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1200 Maritime Way

Transportation Impact Assessment

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RESIDENTIAL DEVELOPMENT
1200 MARITIME WAY

TRANSPORTATION IMPACT ASSESSMENT

Prepared For:

CLARIDGE HOMES

Prepared By:

NOVATECH
Engineers, Planners & Landscape Architects
Suite 200, 240 Michael Cowpland Drive
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March 30, 2021
Revised July 30, 2021
Revised November 12, 2021

Novatech File: 120144
Ref: R-2021-018

November 12, 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 revised Transportation Impact Assessment Report in support of Zoning By-law Amendment and Site Plan Control applications for Claridge's residential development at 1200 Maritime Way. This revised report has been prepared to reflect changes to the Site Plan and to address comments received from the City. 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

B. Byvelds

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

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TIA Plan Reports

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

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

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

CERTIFICATION

1. I have reviewed and have a sound understanding of the objectives, needs and requirements of the City of Ottawa's Official Plan, Transportation Master Plan and the Transportation Impact Assessment (2017) Guidelines;
2. I have a sound knowledge of industry standard practice with respect to the preparation of transportation impact assessment reports, including multi modal level of service review;
3. I have substantial experience (more than 5 years) in undertaking and delivering transportation impact studies (analysis, reporting and geometric design) with strong background knowledge in transportation planning, engineering or traffic operations; and
4. I am either a licensed[1] or registered[2] professional in good standing, whose field of expertise [check √ appropriate field(s)] is either transportation engineering ☑ or transportation planning ☐.

[1,2] **License of registration body that oversees the profession is required to have a code of conduct and ethics guidelines that will ensure appropriate conduct and representation for transportation planning and/or transportation engineering works.**

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Dated at Ottawa (City) this 12 day of November, 2021 .

Name: Brad Byvelds
(Please Print)

Professional Title: P. Eng. - Project Coordinator

B. Byvelds

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

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EXECUTIVE SUMMARY

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

The proposed development consists of two residential buildings providing a total of 633 units and approximately 4,300ft^2 gross floor area of commercial space. The buildings are connected by an underground parking garage with 629 vehicle spaces and 301 bicycle spaces. At ground level between the buildings are 17 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.

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

<u>Development Design and Parking</u>

- Pedestrian facilities will be provided between the main building entrances, and the existing sidewalk along Maritime Way. On-site pedestrians facilities will also connect to a north-south pathway provided partially on the adjacent 1250 Maritime Way site, which travels between Maritime Way and Kanata Avenue. A joint use and maintenance agreement will be provided for the pathway.
- Consideration could be given to extending the pathways on the south/east portion of the site in the future to connect to the pathway along the LRT alignment.
- Bicycle parking for the proposed development will be in accordance with the minimum requirement of the City's Zoning By-law (ZBL), as described in Section 6.2. Fifteen bicycle parking spaces will be provided outdoors and 301 will be provided within the underground parking garage.
- Cyclists can access the bicycle parking via the underground parking ramp. Should cyclists feel uncomfortable navigating the underground parking ramp, cyclists can either dismount and use the sidewalk adjacent to the ramp or use the main entrance to access the elevators.
- All required TDM-supportive design and infrastructure measures in the TDM checklist are met.

<u>Parking</u>

- The proposed vehicular and bicycle parking spaces adhere to the requirements of the City's ZBL.

Boundary Street Design

- All roadways meet the target TkLOS but none meet the target PLOS or BLOS.
- Kanata Avenue currently achieves a PLOS C. As the current curbside lane AADT is greater than 3000vpd, this is the highest possible score without changing the operating speed of the roadway.
- The existing bike lanes along Kanata Avenue do not meet the target BLOS B. It is anticipated that cycle tracks will be provided as part of the future Kanata Avenue road widening project, achieving a BLOS A adjacent to the site.
- Maritime Way currently achieves a PLOS C. Based on the current curbside AADT greater than 3000vpd, the highest possible score is a PLOS B without changing the operating speed of the roadway. To achieve the PLOS B, widening of the existing sidewalk to 2.0m in width is required. This is identified for the City's consideration.
- The existing mixed traffic lanes along Maritime Way do not meet the target BLOS B. A reduction in the operating speed to 50km/hr or a higher order cycling facility (bike lanes or cycle track) are required to achieve the target BLOS along Maritime Way. This is identified for the City's consideration.

Access Intersections Design

- A new access is also proposed to Maritime Way. The proposed access will be approximately 6.7m in width and located 6m from the western property line and 51m from the east property line.
- The width and location of the proposed access will adhere to the requirements of the PABL and ZBL.
- A maximum grade of 6% will be provided for the first 9m within the property to provide appropriate cover to the underground parking structure. A reduced elevation for the parking structure is not proposed due to geotechnical constraints on the site and the grade of adjacent properties. As a grade of 6% in the direction of the roadway is not anticipated to impact sight lines for vehicles exiting the site or provide drainage concerns, a waiver to Section 25 (u) of the Private Approach By-law is requested.
- Based on the projected traffic volumes at the access, the access is anticipated to operate acceptably under side street stop control.

Transportation Demand Management

- The proposed development conforms to the City's TDM initiatives by providing easy access to the local pedestrian, bicycle and transit systems
- The following measures will be implemented within the proposed development:
    - Display local area maps with walking/cycling access routes and key destinations at major entrances;
    - Display relevant transit schedules and route maps at entrances;
    - Contract with provider to install on-site carshare vehicles and promote their use by residents;
    - Unbundle parking from monthly rent;
    - Provide multimodal travel option information package to new residents; and
    - Offer personalized trip planning to new residents.

Neighbourhood Traffic Management

- As there is sufficient capacity along Maritime Way to accommodate traffic generated by the development, no changes to the existing roadway classification are required.

- No mitigation measures are recommended to offset the impacts of the development generated traffic.

Transit

- The proposed development is anticipated to generate 168 transit trips (41 in, 127 out) during the weekday AM peak hour and 212 transit trips (131 in, 81 out) during the weekday PM peak hour at build-out.
- As transit improves in the area and the existing Terry Fox Transit station is converted to LRT, the development is anticipated to generate 272 transit trips (66 in, 206 out) during the weekday AM peak hour and 341 transit trips (211 in, 130 out) during the weekday PM peak hour.
- The proposed development is located within a 600m walking distance of the Terry Fox Transit Station (future LRT Station). The Terry Fox Transit Station serves numerous Frequent Routes, Rapid Routes, Peak Hour Routes, and Local Routes, which provide comprehensive transit coverage across the City of Ottawa. The future conversion to LRT is anticipated to provide more reliable transit service and increased transit capacity at the Terry Fox Transit Station. Based on the foregoing, no transit capacity problems are anticipated in the vicinity of the site.

Network Concept

- The eastbound and westbound lanes along Campeau Drive east of Maritime Way are anticipated to operate above capacity during the AM peak hour under the 2038 background traffic condition.
- Additional capacity is available along Katimavik Road to accommodate the additional traffic volumes if capacity is realized along Campeau Drive.
- The City's 2013 TMP's 2031 Network Concept includes the widening of Campeau Drive from two to four lanes between Didsbury Road and March Road. This widening would alleviate projected capacity deficiency along Campeau Drive.
- The southbound lane along Castlefrank Road south of Katimavik Road is anticipated to operate above capacity during the PM peak hour under the 2038 background traffic condition.
- Traffic generated by the proposed development is anticipated to have a negligible impact on the lane capacity along the roadways within the study area.

MMLOS Analysis

Kanata Avenue/Earl Grey Drive:

- The Kanata Avenue/Earl Grey Drive intersection currently meets the target Auto LOS E. As this intersection is not along a transit priority corridor, no target TLOS is identified.
- As part of the Kanata Avenue road widening project, the crossing distance on the all legs of the intersection are anticipated to be reduced and zebra striped crosswalks will be implemented. This is anticipated to improve the PLOS at this intersection.
- As part of the Kanata Avenue road widening project, cycle tracks will be provided on Kanata Avenue and this intersection will be converted into a protected intersection design. This modification will improve the BLOS at this intersection.
- Since Earl Grey Drive is not classified as a truck route, the provided TkLOS E is considered acceptable.

Kanata Avenue/Maritime Way/Lord Byng Way:

- The Kanata Avenue/Maritime Way/Lord Byng Way intersection currently meets the target Auto LOS E. As this intersection is not along a transit priority corridor, no target TLOS is identified.
- As part of the Kanata Avenue road widening project, the crossing distance on the east and west legs of the intersection (Maritime Way/Lord Byng Way) are anticipated to be reduced and zebra striped crosswalks will be implemented on all legs. This is anticipated to improve the PLOS at this intersection.
- As part of the Kanata Avenue road widening project, cycle tracks will be provided on Kanata Avenue and this intersection will be converted into a protected intersection design. This modification will improve the BLOS at this intersection.
- since Maritime Way and Lord Byng Way are not classified as a truck route, the provided TkLOS E is considered acceptable.

Kanata Avenue/Highway 417 Westbound Off-Ramp:

- The Kanata Avenue/Highway 417 Westbound Off-Ramp intersection currently meets the City's target TkLOS D and Auto LOS E. As bicycles are not permitted on Highway 417, the BLOS was excluded from this analysis. As this intersection is not along a transit priority corridor, no target TLOS is identified.
- A reduction in the crossing distance on all legs of the intersection would provide the greatest improvement to the PLOS at this intersection.

Kanata Avenue/Highway 417 Eastbound On-Ramp:

- The Kanata Avenue/Highway 417 Eastbound On-Ramp intersection currently meets the City's target TkLOS D and Auto LOS E. As bicycles are not permitted on Highway 417, the BLOS was excluded from this analysis. As this intersection is not along a transit priority corridor, no target TLOS is identified.
- A reduction in the crossing distance on all legs of the intersection would provide the greatest improvement to the PLOS at this intersection.

Kanata Avenue/Castlefrank Road/Aird Place:

- The Kanata Avenue/Castlefrank Road/Aird Place intersection currently meets the target Auto LOS E. As this intersection is not along a transit priority corridor or a truck route, no target TLOS or TkLOS is identified.
- A reduction in the crossing distance on all legs of the intersection would provide the greatest improvement to the PLOS at this intersection.
- To achieve the target BLOS B, the implementation of two-stage northbound/southbound left turn bike boxes is required. This is identified for the City's consideration.

Castlefrank Road/Katimavik Road:

- The Castlefrank Road/Katimavik Road intersection currently meets the target Auto LOS E. As this intersection is not along a transit priority corridor or a truck route, no target TLOS or TkLOS is identified.
- A reduction in the crossing distance on all legs of the intersection would provide the greatest improvement to the PLOS at this intersection.
- To achieve the target BLOS B, the implementation of two-stage left turn bike boxes is required on all legs of the intersection. This is identified for the City's consideration.

Campeau Drive/Maritime Way/Knudson Drive:

- The Campeau Drive/Maritime Way/Knudson Drive intersection currently meets the target BLOS B and Auto LOS E. As this intersection is not along a transit priority corridor or a truck route, no target TLOS or TkLOS is identified.
- A reduction in the crossing distance on all legs of the intersection would provide the greatest improvement to the PLOS at this intersection.
- This intersection currently meets the target BLOS B. However it is noted that cyclists are required to dismount and use the pedestrian crosswalks on the north, east, and west legs of the intersection.

Background Intersection Operations

- 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 during the PM peak hour. To achieve the MTO target, two northbound through lanes and two westbound right turn lanes are required.
- Modifications or replacement of the existing bridge structure are anticipated to be required to accommodate a four-lane cross section along Kanata Avenue. Widening of the existing off-ramp is anticipated to be required to accommodate two westbound right turn lanes. This is identified for the City's consideration.
- The modifications to the Highway 417 Westbound Off-ramp are anticipated to reduce congestion on the northbound approach, which may result in improved compliance to the traffic signal control and reduce the number of angle collisions involving northbound and westbound vehicles at this intersection.

Total Intersection Operations

- Under the 2028 build-out year, the additional pedestrians and vehicles volumes at the Kanata Avenue/Maritime Way/Lord Byng Way intersection are anticipated to result in a LOS F. PM peak hour traffic signalization with an increased cycle length of 120 seconds is anticipated to yield the target LOS E at this intersection.
- The Kanata Avenue road widening project is anticipated to alleviate the LOS F identified at the Kanata Avenue/Maritime Way/Lord Byng Way intersection under the 2028 traffic conditions.
- Under total traffic conditions, all other intersections within the City's jurisdiction are anticipated to meet the target Auto LOS during the AM and PM peak hours.
- To achieve the MTO target at the Kanata Avenue/Highway 417 Westbound Off-ramp intersection, two northbound through lanes and two westbound right turn lanes are required. This is consistent with the background traffic conditions.
- As the site generated traffic is anticipated to be negligible compared to the background traffic volumes, the mitigation measures identified at the Kanata Avenue/Highway 417 Westbound Off-ramp intersection are identified for City consideration and are not attributable to the proposed development.

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 633 units and approximately 4,300ft^2 gross floor area of commercial space. The buildings are connected by an underground parking garage with 629 vehicle spaces and 301 bicycle spaces. At ground level between the buildings are 17 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 the Terry Fox Transit Station) 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 Katimavik Road and a major collector roadway south of Katimavik Road. 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.

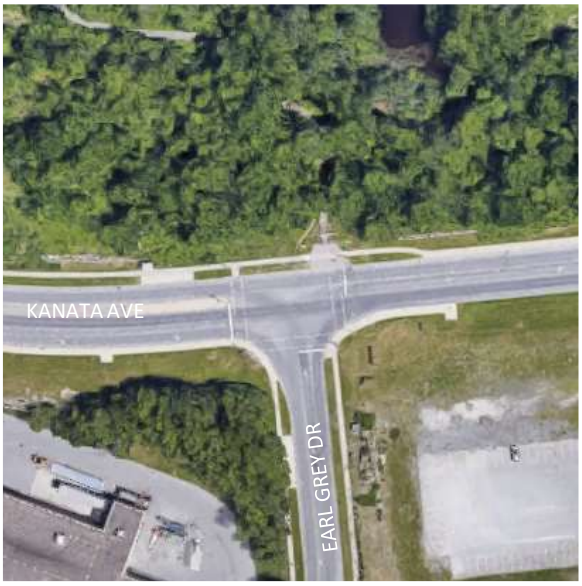
Aird Place travels from west of Castlefrank Road to Katimavik Road and is classified as a local roadway west of Castlefrank Road and a collector roadway east of Castlefrank Road. Aird Place has a two-lane undivided urban cross section with a posted speed limit of 40km/hr.

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
- Bike lanes are provided on the east and west 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
- A bike lane is provided on the south approach



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
- Bike lanes are provided on the north and south 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
- Bike lanes are provided on the north and south 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
- Bike lanes 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
- A bike lane is provided on the north approach



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
- Separated cycling facilities are provided on the north, east and west 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. A north-south pedestrian/cyclist crossing of Highway 417 is provided connecting Gray Crescent to Whitney Drive. 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.

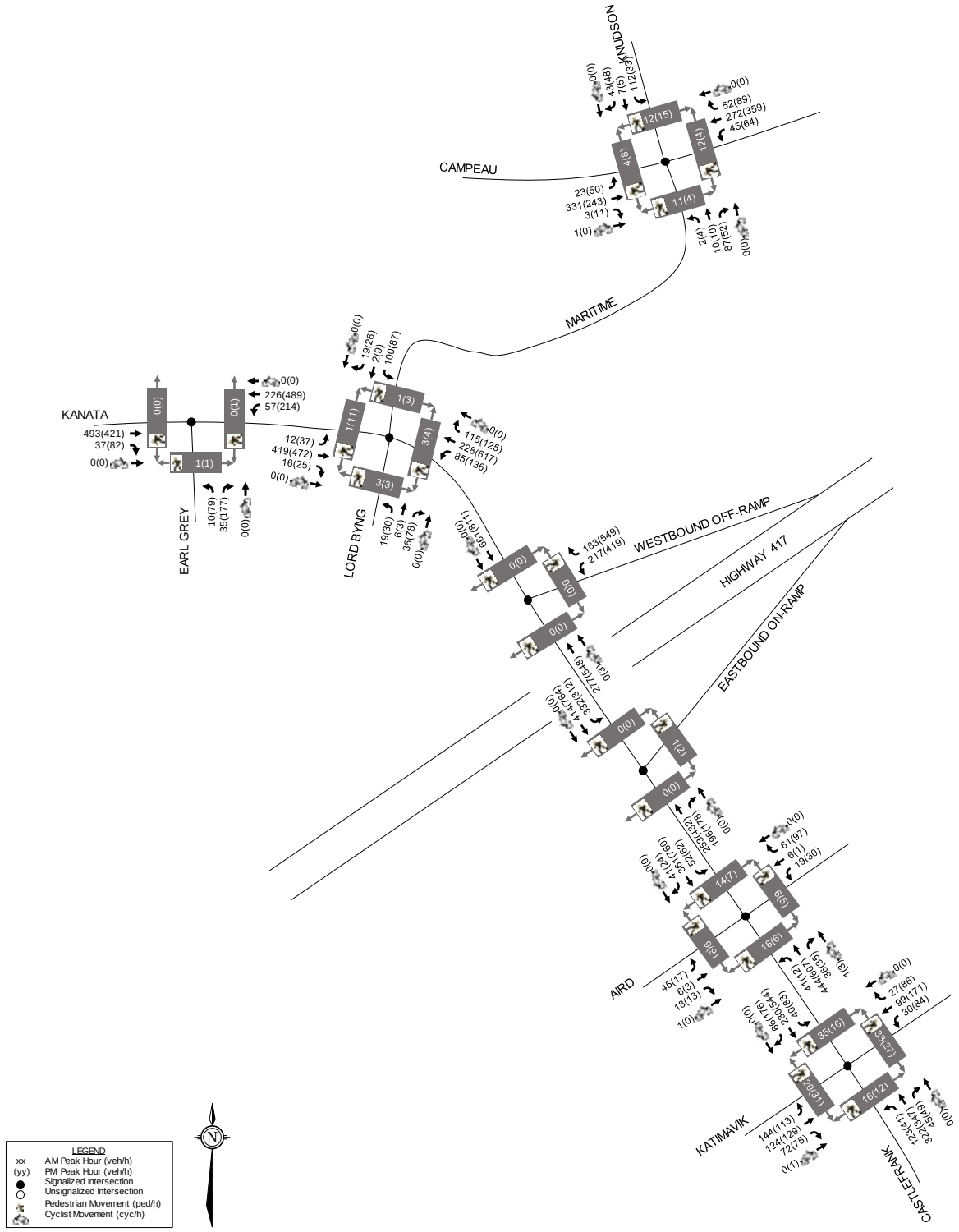
2.1.7 Existing Traffic Volumes

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**.

Figure 5: Existing Traffic Volumes



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**
Maritime Way between Kanata Avenue and Campeau Drive	0	0	0	0	0	4	**0**
Kanata Avenue between Earl Grey Drive and Maritime Way	1	0	10	0	0	0	**11**
Kanata Avenue between Maritime Way and HWY 417 WB Off Ramp	0	0	2	0	0	0	**2**
Kanata Avenue between HWY 417 WB Off-Ramp and EB On-Ramp	0	0	1	0	0	0	**1**
Kanata Avenue between HWY 417 EB ON-Ramp and Aird Place	0	0	3	0	0	0	**3**
Castlefrank Road between Aird Place and Katimavik Road	0	0	3	0	0	0	**3**

1. SMV = Single Motor Vehicle

<u>Kanata Avenue/Earl Grey Drive</u>

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.

Maritime Way between Kanata Avenue and Campeau Drive

A total of four mid-block collisions occurred along Maritime Way between Kanata Avenue and Campeau Drive. All four of the collisions were single motor vehicle impacts and occurred under poor surface or environmental conditions.

Kanata Avenue between Earl Grey Drive and Maritime Way
A total of eleven mid-block collisions occurred along Kanata Avenue between Earl Grey Drive and Maritime Way. Ten of the eleven collisions were rear-end impacts and one was an angle impact. Seven of the eleven collisions occurred under poor surface or environmental conditions.

Kanata Avenue between Maritime Way and Highway 417 westbound off-ramp
A total of two mid-block collisions occurred along Kanata Avenue between Maritime Way and the Highway 417 westbound off-ramp. Both of the collisions were rear-end impacts and occurred under good surface or environmental conditions.

Kanata Avenue between Highway 417 westbound off-ramp and eastbound on-ramp
One mid-block collisions occurred along the Highway 417 westbound off-ramp and eastbound on-ramp. This collisions was a rear-end impact that occurred under poor surface or environmental conditions.

Kanata Avenue between Highway 417 eastbound on-ramp and Aird Place
A total of three mid-block collisions occurred along Kanata Avenue between the Highway 417 eastbound on-ramp and Aird Place. All three of the collisions were rear-end impacts and two occurred under good surface or environmental conditions.

Castlefrank Road between Aird Place and Katimavik Road
A total of three mid-block collisions occurred along Castlefrank Road between Aird Place and Katimavik Road. All three of the collisions were rear-end impacts and two occurred under good surface or environmental conditions.

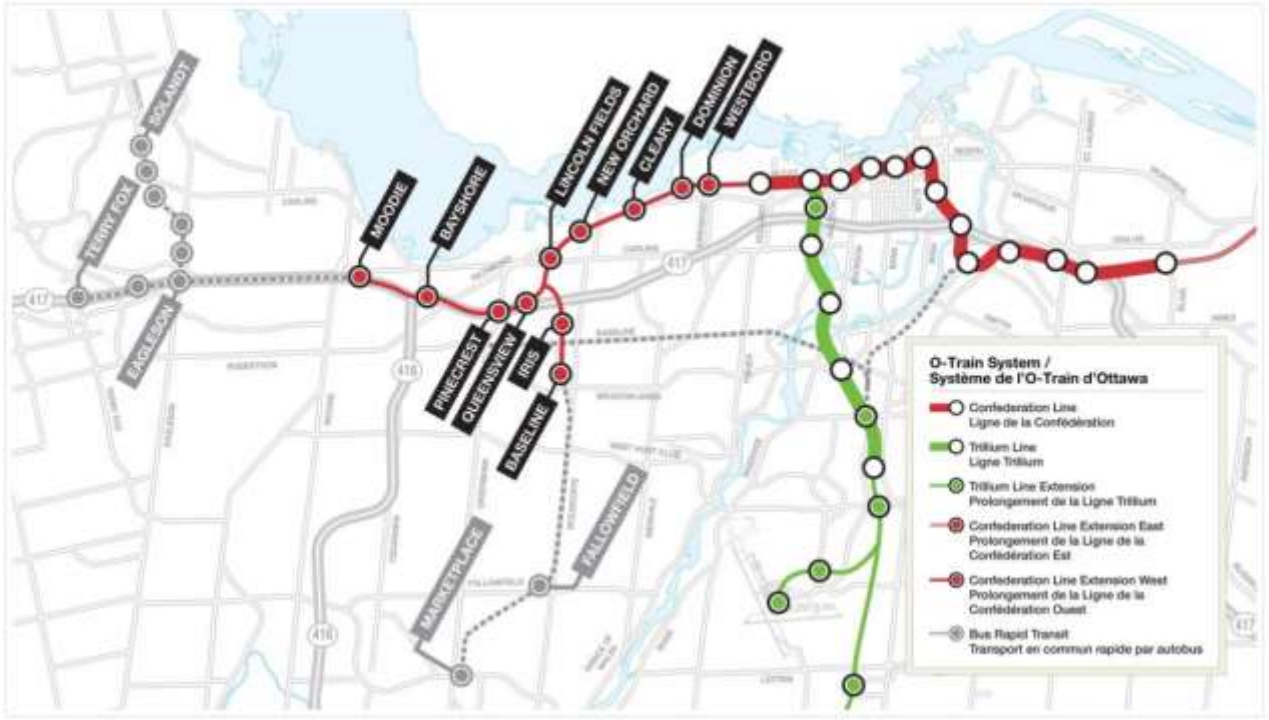
2.2 Planned Conditions

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.

The City of Ottawa's 2013 Ottawa Pedestrian Plan identifies a new sidewalk along the east side of Knudson Drive north of Campeau Drive as a Phase 3 project with implementation between 2026 and 2031. The Kanata LRT Environmental Assessment identifies a 3.0m multi-use pathway along the north side of the LRT alignment (south side of the property), connecting Terry Fox Station to Kanata Town Station.

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 633 dwelling units and approximately 4,300ft^2 gross floor area of commercial space.

The *2011 TRANS O-D Survey Report* indicates that the study area lies within the Kanata/Stittsville district. The existing residential modal shares within the Kanata/Stittsville district have been estimated based on modal shares for all trips departing the district during the AM peak, arriving to the district during the PM peak, and within the district. The existing commercial modal shares within the Kanata/Stittsville district have been estimated based on the modal shares for all trips within the 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. The proposed modal shares are a blend of the TRANS and TOD modal shares. A summary of TOD modal shares, TRANS modal shares for the Kanata/Stittsville District, and assumed modal shares for the development are presented in **Table 3**.

Table 3: Proposed Modal Shares

Modal Share	TOD Zone	TRANS		Assumed	
		Residential	Commercial	Residential	Commercial
Auto Driver	15%	60%	55%	30%	45%
Auto Passenger	5%	20%	20%	20%	15%
Transit	65%	10%	5%	40%	20%
Bike	5%	0%	5%	5%	5%
Walk	10%	10%	15%	5%	15%

As transit improves in proximity of the proposed development, it is anticipated that the developments modal shares will change, and an increased transit ridership will be realized. Although the timing for the Kanata LRT extension is unknown at this time, the residential modal shares for the 2038 horizon year have been adjusted to reflect a TOD zone. This is considered representative of the anticipated modal shares if LRT is extended to Kanata and the Terry Fox Transit Station is upgraded to LRT by the 2038 horizon year.

Residential Trip Generation

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.

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

Table 4: Residential Peak Hour Person Trips by Modal Share

Travel Mode	Modal Share	AM Peak			PM Peak		
		In	Out	Total	In	Out	Total
2028 Build-out Condition							
Total Person Trips		*100*	*30*	*416*	*321*	*197*	*518*
Auto Driver	30%	30	95	125	96	59	155
Auto Passenger	20%	20	64	84	64	40	104
Transit	40%	40	127	167	129	75	207
Bike	5%	5	16	21	16	10	26
Walk	5%	5	16	21	16	10	26
2038 Horizon Year Condition							
Total Person Trips		*100*	*316*	*416*	*321*	*197*	*518*
Auto Driver	15%	15	48	63	48	30	78
Auto Passenger	5%	5	16	21	16	10	26
Transit	65%	65	206	271	209	127	336
Bike	5%	5	16	21	16	10	26
Walk	10%	10	32	42	32	20	52

Commercial Trip Generation

Traffic generated by the proposed commercial development has been estimated based on the Shopping Centre land use in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. ITE Trips have been converted to person trips using a 1.28 person trip conversion factor, consistent with the City's TIA Guidelines. Modal shares for the proposed commercial development are summarized in Table 4 above. A summary of the peak hour commercial trips by modal share is provided in **Table 7**.

Table 5: Commercial Peak Hour Person Trips by Modal Share

Travel Mode	Modal Share	AM Peak			PM Peak		
		IN	OUT	TOT	IN	OUT	TOT
Total Person Trips		2	1	3	11	12	23
Auto Driver	45%	1	1	2	7	4	11
Auto Passenger	15%	0	0	0	1	2	3
Transit	20%	1	0	1	2	3	5
Bike	5%	0	0	0	0	1	1
Pedestrian	15%	0	0	0	1	2	3

Total Trip Generation

A summary of the total site trip generation during the 2028 build-out/2033 horizon year and 2038 horizon years is provided in **Table 8**.

Table 6: Site Traffic by Modal Share

Modal Share	AM Peak			PM Peak		
	IN	OUT	TOT	IN	OUT	TOT
2028 Build-out/2033 Horizon Condition						
Auto Driver	31	96	127	103	63	166
Auto Passenger	20	64	84	65	42	107
Transit	41	127	168	131	81	212
Bike	5	16	21	16	11	27
Pedestrian	5	16	21	17	12	29
2038 Horizon Year Condition						
Auto Driver	16	49	65	55	34	89
Auto Passenger	5	16	21	17	12	29
Transit	66	206	272	211	130	341
Bike	5	16	21	16	11	27
Pedestrian	10	32	42	33	22	55

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:

Residential Traffic
- 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

Commercial Traffic
- 35% to/from the west via Kanata Avenue
- 10% to/from the west via Katimavik Road
- 20% to/from the south via Castlefrank Road
- 5% to/from the south via Lord Byng Way
- 15% to/from the east via Campeau Drive
- 10% to/from the east via Katimavik Road
- 5% to/from the north via Knudson Drive

Traffic generated by the proposed development during the weekday AM and PM peak hours under the 2028 build-out year and 2038 horizon year are shown in **Figure 7** and **8**.

Figure 7: Site Generated Traffic (2028 Build-out year)

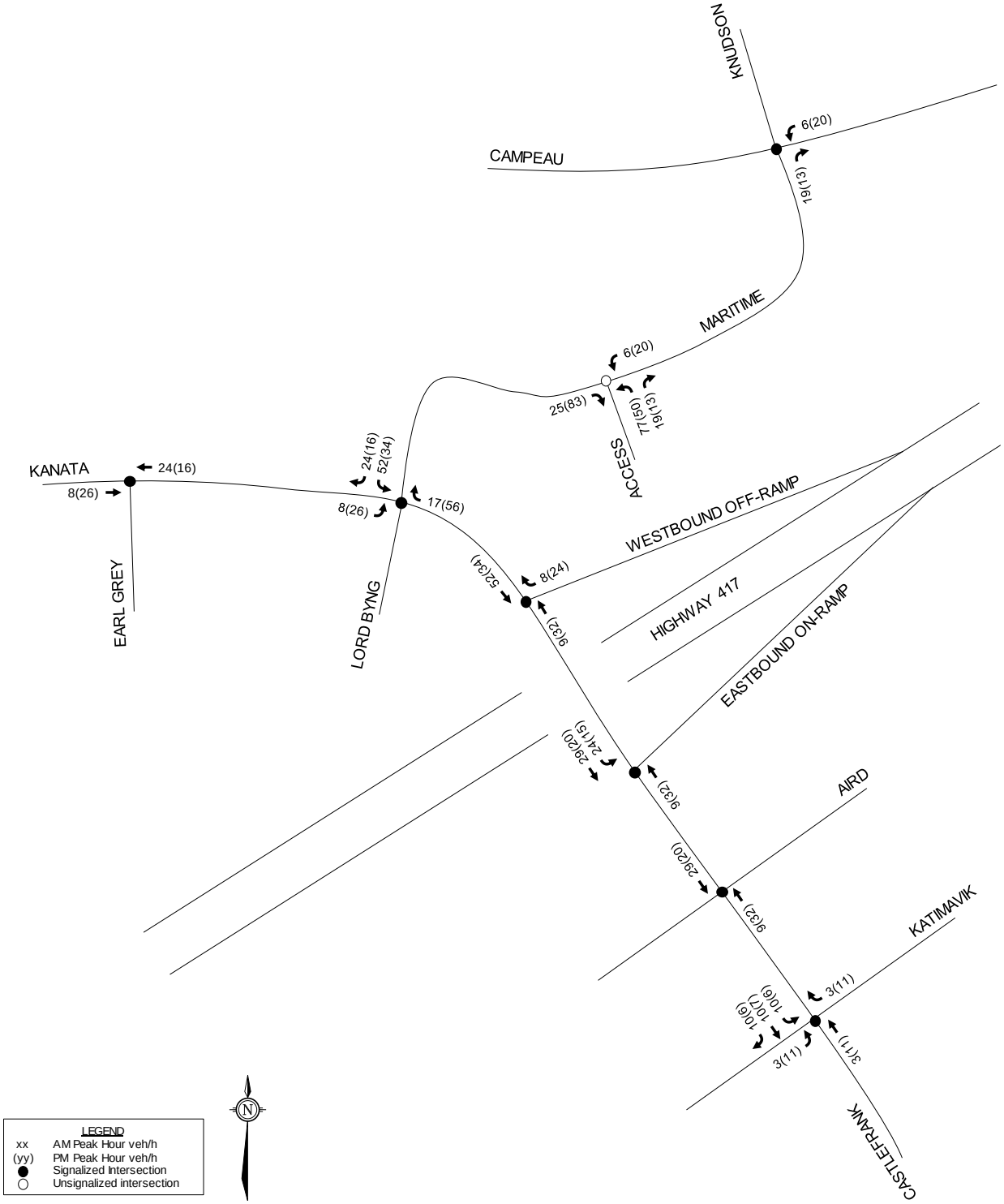
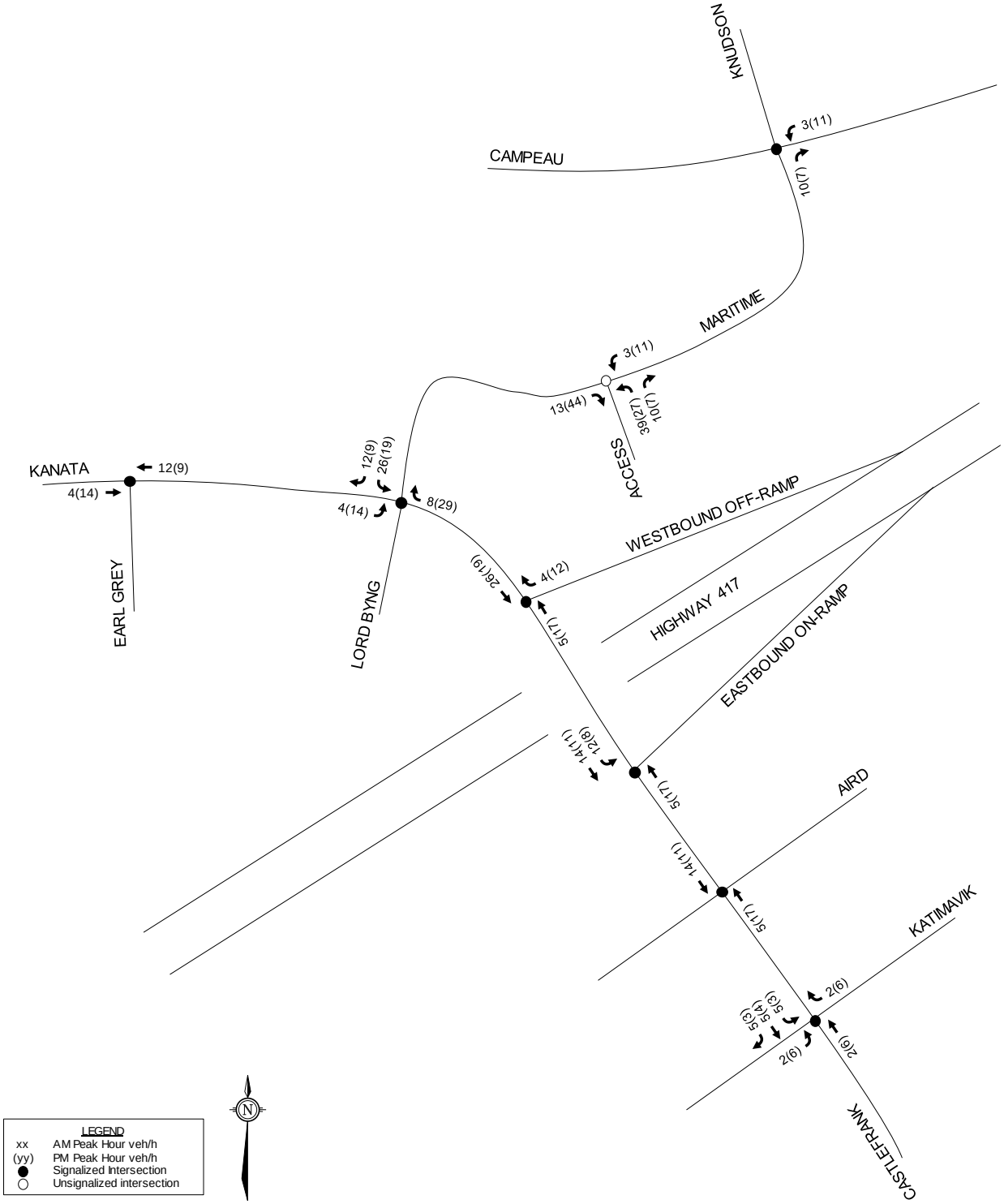


Figure 8: Site Generated Traffic (2038 Horizon Year)



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) 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.

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.

Historical AADT traffic counts were obtained from MTO for the Highway 417 Off-ramp (2014 and 2018 counts) and Highway 417 On-ramp (2014 and 2019 counts) along Kanata Avenue. Based on the ramp counts, the Highway 417 off-ramp grew at a rate of 6% per annum while the on-ramp grew at a rate of 3% per annum. Due to the extended build-out and horizon period, and since background traffic generated by other area developments is accounted for separately, MTO has advised that a 2% per annum growth rate is to be applied to the Highway 417 on and off ramps along Kanata Avenue.

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 9**. Background traffic volumes for the 2028 build-out and the 2033 and 2038 horizon years are shown in **Figures 10** to **12**. Total traffic volumes for the 2028 build-out and the 2033 and 2038 horizon years are shown in **Figures 13** to **15**.

