
Intersection Capacity Utilization 77.3%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 3: Kanata Avenue & Lord Byng Way/Maritime Way

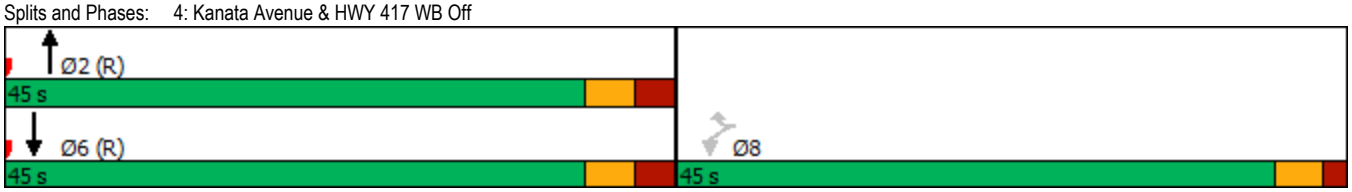


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	419	603	779	0	0	1134
Future Volume (vph)	419	603	779	0	0	1134
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1695	1517	1750	0	0	3357
Flt Permitted	0.950					
Satd. Flow (perm)	1695	1517	1750	0	0	3357
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		100				
Link Speed (k/h)	50		50			50
Link Distance (m)	332.8		126.6			114.0
Travel Time (s)	24.0		9.1			8.2
Confl. Bikes (#/hr)				3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	4%	0%	0%	3%
Adj. Flow (vph)	419	603	779	0	0	1134
Shared Lane Traffic (%)						
Lane Group Flow (vph)	419	603	779	0	0	1134
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0			10.0
Minimum Split (s)	23.0	23.0	28.1			24.1
Total Split (s)	45.0	45.0	45.0			45.0
Total Split (%)	50.0%	50.0%	50.0%			50.0%
Maximum Green (s)	40.0	40.0	38.9			38.9
Yellow Time (s)	3.3	3.3	3.3			3.3
All-Red Time (s)	1.7	1.7	2.8			2.8
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	6.1			6.1
Lead/Lag						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	11.0	11.0	15.0			
Pedestrian Calls (#/hr)	10	10	10			
Act Effct Green (s)	36.0	36.0	42.9			42.9
Actuated g/C Ratio	0.40	0.40	0.48			0.48
v/c Ratio	0.62	0.91	0.93			0.71
Control Delay	25.3	39.4	35.0			20.1
Queue Delay	0.4	0.0	0.0			0.0
Total Delay	25.7	39.4	35.0			20.1
LOS	C	D	C			C
Approach Delay	33.7		35.0			20.1
Approach LOS	C		C			C
Queue Length 50th (m)	52.7	76.9	~106.1			92.8
Queue Length 95th (m)	79.6	#137.7	#206.8			129.4
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	753	729	834			1599
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	77	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.62	0.83	0.93			0.71

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 32 (36%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 28.8		Intersection LOS: C	
Intersection Capacity Utilization 121.7%		ICU Level of Service H	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 4: Kanata Avenue & HWY 417 WB Off

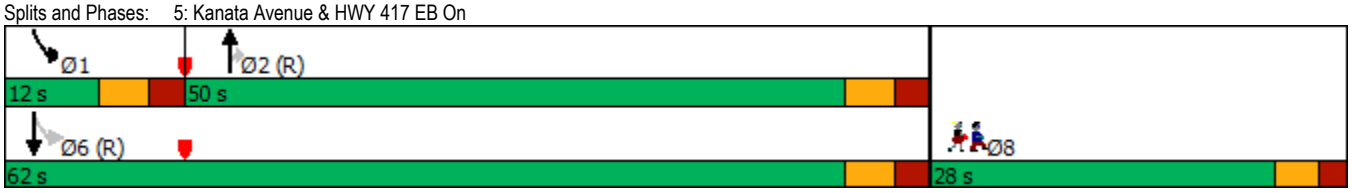


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations							
Traffic Volume (vph)	0	0	633	224	434	1034	
Future Volume (vph)	0	0	633	224	434	1034	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0		50.0	0.0		
Storage Lanes	0	0		1	1		
Taper Length (m)	7.6				7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor				0.98			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	0	1733	1517	1662	1784	
Flt Permitted					0.238		
Satd. Flow (perm)	0	0	1733	1479	416	1784	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)				211			
Link Speed (k/h)	48		50			50	
Link Distance (m)	278.4		119.2			126.6	
Travel Time (s)	20.9		8.6			9.1	
Confl. Peds. (#/hr)				2	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	0%	0%	5%	2%	4%	2%	
Adj. Flow (vph)	0	0	633	224	434	1034	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	633	224	434	1034	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(m)	0.0		3.7			3.7	
Link Offset(m)	0.0		0.0			0.0	
Crosswalk Width(m)	4.9		4.9			4.9	
Two way Left Turn Lane							
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	
Turning Speed (k/h)	24	14		14	24		
Number of Detectors			2	1	1	2	
Detector Template			Thru	Right	Left	Thru	
Leading Detector (m)			30.5	6.1	6.1	30.5	
Trailing Detector (m)			0.0	0.0	0.0	0.0	
Detector 1 Position(m)			0.0	0.0	0.0	0.0	
Detector 1 Size(m)			1.8	6.1	6.1	1.8	
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)			0.0	0.0	0.0	0.0	
Detector 1 Queue (s)			0.0	0.0	0.0	0.0	
Detector 1 Delay (s)			0.0	0.0	0.0	0.0	
Detector 2 Position(m)			28.7			28.7	
Detector 2 Size(m)			1.8			1.8	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type			NA	Perm	pm+pt	NA	
Protected Phases			2		1	6	8
Permitted Phases				2	6		
Detector Phase			2	2	1	6	
Switch Phase							
Minimum Initial (s)			10.0	10.0	5.0	10.0	5.0
Minimum Split (s)			23.7	23.7	10.7	23.7	27.0
Total Split (s)			50.0	50.0	12.0	62.0	28.0
Total Split (%)			55.6%	55.6%	13.3%	68.9%	31%
Maximum Green (s)			44.3	44.3	6.3	56.3	23.0
Yellow Time (s)			3.3	3.3	3.3	3.3	3.0
All-Red Time (s)			2.4	2.4	2.4	2.4	2.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lost Time Adjust (s)			0.0	0.0	0.0	0.0	
Total Lost Time (s)			5.7	5.7	5.7	5.7	
Lead/Lag			Lag	Lag	Lead		
Lead-Lag Optimize?			Yes	Yes	Yes		
Vehicle Extension (s)			3.0	3.0	3.0	3.0	3.0
Recall Mode			C-Max	C-Max	None	C-Max	None
Walk Time (s)			7.0	7.0			7.0
Flash Dont Walk (s)			11.0	11.0			15.0
Pedestrian Calls (#/hr)			10	10			10
Act Effct Green (s)			51.2	51.2	78.9	83.5	
Actuated g/C Ratio			0.57	0.57	0.88	0.93	
v/c Ratio			0.64	0.24	0.65	0.63	
Control Delay			11.0	1.3	20.3	7.9	
Queue Delay			2.4	0.0	0.0	0.3	
Total Delay			13.4	1.3	20.3	8.2	
LOS			B	A	C	A	
Approach Delay			10.3			11.8	
Approach LOS			B			B	
Queue Length 50th (m)			49.9	2.9	33.1	28.9	
Queue Length 95th (m)			88.2	m3.1	#86.9	#234.8	
Internal Link Dist (m)	254.4		95.2			102.6	
Turn Bay Length (m)				50.0			
Base Capacity (vph)			986	933	668	1654	
Starvation Cap Reductn			178	0	0	6	
Spillback Cap Reductn			227	0	0	181	
Storage Cap Reductn			0	0	0	0	
Reduced v/c Ratio			0.83	0.24	0.65	0.70	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 27 (30%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 11.2		Intersection LOS: B	
Intersection Capacity Utilization 121.7%		ICU Level of Service H	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 5: Kanata Avenue & HWY 417 EB On



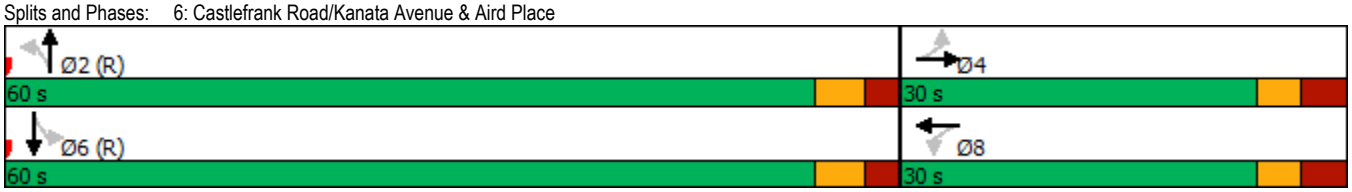
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	3	13	30	1	97	12	854	35	62	1029	24
Future Volume (vph)	17	3	13	30	1	97	12	854	35	62	1029	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		0.0	30.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.6			7.6			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.97			1.00			1.00	
Frt		0.947			0.898			0.994			0.997	
Flt Protected		0.975			0.988		0.950			0.950		
Satd. Flow (prot)	0	1627	0	0	1542	0	1695	1755	0	1695	1777	0
Flt Permitted		0.735			0.909		0.180			0.257		
Satd. Flow (perm)	0	1219	0	0	1415	0	321	1755	0	459	1777	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			97			4			2	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		125.4			132.9			192.1			119.2	
Travel Time (s)		11.3			12.0			13.8			8.6	
Confl. Peds. (#/hr)	7		6	6		7	9		5	5		9
Confl. Bikes (#/hr)									3			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%	2%	2%
Adj. Flow (vph)	17	3	13	30	1	97	12	854	35	62	1029	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	128	0	12	889	0	62	1053	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	28.2	28.2		28.2	28.2		24.7	24.7		24.7	24.7	
Total Split (s)	30.0	30.0		30.0	30.0		60.0	60.0		60.0	60.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%		66.7%	66.7%		66.7%	66.7%	
Maximum Green (s)	23.8	23.8		23.8	23.8		54.3	54.3		54.3	54.3	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	

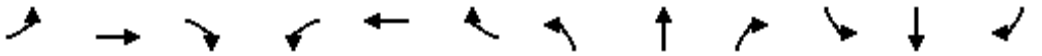
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.2	3.2		3.2	3.2		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.2			6.2		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	10	10		10	10		10	10		10	10	
Act Effct Green (s)		10.1			10.1		68.0	68.0		68.0	68.0	
Actuated g/C Ratio		0.11			0.11		0.76	0.76		0.76	0.76	
v/c Ratio		0.22			0.52		0.05	0.67		0.18	0.78	
Control Delay		26.2			19.2		4.9	9.3		7.0	14.5	
Queue Delay		0.0			0.0		0.0	0.1		0.0	0.0	
Total Delay		26.2			19.2		4.9	9.4		7.0	14.5	
LOS		C			B		A	A		A	B	
Approach Delay		26.2			19.2			9.3			14.1	
Approach LOS		C			B			A			B	
Queue Length 50th (m)		3.3			5.1		0.3	36.3		3.8	124.8	
Queue Length 95th (m)		9.9			17.8		m1.2	106.6		m5.3	#249.4	
Internal Link Dist (m)		101.4			108.9			168.1			95.2	
Turn Bay Length (m)							30.0			50.0		
Base Capacity (vph)		331			445		242	1327		347	1343	
Starvation Cap Reductn		0			0		0	10		0	5	
Spillback Cap Reductn		0			2		0	44		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.10			0.29		0.05	0.69		0.18	0.79	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 10 (11%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.78			
Intersection Signal Delay: 12.6		Intersection LOS: B	
Intersection Capacity Utilization 79.6%		ICU Level of Service D	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Castlefrank Road/Kanata Avenue & Aird Place





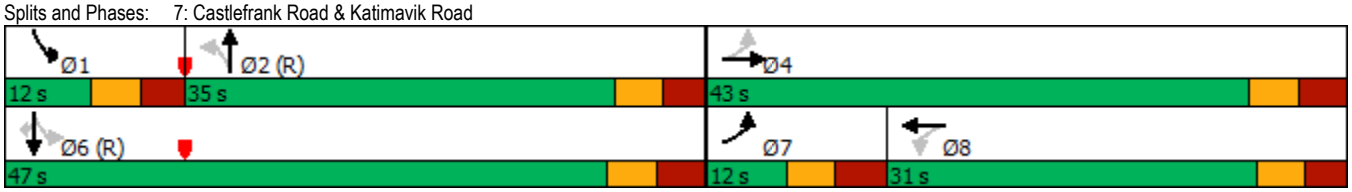
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	140	75	92	200	101	41	464	60	113	706	196
Future Volume (vph)	140	140	75	92	200	101	41	464	60	113	706	196
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	35.0		0.0	55.0		0.0	35.0		0.0	90.0		60.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	55.0			55.0			55.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.98		0.98	0.98		0.98	0.99				0.92
Frt		0.948			0.950			0.983				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	1666	0	1558	1639	0	1695	1740	0	1647	1784	1473
Flt Permitted	0.255			0.624			0.276			0.195		
Satd. Flow (perm)	440	1666	0	1005	1639	0	485	1740	0	338	1784	1356
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			28			8				179
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		313.1			295.7			254.6			192.1	
Travel Time (s)		22.5			21.3			18.3			13.8	
Confl. Peds. (#/hr)	16		12	12		16	31		27	27		31
Confl. Bikes (#/hr)			1									
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	2%	2%	11%	2%	7%	2%	2%	2%	5%	2%	5%
Adj. Flow (vph)	140	140	75	92	200	101	41	464	60	113	706	196
Shared Lane Traffic (%)												
Lane Group Flow (vph)	140	215	0	92	301	0	41	524	0	113	706	196
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	Perm
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		8	8		2	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		10.0	10.0		5.0	10.0	10.0
Minimum Split (s)	11.7	29.7		29.2	29.2		29.2	29.2		11.2	29.7	29.7
Total Split (s)	12.0	43.0		31.0	31.0		35.0	35.0		12.0	47.0	47.0
Total Split (%)	13.3%	47.8%		34.4%	34.4%		38.9%	38.9%		13.3%	52.2%	52.2%
Maximum Green (s)	5.3	36.3		24.8	24.8		28.8	28.8		5.8	40.3	40.3
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	3.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.4	3.4		2.9	2.9		2.9	2.9		2.9	3.4	3.4
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7		6.2	6.2		6.2	6.2		6.2	6.7	6.7
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	C-Max
Walk Time (s)		7.0		7.0	7.0		7.0	7.0			7.0	7.0
Flash Dont Walk (s)		16.0		16.0	16.0		16.0	16.0			16.0	16.0
Pedestrian Calls (#/hr)		10		10	10		10	10			10	10
Act Effct Green (s)	31.4	31.4		19.9	19.9		35.0	35.0		45.7	45.2	45.2
Actuated g/C Ratio	0.35	0.35		0.22	0.22		0.39	0.39		0.51	0.50	0.50
v/c Ratio	0.62	0.36		0.42	0.79		0.22	0.77		0.41	0.79	0.25
Control Delay	33.1	18.8		34.6	44.2		26.3	35.9		15.6	23.9	4.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	33.1	18.8		34.6	44.2		26.3	35.9		15.6	23.9	4.5
LOS	C	B		C	D		C	D		B	C	A
Approach Delay		24.4			42.0			35.2			19.2	
Approach LOS		C			D			D			B	
Queue Length 50th (m)	16.8	22.1		13.6	44.5		5.1	83.9		6.9	89.8	3.2
Queue Length 95th (m)	27.9	36.5		26.1	68.6		14.1	#147.1		m12.4	#173.3	m10.1
Internal Link Dist (m)		289.1			271.7			230.6			168.1	
Turn Bay Length (m)	35.0			55.0			35.0			90.0		60.0
Base Capacity (vph)	225	693		276	471		189	682		273	896	770
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.62	0.31		0.33	0.64		0.22	0.77		0.41	0.79	0.25

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 25 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.79
Intersection Signal Delay: 27.7 Intersection LOS: C
Intersection Capacity Utilization 95.8% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Castlefrank Road & Katimavik Road

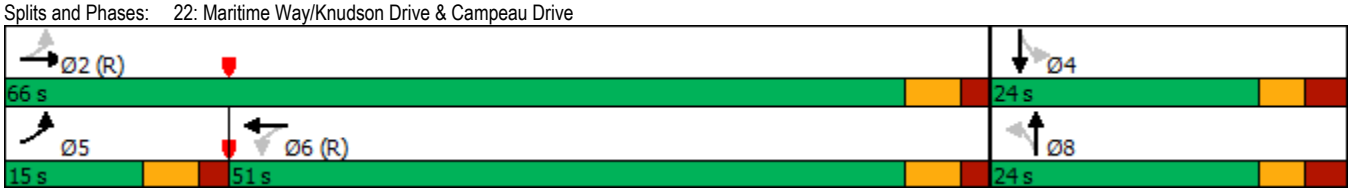


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	476	33	126	657	112	13	15	91	42	11	77
Future Volume (vph)	71	476	33	126	657	112	13	15	91	42	11	77
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	30.0		0.0	30.0		0.0	40.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	40.0			55.0			40.0			35.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		1.00	0.99		0.98	0.97		0.99	0.96	
Frt		0.990			0.978			0.871			0.869	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1763	0	1695	1732	0	1695	1514	0	1679	1495	0
Flt Permitted	0.233			0.476			0.700			0.689		
Satd. Flow (perm)	416	1763	0	846	1732	0	1226	1514	0	1206	1495	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			14			91			77	
Link Speed (k/h)		50			50			50			40	
Link Distance (m)		248.0			203.8			223.0			144.1	
Travel Time (s)		17.9			14.7			16.1			13.0	
Confl. Peds. (#/hr)	15		4	4		15	8		4	4		8
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%
Adj. Flow (vph)	71	476	33	126	657	112	13	15	91	42	11	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	71	509	0	126	769	0	13	106	0	42	88	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	10.7	27.7		27.7	27.7		24.0	24.0		24.0	24.0	
Total Split (s)	15.0	66.0		51.0	51.0		24.0	24.0		24.0	24.0	
Total Split (%)	16.7%	73.3%		56.7%	56.7%		26.7%	26.7%		26.7%	26.7%	
Maximum Green (s)	9.3	60.3		45.3	45.3		18.0	18.0		18.0	18.0	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.7	5.7		5.7	5.7		6.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)		10		10	10		10	10		10	10	
Act Effct Green (s)	70.1	71.2		61.2	61.2		11.4	11.4		11.4	11.4	
Actuated g/C Ratio	0.78	0.79		0.68	0.68		0.13	0.13		0.13	0.13	
v/c Ratio	0.17	0.36		0.22	0.65		0.08	0.39		0.27	0.34	
Control Delay	4.5	4.9		10.1	15.7		33.3	13.3		39.3	14.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	4.5	4.9		10.1	15.7		33.3	13.3		39.3	14.2	
LOS	A	A		B	B		C	B		D	B	
Approach Delay		4.9			14.9			15.5			22.3	
Approach LOS		A			B			B			C	
Queue Length 50th (m)	2.5	23.2		8.7	79.5		2.0	2.5		6.8	1.7	
Queue Length 95th (m)	7.5	51.1		22.7	#177.3		m4.5	m8.4		15.1	13.6	
Internal Link Dist (m)		224.0			179.8			199.0			120.1	
Turn Bay Length (m)	30.0			30.0			40.0			35.0		
Base Capacity (vph)	455	1396		575	1182		245	375		241	360	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.16	0.36		0.22	0.65		0.05	0.28		0.17	0.24	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.65			
Intersection Signal Delay: 12.1		Intersection LOS: B	
Intersection Capacity Utilization 72.9%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 22: Maritime Way/Knudson Drive & Campeau Drive

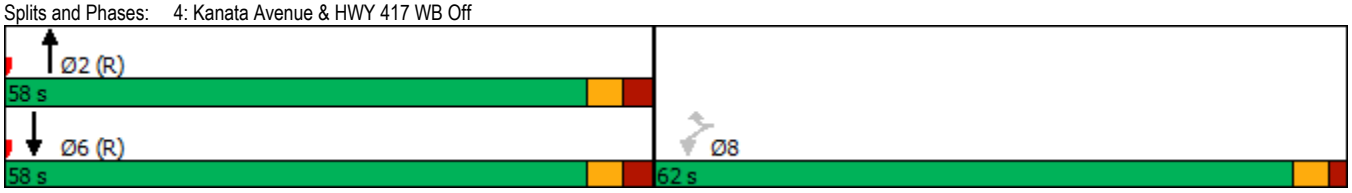


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	419	603	779	0	0	1134
Future Volume (vph)	419	603	779	0	0	1134
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1695	1517	1750	0	0	3357
Flt Permitted	0.950					
Satd. Flow (perm)	1695	1517	1750	0	0	3357
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		100				
Link Speed (k/h)	50		50			50
Link Distance (m)	332.8		126.6			114.0
Travel Time (s)	24.0		9.1			8.2
Confl. Bikes (#/hr)				3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	4%	0%	0%	3%
Adj. Flow (vph)	419	603	779	0	0	1134
Shared Lane Traffic (%)						
Lane Group Flow (vph)	419	603	779	0	0	1134
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0			10.0
Minimum Split (s)	23.0	23.0	28.1			24.1
Total Split (s)	62.0	62.0	58.0			58.0
Total Split (%)	51.7%	51.7%	48.3%			48.3%
Maximum Green (s)	57.0	57.0	51.9			51.9
Yellow Time (s)	3.3	3.3	3.3			3.3
All-Red Time (s)	1.7	1.7	2.8			2.8
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	6.1			6.1
Lead/Lag						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	11.0	11.0	15.0			
Pedestrian Calls (#/hr)	10	10	10			
Act Effct Green (s)	48.7	48.7	60.2			60.2
Actuated g/C Ratio	0.41	0.41	0.50			0.50
v/c Ratio	0.61	0.89	0.89			0.67
Control Delay	31.3	43.6	42.4			26.6
Queue Delay	0.0	0.0	48.3			0.0
Total Delay	31.3	43.6	90.7			26.6
LOS	C	D	F			C
Approach Delay	38.6		90.7			26.6
Approach LOS	D		F			C
Queue Length 50th (m)	74.2	109.2	166.2			106.6
Queue Length 95th (m)	96.1	148.8	#268.8			145.0
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	805	773	878			1685
Starvation Cap Reductn	0	0	223			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.52	0.78	1.19			0.67

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 47.8		Intersection LOS: D	
Intersection Capacity Utilization 121.7%		ICU Level of Service H	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 4: Kanata Avenue & HWY 417 WB Off

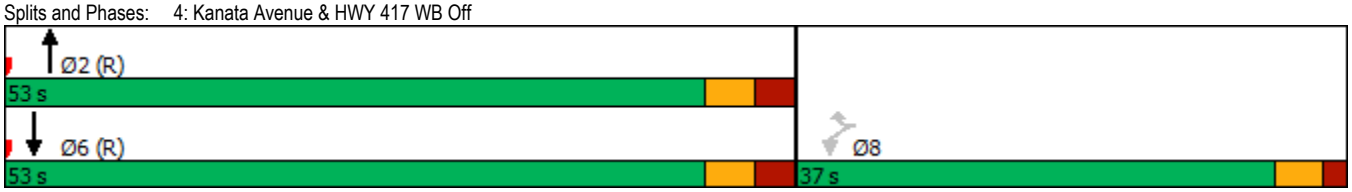


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	217	209	392	0	0	987
Future Volume (vph)	217	209	392	0	0	987
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1695	1334	3262	0	0	3325
Flt Permitted	0.950					
Satd. Flow (perm)	1695	1334	3262	0	0	3325
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		209				
Link Speed (k/h)	50		50			50
Link Distance (m)	332.8		126.6			114.0
Travel Time (s)	24.0		9.1			8.2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	16%	6%	0%	0%	4%
Adj. Flow (vph)	217	209	392	0	0	987
Shared Lane Traffic (%)						
Lane Group Flow (vph)	217	209	392	0	0	987
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0			10.0
Minimum Split (s)	23.0	23.0	28.1			24.1
Total Split (s)	37.0	37.0	53.0			53.0
Total Split (%)	41.1%	41.1%	58.9%			58.9%
Maximum Green (s)	32.0	32.0	46.9			46.9
Yellow Time (s)	3.3	3.3	3.3			3.3
All-Red Time (s)	1.7	1.7	2.8			2.8
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	6.1			6.1
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	11.0	11.0	15.0			
Pedestrian Calls (#/hr)	10	10	10			
Act Effct Green (s)	16.9	16.9	62.0			62.0
Actuated g/C Ratio	0.19	0.19	0.69			0.69
v/c Ratio	0.68	0.50	0.17			0.43
Control Delay	44.4	8.6	2.2			9.5
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	44.4	8.6	2.2			9.5
LOS	D	A	A			A
Approach Delay	26.8		2.2			9.5
Approach LOS	C		A			A
Queue Length 50th (m)	35.3	0.0	3.6			61.5
Queue Length 95th (m)	53.2	16.0	4.5			89.1
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	602	609	2245			2289
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			11
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.36	0.34	0.17			0.43

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 35 (39%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 12.0		Intersection LOS: B	
Intersection Capacity Utilization 57.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 4: Kanata Avenue & HWY 417 WB Off

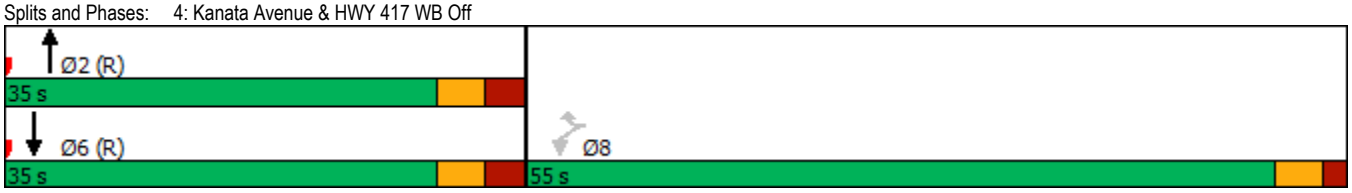


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	419	603	779	0	0	1134
Future Volume (vph)	419	603	779	0	0	1134
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1695	1517	3325	0	0	3357
Flt Permitted	0.950					
Satd. Flow (perm)	1695	1517	3325	0	0	3357
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		42				
Link Speed (k/h)	50		50			50
Link Distance (m)	332.8		126.6			114.0
Travel Time (s)	24.0		9.1			8.2
Confl. Bikes (#/hr)				3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	4%	0%	0%	3%
Adj. Flow (vph)	419	603	779	0	0	1134
Shared Lane Traffic (%)						
Lane Group Flow (vph)	419	603	779	0	0	1134
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0			10.0
Minimum Split (s)	23.0	23.0	28.1			24.1
Total Split (s)	55.0	55.0	35.0			35.0
Total Split (%)	61.1%	61.1%	38.9%			38.9%
Maximum Green (s)	50.0	50.0	28.9			28.9
Yellow Time (s)	3.3	3.3	3.3			3.3
All-Red Time (s)	1.7	1.7	2.8			2.8
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	6.1			6.1
Lead/Lag						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	11.0	11.0	15.0			
Pedestrian Calls (#/hr)	10	10	10			
Act Effct Green (s)	41.8	41.8	37.1			37.1
Actuated g/C Ratio	0.46	0.46	0.41			0.41
v/c Ratio	0.53	0.83	0.57			0.82
Control Delay	18.8	29.4	22.0			23.8
Queue Delay	0.2	0.0	0.1			0.0
Total Delay	19.0	29.4	22.1			23.8
LOS	B	C	C			C
Approach Delay	25.1		22.1			23.8
Approach LOS	C		C			C
Queue Length 50th (m)	47.5	78.5	58.5			92.0
Queue Length 95th (m)	61.6	105.6	57.6			#150.9
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	941	861	1372			1385
Starvation Cap Reductn	0	0	78			0
Spillback Cap Reductn	116	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.51	0.70	0.60			0.82

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 32 (36%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 23.8		Intersection LOS: C	
Intersection Capacity Utilization 121.7%		ICU Level of Service H	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 4: Kanata Avenue & HWY 417 WB Off

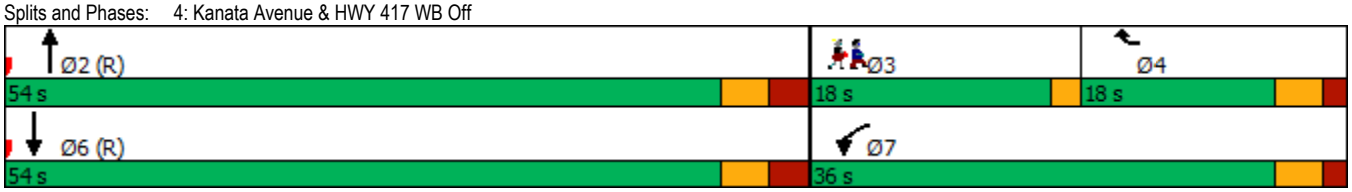


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lane Configurations							
Traffic Volume (vph)	217	209	392	0	0	987	
Future Volume (vph)	217	209	392	0	0	987	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Lane Util. Factor	1.00	0.88	1.00	1.00	1.00	0.95	
Frt		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	1695	2347	1717	0	0	3325	
Flt Permitted	0.950						
Satd. Flow (perm)	1695	2347	1717	0	0	3325	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		209					
Link Speed (k/h)	50		50			50	
Link Distance (m)	332.8		126.6			114.0	
Travel Time (s)	24.0		9.1			8.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	2%	16%	6%	0%	0%	4%	
Adj. Flow (vph)	217	209	392	0	0	987	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	217	209	392	0	0	987	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(m)	3.7		0.0			0.0	
Link Offset(m)	0.0		0.0			0.0	
Crosswalk Width(m)	4.9		4.9			4.9	
Two way Left Turn Lane							
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	
Turning Speed (k/h)	24	14		14	24		
Number of Detectors	1	1	2			2	
Detector Template	Left	Right	Thru			Thru	
Leading Detector (m)	6.1	6.1	30.5			30.5	
Trailing Detector (m)	0.0	0.0	0.0			0.0	
Detector 1 Position(m)	0.0	0.0	0.0			0.0	
Detector 1 Size(m)	6.1	6.1	1.8			1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0	
Detector 2 Position(m)			28.7			28.7	
Detector 2 Size(m)			1.8			1.8	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type	Prot	Prot	NA			NA	
Protected Phases	7	4	2			6	3
Permitted Phases							
Detector Phase	7	4	2			6	
Switch Phase							
Minimum Initial (s)	5.0	5.0	10.0			10.0	1.0
Minimum Split (s)	10.0	10.0	28.1			24.1	18.0
Total Split (s)	36.0	18.0	54.0			54.0	18.0
Total Split (%)	40.0%	20.0%	60.0%			60.0%	20%
Maximum Green (s)	31.0	13.0	47.9			47.9	16.0
Yellow Time (s)	3.3	3.3	3.3			3.3	2.0
All-Red Time (s)	1.7	1.7	2.8			2.8	0.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.0	6.1			6.1	
Lead/Lag		Lag					Lead
Lead-Lag Optimize?		Yes					Yes
Vehicle Extension (s)	3.0	3.0	3.0			3.0	3.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Recall Mode	None	None	C-Max			C-Max	None
Walk Time (s)			7.0				7.0
Flash Dont Walk (s)			15.0				9.0
Pedestrian Calls (#/hr)			10				10
Act Effct Green (s)	17.9	14.3	61.0			61.0	
Actuated g/C Ratio	0.20	0.16	0.68			0.68	
v/c Ratio	0.64	0.38	0.34			0.44	
Control Delay	41.0	7.5	14.4			6.0	
Queue Delay	0.0	0.0	0.6			0.0	
Total Delay	41.0	7.5	15.0			6.0	
LOS	D	A	B			A	
Approach Delay	24.6		15.0			6.0	
Approach LOS	C		B			A	
Queue Length 50th (m)	35.3	0.0	21.5			21.1	
Queue Length 95th (m)	48.9	10.6	99.8			28.4	
Internal Link Dist (m)	308.8		102.6			90.0	
Turn Bay Length (m)							
Base Capacity (vph)	583	573	1163			2253	
Starvation Cap Reductn	0	0	437			0	
Spillback Cap Reductn	0	0	0			78	
Storage Cap Reductn	0	0	0			0	
Reduced v/c Ratio	0.37	0.36	0.54			0.45	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 12.4		Intersection LOS: B	
Intersection Capacity Utilization 57.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 4: Kanata Avenue & HWY 417 WB Off



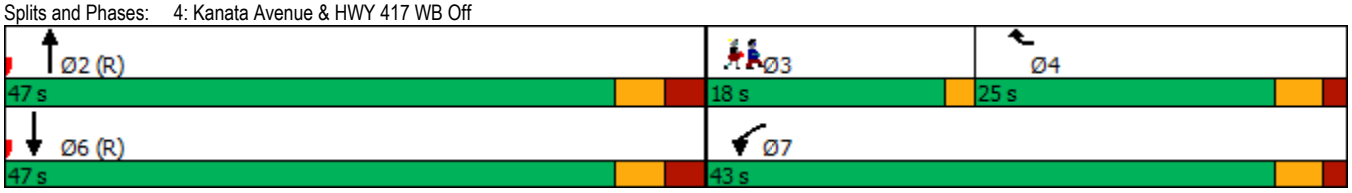
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lane Configurations							
Traffic Volume (vph)	419	603	779	0	0	1134	
Future Volume (vph)	419	603	779	0	0	1134	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Lane Util. Factor	1.00	0.88	1.00	1.00	1.00	0.95	
Ped Bike Factor							
Frt		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	1695	2669	1750	0	0	3357	
Flt Permitted	0.950						
Satd. Flow (perm)	1695	2669	1750	0	0	3357	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		603					
Link Speed (k/h)	50		50			50	
Link Distance (m)	332.8		126.6			114.0	
Travel Time (s)	24.0		9.1			8.2	
Confl. Bikes (#/hr)				3			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	2%	2%	4%	0%	0%	3%	
Adj. Flow (vph)	419	603	779	0	0	1134	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	419	603	779	0	0	1134	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(m)	3.7		0.0			0.0	
Link Offset(m)	0.0		0.0			0.0	
Crosswalk Width(m)	4.9		4.9			4.9	
Two way Left Turn Lane							
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	
Turning Speed (k/h)	24	14		14	24		
Number of Detectors	1	1	2			2	
Detector Template	Left	Right	Thru			Thru	
Leading Detector (m)	6.1	6.1	30.5			30.5	
Trailing Detector (m)	0.0	0.0	0.0			0.0	
Detector 1 Position(m)	0.0	0.0	0.0			0.0	
Detector 1 Size(m)	6.1	6.1	1.8			1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0	
Detector 2 Position(m)			28.7			28.7	
Detector 2 Size(m)			1.8			1.8	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type	Prot	Prot	NA			NA	
Protected Phases	7	4	2			6	3
Permitted Phases							
Detector Phase	7	4	2			6	
Switch Phase							
Minimum Initial (s)	5.0	5.0	10.0			10.0	1.0
Minimum Split (s)	10.0	10.0	28.1			24.1	18.0
Total Split (s)	43.0	25.0	47.0			47.0	18.0
Total Split (%)	47.8%	27.8%	52.2%			52.2%	20%
Maximum Green (s)	38.0	20.0	40.9			40.9	16.0
Yellow Time (s)	3.3	3.3	3.3			3.3	2.0
All-Red Time (s)	1.7	1.7	2.8			2.8	0.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.0	6.1			6.1	
Lead/Lag		Lag					Lead