Figure 9: Traffic Generated by Other Area Developments

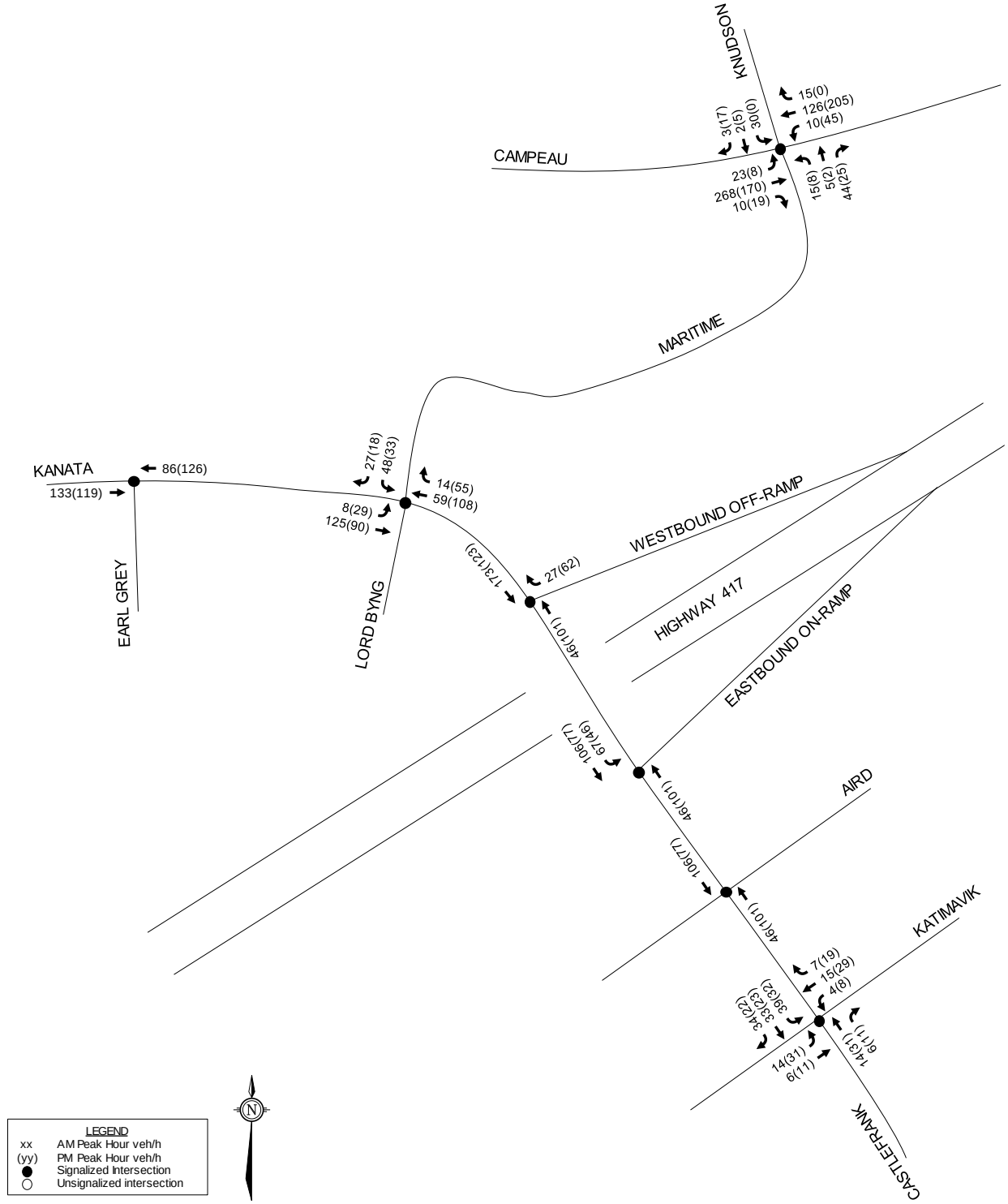


Figure 10: 2028 Background Traffic

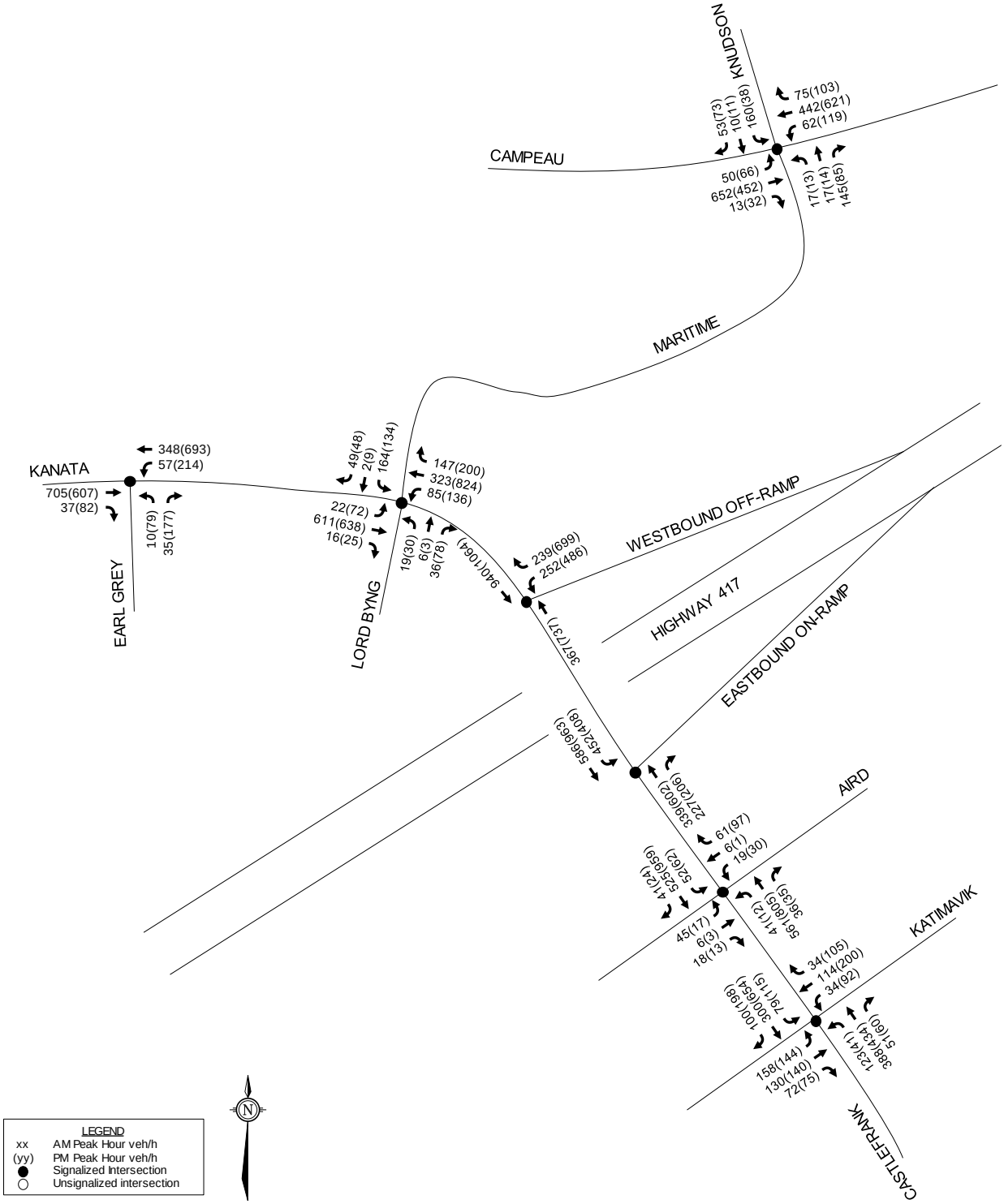


Figure 11: 2033 Background Traffic

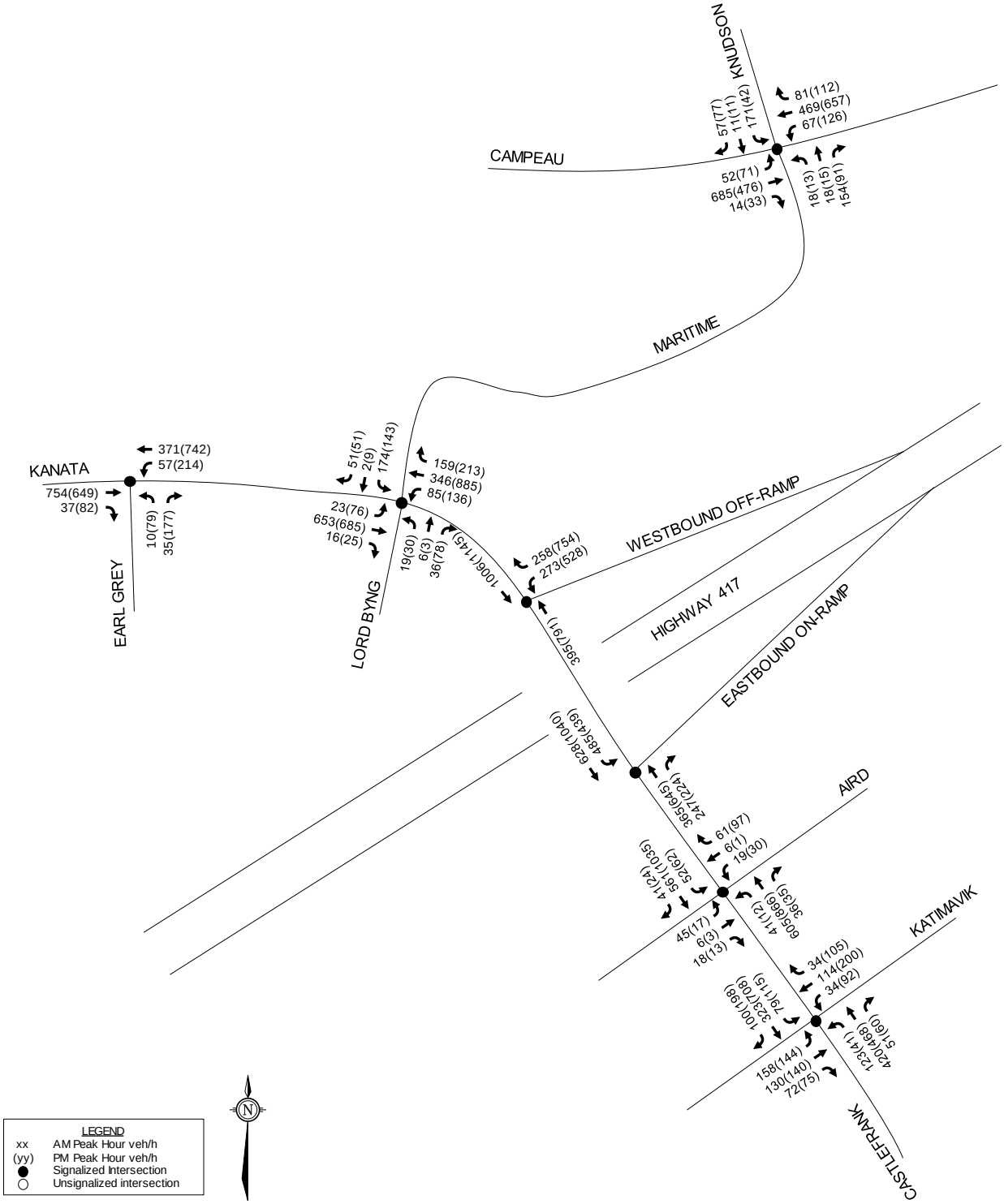


Figure 12: 2038 Background Traffic

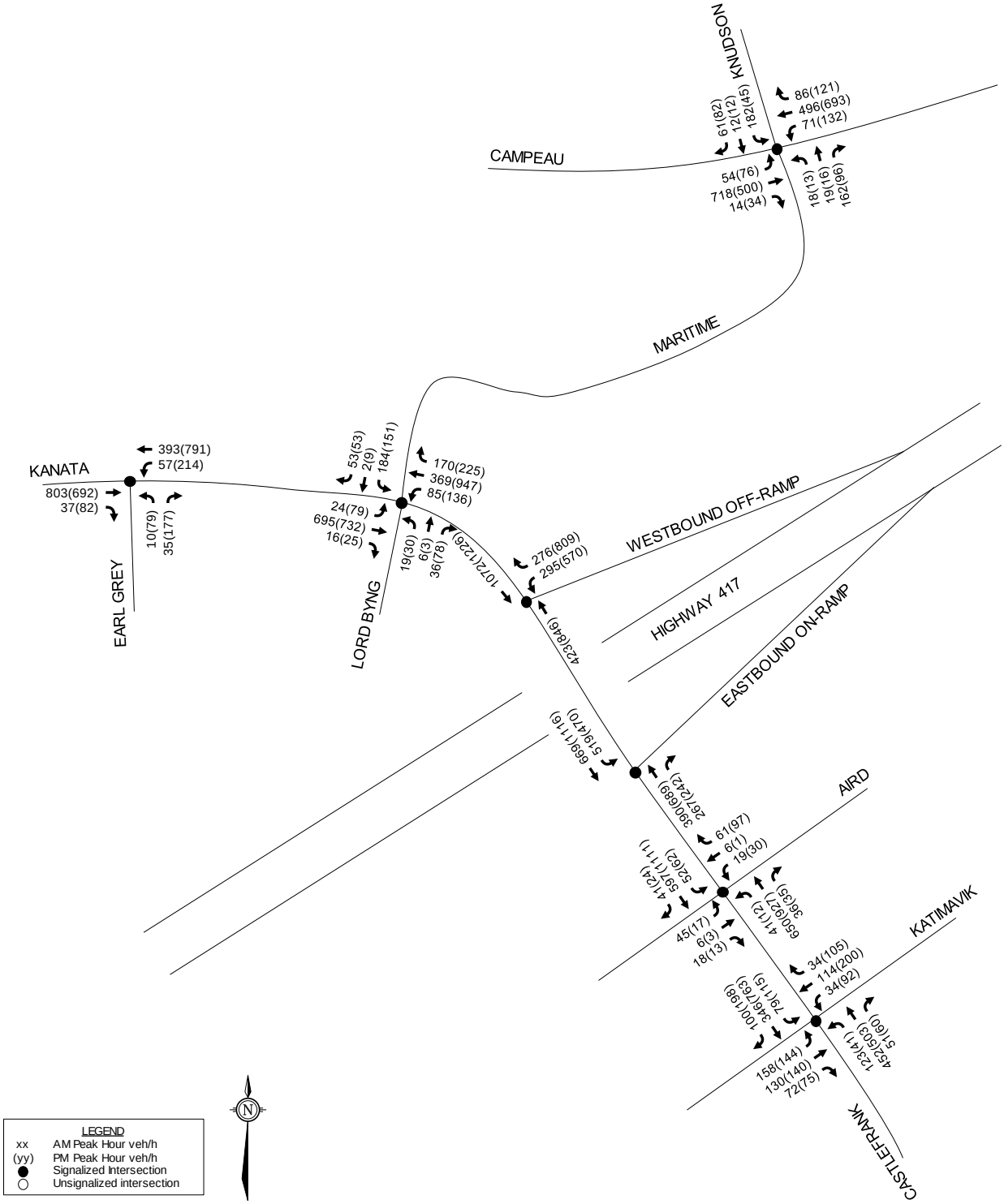


Figure 13: 2028 Total Traffic

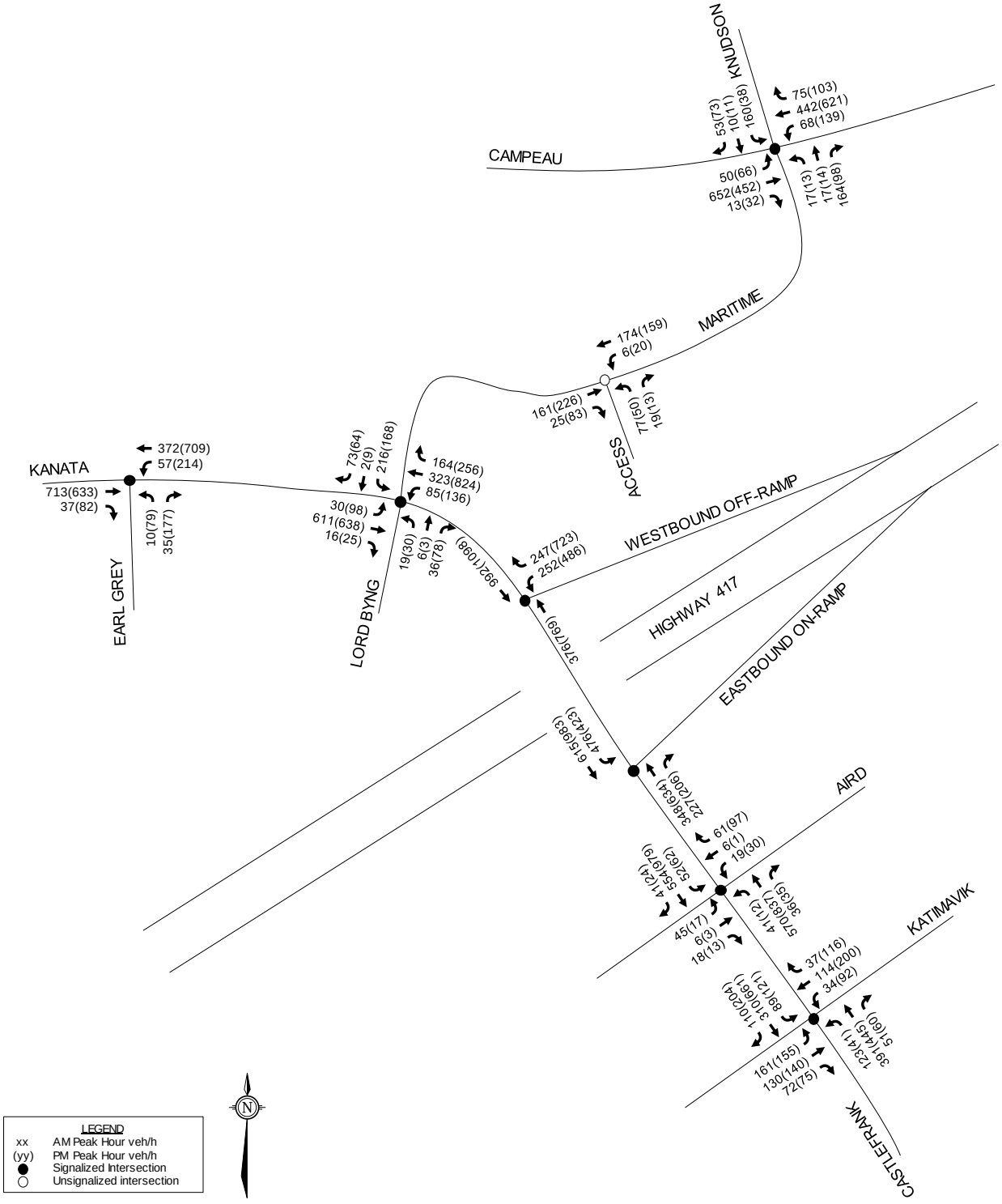


Figure 14: 2033 Total Traffic

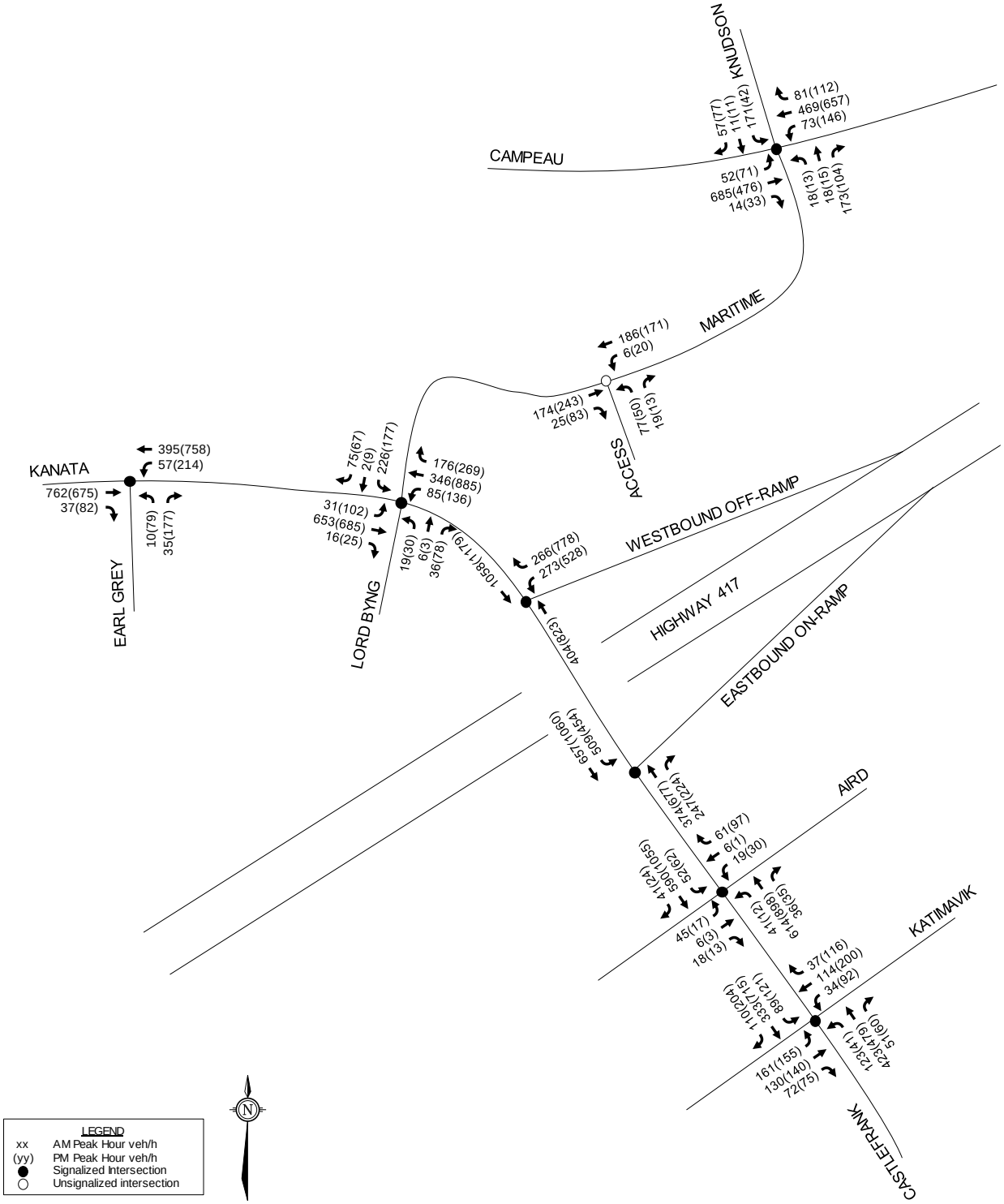
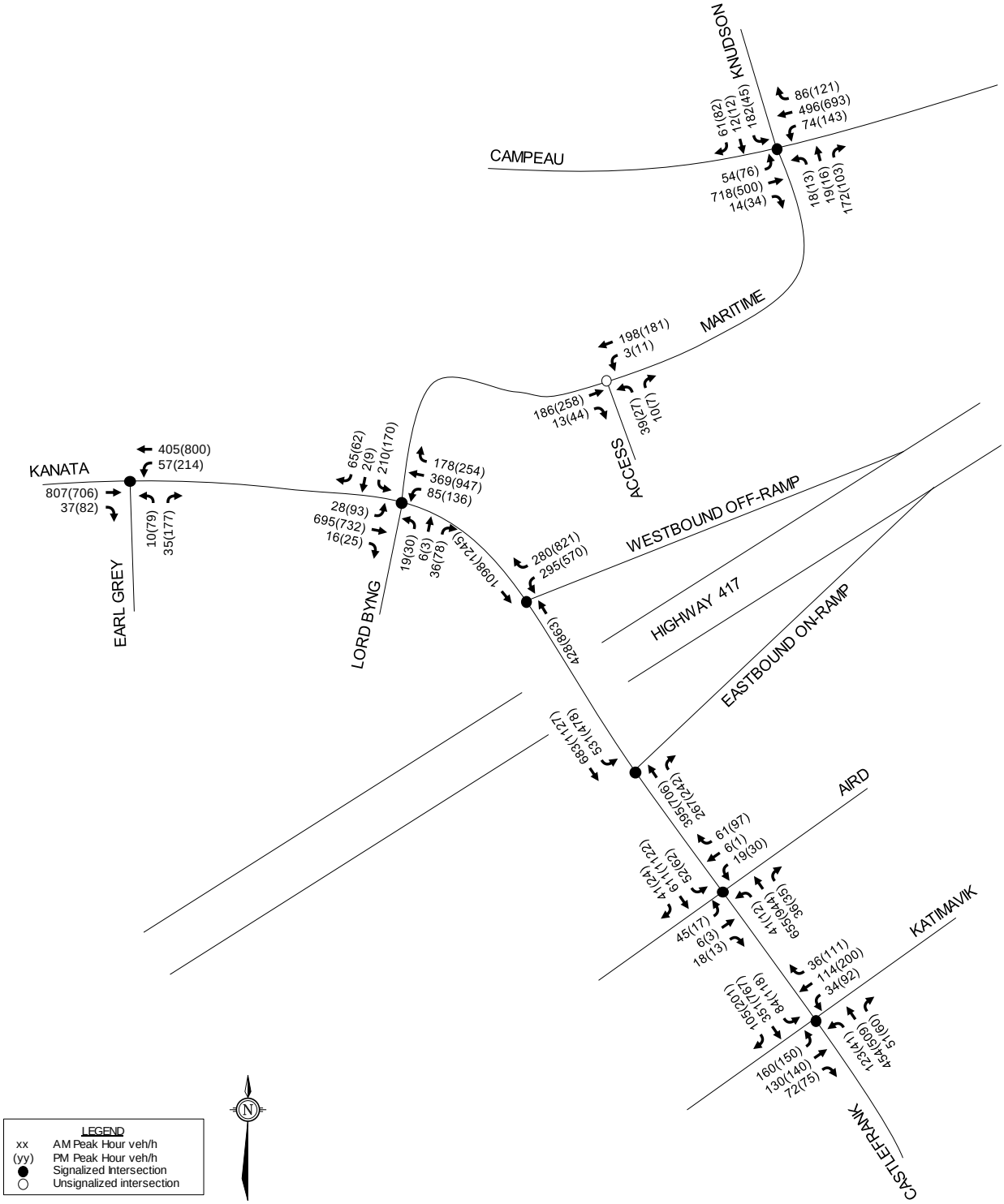


Figure 15: 2038 Total Traffic



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 0.85 or better for intersection approaches and 0.75 or better for ramp approaches. Consistent with the 2014 MTO TIA Guidelines, mitigation measures have been identified for all movements at the Kanata Avenue/Highway 417 ramp terminals that do not meet the target operations. The intersection parameters used in the analysis are consistent with the City of Ottawa's TIA guidelines (saturated flow rate: 1800 vphpl, Existing PHF: 0.9, Future PHF: 1.0).

3.3.1 Existing Traffic

Intersection capacity analysis has been completed for the existing 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 7: Existing Intersection Operations

Intersection	AM Peak			PM Peak		
	V/C Ratio	LOS	Mvmt	V/C Ratio	LOS	Mvmt
Kanata Avenue/ Earl Grey Drive	0.41	A	EBT	0.57	A	NBR
Kanata Avenue/ Maritime Way/ Lord Byng Way[1]	0.57	A	WBL	0.63	B	NBT/R
Kanata Avenue/ Highway 417 WB Off Ramp	0.70	B	WBL	**0.90**	**D**	**WBR**
Kanata Avenue/ Highway 417 EB On Ramp	0.42	A	SBL	0.51	A	SBT
Kanata Avenue/ Aird Place	0.48	A	EB	0.65	B	SBT/R
Kanata Avenue/ Castlefrank Road/ Katimavik Road	0.62	B	EBL	0.77	C	WBT/R
Campeau Drive/ Knudson Drive/ Maritime Way	0.58	A	SBL	0.42	A	WBT/R

1. Kanata Avenue is considered the north-south roadway

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

The Kanata Avenue/Highway 417 Eastbound On-ramp currently meets the MTO target during the AM and PM peak hours. However, critical movements at the Kanata Avenue/Highway 417 Westbound Off-ramp currently exceed the MTO target during the PM peak hour. The maximum (i.e. 95th percentile) northbound queue at the Highway 417 Westbound Off-ramp is currently 170m during the PM peak hour and extends through the Highway 417 Eastbound On-ramp intersection. The maximum queue on the westbound approach to this intersection is currently 115m during the PM peak hour and does not extend onto the highway.

PM peak hour traffic signal optimization at the Kanata Avenue/Highway 417 Westbound On-ramp is anticipated to yield an improved v/c ratio of 0.75 for the ramp. However, optimization would

result in a v/c ratio of 0.90 for the northbound through movement. To achieve the MTO target, widening to two northbound through lanes is required. A further review of mitigation measures at this intersection is conducted below.

3.3.2 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 8: Intersection Operations – 2028 Background Traffic

Intersection	AM Peak			PM Peak		
	V/C Ratio	LOS	Mvmt	V/C Ratio	LOS	Mvmt
Kanata Avenue/ Earl Grey Drive	0.53	A	EBT	0.60	A	EBT
Kanata Avenue/ Maritime Way/ Lord Byng Way[1]	0.72	C	WBL	0.86	D	NBT/R
Kanata Avenue/ Highway 417 WB Off Ramp	0.71	C	WBL	**0.97**	**E**	**WBR**
				0.95	**E**	**NB**
Kanata Avenue/ Highway 417 EB On Ramp	0.53	A	SBL	0.60	A	SBL
Kanata Avenue/ Aird Place	0.45	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 maximum 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 maximum queue on the westbound approach to this intersection is anticipated to be 175m and does not extend onto the highway. The maximum southbound queue at the Highway 417 Eastbound On-ramp is anticipated to be 110m during the PM peak hour and extend through the Highway 417 Westbound Off-ramp intersection.

An increased cycle length and traffic signal optimization at the Highway 417 Westbound Off-ramp intersection is not anticipated to yield MTO's target during the PM peak hour. To achieve the MTO target, two northbound through lanes and two westbound right turn lanes are required. The existing Kanata Avenue bridge structure is 21m in width, and consists of three 3.5m travel lanes, 1.75m bike lanes, a 2m sidewalk on the east side and a 5m sidewalk on the west side. The required four travel lanes along Kanata Avenue cannot be accommodated within the existing road platform. Modifications or replacement of the existing bridge structure are anticipated to be required to accommodate a four-lane cross section along Kanata Avenue. Widening of the existing off-ramp is anticipated to be required to accommodate two westbound right turn lanes.

This is identified for the City's consideration as the aforementioned mitigations are required as a result of background traffic. It is noteworthy that the aforementioned modifications are anticipated to reduce congestion on the northbound approach, which may result in improved compliance to the traffic signal control and reduce the number of angle collisions involving northbound and westbound vehicles at this intersection.

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

Table 9: Mitigated Intersection Operations – 2028 Background Traffic

Intersection	AM Peak			PM Peak		
	V/C Ratio	LOS	Mvmt	V/C Ratio	LOS	Mvmt
Kanata Avenue/ Highway 417 WB Off Ramp	0.69	B	WBL	0.75	C	WBL

Per the City of Ottawa's 2017 TIA guidelines, a review of demand rationalization has been conducted to determine the required reduction in traffic to achieve the target v/c ratios at this intersection under the existing lane configuration. To achieve the MTO target operations at this intersection during the PM peak hour, a reduction of approximately 210 westbound right turning vehicles and 60 northbound through vehicles are required.

3.3.3 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 10: 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]	0.61	B	WBL	0.68	B	SB
Kanata Avenue/ Highway 417 WB Off Ramp	0.73	C	WBL	**1.05**	**F**	**NB**
				1.04	**F**	**WBR**
Kanata Avenue/ Highway 417 EB On Ramp	0.58	A	SBL	0.66	B	SBL
Kanata Avenue/ Aird Place	0.48	A	NBT/R	0.79	C	SBT/R
Kanata Avenue/ Castlefrank Road/ Katimavik Road	0.61	B	EBL	0.84	D	NBT/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. The maximum northbound queue at the Highway 417 Westbound Off-ramp is anticipated to be 210m during the PM peak hour and extend through the Highway 417 Eastbound On-ramp intersection. The maximum queue on the westbound approach to this intersection is anticipated to be 200m and does not extend onto the highway. The maximum southbound queue at the Highway 417 Eastbound On-ramp is anticipated to be 240m during the PM peak hour and extend through the Highway 417 Westbound Off-ramp intersection.

An increased cycle length and traffic signal optimization at the Highway 417 Westbound Off-ramp intersection is not anticipated to yield MTO's target during the PM peak hour. To achieve the MTO target, two northbound through lanes and two westbound right turn lanes are required, consistent with the 2028 background traffic condition. As noted previously, widening of the existing road platform to accommodate four travel lanes is limited by the existing bridge structure. This is identified for the City's consideration as the aforementioned mitigations are required as a result of background traffic. As described previously, the aforementioned modifications are anticipated to reduce congestion on the northbound approach, which may result in improved compliance to the traffic signal control and reduce the number of angle collisions involving northbound and westbound vehicles at this intersection.

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

Table 11: Mitigated Intersection Operations – 2033 Background Traffic

Intersection	AM Peak			PM Peak		
	V/C Ratio	LOS	Mvmt	V/C Ratio	LOS	Mvmt
Kanata Avenue/ Highway 417 WB Off Ramp	0.72	C	WBL	0.75	C	WBL

A further review of demand rationalization has been conducted to determine the required reduction in traffic to achieve target v/c ratios at this intersection under the existing lane configuration. To achieve the MTO target operations at this intersection during the PM peak hour, a reduction of approximately 260 westbound right turning vehicles and 110 northbound through vehicles are required.

3.3.4 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 12: 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]	0.65	B	WBL	0.73	C	SB
Kanata Avenue/ Highway 417 WB Off Ramp	0.74	C	WBL	**1.13**	**F**	**WBR**
				1.12	**F**	**NB**

Intersection	AM Peak			PM Peak		
	V/C Ratio	LOS	Mvmt	V/C Ratio	LOS	Mvmt
Kanata Avenue/ Highway 417 EB On Ramp	0.62	B	SBL	0.77	C	NBT
Kanata Avenue/ Aird Place	0.51	A	NBT/R	0.85	D	SBT/R
Kanata Avenue/ Castlefrank Road/ Katimavik Road	0.61	B	EBL	0.89	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. The maximum northbound queue at the Highway 417 Westbound Off-ramp is anticipated to be 240m during the PM peak hour and extend through the Highway 417 Eastbound On-ramp intersection. The maximum queue on the westbound approach to this intersection is anticipated to be 225m and does not extend onto the highway. The maximum southbound queue at the Highway 417 Eastbound On-ramp is anticipated to be 275m during the PM peak hour and extend through the Highway 417 Westbound Off-ramp intersection.

An increased cycle length and traffic signal optimization at the Highway 417 Westbound Off-ramp intersection is not anticipated to yield MTO's target during the PM peak hour. To achieve the MTO target, two northbound through lanes and two westbound right turn lanes are required, consistent with the 2028 and 2033 background traffic condition. As noted previously, widening of the existing road platform to accommodate four travel lanes is limited by the existing bridge structure. This is identified for the City's consideration as the aforementioned mitigations are required as a result of background traffic. As described previously, the aforementioned modifications are anticipated to reduce congestion on the northbound approach, which may result in improved compliance to the traffic signal control and reduce the number of angle collisions involving northbound and westbound vehicles at this intersection.

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

Table 13: Mitigated Intersection Operations – 2038 Background Traffic

Intersection	AM Peak			PM Peak		
	V/C Ratio	LOS	Mvmt	V/C Ratio	LOS	Mvmt
Kanata Avenue/ Highway 417 WB Off Ramp	0.74	C	WBL	0.85	D	SBT
				0.75	C	WBL

A further review of demand rationalization has been conducted to determine the required reduction in traffic to achieve target v/c ratios at this intersection under the existing lane configuration. To achieve the MTO target operations at this intersection during the PM peak hour, a reduction of approximately 320 westbound right turning vehicles, 180 northbound through, and 40 westbound left turning vehicles are required.

Background traffic at this intersection could be displaced or alleviated through a combination of increased use of non-auto modes of transportation, alternate times to travel for drivers to make use of off-peak capacity, and alternate routes of travel. A further description of each option is provided below.

Increased use of Non-Auto Modes
As identified in Section 2.2, construction of Phase 2 LRT began in 2019 and the western extension to Moodie Station is anticipated to be complete by 2025. The City's TMP Network Concept identifies the extension of LRT from Moodie Station to Hazeldean Station, and will convert the Terry Fox Station to LRT. The aforementioned projects are anticipated to provide more reliable transit between Kanata and the downtown core. This is anticipated to increase the transit modal share and decrease the auto modal share, thereby reducing traffic volumes within the study area.

As part of the Kanata Avenue road widening project, cycle tracks will be provided along Kanata Avenue between Campeau Drive and south of Maritime Way/Lord Byng Way. This project will improve the bicycle level of service within the study area and may result in an increased cycling modal share.

Alternate Travel Times
As congestion increases at this intersection, some motorists may alter their travel times to occur outside of the peak hours. This shift in travel times may result in a reduction of peak hour traffic volumes.

Alternate Routes of Travel
As congestion increases at this intersection, some motorists may choose alternate routes of travel. Alternate east-west routes of travel in vicinity of the study area include Campeau Drive and Katimavik Road.

4.0 ANALYSIS

4.1 Development Design

4.1.1 Design for Sustainable Modes

Pedestrian facilities will be provided between the main building entrances, and the existing sidewalk along Maritime Way. On-site pedestrians facilities will also connect to a north-south pathway provided partially on the adjacent 1250 Maritime Way site, which travels between Maritime Way and Kanata Avenue. A joint use and maintenance agreement will be provided for the pathway.

As identified in Section 2.2, the Kanata LRT Environmental Assessment identifies a 3.0m multi-use pathway along the north side of the LRT alignment (south side of the property), connecting Terry Fox Station to Kanata Town Station. Consideration could be given to extending the pathways on the south/east portion of the site in the future to connect to the pathway along the LRT alignment.

Bicycle parking for the proposed development will be in accordance with the minimum requirement of the City's Zoning By-law (ZBL), as described in Section 6.2. Fifteen bicycle parking spaces will be provided outdoors and 301 will be provided on parking level 1 within the underground parking garage. Underground parking plans showing the location of bicycle parking

are included in **Appendix A**. Cyclists can access the bicycle parking via the underground parking ramp. Should cyclists feel uncomfortable navigating the underground parking ramp, cyclists can either dismount and use the sidewalk adjacent to the ramp or use the main entrance to access the elevators.

A review of the Transportation Demand Management (TDM) – *Supportive Development Design and Infrastructure Checklist* has been conducted. A copy of the TDM checklist is included in **Appendix I**. All required TDM-supportive design and infrastructure measures in the TDM checklist are met. Measures proposed for the site that go above and beyond the basic requirements include:

- Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort.
- Provide safe, direct and attractive walking routes from building entrances to nearby transit stops.
- Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible.

4.1.2 Circulation and Access

A cul-de-sac drop-off area will be provided near the main building entrances. The cul-de-sac will have a 12m centreline radius, conforming to fire route requirements. Garbage collection will be conducted on-site.

4.2 Parking

The subject site is located in Area C on Schedule 1 and Area X on Schedule 1A of the City of Ottawa's Zoning By-Law (ZBL). Minimum vehicular and bicycle parking rates for the proposed development are identified in the ZBL and are summarized in the following table.

Table 14: Parking Requirements

Land Use	Minimum Parking Rate	Units/GFA		ZBL Requirement
Vehicle Parking				
Mid-Rise Apartments	Resident: 0.5 per unit in excess of 12	633		311
	Visitor: 0.1 per unit in excess of 12 (no more than 30 per building)			60
Commercial Retail	1.25 spaces per 100m^2 of GFA	400m^2		5
			Total	**376**
			Provided	**646**
Bicycle Parking				
Apartment Building	0.5 per unit	633		316
Commercial Retail	1 space per 250m^2 of GFA	Unit 'A'	130m^2	0
		Unit 'B'	105m^2	0
		Unit 'C'	165m^2	0
			Total	**316**
			Provided	**316**

As the proposed development is also located within 600 metres of a rapid transit station, the number of vehicle parking spaces provided for a use must not exceed the maximum limits set out in Section 103 of the City's ZBL. Based on the ZBL, a maximum of 1.75 parking spaces are permitted per residential unit (combined total of resident and visitor) and 4 parking spaces are permitted per 100m^2 GFA of commercial retail, equating to a maximum of 1124 on-site parking spaces. The proposed 646 vehicular parking spaces adhere to the requirements of the City's ZBL.

The proposed number of bicycle parking spaces will adhere to the requirements of the City's ZBL. Fifteen of the bicycle parking spaces will be provided outside near the main building entrances, while the remainder will be located within the underground parking garage.

4.3 Boundary Streets

This section provides a review of the boundary streets using complete streets principles. The Multi-Modal Level of Service (MMLOS) guidelines produced by IBI Group in 2015 were used to evaluate the LOS of the boundary roadways for each mode of transportation. Schedule 'B' of the City of Ottawa's Official Plan indicates that Maritime Way and Kanata Avenue are located within a Mixed-Use Centre. Maritime Way and Kanata Avenue adjacent to the site are also located within 600m of a rapid transit station.

Targets for the Pedestrian Level of Service (PLOS), Bicycle Level of Service (BLOS), Transit Level of Service (TLOS) and Truck Level of Service (TkLOS) for the study area roadways are based on the targets for roadways within 600m of a rapid transit station, as identified in Exhibit 22 of the MMLOS guidelines.

A summary of the results of the segment MMLOS analysis for the boundary roadways is provided in the following table. Detailed segment MMLOS calculations can be found in **Appendix J**.

Table 15: Segment MMLOS Summary

Segment	PLOS	BLOS	TLOS	TkLOS
Kanata Avenue	C	C	D	C
Target	**A**	**B**	**-**	**D**
Maritime Way	C	F	E	B
Target	**A**	**B**	**-**	**-**

Based on the foregoing, all roadways meet the target TkLOS but none meet the target PLOS or BLOS.

Kanata Avenue currently achieves a PLOS C. As the current curbside lane AADT is greater than 3000vpd, this is the highest possible score without changing the operating speed of the roadway. The existing bike lanes along Kanata Avenue do not meet the target BLOS B. It is anticipated that cycle tracks will be provided as part of the future Kanata Avenue road widening project, achieving a BLOS A adjacent to the site.

Maritime Way currently achieves a PLOS C. Based on the current curbside AADT greater than 3000vpd, the highest possible score is a PLOS B without changing the operating speed of the roadway. To achieve the PLOS B, widening of the existing sidewalk to 2.0m in width is required. This is identified for the City's consideration.

The existing mixed traffic lanes along Maritime Way do not meet the target BLOS B. A reduction in the operating speed to 50km/hr or a higher order cycling facility (bike lanes or cycle track) are required to achieve the target BLOS along Maritime Way. This is identified for the City's consideration.

4.4 Access Intersections Design

A new access is also proposed to Maritime Way. The proposed access will be approximately 6.7m in width and located 6m from the western property line and 51m from the east property line.

Section 25 (c) of the City of Ottawa's Private Approach By-law (PABL) identifies a requirement for two-way accesses to have a width no greater than 9m, as measured at the street line. Section 107 (1)(a) of the ZBL identifies a minimum width of 6.0m for a two-way driveway to a parking garage. The width of the proposed access will adhere to the requirements of the PABL and ZBL.

Section 25 (p) of the PABL identifies a minimum spacing requirement of 3.0m between the nearest limit of a private approach and the property line, as measured at the street line. The location of the proposed access meets the requirements of the City's PABL.

For parking lots containing 50 or more parking spaces, Section 25 (u) of the PABL identifies a maximum grade of 2% for a distance of 9m within the property. However, Section 25 (v) of the Private Approach By-law suggests that the General Manager may issue a permit for a private approach subject to such conditions and restrictions as the General Manager may deem necessary provided that the proposed access is located; a safe distance from the access serving the adjacent; in such a manner that there are adequate sight lines for vehicles exiting the property; and in such a manner that it does not create a traffic hazard.

A maximum grade of 6% will be provided for the first 9m within the property to provide appropriate cover to the underground parking structure. A reduced elevation for the parking structure is not proposed due to geotechnical constraints on the site and the grade of adjacent properties. As a grade of 6% in the direction of the roadway is not anticipated to impact sight lines for vehicles exiting the site or provide drainage concerns, a waiver to Section 25 (u) of the Private Approach By-law is requested.

Based on the projected traffic volumes at the access, the access is anticipated to operate acceptably under side street stop control. Detailed Synchro reports for the access are included in **Appendix K**.

4.5 Transportation Demand Management

4.5.1 Context for TDM

The proposed development will contain of 633 residential units consisting of 382 one-bedroom units and 251 two-bedroom units. The tenants for the commercial units are not known at this time. As the three commercial units will have a maximum 165m^2 of gross floor area, each unit is

expected to have less than 60 employees on-site at any given time. Based on the foregoing, the commercial development is exempt from the TDM section.

4.5.2 Need and Opportunity

The proposed development is located within a TOD Zone as it is within a 600m walking distance of the Terry Fox Transit station (future LRT station). As described in Section 3.1, the TOD modal share targets have been adjusted to reflect a higher auto-modal share associated with the Kanata/Stittsville District. The target residential mode shares are: 30% auto driver, 15% auto passenger, 45% transit, and 10% non-auto.

Based on the 2011 TRANS O-D Survey Report, typical residential modal shares in the Kanata/Stittsville district equate to approximately 60% auto driver, 20% passenger, 10% transit, 10% non-auto.

The proposed modal shares represent an increased transit modal share and a reduced auto driver/passenger modal share compared to the Kanata/Stittsville district. Should the development only meet the Kanata/Stittsville district modal shares, the ultimate development is anticipated to generate an additional 125-156 vehicle trips two-way during the peak hours.

4.5.3 TDM Program

The proposed development conforms to the City's TDM initiatives by providing easy access to the local pedestrian, bicycle and transit systems as outlined in **Section 6.1**. A review of the TDM – Measures Checklist has been conducted for the residential component of the development and is included in **Appendix I.** The following measures will be implemented within the proposed development:

- Display local area maps with walking/cycling access routes and key destinations at major entrances;
- Display relevant transit schedules and route maps at entrances;
- Contract with provider to install on-site carshare vehicles and promote their use by residents;
- Unbundle parking from monthly rent;
- Provide multimodal travel option information package to new residents; and
- Offer personalized trip planning to new residents.

4.6 Neighbourhood Traffic Management

Maritime Way is classified as a local roadway and provides access to the subject site. As vehicular access along Kanata Avenue is limited by the Highway 417 overpass, access to the subject site is proposed along Maritime Way. The following table summarizes 2038 background traffic, proposed additional traffic, and total traffic along Maritime Way.

Table 16: Neighbourhood Traffic Impacts

Roadway	AM Peak			PM Peak		
	2038 Bkgd	Site	Total	2038 Bkgd	Site	Total
Maritime Way at Kanata Avenue						
Northbound	200	12	**212**	307	43	**350**
Southbound	239	38	**277**	213	28	**241**
Two-way	439	50	**489**	520	71	**591**
Maritime Way at Campeau Drive						
Northbound	199	10	**209**	125	7	**132**
Southbound	97	3	**100**	178	11	**189**
Two-way	296	13	**309**	303	18	**321**

The City of Ottawa Area Traffic Management (ATM) guidelines identify a maximum threshold of 1,000 vehicles per day, or 120 vehicles during the peak hour for local roadways. The 2033 background and total traffic volumes along Maritime Way at Kanata Avenue and Campeau Drive exceed the ATM threshold. However, it is noted that the overall capacity of a local roadway is estimated at 400 vehicles per hour per lane based on the City's TRANS Long Range Transportation Model. Total peak hour, peak directional traffic volumes along Maritime Way at Kanata Avenue equate to a volume to capacity (v/c) ratio of 0.69 (LOS B) during the AM peak hour and 0.88 (LOS D) during the PM peak hour. Total peak hour, peak directional traffic along Maritime Way at Campeau Drive equate to a v/c ratio of 0.52 (LOS A) during the AM peak hour and 0.47 (LOS A) during the PM peak hour.

As there is sufficient capacity along Maritime Way to accommodate traffic generated by the development, no changes to the existing roadway classification are required. Based on the foregoing, no mitigation measures are recommended to offset the impacts of the development generated traffic. A further review of intersection operations at the Kanata Avenue/Maritime Way/Lord Byng Way and Campeau Drive/Maritime Way/Knudson Drive intersections is provided in Section 4.9.

4.7 Transit

Based on the trip generation presented in Section 3.1, the proposed development is anticipated to generate 168 transit trips (41 in, 127 out) during the weekday AM peak hour and 212 transit trips (131 in, 81 out) during the weekday PM peak hour at build-out. As transit improves in the area and the existing Terry Fox Transit station is converted to LRT, the development is anticipated to generate 272 transit trips (66 in, 206 out) during the weekday AM peak hour and 341 transit trips (211 in, 130 out) during the weekday PM peak hour.

The proposed development is located within a 600m walking distance of the Terry Fox Transit Station (future LRT Station). The Terry Fox Transit Station currently serves numerous Frequent Routes, Rapid Routes, Peak Hour Routes, and Local Routes, which provide comprehensive transit coverage across the City of Ottawa. The future conversion to LRT is anticipated to provide more reliable transit service and increased transit capacity at the Terry Fox Transit Station. Based on the foregoing, no transit capacity problems are anticipated in the vicinity of the site.

4.8 Network Concept

A review of the existing lane capacity for the City of Ottawa roadways along the north, south, east, and west study area boundaries has been conducted to determine if additional lane capacity is required. The existing lane capacity along the area roadways has been estimated based on the City's criteria for the Long-Range Transportation Model.

4.8.1 2038 Background Traffic

A summary of the lane capacity analysis for the 2038 background traffic condition is provided in the following table.

Table 17: 2038 Background Traffic – Screenline Analysis

Road	Directional Capacity (vph)	Traffic Volume AM *(PM)*	V/C Ratio AM *(PM)*	LOS AM *(PM)*	Capacity Deficiency AM *(PM)*
North Screenline					
Kanata Ave north of Earl Grey Dr					
Northbound	1,600	403 *(870)*	0.25 *(0.54)*	A *(A)*	0 *(0)*
Southbound	1,600	840 *(774)*	0.53 *(0.48)*	A *(A)*	0 *(0)*
South Screenline					
Castlefrank Rd South of Katimavik Rd					
Northbound	800	626 *(604)*	0.78 *(0.76)*	C *(C)*	0 *(0)*
Southbound	800	452 *(930)*	0.57 *(1.16)*	A *(F)*	0 *(130)*
East Screenline					
Campeau Dr East of Maritime Way					
Eastbound	800	1,062 *(641)*	1.33 *(0.80)*	F *(C)*	262 *(0)*
Westbound	800	653 *(946)*	0.82 *(1.18)*	*D (F)*	0 *(146)*
Katimavik Rd East of Castlefrank Rd					
Eastbound	800	260 *(315)*	0.33 *(0.39)*	A *(A)*	0 *(0)*
Westbound	800	182 *(397)*	0.23 *(0.50)*	A *(A)*	0 *(0)*
West Screenline					
Katimavik Rd West of Castlefrank Rd					
Eastbound	800	360 *(359)*	0.45 *(0.45)*	A *(A)*	0 *(0)*
Westbound	800	337 *(439)*	0.42 *(0.55)*	A *(A)*	0 *(0)*

The eastbound and westbound lanes along Campeau Drive east of Maritime Way are anticipated to operate above capacity during the AM peak hour under the 2038 background traffic condition. It is noted that additional capacity is available along Katimavik Road to accommodate the additional traffic volumes if capacity is realized along Campeau Drive. It is noted that the City's 2013 TMP's 2031 Network Concept includes the widening of Campeau Drive from two to four lanes between Didsbury Road and March Road. This widening would alleviate projected capacity deficiency along Campeau Drive.

The southbound lane along Castlefrank Road south of Katimavik Road is anticipated to operate above capacity during the PM peak hour under the 2038 background traffic condition. Options to displace background traffic along Castlefrank Road include increased use of non-auto modes of

transportation, alternative time of travel for drivers using the corridor to make use of off-peak capacity, and alternative routes of travel (i.e. Terry Fox Drive or Eagleson Road).

4.8.2 2038 Total Traffic

A summary of the lane capacity analysis for the 2038 total traffic condition is provided in the following table.

Table 18: 2038 Total Traffic – Screenline Analysis

Road	Directional Capacity (vph)	Traffic Volume AM *(PM)*	V/C Ratio AM *(PM)*	LOS AM *(PM)*	Capacity Deficiency AM *(PM)*
North Screenline					
Kanata Ave north of Earl Grey Dr					
Northbound	1,600	415 *(879)*	0.26 *(0.55)*	A *(A)*	0 *(0)*
Southbound	1,600	844 *(788)*	0.53 *(0.49)*	A *(A)*	0 *(0)*
South Screenline					
Castlefrank Rd South of Katimavik Rd					
Northbound	800	628 *(610)*	0.79 *(0.76)*	C *(C)*	0 *(0)*
Southbound	800	457 *(934)*	0.57 *(1.17)*	A *(F)*	0 *(134)*
East Screenline					
Campeau Dr East of Maritime Way					
Eastbound	800	1,072 *(648)*	1.34 *(0.81)*	F *(D)*	272 *(0)*
Westbound	800	656 *(957)*	0.82 *(1.20)*	C *(F)*	0 *(157)*
Katimavik Rd East of Castlefrank Rd					
Eastbound	800	265 *(318)*	0.33 *(0.40)*	A *(A)*	0 *(0)*
Westbound	800	184 *(403)*	0.23 *(0.50)*	A *(A)*	0 *(0)*
West Screenline					
Katimavik Rd West of Castlefrank Rd					
Eastbound	800	362 *(365)*	0.45 *(0.46)*	A *(A)*	0 *(0)*
Westbound	800	342 *(442)*	0.43 *(0.55)*	A *(A)*	0 *(0)*

Based on the foregoing, traffic generated by the proposed development is anticipated to have a negligible impact on the lane capacity along the roadways within the study area. A further review of the impacts of the proposed development on the study area intersections is provided in Section 4.9.

4.9 Network Intersections

4.9.1 Existing Intersection MMLOS Analysis

This section provides a review of the study area intersections using the complete streets principles. The MMLOS guidelines produced by IBI Group in October 2015 were used to evaluate the LOS of all signalized study area intersections for each mode of transportation. Schedule 'B' of the City of Ottawa's Official Plan indicates that all study area intersections are located in the Mixed-Use Centre. Additionally all intersections along Kanata Avene/Castlefrank Road are located within 600m of the Terry Fox Transit Station.

Aerial photos of the study area intersections are provided in Section 4.1.2.

A summary of the results of the intersection MMLOS analysis for the study area intersections is provided in the following table. Detailed intersection MMLOS calculations can be found in **Appendix J**.

Table 19: Intersection MMLOS Summary

Intersection	PLOS	BLOS	TLOS	TkLOS	Auto LOS
Kanata Avenue/ Earl Grey Drive	F	D	C	E	A
Target	**A**	**B**	**-**	**D**	**E**
Kanata Avenue/ Maritime Way/ Lord Byng Way	F	D	C	E	B
Target	**A**	**B**	**-**	**D**	**E**
Kanata Avenue/ Highway 417 Westbound Off-Ramp	C	-	C	C	D
Target	**A**	**B**	**-**	**D**	**E**
Kanata Avenue/ Highway 417 Eastbound On-Ramp	E	D	B	C	A
Target	**A**	**B**	**-**	**D**	**E**
Kanata Avenue/ Castlefrank Road/ Aird Place	F	C	B	E	B
Target	**A**	**B**	**-**	**-**	**E**
Castlefrank Road/ Katimavik Road	F	D	F	E	C
Target	**A**	**B**	**-**	**-**	**E**
Campeau Drive/ Maritime Way/ Knudson Drive	F	B	E	F	A
Target	**C**	**B**	**-**	**-**	**D**

Kanata Avenue/Earl Grey Drive

The Kanata Avenue/Earl Grey Drive intersection currently meets the target Auto LOS E. As this intersection is not along a transit priority corridor, no target TLOS is identified.

This intersection does not currently meet the target PLOS A. As part of the Kanata Avenue road widening project, the crossing distance on the all legs of the intersection are anticipated to be reduced and zebra striped crosswalks will be implemented. The reduced crossing distance along Kanata Avenue will be achieved by converting the bike lane into a cycle track (i.e. removing the bike lane width from the pedestrian crossing distance), converting the westbound left turn lane into a shared through/left turn lane (i.e. only one lane widening), and shifting the crosswalk back

from the corner radii to accommodate north-south cross rides at the intersection. The pedestrian crossing distance on the south leg will be reduced by shifting the crosswalk back from the corner radii to accommodate an east-west cross ride at the intersection. The proposed modifications are anticipated to improve the PLOS at this intersection.

This intersection does not currently meet the target BLOS B. As part of the Kanata Avenue road widening project, cycle tracks will be provided on Kanata Avenue and this intersection will be converted into a protected intersection design. This modification will improve the BLOS at this intersection.

This intersection does not currently meet the target TkLOS D. However, since Earl Grey Drive is not classified as a truck route, the provided TkLOS E is considered acceptable. As part of the Kanata Avenue road widening project, two receiving lanes will be provided for the northbound right turn movement and will improve the TkLOS for this movement.

Kanata Avenue/Maritime Way/Lord Byng Way

The Kanata Avenue/Maritime Way/Lord Byng Way intersection currently meets the target Auto LOS E. As this intersection is not along a transit priority corridor, no target TLOS is identified.

This intersection does not currently meet the target PLOS A. As part of the Kanata Avenue road widening project, the crossing distance on the east and west legs of the intersection (Maritime Way/Lord Byng Way) are anticipated to be reduced by shifting the crosswalk back from the corner radii to accommodate east-west cross rides. The north and south approaches (Kanata Avenue) are anticipated to increase slightly to accommodate additional north-south travel lanes. Zebra striped crosswalks will be implemented on all legs.

This intersection does not currently meet the target BLOS B. As part of the Kanata Avenue road widening project, cycle tracks will be provided on Kanata Avenue and this intersection will be converted into a protected intersection design. This modification will improve the BLOS at this intersection.

This intersection does not currently meet the target TkLOS D. However, since Maritime Way and Lord Byng Way are not classified as a truck route, the provided TkLOS E is considered acceptable. As part of the Kanata Avenue road widening project, two receiving lanes will be provided for the eastbound and westbound right turn movement and will improve the TkLOS for these movements.

Kanata Avenue/Highway 417 Westbound Off-Ramp

The Kanata Avenue/Highway 417 Westbound Off-Ramp intersection currently meets the City's target TkLOS D and Auto LOS E. As bicycles are not permitted on Highway 417, the BLOS was excluded from this analysis. As this intersection is not along a transit priority corridor, no target TLOS is identified.