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lead-Lag Optimize?		Yes					Yes
Vehicle Extension (s)	3.0	3.0	3.0			3.0	3.0
Recall Mode	None	None	C-Max			C-Max	None
Walk Time (s)			7.0				7.0
Flash Dont Walk (s)			15.0				9.0
Pedestrian Calls (#/hr)			10				10
Act Effct Green (s)	27.9	24.3	51.0			51.0	
Actuated g/C Ratio	0.31	0.27	0.57			0.57	
v/c Ratio	0.80	0.52	0.79			0.60	
Control Delay	39.6	4.3	28.6			11.1	
Queue Delay	0.0	0.0	4.1			0.1	
Total Delay	39.6	4.3	32.7			11.2	
LOS	D	A	C			B	
Approach Delay	18.8		32.7			11.2	
Approach LOS	B		C			B	
Queue Length 50th (m)	65.6	0.0	83.4			33.4	
Queue Length 95th (m)	86.4	14.2	#192.8			56.3	
Internal Link Dist (m)	308.8		102.6			90.0	
Turn Bay Length (m)							
Base Capacity (vph)	715	1174	991			1901	
Starvation Cap Reductn	0	0	142			0	
Spillback Cap Reductn	0	0	0			119	
Storage Cap Reductn	0	0	0			0	
Reduced v/c Ratio	0.59	0.51	0.92			0.64	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 19.5 Intersection LOS: B
Intersection Capacity Utilization 106.8% ICU Level of Service G
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: Kanata Avenue & HWY 417 WB Off

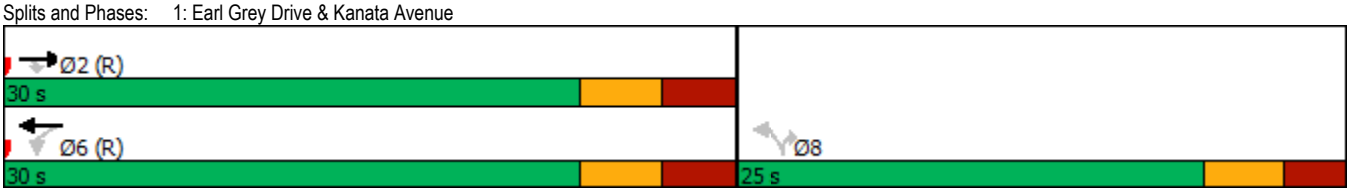


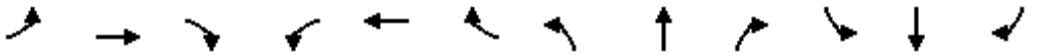
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	799	37	57	378	10	35
Future Volume (vph)	799	37	57	378	10	35
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		40.0	110.0		30.0	0.0
Storage Lanes		1	0		1	1
Taper Length (m)			100.0		45.0	
Lane Util. Factor	0.95	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor				1.00		
Frt		0.850				0.850
Flt Protected				0.993	0.950	
Satd. Flow (prot)	3357	1394	0	3177	1441	1459
Flt Permitted				0.799	0.950	
Satd. Flow (perm)	3357	1394	0	2556	1441	1459
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		37				35
Link Speed (k/h)	50			50	50	
Link Distance (m)	287.1			471.4	128.3	
Travel Time (s)	20.7			33.9	9.2	
Confl. Peds. (#/hr)			1			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	11%	2%	9%	20%	6%
Adj. Flow (vph)	799	37	57	378	10	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	799	37	0	435	10	35
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)		14	24		24	14
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (m)	30.5	6.1	6.1	30.5	6.1	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	1.8	6.1	6.1	1.8	6.1	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)	28.7			28.7		
Detector 2 Size(m)	1.8			1.8		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	Perm	NA	Perm	Perm
Protected Phases	2			6		
Permitted Phases		2	6		8	8
Detector Phase	2	2	6	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	5.0	5.0
Minimum Split (s)	30.0	30.0	29.4	29.4	24.9	24.9
Total Split (s)	30.0	30.0	30.0	30.0	25.0	25.0
Total Split (%)	54.5%	54.5%	54.5%	54.5%	45.5%	45.5%
Maximum Green (s)	23.6	23.6	23.6	23.6	19.1	19.1
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.1	3.1	3.1	3.1	2.6	2.6

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4		6.4	5.9	5.9
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0	16.0	16.0	12.0	12.0
Pedestrian Calls (#/hr)	10	10	10	10	10	10
Act Effct Green (s)	41.4	41.4		41.4	8.4	8.4
Actuated g/C Ratio	0.75	0.75		0.75	0.15	0.15
v/c Ratio	0.32	0.03		0.23	0.05	0.14
Control Delay	5.7	3.2		5.5	16.8	7.6
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	5.7	3.2		5.5	16.8	7.6
LOS	A	A		A	B	A
Approach Delay	5.6			5.5	9.6	
Approach LOS	A			A	A	
Queue Length 50th (m)	14.1	0.0		7.1	0.9	0.0
Queue Length 95th (m)	43.5	3.9		24.0	3.1	4.5
Internal Link Dist (m)	263.1			447.4	104.3	
Turn Bay Length (m)		40.0			30.0	
Base Capacity (vph)	2525	1058		1923	500	529
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	0.32	0.03		0.23	0.02	0.07

Intersection Summary			
Area Type:	Other		
Cycle Length: 55			
Actuated Cycle Length: 55			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.32			
Intersection Signal Delay: 5.7		Intersection LOS: A	
Intersection Capacity Utilization 55.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Earl Grey Drive & Kanata Avenue



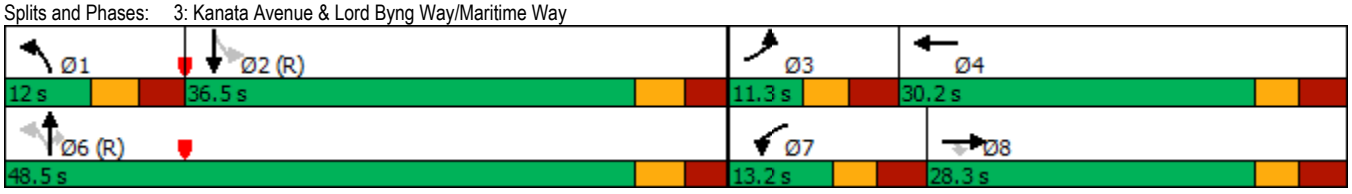


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	6	36	165	2	38	85	369	166	20	695	16
Future Volume (vph)	19	6	36	165	2	38	85	369	166	20	695	16
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		0.0	40.0		0.0	35.0		20.0	35.0		0.0
Storage Lanes	2		1	2		0	1		1	0		0
Taper Length (m)	25.0			40.0			75.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor	1.00		0.98	0.99	0.99		1.00		0.98		1.00	
Frt			0.850		0.857				0.850		0.997	
Flt Protected	0.950			0.950			0.950				0.999	
Satd. Flow (prot)	1262	1784	992	3135	1510	0	1417	3325	1473	0	3331	0
Flt Permitted	0.950			0.950			0.270				0.938	
Satd. Flow (perm)	1261	1784	976	3116	1510	0	402	3325	1441	0	3128	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			193		38				166		3	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		119.6			99.0			110.4			471.4	
Travel Time (s)		8.6			7.1			7.9			33.9	
Confl. Peds. (#/hr)	1		3	3		1	3		1	1		3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	37%	2%	56%	7%	2%	2%	22%	4%	5%	17%	2%	44%
Adj. Flow (vph)	19	6	36	165	2	38	85	369	166	20	695	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	6	36	165	40	0	85	369	166	0	731	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA	Perm	Perm	NA	
Protected Phases	3	8		7	4		1	6			2	
Permitted Phases			8				6		6	2		
Detector Phase	3	8	8	7	4		1	6	6	2	2	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	11.3	28.3	28.3	11.3	28.3		11.3	33.3	33.3	33.3	33.3	
Total Split (s)	11.3	28.3	28.3	13.2	30.2		12.0	48.5	48.5	36.5	36.5	
Total Split (%)	12.6%	31.4%	31.4%	14.7%	33.6%		13.3%	53.9%	53.9%	40.6%	40.6%	
Maximum Green (s)	5.0	22.0	22.0	6.9	23.9		5.7	42.2	42.2	30.2	30.2	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	3.3	3.3	3.3	3.3	3.3		3.0	3.0	3.0	3.0	3.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3		6.3	6.3	6.3		6.3	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	C-Max	C-Max	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0	7.0	7.0	
Flash Dont Walk (s)		15.0	15.0		15.0			20.0	20.0	20.0	20.0	
Pedestrian Calls (#/hr)		10	10		10			10	10	10	10	
Act Effct Green (s)	5.0	12.4	12.4	8.1	15.8		57.1	57.1	57.1		46.4	
Actuated g/C Ratio	0.06	0.14	0.14	0.09	0.18		0.63	0.63	0.63		0.52	
v/c Ratio	0.27	0.02	0.12	0.58	0.14		0.26	0.17	0.17		0.45	
Control Delay	50.7	30.5	0.8	49.3	11.2		9.7	7.9	2.9		18.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	50.7	30.5	0.8	49.3	11.2		9.7	7.9	2.9		18.2	
LOS	D	C	A	D	B		A	A	A		B	
Approach Delay		19.3			41.9			6.8			18.2	
Approach LOS		B			D			A			B	
Queue Length 50th (m)	3.2	1.0	0.0	14.6	0.3		8.6	21.6	7.2		46.2	
Queue Length 95th (m)	10.1	3.7	0.0	#27.8	7.5		12.0	22.2	6.1		76.5	
Internal Link Dist (m)		95.6			75.0			86.4			447.4	
Turn Bay Length (m)	40.0			40.0			35.0		20.0			
Base Capacity (vph)	70	436	384	283	428		331	2109	974		1613	
Starvation Cap Reductn	0	0	0	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.27	0.01	0.09	0.58	0.09		0.26	0.17	0.17		0.45	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:SBTL and 6:NBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 16.9		Intersection LOS: B	
Intersection Capacity Utilization 72.6%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 3: Kanata Avenue & Lord Byng Way/Maritime Way

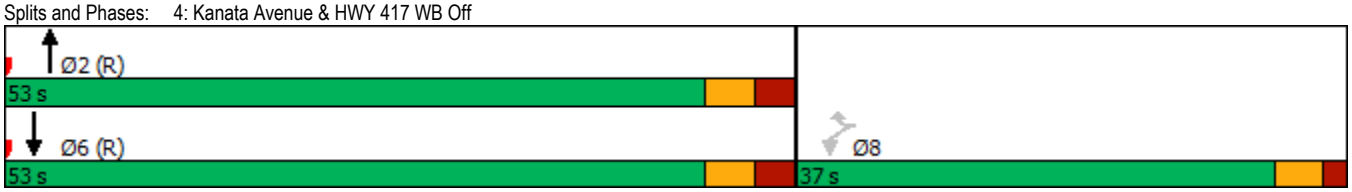


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	217	209	420	0	0	1053
Future Volume (vph)	217	209	420	0	0	1053
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1695	1334	1717	0	0	3325
Flt Permitted	0.950					
Satd. Flow (perm)	1695	1334	1717	0	0	3325
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		209				
Link Speed (k/h)	50		50			50
Link Distance (m)	332.8		126.6			114.0
Travel Time (s)	24.0		9.1			8.2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	16%	6%	0%	0%	4%
Adj. Flow (vph)	217	209	420	0	0	1053
Shared Lane Traffic (%)						
Lane Group Flow (vph)	217	209	420	0	0	1053
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0			10.0
Minimum Split (s)	23.0	23.0	28.1			24.1
Total Split (s)	37.0	37.0	53.0			53.0
Total Split (%)	41.1%	41.1%	58.9%			58.9%
Maximum Green (s)	32.0	32.0	46.9			46.9
Yellow Time (s)	3.3	3.3	3.3			3.3
All-Red Time (s)	1.7	1.7	2.8			2.8
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	6.1			6.1
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	11.0	11.0	15.0			
Pedestrian Calls (#/hr)	10	10	10			
Act Effct Green (s)	16.9	16.9	62.0			62.0
Actuated g/C Ratio	0.19	0.19	0.69			0.69
v/c Ratio	0.68	0.50	0.36			0.46
Control Delay	44.4	8.6	2.9			9.8
Queue Delay	0.0	0.0	0.1			0.0
Total Delay	44.4	8.6	3.0			9.8
LOS	D	A	A			A
Approach Delay	26.8		3.0			9.8
Approach LOS	C		A			A
Queue Length 50th (m)	35.3	0.0	7.5			67.0
Queue Length 95th (m)	53.2	16.0	9.7			96.5
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	602	609	1182			2289
Starvation Cap Reductn	0	0	164			0
Spillback Cap Reductn	0	0	0			13
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.36	0.34	0.41			0.46

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 35 (39%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 12.1		Intersection LOS: B	
Intersection Capacity Utilization 60.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 4: Kanata Avenue & HWY 417 WB Off



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lane Configurations							
Traffic Volume (vph)	0	0	387	267	512	657	
Future Volume (vph)	0	0	387	267	512	657	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0		50.0	0.0		
Storage Lanes	0	0		1	1		
Taper Length (m)	7.6				7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor				0.98	1.00		
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	0	1685	1502	1679	1750	
Flt Permitted					0.448		
Satd. Flow (perm)	0	0	1685	1468	791	1750	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)				267			
Link Speed (k/h)	48		50			50	
Link Distance (m)	278.4		119.2			126.6	
Travel Time (s)	20.9		8.6			9.1	
Confl. Peds. (#/hr)				1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	0%	0%	8%	3%	3%	4%	
Adj. Flow (vph)	0	0	387	267	512	657	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	387	267	512	657	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(m)	0.0		3.7			3.7	
Link Offset(m)	0.0		0.0			0.0	
Crosswalk Width(m)	4.9		4.9			4.9	
Two way Left Turn Lane							
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	
Turning Speed (k/h)	24	14		14	24		
Number of Detectors			2	1	1	2	
Detector Template			Thru	Right	Left	Thru	
Leading Detector (m)			30.5	6.1	6.1	30.5	
Trailing Detector (m)			0.0	0.0	0.0	0.0	
Detector 1 Position(m)			0.0	0.0	0.0	0.0	
Detector 1 Size(m)			1.8	6.1	6.1	1.8	
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)			0.0	0.0	0.0	0.0	
Detector 1 Queue (s)			0.0	0.0	0.0	0.0	
Detector 1 Delay (s)			0.0	0.0	0.0	0.0	
Detector 2 Position(m)			28.7			28.7	
Detector 2 Size(m)			1.8			1.8	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type			NA	Perm	pm+pt	NA	
Protected Phases			2		1	6	4
Permitted Phases				2	6		
Detector Phase			2	2	1	6	
Switch Phase							
Minimum Initial (s)			10.0	10.0	5.0	10.0	5.0
Minimum Split (s)			23.7	23.7	10.7	23.7	27.0
Total Split (s)			50.0	50.0	12.0	62.0	28.0
Total Split (%)			55.6%	55.6%	13.3%	68.9%	31%
Maximum Green (s)			44.3	44.3	6.3	56.3	23.0
Yellow Time (s)			3.3	3.3	3.3	3.3	3.0
All-Red Time (s)			2.4	2.4	2.4	2.4	2.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lost Time Adjust (s)			0.0	0.0	0.0	0.0	
Total Lost Time (s)			5.7	5.7	5.7	5.7	
Lead/Lag			Lag	Lag	Lead		
Lead-Lag Optimize?			Yes	Yes	Yes		
Vehicle Extension (s)			3.0	3.0	3.0	3.0	3.0
Recall Mode			C-Max	C-Max	None	C-Max	None
Walk Time (s)			7.0	7.0			7.0
Flash Dont Walk (s)			11.0	11.0			15.0
Pedestrian Calls (#/hr)			10	10			10
Act Effct Green (s)			58.8	58.8	78.9	83.5	
Actuated g/C Ratio			0.65	0.65	0.88	0.93	
v/c Ratio			0.35	0.25	0.61	0.40	
Control Delay			7.7	1.9	12.2	2.0	
Queue Delay			0.5	0.0	0.0	0.0	
Total Delay			8.2	1.9	12.2	2.0	
LOS			A	A	B	A	
Approach Delay			5.6			6.5	
Approach LOS			A			A	
Queue Length 50th (m)			25.2	4.2	24.3	0.0	
Queue Length 95th (m)			64.9	14.3	#64.2	28.4	
Internal Link Dist (m)	254.4		95.2			102.6	
Turn Bay Length (m)				50.0			
Base Capacity (vph)			1101	1052	835	1623	
Starvation Cap Reductn			341	0	0	0	
Spillback Cap Reductn			0	0	0	0	
Storage Cap Reductn			0	0	0	0	
Reduced v/c Ratio			0.51	0.25	0.61	0.40	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 42 (47%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 6.2		Intersection LOS: A	
Intersection Capacity Utilization 60.9%		ICU Level of Service B	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 5: Kanata Avenue & HWY 417 EB On