This intersection does not currently meet the target PLOS A. A reduction in the crossing distance on all legs of the intersection would provide the greatest improvement to the PLOS at this intersection. However, based on the existing intersection operations, a reduction in the number of travel lanes is not recommended.

Kanata Avenue/Highway 417 Eastbound On-Ramp

The Kanata Avenue/Highway 417 Eastbound On-Ramp intersection currently meets the City's target TkLOS D and Auto LOS E. As this intersection is not along a transit priority corridor, no target TLOS is identified.

This intersection does not currently meet the target PLOS A. A reduction in the crossing distance on all legs of the intersection would provide the greatest improvement to the PLOS at this intersection. Based on the existing northbound right turning volumes (180-195 vehicles during peak hours), removal of the northbound right turn lane is not recommended. As the width of the east leg (Highway 417 eastbound on-ramp) is required to accommodate turning movements of heavy vehicles, a reduction in width is not recommended.

This intersection does not currently meet the target BLOS B. As cyclists are not permitted on Highway 417, the left turn characteristics on the north approach and left/right turn characteristics on the east approach were excluded from the analysis. Based on the right turn characteristics on the south approach, the intersection is operating with a BLOS D. To achieve the target BLOS B, either removal or a reduction in the length of the northbound right turn lane is required. As identified above, removal in the length of the northbound right turn lane is not recommended due to the high northbound right turning volumes (180-195 vehicles during peak hours). Based on the Synchro analysis in the following sections, the 95th percentile northbound right turn queue is anticipated to be approximately 15m by 2038. Based on the foregoing, consideration could be given by the City to reducing the length of the northbound right turn lane at this intersection.

Kanata Avenue/Castlefrank Road/Aird Place

The Kanata Avenue/Castlefrank Road/Aird Place intersection currently meets the target Auto LOS E. As this intersection is not along a transit priority corridor or a truck route, no target TLOS or TkLOS is identified.

This intersection does not currently meet the target PLOS A. A reduction in the crossing distance on all legs of the intersection would provide the greatest improvement to the PLOS at this intersection.

This intersection does not currently meet the target BLOS B. To achieve the target BLOS B, the implementation of two-stage northbound/southbound left turn bike boxes is required. This is identified for the City's consideration.

Castlefrank Road/Katimavik Road

The Castlefrank Road/Katimavik Road intersection currently meets the target Auto LOS E. As this intersection is not along a transit priority corridor or a truck route, no target TLOS or TkLOS is identified.

This intersection does not currently meet the target PLOS A. A reduction in the crossing distance on all legs of the intersection would provide the greatest improvement to the PLOS at this intersection.

This intersection does not currently meet the target BLOS B. To achieve the target BLOS B, the implementation of two-stage left turn bike boxes is required on all legs of the intersection. This is identified for the City's consideration.

Campeau Drive/Maritime Way/Knudson Drive

The Campeau Drive/Maritime Way/Knudson Drive intersection currently meets the target BLOS B and Auto LOS E. As this intersection is not along a transit priority corridor or a truck route, no target TLOS or TkLOS is identified.

This intersection does not currently meet the target PLOS A. A reduction in the crossing distance on all legs of the intersection would provide the greatest improvement to the PLOS at this intersection.

This intersection currently meets the target BLOS B. However it is noted that cyclists are required to dismount and use the pedestrian crosswalks on the north, east, and west legs of the intersection.

4.9.2 2028 Total Intersection Operations

Intersection capacity analysis has been completed for the 2028 total traffic conditions. The intersection parameters used in the analysis are consistent with the TIA guidelines (saturation flow rate: 1800 vphpl, PHF: 1.0). The results of the synchro analysis are summarized in the following table for the weekday AM and PM peak hours. Detailed reports are included in **Appendix K**.

Table 20: Intersection Operations – 2028 Total Traffic

Intersection	AM Peak			PM Peak		
	V/C Ratio	LOS	Mvmt	V/C Ratio	LOS	Mvmt
Kanata Avenue/ Earl Grey Drive	0.54	A	EBT	0.62	A	EBT
Kanata Avenue/ Maritime Way/ Lord Byng Way[1]	0.93	E	WBL	**1.15**	**F**	**SBL**
Kanata Avenue/ Highway 417 WB Off Ramp	0.71	C	WBL	**0.99**	**E**	**WBR**
				1.02	**F**	**NB**
Kanata Avenue/ Highway 417 EB On Ramp	0.56	A	SBL	0.64	B	SBL
Kanata Avenue/ Aird Place	0.45	A	NBT/R	0.75	C	SBT/R
Kanata Avenue/ Castlefrank Road/ Katimavik Road	0.63	B	EBL	0.81	D	NBT/R
Campeau Drive/ Knudson Drive/ Maritime Way	0.72	C	SBL	0.61	B	WBT/R

The additional pedestrian and vehicle volumes at the Kanata Avenue/Maritime Way/Lord Byng Way intersection are anticipated to result in a LOS F. All other intersections within the City's jurisdiction are anticipated to meet the target Auto LOS during the AM and PM peak hours.

PM peak hour traffic signalization with an increased cycle length of 120 seconds is anticipated to yield the target LOS E at the Kanata Avenue/Maritime Way/Lord Byng Way intersection. An increased cycle length at this intersection is anticipated to have minor impacts to the PLOS delay score, decreasing from a PLOS D to E, at this intersection. It is noted that the intersections along Kanata Avenue are coordinated, and an increased cycle length would be required at all intersections along the corridor. Projected operations at this intersection with an increased cycle are summarized in **Table 20** below.

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 during the PM peak hour. To achieve the MTO target, two northbound through lanes and two westbound right turn lanes are required, consistent with the 2028 background traffic condition. However, widening of the existing road platform to accommodate four travel lanes is limited by the existing bridge structure. It is noted that the required widening is anticipated to increase the pedestrian crossing distances and reduce the PLOS at this intersection.

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

Table 21: Mitigated Intersection Operations – 2028 Total Traffic

Intersection	AM Peak			PM Peak		
	V/C Ratio	LOS	Mvmt	V/C Ratio	LOS	Mvmt
Kanata Avenue/ Maritime Way/ Lord Byng Way	-	-	-	0.93	E	WBL
Kanata Avenue/ Highway 417 WB Off Ramp	0.69	B	WBL	0.75	C	WBL

The proposed development is anticipated to generate 90 new vehicle trips at the Kanata Avenue/Highway 417 Westbound Off-ramp intersection during the PM peak hour, resulting in an overall traffic volume increase of approximately 3% compared to the 2028 background traffic volumes. As the site generated traffic is anticipated to be negligible compared to the background traffic volumes, the aforementioned mitigation measures are identified for City consideration and are not attributable to the proposed development.

4.9.3 2033 Total Intersection Operations

Intersection capacity analysis has been completed for the 2033 total traffic conditions. The intersection parameters used in the analysis are consistent with the TIA guidelines (saturation flow rate: 1800 vphpl, PHF: 1.0). The results of the synchro analysis are summarized in the following table for the weekday AM and PM peak hours. Detailed reports are included in **Appendix K**.

Table 22: Intersection Operations – 2033 Total 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	0.56	A	WBT/L
Kanata Avenue/ Maritime Way/ Lord Byng Way[1]	0.86	D	WBL	0.86	D	SB
Kanata Avenue/ Highway 417 WB Off Ramp	0.73	C	WBL	**1.09**	**F**	**NB**
				1.08	**F**	**WBR**
Kanata Avenue/ Highway 417 EB On Ramp	0.61	B	SBL	0.69	B	SBL
Kanata Avenue/ Aird Place	0.49	A	NBT/R	0.80	C	SBT/R

Intersection	AM Peak			PM Peak		
	V/C Ratio	LOS	Mvmt	V/C Ratio	LOS	Mvmt
Kanata Avenue/ Castlefrank Road/ Katimavik Road	0.63	B	EBL	0.87	D	NBT/R
Campeau Drive/ Knudson Drive/ Maritime Way	0.75	C	SBL	0.70	B	WBT/R

1. Kanata Avenue is considered the north-south roadway

Traffic generated by the proposed development is not anticipated to have a significant impact on the intersection operations within the study area. All intersections within the City's jurisdiction are anticipated to meet the target Auto LOS during the AM and PM peak hours. It is noted that the Kanata Avenue road widening project is anticipated to alleviate the LOS F previously identified at the Kanata Avenue/Maritime Way/Lord Byng Way intersection under the 2028 traffic conditions.

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 during the PM peak hour. To achieve the MTO target, two northbound through lanes and two westbound right turn lanes are required, consistent with the 2033 background traffic condition. However, widening of the existing road platform to accommodate four travel lanes is limited by the existing bridge structure. As discussed previously, the required widening is anticipated to increase the pedestrian crossing distances and reduce the PLOS at this intersection.

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

Table 23: Mitigated Intersection Operations – 2033 Total Traffic

Intersection	AM Peak			PM Peak		
	V/C Ratio	LOS	Mvmt	V/C Ratio	LOS	Mvmt
Kanata Avenue/ Highway 417 WB Off Ramp	0.71	C	WBL	0.75	C	WBL
				0.76	C	SBT

Consistent with the 2028 total traffic conditions, traffic generated by the proposed development is anticipated to be negligible compared to the background traffic volumes. The aforementioned mitigation measures are identified for City consideration and are not attributable to the proposed development.

4.9.4 2038 Total Intersection Operations

Intersection capacity analysis has been completed for the 2038 total traffic conditions. The intersection parameters used in the analysis are consistent with the TIA guidelines (saturation flow rate: 1800 vphpl, PHF: 1.0). The results of the synchro analysis are summarized in the following table for the weekday AM and PM peak hours. Detailed reports are included in **Appendix K**.

Table 24: 2038 Total Intersection Operations

Intersection	AM Peak			PM Peak		
	Max V/C or Delay	LOS	Mvmt	Max V/C or Delay	LOS	Mvmt
Kanata Avenue/ Earl Grey Drive	0.32	A	EBT	0.59	A	WBT/L
Kanata Avenue/ Maritime Way/ Lord Byng Way	0.80	C	WBL	0.89	D	SB
Kanata Avenue/ Highway 417 Westbound Off-Ramp	0.74	C	WBL	**1.15**	**F**	**WBR**
				1.14	**F**	**NBT**
Kanata Avenue/ Highway 417 Eastbound On-Ramp	0.63	B	SBL	0.80	C	NBT
Kanata Avenue/ Castlefrank Road/ Aird Place	0.52	A	NBT/R	0.85	D	SBT/R
Castlefrank Road/ Katimavik Road	0.62	B	EBL	0.91	E	NBT/R
Campeau Drive/ Maritime Way/ Knudson Drive	0.76	C	SBL	0.74	B	WBT/R

Traffic generated by the proposed development is not anticipated to have a significant impact on the intersection operations within the study area. 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 during the PM peak hour. To achieve the MTO target, two northbound through lanes and two westbound right turn lanes are required, consistent with the 2038 background traffic condition. However, widening of the existing road platform to accommodate four travel lanes is limited by the existing bridge structure. As discussed previously, the required widening is anticipated to increase the pedestrian crossing distances and reduce the PLOS at this intersection.

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

Table 25: Mitigated Intersection Operations – 2038 Total Traffic

Intersection	AM Peak			PM Peak		
	V/C Ratio	LOS	Mvmt	V/C Ratio	LOS	Mvmt
Kanata Avenue/ Highway 417 WB Off Ramp	0.74	C	WBL	0.85	D	SBT
				0.75	C	WBL

As transit improves in the vicinity of the subject site, the developments impacts to the area intersections is anticipated to be reduced. Based on the 2033 site generated traffic projections, the proposed development is anticipated to generate 48 vehicle trips at this intersection, resulting in an overall traffic volume increase of approximately 1% compared to the 2038 background traffic volumes. As the site generated traffic is anticipated to be negligible compared to the background traffic volumes, the aforementioned mitigation measures are identified for City consideration and are not attributable to the proposed development.

5.0 CONCLUSIONS AND RECOMMENDATIONS

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

Development Design and Parking

- Pedestrian facilities will be provided between the main building entrances, and the existing sidewalk along Maritime Way. On-site pedestrians facilities will also connect to a north-south pathway provided partially on the adjacent 1250 Maritime Way site, which travels between Maritime Way and Kanata Avenue. A joint use and maintenance agreement will be provided for the pathway.
- Consideration could be given to extending the pathways on the south/east portion of the site in the future to connect to the pathway along the LRT alignment.
- Bicycle parking for the proposed development will be in accordance with the minimum requirement of the City's Zoning By-law (ZBL), as described in Section 6.2. Fifteen bicycle parking spaces will be provided outdoors and 301 will be provided within the underground parking garage.
- Cyclists can access the bicycle parking via the underground parking ramp. Should cyclists feel uncomfortable navigating the underground parking ramp, cyclists can either dismount and use the sidewalk adjacent to the ramp or use the main entrance to access the elevators.
- All required TDM-supportive design and infrastructure measures in the TDM checklist are met.

Parking

- The proposed vehicular and bicycle parking spaces adhere to the requirements of the City's ZBL.

Boundary Street Design

- All roadways meet the target TkLOS but none meet the target PLOS or BLOS.
- Kanata Avenue currently achieves a PLOS C. As the current curbside lane AADT is greater than 3000vpd, this is the highest possible score without changing the operating speed of the roadway.
- The existing bike lanes along Kanata Avenue do not meet the target BLOS B. It is anticipated that cycle tracks will be provided as part of the future Kanata Avenue road widening project, achieving a BLOS A adjacent to the site.
- Maritime Way currently achieves a PLOS C. Based on the current curbside AADT greater than 3000vpd, the highest possible score is a PLOS B without changing the operating speed of the roadway. To achieve the PLOS B, widening of the existing sidewalk to 2.0m in width is required. This is identified for the City's consideration.
- The existing mixed traffic lanes along Maritime Way do not meet the target BLOS B. A reduction in the operating speed to 50km/hr or a higher order cycling facility (bike lanes or cycle track) are required to achieve the target BLOS along Maritime Way. This is identified for the City's consideration.

Access Intersections Design

- A new access is also proposed to Maritime Way. The proposed access will be approximately 6.7m in width and located 6m from the western property line and 51m from the east property line.

- The width and location of the proposed access will adhere to the requirements of the PABL and ZBL.
- A maximum grade of 6% will be provided for the first 9m within the property to provide appropriate cover to the underground parking structure. A reduced elevation for the parking structure is not proposed due to geotechnical constraints on the site and the grade of adjacent properties. As a grade of 6% in the direction of the roadway is not anticipated to impact sight lines for vehicles exiting the site or provide drainage concerns, a waiver to Section 25 (u) of the Private Approach By-law is requested.
- Based on the projected traffic volumes at the access, the access is anticipated to operate acceptably under side street stop control.

Transportation Demand Management

- The proposed development conforms to the City's TDM initiatives by providing easy access to the local pedestrian, bicycle and transit systems
- The following measures will be implemented within the proposed development:
    - Display local area maps with walking/cycling access routes and key destinations at major entrances;
    - Display relevant transit schedules and route maps at entrances;
    - Contract with provider to install on-site carshare vehicles and promote their use by residents;
    - Unbundle parking from monthly rent;
    - Provide multimodal travel option information package to new residents; and
    - Offer personalized trip planning to new residents.

Neighbourhood Traffic Management

- As there is sufficient capacity along Maritime Way to accommodate traffic generated by the development, no changes to the existing roadway classification are required.
- No mitigation measures are recommended to offset the impacts of the development generated traffic.

Transit

- The proposed development is anticipated to generate 168 transit trips (41 in, 127 out) during the weekday AM peak hour and 212 transit trips (131 in, 81 out) during the weekday PM peak hour at build-out.
- As transit improves in the area and the existing Terry Fox Transit station is converted to LRT, the development is anticipated to generate 272 transit trips (66 in, 206 out) during the weekday AM peak hour and 341 transit trips (211 in, 130 out) during the weekday PM peak hour.
- The proposed development is located within a 600m walking distance of the Terry Fox Transit Station (future LRT Station). The Terry Fox Transit Station serves numerous Frequent Routes, Rapid Routes, Peak Hour Routes, and Local Routes, which provide comprehensive transit coverage across the City of Ottawa. The future conversion to LRT is anticipated to provide more reliable transit service and increased transit capacity at the Terry Fox Transit Station. Based on the foregoing, no transit capacity problems are anticipated in the vicinity of the site.

Network Concept

- The eastbound and westbound lanes along Campeau Drive east of Maritime Way are anticipated to operate above capacity during the AM peak hour under the 2038 background traffic condition.
- Additional capacity is available along Katimavik Road to accommodate the additional traffic volumes if capacity is realized along Campeau Drive.
- The City's 2013 TMP's 2031 Network Concept includes the widening of Campeau Drive from two to four lanes between Didsbury Road and March Road. This widening would alleviate projected capacity deficiency along Campeau Drive.
- The southbound lane along Castlefrank Road south of Katimavik Road is anticipated to operate above capacity during the PM peak hour under the 2038 background traffic condition.
- Traffic generated by the proposed development is anticipated to have a negligible impact on the lane capacity along the roadways within the study area.

MMLOS Analysis

Kanata Avenue/Earl Grey Drive:

- The Kanata Avenue/Earl Grey Drive intersection currently meets the target Auto LOS E. As this intersection is not along a transit priority corridor, no target TLOS is identified.
- As part of the Kanata Avenue road widening project, the crossing distance on the all legs of the intersection are anticipated to be reduced and zebra striped crosswalks will be implemented. This is anticipated to improve the PLOS at this intersection.
- As part of the Kanata Avenue road widening project, cycle tracks will be provided on Kanata Avenue and this intersection will be converted into a protected intersection design. This modification will improve the BLOS at this intersection.
- Since Earl Grey Drive is not classified as a truck route, the provided TkLOS E is considered acceptable.

Kanata Avenue/Maritime Way/Lord Byng Way:

- The Kanata Avenue/Maritime Way/Lord Byng Way intersection currently meets the target Auto LOS E. As this intersection is not along a transit priority corridor, no target TLOS is identified.
- As part of the Kanata Avenue road widening project, the crossing distance on the east and west legs of the intersection (Maritime Way/Lord Byng Way) are anticipated to be reduced and zebra striped crosswalks will be implemented on all legs. This is anticipated to improve the PLOS at this intersection.
- As part of the Kanata Avenue road widening project, cycle tracks will be provided on Kanata Avenue and this intersection will be converted into a protected intersection design. This modification will improve the BLOS at this intersection.
- since Maritime Way and Lord Byng Way are not classified as a truck route, the provided TkLOS E is considered acceptable.

Kanata Avenue/Highway 417 Westbound Off-Ramp:

- The Kanata Avenue/Highway 417 Westbound Off-Ramp intersection currently meets the City's target TkLOS D and Auto LOS E. As bicycles are not permitted on Highway 417, the BLOS was excluded from this analysis. As this intersection is not along a transit priority corridor, no target TLOS is identified.
- A reduction in the crossing distance on all legs of the intersection would provide the greatest improvement to the PLOS at this intersection.

Kanata Avenue/Highway 417 Eastbound On-Ramp:

- The Kanata Avenue/Highway 417 Eastbound On-Ramp intersection currently meets the City's target TkLOS D and Auto LOS E. As bicycles are not permitted on Highway 417, the BLOS was excluded from this analysis. As this intersection is not along a transit priority corridor, no target TLOS is identified.
- A reduction in the crossing distance on all legs of the intersection would provide the greatest improvement to the PLOS at this intersection.

Kanata Avenue/Castlefrank Road/Aird Place:

- The Kanata Avenue/Castlefrank Road/Aird Place intersection currently meets the target Auto LOS E. As this intersection is not along a transit priority corridor or a truck route, no target TLOS or TkLOS is identified.
- A reduction in the crossing distance on all legs of the intersection would provide the greatest improvement to the PLOS at this intersection.
- To achieve the target BLOS B, the implementation of two-stage northbound/southbound left turn bike boxes is required. This is identified for the City's consideration.

Castlefrank Road/Katimavik Road:

- The Castlefrank Road/Katimavik Road intersection currently meets the target Auto LOS E. As this intersection is not along a transit priority corridor or a truck route, no target TLOS or TkLOS is identified.
- A reduction in the crossing distance on all legs of the intersection would provide the greatest improvement to the PLOS at this intersection.
- To achieve the target BLOS B, the implementation of two-stage left turn bike boxes is required on all legs of the intersection. This is identified for the City's consideration.

Campeau Drive/Maritime Way/Knudson Drive:

- The Campeau Drive/Maritime Way/Knudson Drive intersection currently meets the target BLOS B and Auto LOS E. As this intersection is not along a transit priority corridor or a truck route, no target TLOS or TkLOS is identified.
- A reduction in the crossing distance on all legs of the intersection would provide the greatest improvement to the PLOS at this intersection.
- This intersection currently meets the target BLOS B. However it is noted that cyclists are required to dismount and use the pedestrian crosswalks on the north, east, and west legs of the intersection.

<u>Background Intersection Operations</u>

- 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 during the PM peak hour. To achieve the MTO target, two northbound through lanes and two westbound right turn lanes are required.

- Modifications or replacement of the existing bridge structure are anticipated to be required to accommodate a four-lane cross section along Kanata Avenue. Widening of the existing off-ramp is anticipated to be required to accommodate two westbound right turn lanes. This is identified for the City's consideration.
- The modifications to the Highway 417 Westbound Off-ramp are anticipated to reduce congestion on the northbound approach, which may result in improved compliance to the traffic signal control and reduce the number of angle collisions involving northbound and westbound vehicles at this intersection.

Total Intersection Operations

- Under the 2028 build-out year, the additional pedestrians and vehicles volumes at the Kanata Avenue/Maritime Way/Lord Byng Way intersection are anticipated to result in a LOS F. PM peak hour traffic signalization with an increased cycle length of 120 seconds is anticipated to yield the target LOS E at this intersection.
- The Kanata Avenue road widening project is anticipated to alleviate the LOS F identified at the Kanata Avenue/Maritime Way/Lord Byng Way intersection under the 2028 traffic conditions.
- Under total traffic conditions, all other intersections within the City's jurisdiction are anticipated to meet the target Auto LOS during the AM and PM peak hours.
- To achieve the MTO target at the Kanata Avenue/Highway 417 Westbound Off-ramp intersection, two northbound through lanes and two westbound right turn lanes are required. This is consistent with the background traffic conditions.
- As the site generated traffic is anticipated to be negligible compared to the background traffic volumes, the mitigation measures identified at the Kanata Avenue/Highway 417 Westbound Off-ramp intersection are identified for City consideration and are not attributable to the proposed development.

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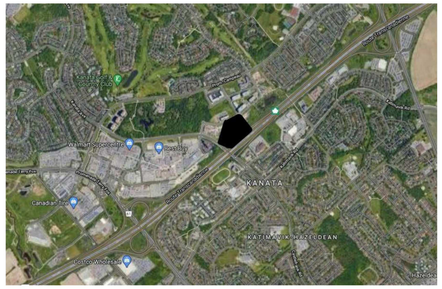
Prepared by:



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

APPENDIX A

Proposed 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	7.50 m / 3.09 m
Min Corner Side Yard Setback	no minimum	5.24 m
Min FSI	2	+/- 4.84
Min Interior Side Yard Setback	no minimum	15.40 m / 15.13 m

SITE AREA :		**+/- 12 808 m² (To be confirmed by surveyor)**
SITE COVERAGE :		+/- 2 471 m² (East Tower)
		+/- 1 968 m² (West Tower)
	Total =	+/- 4 439 m² = **34,7 %**
GROUND PARKING AREA :		+/- 1 785 m² = **13.9%**
LANDSCAPED AREA (EXCLUDING PARKING) :		+/- 6 584 m² = **51,4 %**

RENTAL - EAST TOWER

PROPOSED GROSS FLOOR AREA :	**+/- 21 913 m²**
BASEMENT G.F.A. :	**+/- 0m²**
GROUND FLOOR G.F.A. :	**+/- 1139 m²**
RENTAL FLOORS G.F.A. (2nd to 28th floor) :	**+/- 20 774 m²**
PRIVATE AMENITY AREA (G.F.A.) :	**+/- 1 953 m²**
COMMUNAL AMENITY AREA :	**+ /- 991 m²**
NUMBER OF FLOORS AND BUILDING HEIGHT :	**28 FLOORS + MECH. / +/- 87.50m**
DWELLING UNITS :	**301**
PARKING STALLS :	**308** (293 INSIDE / 5 VIS. OUTSIDE + 10 VIS. INSIDE)
PROVIDED BICYCLE STALLS :	**150** (142 INSIDE / 8 OUTSIDE)

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

RENTAL - WEST TOWER

PROPOSED GROSS FLOOR AREA :	**+/- 27 723 m²**
BASEMENT G.F.A. :	**+/- 0m²**
GROUND FLOOR G.F.A. :	**+/- 391 m²**
RENTAL FLOORS G.F.A. (2nd to 30th floor) :	**+/- 27332 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 :	**338** (323 INSIDE / 12 VIS. OUTSIDE + 3 VIS. INSIDE)
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.



SNOW WILL BE HAULED OFF SITE

GARBAGE / RECYCLING PICK-UP BY PRIVATE COMPANY

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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
G	SITE PLAN COORDINATION	2021.02.22
H	PER TRANSPORTATION COMMENTS	2021.05.18
I	PER CITY COMMENTS	2021.05.27
J	PER CITY COMMENTS	2021.11.11

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PV

VÉRIFIÉ PAR Checked
LH

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

ÉCHELLE Scale
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TITRE DU DESSIN Drawing Title

SITE PLAN AT GROUND FLOOR LEVEL

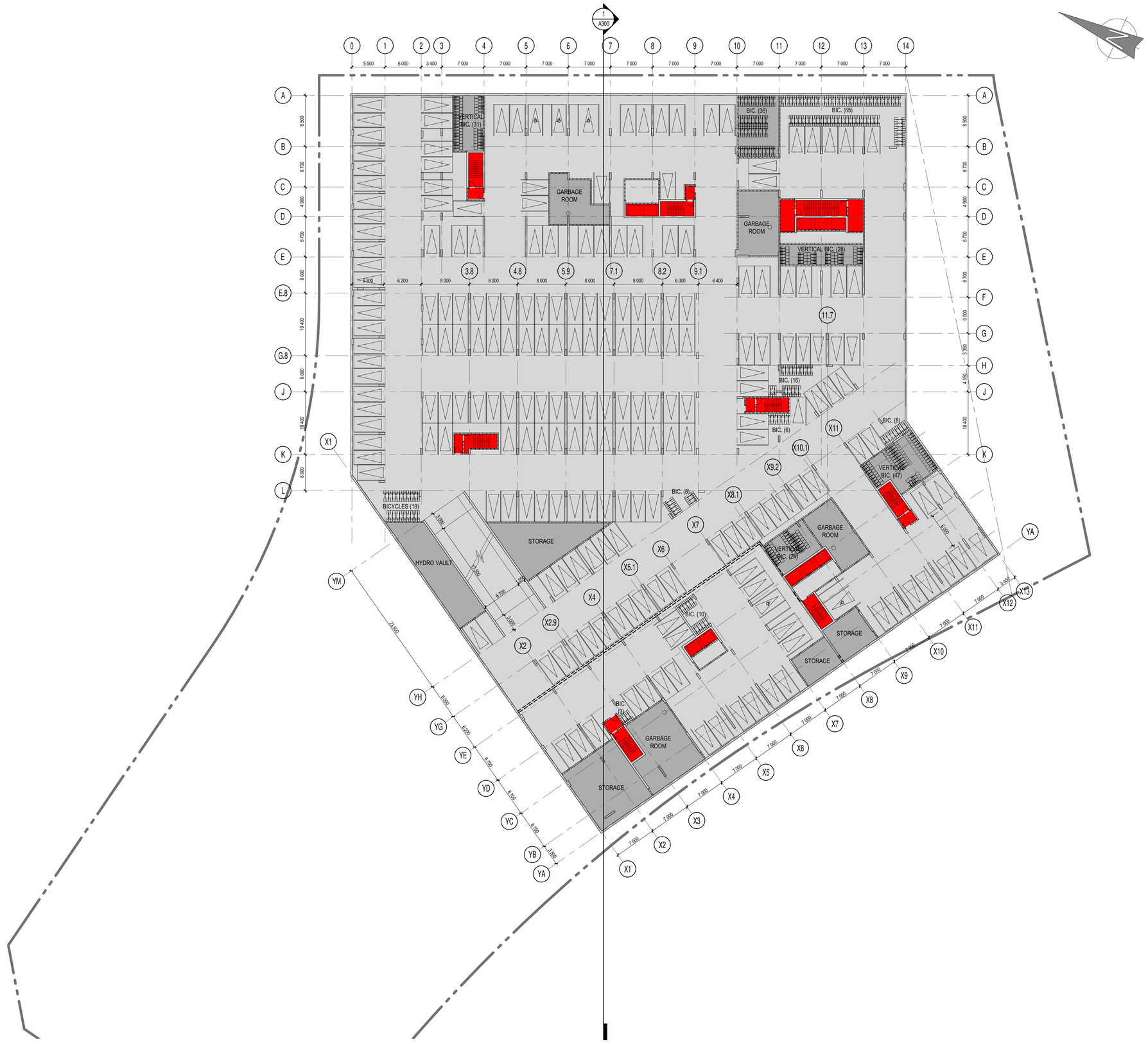
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H	PER CITY COMMENTS	2021.11.11

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05/28/20

ÉCHELLE Scale
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TITRE DU DESSIN Drawing Title

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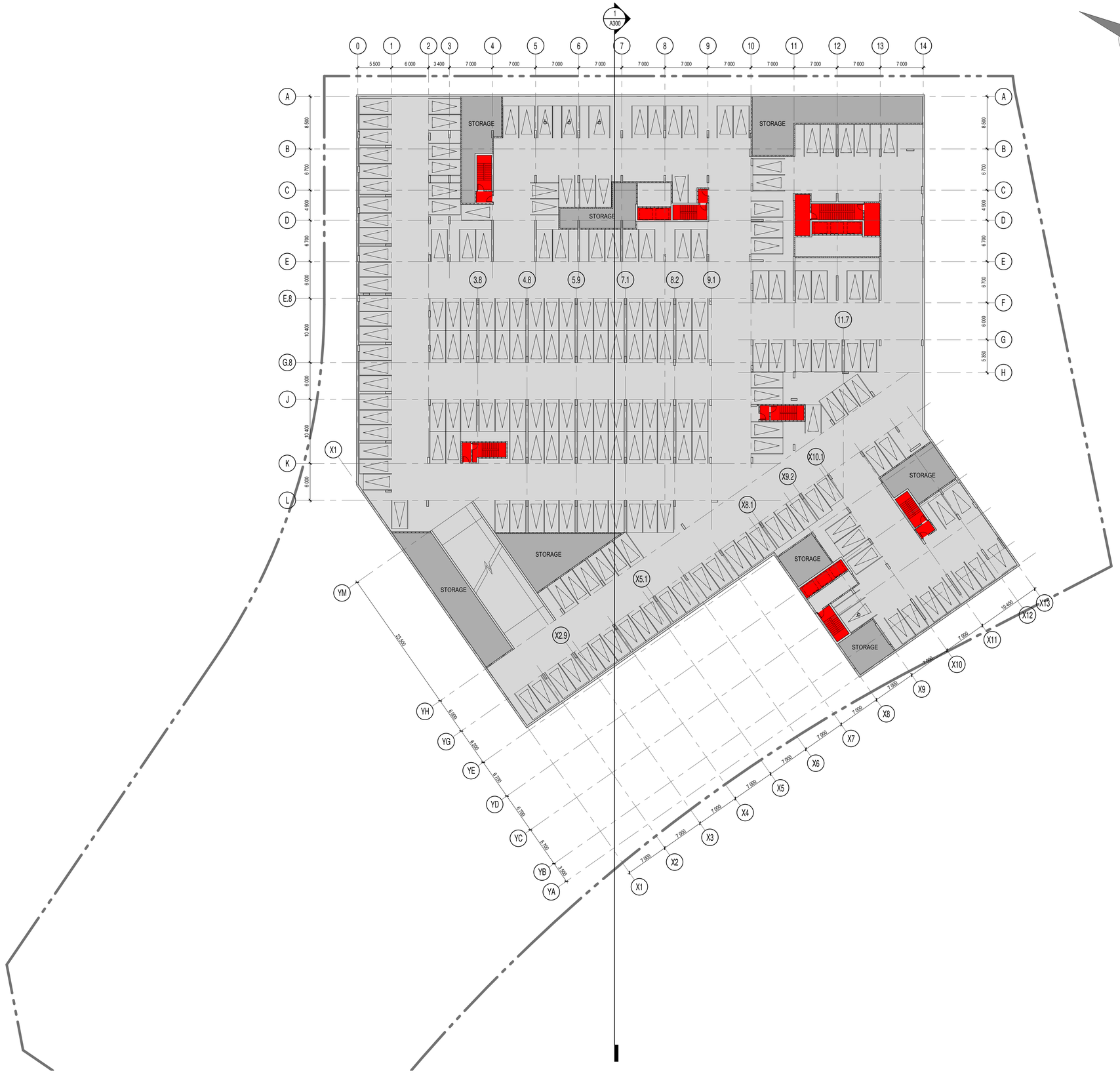
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TITRE DU DESSIN Drawing Title

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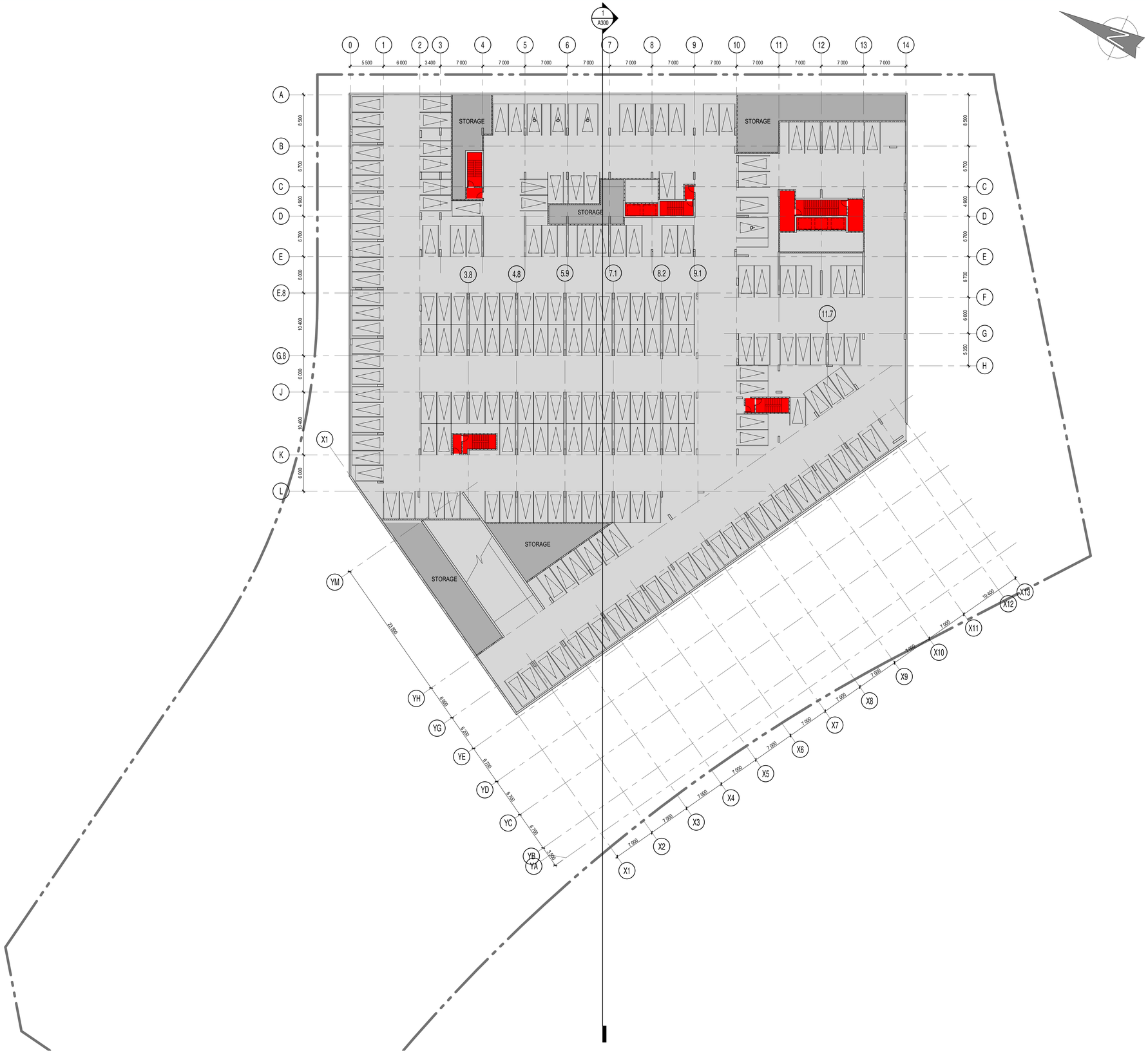
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TITRE DU DESSIN Drawing Title

PARKING LEVEL 3

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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.

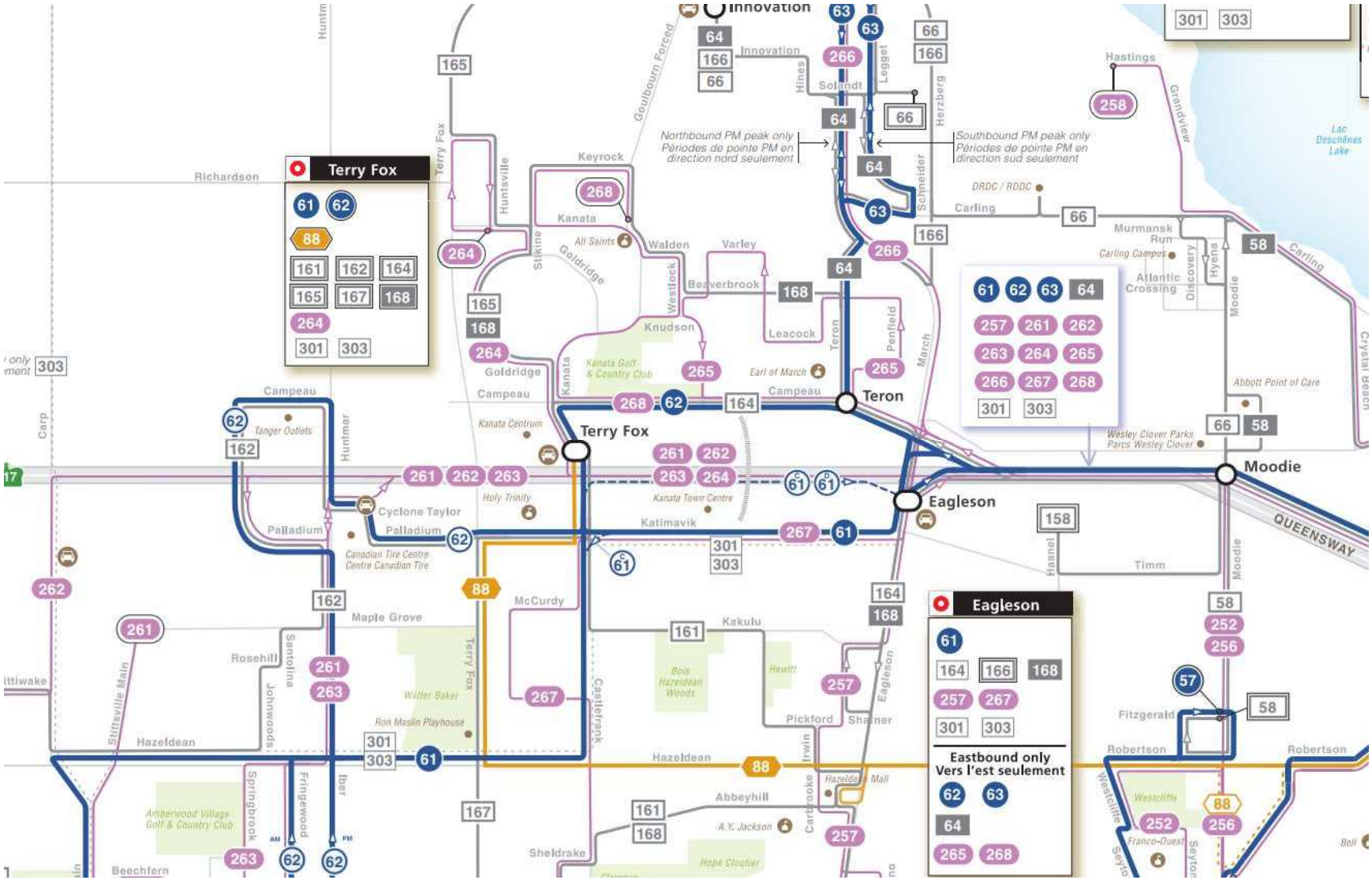
5. Summary

	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

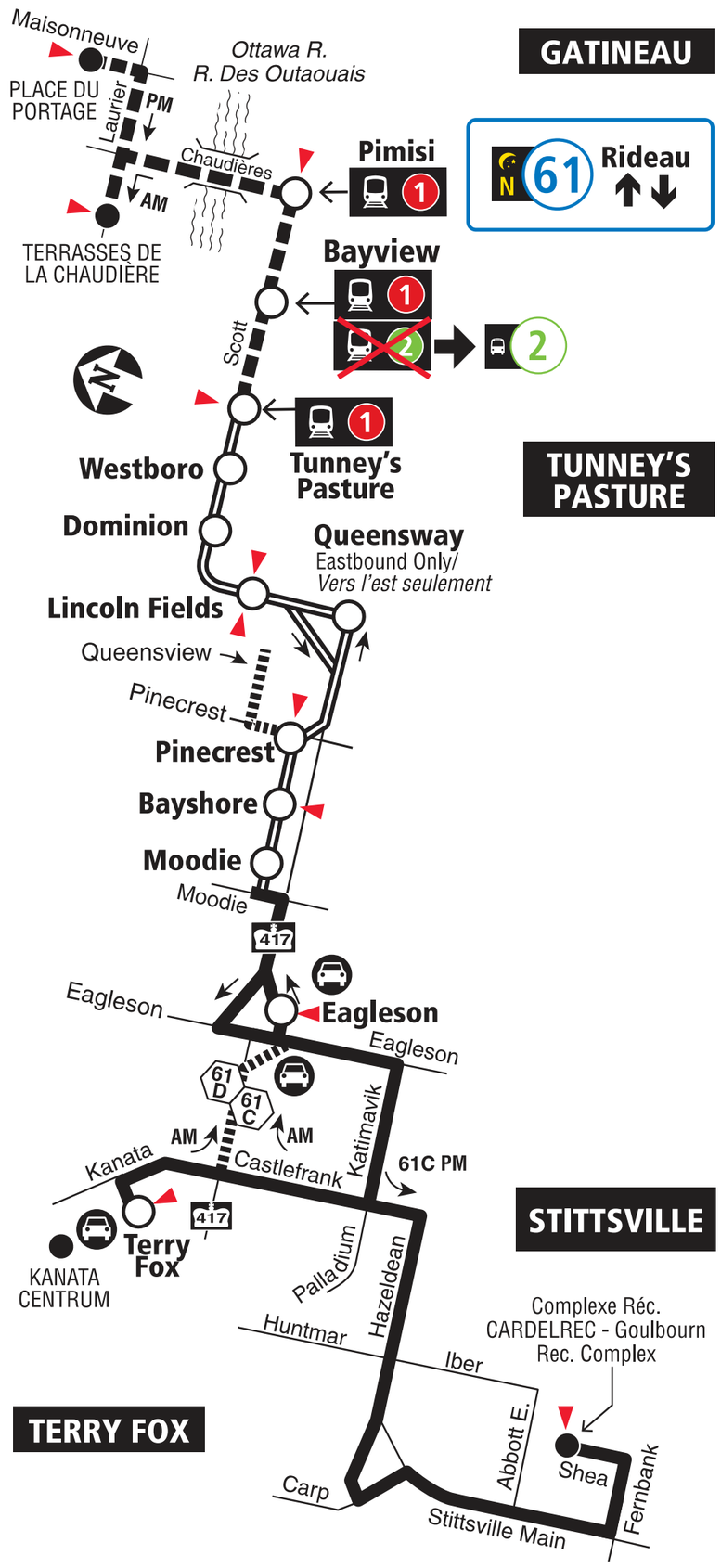

Terry Fox
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Eastbound only
Vers l'est seulement
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265 268
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257 261 262
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266 267 268
301 303
Northbound PM peak only
Périodes de pointe PM en direction nord seulement
Southbound PM peak only
Périodes de pointe PM en direction sud seulement
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Hastings
Richardson
Keyrock
Kanata
Walden
Varley
Beaverbrook
Knudson
Leacock
Teron
Goldridge
Campeau
Terry Fox
Kanata Centrum
Tanger Outlets
Cyclone Taylor
Palladium
Canadian Tire Centre
Holy Trinity
Kanata Town Centre
Katimavik
Earl of March
Kanata Golf & Country Club
All Saints
Carling
DRDC / RDDC
Carling Campus
Murmansk Run
Atlantic Crossing
Abbott Point of Care
Wesley Clover Parks
Parcs Wesley Clover
Moodie
Eagleson
Timm
Haanel
QUEENSWAY
Maple Grove
McCurdy
Kakulu
Rosehill
Hazeldean
Walter Baker
Ron Maslin Playhouse
Pickford
Shearer
Abbeyhill
A.Y. Jackson
Sheldrake
Hope Cleutier
Hazeldean Mall
Amberwood Village Golf & Country Club
Beechfern
Fitzgerald
Robertson
Westcliffe
Franco-Ouest
Lac Deschênes Lake
Crystal Beach
Carp
Huntmar
Terry Fox
Huntsville
Stittsville Main
Johnwoods
Springbrook
Fringewood
Iber
Castlefrank
Irwin
Cartpooke
Eagleson
Hines
Solandt
Legget
Herzberg
Schneider
Grandview
Hyena
Discovery
Moodie
Carling
Crystal Beach
Bell

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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

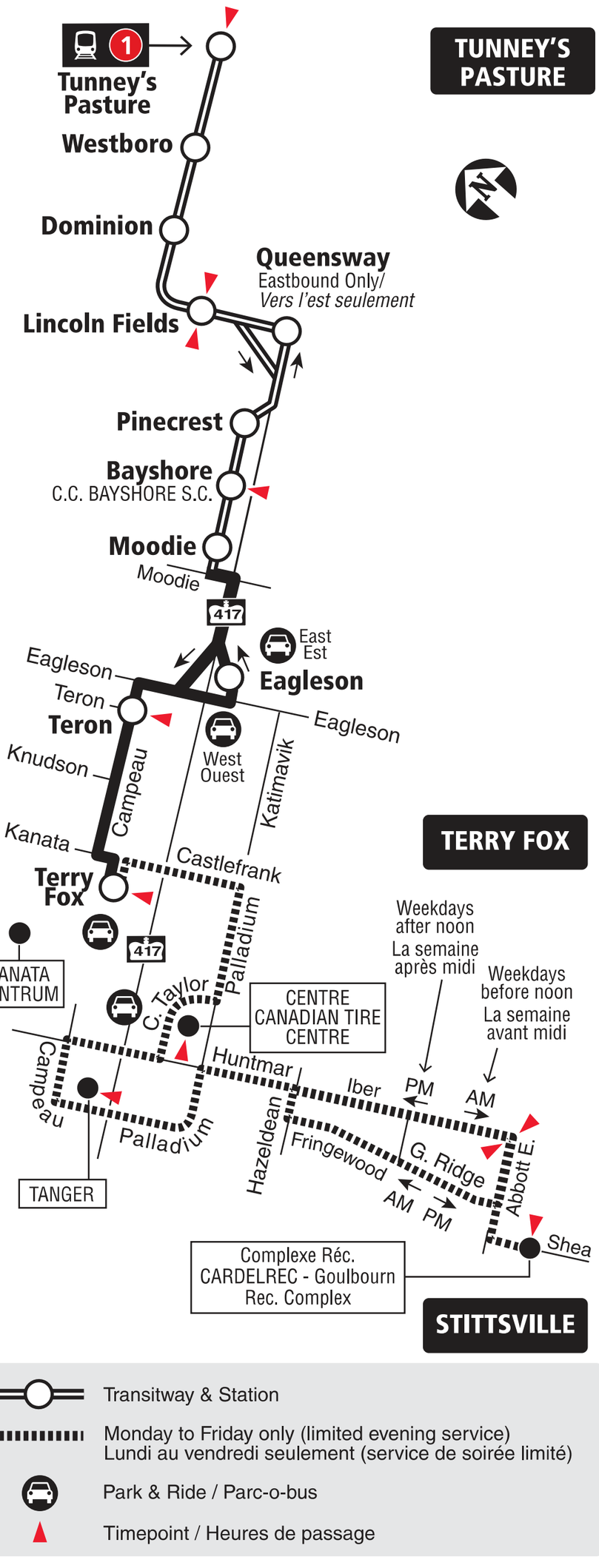
OC Transpo
INFO 613-741-4390
octranspo.com