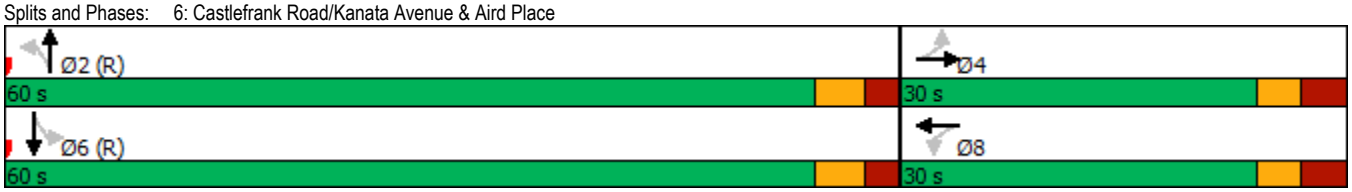
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	6	18	19	6	61	41	647	36	52	585	41
Future Volume (vph)	45	6	18	19	6	61	41	647	36	52	585	41
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		0.0	30.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.6			7.6			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.97			0.96		0.99	1.00		1.00	1.00	
Frt		0.965			0.904			0.992			0.990	
Flt Protected		0.968			0.989		0.950			0.950		
Satd. Flow (prot)	0	1218	0	0	1464	0	1145	1734	0	1662	1715	0
Flt Permitted		0.809			0.909		0.386			0.355		
Satd. Flow (perm)	0	1001	0	0	1336	0	463	1734	0	619	1715	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18			61			6			7	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		125.4			132.9			192.1			119.2	
Travel Time (s)		11.3			12.0			13.8			8.6	
Confl. Peds. (#/hr)	14		18	18		14	9		6	6		9
Confl. Bikes (#/hr)			1						1			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	33%	67%	39%	11%	50%	2%	51%	4%	3%	4%	5%	2%
Adj. Flow (vph)	45	6	18	19	6	61	41	647	36	52	585	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	69	0	0	86	0	41	683	0	52	626	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		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	
Minimum Split (s)	28.2	28.2		28.2	28.2		24.7	24.7		24.7	24.7	
Total Split (s)	30.0	30.0		30.0	30.0		60.0	60.0		60.0	60.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%		66.7%	66.7%		66.7%	66.7%	
Maximum Green (s)	23.8	23.8		23.8	23.8		54.3	54.3		54.3	54.3	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	

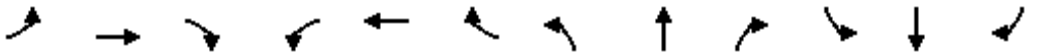
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.2	3.2		3.2	3.2		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.2			6.2		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	10	10		10	10		10	10		10	10	
Act Effct Green (s)		13.0			13.0		69.5	69.5		69.5	69.5	
Actuated g/C Ratio		0.14			0.14		0.77	0.77		0.77	0.77	
v/c Ratio		0.43			0.35		0.11	0.51		0.11	0.47	
Control Delay		34.5			17.0		4.7	5.6		5.1	5.0	
Queue Delay		0.0			0.0		0.0	0.1		0.0	0.2	
Total Delay		34.5			17.0		4.7	5.6		5.1	5.2	
LOS		C			B		A	A		A	A	
Approach Delay		34.5			17.0			5.6			5.2	
Approach LOS		C			B			A			A	
Queue Length 50th (m)		8.4			4.0		1.7	36.8		1.3	16.4	
Queue Length 95th (m)		18.3			14.6		m4.1	53.1		5.4	37.0	
Internal Link Dist (m)		101.4			108.9			168.1			95.2	
Turn Bay Length (m)							30.0			50.0		
Base Capacity (vph)		277			398		357	1340		478	1326	
Starvation Cap Reductn		0			0		0	56		0	160	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.25			0.22		0.11	0.53		0.11	0.54	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 17 (19%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 7.3		Intersection LOS: A	
Intersection Capacity Utilization 69.6%		ICU Level of Service C	
Analysis Period (min) 15			

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

Splits and Phases: 6: Castlefrank Road/Kanata Avenue & Aird Place



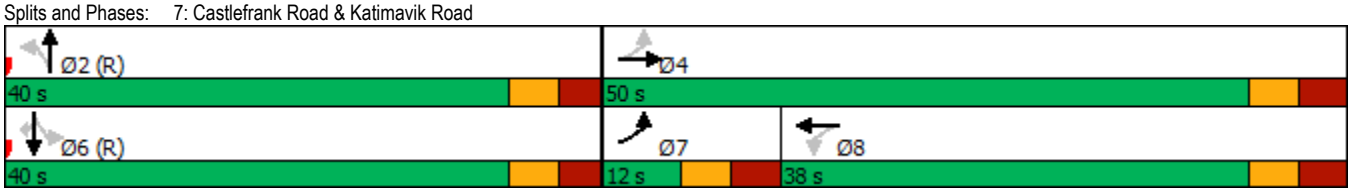


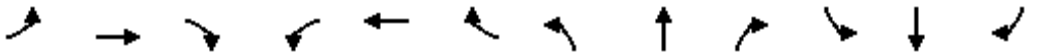
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	130	72	34	114	33	123	451	51	75	342	96
Future Volume (vph)	157	130	72	34	114	33	123	451	51	75	342	96
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	35.0		0.0	55.0		0.0	35.0		0.0	90.0		60.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	55.0			55.0			55.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.95	0.98		0.98	0.98		0.98	0.99		0.98		0.94
Frt		0.947			0.966			0.985				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1586	1649	0	1695	1631	0	1695	1634	0	1503	1655	1322
Flt Permitted	0.448			0.631			0.523			0.396		
Satd. Flow (perm)	712	1649	0	1099	1631	0	914	1634	0	613	1655	1245
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			18			7				126
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		313.1			295.7			254.6			192.1	
Travel Time (s)		22.5			21.3			18.3			13.8	
Confl. Peds. (#/hr)	35		16	16		35	20		33	33		20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	9%	3%	2%	2%	3%	15%	2%	9%	7%	15%	10%	17%
Adj. Flow (vph)	157	130	72	34	114	33	123	451	51	75	342	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	157	202	0	34	147	0	123	502	0	75	342	96
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		8	8		2	2		6	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	10.0
Minimum Split (s)	11.7	29.7		29.7	29.7		29.2	29.2		29.2	29.2	29.2
Total Split (s)	12.0	50.0		38.0	38.0		40.0	40.0		40.0	40.0	40.0
Total Split (%)	13.3%	55.6%		42.2%	42.2%		44.4%	44.4%		44.4%	44.4%	44.4%
Maximum Green (s)	5.3	43.3		31.3	31.3		33.8	33.8		33.8	33.8	33.8
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	3.3
All-Red Time (s)	3.4	3.4		3.4	3.4		2.9	2.9		2.9	2.9	2.9

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7		6.7	6.7		6.2	6.2		6.2	6.2	6.2
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	C-Max
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)		16.0		16.0	16.0		16.0	16.0		16.0	16.0	16.0
Pedestrian Calls (#/hr)		10		10	10		10	10		10	10	10
Act Effct Green (s)	26.1	26.1		14.1	14.1		51.0	51.0		51.0	51.0	51.0
Actuated g/C Ratio	0.29	0.29		0.16	0.16		0.57	0.57		0.57	0.57	0.57
v/c Ratio	0.61	0.40		0.20	0.54		0.24	0.54		0.22	0.36	0.13
Control Delay	35.3	21.3		33.4	37.0		12.8	16.0		19.4	17.8	6.6
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	35.3	21.3		33.4	37.0		12.8	16.0		19.4	17.8	6.6
LOS	D	C		C	D		B	B		B	B	A
Approach Delay		27.4			36.3			15.4			15.9	
Approach LOS		C			D			B			B	
Queue Length 50th (m)	21.9	22.1		5.3	21.1		9.5	47.4		6.8	31.0	1.8
Queue Length 95th (m)	31.9	34.2		12.0	34.4		24.8	97.3		17.2	55.4	10.8
Internal Link Dist (m)		289.1			271.7			230.6			168.1	
Turn Bay Length (m)	35.0			55.0			35.0			90.0		60.0
Base Capacity (vph)	258	815		382	578		517	928		347	937	759
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.61	0.25		0.09	0.25		0.24	0.54		0.22	0.36	0.13

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 25 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 20.4		Intersection LOS: C	
Intersection Capacity Utilization 83.7%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 7: Castlefrank Road & Katimavik Road



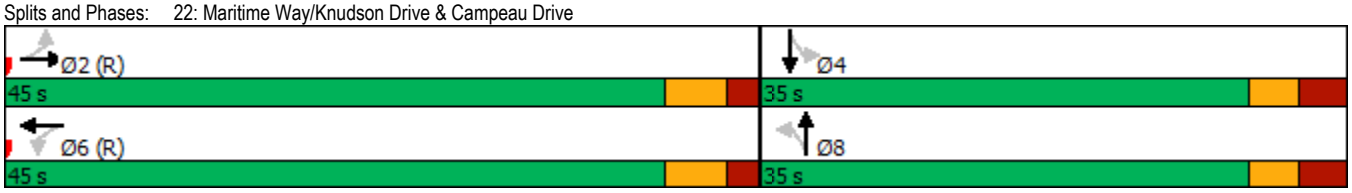


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	718	14	71	496	86	18	19	162	182	12	61
Future Volume (vph)	54	718	14	71	496	86	18	19	162	182	12	61
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	30.0		0.0	30.0		0.0	40.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	40.0			55.0			40.0			35.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00			0.99		0.99	0.96		0.98	0.98	
Frt		0.997			0.978			0.866			0.875	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1718	0	1695	1592	0	1695	1479	0	1695	1494	0
Flt Permitted	0.368			0.271			0.709			0.612		
Satd. Flow (perm)	652	1718	0	484	1592	0	1254	1479	0	1068	1494	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			15			150			61	
Link Speed (k/h)		50			50			50			40	
Link Distance (m)		248.0			203.8			223.0			144.1	
Travel Time (s)		17.9			14.7			16.1			13.0	
Confl. Peds. (#/hr)	12		11	11		12	4		12	12		4
Confl. Bikes (#/hr)			1									
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	5%	33%	2%	11%	12%	2%	2%	2%	2%	14%	2%
Adj. Flow (vph)	54	718	14	71	496	86	18	19	162	182	12	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	732	0	71	582	0	18	181	0	182	73	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	27.7	27.7		27.7	27.7		24.0	24.0		24.0	24.0	
Total Split (s)	45.0	45.0		45.0	45.0		35.0	35.0		35.0	35.0	
Total Split (%)	56.3%	56.3%		56.3%	56.3%		43.8%	43.8%		43.8%	43.8%	
Maximum Green (s)	39.3	39.3		39.3	39.3		29.0	29.0		29.0	29.0	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.0	3.0		3.0	3.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.7	5.7		5.7	5.7		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)	10	10		10	10		10	10		10	10	
Act Effct Green (s)	49.9	49.9		49.9	49.9		18.4	18.4		18.4	18.4	
Actuated g/C Ratio	0.62	0.62		0.62	0.62		0.23	0.23		0.23	0.23	
v/c Ratio	0.13	0.68		0.24	0.58		0.06	0.40		0.74	0.19	
Control Delay	9.4	16.3		11.6	13.3		20.9	8.5		45.5	8.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	9.4	16.3		11.6	13.3		20.9	8.5		45.5	8.7	
LOS	A	B		B	B		C	A		D	A	
Approach Delay		15.8			13.1			9.7			35.0	
Approach LOS		B			B			A			C	
Queue Length 50th (m)	3.0	64.7		4.2	45.2		2.2	3.7		25.8	1.4	
Queue Length 95th (m)	10.4	#155.6		14.7	98.9		6.2	16.1		41.1	9.4	
Internal Link Dist (m)		224.0			179.8			199.0			120.1	
Turn Bay Length (m)	30.0			30.0			40.0			35.0		
Base Capacity (vph)	406	1071		301	998		454	631		387	580	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.13	0.68		0.24	0.58		0.04	0.29		0.47	0.13	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 16.8		Intersection LOS: B	
Intersection Capacity Utilization 92.5%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 22: Maritime Way/Knudson Drive & Campeau Drive

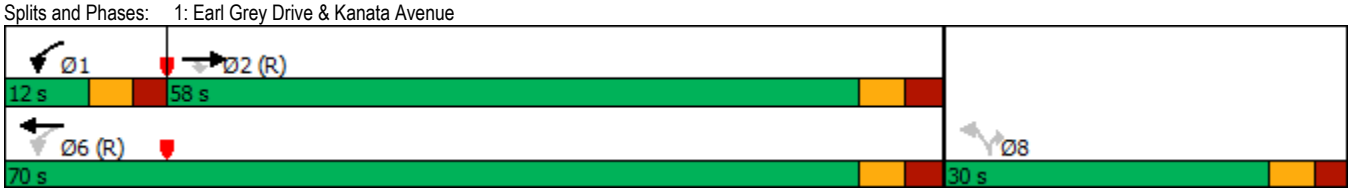


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	677	82	214	783	79	177
Future Volume (vph)	677	82	214	783	79	177
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		40.0	110.0		30.0	0.0
Storage Lanes		1	0		1	1
Taper Length (m)			100.0		45.0	
Lane Util. Factor	0.95	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor		0.98		1.00		0.99
Frt		0.850				0.850
Flt Protected				0.989	0.950	
Satd. Flow (prot)	3115	1517	0	3353	1695	1517
Flt Permitted				0.667	0.950	
Satd. Flow (perm)	3115	1483	0	2261	1695	1496
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		82				177
Link Speed (k/h)	50			50	50	
Link Distance (m)	287.1			471.4	128.3	
Travel Time (s)	20.7			33.9	9.2	
Confl. Peds. (#/hr)		1	1			1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	11%	2%	2%	2%	2%	2%
Adj. Flow (vph)	677	82	214	783	79	177
Shared Lane Traffic (%)						
Lane Group Flow (vph)	677	82	0	997	79	177
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(m)	0.0			0.0	3.7	
Link Offset(m)	0.0			0.0	0.0	
Crosswalk Width(m)	4.9			4.9	4.9	
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)		14	24		24	14
Number of Detectors	2	1	1	2	1	1
Detector Template	Thru	Right	Left	Thru	Left	Right
Leading Detector (m)	30.5	6.1	6.1	30.5	6.1	6.1
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Size(m)	1.8	6.1	6.1	1.8	6.1	6.1
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(m)	28.7			28.7		
Detector 2 Size(m)	1.8			1.8		
Detector 2 Type	Cl+Ex			Cl+Ex		
Detector 2 Channel						
Detector 2 Extend (s)	0.0			0.0		
Turn Type	NA	Perm	pm+pt	NA	Perm	Perm
Protected Phases	2		1	6		
Permitted Phases		2	6		8	8
Detector Phase	2	2	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	5.0	5.0
Minimum Split (s)	29.4	29.4	10.8	29.4	24.9	24.9
Total Split (s)	58.0	58.0	12.0	70.0	30.0	30.0
Total Split (%)	58.0%	58.0%	12.0%	70.0%	30.0%	30.0%
Maximum Green (s)	51.6	51.6	6.2	63.6	24.1	24.1
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.1	3.1	2.5	3.1	2.6	2.6

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4		6.4	5.9	5.9
Lead/Lag	Lag	Lag	Lead			
Lead-Lag Optimize?	Yes	Yes	Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	C-Max	None	C-Max	None	None
Walk Time (s)	7.0	7.0		7.0	7.0	7.0
Flash Dont Walk (s)	16.0	16.0		16.0	12.0	12.0
Pedestrian Calls (#/hr)	10	10		10	10	10
Act Effct Green (s)	76.7	76.7		76.7	11.0	11.0
Actuated g/C Ratio	0.77	0.77		0.77	0.11	0.11
v/c Ratio	0.28	0.07		0.58	0.42	0.55
Control Delay	4.3	1.2		7.2	46.9	12.6
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	4.3	1.2		7.2	46.9	12.6
LOS	A	A		A	D	B
Approach Delay	4.0			7.2	23.2	
Approach LOS	A			A	C	
Queue Length 50th (m)	15.6	0.0		32.3	14.7	0.0
Queue Length 95th (m)	32.3	4.1		69.1	26.1	17.0
Internal Link Dist (m)	263.1			447.4	104.3	
Turn Bay Length (m)		40.0			30.0	
Base Capacity (vph)	2388	1156		1733	408	494
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	0.28	0.07		0.58	0.19	0.36

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 100			
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.58			
Intersection Signal Delay: 8.0		Intersection LOS: A	
Intersection Capacity Utilization 69.7%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Earl Grey Drive & Kanata Avenue

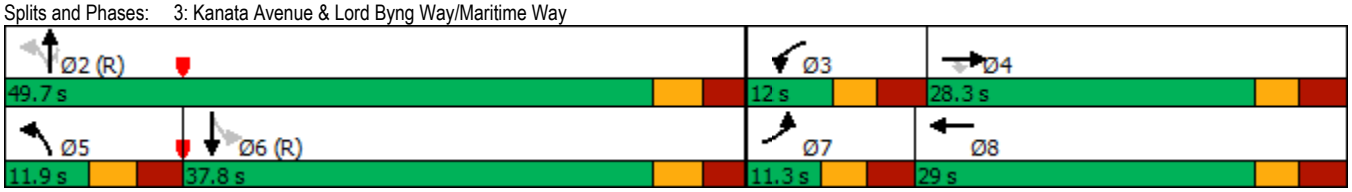


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	3	78	140	9	45	136	947	205	64	732	25
Future Volume (vph)	30	3	78	140	9	45	136	947	205	64	732	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0		0.0	40.0		0.0	35.0		20.0	35.0		0.0
Storage Lanes	2		1	2		0	1		1	0		0
Taper Length (m)	25.0			40.0			75.0			55.0		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	0.95	0.95	0.95
Ped Bike Factor	0.99		0.98	0.99	0.98		1.00		0.98		1.00	
Frt			0.850		0.875				0.850		0.995	
Flt Protected	0.950			0.950			0.950				0.996	
Satd. Flow (prot)	1262	1784	1268	3288	1528	0	1503	3390	1517	0	3339	0
Flt Permitted	0.950			0.950			0.218				0.781	
Satd. Flow (perm)	1246	1784	1247	3262	1528	0	345	3390	1479	0	2618	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			193		45				116		4	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		119.6			99.0			110.4			471.4	
Travel Time (s)		8.6			7.1			7.9			33.9	
Confl. Peds. (#/hr)	11		4	4		11	3		3	3		3
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	37%	2%	22%	2%	2%	2%	15%	2%	2%	2%	2%	20%
Adj. Flow (vph)	30	3	78	140	9	45	136	947	205	64	732	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	3	78	140	54	0	136	947	205	0	821	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7.4			7.4			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2	1	1	2		1	2	1	1	2	
Detector Template	Left	Thru	Right	Left	Thru		Left	Thru	Right	Left	Thru	
Leading Detector (m)	6.1	30.5	6.1	6.1	30.5		6.1	30.5	6.1	6.1	30.5	
Trailing Detector (m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Position(m)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Size(m)	6.1	1.8	6.1	6.1	1.8		6.1	1.8	6.1	6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Prot	NA	Perm	Prot	NA		pm+pt	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		5	2			6	
Permitted Phases			4				2		2	6		
Detector Phase	7	4	4	3	8		5	2	2	6	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0		5.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	11.3	28.3	28.3	11.3	28.3		11.3	33.3	33.3	33.3	33.3	
Total Split (s)	11.3	28.3	28.3	12.0	29.0		11.9	49.7	49.7	37.8	37.8	
Total Split (%)	12.6%	31.4%	31.4%	13.3%	32.2%		13.2%	55.2%	55.2%	42.0%	42.0%	
Maximum Green (s)	5.0	22.0	22.0	5.7	22.7		5.6	43.4	43.4	31.5	31.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	3.3	3.3	3.3	3.3	3.3		3.0	3.0	3.0	3.0	3.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3		6.3	6.3	6.3		6.3	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead			Lag	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	C-Max	C-Max	
Walk Time (s)		7.0	7.0		7.0			7.0	7.0	7.0	7.0	
Flash Dont Walk (s)		15.0	15.0		15.0			20.0	20.0	20.0	20.0	
Pedestrian Calls (#/hr)		10	10		10			10	10	10	10	
Act Effct Green (s)	5.0	12.4	12.4	6.6	15.2		55.4	55.4	55.4		41.1	
Actuated g/C Ratio	0.06	0.14	0.14	0.07	0.17		0.62	0.62	0.62		0.46	
v/c Ratio	0.43	0.01	0.23	0.59	0.18		0.43	0.45	0.21		0.69	
Control Delay	60.3	30.0	1.6	62.6	14.3		13.2	12.2	6.6		25.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	60.3	30.0	1.6	62.6	14.3		13.2	12.2	6.6		25.2	
LOS	E	C	A	E	B		B	B	A		C	
Approach Delay		18.2			49.2			11.4			25.2	
Approach LOS		B			D			B			C	
Queue Length 50th (m)	5.1	0.5	0.0	13.4	0.8		10.2	47.7	7.1		58.4	
Queue Length 95th (m)	#15.6	2.5	0.0	#26.2	7.6		m14.4	m66.0	m9.0		#104.8	
Internal Link Dist (m)		95.6			75.0			86.4			447.4	
Turn Bay Length (m)	40.0			40.0			35.0		20.0			
Base Capacity (vph)	70	436	450	239	419		315	2086	955		1198	
Starvation Cap Reductn	0	0	0	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.43	0.01	0.17	0.59	0.13		0.43	0.45	0.21		0.69	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 19.5		Intersection LOS: B	
Intersection Capacity Utilization 80.7%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 3: Kanata Avenue & Lord Byng Way/Maritime Way

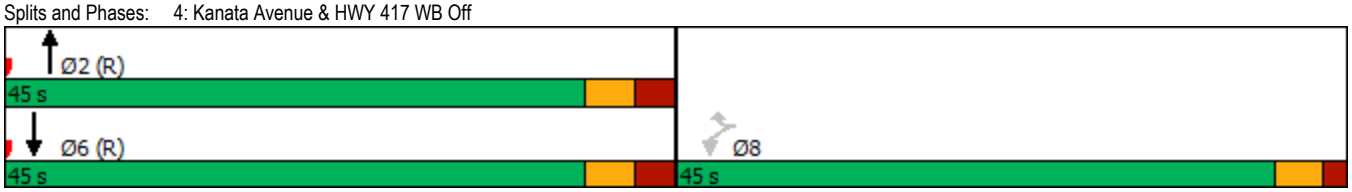


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	419	603	834	0	0	1215
Future Volume (vph)	419	603	834	0	0	1215
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1695	1517	1750	0	0	3357
Flt Permitted	0.950					
Satd. Flow (perm)	1695	1517	1750	0	0	3357
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		84				
Link Speed (k/h)	50		50			50
Link Distance (m)	332.8		126.6			114.0
Travel Time (s)	24.0		9.1			8.2
Confl. Bikes (#/hr)				3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	4%	0%	0%	3%
Adj. Flow (vph)	419	603	834	0	0	1215
Shared Lane Traffic (%)						
Lane Group Flow (vph)	419	603	834	0	0	1215
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0			10.0
Minimum Split (s)	23.0	23.0	28.1			16.1
Total Split (s)	45.0	45.0	45.0			45.0
Total Split (%)	50.0%	50.0%	50.0%			50.0%
Maximum Green (s)	40.0	40.0	38.9			38.9
Yellow Time (s)	3.3	3.3	3.3			3.3
All-Red Time (s)	1.7	1.7	2.8			2.8
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	6.1			6.1
Lead/Lag						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	11.0	11.0	15.0			
Pedestrian Calls (#/hr)	10	10	10			
Act Effct Green (s)	36.4	36.4	42.5			42.5
Actuated g/C Ratio	0.40	0.40	0.47			0.47
v/c Ratio	0.61	0.91	1.01			0.77
Control Delay	24.8	40.5	68.6			17.7
Queue Delay	0.0	0.0	32.2			0.6
Total Delay	24.8	40.5	100.8			18.3
LOS	C	D	F			B
Approach Delay	34.1		100.8			18.3
Approach LOS	C		F			B
Queue Length 50th (m)	52.2	78.9	~156.6			42.8
Queue Length 95th (m)	79.6	#141.1	#232.7			68.5
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	753	720	825			1583
Starvation Cap Reductn	0	0	104			0
Spillback Cap Reductn	0	0	0			108
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.56	0.84	1.16			0.82

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay: 46.0		Intersection LOS: D	
Intersection Capacity Utilization 126.5%		ICU Level of Service H	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 4: Kanata Avenue & HWY 417 WB Off

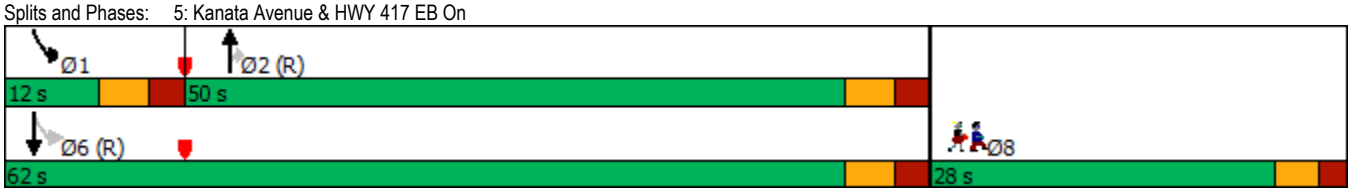


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations							
Traffic Volume (vph)	0	0	677	242	465	1110	
Future Volume (vph)	0	0	677	242	465	1110	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0		50.0	0.0		
Storage Lanes	0	0		1	1		
Taper Length (m)	7.6				7.6		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor				0.98			
Frt				0.850			
Flt Protected					0.950		
Satd. Flow (prot)	0	0	1733	1517	1662	1784	
Flt Permitted					0.172		
Satd. Flow (perm)	0	0	1733	1479	301	1784	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)				213			
Link Speed (k/h)	48		50			50	
Link Distance (m)	278.4		119.2			126.6	
Travel Time (s)	20.9		8.6			9.1	
Confl. Peds. (#/hr)				2	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	0%	0%	5%	2%	4%	2%	
Adj. Flow (vph)	0	0	677	242	465	1110	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	677	242	465	1110	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(m)	0.0		3.7			3.7	
Link Offset(m)	0.0		0.0			0.0	
Crosswalk Width(m)	4.9		4.9			4.9	
Two way Left Turn Lane							
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	
Turning Speed (k/h)	24	14		14	24		
Number of Detectors			2	1	1	2	
Detector Template			Thru	Right	Left	Thru	
Leading Detector (m)			30.5	6.1	6.1	30.5	
Trailing Detector (m)			0.0	0.0	0.0	0.0	
Detector 1 Position(m)			0.0	0.0	0.0	0.0	
Detector 1 Size(m)			1.8	6.1	6.1	1.8	
Detector 1 Type			Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)			0.0	0.0	0.0	0.0	
Detector 1 Queue (s)			0.0	0.0	0.0	0.0	
Detector 1 Delay (s)			0.0	0.0	0.0	0.0	
Detector 2 Position(m)			28.7			28.7	
Detector 2 Size(m)			1.8			1.8	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type			NA	Perm	pm+pt	NA	
Protected Phases			2		1	6	8
Permitted Phases				2	6		
Detector Phase			2	2	1	6	
Switch Phase							
Minimum Initial (s)			10.0	10.0	5.0	10.0	5.0
Minimum Split (s)			23.7	23.7	10.7	23.7	27.0
Total Split (s)			50.0	50.0	12.0	62.0	28.0
Total Split (%)			55.6%	55.6%	13.3%	68.9%	31%
Maximum Green (s)			44.3	44.3	6.3	56.3	23.0
Yellow Time (s)			3.3	3.3	3.3	3.3	3.0
All-Red Time (s)			2.4	2.4	2.4	2.4	2.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lost Time Adjust (s)			0.0	0.0	0.0	0.0	
Total Lost Time (s)			5.7	5.7	5.7	5.7	
Lead/Lag			Lag	Lag	Lead		
Lead-Lag Optimize?			Yes	Yes	Yes		
Vehicle Extension (s)			3.0	3.0	3.0	3.0	3.0
Recall Mode			C-Max	C-Max	None	C-Max	None
Walk Time (s)			7.0	7.0			7.0
Flash Dont Walk (s)			11.0	11.0			15.0
Pedestrian Calls (#/hr)			10	10			10
Act Effct Green (s)			47.2	47.2	78.9	83.5	
Actuated g/C Ratio			0.52	0.52	0.88	0.93	
v/c Ratio			0.74	0.28	0.71	0.67	
Control Delay			14.8	1.8	26.3	8.8	
Queue Delay			5.4	0.0	0.0	0.2	
Total Delay			20.2	1.8	26.3	8.9	
LOS			C	A	C	A	
Approach Delay			15.4			14.1	
Approach LOS			B			B	
Queue Length 50th (m)			61.1	6.1	34.6	48.9	
Queue Length 95th (m)			104.7	m3.2	m#158.0	#274.5	
Internal Link Dist (m)	254.4		95.2			102.6	
Turn Bay Length (m)				50.0			
Base Capacity (vph)			909	877	656	1654	
Starvation Cap Reductn			145	0	0	88	
Spillback Cap Reductn			174	0	0	44	
Storage Cap Reductn			0	0	0	0	
Reduced v/c Ratio			0.92	0.28	0.71	0.71	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 27 (30%), Referenced to phase 2:NBT and 6:SBTL, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 14.6		Intersection LOS: B	
Intersection Capacity Utilization 126.5%		ICU Level of Service H	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 5: Kanata Avenue & HWY 417 EB On



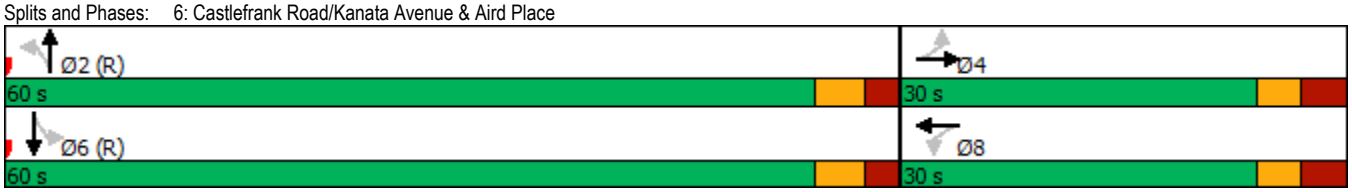
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	3	13	30	1	97	12	915	35	62	1105	24
Future Volume (vph)	17	3	13	30	1	97	12	915	35	62	1105	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	0.0		0.0	0.0		0.0	30.0		0.0	50.0		0.0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (m)	7.6			7.6			30.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98			0.97			1.00			1.00	
Frt		0.947			0.898			0.994			0.997	
Flt Protected		0.975			0.988		0.950			0.950		
Satd. Flow (prot)	0	1627	0	0	1542	0	1695	1755	0	1695	1777	0
Flt Permitted		0.735			0.909		0.144			0.228		
Satd. Flow (perm)	0	1219	0	0	1415	0	257	1755	0	407	1777	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			97			4			2	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		125.4			132.9			192.1			119.2	
Travel Time (s)		11.3			12.0			13.8			8.6	
Confl. Peds. (#/hr)	7		6	6		7	9		5	5		9
Confl. Bikes (#/hr)									3			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%	2%	2%
Adj. Flow (vph)	17	3	13	30	1	97	12	915	35	62	1105	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	128	0	12	950	0	62	1129	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		0.0			0.0			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	28.2	28.2		28.2	28.2		24.7	24.7		24.7	24.7	
Total Split (s)	30.0	30.0		30.0	30.0		60.0	60.0		60.0	60.0	
Total Split (%)	33.3%	33.3%		33.3%	33.3%		66.7%	66.7%		66.7%	66.7%	
Maximum Green (s)	23.8	23.8		23.8	23.8		54.3	54.3		54.3	54.3	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.3	3.3		3.3	3.3	

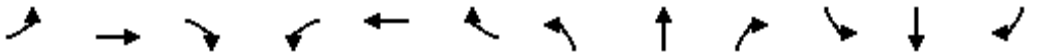
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.2	3.2		3.2	3.2		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.2			6.2		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		C-Max	C-Max		C-Max	C-Max	
Walk Time (s)	7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)	15.0	15.0		15.0	15.0		12.0	12.0		12.0	12.0	
Pedestrian Calls (#/hr)	10	10		10	10		10	10		10	10	
Act Effct Green (s)		10.1			10.1		68.0	68.0		68.0	68.0	
Actuated g/C Ratio		0.11			0.11		0.76	0.76		0.76	0.76	
v/c Ratio		0.22			0.52		0.06	0.72		0.20	0.84	
Control Delay		26.2			19.2		5.2	11.1		6.0	12.8	
Queue Delay		0.0			0.0		0.0	0.2		0.0	0.0	
Total Delay		26.2			19.2		5.2	11.3		6.0	12.8	
LOS		C			B		A	B		A	B	
Approach Delay		26.2			19.2			11.2			12.5	
Approach LOS		C			B			B			B	
Queue Length 50th (m)		3.3			5.1		0.4	46.4		2.1	44.4	
Queue Length 95th (m)		9.9			17.8		m1.2	m#116.7		m5.0	#278.6	
Internal Link Dist (m)		101.4			108.9			168.1			95.2	
Turn Bay Length (m)							30.0			50.0		
Base Capacity (vph)		331			445		194	1327		307	1343	
Starvation Cap Reductn		0			0		0	1		0	3	
Spillback Cap Reductn		0			3		0	57		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.10			0.29		0.06	0.75		0.20	0.84	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 10 (11%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 12.5 Intersection LOS: B
Intersection Capacity Utilization 83.9% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 6: Castlefrank Road/Kanata Avenue & Aird Place





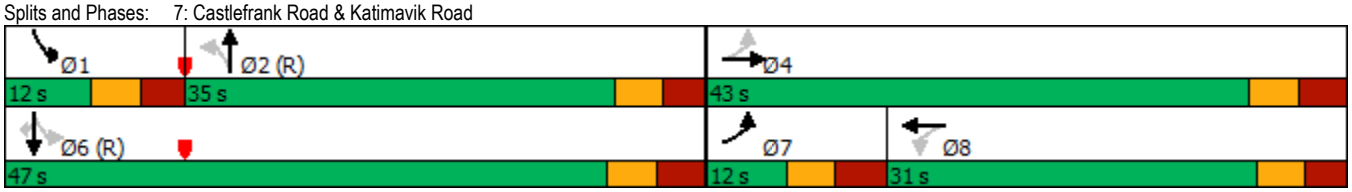
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	140	140	75	92	200	101	41	499	60	113	761	196
Future Volume (vph)	140	140	75	92	200	101	41	499	60	113	761	196
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	35.0		0.0	55.0		0.0	35.0		0.0	90.0		60.0
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (m)	55.0			55.0			55.0			30.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.98		0.98	0.98		0.99	0.99				0.92
Frt		0.948			0.950			0.984				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	1666	0	1558	1639	0	1695	1742	0	1647	1784	1473
Flt Permitted	0.255			0.624			0.227			0.146		
Satd. Flow (perm)	440	1666	0	1005	1639	0	400	1742	0	253	1784	1356
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			28			7				166
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		313.1			295.7			254.6			192.1	
Travel Time (s)		22.5			21.3			18.3			13.8	
Confl. Peds. (#/hr)	16		12	12		16	31		27	27		31
Confl. Bikes (#/hr)			1									
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	4%	2%	2%	11%	2%	7%	2%	2%	2%	5%	2%	5%
Adj. Flow (vph)	140	140	75	92	200	101	41	499	60	113	761	196
Shared Lane Traffic (%)												
Lane Group Flow (vph)	140	215	0	92	301	0	41	559	0	113	761	196
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	Right
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	6.1
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	6.1
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		pm+pt	NA	Perm
Protected Phases	7	4			8			2		1	6	
Permitted Phases	4			8			2			6		6
Detector Phase	7	4		8	8		2	2		1	6	6
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		10.0	10.0		5.0	10.0	10.0
Minimum Split (s)	11.7	29.7		29.2	29.2		29.2	29.2		11.2	29.7	29.7
Total Split (s)	12.0	43.0		31.0	31.0		35.0	35.0		12.0	47.0	47.0
Total Split (%)	13.3%	47.8%		34.4%	34.4%		38.9%	38.9%		13.3%	52.2%	52.2%
Maximum Green (s)	5.3	36.3		24.8	24.8		28.8	28.8		5.8	40.3	40.3
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	3.3