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

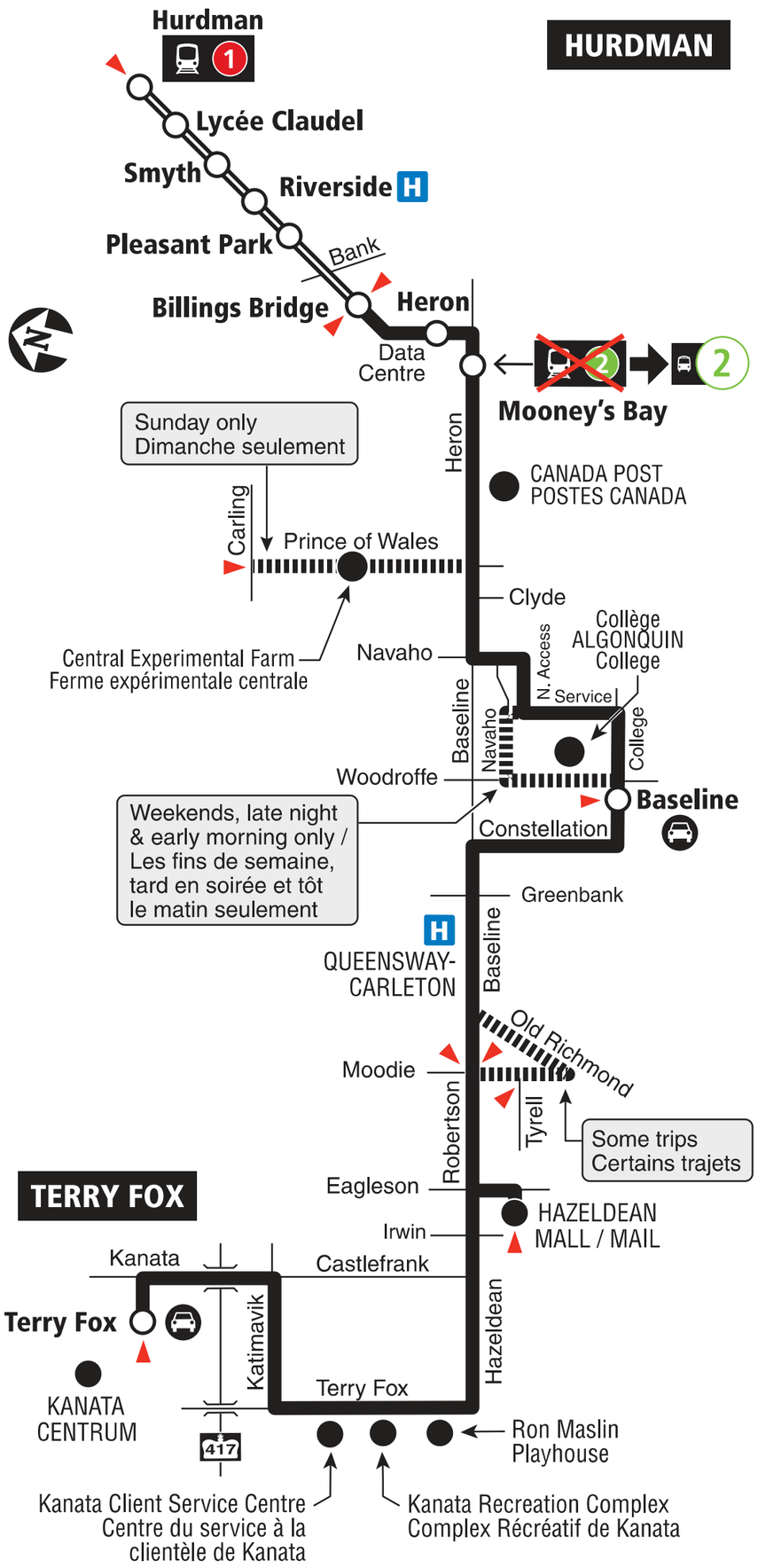
88

Fréquent

HURDMAN
TERRY FOX

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

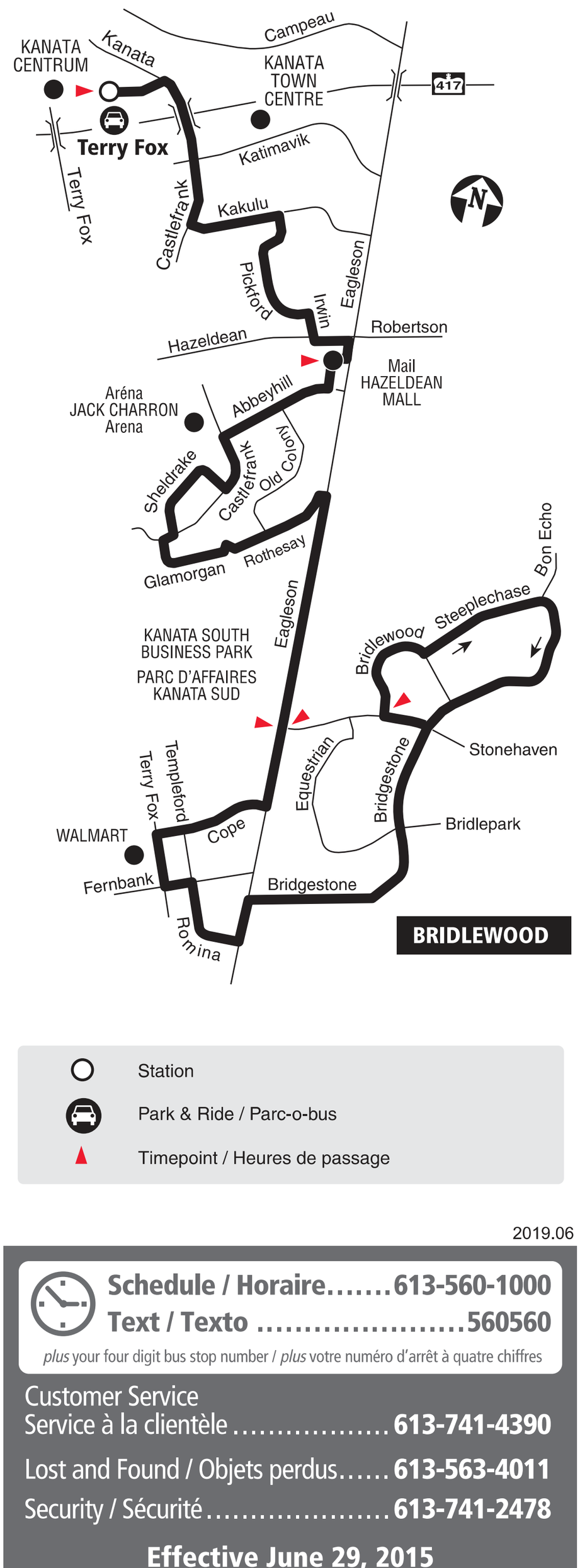
161

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

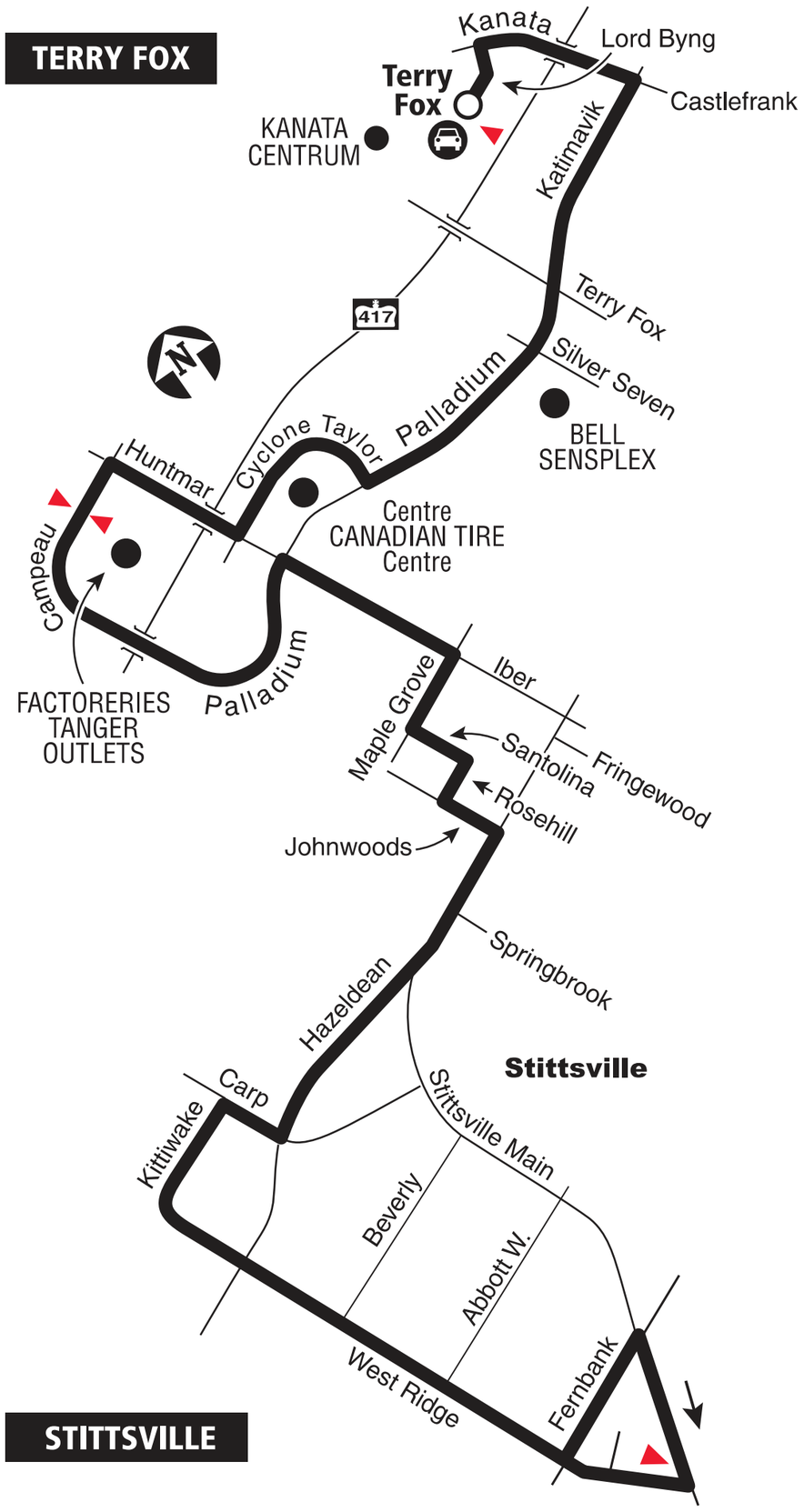
162

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

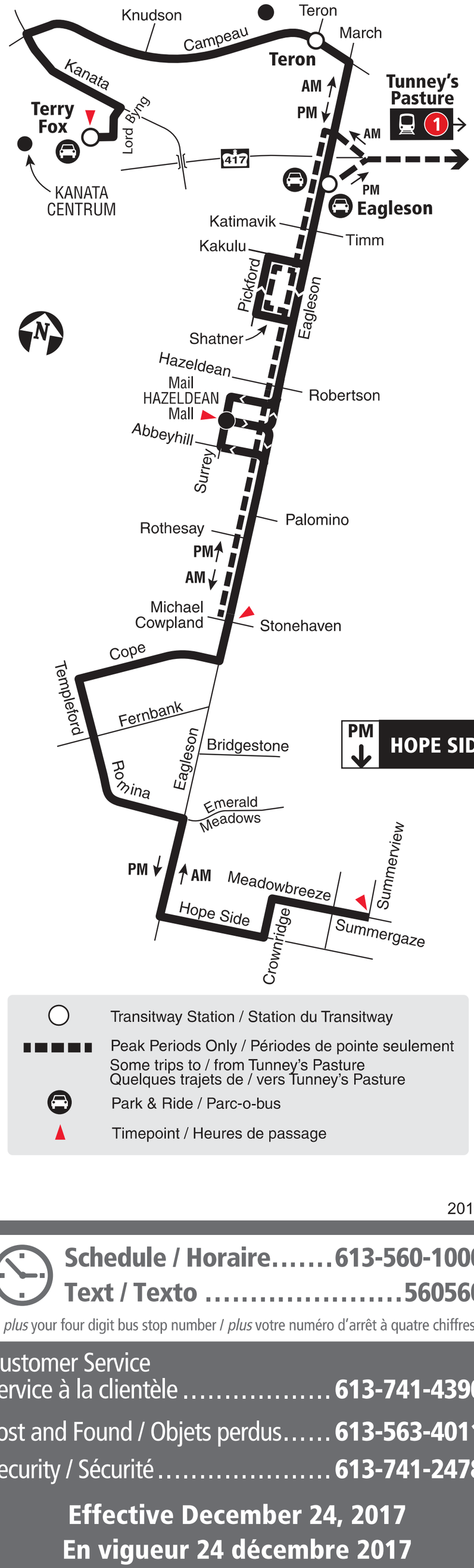
164 TERRY FOX / HOPE SIDE

Local

Monday to Friday/ Lundi au vendredi

Peak periods only
Périodes de pointe seulement

AM TERRY FOX



Transitway Station / Station du Transitway

Peak Periods Only / Périodes de pointe seulement
Some trips to / from Tunney's Pasture
Quelques trajets de / vers Tunney's Pasture

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

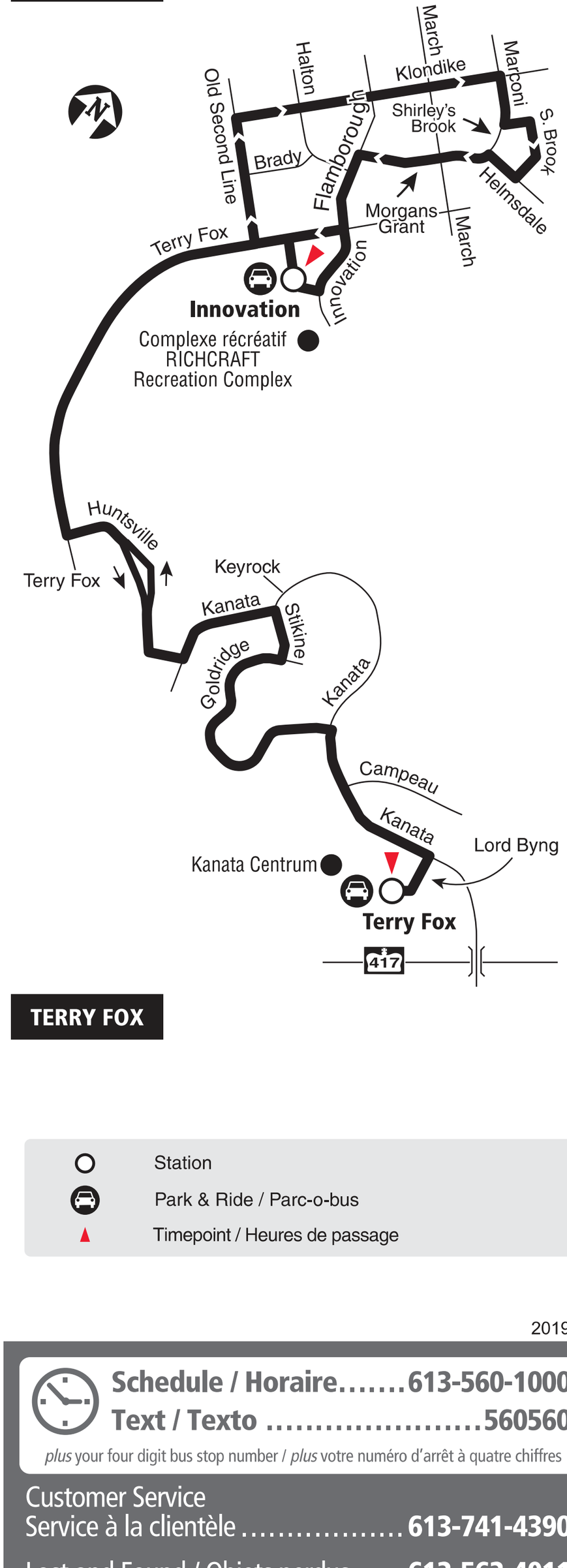
165 Local

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

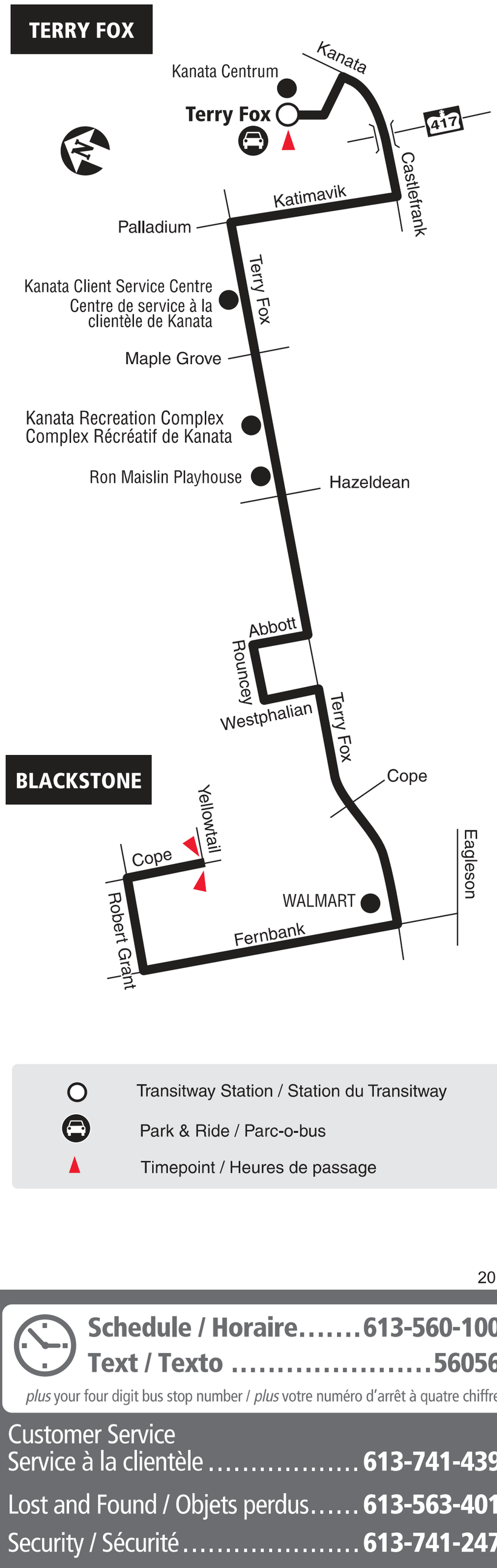
167

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

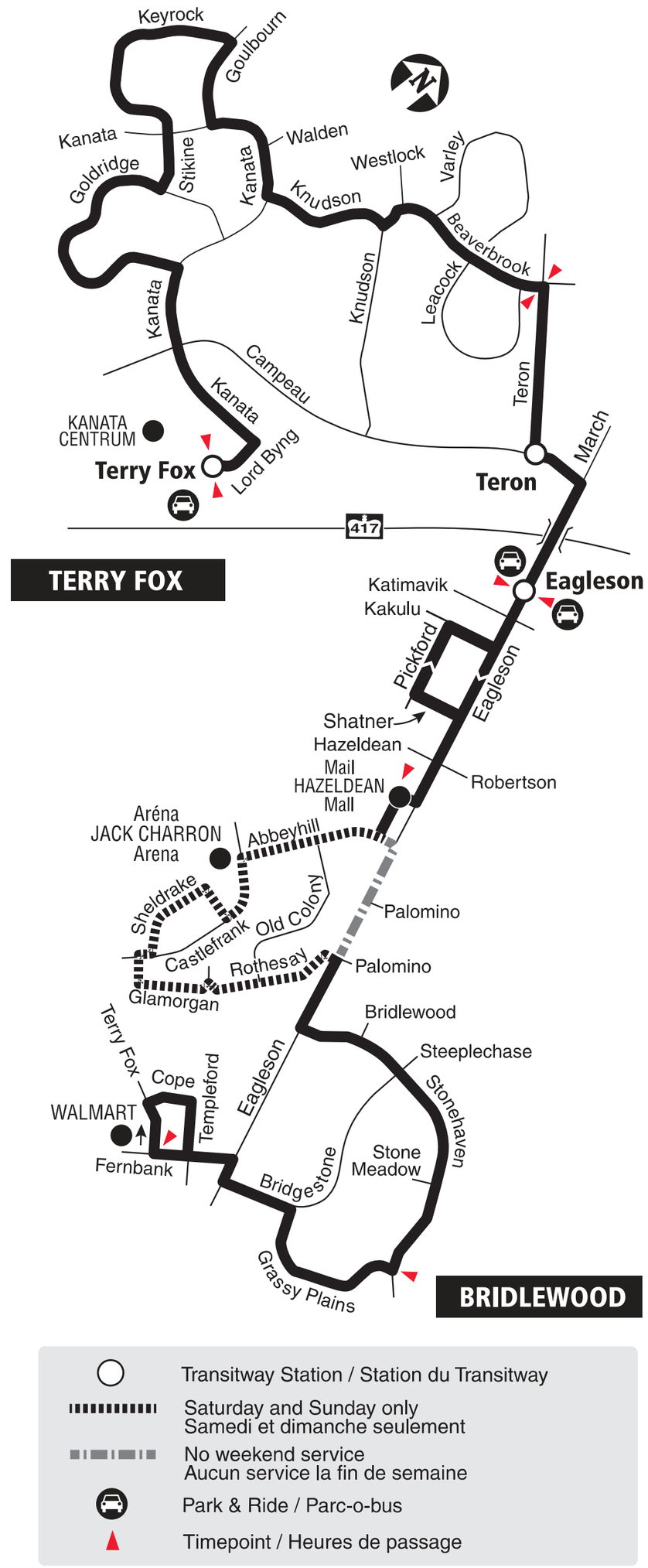
INFO 613-741-4390
octranspo.com

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

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

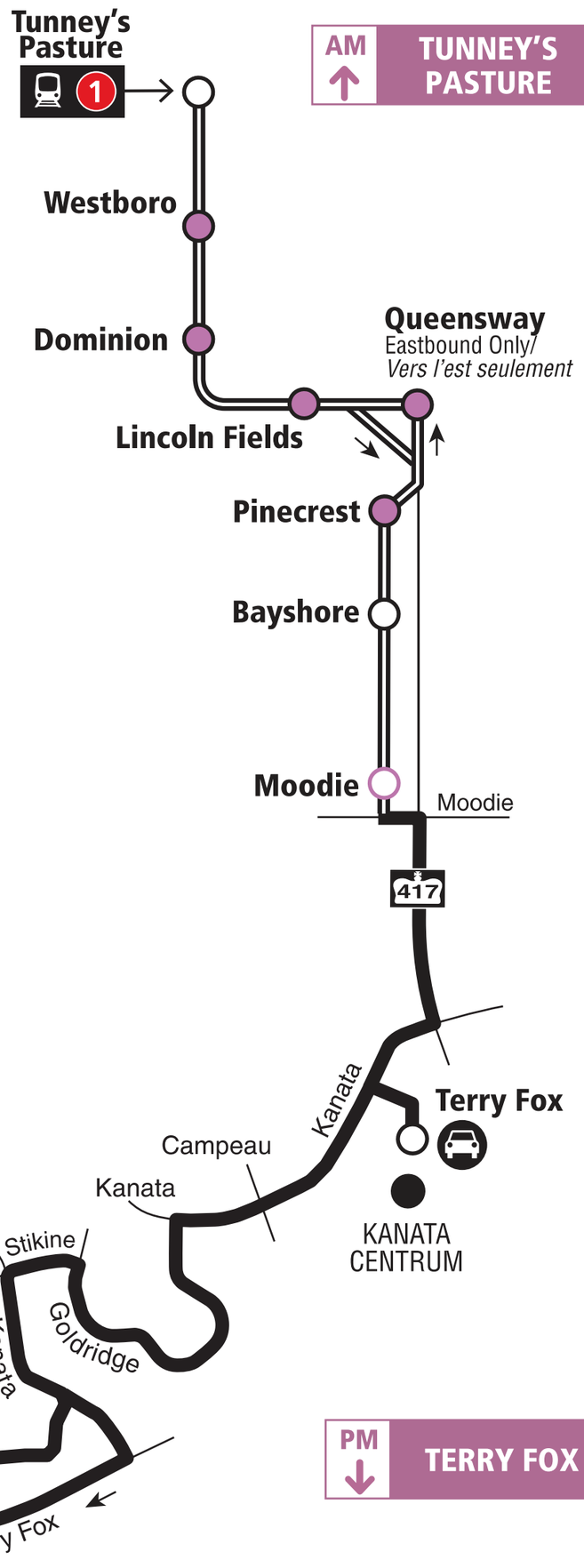
INFO 613-741-4390
octranspo.com

264 Connexion

TERRY FOX
TUNNEY'S PASTURE

Monday to Friday / Lundi au vendredi

Peak periods only
Périodes de pointe seulement



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 Screenshots, Signal Timings

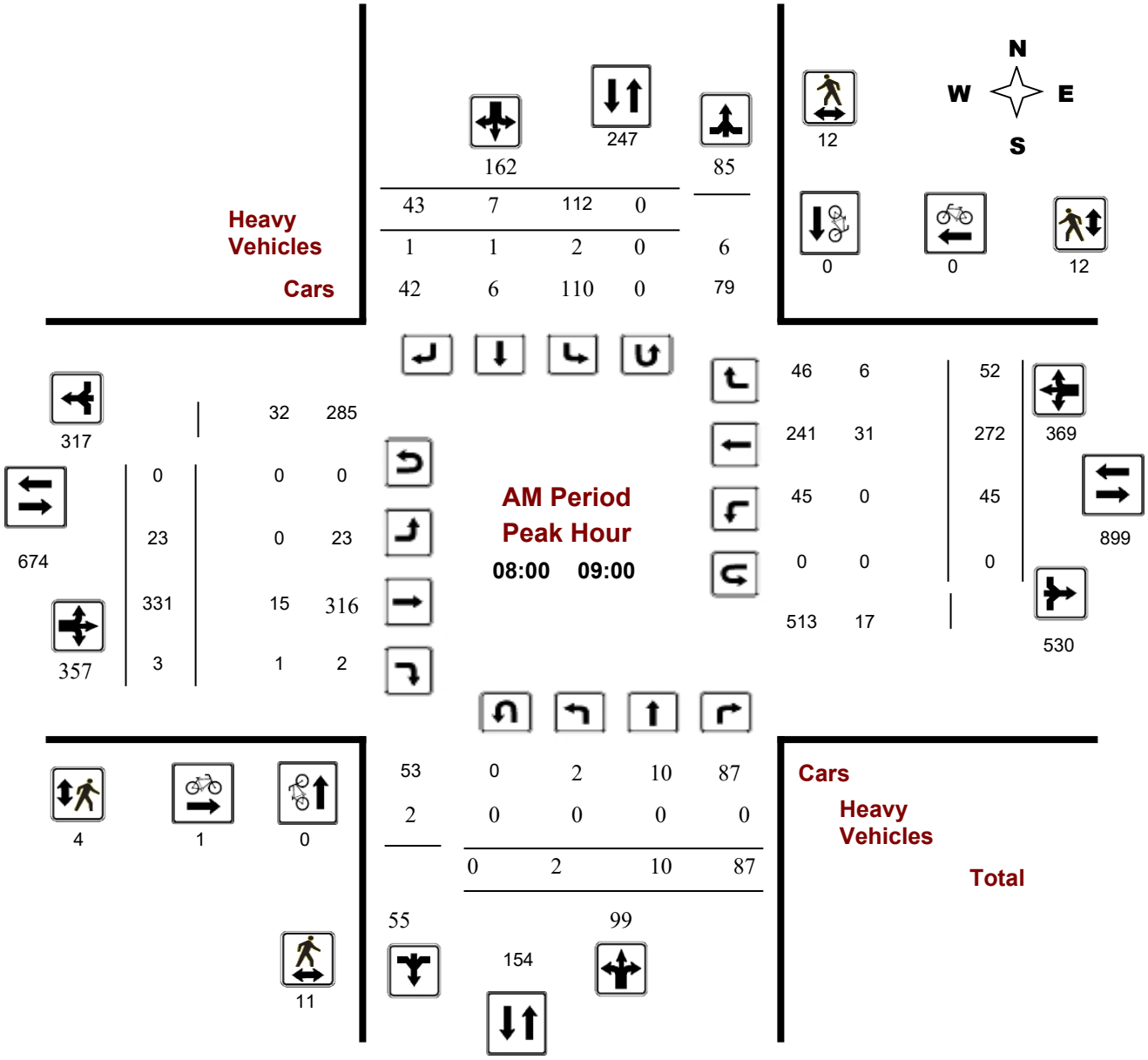
Transportation Services - Traffic Services

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

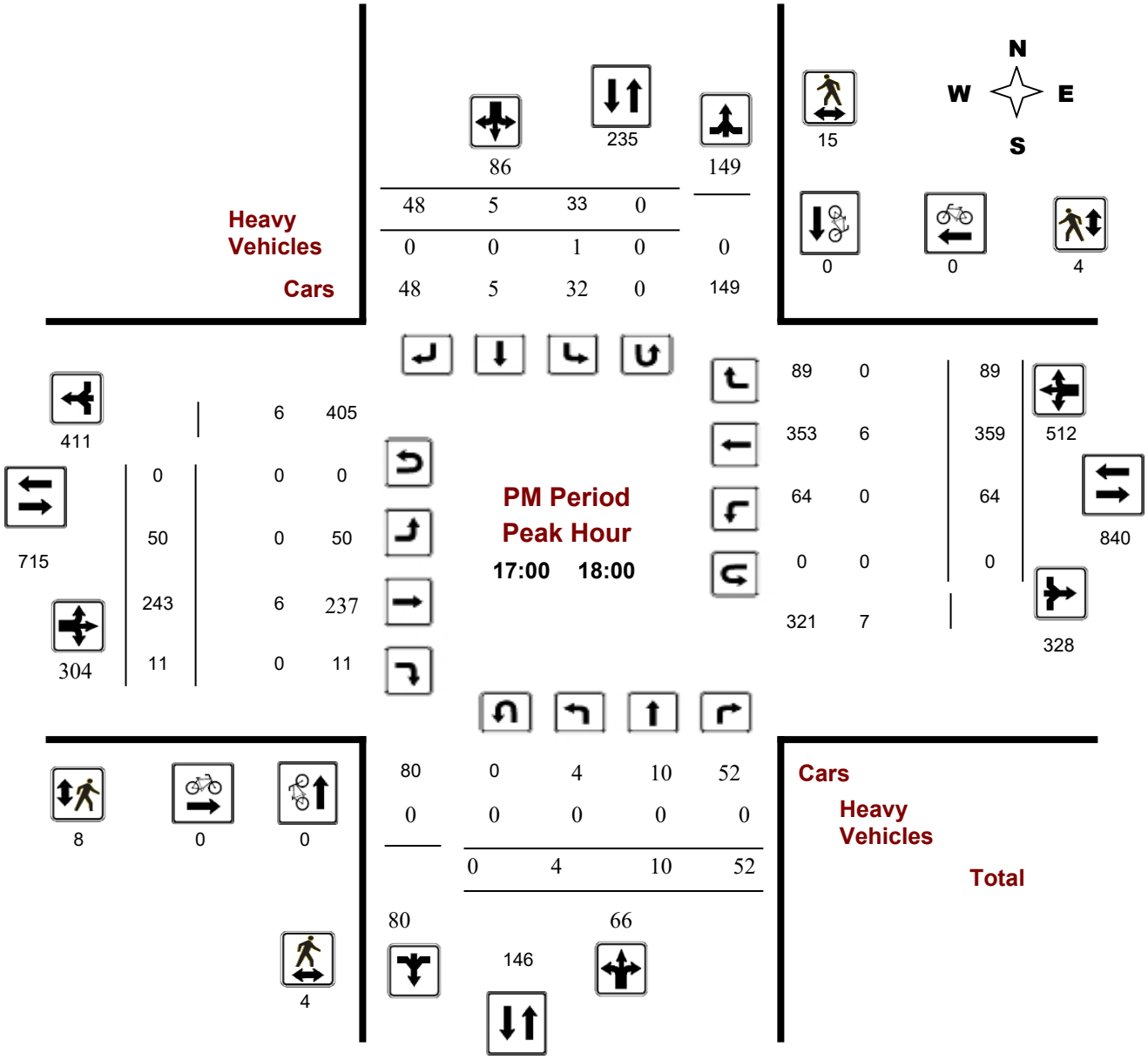
Transportation Services - Traffic Services

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

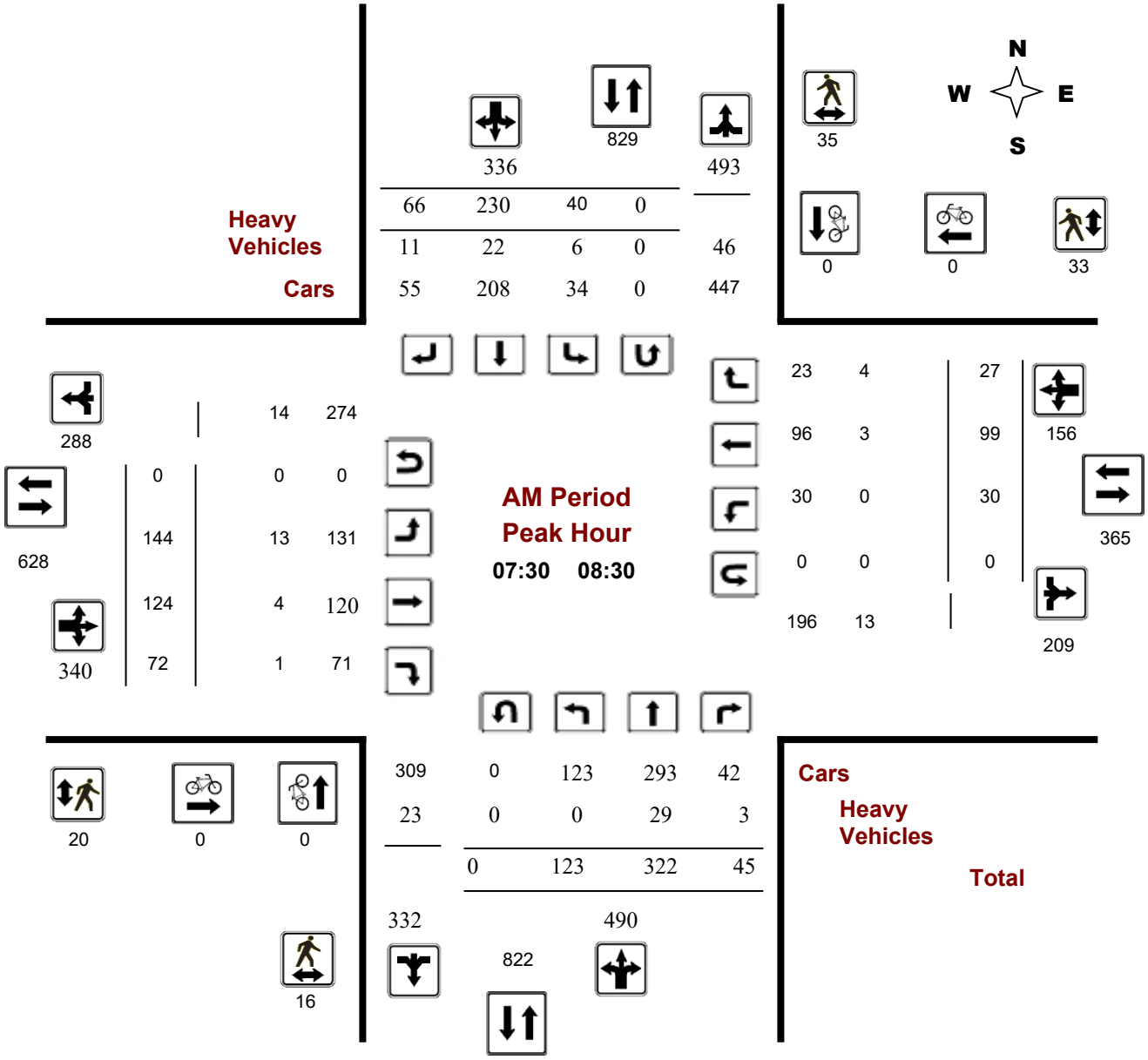
Transportation Services - Traffic Services

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

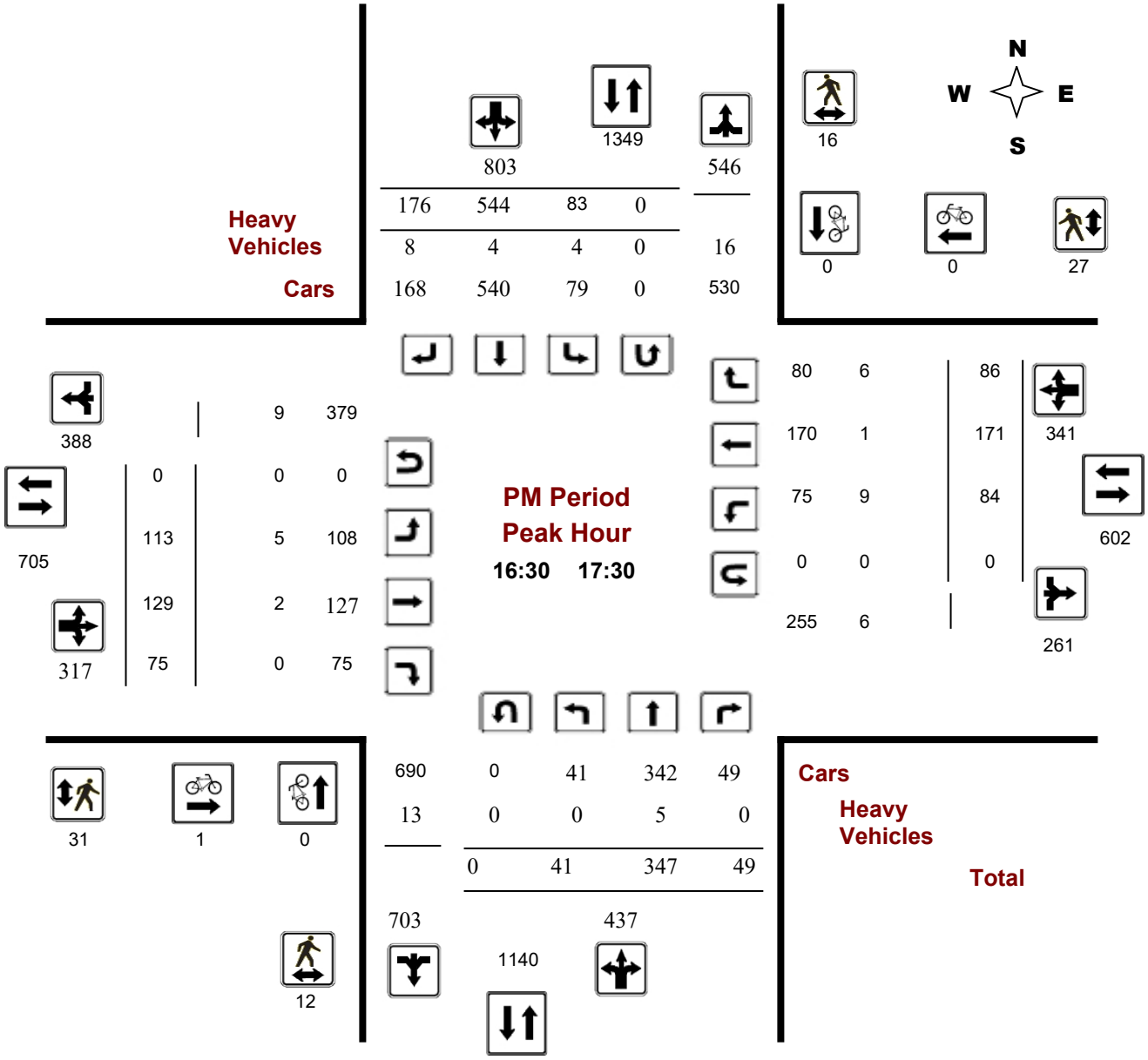
Transportation Services - Traffic Services

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

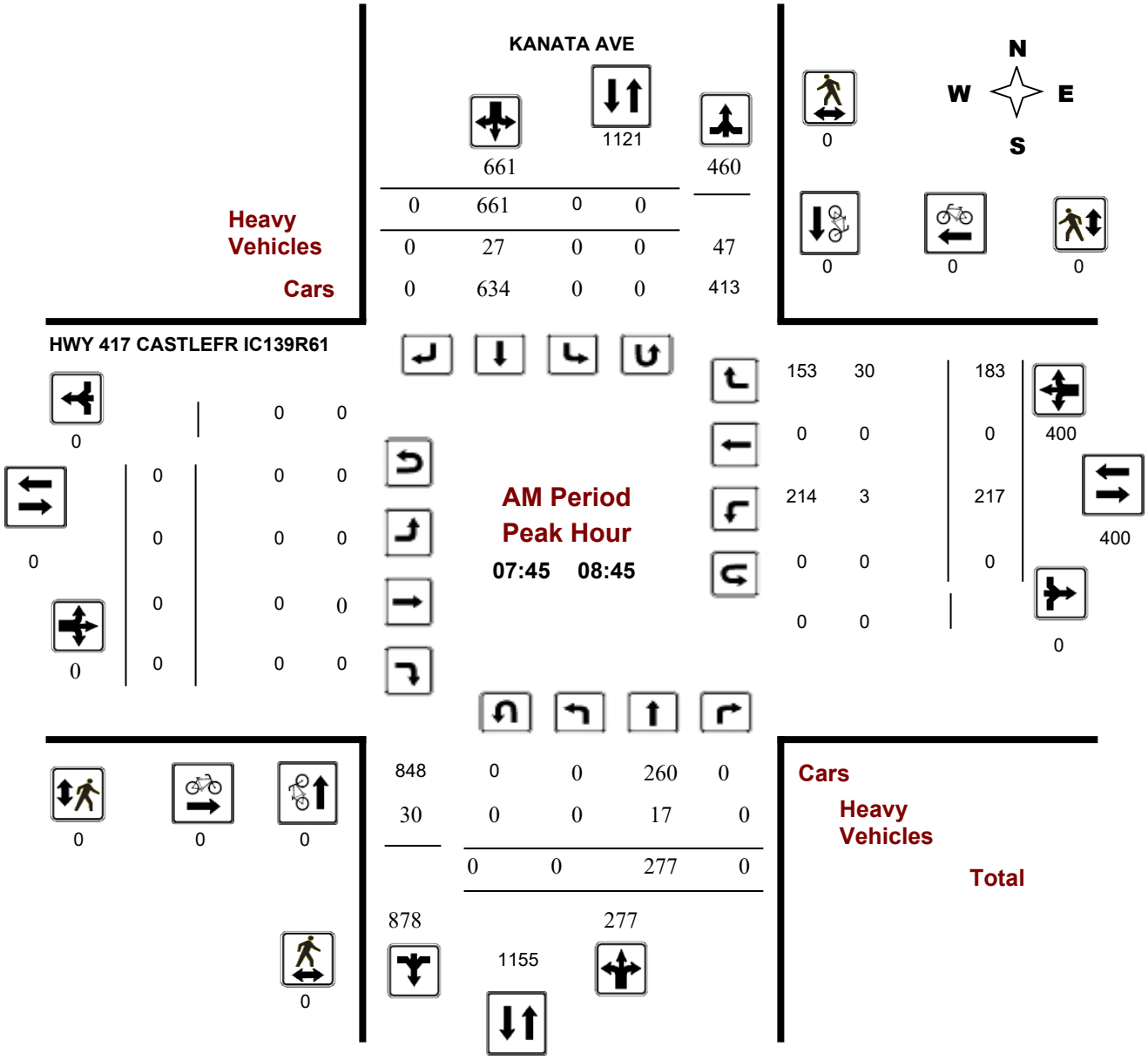
Transportation Services - Traffic Services

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

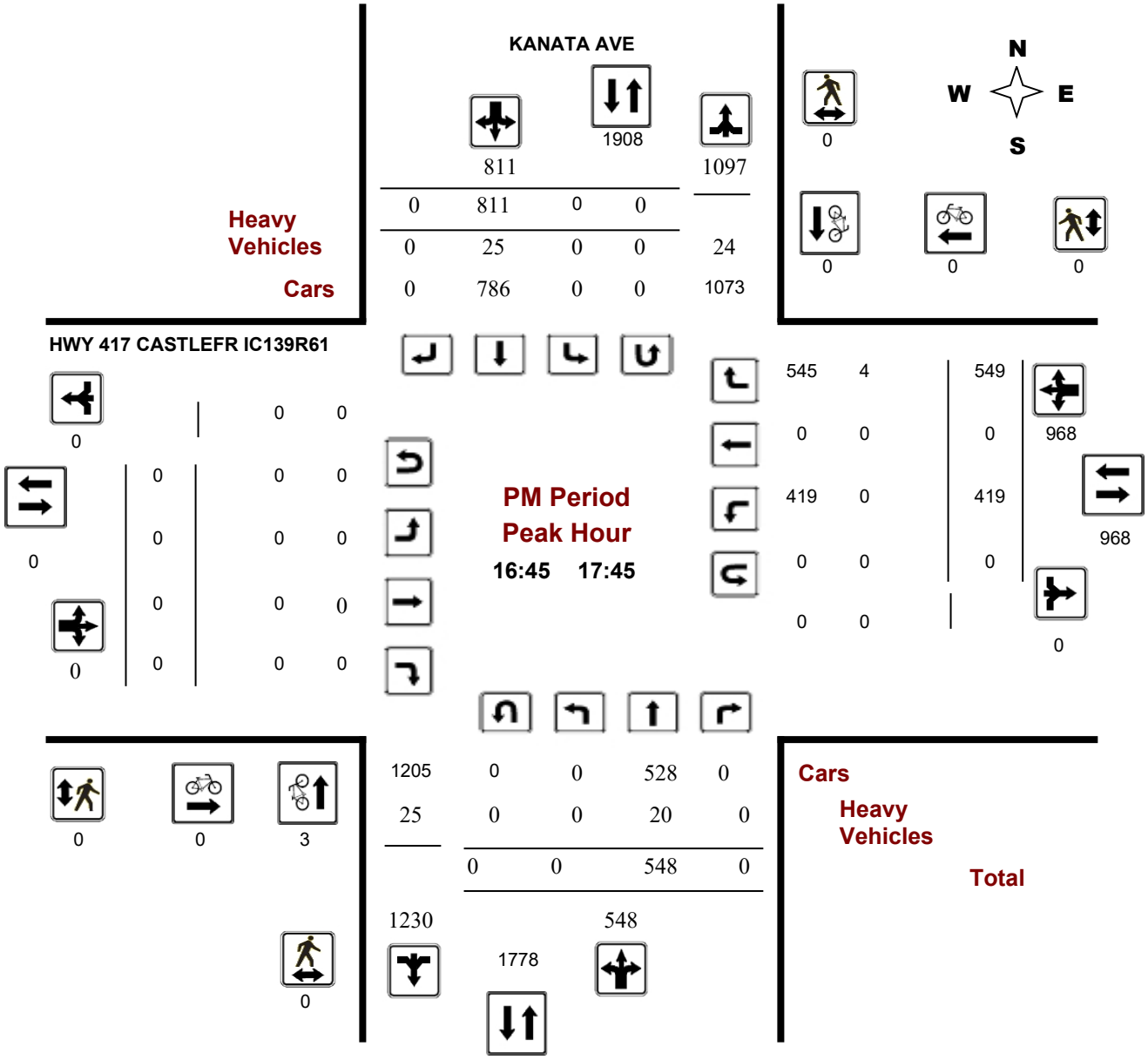
Transportation Services - Traffic Services