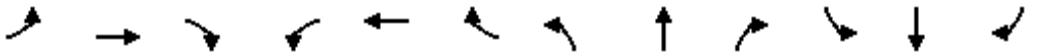
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.4	3.4		2.9	2.9		2.9	2.9		2.9	3.4	3.4
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7		6.2	6.2		6.2	6.2		6.2	6.7	6.7
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	None		None	None		C-Max	C-Max		None	C-Max	C-Max
Walk Time (s)		7.0		7.0	7.0		7.0	7.0			7.0	7.0
Flash Dont Walk (s)		16.0		16.0	16.0		16.0	16.0			16.0	16.0
Pedestrian Calls (#/hr)		10		10	10		10	10			10	10
Act Effct Green (s)	31.4	31.4		19.9	19.9		32.5	32.5		45.7	45.2	45.2
Actuated g/C Ratio	0.35	0.35		0.22	0.22		0.36	0.36		0.51	0.50	0.50
v/c Ratio	0.62	0.36		0.42	0.79		0.28	0.88		0.48	0.85	0.26
Control Delay	33.1	18.8		34.6	44.2		29.5	46.2		20.0	25.4	5.4
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	33.1	18.8		34.6	44.2		29.5	46.2		20.0	25.4	5.4
LOS	C	B		C	D		C	D		C	C	A
Approach Delay		24.4			42.0			45.0			21.2	
Approach LOS		C			D			D			C	
Queue Length 50th (m)	16.8	22.1		13.6	44.5		5.2	92.5		7.8	89.5	4.3
Queue Length 95th (m)	27.9	36.5		26.1	68.6		14.9	#161.7		m11.6	m#182.0	m9.4
Internal Link Dist (m)		289.1			271.7			230.6			168.1	
Turn Bay Length (m)	35.0			55.0			35.0			90.0		60.0
Base Capacity (vph)	225	693		276	471		144	633		237	896	764
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.62	0.31		0.33	0.64		0.28	0.88		0.48	0.85	0.26

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 25 (28%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 30.9 Intersection LOS: C
Intersection Capacity Utilization 98.9% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Castlefrank Road & Katimavik Road



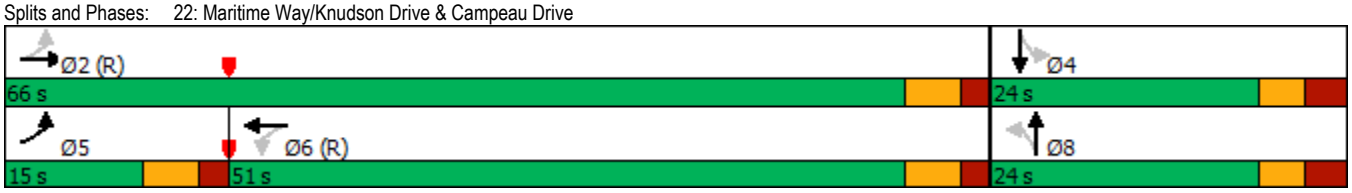


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	500	34	132	693	121	13	16	96	45	12	82
Future Volume (vph)	76	500	34	132	693	121	13	16	96	45	12	82
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	30.0		0.0	30.0		0.0	40.0		0.0	35.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	40.0			55.0			40.0			35.0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		1.00	0.99		0.98	0.97		0.99	0.96	
Frt		0.990			0.978			0.871			0.869	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1763	0	1695	1732	0	1695	1514	0	1679	1495	0
Flt Permitted	0.207			0.465			0.696			0.685		
Satd. Flow (perm)	369	1763	0	826	1732	0	1219	1514	0	1199	1495	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			14			96			82	
Link Speed (k/h)		50			50			50			40	
Link Distance (m)		248.0			203.8			223.0			144.1	
Travel Time (s)		17.9			14.7			16.1			13.0	
Confl. Peds. (#/hr)	15		4	4		15	8		4	4		8
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%
Adj. Flow (vph)	76	500	34	132	693	121	13	16	96	45	12	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	534	0	132	814	0	13	112	0	45	94	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		3.7			3.7			3.7			3.7	
Link Offset(m)		0.0			0.0			0.0			0.0	
Crosswalk Width(m)		4.9			4.9			4.9			4.9	
Two way Left Turn Lane												
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24		14	24		14	24		14	24		14
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (m)	6.1	30.5		6.1	30.5		6.1	30.5		6.1	30.5	
Trailing Detector (m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Position(m)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Size(m)	6.1	1.8		6.1	1.8		6.1	1.8		6.1	1.8	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(m)		28.7			28.7			28.7			28.7	
Detector 2 Size(m)		1.8			1.8			1.8			1.8	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	10.7	27.7		27.7	27.7		24.0	24.0		24.0	24.0	
Total Split (s)	15.0	66.0		51.0	51.0		24.0	24.0		24.0	24.0	
Total Split (%)	16.7%	73.3%		56.7%	56.7%		26.7%	26.7%		26.7%	26.7%	
Maximum Green (s)	9.3	60.3		45.3	45.3		18.0	18.0		18.0	18.0	
Yellow Time (s)	3.7	3.7		3.7	3.7		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		3.0	3.0		3.0	3.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.7	5.7		5.7	5.7		6.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	
Walk Time (s)		7.0		7.0	7.0		7.0	7.0		7.0	7.0	
Flash Dont Walk (s)		15.0		15.0	15.0		10.0	10.0		10.0	10.0	
Pedestrian Calls (#/hr)		10		10	10		10	10		10	10	
Act Effct Green (s)	70.0	71.2		61.1	61.1		11.5	11.5		11.5	11.5	
Actuated g/C Ratio	0.78	0.79		0.68	0.68		0.13	0.13		0.13	0.13	
v/c Ratio	0.20	0.38		0.24	0.69		0.08	0.41		0.30	0.36	
Control Delay	4.8	5.1		10.4	17.1		34.3	14.1		39.9	14.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	4.8	5.1		10.4	17.1		34.3	14.1		39.9	14.3	
LOS	A	A		B	B		C	B		D	B	
Approach Delay		5.1			16.2			16.2			22.6	
Approach LOS		A			B			B			C	
Queue Length 50th (m)	2.6	24.8		9.3	88.6		2.1	1.6		7.3	1.9	
Queue Length 95th (m)	7.9	54.5		24.2	#195.8		m4.4	m9.0		16.1	14.2	
Internal Link Dist (m)		224.0			179.8			199.0			120.1	
Turn Bay Length (m)	30.0			30.0			40.0			35.0		
Base Capacity (vph)	424	1396		560	1179		243	379		239	364	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.18	0.38		0.24	0.69		0.05	0.30		0.19	0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 13.0		Intersection LOS: B	
Intersection Capacity Utilization 75.9%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 22: Maritime Way/Knudson Drive & Campeau Drive

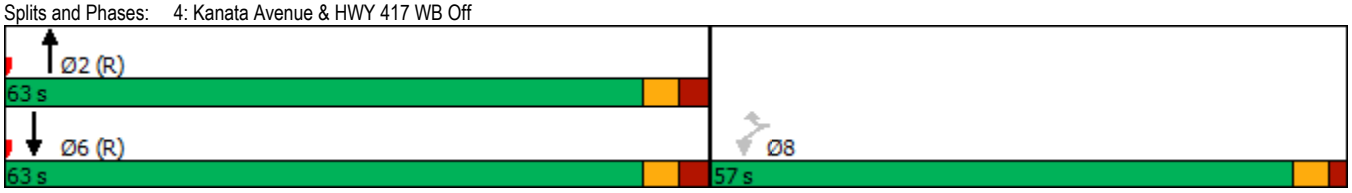


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	419	603	834	0	0	1215
Future Volume (vph)	419	603	834	0	0	1215
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1695	1517	1750	0	0	3357
Flt Permitted	0.950					
Satd. Flow (perm)	1695	1517	1750	0	0	3357
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		106				
Link Speed (k/h)	50		50			50
Link Distance (m)	332.8		126.6			114.0
Travel Time (s)	24.0		9.1			8.2
Confl. Bikes (#/hr)				3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	4%	0%	0%	3%
Adj. Flow (vph)	419	603	834	0	0	1215
Shared Lane Traffic (%)						
Lane Group Flow (vph)	419	603	834	0	0	1215
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0			10.0
Minimum Split (s)	23.0	23.0	28.1			16.1
Total Split (s)	57.0	57.0	63.0			63.0
Total Split (%)	47.5%	47.5%	52.5%			52.5%
Maximum Green (s)	52.0	52.0	56.9			56.9
Yellow Time (s)	3.3	3.3	3.3			3.3
All-Red Time (s)	1.7	1.7	2.8			2.8
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	6.1			6.1
Lead/Lag						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	11.0	11.0	15.0			
Pedestrian Calls (#/hr)	10	10	10			
Act Effct Green (s)	46.8	46.8	62.1			62.1
Actuated g/C Ratio	0.39	0.39	0.52			0.52
v/c Ratio	0.63	0.92	0.92			0.70
Control Delay	33.8	48.5	44.9			25.7
Queue Delay	0.0	0.0	46.5			0.0
Total Delay	33.8	48.5	91.4			25.7
LOS	C	D	F			C
Approach Delay	42.5		91.4			25.7
Approach LOS	D		F			C
Queue Length 50th (m)	75.3	109.3	185.5			116.7
Queue Length 95th (m)	104.6	#172.8	#279.4			148.1
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	734	717	906			1738
Starvation Cap Reductn	0	0	224			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.57	0.84	1.22			0.70

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 49.1		Intersection LOS: D	
Intersection Capacity Utilization 126.5%		ICU Level of Service H	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 4: Kanata Avenue & HWY 417 WB Off

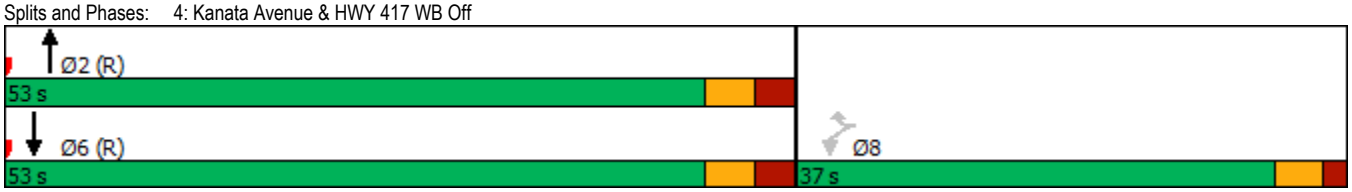


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	217	209	420	0	0	1053
Future Volume (vph)	217	209	420	0	0	1053
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1695	1334	3262	0	0	3325
Flt Permitted	0.950					
Satd. Flow (perm)	1695	1334	3262	0	0	3325
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		209				
Link Speed (k/h)	50		50			50
Link Distance (m)	332.8		126.6			114.0
Travel Time (s)	24.0		9.1			8.2
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	16%	6%	0%	0%	4%
Adj. Flow (vph)	217	209	420	0	0	1053
Shared Lane Traffic (%)						
Lane Group Flow (vph)	217	209	420	0	0	1053
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0			10.0
Minimum Split (s)	23.0	23.0	28.1			24.1
Total Split (s)	37.0	37.0	53.0			53.0
Total Split (%)	41.1%	41.1%	58.9%			58.9%
Maximum Green (s)	32.0	32.0	46.9			46.9
Yellow Time (s)	3.3	3.3	3.3			3.3
All-Red Time (s)	1.7	1.7	2.8			2.8
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	6.1			6.1
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	11.0	11.0	15.0			
Pedestrian Calls (#/hr)	10	10	10			
Act Effct Green (s)	16.9	16.9	62.0			62.0
Actuated g/C Ratio	0.19	0.19	0.69			0.69
v/c Ratio	0.68	0.50	0.19			0.46
Control Delay	44.4	8.6	2.2			9.8
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	44.4	8.6	2.2			9.8
LOS	D	A	A			A
Approach Delay	26.8		2.2			9.8
Approach LOS	C		A			A
Queue Length 50th (m)	35.3	0.0	3.8			67.0
Queue Length 95th (m)	53.2	16.0	5.0			96.5
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	602	609	2245			2289
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			13
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.36	0.34	0.19			0.46

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 35 (39%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 12.0		Intersection LOS: B	
Intersection Capacity Utilization 60.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 4: Kanata Avenue & HWY 417 WB Off



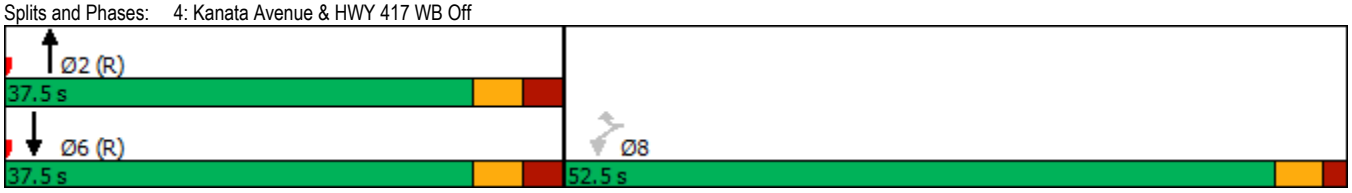
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	419	603	834	0	0	1215
Future Volume (vph)	419	603	834	0	0	1215
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1695	1517	3325	0	0	3357
Flt Permitted	0.950					
Satd. Flow (perm)	1695	1517	3325	0	0	3357
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		44				
Link Speed (k/h)	50		50			50
Link Distance (m)	332.8		126.6			114.0
Travel Time (s)	24.0		9.1			8.2
Confl. Bikes (#/hr)				3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	2%	2%	4%	0%	0%	3%
Adj. Flow (vph)	419	603	834	0	0	1215
Shared Lane Traffic (%)						
Lane Group Flow (vph)	419	603	834	0	0	1215
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(m)	3.7		0.0			0.0
Link Offset(m)	0.0		0.0			0.0
Crosswalk Width(m)	4.9		4.9			4.9
Two way Left Turn Lane						
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06
Turning Speed (k/h)	24	14		14	24	
Number of Detectors	1	1	2			2
Detector Template	Left	Right	Thru			Thru
Leading Detector (m)	6.1	6.1	30.5			30.5
Trailing Detector (m)	0.0	0.0	0.0			0.0
Detector 1 Position(m)	0.0	0.0	0.0			0.0
Detector 1 Size(m)	6.1	6.1	1.8			1.8
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex
Detector 1 Channel						
Detector 1 Extend (s)	0.0	0.0	0.0			0.0
Detector 1 Queue (s)	0.0	0.0	0.0			0.0
Detector 1 Delay (s)	0.0	0.0	0.0			0.0
Detector 2 Position(m)			28.7			28.7
Detector 2 Size(m)			1.8			1.8
Detector 2 Type			Cl+Ex			Cl+Ex
Detector 2 Channel						
Detector 2 Extend (s)			0.0			0.0
Turn Type	Perm	Perm	NA			NA
Protected Phases			2			6
Permitted Phases	8	8				
Detector Phase	8	8	2			6
Switch Phase						
Minimum Initial (s)	5.0	5.0	10.0			10.0
Minimum Split (s)	23.0	23.0	28.1			16.1
Total Split (s)	52.5	52.5	37.5			37.5
Total Split (%)	58.3%	58.3%	41.7%			41.7%
Maximum Green (s)	47.5	47.5	31.4			31.4
Yellow Time (s)	3.3	3.3	3.3			3.3
All-Red Time (s)	1.7	1.7	2.8			2.8
Lost Time Adjust (s)	0.0	0.0	0.0			0.0
Total Lost Time (s)	5.0	5.0	6.1			6.1
Lead/Lag						

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Recall Mode	None	None	C-Max			C-Max
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	11.0	11.0	15.0			
Pedestrian Calls (#/hr)	10	10	10			
Act Effct Green (s)	40.5	40.5	38.4			38.4
Actuated g/C Ratio	0.45	0.45	0.43			0.43
v/c Ratio	0.55	0.85	0.59			0.85
Control Delay	20.1	32.3	37.7			28.0
Queue Delay	0.0	0.0	0.5			2.2
Total Delay	20.1	32.3	38.2			30.1
LOS	C	C	D			C
Approach Delay	27.3		38.2			30.1
Approach LOS	C		D			C
Queue Length 50th (m)	48.7	80.2	78.2			50.8
Queue Length 95th (m)	66.0	113.2	99.8			#154.8
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	894	821	1418			1431
Starvation Cap Reductn	0	0	217			0
Spillback Cap Reductn	0	0	0			111
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.47	0.73	0.69			0.92

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 31.4 — Intersection LOS: C
Intersection Capacity Utilization 126.5% — ICU Level of Service H
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: Kanata Avenue & HWY 417 WB Off

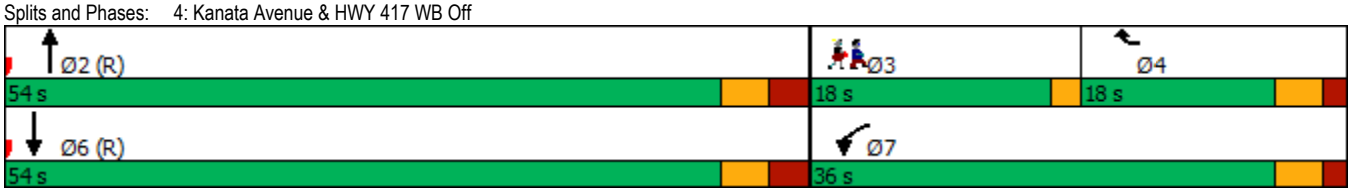


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lane Configurations							
Traffic Volume (vph)	217	209	420	0	0	1053	
Future Volume (vph)	217	209	420	0	0	1053	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Lane Util. Factor	1.00	0.88	1.00	1.00	1.00	0.95	
Frt		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	1695	2347	1717	0	0	3325	
Flt Permitted	0.950						
Satd. Flow (perm)	1695	2347	1717	0	0	3325	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		209					
Link Speed (k/h)	50		50			50	
Link Distance (m)	332.8		126.6			114.0	
Travel Time (s)	24.0		9.1			8.2	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	2%	16%	6%	0%	0%	4%	
Adj. Flow (vph)	217	209	420	0	0	1053	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	217	209	420	0	0	1053	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(m)	3.7		0.0			0.0	
Link Offset(m)	0.0		0.0			0.0	
Crosswalk Width(m)	4.9		4.9			4.9	
Two way Left Turn Lane							
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	
Turning Speed (k/h)	24	14		14	24		
Number of Detectors	1	1	2			2	
Detector Template	Left	Right	Thru			Thru	
Leading Detector (m)	6.1	6.1	30.5			30.5	
Trailing Detector (m)	0.0	0.0	0.0			0.0	
Detector 1 Position(m)	0.0	0.0	0.0			0.0	
Detector 1 Size(m)	6.1	6.1	1.8			1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0	
Detector 2 Position(m)			28.7			28.7	
Detector 2 Size(m)			1.8			1.8	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type	Prot	Prot	NA			NA	
Protected Phases	7	4	2			6	3
Permitted Phases							
Detector Phase	7	4	2			6	
Switch Phase							
Minimum Initial (s)	5.0	5.0	10.0			10.0	1.0
Minimum Split (s)	10.0	10.0	28.1			24.1	18.0
Total Split (s)	36.0	18.0	54.0			54.0	18.0
Total Split (%)	40.0%	20.0%	60.0%			60.0%	20%
Maximum Green (s)	31.0	13.0	47.9			47.9	16.0
Yellow Time (s)	3.3	3.3	3.3			3.3	2.0
All-Red Time (s)	1.7	1.7	2.8			2.8	0.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.0	6.1			6.1	
Lead/Lag		Lag					Lead
Lead-Lag Optimize?		Yes					Yes
Vehicle Extension (s)	3.0	3.0	3.0			3.0	3.0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Recall Mode	None	None	C-Max			C-Max	None
Walk Time (s)			7.0				7.0
Flash Dont Walk (s)			15.0				9.0
Pedestrian Calls (#/hr)			10				10
Act Effct Green (s)	17.9	14.3	61.0			61.0	
Actuated g/C Ratio	0.20	0.16	0.68			0.68	
v/c Ratio	0.64	0.38	0.36			0.47	
Control Delay	41.0	7.5	14.7			6.1	
Queue Delay	0.0	0.0	0.8			0.0	
Total Delay	41.0	7.5	15.5			6.2	
LOS	D	A	B			A	
Approach Delay	24.6		15.5			6.2	
Approach LOS	C		B			A	
Queue Length 50th (m)	35.3	0.0	25.1			22.6	
Queue Length 95th (m)	48.9	10.6	105.8			30.3	
Internal Link Dist (m)	308.8		102.6			90.0	
Turn Bay Length (m)							
Base Capacity (vph)	583	573	1163			2253	
Starvation Cap Reductn	0	0	445			0	
Spillback Cap Reductn	0	0	0			84	
Storage Cap Reductn	0	0	0			0	
Reduced v/c Ratio	0.37	0.36	0.58			0.49	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 12.3		Intersection LOS: B	
Intersection Capacity Utilization 60.9%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 4: Kanata Avenue & HWY 417 WB Off

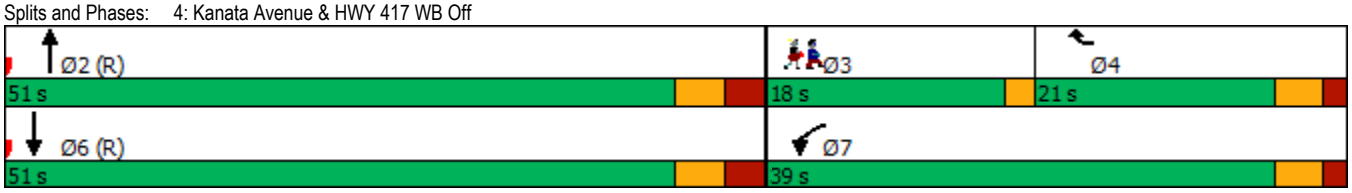


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lane Configurations							
Traffic Volume (vph)	419	603	834	0	0	1215	
Future Volume (vph)	419	603	834	0	0	1215	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Lane Util. Factor	1.00	0.88	1.00	1.00	1.00	0.95	
Ped Bike Factor							
Frt		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	1695	2669	1750	0	0	3357	
Flt Permitted	0.950						
Satd. Flow (perm)	1695	2669	1750	0	0	3357	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		603					
Link Speed (k/h)	50		50			50	
Link Distance (m)	332.8		126.6			114.0	
Travel Time (s)	24.0		9.1			8.2	
Confl. Bikes (#/hr)				3			
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Heavy Vehicles (%)	2%	2%	4%	0%	0%	3%	
Adj. Flow (vph)	419	603	834	0	0	1215	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	419	603	834	0	0	1215	
Enter Blocked Intersection	No	No	No	No	No	No	
Lane Alignment	Left	Right	Left	Right	Left	Left	
Median Width(m)	3.7		0.0			0.0	
Link Offset(m)	0.0		0.0			0.0	
Crosswalk Width(m)	4.9		4.9			4.9	
Two way Left Turn Lane							
Headway Factor	1.06	1.06	1.06	1.06	1.06	1.06	
Turning Speed (k/h)	24	14		14	24		
Number of Detectors	1	1	2			2	
Detector Template	Left	Right	Thru			Thru	
Leading Detector (m)	6.1	6.1	30.5			30.5	
Trailing Detector (m)	0.0	0.0	0.0			0.0	
Detector 1 Position(m)	0.0	0.0	0.0			0.0	
Detector 1 Size(m)	6.1	6.1	1.8			1.8	
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex			Cl+Ex	
Detector 1 Channel							
Detector 1 Extend (s)	0.0	0.0	0.0			0.0	
Detector 1 Queue (s)	0.0	0.0	0.0			0.0	
Detector 1 Delay (s)	0.0	0.0	0.0			0.0	
Detector 2 Position(m)			28.7			28.7	
Detector 2 Size(m)			1.8			1.8	
Detector 2 Type			Cl+Ex			Cl+Ex	
Detector 2 Channel							
Detector 2 Extend (s)			0.0			0.0	
Turn Type	Prot	Prot	NA			NA	
Protected Phases	7	4	2			6	3
Permitted Phases							
Detector Phase	7	4	2			6	
Switch Phase							
Minimum Initial (s)	5.0	5.0	10.0			10.0	1.0
Minimum Split (s)	10.0	10.0	28.1			16.1	18.0
Total Split (s)	39.0	21.0	51.0			51.0	18.0
Total Split (%)	43.3%	23.3%	56.7%			56.7%	20%
Maximum Green (s)	34.0	16.0	44.9			44.9	16.0
Yellow Time (s)	3.3	3.3	3.3			3.3	2.0
All-Red Time (s)	1.7	1.7	2.8			2.8	0.0
Lost Time Adjust (s)	0.0	0.0	0.0			0.0	
Total Lost Time (s)	5.0	5.0	6.1			6.1	
Lead/Lag		Lag					Lead

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lead-Lag Optimize?		Yes					Yes
Vehicle Extension (s)	3.0	3.0	3.0			3.0	3.0
Recall Mode	None	None	C-Max			C-Max	None
Walk Time (s)			7.0				7.0
Flash Dont Walk (s)			15.0				9.0
Pedestrian Calls (#/hr)			10				10
Act Effct Green (s)	27.2	23.6	51.7			51.7	
Actuated g/C Ratio	0.30	0.26	0.57			0.57	
v/c Ratio	0.82	0.53	0.83			0.63	
Control Delay	42.3	4.5	32.0			9.5	
Queue Delay	0.0	0.0	15.1			0.1	
Total Delay	42.3	4.5	47.1			9.7	
LOS	D	A	D			A	
Approach Delay	20.0		47.1			9.7	
Approach LOS	B		D			A	
Queue Length 50th (m)	66.2	0.0	100.6			32.2	
Queue Length 95th (m)	90.4	14.7	#206.4			47.0	
Internal Link Dist (m)	308.8		102.6			90.0	
Turn Bay Length (m)							
Base Capacity (vph)	640	1143	1006			1929	
Starvation Cap Reductn	0	0	174			0	
Spillback Cap Reductn	0	0	0			121	
Storage Cap Reductn	0	0	0			0	
Reduced v/c Ratio	0.65	0.53	1.00			0.67	

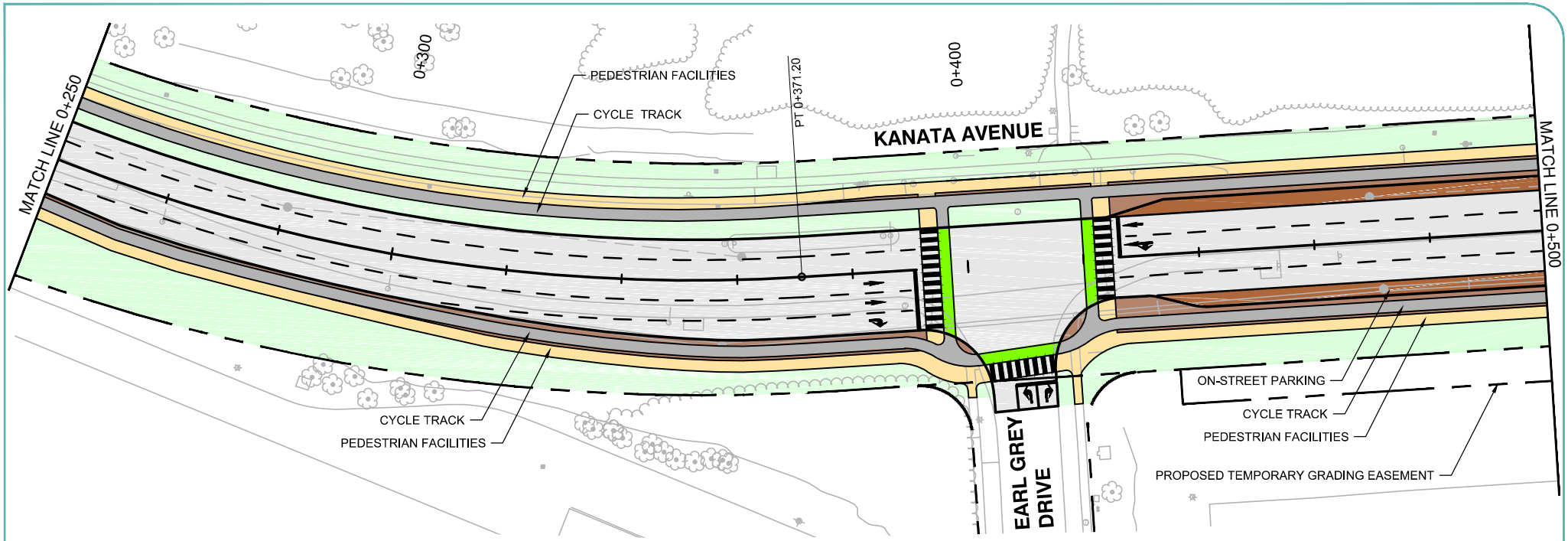
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 23.3		Intersection LOS: C	
Intersection Capacity Utilization 111.6%		ICU Level of Service H	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

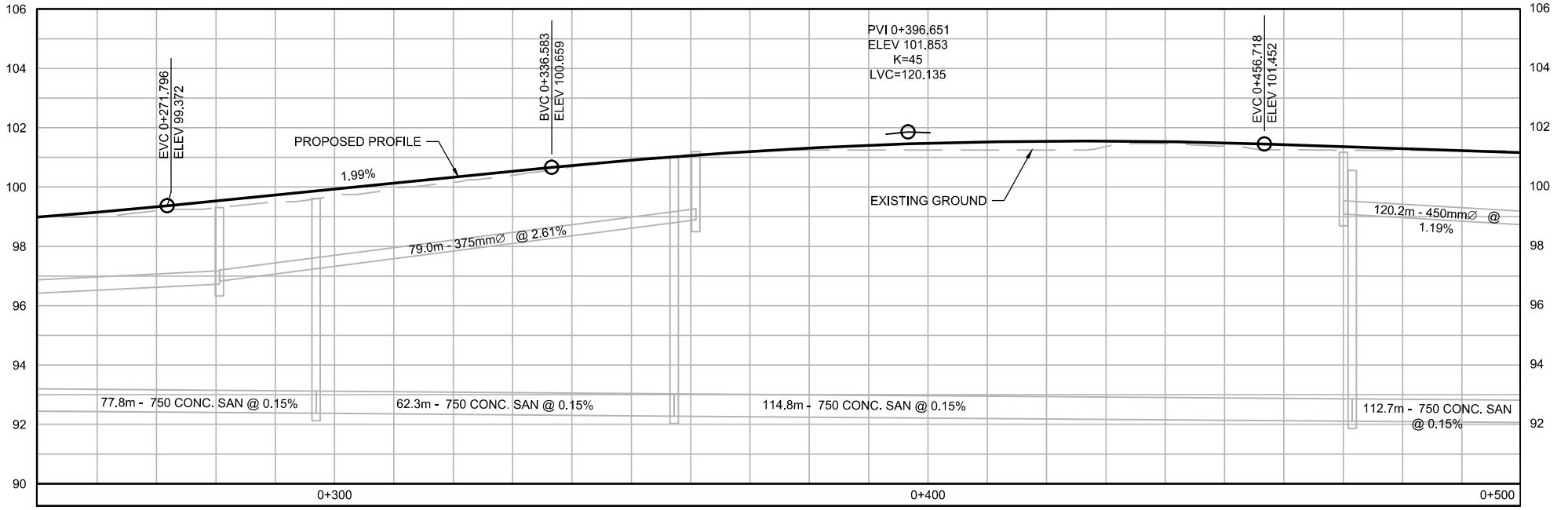
Splits and Phases: 4: Kanata Avenue & HWY 417 WB Off



APPENDIX H

Relevant Excerpts from the Kanata Avenue Environmental Assessment





CITY OF OTTAWA
KANATA AVENUE MAIN STREET
MUNICIPAL CLASS EA

PREFERRED DESIGN PLAN/PROFILE
SHEET #02

DILLON CONSULTING

LEGEND

- ASPHALT
- CONCRETE SIDEWALK
- CYCLE TRACK
- LANDSCAPED AREA
- UNIT PAVER PARKING AREA
- UNIT PAVER BOULEVARDS
- CYCLE CROSSING
- PEDESTRIAN CROSSING