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

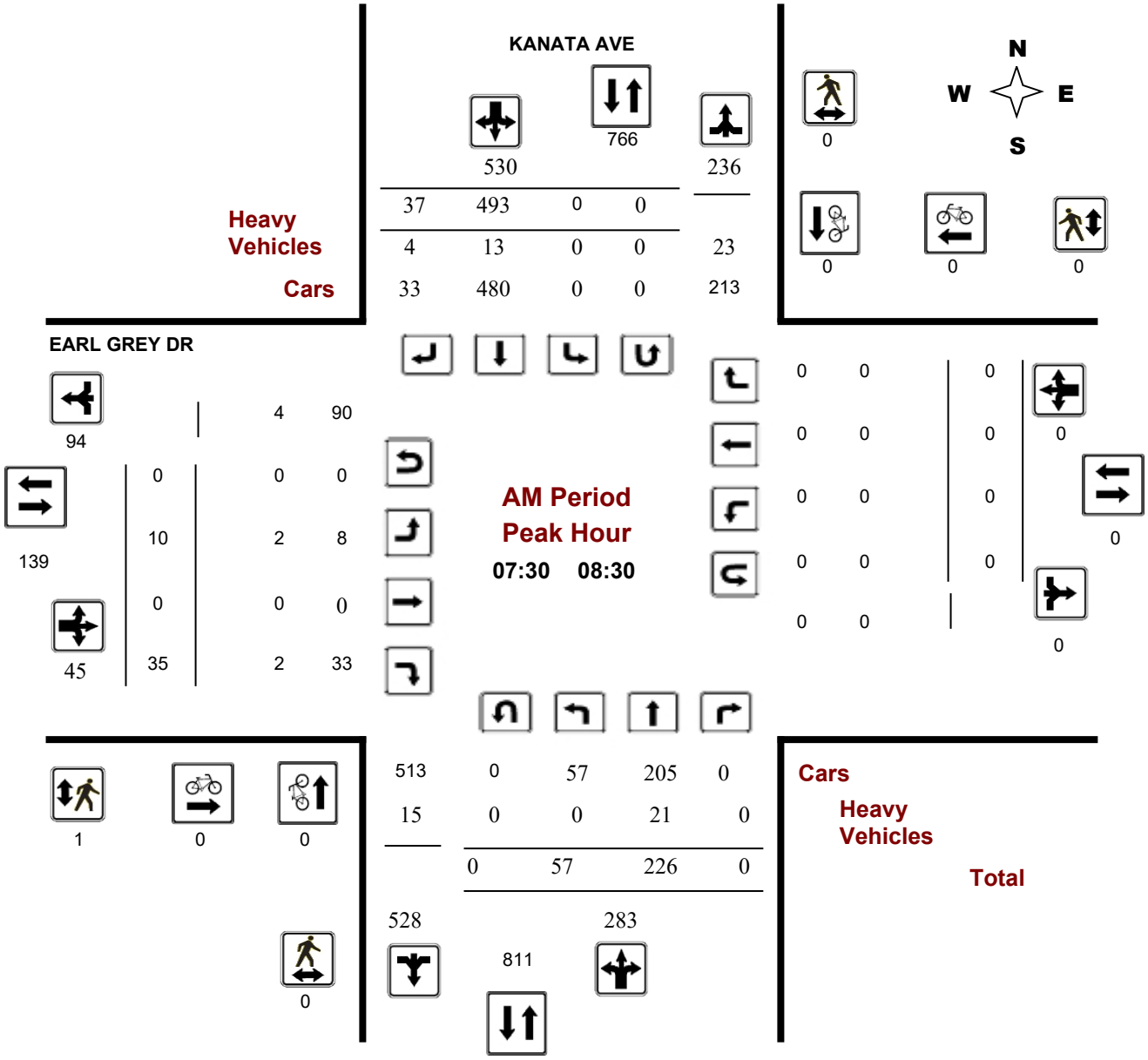
Transportation Services - Traffic Services

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

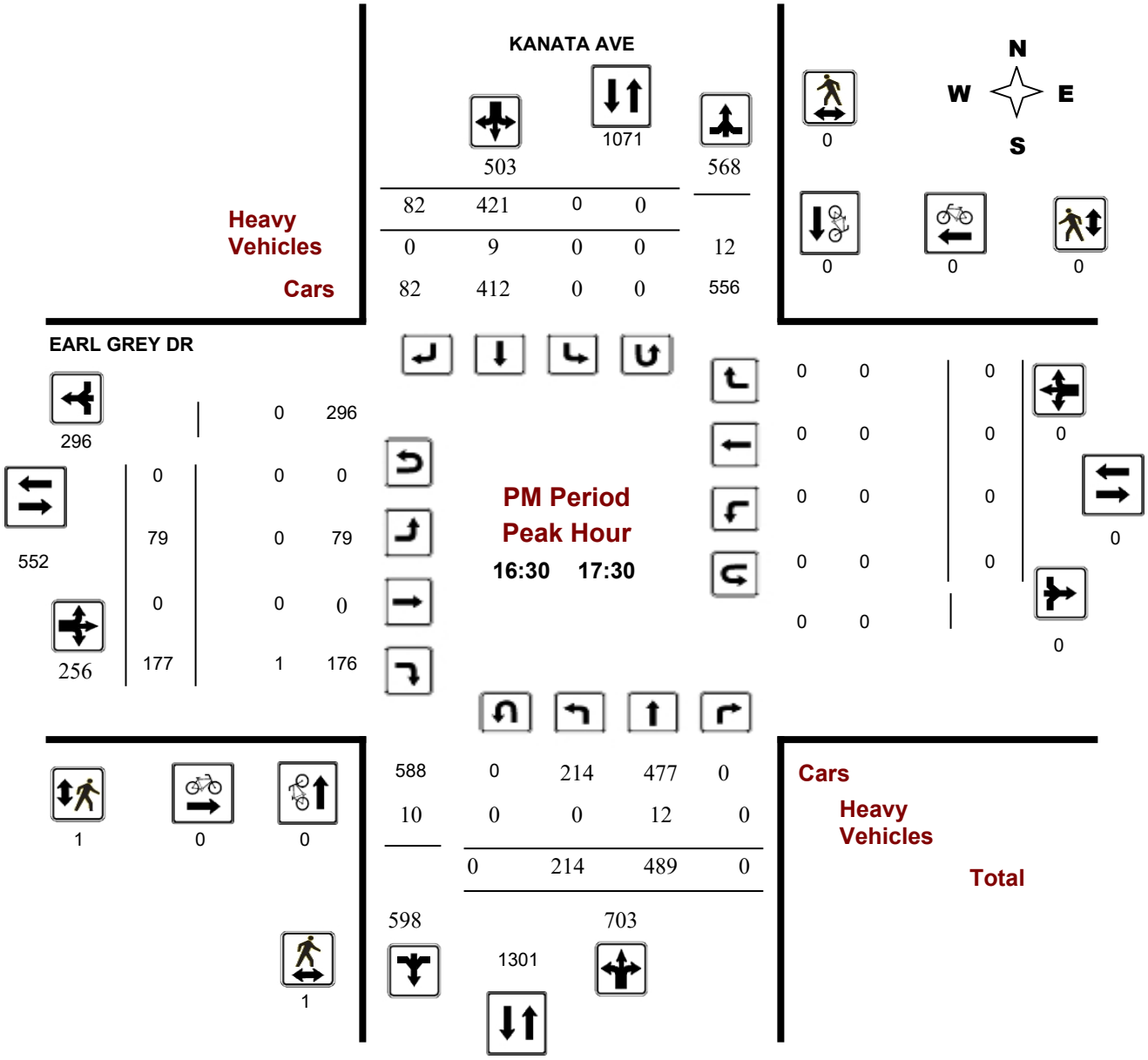
Transportation Services - Traffic Services

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

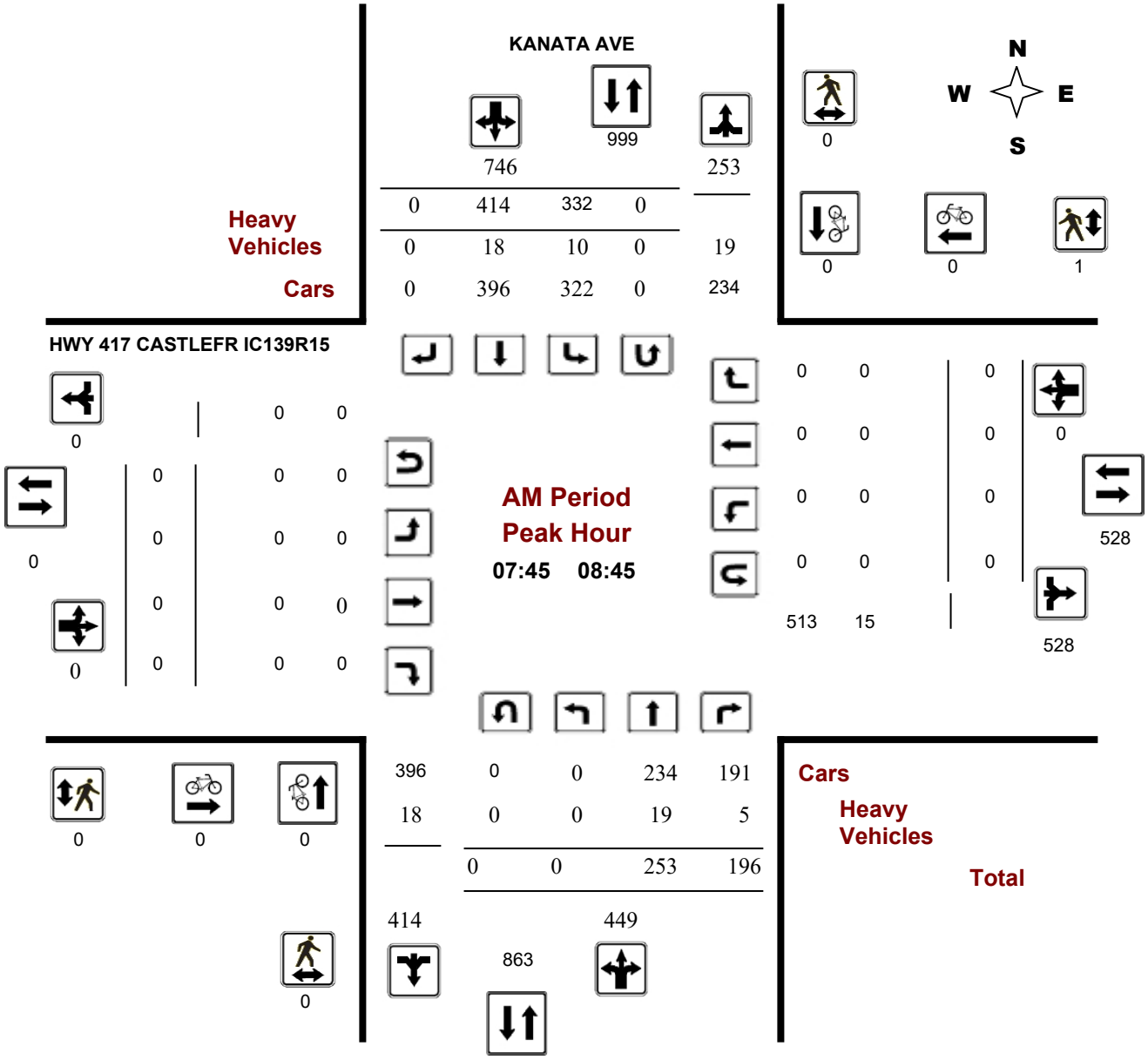
Transportation Services - Traffic Services

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

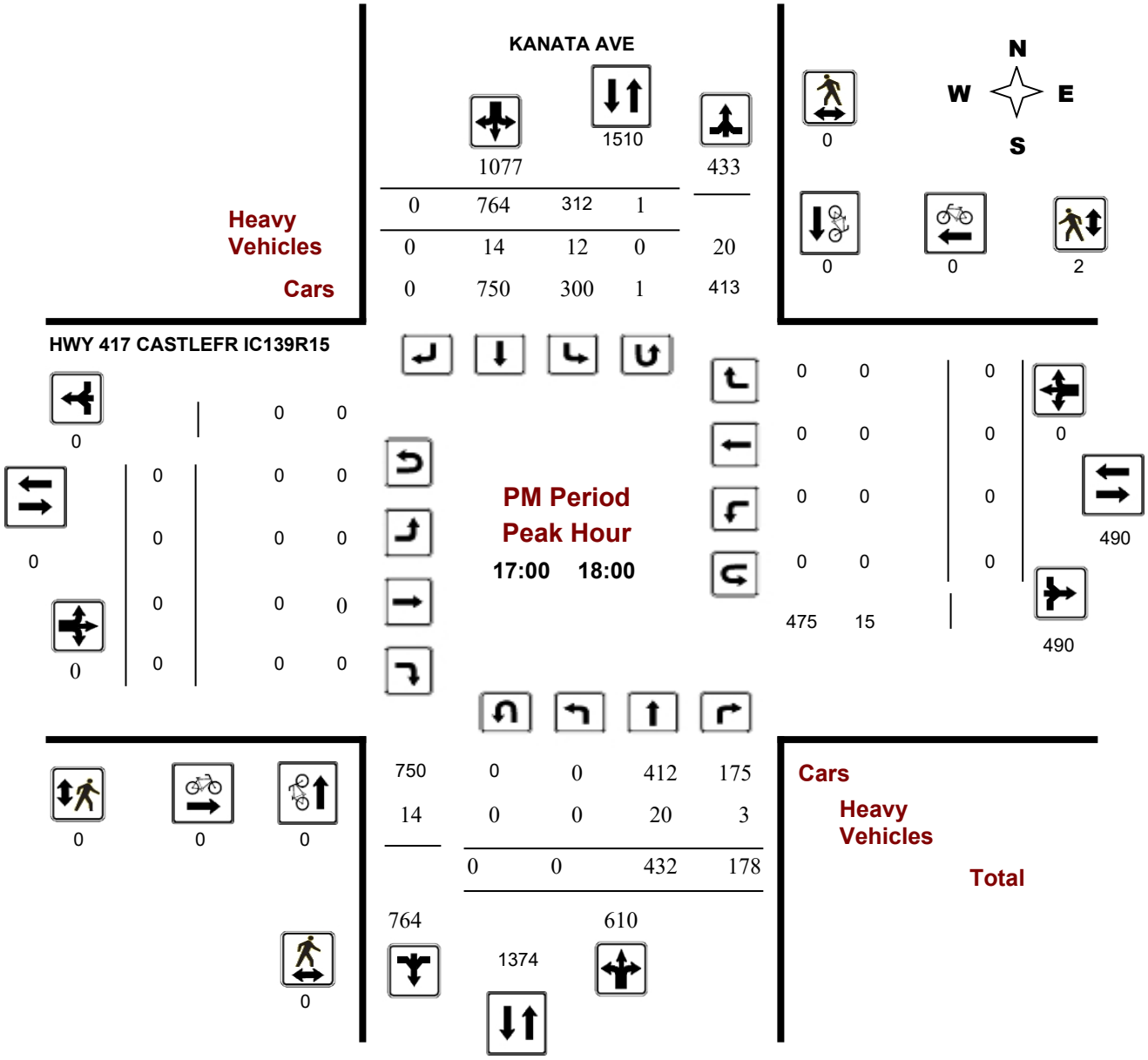
Transportation Services - Traffic Services

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

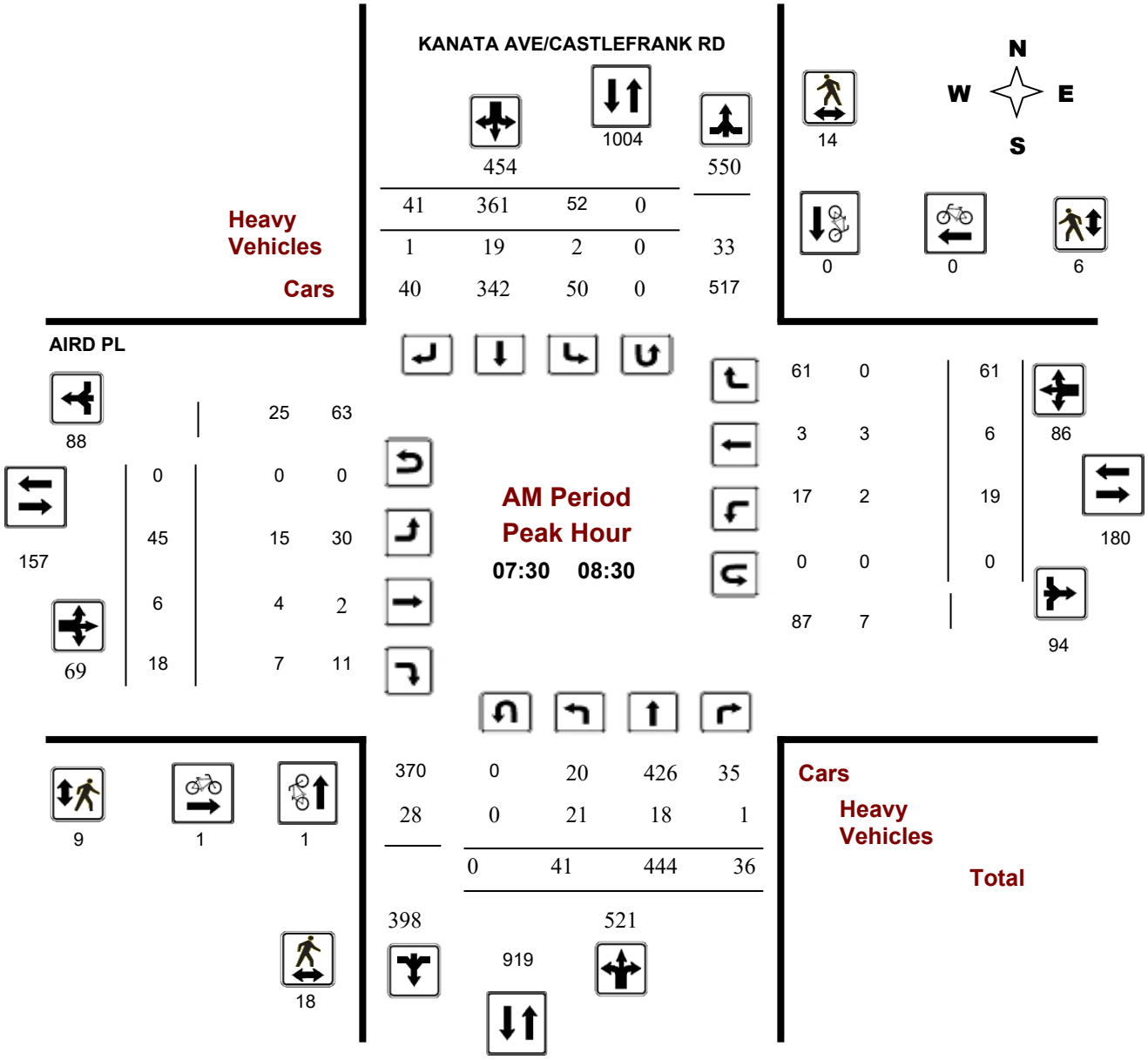
Transportation Services - Traffic Services

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

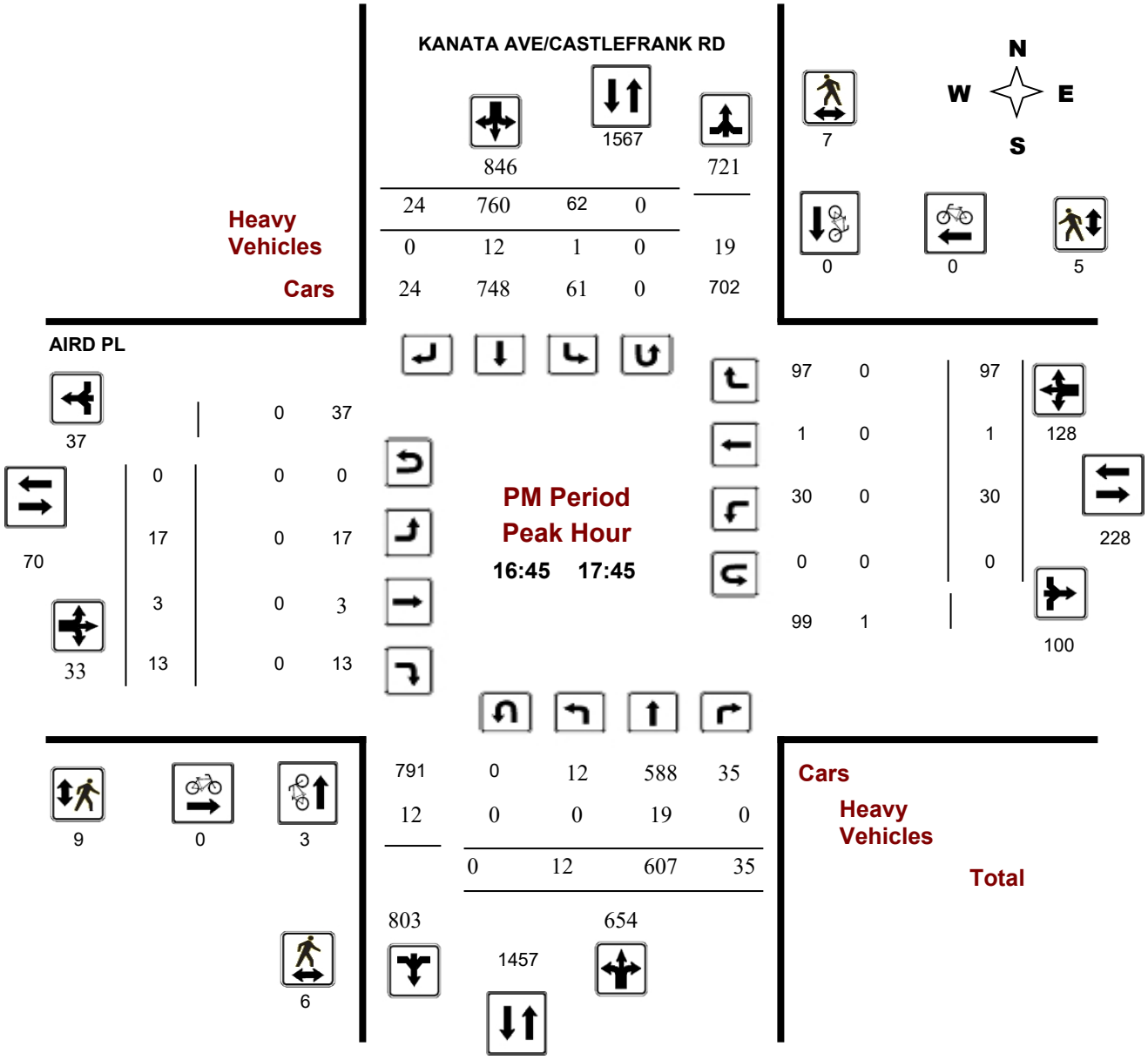
Transportation Services - Traffic Services

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

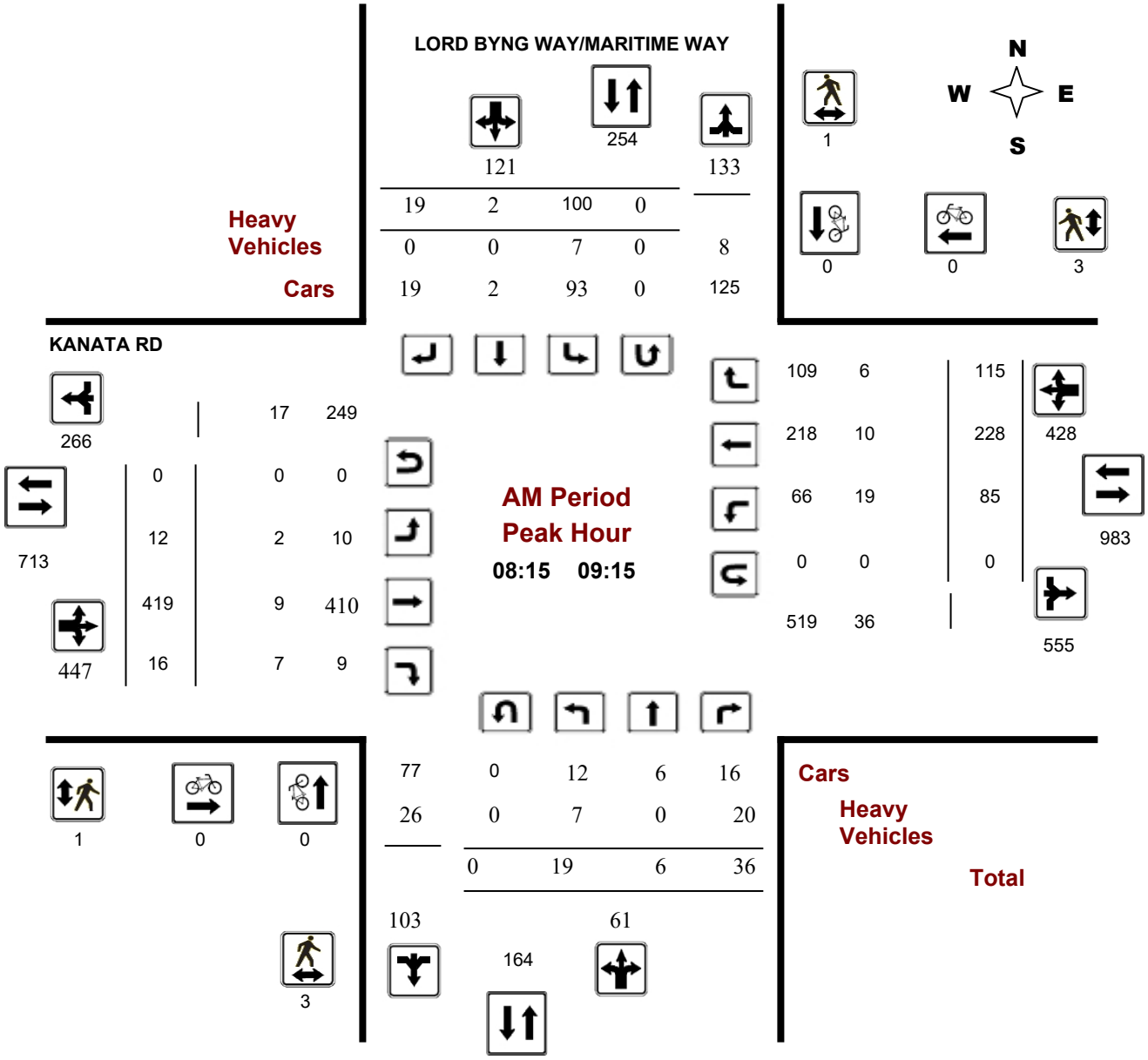
Transportation Services - Traffic Services

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

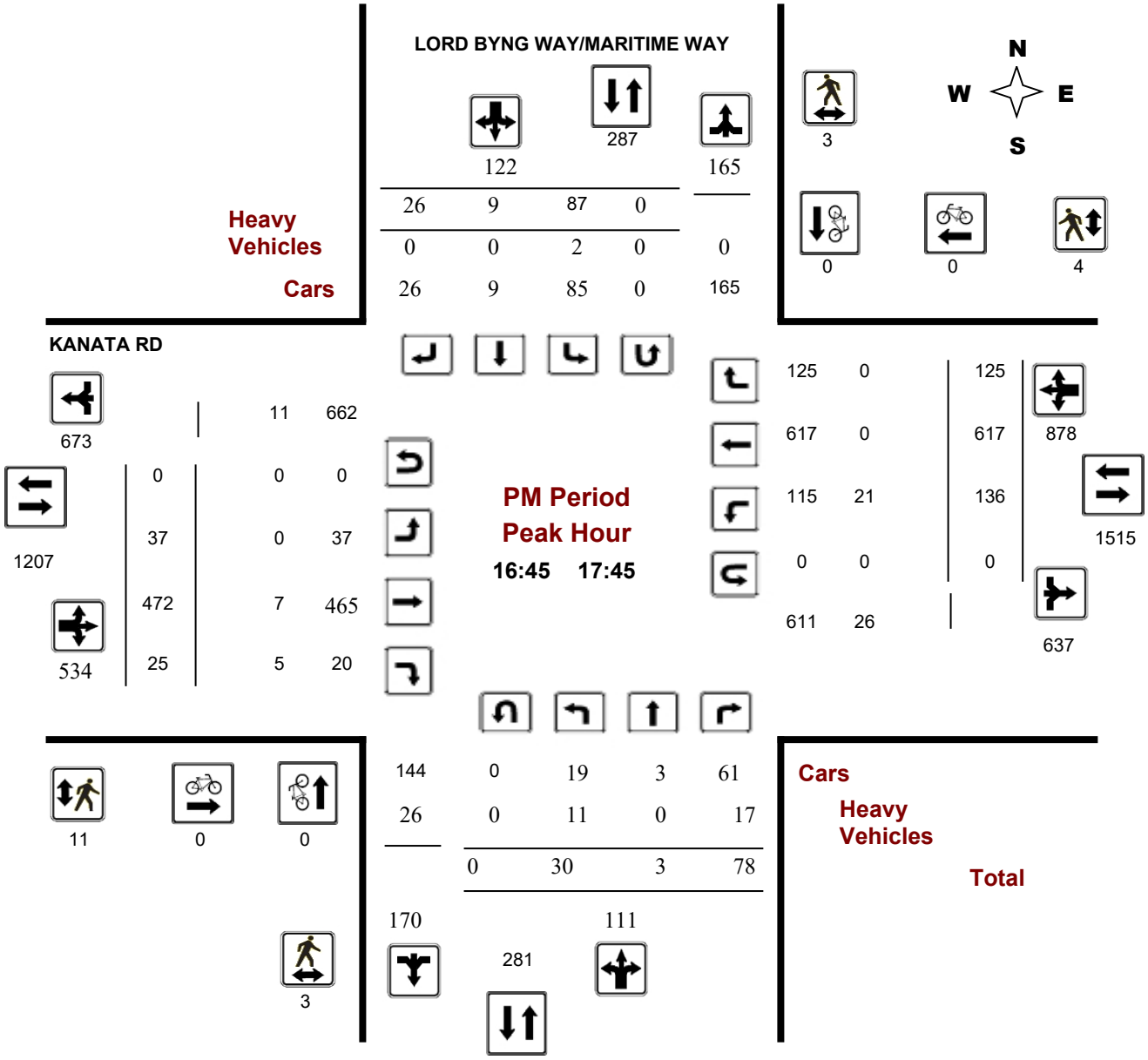
Transportation Services - Traffic Services

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

TRANS

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

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

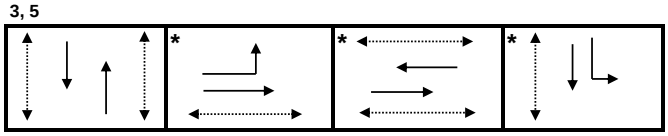
Intersection:	***Main:*** Castlefrank	***Side:***	Katimavik
Controller:	**MS 3200**	**TSD:**	**5995**
Author:	Matthew Anderson	**Date:**	16-Oct-2020

Existing Timing Plans†

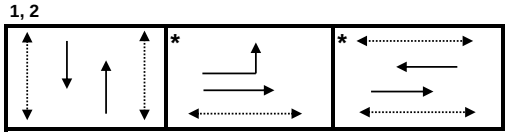
	Plan					**Ped Minimum Time**		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	**Weekend** 5	***Walk***	***DW***	***A+R***
Cycle	90	75	90	60	85			
Offset	25	19	25	X	12			
NB Thru	40	33	35	30	32	7	16	3.3+2.9
SB Thru	40	33	47	30	43	7	16	3.3+2.9
EB Left	12	12	12	-	12	-	-	3.3+3.4
EB Thru	50	42	43	30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

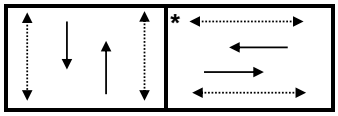
Plan: 3, 5



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

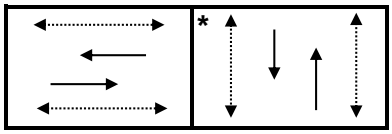
Intersection:	***Main:***	Campeau	***Side:***	Knudson / Maritime
Controller:	**MS 3200**		**TSD:**	**6548**
Author:	Matthew Anderson		**Date:**	16-Oct-2020

Existing Timing Plans†

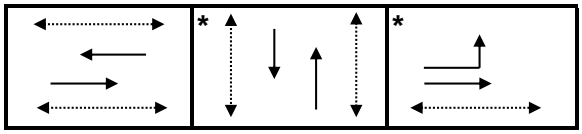
	Plan				**Ped Minimum Time**		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	***Walk***	***DW***	***A+R***
Cycle	80	60	90	60			
Offset	0	0	0	x			
EB Thru	45	35	66	max=45.7	7	15	3.7+2.0
WB Thru	45	35	51	max=45.7	7	15	3.7+2.0
NB Thru	35	25	24	max=26	7	10	3.0+3.0
SB Thru	35	25	24	max=26	7	10	3.0+3.0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

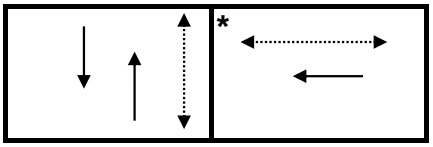
Intersection:	***Main:*** Kanata	***Side:***	417 WB Ramp
Controller:	**MS 3200**	**TSD:**	**6556**
Author:	Matthew Anderson	**Date:**	16-Oct-2020

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

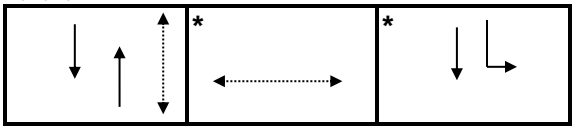
Intersection:	***Main:*** Kanata	***Side:***	417 EB Ramp
Controller:	**ATC 3**	**TSD:**	**6557**
Author:	Matthew Anderson	**Date:**	16-Oct-2020

Existing Timing Plans†

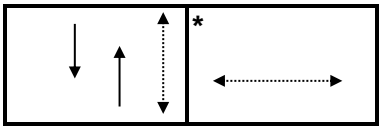
	Plan					**Ped Minimum Time**		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	**Weekend** 5	***Walk***	***DW***	***A+R***
Cycle	90	75	90	60	85			
Offset	42	27	27	X	19			
NB Thru	50	35	50	32	45	7	11	3.3+2.4
SB Thru	62	47	62	32	57	-	-	3.3+2.4
EW Ped	28	28	28	28	28	7	15	3.0+2.0
SB Left	12	12	12	-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

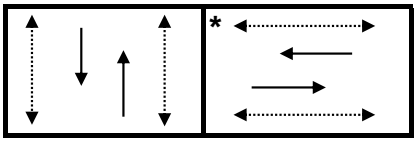
Intersection:	***Main:***	Kanata / Castlefrank	***Side:***	Aird
Controller:	**MS 3200**		**TSD:**	**6582**
Author:	Matthew Anderson		**Date:**	16-Oct-2020

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

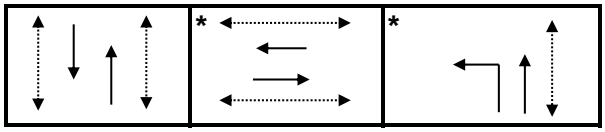
Existing Timing Plans†

	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

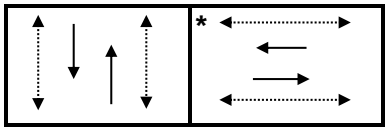
Note: Kanata is considered the NS movement

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

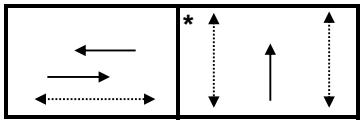
Intersection:	***Main:*** Kanata	***Side:*** Earl Grey	
Controller:	**ATC-3**	**TSD:**	6658
Author:	Matthew Anderson	**Date:**	16-Oct-20

Existing Timing Plans†

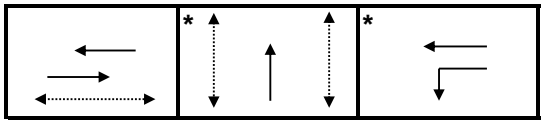
	Plan				**Ped Minimum Time**		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 9	***Walk***	***DW***	***A+R***
Cycle	55	80	100	Free			
Offset	0	0	0	X			
EB Thru	30	55	70	max=56.4	7	16	3.3+3.1
WB Thru	30	43	58	max=56.4	7	16	3.3+3.1
NB Thru	25	25	30	max=40.9	7	12	3.3+2.6
WB Left	-	12	12	-	-	-	3.3+2.5

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	

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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

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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	

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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

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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
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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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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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	

Record	Location	X	Y	Date	Time	Environment	Road_Surface	Traffic_Control	Collision_Location	Light	Collision_Classification	Impact_Type
5387	MARITIME WAY btwn CANADIAN SHIELD AVE & GREAT LAKES AVE	351863.7153	5019596.708	1/25/2014	12:56	05 - Drifting Snow	06 - Ice	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	07 - SMV other
8772	MARITIME WAY btwn CANADIAN SHIELD AVE & GREAT LAKES AVE	351863.7153	5019596.708	2/16/2015	6:06	01 - Clear	06 - Ice	10 - No control	01 - Non intersection	07 - Dark	03 - P.D. only	07 - SMV other
9093	MARITIME WAY btwn CANADIAN SHIELD AVE & GREAT LAKES AVE	351863.7153	5019596.708	1/17/2015	2:08	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	07 - Dark	03 - P.D. only	07 - SMV other
9910	MARITIME WAY btwn CANADIAN SHIELD AVE & GREAT LAKES AVE	351862.588	5019595.75	1/4/2017	15:24	03 - Snow	05 - Packed snow	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	06 - SMV unattended vehicle
10296	KANATA AVE btwn EARL GREY DR & MARITIME WAY	351322.707	5019326.57	11/1/2014	13:20	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	03 - Rear end
13010	KANATA AVE btwn EARL GREY DR & MARITIME WAY	351323.5607	5019327.033	10/18/2014	14:30	02 - Rain	02 - Wet	10 - No control	04 - At/near private drive	01 - Daylight	03 - P.D. only	02 - Angle
14293	KANATA AVE btwn EARL GREY DR & MARITIME WAY	351197.7998	5019316.379	12/16/2014	18:29	04 - Freezing Rain	04 - Slush	10 - No control	01 - Non intersection	07 - Dark	03 - P.D. only	03 - Rear end
4044	KANATA AVE btwn EARL GREY DR & MARITIME WAY	350964.7272	5019283.575	6/21/2015	17:17	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	03 - Rear end
6919	KANATA AVE btwn EARL GREY DR & MARITIME WAY	350966.212	5019287.066	1/31/2015	14:20	01 - Clear	06 - Ice	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	03 - Rear end
13882	KANATA AVE btwn EARL GREY DR & MARITIME WAY	350965.6271	5019285.924	11/27/2015	16:14	02 - Rain	02 - Wet	10 - No control	01 - Non intersection	05 - Dusk	03 - P.D. only	03 - Rear end
8874	KANATA AVE btwn EARL GREY DR & MARITIME WAY	351261.295	5019319.83	5/14/2017	11:45	02 - Rain	02 - Wet	10 - No control	04 - At/near private drive	01 - Daylight	03 - P.D. only	03 - Rear end
8875	KANATA AVE btwn EARL GREY DR & MARITIME WAY	351222.528	5019312.66	9/1/2017	21:50	02 - Rain	02 - Wet	10 - No control	01 - Non intersection	07 - Dark	03 - P.D. only	03 - Rear end
8876	KANATA AVE btwn EARL GREY DR & MARITIME WAY	351186.384	5019309.48	7/6/2017	7:38	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	03 - Rear end
8877	KANATA AVE btwn EARL GREY DR & MARITIME WAY	351401.343	5019331.95	2/3/2017	11:20	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	03 - Rear end
18-4253	KANATA AVE btwn EARL GREY DR & MARITIME WAY (__3ZBPN5)	351027.673	5019292.45	5/4/2018	23:21	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	07 - Dark	02 - Non-fatal injury	03 - Rear end
9517	KANATA AVE btwn MARITIME WAY & HWY417 IC139 RAMP61	351467.172	5019324.465	8/25/2015	8:08	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	03 - Rear end
8355	KANATA AVE btwn MARITIME WAY & HWY417 IC139 RAMP61	351609.1982	5019229.343	5/13/2016	18:09	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	02 - Non-fatal injury	03 - Rear end
9143	KANATA AVE btwn HWY417 IC139 RAMP61 & Continuation of KANATA AVE	351656.2998	5019192.177	1/27/2015	18:06	01 - Clear	01 - Dry	10 - No control	07 - Overpass or bridge	07 - Dark	03 - P.D. only	03 - Rear end
790	KANATA AVE btwn HWY417 IC139 RAMP15 & AIRD PL	351722.7382	5019139.86	1/8/2014	15:21	03 - Snow	03 - Loose snow	10 - No control	01 - Non intersection	01 - Daylight	02 - Non-fatal injury	03 - Rear end
1971	KANATA AVE btwn HWY417 IC139 RAMP15 & AIRD PL	351728.8929	5019133.642	7/22/2014	19:35	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	02 - Non-fatal injury	03 - Rear end
8354	KANATA AVE btwn HWY417 IC139 RAMP15 & AIRD PL	351751.8721	5019117.288	9/2/2016	11:17	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	03 - Rear end
2858	CASTLEFRANK RD btwn KANATA AVE & KATIMAVIK RD	351925.8138	5018972.054	1/3/2014	8:45	01 - Clear	06 - Ice	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	03 - Rear end
9428	CASTLEFRANK RD btwn KANATA AVE & KATIMAVIK RD	351899.2817	5018997.93	6/16/2015	11:54	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	03 - Rear end
3303	CASTLEFRANK RD btwn KANATA AVE & KATIMAVIK RD	351929.383	5018971.61	7/11/2017	8:25	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	03 - Rear end

APPENDIX F

Relevant Excerpts from Other Reports

Figure 7: Site Generated Traffic Volumes

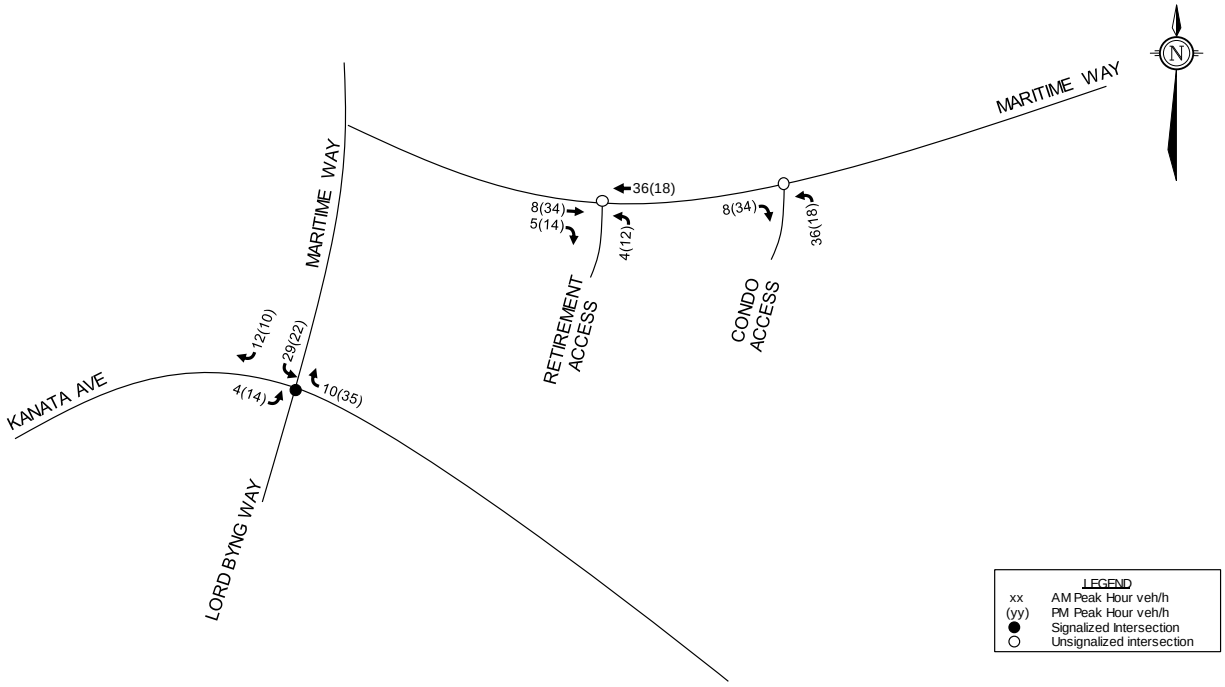


Figure 8: Total Traffic Volumes

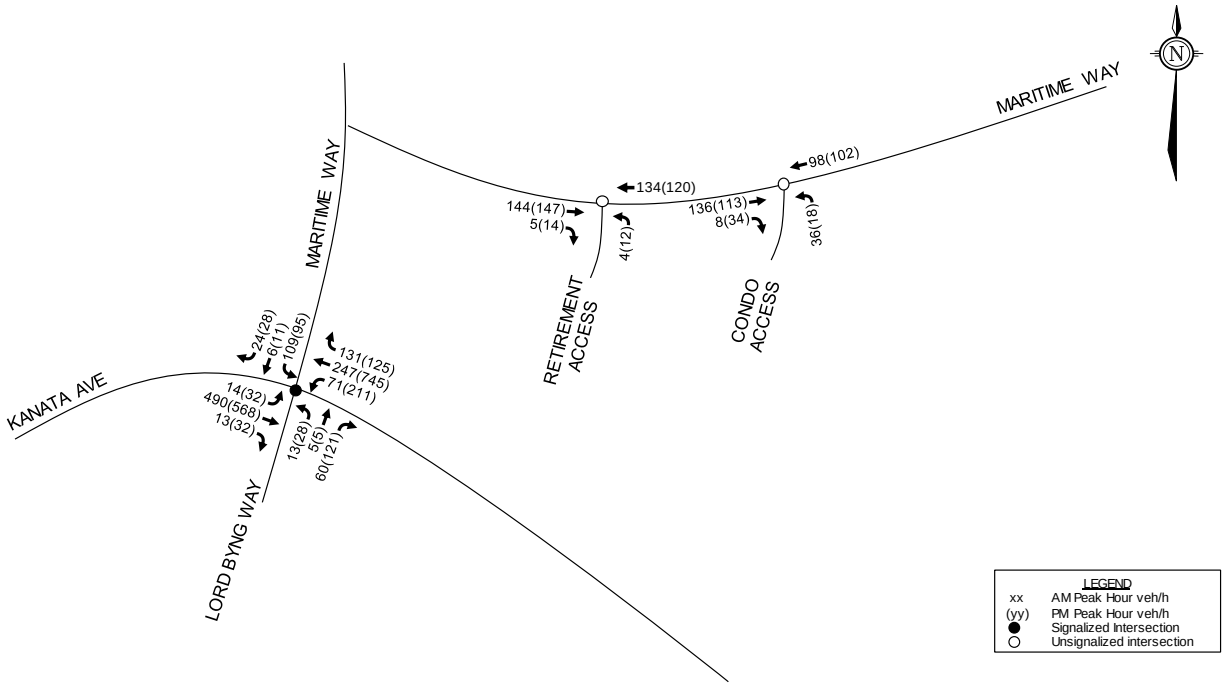


Figure 9: Projected Site-Generated Traffic

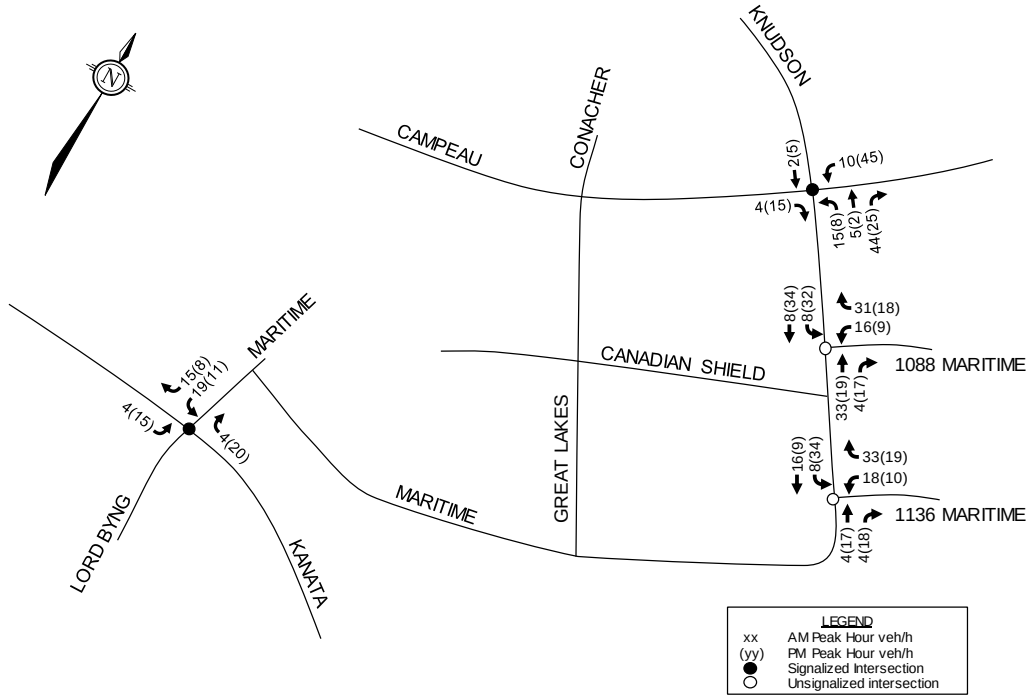
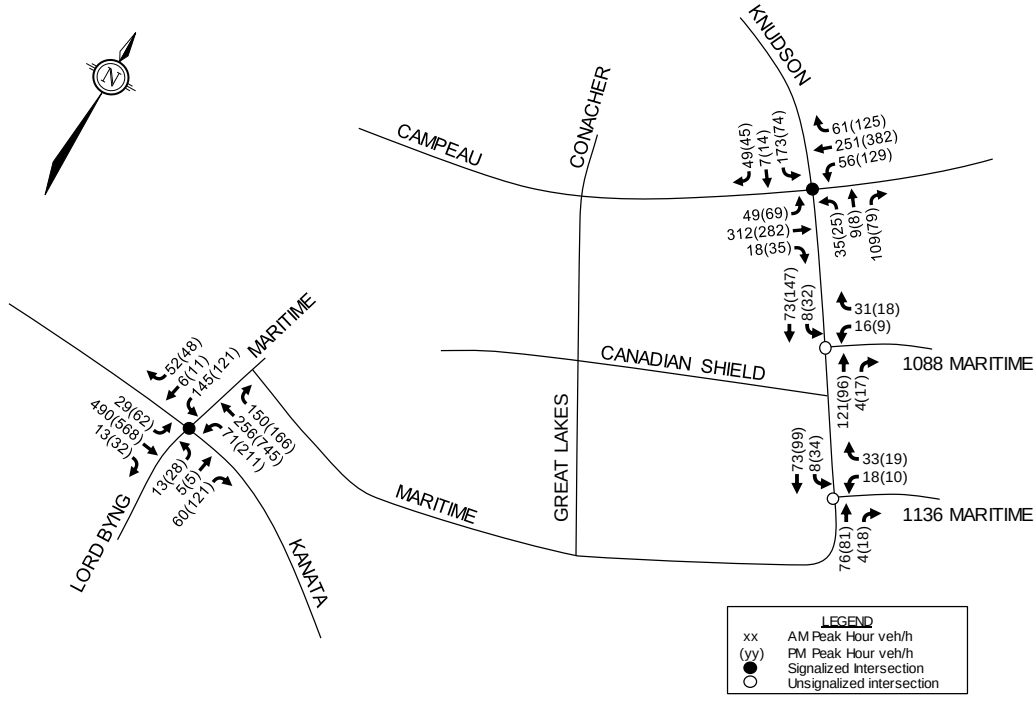
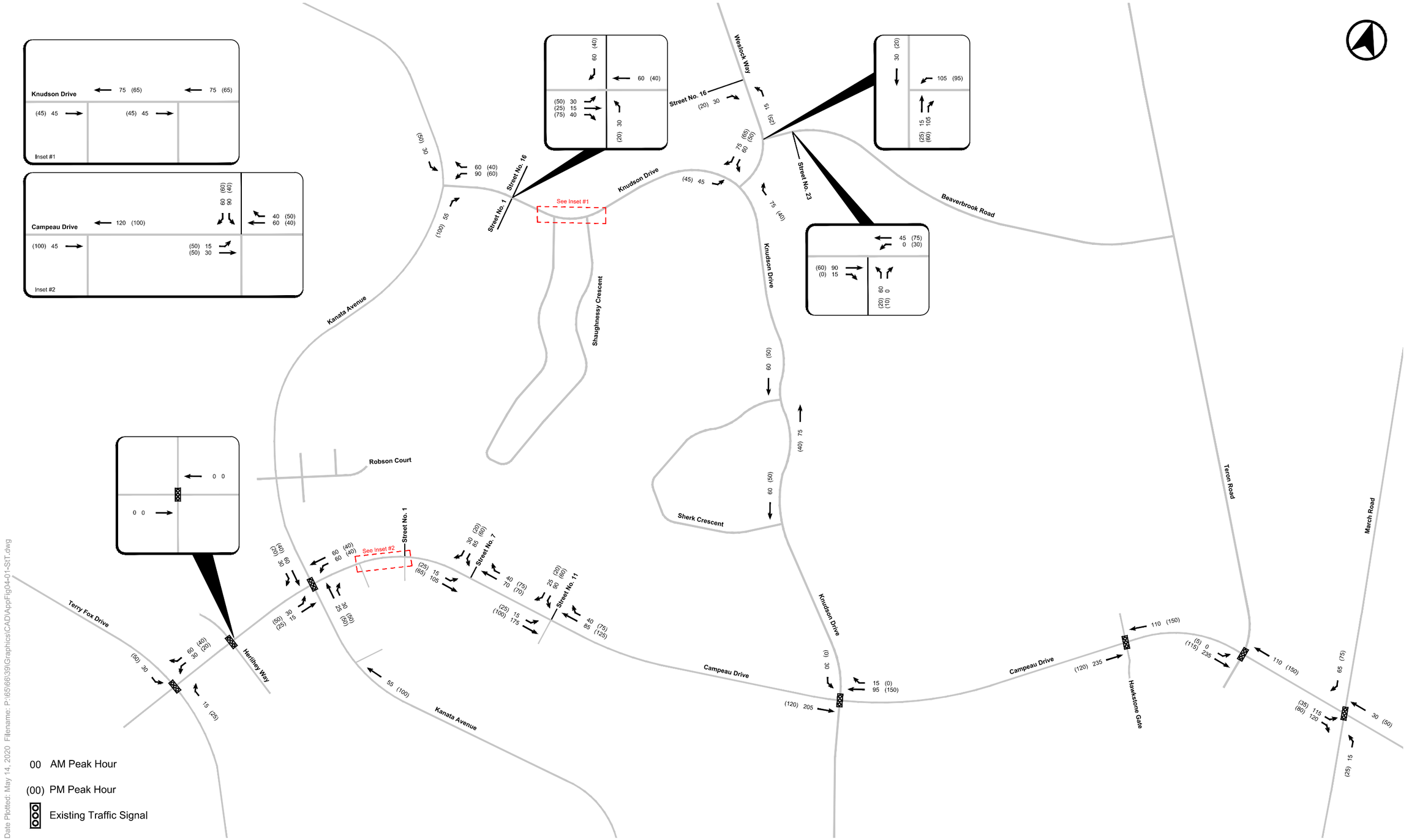


Figure 10: Total Traffic





APPENDIX C FIGURE 4 SITE TRAFFIC VOLUMES

Figure 6: Percent Assignment

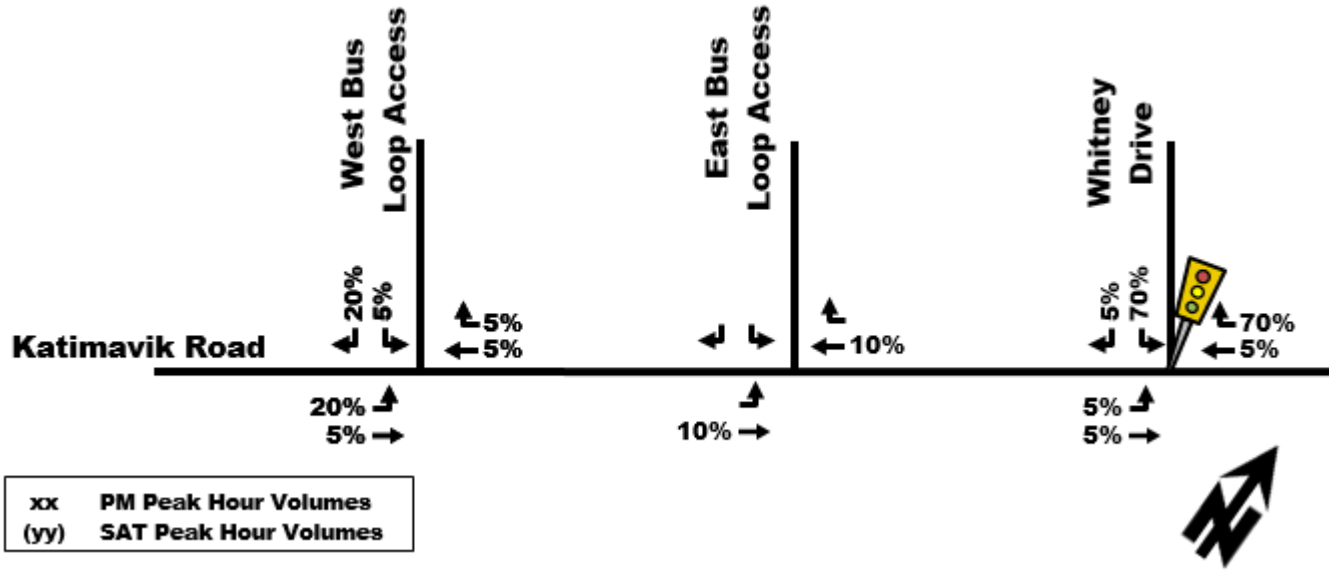
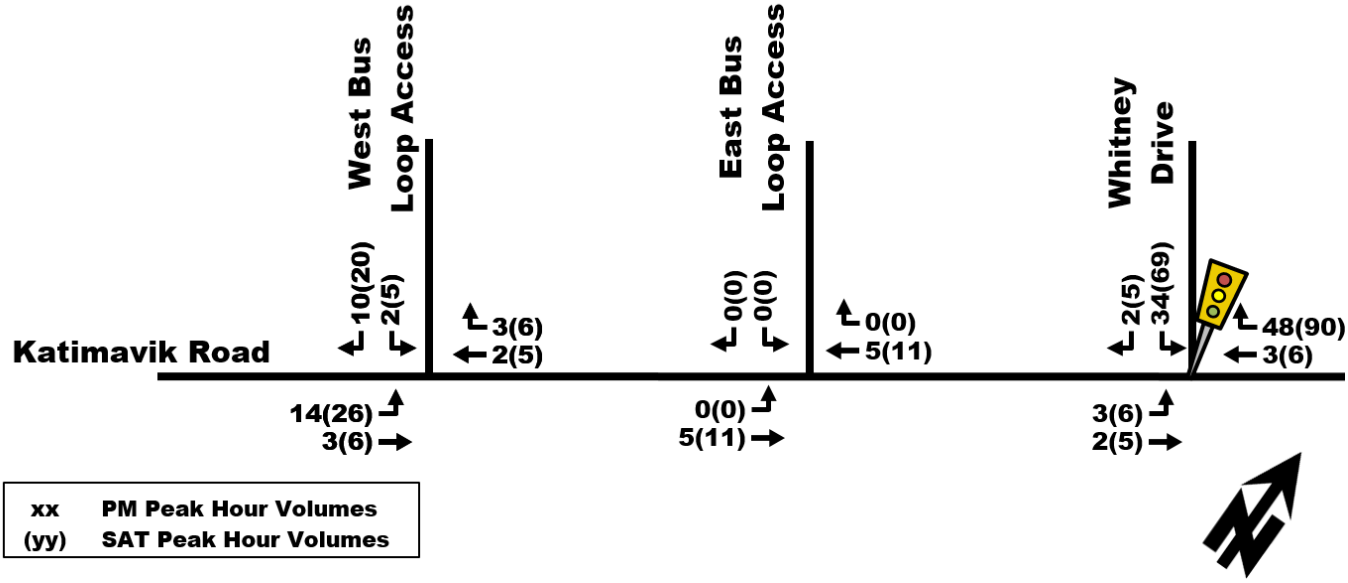


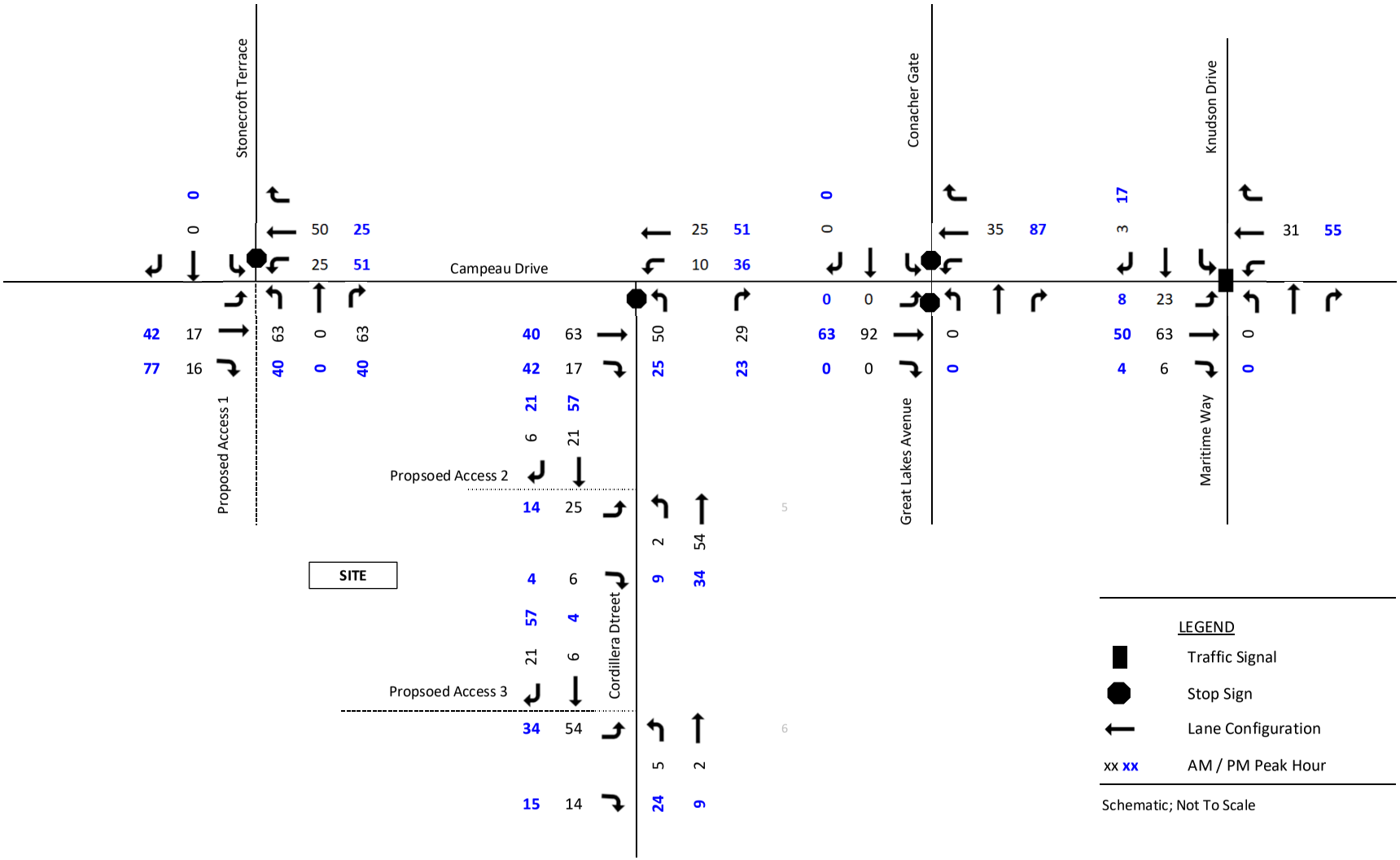
Figure 7: Site Generated Traffic Volumes



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 – Existing/Background Traffic

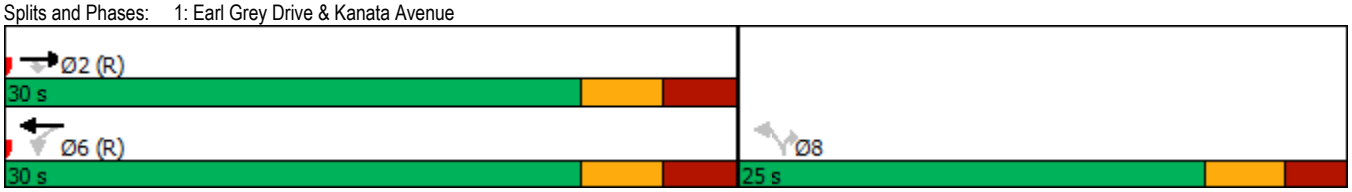


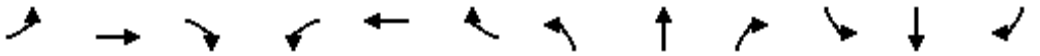
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	493	37	57	226	10	35
Future Volume (vph)	493	37	57	226	10	35
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		55.0	110.0		30.0	0.0
Storage Lanes		1	1		1	1
Taper Length (m)			100.0		45.0	
Lane Util. Factor	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			0.438		0.950	
Satd. Flow (perm)	1767	1394	781	1670	1441	1459
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		41				39
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	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	11%	2%	9%	20%	6%
Adj. Flow (vph)	548	41	63	251	11	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	548	41	63	251	11	39
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	0.41	0.04	0.11	0.20	0.05	0.15
Control Delay	8.0	3.1	6.8	6.0	16.9	7.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.0	3.1	6.8	6.0	16.9	7.5
LOS	A	A	A	A	B	A
Approach Delay	7.7			6.1	9.6	
Approach LOS	A			A	A	
Queue Length 50th (m)	20.3	0.0	1.8	7.6	1.0	0.0
Queue Length 95th (m)	#76.0	4.1	10.1	29.6	3.3	4.7
Internal Link Dist (m)	263.1			447.4	104.3	
Turn Bay Length (m)		55.0	110.0		30.0	
Base Capacity (vph)	1329	1059	587	1256	500	532
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	0.41	0.04	0.11	0.20	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: 0.41			
Intersection Signal Delay: 7.3		Intersection LOS: A	
Intersection Capacity Utilization 55.5%		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: 1: Earl Grey Drive & Kanata Avenue



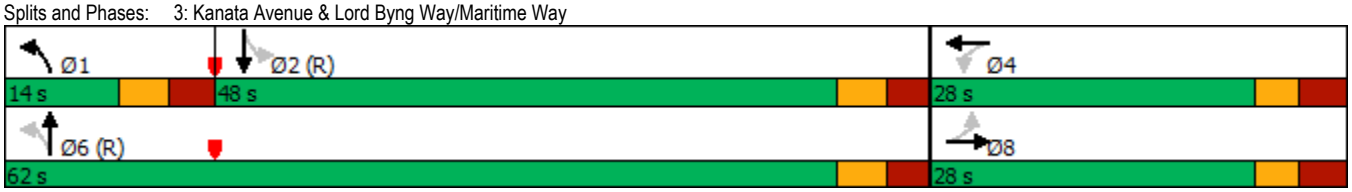


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	6	36	100	2	19	85	228	115	12	419	16
Future Volume (vph)	19	6	36	100	2	19	85	228	115	12	419	16
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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		0.872			0.863			0.950			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1262	1049	0	1616	1509	0	1417	1645	0	1478	1745	0
Flt Permitted	0.742			0.726			0.374			0.536		
Satd. Flow (perm)	984	1049	0	1228	1509	0	557	1645	0	833	1745	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		40			21			53			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	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	37%	2%	56%	7%	2%	2%	22%	4%	5%	17%	2%	44%
Adj. Flow (vph)	21	7	40	111	2	21	94	253	128	13	466	18
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	47	0	111	23	0	94	381	0	13	484	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)	14.4	14.4		14.4	14.4		66.3	67.5		56.6	56.6	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.74	0.75		0.63	0.63	
v/c Ratio	0.13	0.23		0.57	0.09		0.20	0.31		0.02	0.44	
Control Delay	31.9	14.6		45.3	13.8		5.8	4.8		11.9	14.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	31.9	14.6		45.3	13.8		5.8	4.8		11.9	14.4	
LOS	C	B		D	B		A	A		B	B	
Approach Delay		20.0			39.9			5.0			14.3	
Approach LOS		B			D			A			B	
Queue Length 50th (m)	3.2	1.1		18.2	0.3		3.0	10.2		1.0	47.2	
Queue Length 95th (m)	8.7	9.3		31.3	6.1		12.7	37.0		4.4	90.2	
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)	237	283		296	379		484	1247		523	1097	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.09	0.17		0.38	0.06		0.19	0.31		0.02	0.44	

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: 0.57			
Intersection Signal Delay: 13.8		Intersection LOS: B	
Intersection Capacity Utilization 59.3%		ICU Level of Service B	
Analysis Period (min) 15			

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



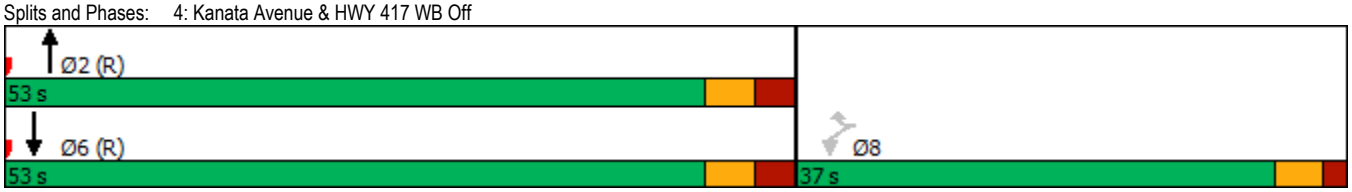


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	217	183	277	0	0	661
Future Volume (vph)	217	183	277	0	0	661
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1695	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)		203				
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	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	16%	6%	0%	0%	4%
Adj. Flow (vph)	241	203	308	0	0	734
Shared Lane Traffic (%)						
Lane Group Flow (vph)	241	203	308	0	0	734
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)	18.2	18.2	60.7			60.7
Actuated g/C Ratio	0.20	0.20	0.67			0.67
v/c Ratio	0.70	0.47	0.27			0.33
Control Delay	44.1	7.9	2.8			6.4
Queue Delay	0.0	0.0	0.0			0.0
Total Delay	44.1	7.9	2.8			6.4
LOS	D	A	A			A
Approach Delay	27.6		2.8			6.4
Approach LOS	C		A			A
Queue Length 50th (m)	39.1	0.0	5.6			24.3
Queue Length 95th (m)	57.7	15.4	7.4			37.6
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	602	605	1158			2242
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.40	0.34	0.27			0.33

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: 0.70			
Intersection Signal Delay: 12.0		Intersection LOS: B	
Intersection Capacity Utilization 43.9%		ICU Level of Service A	
Analysis Period (min) 15			

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





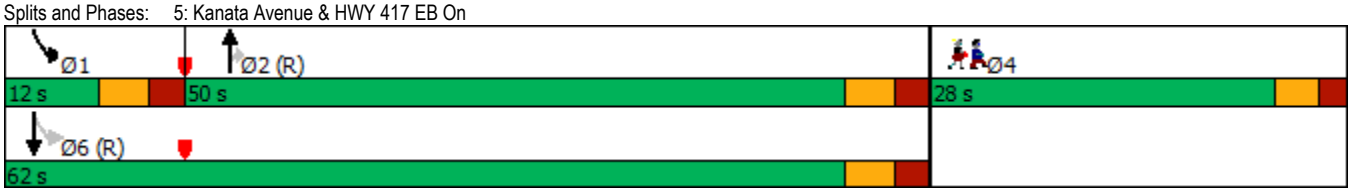
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lane Configurations							
Traffic Volume (vph)	0	0	253	196	332	414	
Future Volume (vph)	0	0	253	196	332	414	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0		50.0	0.0		
Storage Lanes	0	0		1	1		
Taper Length (m)	7.6				7.6		
Lane Util. 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					0.538		
Satd. Flow (perm)	0	0	1685	1468	949	1750	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)				218			
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	0.90	0.90	0.90	0.90	0.90	0.90	
Heavy Vehicles (%)	0%	0%	8%	3%	3%	4%	
Adj. Flow (vph)	0	0	281	218	369	460	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	281	218	369	460	
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)			66.2	66.2	78.9	83.5	
Actuated g/C Ratio			0.74	0.74	0.88	0.93	
v/c Ratio			0.23	0.19	0.42	0.28	
Control Delay			5.9	1.7	4.0	2.5	
Queue Delay			0.0	0.0	0.1	0.0	
Total Delay			5.9	1.7	4.1	2.5	
LOS			A	A	A	A	
Approach Delay			4.1			3.2	
Approach LOS			A			A	
Queue Length 50th (m)			4.9	0.0	0.8	0.0	
Queue Length 95th (m)			49.9	10.5	31.2	37.5	
Internal Link Dist (m)	254.4		95.2			102.6	
Turn Bay Length (m)				50.0			
Base Capacity (vph)			1240	1138	888	1623	
Starvation Cap Reductn			0	0	54	59	
Spillback Cap Reductn			0	0	0	0	
Storage Cap Reductn			0	0	0	0	
Reduced v/c Ratio			0.23	0.19	0.44	0.29	

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: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.42			
Intersection Signal Delay: 3.5		Intersection LOS: A	
Intersection Capacity Utilization 43.9%		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	444	36	52	361	41
Future Volume (vph)	45	6	18	19	6	61	41	444	36	52	361	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		0.99	1.00	
Frt		0.965			0.904			0.989			0.985	
Flt Protected		0.969			0.989		0.950			0.950		
Satd. Flow (prot)	0	1218	0	0	1463	0	1145	1728	0	1662	1705	0
Flt Permitted		0.787			0.918		0.489			0.437		
Satd. Flow (perm)	0	973	0	0	1348	0	584	1728	0	761	1705	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		19			68			8			12	
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	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	33%	67%	39%	11%	50%	2%	51%	4%	3%	4%	5%	2%
Adj. Flow (vph)	50	7	20	21	7	68	46	493	40	58	401	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	77	0	0	96	0	46	533	0	58	447	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	

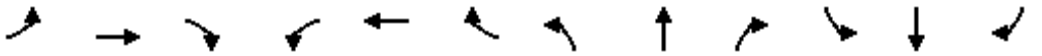
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.2	3.2		3.2	3.2		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.2			6.2		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		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)		13.3			13.3		69.2	69.2		69.2	69.2	
Actuated g/C Ratio		0.15			0.15		0.77	0.77		0.77	0.77	
v/c Ratio		0.48			0.37		0.10	0.40		0.10	0.34	
Control Delay		36.4			16.8		5.2	5.7		6.4	6.2	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.2	
Total Delay		36.4			16.8		5.2	5.7		6.4	6.4	
LOS		D			B		A	A		A	A	
Approach Delay		36.4			16.8			5.7			6.4	
Approach LOS		D			B			A			A	
Queue Length 50th (m)		9.5			4.4		2.3	33.3		2.8	23.7	
Queue Length 95th (m)		20.2			15.7		m5.9	46.8		7.9	38.1	
Internal Link Dist (m)		101.4			108.9			168.1			95.2	
Turn Bay Length (m)							30.0			50.0		
Base Capacity (vph)		271			406		449	1330		585	1313	
Starvation Cap Reductn		0			0		0	0		0	306	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.28			0.24		0.10	0.40		0.10	0.44	

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: 8.7 Intersection LOS: A
Intersection Capacity Utilization 64.1% 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



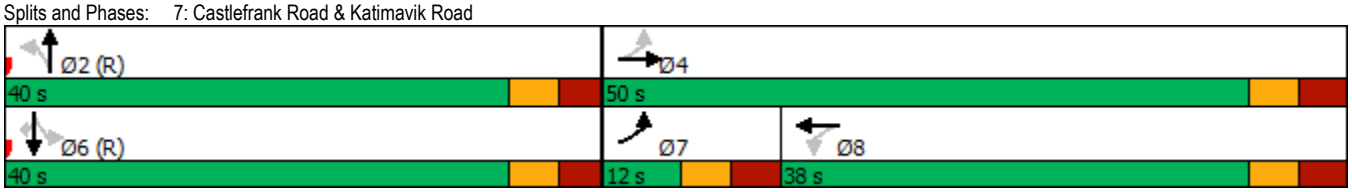


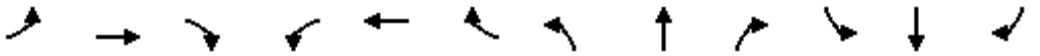
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	144	124	72	30	99	27	123	322	45	40	230	66
Future Volume (vph)	144	124	72	30	99	27	123	322	45	40	230	66
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage 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		0.97	0.99		0.97		0.94
Frt		0.945			0.968			0.982				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1586	1645	0	1695	1638	0	1695	1627	0	1503	1655	1322
Flt Permitted	0.451			0.622			0.598			0.470		
Satd. Flow (perm)	717	1645	0	1084	1638	0	1040	1627	0	723	1655	1245
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		45			17			9				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	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	9%	3%	2%	2%	3%	15%	2%	9%	7%	15%	10%	17%
Adj. Flow (vph)	160	138	80	33	110	30	137	358	50	44	256	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	160	218	0	33	140	0	137	408	0	44	256	73
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)	25.9	25.9		13.9	13.9		51.2	51.2		51.2	51.2	51.2
Actuated g/C Ratio	0.29	0.29		0.15	0.15		0.57	0.57		0.57	0.57	0.57
v/c Ratio	0.62	0.43		0.20	0.52		0.23	0.44		0.11	0.27	0.10
Control Delay	36.2	22.2		33.5	36.6		12.4	13.9		11.8	10.6	2.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	36.2	22.2		33.5	36.6		12.4	13.9		11.8	10.6	2.5
LOS	D	C		C	D		B	B		B	B	A
Approach Delay		28.1			36.0			13.5			9.2	
Approach LOS		C			D			B			A	
Queue Length 50th (m)	22.5	24.5		5.2	20.2		10.4	34.8		1.7	11.5	0.2
Queue Length 95th (m)	32.6	37.0		11.7	32.9		26.6	73.3		9.2	34.2	4.5
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)	257	814		376	580		591	929		411	941	762
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	0.27		0.09	0.24		0.23	0.44		0.11	0.27	0.10

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: 0.62			
Intersection Signal Delay: 18.8		Intersection LOS: B	
Intersection Capacity Utilization 75.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 7: Castlefrank Road & Katimavik Road





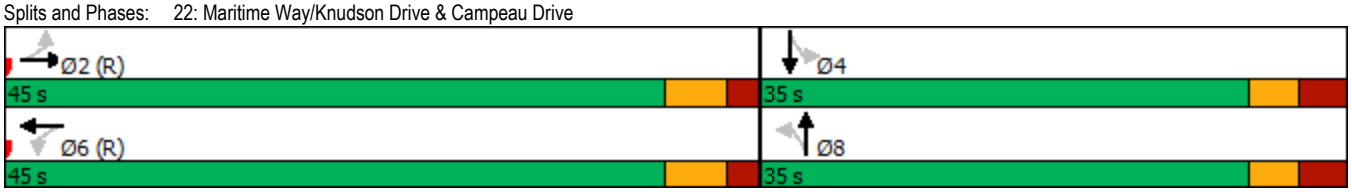
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	23	331	3	45	272	52	2	10	87	112	7	43
Future Volume (vph)	23	331	3	45	272	52	2	10	87	112	7	43
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	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		0.99	0.96		0.98	0.97	
Frt		0.999			0.976			0.865			0.871	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1727	0	1695	1587	0	1695	1477	0	1695	1490	0
Flt Permitted	0.543			0.536			0.720			0.687		
Satd. Flow (perm)	957	1727	0	946	1587	0	1274	1477	0	1196	1490	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		1			17			97			48	
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	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	5%	33%	2%	11%	12%	2%	2%	2%	2%	14%	2%
Adj. Flow (vph)	26	368	3	50	302	58	2	11	97	124	8	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	371	0	50	360	0	2	108	0	124	56	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)	58.4	58.4		58.4	58.4		14.2	14.2		14.2	14.2	
Actuated g/C Ratio	0.73	0.73		0.73	0.73		0.18	0.18		0.18	0.18	
v/c Ratio	0.04	0.29		0.07	0.31		0.01	0.32		0.58	0.18	
Control Delay	5.7	6.4		5.9	6.4		24.0	9.8		40.7	11.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	5.7	6.4		5.9	6.4		24.0	9.8		40.7	11.1	
LOS	A	A		A	A		C	A		D	B	
Approach Delay		6.4			6.3			10.0			31.5	
Approach LOS		A			A			B			C	
Queue Length 50th (m)	1.1	19.4		2.2	18.0		0.3	1.4		17.6	1.0	
Queue Length 95th (m)	4.4	41.2		7.2	39.6		1.9	12.7		31.1	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)	699	1261		690	1163		461	597		433	570	
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	0.04	0.29		0.07	0.31		0.00	0.18		0.29	0.10	

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: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 10.9 Intersection LOS: B
Intersection Capacity Utilization 54.8% ICU Level of Service A
Analysis Period (min) 15

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



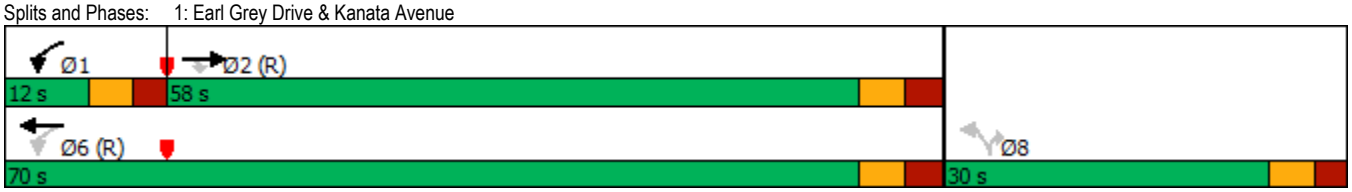


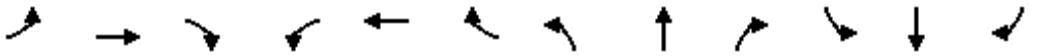
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	421	82	214	489	79	177
Future Volume (vph)	421	82	214	489	79	177
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		55.0	110.0		30.0	0.0
Storage Lanes		1	1		1	1
Taper Length (m)			100.0		45.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98	1.00			0.98
Frt		0.850				0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1640	1517	1695	1784	1695	1517
Flt Permitted			0.399		0.950	
Satd. Flow (perm)	1640	1483	711	1784	1695	1482
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		91				197
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	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	11%	2%	2%	2%	2%	2%
Adj. Flow (vph)	468	91	238	543	88	197
Shared Lane Traffic (%)						
Lane Group Flow (vph)	468	91	238	543	88	197
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)	61.4	61.4	76.9	76.3	11.4	11.4
Actuated g/C Ratio	0.61	0.61	0.77	0.76	0.11	0.11
v/c Ratio	0.47	0.10	0.37	0.40	0.46	0.57
Control Delay	13.7	2.7	5.4	5.7	47.6	12.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	13.7	2.7	5.4	5.7	47.6	12.5
LOS	B	A	A	A	D	B
Approach Delay	11.9			5.6	23.3	
Approach LOS	B			A	C	
Queue Length 50th (m)	43.8	0.0	9.5	27.7	16.4	0.0
Queue Length 95th (m)	87.8	7.2	23.2	61.1	28.6	17.9
Internal Link Dist (m)	263.1			447.4	104.3	
Turn Bay Length (m)		55.0	110.0		30.0	
Base Capacity (vph)	1006	945	636	1361	408	506
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	0.47	0.10	0.37	0.40	0.22	0.39

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: 0.57			
Intersection Signal Delay: 10.9		Intersection LOS: B	
Intersection Capacity Utilization 56.0%		ICU Level of Service B	
Analysis Period (min) 15			

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



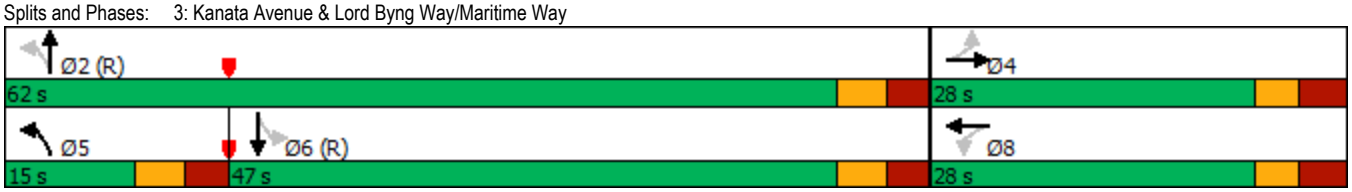


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	3	78	87	9	26	136	617	125	37	472	25
Future Volume (vph)	30	3	78	87	9	26	136	617	125	37	472	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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	1.00	
Frt		0.855			0.888			0.975			0.992	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1262	1248	0	1695	1535	0	1503	1732	0	1695	1752	0
Flt Permitted	0.732			0.699			0.323			0.354		
Satd. Flow (perm)	952	1248	0	1238	1535	0	510	1732	0	631	1752	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		87			29			21			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	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	37%	2%	22%	2%	2%	2%	15%	2%	2%	2%	2%	20%
Adj. Flow (vph)	33	3	87	97	10	29	151	686	139	41	524	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	33	90	0	97	39	0	151	825	0	41	552	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)	13.7	13.7		13.7	13.7		66.9	68.2		52.8	52.8	
Actuated g/C Ratio	0.15	0.15		0.15	0.15		0.74	0.76		0.59	0.59	
v/c Ratio	0.23	0.34		0.51	0.15		0.32	0.63		0.11	0.54	
Control Delay	35.2	11.1		39.5	12.1		6.1	9.0		13.1	16.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.1		0.0	0.0	
Total Delay	35.2	11.1		39.5	12.1		6.1	9.1		13.1	16.3	
LOS	D	B		D	B		A	A		B	B	
Approach Delay		17.6			31.7			8.6			16.1	
Approach LOS		B			C			A			B	
Queue Length 50th (m)	5.2	0.5		16.1	1.9		5.3	56.1		3.1	56.4	
Queue Length 95th (m)	12.1	11.7		27.7	8.9		m13.4	126.1		10.5	110.0	
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)	229	366		298	392		476	1317		370	1029	
Starvation Cap Reductn	0	0		0	0		0	38		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	0.25		0.33	0.10		0.32	0.65		0.11	0.54	

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: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 13.4		Intersection LOS: B	
Intersection Capacity Utilization 80.2%		ICU Level of Service D	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

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



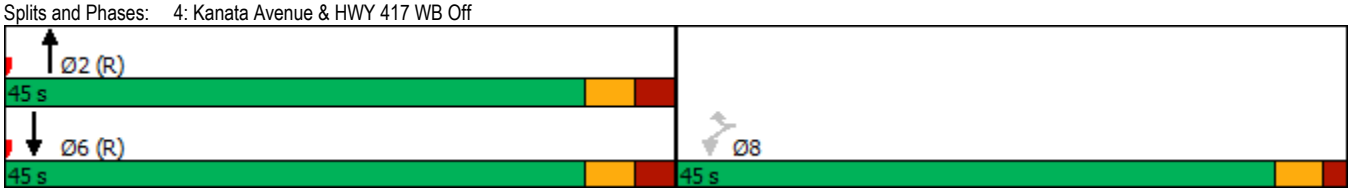


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	419	549	548	0	0	811
Future Volume (vph)	419	549	548	0	0	811
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
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)		171				
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	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	4%	0%	0%	3%
Adj. Flow (vph)	466	610	609	0	0	901
Shared Lane Traffic (%)						
Lane Group Flow (vph)	466	610	609	0	0	901
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)	34.1	34.1	44.8			44.8
Actuated g/C Ratio	0.38	0.38	0.50			0.50
v/c Ratio	0.73	0.90	0.70			0.54
Control Delay	30.2	35.1	19.9			15.3
Queue Delay	0.0	0.0	0.4			0.0
Total Delay	30.2	35.1	20.3			15.3
LOS	C	D	C			B
Approach Delay	33.0		20.3			15.3
Approach LOS	C		C			B
Queue Length 50th (m)	64.1	69.6	69.0			36.0
Queue Length 95th (m)	91.3	#116.5	#127.4			60.3
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	753	769	870			1670
Starvation Cap Reductn	0	0	45			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.62	0.79	0.74			0.54

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: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 23.8		Intersection LOS: C	
Intersection Capacity Utilization 97.5%		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: 4: Kanata Avenue & HWY 417 WB Off





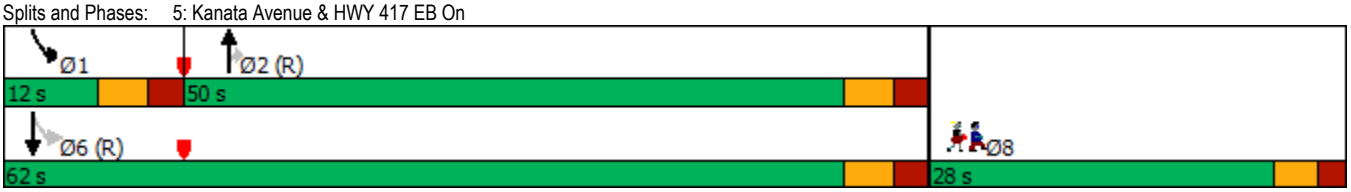
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations							
Traffic Volume (vph)	0	0	432	178	312	764	
Future Volume (vph)	0	0	432	178	312	764	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0		50.0	0.0		
Storage Lanes	0	0		1	1		
Taper Length (m)	7.6				7.6		
Lane Util. 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	1733	1517	1662	1784	
Flt Permitted					0.413		
Satd. Flow (perm)	0	0	1733	1479	722	1784	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)				198			
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	0.90	0.90	0.90	0.90	0.90	0.90	
Heavy Vehicles (%)	0%	0%	5%	2%	4%	2%	
Adj. Flow (vph)	0	0	480	198	347	849	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	480	198	347	849	
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)			65.4	65.4	78.9	83.5	
Actuated g/C Ratio			0.73	0.73	0.88	0.93	
v/c Ratio			0.38	0.18	0.49	0.51	
Control Delay			4.3	0.7	5.9	3.8	
Queue Delay			0.3	0.0	0.2	0.0	
Total Delay			4.5	0.7	6.1	3.8	
LOS			A	A	A	A	
Approach Delay			3.4			4.5	
Approach LOS			A			A	
Queue Length 50th (m)			7.1	0.0	1.9	4.8	
Queue Length 95th (m)			67.4	3.5	35.5	83.4	
Internal Link Dist (m)	254.4		95.2			102.6	
Turn Bay Length (m)				50.0			
Base Capacity (vph)			1260	1129	713	1654	
Starvation Cap Reductn			281	0	65	6	
Spillback Cap Reductn			48	0	0	19	
Storage Cap Reductn			0	0	0	0	
Reduced v/c Ratio			0.49	0.18	0.54	0.52	

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: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 4.1		Intersection LOS: A	
Intersection Capacity Utilization 97.5%		ICU Level of Service F	
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)	17	3	13	30	1	97	12	607	35	62	760	24
Future Volume (vph)	17	3	13	30	1	97	12	607	35	62	760	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	1.00	
Frt		0.947			0.897			0.992			0.995	
Flt Protected		0.974			0.989		0.950			0.950		
Satd. Flow (prot)	0	1625	0	0	1542	0	1695	1751	0	1695	1773	0
Flt Permitted		0.690			0.909		0.265			0.343		
Satd. Flow (perm)	0	1145	0	0	1413	0	473	1751	0	611	1773	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14			108			6			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	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%	2%	2%
Adj. Flow (vph)	19	3	14	33	1	108	13	674	39	69	844	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	36	0	0	142	0	13	713	0	69	871	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	

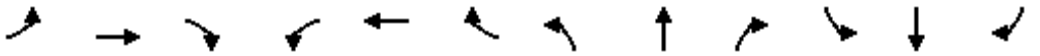
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.2	3.2		3.2	3.2		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.2			6.2		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		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)		10.2			10.2		67.9	67.9		67.9	67.9	
Actuated g/C Ratio		0.11			0.11		0.75	0.75		0.75	0.75	
v/c Ratio		0.25			0.55		0.04	0.54		0.15	0.65	
Control Delay		27.1			19.4		4.6	6.1		6.0	8.2	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.1	
Total Delay		27.1			19.4		4.6	6.1		6.0	8.3	
LOS		C			B		A	A		A	A	
Approach Delay		27.1			19.4			6.1			8.2	
Approach LOS		C			B			A			A	
Queue Length 50th (m)		3.6			5.6		0.4	26.6		2.5	40.6	
Queue Length 95th (m)		10.4			19.0		m1.4	76.5		m7.6	61.3	
Internal Link Dist (m)		101.4			108.9			168.1			95.2	
Turn Bay Length (m)							30.0			50.0		
Base Capacity (vph)		313			453		356	1321		460	1337	
Starvation Cap Reductn		0			0		0	31		0	41	
Spillback Cap Reductn		0			0		0	0		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.12			0.31		0.04	0.55		0.15	0.67	

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: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 8.6 Intersection LOS: A
Intersection Capacity Utilization 73.6% ICU Level of Service D
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





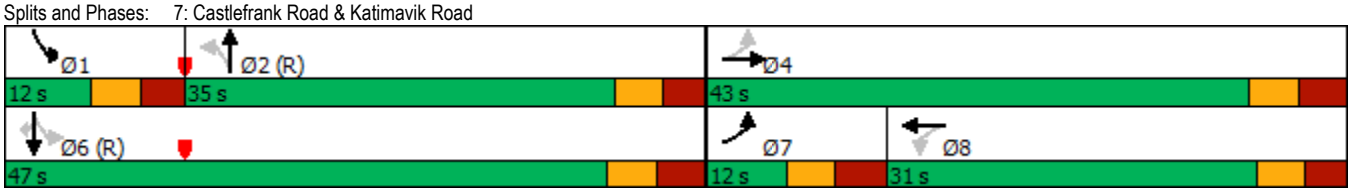
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	113	129	75	84	171	86	41	347	49	83	544	176
Future Volume (vph)	113	129	75	84	171	86	41	347	49	83	544	176
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage 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	0.98	0.98		0.98	0.98		0.98	0.99		0.98		0.92
Frt		0.945			0.950			0.982				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	1659	0	1558	1639	0	1695	1737	0	1647	1784	1473
Flt Permitted	0.264			0.617			0.392			0.281		
Satd. Flow (perm)	455	1659	0	994	1639	0	684	1737	0	479	1784	1356
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		39			28			8				196
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	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	2%	2%	11%	2%	7%	2%	2%	2%	5%	2%	5%
Adj. Flow (vph)	126	143	83	93	190	96	46	386	54	92	604	196
Shared Lane Traffic (%)												
Lane Group Flow (vph)	126	226	0	93	286	0	46	440	0	92	604	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