SCALE 1:1000
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CREATED BY: DTM
CHECKED BY: LDM
DESIGNED BY: LDM

File Location:
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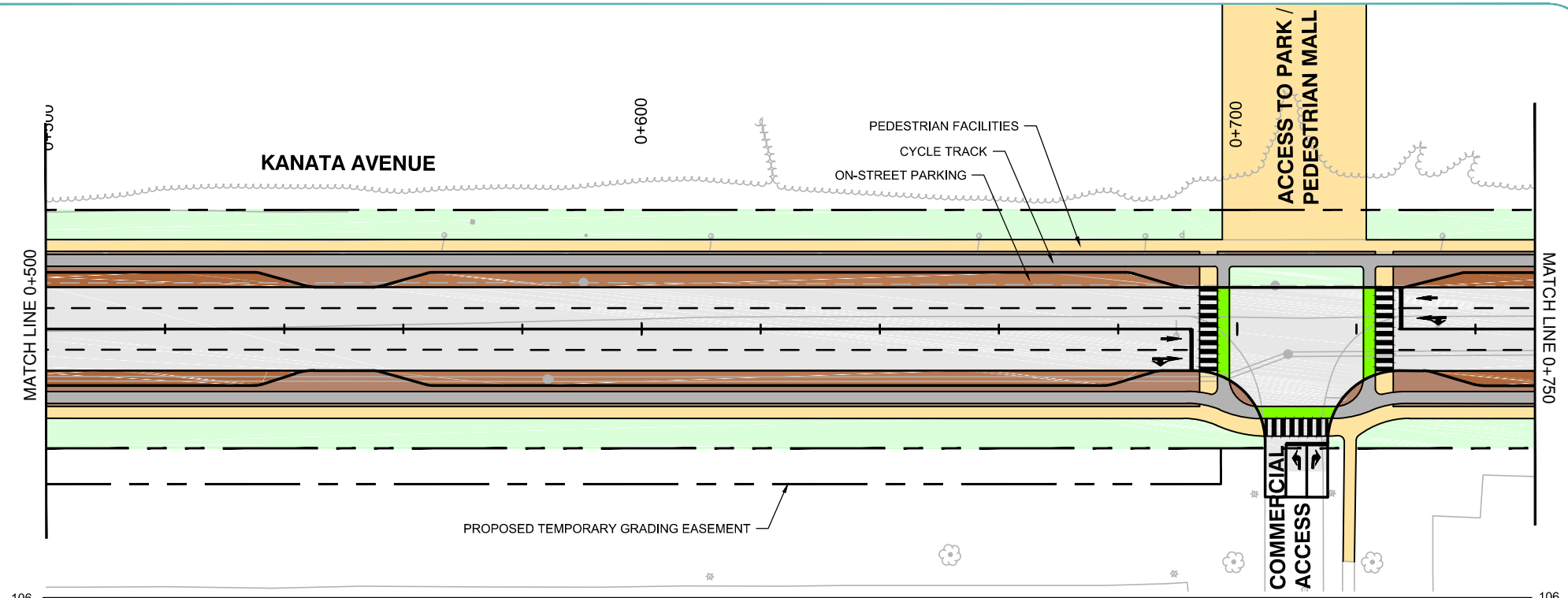
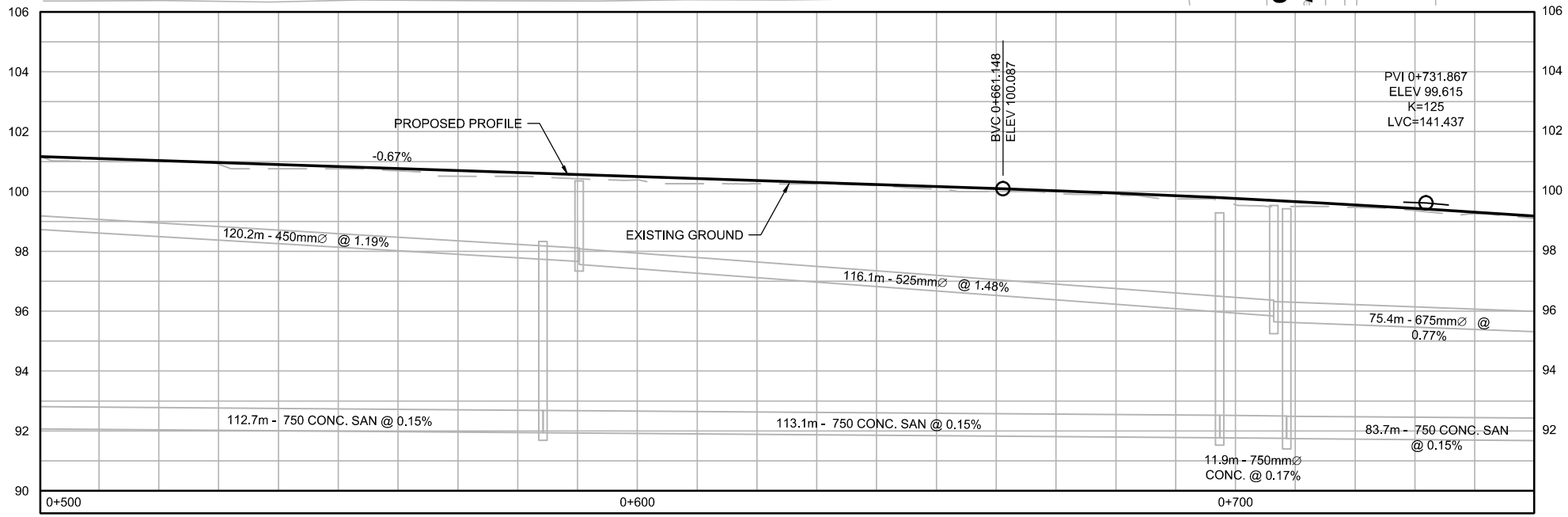
October, 21, 2016 5:09 PM

MAP/DRAWING INFORMATION
BASE DATA PROVIDED BY CITY OF OTTAWA.

PROJECT #:	STATUS:	DATE:
13-7460	FINAL (REVISED)	OCTOBER 2016





CITY OF OTTAWA
KANATA AVENUE MAIN STREET
MUNICIPAL CLASS EA

PREFERRED DESIGN PLAN/PROFILE
SHEET #03

DILLON CONSULTING

LEGEND

- ASPHALT
- CONCRETE SIDEWALK
- CYCLE TRACK
- LANDSCAPED AREA
- UNIT PAVER PARKING AREA
- UNIT PAVER BOULEVARDS
- CYCLE CROSSING
- PEDESTRIAN CROSSING

SCALE 1:1000
0 20m

CREATED BY: DTM
CHECKED BY: LDM
DESIGNED BY: LDM

N

File Location:
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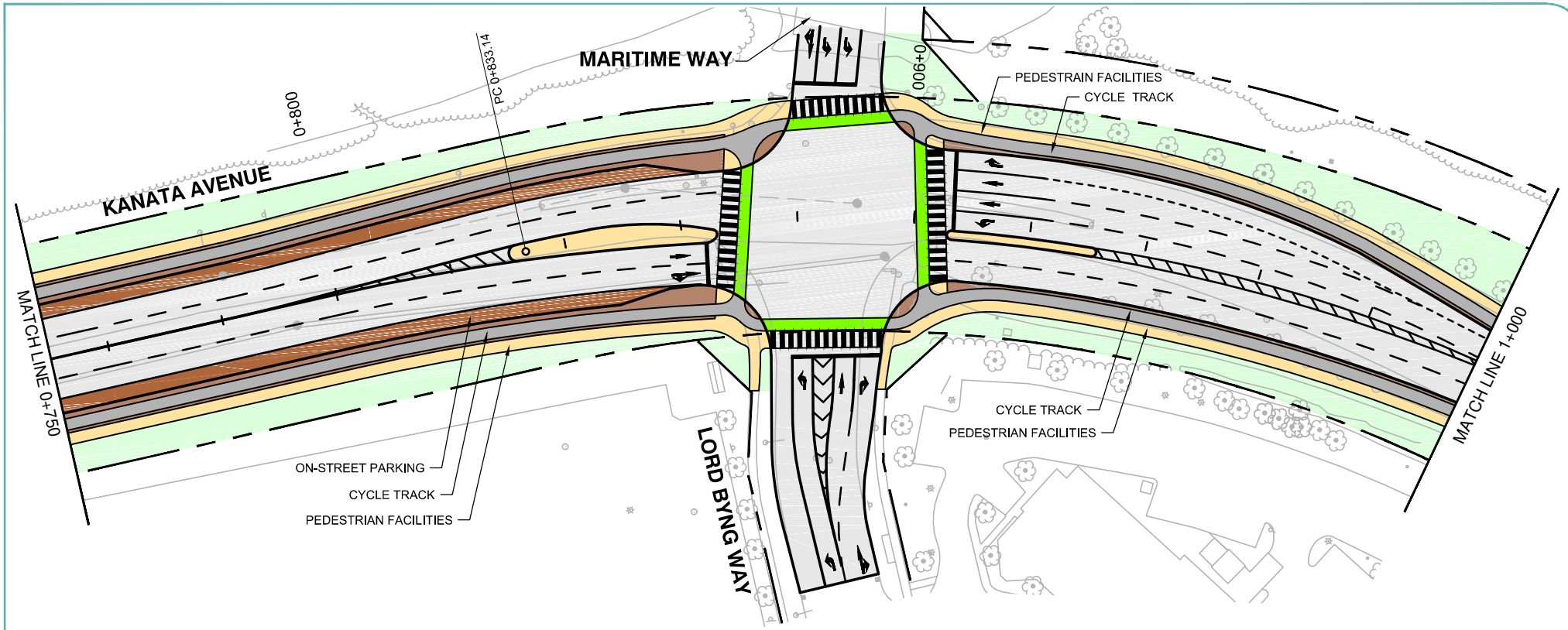
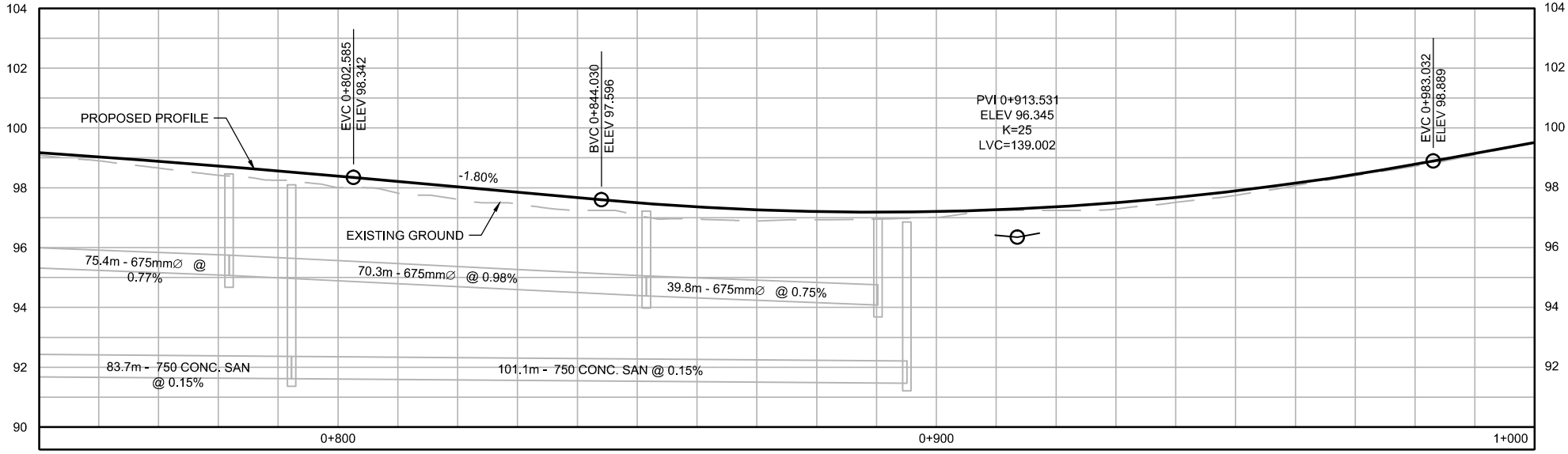
October, 21, 2016 5:09 PM

MAP/DRAWING INFORMATION
BASE DATA PROVIDED BY CITY OF OTTAWA.

PROJECT #:	STATUS:	DATE:
13-7460	FINAL (REVISED)	OCTOBER 2016





CITY OF OTTAWA
KANATA AVENUE MAIN STREET
MUNICIPAL CLASS EA

PREFERRED DESIGN PLAN/PROFILE
SHEET #04

DILLON CONSULTING

LEGEND

- ASPHALT
- CONCRETE SIDEWALK
- CYCLE TRACK
- LANDSCAPED AREA
- UNIT PAVER PARKING AREA
- UNIT PAVER BOULEVARDS
- CYCLE CROSSING
- PEDESTRIAN CROSSING

SCALE 1:1000
0 20m

CREATED BY: DTM
CHECKED BY: LDM
DESIGNED BY: LDM

File Location:
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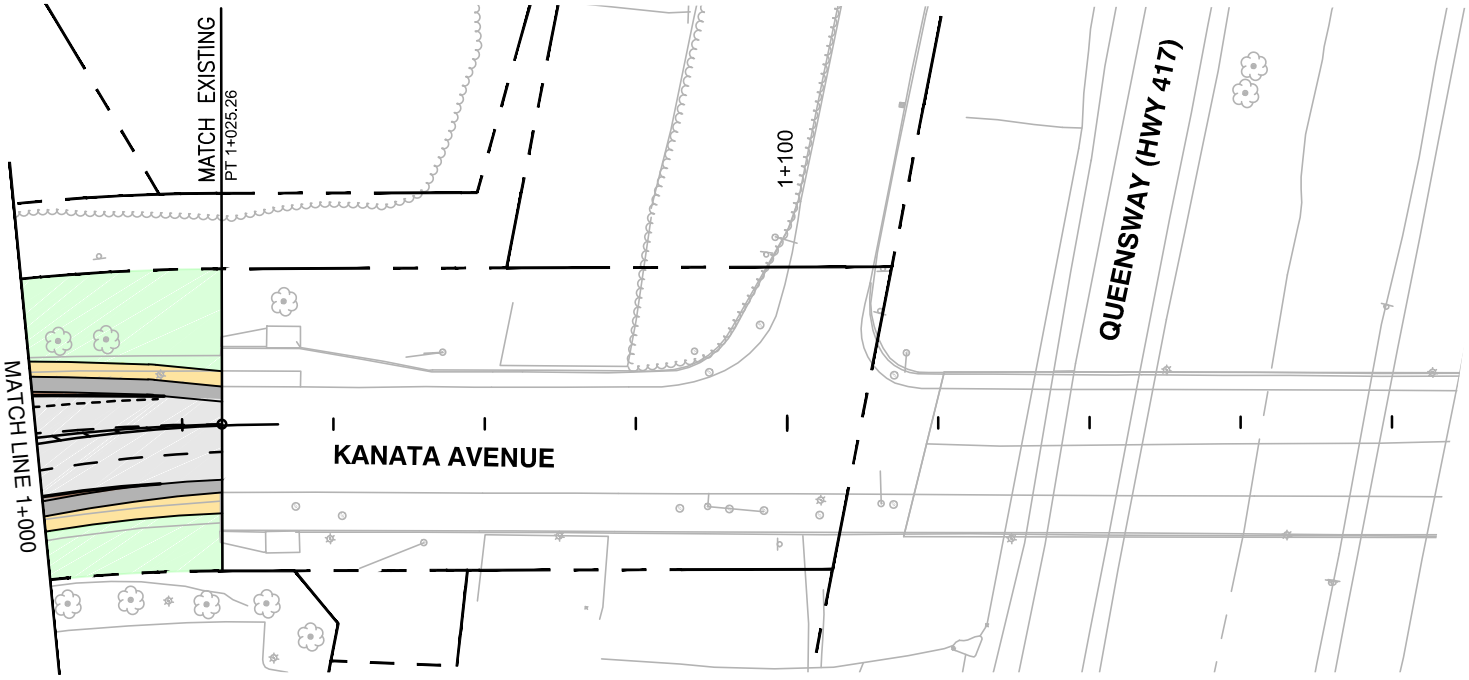
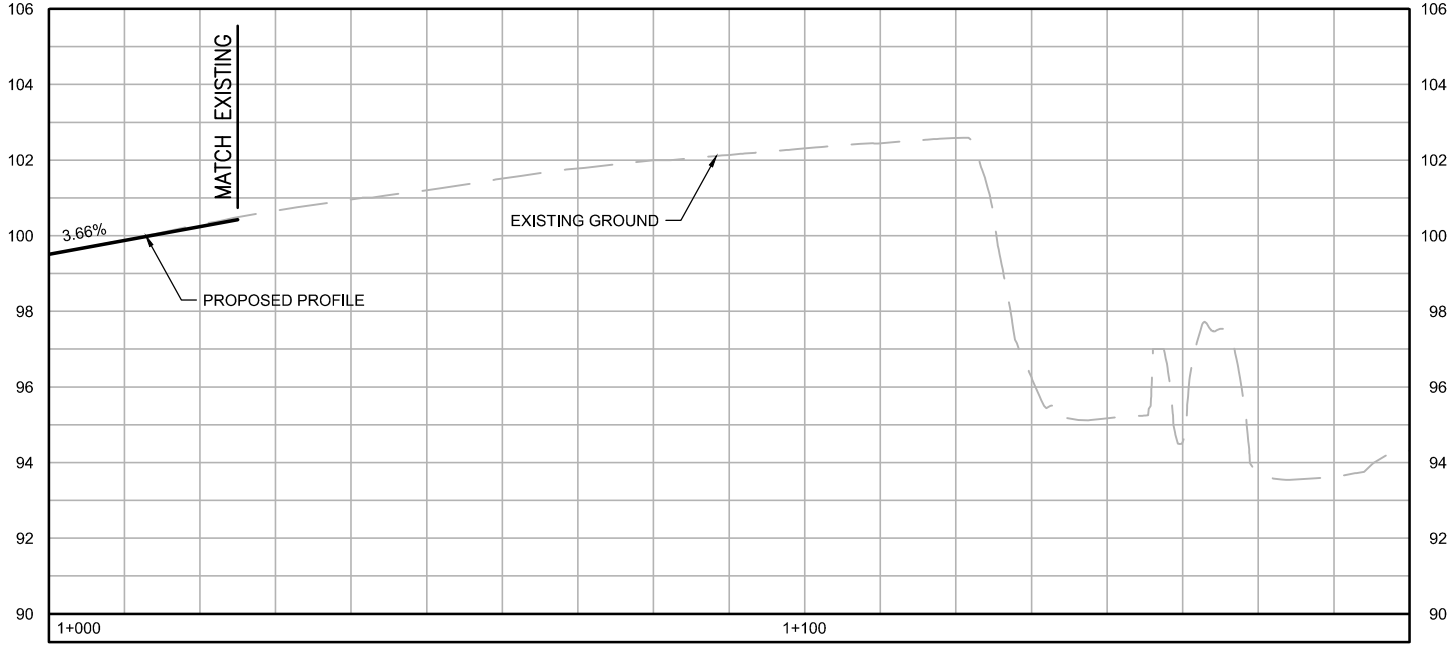
October, 21, 2016 5:10 PM

MAP/DRAWING INFORMATION
BASE DATA PROVIDED BY CITY OF OTTAWA.

PROJECT #:	STATUS:	DATE:
13-7460	FINAL (REVISED)	OCTOBER 2016





CITY OF OTTAWA
KANATA AVENUE MAIN STREET
MUNICIPAL CLASS EA

PREFERRED DESIGN PLAN/PROFILE
SHEET #05

DILLON CONSULTING

LEGEND

- ASPHALT
- CONCRETE SIDEWALK
- CYCLE TRACK
- LANDSCAPED AREA
- UNIT PAVER PARKING AREA
- UNIT PAVER BOULEVARDS
- CYCLE CROSSING
- PEDESTRIAN CROSSING

SCALE 1:1000
0 20m

CREATED BY: DTM
CHECKED BY: LDM
DESIGNED BY: LDM

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