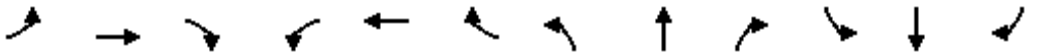
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.4	3.4		2.9	2.9		2.9	2.9		2.9	3.4	3.4
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7		6.2	6.2		6.2	6.2		6.2	6.7	6.7
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	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)	30.6	30.6		19.1	19.1		35.7	35.7		46.5	46.0	46.0
Actuated g/C Ratio	0.34	0.34		0.21	0.21		0.40	0.40		0.52	0.51	0.51
v/c Ratio	0.56	0.38		0.44	0.77		0.17	0.63		0.27	0.66	0.25
Control Delay	30.2	19.4		36.2	43.9		23.9	29.4		15.2	21.0	4.8
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	30.2	19.4		36.2	43.9		23.9	29.4		15.2	21.0	4.8
LOS	C	B		D	D		C	C		B	C	A
Approach Delay		23.3			42.0			28.9			16.9	
Approach LOS		C			D			C			B	
Queue Length 50th (m)	15.2	23.6		14.0	42.1		5.5	63.8		7.4	85.9	5.2
Queue Length 95th (m)	25.4	38.2		26.4	64.5		14.4	#112.4		m12.2	92.7	m13.2
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	692		273	471		271	694		337	911	788
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	0.56	0.33		0.34	0.61		0.17	0.63		0.27	0.66	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: 0.77
Intersection Signal Delay: 25.2 Intersection LOS: C
Intersection Capacity Utilization 83.7% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Castlefrank Road & Katimavik Road



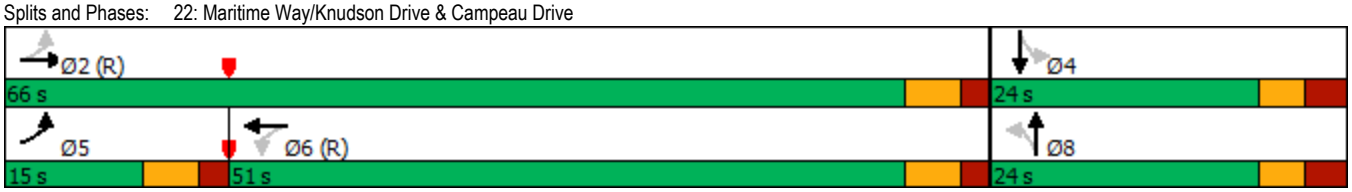


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	243	11	64	359	89	4	10	52	33	5	48
Future Volume (vph)	50	243	11	64	359	89	4	10	52	33	5	48
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	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		0.98	0.97		0.99	0.96	
Frt		0.994			0.970			0.874			0.865	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1771	0	1695	1714	0	1695	1520	0	1679	1487	0
Flt Permitted	0.389			0.587			0.719			0.712		
Satd. Flow (perm)	688	1771	0	1042	1714	0	1258	1520	0	1246	1487	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			20			58			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)	15		4	4		15	8		4	4		8
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	2%	2%
Adj. Flow (vph)	56	270	12	71	399	99	4	11	58	37	6	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	56	282	0	71	498	0	4	69	0	37	59	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		61.4	61.4		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	0.09	0.20		0.10	0.42		0.03	0.28		0.24	0.25	
Control Delay	3.9	3.9		8.8	10.4		37.5	23.5		38.1	14.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	3.9	3.9		8.8	10.4		37.5	23.5		38.1	14.3	
LOS	A	A		A	B		D	C		D	B	
Approach Delay		3.9			10.2			24.3			23.5	
Approach LOS		A			B			C			C	
Queue Length 50th (m)	1.9	10.9		4.4	39.0		0.8	4.2		6.0	0.9	
Queue Length 95th (m)	6.2	25.3		12.6	78.2		m1.8	m14.8		13.7	10.7	
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)	640	1403		711	1176		251	350		249	339	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.09	0.20		0.10	0.42		0.02	0.20		0.15	0.17	

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: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.42			
Intersection Signal Delay: 10.4		Intersection LOS: B	
Intersection Capacity Utilization 54.5%		ICU Level of Service A	
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



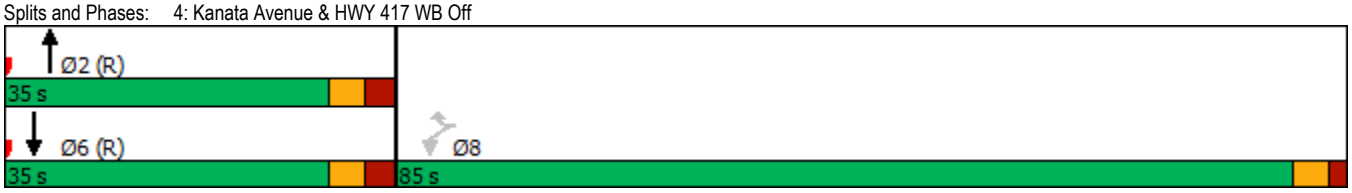


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	419	549	548	0	0	811
Future Volume (vph)	419	549	548	0	0	811
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
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)		36				
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	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	4%	0%	0%	3%
Adj. Flow (vph)	466	610	609	0	0	901
Shared Lane Traffic (%)						
Lane Group Flow (vph)	466	610	609	0	0	901
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)	85.0	85.0	35.0			35.0
Total Split (%)	70.8%	70.8%	29.2%			29.2%
Maximum Green (s)	80.0	80.0	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)	62.6	62.6	46.3			46.3
Actuated g/C Ratio	0.52	0.52	0.39			0.39
v/c Ratio	0.53	0.75	0.90			0.70
Control Delay	20.1	26.4	54.9			37.0
Queue Delay	0.0	0.0	47.6			0.0
Total Delay	20.1	26.4	102.5			37.0
LOS	C	C	F			D
Approach Delay	23.7		102.5			37.0
Approach LOS	C		F			D
Queue Length 50th (m)	68.8	102.0	134.9			93.5
Queue Length 95th (m)	65.7	100.6	#263.3			#167.5
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	1130	1023	675			1296
Starvation Cap Reductn	0	0	126			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.41	0.60	1.11			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: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.90			
Intersection Signal Delay: 46.9		Intersection LOS: D	
Intersection Capacity Utilization 97.5%		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: 4: Kanata Avenue & HWY 417 WB Off



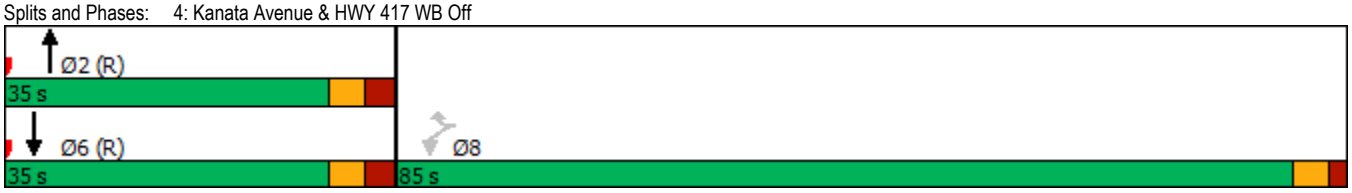


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	419	549	548	0	0	811
Future Volume (vph)	419	549	548	0	0	811
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
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)		36				
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	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	4%	0%	0%	3%
Adj. Flow (vph)	466	610	609	0	0	901
Shared Lane Traffic (%)						
Lane Group Flow (vph)	466	610	609	0	0	901
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)	85.0	85.0	35.0			35.0
Total Split (%)	70.8%	70.8%	29.2%			29.2%
Maximum Green (s)	80.0	80.0	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)	62.6	62.6	46.3			46.3
Actuated g/C Ratio	0.52	0.52	0.39			0.39
v/c Ratio	0.53	0.75	0.47			0.70
Control Delay	20.1	26.4	32.3			37.0
Queue Delay	0.0	0.0	0.4			0.0
Total Delay	20.1	26.4	32.7			37.0
LOS	C	C	C			D
Approach Delay	23.7		32.7			37.0
Approach LOS	C		C			D
Queue Length 50th (m)	68.8	102.0	56.6			93.5
Queue Length 95th (m)	65.7	100.6	91.3			#167.5
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	1130	1023	1283			1296
Starvation Cap Reductn	0	0	267			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.41	0.60	0.60			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: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.75			
Intersection Signal Delay: 30.4		Intersection LOS: C	
Intersection Capacity Utilization 97.5%		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: 4: Kanata Avenue & HWY 417 WB Off



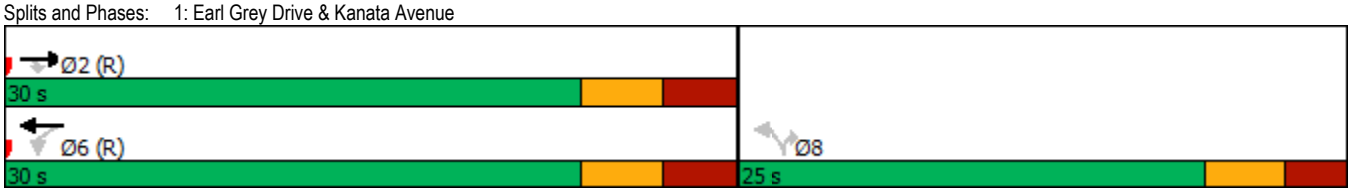


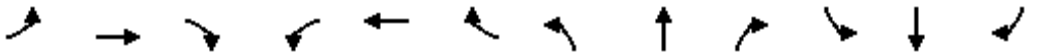
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	705	37	57	348	10	35
Future Volume (vph)	705	37	57	348	10	35
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		55.0	110.0		30.0	0.0
Storage Lanes		1	1		1	1
Taper Length (m)			100.0		45.0	
Lane Util. Factor	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			0.337		0.950	
Satd. Flow (perm)	1767	1394	601	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)	705	37	57	348	10	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	705	37	57	348	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	0.13	0.28	0.05	0.14
Control Delay	11.0	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	11.0	3.2	7.3	6.4	16.8	7.6
LOS	B	A	A	A	B	A
Approach Delay	10.6			6.6	9.6	
Approach LOS	B			A	A	
Queue Length 50th (m)	30.0	0.0	1.6	11.3	0.9	0.0
Queue Length 95th (m)	#123.1	3.9	9.8	42.2	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	452	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	0.28	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



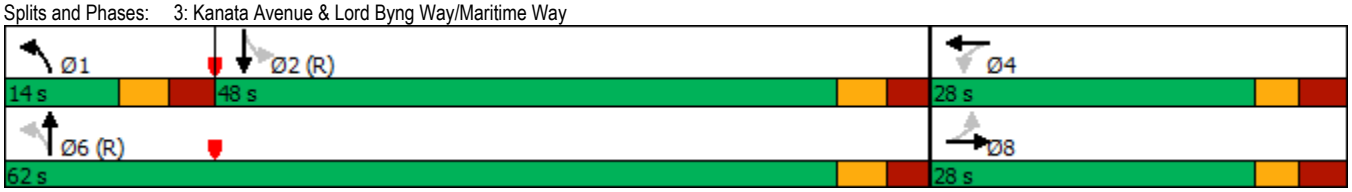


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	6	36	164	2	49	85	323	147	22	611	16
Future Volume (vph)	19	6	36	164	2	49	85	323	147	22	611	16
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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			0.856			0.953			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1262	1045	0	1616	1495	0	1417	1651	0	1478	1758	0
Flt Permitted	0.724			0.730			0.254			0.494		
Satd. Flow (perm)	960	1045	0	1234	1495	0	379	1651	0	768	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			49			48			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	164	2	49	85	323	147	22	611	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	42	0	164	51	0	85	470	0	22	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)	16.6	16.6		16.6	16.6		60.8	60.8		49.8	49.8	
Actuated g/C Ratio	0.18	0.18		0.18	0.18		0.68	0.68		0.55	0.55	
v/c Ratio	0.11	0.19		0.72	0.16		0.25	0.42		0.05	0.64	
Control Delay	29.5	13.6		51.8	10.3		7.9	6.9		13.1	20.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	29.5	13.6		51.8	10.3		7.9	6.9		13.1	20.4	
LOS	C	B		D	B		A	A		B	C	
Approach Delay		18.5			41.9			7.0			20.2	
Approach LOS		B			D			A			C	
Queue Length 50th (m)	2.7	0.9		26.7	0.3		3.1	15.1		1.8	76.5	
Queue Length 95th (m)	8.1	8.7		44.9	8.8		13.2	53.0		6.2	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)	231	279		297	397		346	1131		424	973	
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		0.55	0.13		0.25	0.42		0.05	0.64	

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: 0.72			
Intersection Signal Delay: 18.3		Intersection LOS: B	
Intersection Capacity Utilization 72.0%		ICU Level of Service C	
Analysis Period (min) 15			

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



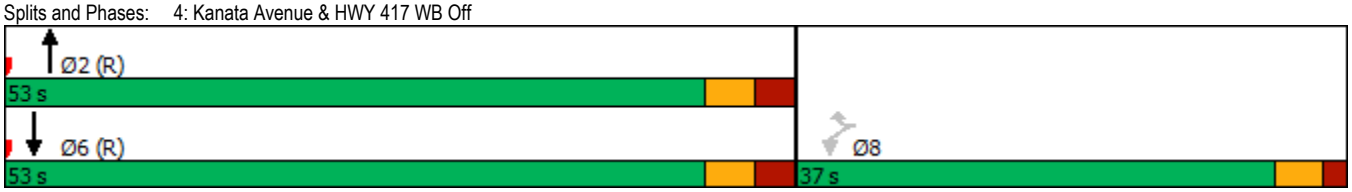


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	252	239	367	0	0	940
Future Volume (vph)	252	239	367	0	0	940
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1695	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)		239				
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)	252	239	367	0	0	940
Shared Lane Traffic (%)						
Lane Group Flow (vph)	252	239	367	0	0	940
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)	18.9	18.9	60.0			60.0
Actuated g/C Ratio	0.21	0.21	0.67			0.67
v/c Ratio	0.71	0.51	0.32			0.42
Control Delay	43.4	7.8	3.0			8.3
Queue Delay	0.0	0.0	0.2			0.0
Total Delay	43.4	7.8	3.2			8.3
LOS	D	A	A			A
Approach Delay	26.0		3.2			8.3
Approach LOS	C		A			A
Queue Length 50th (m)	40.8	0.0	6.6			31.1
Queue Length 95th (m)	58.6	16.2	8.4			59.6
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	602	628	1144			2215
Starvation Cap Reductn	0	0	226			0
Spillback Cap Reductn	0	0	0			8
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.42	0.38	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: 0.71			
Intersection Signal Delay: 12.1		Intersection LOS: B	
Intersection Capacity Utilization 54.8%		ICU Level of Service A	
Analysis Period (min) 15			

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



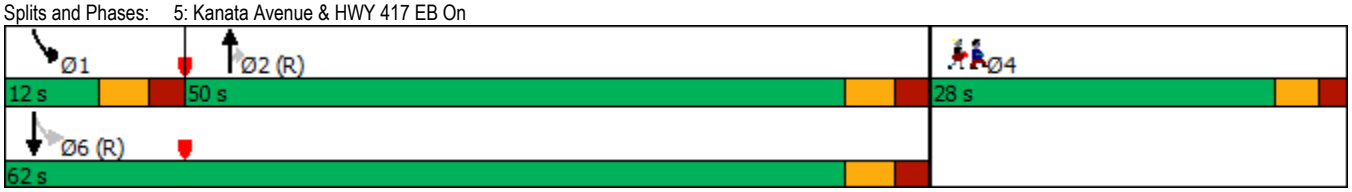
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lane Configurations							
Traffic Volume (vph)	0	0	339	227	452	586	
Future Volume (vph)	0	0	339	227	452	586	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0		50.0	0.0		
Storage Lanes	0	0		1	1		
Taper Length (m)	7.6				7.6		
Lane Util. 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					0.500		
Satd. Flow (perm)	0	0	1685	1468	883	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	339	227	452	586	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	339	227	452	586	
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)			64.8	64.8	78.9	83.5	
Actuated g/C Ratio			0.72	0.72	0.88	0.93	
v/c Ratio			0.28	0.20	0.53	0.36	
Control Delay			6.1	1.6	5.3	2.3	
Queue Delay			0.3	0.0	0.0	0.0	
Total Delay			6.4	1.6	5.3	2.3	
LOS			A	A	A	A	
Approach Delay			4.5			3.6	
Approach LOS			A			A	
Queue Length 50th (m)			5.0	0.0	3.5	0.0	
Queue Length 95th (m)			59.9	11.1	31.4	39.6	
Internal Link Dist (m)	254.4		95.2			102.6	
Turn Bay Length (m)				50.0			
Base Capacity (vph)			1213	1120	848	1623	
Starvation Cap Reductn			402	0	6	9	
Spillback Cap Reductn			0	0	0	0	
Storage Cap Reductn			0	0	0	0	
Reduced v/c Ratio			0.42	0.20	0.54	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: 0.53			
Intersection Signal Delay: 3.9		Intersection LOS: A	
Intersection Capacity Utilization 54.8%		ICU Level of Service A	
Analysis Period (min) 15			

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



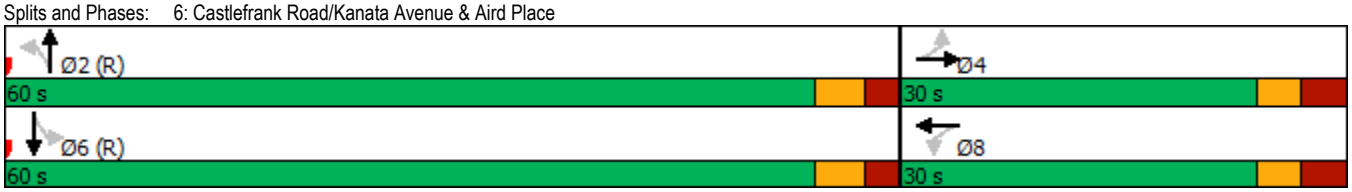
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	6	18	19	6	61	41	561	36	52	525	41
Future Volume (vph)	45	6	18	19	6	61	41	561	36	52	525	41
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	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		0.419			0.402		
Satd. Flow (perm)	0	1001	0	0	1336	0	501	1732	0	701	1713	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	561	36	52	525	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	69	0	0	86	0	41	597	0	52	566	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	

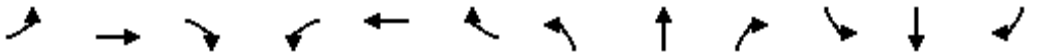
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.2	3.2		3.2	3.2		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.2			6.2		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		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	0.45		0.10	0.43	
Control Delay		34.5			17.0		5.0	5.7		5.9	6.9	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.2	
Total Delay		34.5			17.0		5.0	5.7		5.9	7.1	
LOS		C			B		A	A		A	A	
Approach Delay		34.5			17.0			5.6			7.0	
Approach LOS		C			B			A			A	
Queue Length 50th (m)		8.4			4.0		1.9	34.7		3.1	44.6	
Queue Length 95th (m)		18.3			14.6		m5.0	51.0		6.4	41.1	
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		387	1339		541	1324	
Starvation Cap Reductn		0			0		0	0		0	200	
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	0.45		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: 0.45
Intersection Signal Delay: 8.3 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



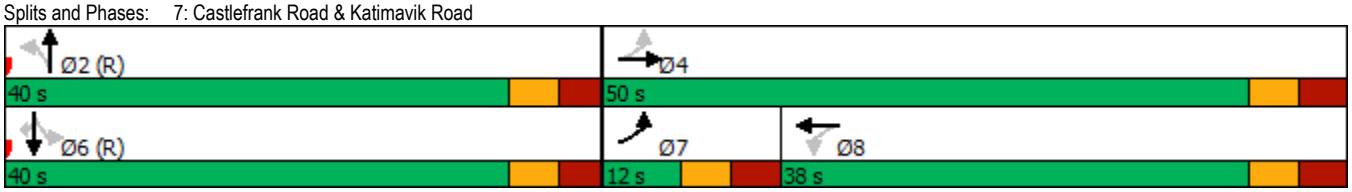


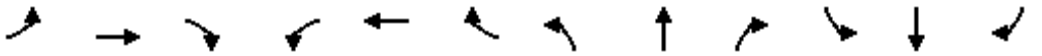
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	130	72	34	114	34	123	388	51	79	300	100
Future Volume (vph)	158	130	72	34	114	34	123	388	51	79	300	100
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage 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	1629	0	1695	1629	0	1503	1655	1322
Flt Permitted	0.447			0.631			0.559			0.444		
Satd. Flow (perm)	711	1649	0	1099	1629	0	975	1629	0	684	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)	158	130	72	34	114	34	123	388	51	79	300	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	158	202	0	34	148	0	123	439	0	79	300	100
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)	26.2	26.2		14.2	14.2		50.9	50.9		50.9	50.9	50.9
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	0.55		0.22	0.47		0.20	0.32	0.13
Control Delay	35.5	21.3		33.3	37.2		12.5	14.7		13.9	12.5	4.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	35.5	21.3		33.3	37.2		12.5	14.7		13.9	12.5	4.5
LOS	D	C		C	D		B	B		B	B	A
Approach Delay		27.5			36.4			14.2			11.1	
Approach LOS		C			D			B			B	
Queue Length 50th (m)	22.0	22.1		5.3	21.3		9.4	39.1		3.3	12.9	0.0
Queue Length 95th (m)	32.2	34.2		12.0	34.7		24.3	80.9		15.9	44.6	9.8
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		551	925		387	936	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	0.26		0.22	0.47		0.20	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: 18.8		Intersection LOS: B	
Intersection Capacity Utilization 80.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 7: Castlefrank Road & Katimavik Road





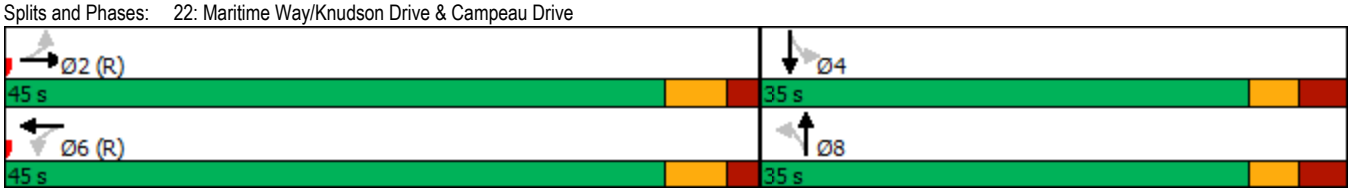
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	652	13	62	442	75	17	17	145	160	10	53
Future Volume (vph)	50	652	13	62	442	75	17	17	145	160	10	53
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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



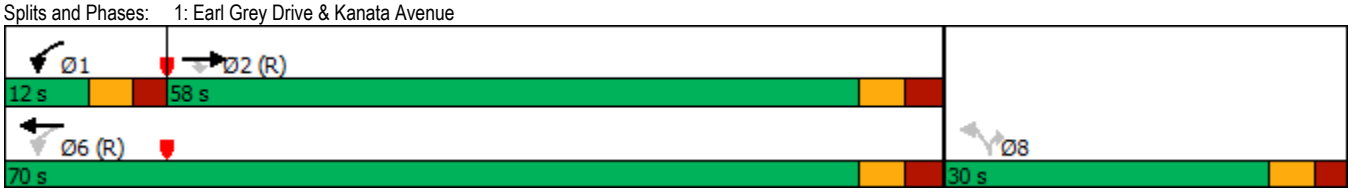


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	607	82	214	693	79	177
Future Volume (vph)	607	82	214	693	79	177
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		55.0	110.0		30.0	0.0
Storage Lanes		1	1		1	1
Taper Length (m)			100.0		45.0	
Lane Util. 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			0.315		0.950	
Satd. Flow (perm)	1640	1483	562	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)	607	82	214	693	79	177
Shared Lane Traffic (%)						
Lane Group Flow (vph)	607	82	214	693	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	0.60	0.09	0.40	0.51	0.42	0.55
Control Delay	16.1	2.8	5.9	6.7	46.9	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.1	2.8	5.9	6.7	46.9	12.7
LOS	B	A	A	A	D	B
Approach Delay	14.5			6.5	23.3	
Approach LOS	B			A	C	
Queue Length 50th (m)	62.5	0.0	8.2	39.1	14.7	0.0
Queue Length 95th (m)	128.5	6.8	20.7	88.5	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	533	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	0.60	0.09	0.40	0.51	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: 0.60			
Intersection Signal Delay: 11.8		Intersection LOS: B	
Intersection Capacity Utilization 66.3%		ICU Level of Service C	
Analysis Period (min) 15			

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

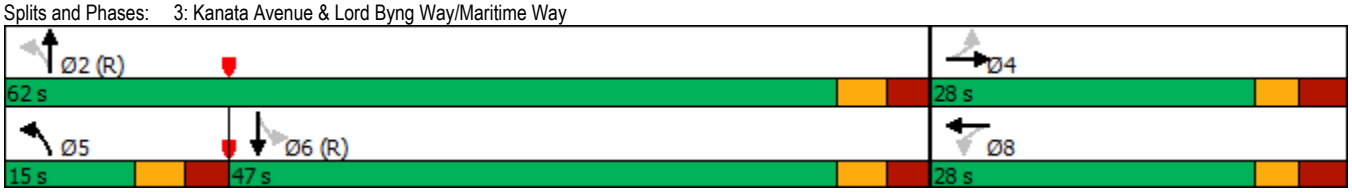


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	3	78	134	9	48	136	824	200	72	638	25
Future Volume (vph)	30	3	78	134	9	48	136	824	200	72	638	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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	0.96			1.00		1.00	1.00	
Frt		0.856			0.874			0.971			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1262	1250	0	1695	1504	0	1503	1724	0	1695	1760	0
Flt Permitted	0.720			0.704			0.226			0.194		
Satd. Flow (perm)	937	1250	0	1247	1504	0	358	1724	0	346	1760	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		78			48			25			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	134	9	48	136	824	200	72	638	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	81	0	134	57	0	136	1024	0	72	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)	15.3	15.3		15.3	15.3		62.1	62.1		47.9	47.9	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.69	0.69		0.53	0.53	
v/c Ratio	0.19	0.29		0.64	0.19		0.39	0.86		0.39	0.71	
Control Delay	32.7	10.5		41.6	8.5		6.8	14.6		23.3	22.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.5		0.0	0.0	
Total Delay	32.7	10.5		41.6	8.5		6.8	15.1		23.3	22.8	
LOS	C	B		D	A		A	B		C	C	
Approach Delay		16.5			31.7			14.1			22.8	
Approach LOS		B			C			B			C	
Queue Length 50th (m)	4.5	0.4		21.9	2.9		6.1	108.0		6.9	80.4	
Queue Length 95th (m)	11.2	11.3		37.3	10.5		m8.9	m#135.0		22.6	#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)	225	360		300	399		359	1197		184	938	
Starvation Cap Reductn	0	0		0	0		0	26		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		0.45	0.14		0.38	0.87		0.39	0.71	

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: 0.86			
Intersection Signal Delay: 18.7		Intersection LOS: B	
Intersection Capacity Utilization 98.4%		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



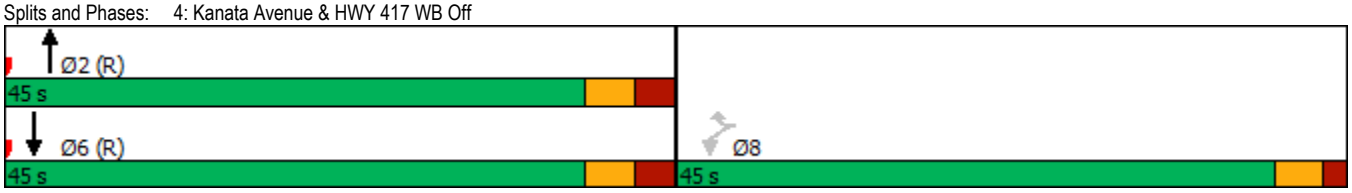


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	486	699	737	0	0	1064
Future Volume (vph)	486	699	737	0	0	1064
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
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)		114				
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)	486	699	737	0	0	1064
Shared Lane Traffic (%)						
Lane Group Flow (vph)	486	699	737	0	0	1064
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)	39.2	39.2	39.7			39.7
Actuated g/C Ratio	0.44	0.44	0.44			0.44
v/c Ratio	0.66	0.97	0.95			0.72
Control Delay	25.1	48.1	39.6			20.3
Queue Delay	0.3	0.6	26.1			0.0
Total Delay	25.4	48.7	65.8			20.3
LOS	C	D	E			C
Approach Delay	39.2		65.8			20.3
Approach LOS	D		E			C
Queue Length 50th (m)	63.3	98.1	97.2			44.1
Queue Length 95th (m)	96.5	#173.8	#190.0			73.8
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	753	737	772			1481
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	43	4	75			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.68	0.95	1.06			0.72

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: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 39.0		Intersection LOS: D	
Intersection Capacity Utilization 124.2%		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	602	206	408	963	
Future Volume (vph)	0	0	602	206	408	963	
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					0.279		
Satd. Flow (perm)	0	0	1733	1479	488	1784	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)				204			
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	602	206	408	963	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	602	206	408	963	
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)			53.9	53.9	78.9	83.5	
Actuated g/C Ratio			0.60	0.60	0.88	0.93	
v/c Ratio			0.58	0.21	0.60	0.58	
Control Delay			9.2	1.0	15.3	5.6	
Queue Delay			0.9	0.0	0.0	0.1	
Total Delay			10.0	1.0	15.3	5.7	
LOS			B	A	B	A	
Approach Delay			7.7			8.5	
Approach LOS			A			A	
Queue Length 50th (m)			40.7	1.1	20.5	9.3	
Queue Length 95th (m)			81.3	2.9	#69.3	#110.3	
Internal Link Dist (m)	254.4		95.2			102.6	
Turn Bay Length (m)				50.0			
Base Capacity (vph)			1037	967	679	1654	
Starvation Cap Reductn			194	0	0	6	
Spillback Cap Reductn			107	0	0	87	
Storage Cap Reductn			0	0	0	0	
Reduced v/c Ratio			0.71	0.21	0.60	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: 0.60			
Intersection Signal Delay: 8.2		Intersection LOS: A	
Intersection Capacity Utilization 124.2%		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



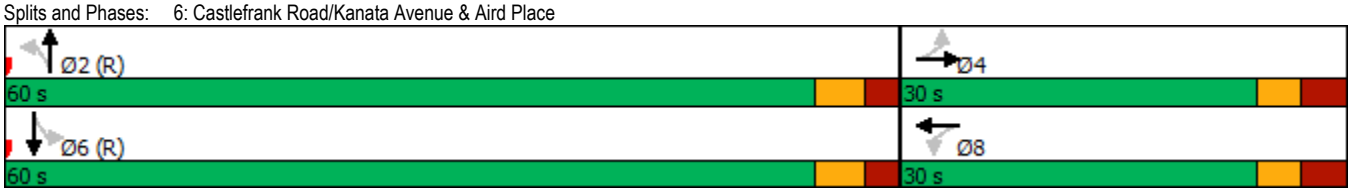
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	3	13	30	1	97	12	805	35	62	959	24
Future Volume (vph)	17	3	13	30	1	97	12	805	35	62	959	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	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		0.213			0.280		
Satd. Flow (perm)	0	1219	0	0	1415	0	380	1755	0	500	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	805	35	62	959	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	128	0	12	840	0	62	983	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	0.63		0.16	0.73	
Control Delay		26.2			19.2		4.8	8.1		6.8	12.2	
Queue Delay		0.0			0.0		0.0	0.1		0.0	0.0	
Total Delay		26.2			19.2		4.8	8.2		6.8	12.2	
LOS		C			B		A	A		A	B	
Approach Delay		26.2			19.2			8.1			11.9	
Approach LOS		C			B			A			B	
Queue Length 50th (m)		3.3			5.1		0.3	34.5		3.7	83.1	
Queue Length 95th (m)		9.9			17.8		m1.2	96.0		m5.7	#222.1	
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		287	1327		377	1342	
Starvation Cap Reductn		0			0		0	19		0	7	
Spillback Cap Reductn		0			2		0	39		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.10			0.29		0.04	0.65		0.16	0.74	

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: 11.0		Intersection LOS: B	
Intersection Capacity Utilization 75.8%		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



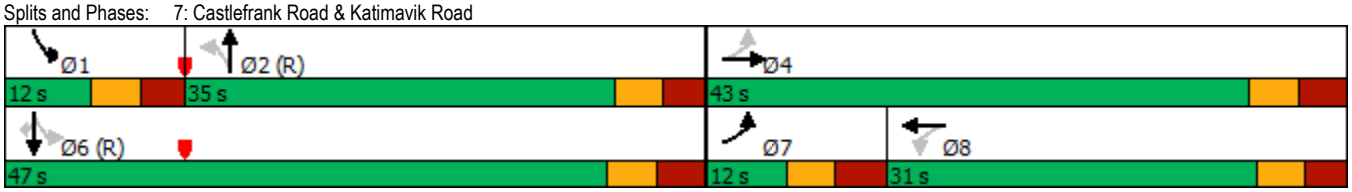
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	144	140	75	92	200	105	41	434	60	115	654	198
Future Volume (vph)	144	140	75	92	200	105	41	434	60	115	654	198
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage 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			0.948			0.982				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	1666	0	1558	1634	0	1695	1737	0	1647	1784	1473
Flt Permitted	0.250			0.624			0.330			0.222		
Satd. Flow (perm)	431	1666	0	1005	1634	0	577	1737	0	385	1784	1356
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			29			8				195
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)	144	140	75	92	200	105	41	434	60	115	654	198
Shared Lane Traffic (%)												
Lane Group Flow (vph)	144	215	0	92	305	0	41	494	0	115	654	198
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

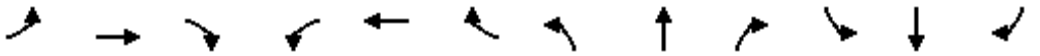
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.4	3.4		2.9	2.9		2.9	2.9		2.9	3.4	3.4
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7		6.2	6.2		6.2	6.2		6.2	6.7	6.7
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	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)	31.5	31.5		20.0	20.0		34.9	34.9		45.6	45.1	45.1
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	0.65	0.35		0.41	0.79		0.18	0.73		0.40	0.73	0.26
Control Delay	34.5	18.6		34.3	44.4		24.9	33.7		15.3	21.8	4.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	34.5	18.6		34.3	44.4		24.9	33.7		15.3	21.8	4.1
LOS	C	B		C	D		C	C		B	C	A
Approach Delay		25.0			42.0			33.0			17.4	
Approach LOS		C			D			C			B	
Queue Length 50th (m)	17.3	22.0		13.5	45.0		5.0	77.3		7.2	84.1	3.1
Queue Length 95th (m)	28.5	36.5		26.1	69.3		13.6	#135.0		m13.5	#152.5	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)	223	693		276	471		223	679		291	893	776
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	0.65	0.31		0.33	0.65		0.18	0.73		0.40	0.73	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: 0.79
Intersection Signal Delay: 26.7 Intersection LOS: C
Intersection Capacity Utilization 93.3% 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



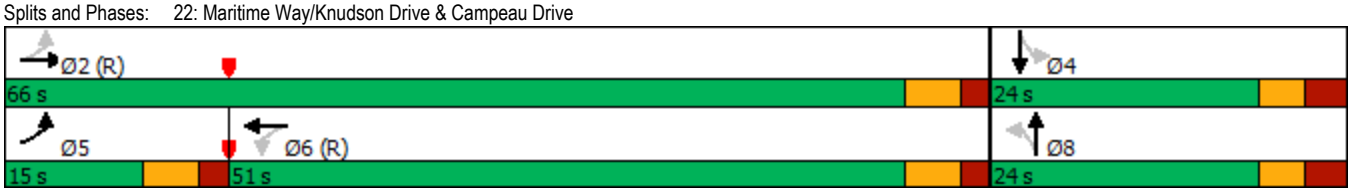


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	452	32	119	621	103	13	14	85	38	11	73
Future Volume (vph)	66	452	32	119	621	103	13	14	85	38	11	73
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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		36.3	20.8		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		36.3	20.8		38.6	14.4	
LOS	A	A		A	B		D	C		D	B	
Approach Delay		4.7			13.8			22.6			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		m3.9	m14.9		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: 11.9		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



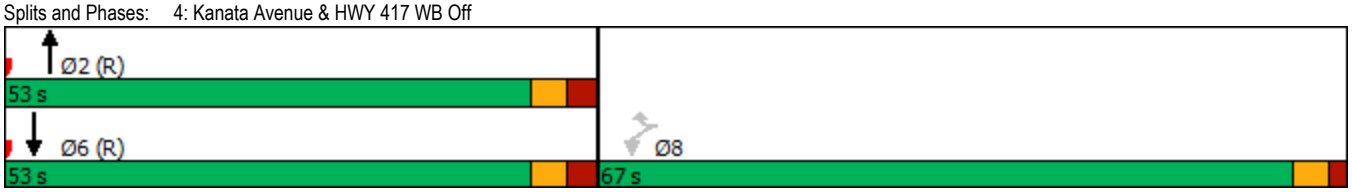


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	486	699	737	0	0	1064
Future Volume (vph)	486	699	737	0	0	1064
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
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)		89				
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)	486	699	737	0	0	1064
Shared Lane Traffic (%)						
Lane Group Flow (vph)	486	699	737	0	0	1064
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)	57.1	57.1	51.8			51.8
Actuated g/C Ratio	0.48	0.48	0.43			0.43
v/c Ratio	0.60	0.91	0.98			0.73
Control Delay	26.1	42.0	62.5			33.2
Queue Delay	0.0	0.0	40.4			0.0
Total Delay	26.1	42.0	102.8			33.2
LOS	C	D	F			C
Approach Delay	35.5		102.8			33.2
Approach LOS	D		F			C
Queue Length 50th (m)	77.4	126.4	~187.1			112.9
Queue Length 95th (m)	106.5	#199.8	#265.6			143.3
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	875	826	755			1450
Starvation Cap Reductn	0	0	169			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.56	0.85	1.26			0.73

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: 0.98			
Intersection Signal Delay: 51.3		Intersection LOS: D	
Intersection Capacity Utilization 124.2%		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





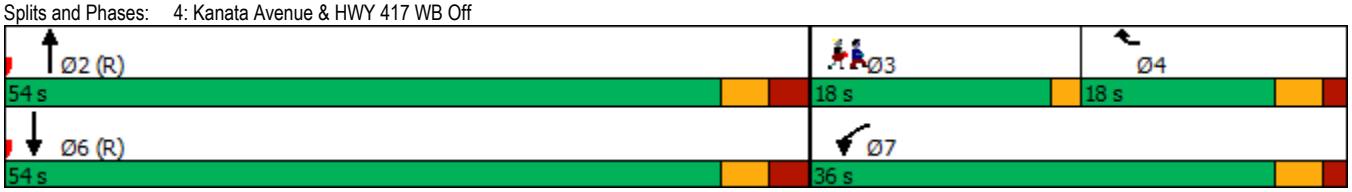
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lane Configurations							
Traffic Volume (vph)	252	239	367	0	0	940	
Future Volume (vph)	252	239	367	0	0	940	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Lane Util. Factor	1.00	0.88	0.95	1.00	1.00	0.95	
Frt		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	1695	2347	3262	0	0	3325	
Flt Permitted	0.950						
Satd. Flow (perm)	1695	2347	3262	0	0	3325	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		239					
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)	252	239	367	0	0	940	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	252	239	367	0	0	940	
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)	19.4	15.8	59.5			59.5	
Actuated g/C Ratio	0.22	0.18	0.66			0.66	
v/c Ratio	0.69	0.39	0.17			0.43	
Control Delay	41.8	6.9	12.0			13.1	
Queue Delay	0.0	0.0	0.0			0.0	
Total Delay	41.8	6.9	12.0			13.1	
LOS	D	A	B			B	
Approach Delay	24.8		12.0			13.1	
Approach LOS	C		B			B	
Queue Length 50th (m)	40.8	0.0	9.4			62.1	
Queue Length 95th (m)	56.3	11.2	48.9			85.4	
Internal Link Dist (m)	308.8		102.6			90.0	
Turn Bay Length (m)							
Base Capacity (vph)	583	624	2158			2199	
Starvation Cap Reductn	0	0	0			0	
Spillback Cap Reductn	0	0	0			137	
Storage Cap Reductn	0	0	0			0	
Reduced v/c Ratio	0.43	0.38	0.17			0.46	

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: 0.69			
Intersection Signal Delay: 16.1		Intersection LOS: B	
Intersection Capacity Utilization 54.8%		ICU Level of Service A	
Analysis Period (min) 15			

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





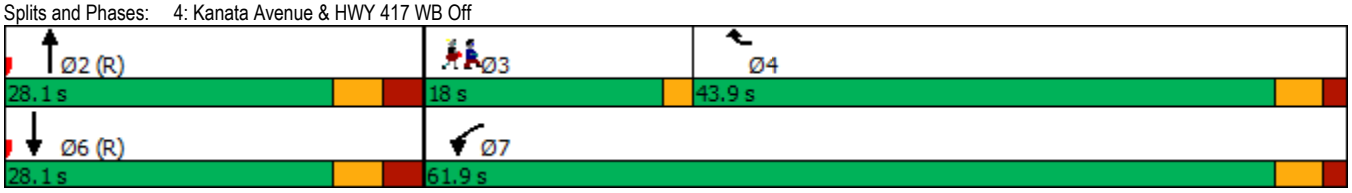
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lane Configurations							
Traffic Volume (vph)	486	699	737	0	0	1064	
Future Volume (vph)	486	699	737	0	0	1064	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Lane Util. Factor	1.00	0.88	0.95	1.00	1.00	0.95	
Ped Bike Factor							
Frt		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	1695	2669	3325	0	0	3357	
Flt Permitted	0.950						
Satd. Flow (perm)	1695	2669	3325	0	0	3357	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		699					
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)	486	699	737	0	0	1064	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	486	699	737	0	0	1064	
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)	61.9	43.9	28.1			28.1	18.0
Total Split (%)	68.8%	48.8%	31.2%			31.2%	20%
Maximum Green (s)	56.9	38.9	22.0			22.0	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)	34.5	30.9	44.4			44.4	
Actuated g/C Ratio	0.38	0.34	0.49			0.49	
v/c Ratio	0.75	0.51	0.45			0.64	
Control Delay	30.8	3.2	26.1			19.8	
Queue Delay	0.0	0.1	0.0			0.1	
Total Delay	30.8	3.3	26.1			20.0	
LOS	C	A	C			B	
Approach Delay	14.6		26.1			20.0	
Approach LOS	B		C			B	
Queue Length 50th (m)	71.0	0.0	63.7			80.4	
Queue Length 95th (m)	85.0	13.0	88.8			#118.4	
Internal Link Dist (m)	308.8		102.6			90.0	
Turn Bay Length (m)							
Base Capacity (vph)	1071	1553	1641			1657	
Starvation Cap Reductn	0	0	0			0	
Spillback Cap Reductn	9	112	0			90	
Storage Cap Reductn	0	0	0			0	
Reduced v/c Ratio	0.46	0.49	0.45			0.68	

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: 0.75
Intersection Signal Delay: 19.3 Intersection LOS: B
Intersection Capacity Utilization 106.9% 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





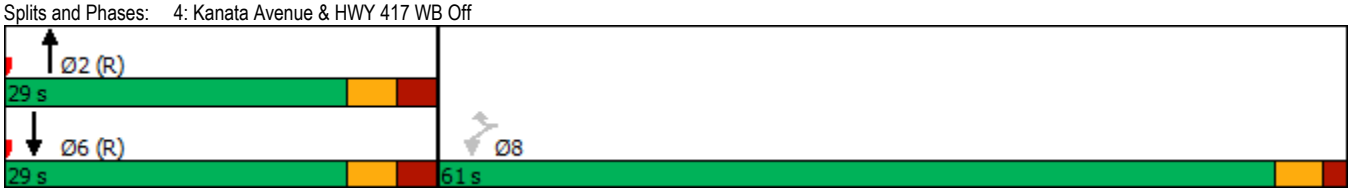
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	486	489	677	0	0	1064
Future Volume (vph)	486	489	677	0	0	1064
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
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)		30				
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)	486	489	677	0	0	1064
Shared Lane Traffic (%)						
Lane Group Flow (vph)	486	489	677	0	0	1064
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)	61.0	61.0	29.0			29.0
Total Split (%)	67.8%	67.8%	32.2%			32.2%
Maximum Green (s)	56.0	56.0	22.9			22.9
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)	37.6	37.6	41.3			41.3
Actuated g/C Ratio	0.42	0.42	0.46			0.46
v/c Ratio	0.69	0.75	0.84			0.69
Control Delay	25.5	27.3	37.2			28.0
Queue Delay	0.0	0.0	2.3			0.0
Total Delay	25.5	27.3	39.5			28.0
LOS	C	C	D			C
Approach Delay	26.4		39.5			28.0
Approach LOS	C		D			C
Queue Length 50th (m)	66.8	65.8	121.3			68.6
Queue Length 95th (m)	72.4	74.4	#206.9			#140.1
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	1054	955	803			1541
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	0	0	51			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.46	0.51	0.90			0.69

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: 0.84
Intersection Signal Delay: 30.3 Intersection LOS: C
Intersection Capacity Utilization 110.5% 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



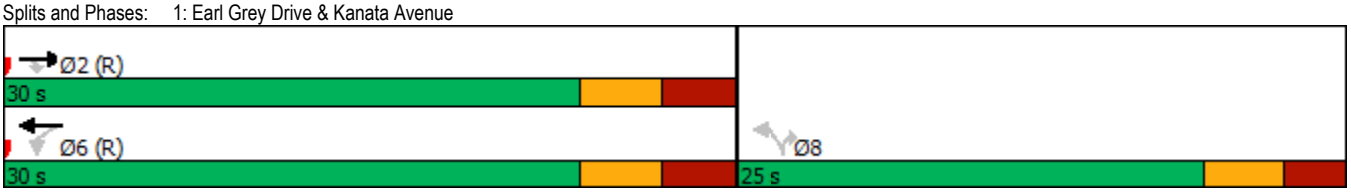


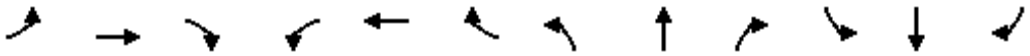
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	754	37	57	371	10	35
Future Volume (vph)	754	37	57	371	10	35
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		40.0	110.0		30.0	0.0
Storage Lanes		1	0		1	1
Taper Length (m)			100.0		45.0	
Lane Util. Factor	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				0.804	0.950	
Satd. Flow (perm)	3357	1394	0	2573	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)	754	37	57	371	10	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	754	37	0	428	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		0.22	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)	13.1	0.0		6.9	0.9	0.0
Queue Length 95th (m)	40.4	3.9		23.6	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		1936	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		0.22	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 54.3%		ICU Level of Service A	
Analysis Period (min) 15			

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



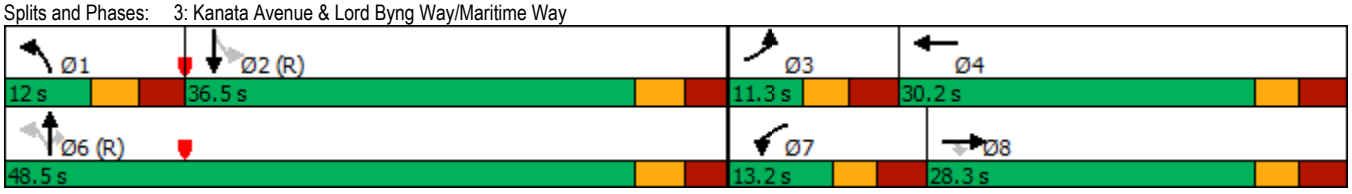


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	6	36	174	2	51	85	346	159	23	653	16
Future Volume (vph)	19	6	36	174	2	51	85	346	159	23	653	16
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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		0.856				0.850		0.997	
Flt Protected	0.950			0.950			0.950				0.998	
Satd. Flow (prot)	1262	1784	992	3135	1508	0	1417	3325	1473	0	3323	0
Flt Permitted	0.950			0.950			0.288				0.934	
Satd. Flow (perm)	1261	1784	976	3116	1508	0	429	3325	1441	0	3110	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			193		51				159		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	174	2	51	85	346	159	23	653	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	6	36	174	53	0	85	346	159	0	692	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	0.61	0.17		0.25	0.16	0.16		0.43	
Control Delay	50.7	30.5	0.8	50.7	10.4		9.9	8.4	3.1		17.9	
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	50.7	10.4		9.9	8.4	3.1		17.9	
LOS	D	C	A	D	B		A	A	A		B	
Approach Delay		19.3			41.3			7.2			17.9	
Approach LOS		B			D			A			B	
Queue Length 50th (m)	3.2	1.0	0.0	15.4	0.3		8.6	19.8	4.7		43.1	
Queue Length 95th (m)	10.1	3.7	0.0	#29.9	8.6		12.5	21.4	5.6		71.8	
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	384	283	437		346	2109	972		1603	
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	0.61	0.12		0.25	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: 0.61			
Intersection Signal Delay: 17.3		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.			

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



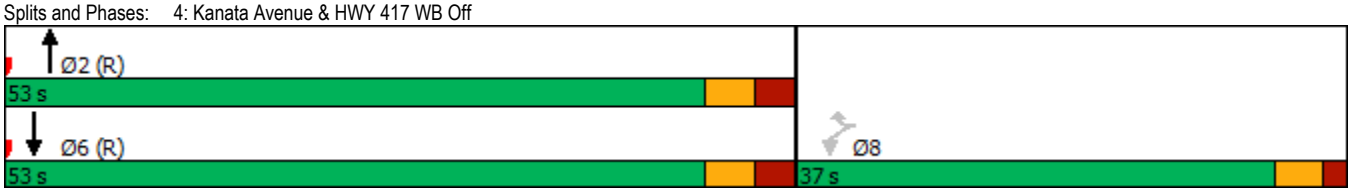


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	273	258	395	0	0	987
Future Volume (vph)	273	258	395	0	0	987
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
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)		258				
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. Peds. (#/hr)					1006	
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)	273	258	395	0	0	987
Shared Lane Traffic (%)						
Lane Group Flow (vph)	273	258	395	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						

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)	20.0	20.0	58.9			58.9
Actuated g/C Ratio	0.22	0.22	0.65			0.65
v/c Ratio	0.73	0.52	0.35			0.45
Control Delay	43.1	7.4	3.2			11.6
Queue Delay	0.0	0.0	0.2			0.0
Total Delay	43.1	7.4	3.4			11.6
LOS	D	A	A			B
Approach Delay	25.8		3.4			11.6
Approach LOS	C		A			B
Queue Length 50th (m)	44.1	0.0	7.2			64.0
Queue Length 95th (m)	62.6	16.4	9.2			90.4
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	602	640	1123			2175
Starvation Cap Reductn	0	0	182			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.45	0.40	0.42			0.45

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: 0.73			
Intersection Signal Delay: 13.9		Intersection LOS: B	
Intersection Capacity Utilization 58.1%		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	365	247	485	628	
Future Volume (vph)	0	0	365	247	485	628	
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					0.476		
Satd. Flow (perm)	0	0	1685	1468	840	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	365	247	485	628	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	365	247	485	628	
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)			62.6	62.6	78.9	83.5	
Actuated g/C Ratio			0.70	0.70	0.88	0.93	
v/c Ratio			0.31	0.23	0.58	0.39	
Control Delay			6.7	1.7	9.6	1.6	
Queue Delay			0.3	0.0	0.0	0.0	
Total Delay			7.0	1.7	9.7	1.6	
LOS			A	A	A	A	
Approach Delay			4.9			5.1	
Approach LOS			A			A	
Queue Length 50th (m)			16.6	1.8	16.8	0.0	
Queue Length 95th (m)			62.9	11.2	#39.2	33.0	
Internal Link Dist (m)	254.4		95.2			102.6	
Turn Bay Length (m)				50.0			
Base Capacity (vph)			1171	1095	835	1623	
Starvation Cap Reductn			363	0	13	1	
Spillback Cap Reductn			0	0	0	0	
Storage Cap Reductn			0	0	0	0	
Reduced v/c Ratio			0.45	0.23	0.59	0.39	

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: 0.58			
Intersection Signal Delay: 5.0		Intersection LOS: A	
Intersection Capacity Utilization 58.1%		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



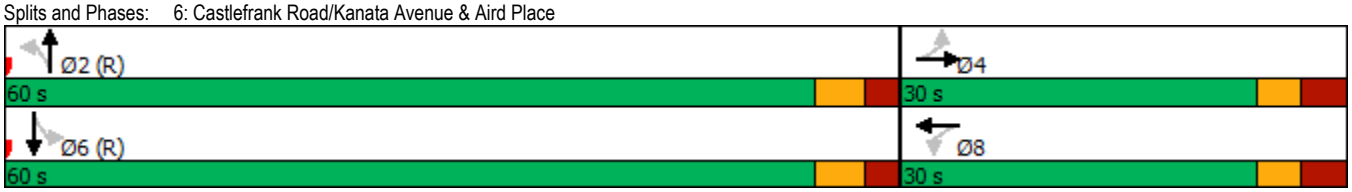
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	6	18	19	6	61	41	605	36	52	561	41
Future Volume (vph)	45	6	18	19	6	61	41	605	36	52	561	41
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	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		0.399			0.378		
Satd. Flow (perm)	0	1001	0	0	1336	0	478	1734	0	659	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	605	36	52	561	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	69	0	0	86	0	41	641	0	52	602	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	

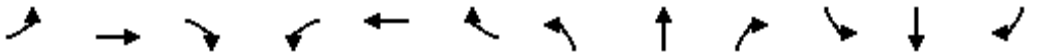
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.2	3.2		3.2	3.2		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.2			6.2		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		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	0.45	
Control Delay		34.5			17.0		4.9	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		4.9	5.7		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	36.0		1.3	16.0	
Queue Length 95th (m)		18.3			14.6		m4.6	52.2		5.3	35.7	
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		369	1340		508	1326	
Starvation Cap Reductn		0			0		0	64		0	177	
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: 7.4 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



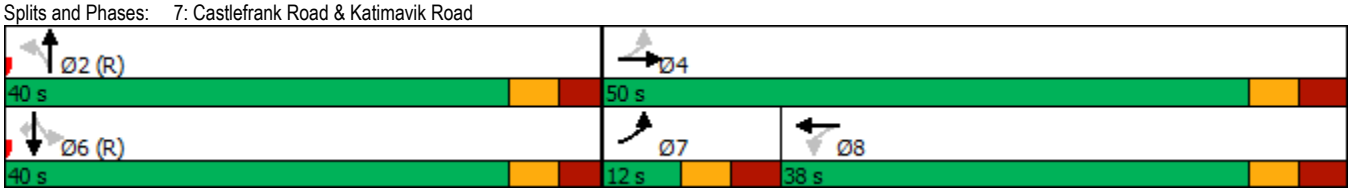


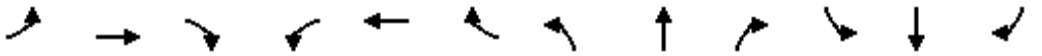
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	130	72	34	114	34	123	420	51	79	323	100
Future Volume (vph)	158	130	72	34	114	34	123	420	51	79	323	100
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage 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	1629	0	1695	1631	0	1503	1655	1322
Flt Permitted	0.447			0.631			0.539			0.419		
Satd. Flow (perm)	711	1649	0	1099	1629	0	941	1631	0	647	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)	158	130	72	34	114	34	123	420	51	79	323	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	158	202	0	34	148	0	123	471	0	79	323	100
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)	26.2	26.2		14.2	14.2		50.9	50.9		50.9	50.9	50.9
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	0.55		0.23	0.51		0.22	0.35	0.13
Control Delay	35.5	21.3		33.3	37.2		12.7	15.3		19.5	18.1	7.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	35.5	21.3		33.3	37.2		12.7	15.3		19.5	18.1	7.0
LOS	D	C		C	D		B	B		B	B	A
Approach Delay		27.5			36.4			14.8			16.1	
Approach LOS		C			D			B			B	
Queue Length 50th (m)	22.0	22.1		5.3	21.3		9.4	43.2		7.7	31.4	2.5
Queue Length 95th (m)	32.2	34.2		12.0	34.7		24.5	88.9		17.5	52.5	11.2
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		532	926		366	936	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	0.26		0.23	0.51		0.22	0.35	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 82.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 7: Castlefrank Road & Katimavik Road





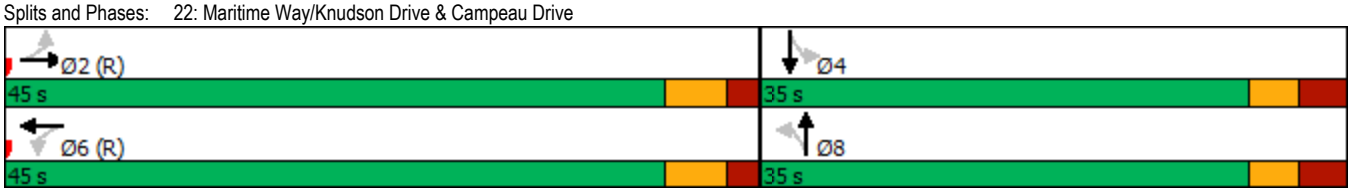
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	685	14	67	469	81	18	18	154	171	11	57
Future Volume (vph)	52	685	14	67	469	81	18	18	154	171	11	57
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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



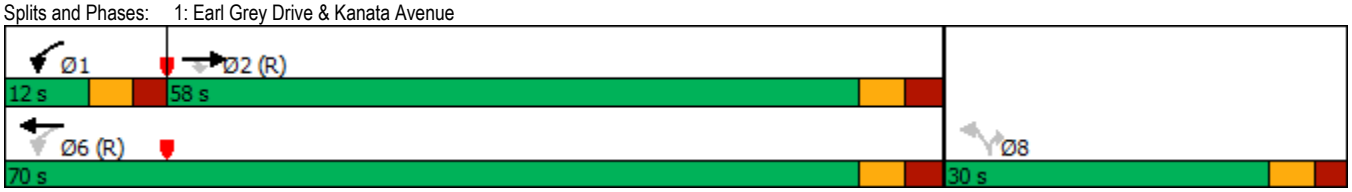


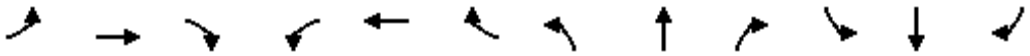
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	649	82	214	742	79	177
Future Volume (vph)	649	82	214	742	79	177
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		40.0	110.0		30.0	0.0
Storage Lanes		1	0		1	1
Taper Length (m)			100.0		45.0	
Lane Util. 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				0.670	0.950	
Satd. Flow (perm)	3115	1483	0	2271	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)	649	82	214	742	79	177
Shared Lane Traffic (%)						
Lane Group Flow (vph)	649	82	0	956	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		0.55	0.42	0.55
Control Delay	4.2	1.2		6.9	46.9	12.6
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	4.2	1.2		6.9	46.9	12.6
LOS	A	A		A	D	B
Approach Delay	3.9			6.9	23.2	
Approach LOS	A			A	C	
Queue Length 50th (m)	14.8	0.0		30.0	14.7	0.0
Queue Length 95th (m)	30.7	4.1		63.8	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		1741	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		0.55	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 67.9%		ICU Level of Service C	
Analysis Period (min) 15			

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



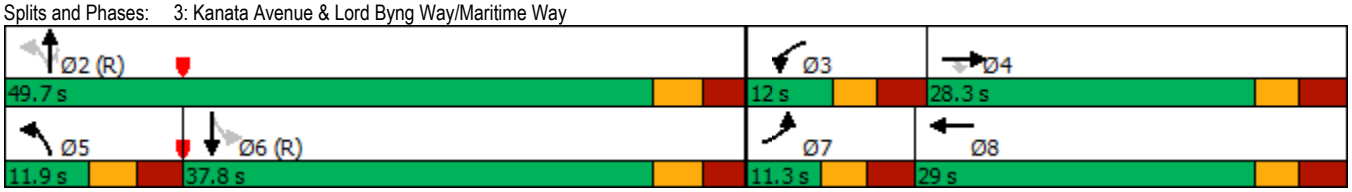


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	3	78	143	9	51	136	885	213	76	685	25
Future Volume (vph)	30	3	78	143	9	51	136	885	213	76	685	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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		0.872				0.850		0.995	
Flt Protected	0.950			0.950			0.950				0.995	
Satd. Flow (prot)	1262	1784	1268	3288	1523	0	1503	3390	1517	0	3335	0
Flt Permitted	0.950			0.950			0.234				0.756	
Satd. Flow (perm)	1246	1784	1247	3262	1523	0	370	3390	1479	0	2534	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			193		51				128		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	143	9	51	136	885	213	76	685	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	3	78	143	60	0	136	885	213	0	786	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	0.60	0.20		0.42	0.42	0.22		0.68	
Control Delay	60.3	30.0	1.6	62.4	12.8		10.0	10.1	4.2		25.0	
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	62.4	12.8		10.0	10.1	4.2		25.0	
LOS	E	C	A	E	B		B	B	A		C	
Approach Delay		18.2			47.7			9.1			25.0	
Approach LOS		B			D			A			C	
Queue Length 50th (m)	5.1	0.5	0.0	13.5	0.9		8.8	39.6	4.7		55.3	
Queue Length 95th (m)	#15.6	2.5	0.0	#26.4	7.3		m13.0	m57.3	m7.8		#100.5	
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	450	239	422		326	2086	959		1163	
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	0.60	0.14		0.42	0.42	0.22		0.68	

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: 0.68			
Intersection Signal Delay: 18.2		Intersection LOS: B	
Intersection Capacity Utilization 78.0%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

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



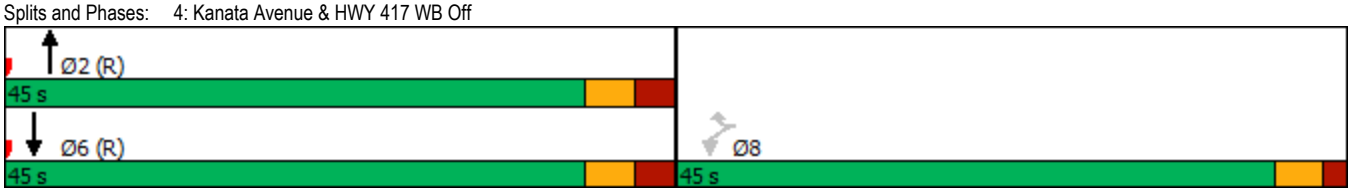


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	528	754	791	0	0	1145
Future Volume (vph)	528	754	791	0	0	1145
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
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)		96				
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)	528	754	791	0	0	1145
Shared Lane Traffic (%)						
Lane Group Flow (vph)	528	754	791	0	0	1145
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)	40.0	40.0	38.9			38.9
Actuated g/C Ratio	0.44	0.44	0.43			0.43
v/c Ratio	0.70	1.04	1.05			0.79
Control Delay	26.3	67.1	61.6			23.8
Queue Delay	0.3	0.0	0.0			0.0
Total Delay	26.6	67.1	61.6			23.8
LOS	C	E	E			C
Approach Delay	50.4		61.6			23.8
Approach LOS	D		E			C
Queue Length 50th (m)	71.3	~131.9	~146.2			93.1
Queue Length 95th (m)	108.2	#199.5	#212.3			130.6
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	753	727	756			1450
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	27	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.73	1.04	1.05			0.79

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: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay: 43.7		Intersection LOS: D	
Intersection Capacity Utilization 132.5%		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

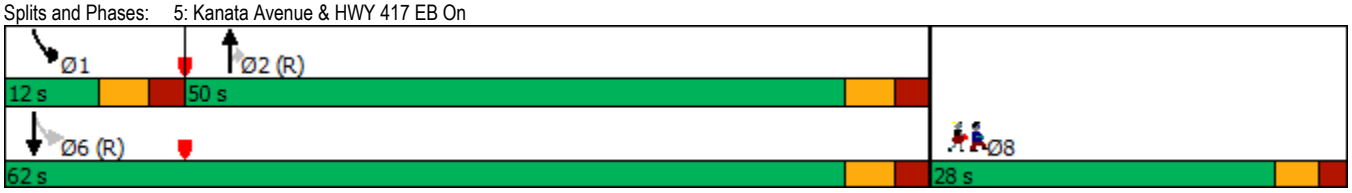


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations							
Traffic Volume (vph)	0	0	645	224	439	1040	
Future Volume (vph)	0	0	645	224	439	1040	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0		50.0	0.0		
Storage Lanes	0	0		1	1		
Taper Length (m)	7.6				7.6		
Lane Util. 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					0.224		
Satd. Flow (perm)	0	0	1733	1479	392	1784	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)				207			
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	645	224	439	1040	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	645	224	439	1040	
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)			50.4	50.4	78.9	83.5	
Actuated g/C Ratio			0.56	0.56	0.88	0.93	
v/c Ratio			0.66	0.24	0.66	0.63	
Control Delay			11.5	1.4	19.6	6.6	
Queue Delay			9.1	0.0	0.0	0.3	
Total Delay			20.5	1.4	19.6	6.9	
LOS			C	A	B	A	
Approach Delay			15.6			10.6	
Approach LOS			B			B	
Queue Length 50th (m)			53.8	3.6	32.1	18.6	
Queue Length 95th (m)			92.6	m3.1	m#89.1	#238.0	
Internal Link Dist (m)	254.4		95.2			102.6	
Turn Bay Length (m)				50.0			
Base Capacity (vph)			970	919	665	1654	
Starvation Cap Reductn			170	0	0	6	
Spillback Cap Reductn			290	0	0	152	
Storage Cap Reductn			0	0	0	0	
Reduced v/c Ratio			0.95	0.24	0.66	0.69	

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: 0.66			
Intersection Signal Delay: 12.5		Intersection LOS: B	
Intersection Capacity Utilization 132.5%		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



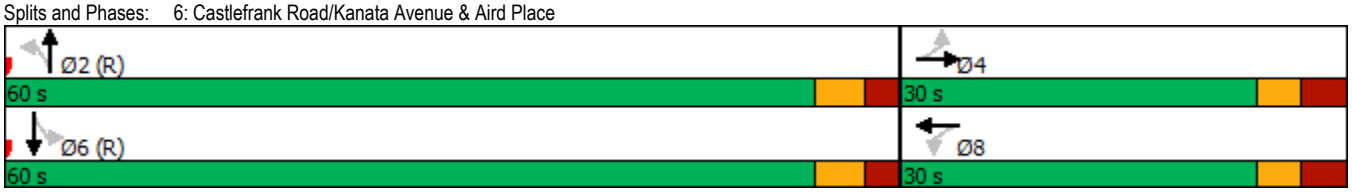
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	3	13	30	1	97	12	866	35	62	1035	24
Future Volume (vph)	17	3	13	30	1	97	12	866	35	62	1035	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	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		0.177			0.251		
Satd. Flow (perm)	0	1219	0	0	1415	0	316	1755	0	448	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	866	35	62	1035	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	128	0	12	901	0	62	1059	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	0.68		0.18	0.79	
Control Delay		26.2			19.2		4.8	9.4		7.1	15.0	
Queue Delay		0.0			0.0		0.0	0.1		0.0	0.0	
Total Delay		26.2			19.2		4.8	9.6		7.1	15.0	
LOS		C			B		A	A		A	B	
Approach Delay		26.2			19.2			9.5			14.6	
Approach LOS		C			B			A			B	
Queue Length 50th (m)		3.3			5.1		0.3	37.5		3.8	106.9	
Queue Length 95th (m)		9.9			17.8		m1.1	m107.6		m5.3	#251.7	
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		238	1327		338	1343	
Starvation Cap Reductn		0			0		0	9		0	5	
Spillback Cap Reductn		0			2		0	48		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.10			0.29		0.05	0.70		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: 0.79
Intersection Signal Delay: 12.9 Intersection LOS: B
Intersection Capacity Utilization 80.0% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

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



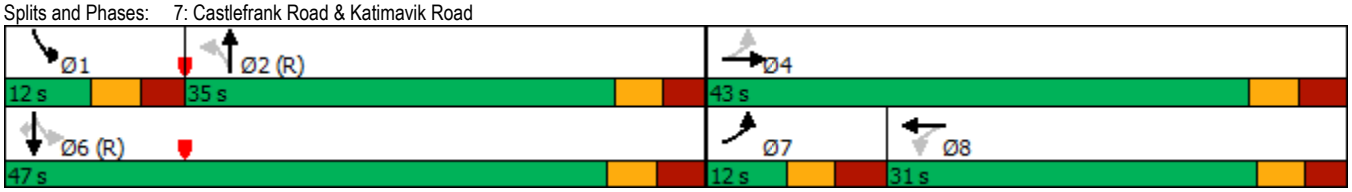
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	144	140	75	92	200	105	41	468	60	115	708	198
Future Volume (vph)	144	140	75	92	200	105	41	468	60	115	708	198
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage 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			0.948			0.983				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	1666	0	1558	1634	0	1695	1740	0	1647	1784	1473
Flt Permitted	0.250			0.624			0.283			0.174		
Satd. Flow (perm)	431	1666	0	1005	1634	0	497	1740	0	302	1784	1356
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			29			8				180
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)	144	140	75	92	200	105	41	468	60	115	708	198
Shared Lane Traffic (%)												
Lane Group Flow (vph)	144	215	0	92	305	0	41	528	0	115	708	198
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

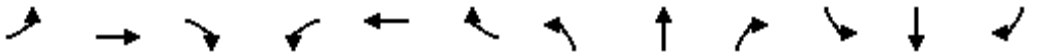
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.4	3.4		2.9	2.9		2.9	2.9		2.9	3.4	3.4
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7		6.2	6.2		6.2	6.2		6.2	6.7	6.7
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	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)	31.5	31.5		20.0	20.0		32.4	32.4		45.6	45.1	45.1
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	0.65	0.35		0.41	0.79		0.23	0.84		0.45	0.79	0.26
Control Delay	34.5	18.6		34.3	44.4		26.7	41.5		15.9	22.2	4.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	34.5	18.6		34.3	44.4		26.7	41.5		15.9	22.2	4.2
LOS	C	B		C	D		C	D		B	C	A
Approach Delay		25.0			42.0			40.5			18.0	
Approach LOS		C			D			D			B	
Queue Length 50th (m)	17.3	22.0		13.5	45.0		5.1	85.3		6.7	86.7	2.9
Queue Length 95th (m)	28.5	36.5		26.1	69.3		14.1	#148.6		m12.6	#174.4	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)	223	693		276	471		178	630		257	893	768
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	0.65	0.31		0.33	0.65		0.23	0.84		0.45	0.79	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: 0.84
Intersection Signal Delay: 28.6 Intersection LOS: C
Intersection Capacity Utilization 96.3% 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



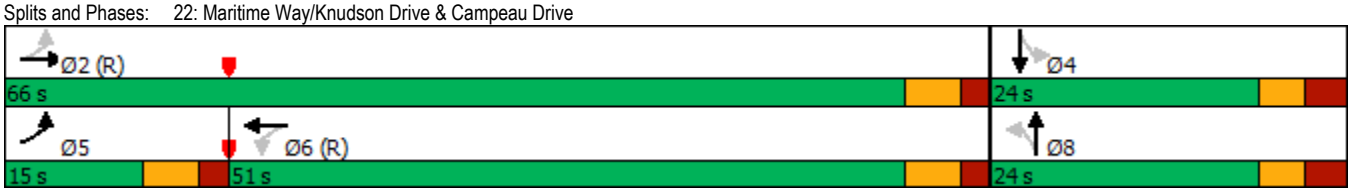


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	476	33	126	657	112	13	15	91	42	11	77
Future Volume (vph)	71	476	33	126	657	112	13	15	91	42	11	77
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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		35.1	14.5		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		35.1	14.5		39.3	14.2	
LOS	A	A		B	B		D	B		D	B	
Approach Delay		4.9			14.9			16.8			22.3	
Approach LOS		A			B			B			C	
Queue Length 50th (m)	2.5	23.2		8.7	79.5		2.0	2.3		6.8	1.7	
Queue Length 95th (m)	7.5	51.1		22.7	#177.3		m4.4	m9.5		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: 12.2		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



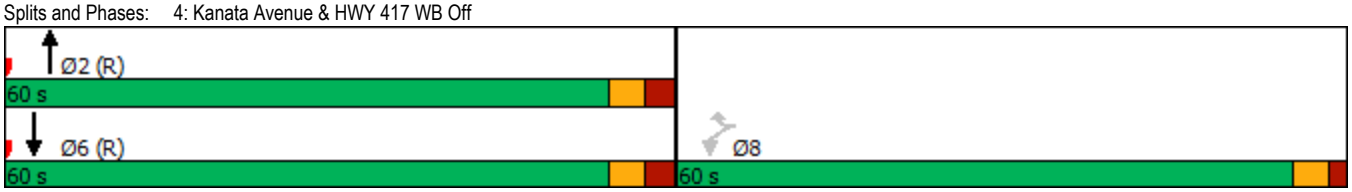


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	528	754	791	0	0	1145
Future Volume (vph)	528	754	791	0	0	1145
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
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)	528	754	791	0	0	1145
Shared Lane Traffic (%)						
Lane Group Flow (vph)	528	754	791	0	0	1145
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)	60.0	60.0	60.0			60.0
Total Split (%)	50.0%	50.0%	50.0%			50.0%
Maximum Green (s)	55.0	55.0	53.9			53.9
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)	55.0	55.0	53.9			53.9
Actuated g/C Ratio	0.46	0.46	0.45			0.45
v/c Ratio	0.68	1.00	1.01			0.76
Control Delay	31.1	62.1	67.2			31.7
Queue Delay	0.0	0.0	34.4			0.0
Total Delay	31.1	62.1	101.6			31.7
LOS	C	E	F			C
Approach Delay	49.3		101.6			31.7
Approach LOS	D		F			C
Queue Length 50th (m)	95.6	~158.6	~185.4			116.1
Queue Length 95th (m)	135.4	#243.8	#268.0			142.6
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	776	752	786			1507
Starvation Cap Reductn	0	0	202			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.68	1.00	1.35			0.76

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: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.01			
Intersection Signal Delay: 55.9		Intersection LOS: E	
Intersection Capacity Utilization 132.5%		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





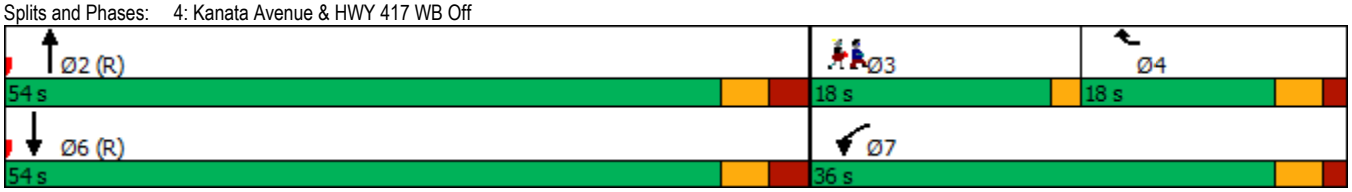
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lane Configurations							
Traffic Volume (vph)	273	258	395	0	0	1006	
Future Volume (vph)	273	258	395	0	0	1006	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Lane Util. Factor	1.00	0.88	0.95	1.00	1.00	0.95	
Frt		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	1695	2347	3262	0	0	3325	
Flt Permitted	0.950						
Satd. Flow (perm)	1695	2347	3262	0	0	3325	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		258					
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)	273	258	395	0	0	1006	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	273	258	395	0	0	1006	
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)	20.3	16.7	58.6			58.6	
Actuated g/C Ratio	0.23	0.19	0.65			0.65	
v/c Ratio	0.72	0.40	0.19			0.46	
Control Delay	42.2	6.6	12.4			7.2	
Queue Delay	0.0	0.0	0.0			0.0	
Total Delay	42.2	6.6	12.4			7.2	
LOS	D	A	B			A	
Approach Delay	24.9		12.4			7.2	
Approach LOS	C		B			A	
Queue Length 50th (m)	44.1	0.0	11.4			23.7	
Queue Length 95th (m)	61.2	11.5	52.3			31.0	
Internal Link Dist (m)	308.8		102.6			90.0	
Turn Bay Length (m)							
Base Capacity (vph)	583	655	2125			2166	
Starvation Cap Reductn	0	0	0			0	
Spillback Cap Reductn	0	0	0			75	
Storage Cap Reductn	0	0	0			0	
Reduced v/c Ratio	0.47	0.39	0.19			0.48	

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: 0.72			
Intersection Signal Delay: 13.2		Intersection LOS: B	
Intersection Capacity Utilization 58.1%		ICU Level of Service B	
Analysis Period (min) 15			

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





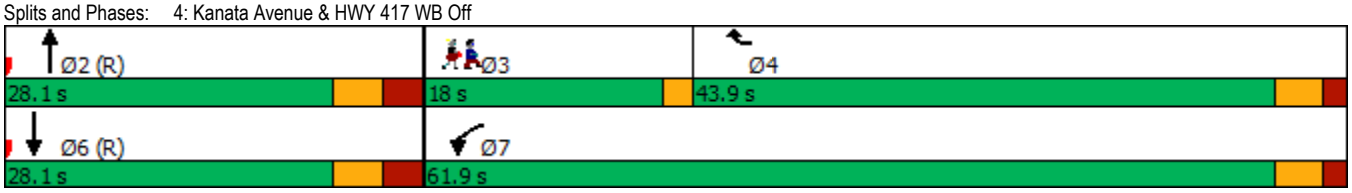
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lane Configurations							
Traffic Volume (vph)	528	754	791	0	0	1145	
Future Volume (vph)	528	754	791	0	0	1145	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Lane Util. Factor	1.00	0.88	0.95	1.00	1.00	0.95	
Ped Bike Factor							
Frt		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	1695	2669	3325	0	0	3357	
Flt Permitted	0.950						
Satd. Flow (perm)	1695	2669	3325	0	0	3357	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		754					
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)	528	754	791	0	0	1145	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	528	754	791	0	0	1145	
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)	61.9	43.9	28.1			28.1	18.0
Total Split (%)	68.8%	48.8%	31.2%			31.2%	20%
Maximum Green (s)	56.9	38.9	22.0			22.0	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)	37.5	33.9	41.4			41.4	
Actuated g/C Ratio	0.42	0.38	0.46			0.46	
v/c Ratio	0.75	0.51	0.52			0.74	
Control Delay	28.2	2.8	30.1			29.4	
Queue Delay	0.0	0.0	0.0			0.4	
Total Delay	28.3	2.8	30.1			29.8	
LOS	C	A	C			C	
Approach Delay	13.3		30.1			29.8	
Approach LOS	B		C			C	
Queue Length 50th (m)	75.3	0.0	74.7			68.9	
Queue Length 95th (m)	84.1	12.2	95.7			#149.3	
Internal Link Dist (m)	308.8		102.6			90.0	
Turn Bay Length (m)							
Base Capacity (vph)	1071	1597	1528			1543	
Starvation Cap Reductn	0	0	0			0	
Spillback Cap Reductn	9	0	0			90	
Storage Cap Reductn	0	0	0			0	
Reduced v/c Ratio	0.50	0.47	0.52			0.79	

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: 0.75
Intersection Signal Delay: 23.3 Intersection LOS: C
Intersection Capacity Utilization 114.1% 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





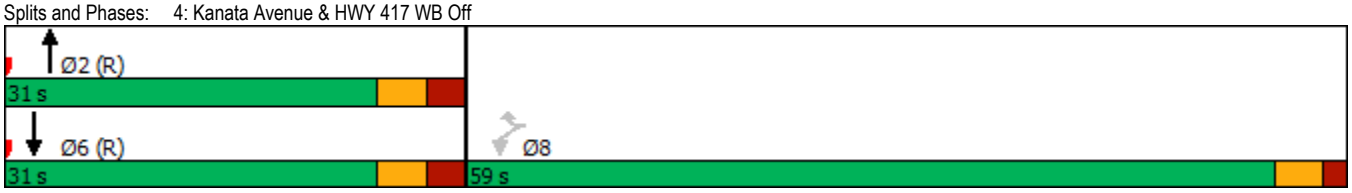
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	528	494	681	0	0	1145
Future Volume (vph)	528	494	681	0	0	1145
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
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)		40				
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)	528	494	681	0	0	1145
Shared Lane Traffic (%)						
Lane Group Flow (vph)	528	494	681	0	0	1145
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)	59.0	59.0	31.0			31.0
Total Split (%)	65.6%	65.6%	34.4%			34.4%
Maximum Green (s)	54.0	54.0	24.9			24.9
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)	37.7	37.7	41.2			41.2
Actuated g/C Ratio	0.42	0.42	0.46			0.46
v/c Ratio	0.74	0.75	0.85			0.74
Control Delay	28.0	26.8	35.3			18.5
Queue Delay	0.2	0.0	0.0			0.0
Total Delay	28.2	26.8	35.3			18.6
LOS	C	C	D			B
Approach Delay	27.5		35.3			18.6
Approach LOS	C		D			B
Queue Length 50th (m)	74.5	64.6	119.8			84.4
Queue Length 95th (m)	83.8	76.6	#204.4			#150.8
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	1017	926	801			1538
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	83	0	0			12
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.57	0.53	0.85			0.75

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: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 25.8 Intersection LOS: C
Intersection Capacity Utilization 115.5% 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



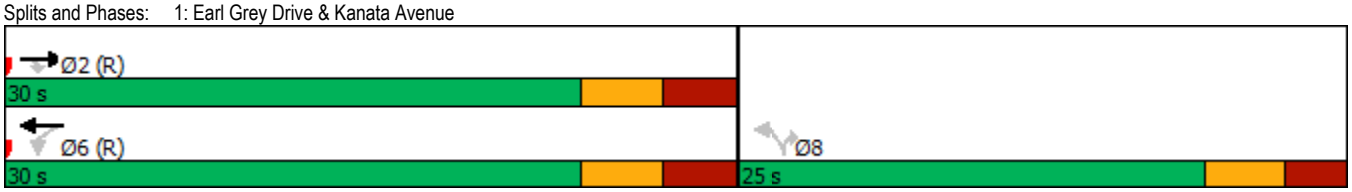


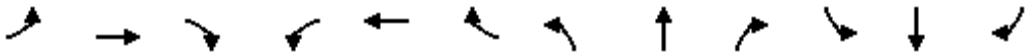
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	803	37	57	393	10	35
Future Volume (vph)	803	37	57	393	10	35
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		40.0	110.0		30.0	0.0
Storage Lanes		1	0		1	1
Taper Length (m)			100.0		45.0	
Lane Util. Factor	0.95	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor				1.00		
Frt		0.850				0.850
Flt Protected				0.994	0.950	
Satd. Flow (prot)	3357	1394	0	3179	1441	1459
Flt Permitted				0.801	0.950	
Satd. Flow (perm)	3357	1394	0	2562	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)	803	37	57	393	10	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	803	37	0	450	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		5.6	16.8	7.6
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	5.7	3.2		5.6	16.8	7.6
LOS	A	A		A	B	A
Approach Delay	5.6			5.6	9.6	
Approach LOS	A			A	A	
Queue Length 50th (m)	14.2	0.0		7.3	0.9	0.0
Queue Length 95th (m)	43.7	3.9		25.0	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		1927	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 56.4%		ICU Level of Service B	
Analysis Period (min) 15			

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



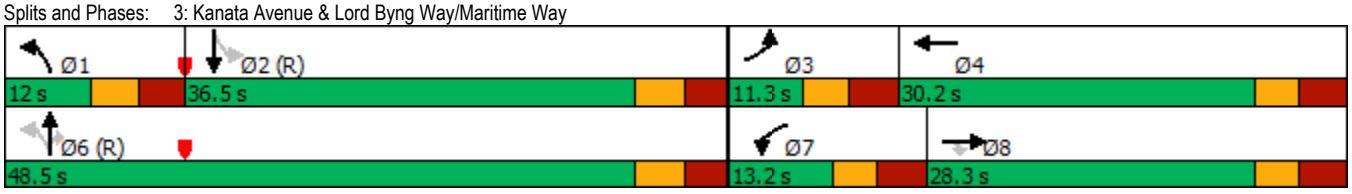


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	6	36	184	2	53	85	369	170	24	695	16
Future Volume (vph)	19	6	36	184	2	53	85	369	170	24	695	16
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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		0.855				0.850		0.997	
Flt Protected	0.950			0.950			0.950				0.998	
Satd. Flow (prot)	1262	1784	992	3135	1506	0	1417	3325	1473	0	3326	0
Flt Permitted	0.950			0.950			0.268				0.933	
Satd. Flow (perm)	1261	1784	976	3116	1506	0	399	3325	1441	0	3109	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			193		53				170		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	184	2	53	85	369	170	24	695	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	6	36	184	55	0	85	369	170	0	735	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	0.65	0.18		0.26	0.17	0.17		0.46	
Control Delay	50.7	30.5	0.8	52.4	10.4		9.6	7.7	2.7		18.3	
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	52.4	10.4		9.6	7.7	2.7		18.3	
LOS	D	C	A	D	B		A	A	A		B	
Approach Delay		19.3			42.7			6.6			18.3	
Approach LOS		B			D			A			B	
Queue Length 50th (m)	3.2	1.0	0.0	16.3	0.3		8.4	20.8	7.1		46.6	
Queue Length 95th (m)	10.1	3.7	0.0	#32.3	8.8		12.4	22.6	5.4		77.2	
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	438		330	2109	975		1603	
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	0.65	0.13		0.26	0.17	0.17		0.46	

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: 0.65			
Intersection Signal Delay: 17.4		Intersection LOS: B	
Intersection Capacity Utilization 73.2%		ICU Level of Service D	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

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



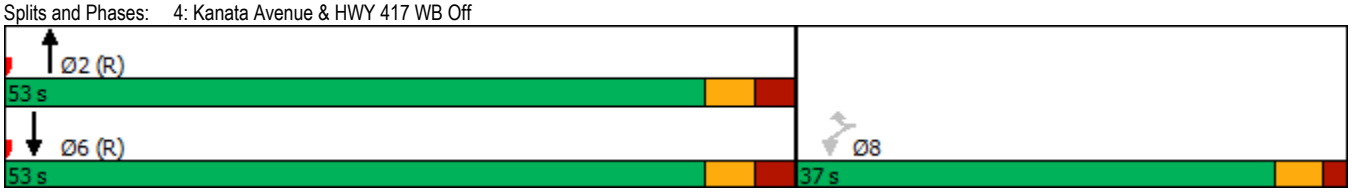


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	295	276	423	0	0	1072
Future Volume (vph)	295	276	423	0	0	1072
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1695	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)		276				
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)	295	276	423	0	0	1072
Shared Lane Traffic (%)						
Lane Group Flow (vph)	295	276	423	0	0	1072
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)	21.2	21.2	57.7			57.7
Actuated g/C Ratio	0.24	0.24	0.64			0.64
v/c Ratio	0.74	0.53	0.38			0.50
Control Delay	42.7	7.1	3.5			13.1
Queue Delay	0.0	0.0	0.1			0.0
Total Delay	42.7	7.1	3.7			13.1
LOS	D	A	A			B
Approach Delay	25.5		3.7			13.1
Approach LOS	C		A			B
Queue Length 50th (m)	47.5	0.0	7.8			72.6
Queue Length 95th (m)	66.4	16.5	10.4			97.7
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	602	652	1100			2132
Starvation Cap Reductn	0	0	138			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.49	0.42	0.44			0.50

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: 0.74			
Intersection Signal Delay: 14.6		Intersection LOS: B	
Intersection Capacity Utilization 85.0%		ICU Level of Service E	
Analysis Period (min) 15			

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



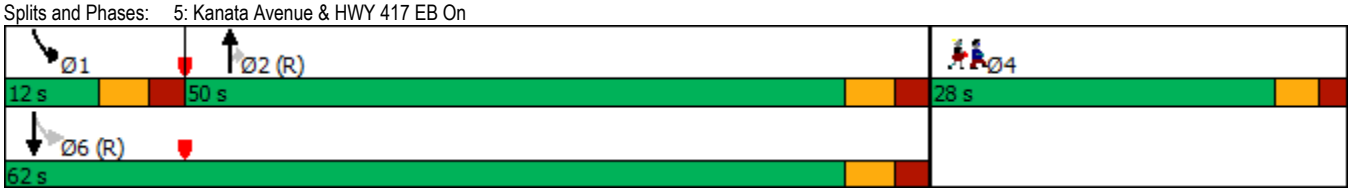


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lane Configurations							
Traffic Volume (vph)	0	0	390	267	519	669	
Future Volume (vph)	0	0	390	267	519	669	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0		50.0	0.0		
Storage Lanes	0	0		1	1		
Taper Length (m)	7.6				7.6		
Lane Util. 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					0.442		
Satd. Flow (perm)	0	0	1685	1468	780	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	390	267	519	669	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	390	267	519	669	
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)			57.9	57.9	78.9	83.5	
Actuated g/C Ratio			0.64	0.64	0.88	0.93	
v/c Ratio			0.36	0.26	0.62	0.41	
Control Delay			8.1	2.0	12.5	1.6	
Queue Delay			0.5	0.0	0.1	0.0	
Total Delay			8.6	2.0	12.6	1.6	
LOS			A	A	B	A	
Approach Delay			5.9			6.4	
Approach LOS			A			A	
Queue Length 50th (m)			25.6	4.7	22.7	0.0	
Queue Length 95th (m)			65.6	14.2	#58.0	34.5	
Internal Link Dist (m)	254.4		95.2			102.6	
Turn Bay Length (m)				50.0			
Base Capacity (vph)			1084	1039	836	1623	
Starvation Cap Reductn			335	0	18	4	
Spillback Cap Reductn			0	0	0	0	
Storage Cap Reductn			0	0	0	0	
Reduced v/c Ratio			0.52	0.26	0.63	0.41	

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: 0.62			
Intersection Signal Delay: 6.2		Intersection LOS: A	
Intersection Capacity Utilization 85.0%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 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	650	36	52	597	41
Future Volume (vph)	45	6	18	19	6	61	41	650	36	52	597	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		0.379			0.354		
Satd. Flow (perm)	0	1001	0	0	1336	0	454	1734	0	618	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	650	36	52	597	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	69	0	0	86	0	41	686	0	52	638	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	

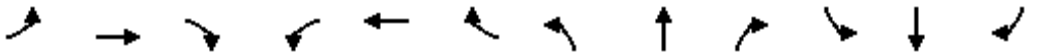
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.2	3.2		3.2	3.2		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.2			6.2		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		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		0.12	0.51		0.11	0.48	
Control Delay		34.5			17.0		4.7	5.6		5.8	5.7	
Queue Delay		0.0			0.0		0.0	0.1		0.0	0.2	
Total Delay		34.5			17.0		4.7	5.7		5.8	5.9	
LOS		C			B		A	A		A	A	
Approach Delay		34.5			17.0			5.6			5.8	
Approach LOS		C			B			A			A	
Queue Length 50th (m)		8.4			4.0		1.7	37.3		1.4	17.1	
Queue Length 95th (m)		18.3			14.6		m4.2	53.3		6.7	47.5	
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		350	1340		477	1326	
Starvation Cap Reductn		0			0		0	56		0	152	
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		0.12	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: 7.6		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



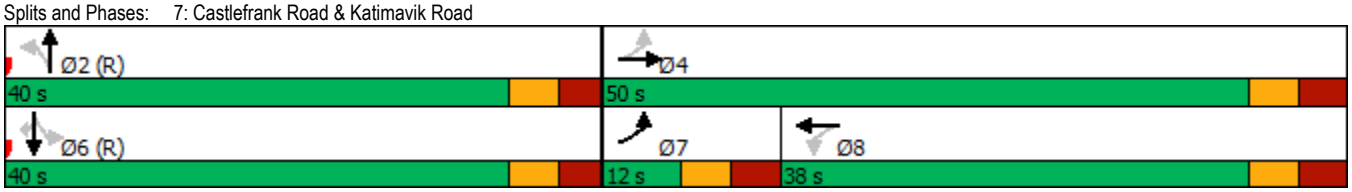


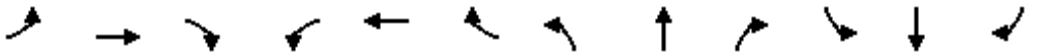
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	130	72	34	114	34	123	452	51	79	346	100
Future Volume (vph)	158	130	72	34	114	34	123	452	51	79	346	100
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage 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	1629	0	1695	1634	0	1503	1655	1322
Flt Permitted	0.447			0.631			0.519			0.395		
Satd. Flow (perm)	711	1649	0	1099	1629	0	907	1634	0	612	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)	158	130	72	34	114	34	123	452	51	79	346	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	158	202	0	34	148	0	123	503	0	79	346	100
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)	26.2	26.2		14.2	14.2		50.9	50.9		50.9	50.9	50.9
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	0.55		0.24	0.54		0.23	0.37	0.13
Control Delay	35.5	21.3		33.3	37.2		12.9	16.0		19.4	18.1	6.5
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	35.5	21.3		33.3	37.2		12.9	16.0		19.4	18.1	6.5
LOS	D	C		C	D		B	B		B	B	A
Approach Delay		27.5			36.4			15.4			16.1	
Approach LOS		C			D			B			B	
Queue Length 50th (m)	22.0	22.1		5.3	21.3		9.5	47.5		8.3	36.3	3.0
Queue Length 95th (m)	32.2	34.2		12.0	34.7		24.8	97.3		16.1	50.8	9.2
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		513	928		346	936	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	0.26		0.24	0.54		0.23	0.37	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: 20.5		Intersection LOS: C	
Intersection Capacity Utilization 83.8%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 7: Castlefrank Road & Katimavik Road





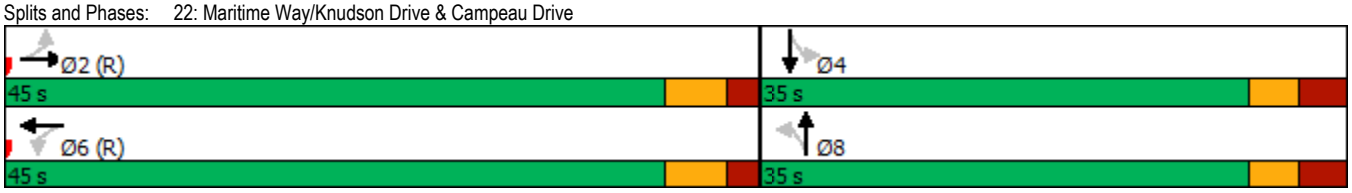
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	718	14	71	496	86	18	19	162	182	12	61
Future Volume (vph)	54	718	14	71	496	86	18	19	162	182	12	61
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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



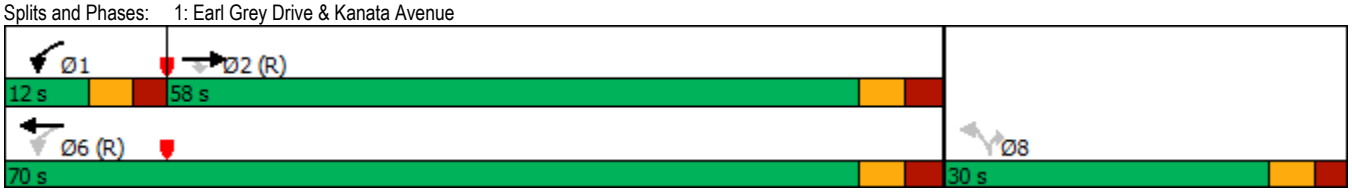


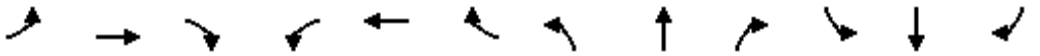
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	692	82	214	791	79	177
Future Volume (vph)	692	82	214	791	79	177
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		40.0	110.0		30.0	0.0
Storage Lanes		1	0		1	1
Taper Length (m)			100.0		45.0	
Lane Util. 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				0.664	0.950	
Satd. Flow (perm)	3115	1483	0	2251	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)	692	82	214	791	79	177
Shared Lane Traffic (%)						
Lane Group Flow (vph)	692	82	0	1005	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	0.29	0.07		0.58	0.42	0.55
Control Delay	4.3	1.2		7.3	46.9	12.6
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	4.3	1.2		7.3	46.9	12.6
LOS	A	A		A	D	B
Approach Delay	4.0			7.3	23.2	
Approach LOS	A			A	C	
Queue Length 50th (m)	16.1	0.0		32.8	14.7	0.0
Queue Length 95th (m)	33.2	4.1		70.4	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		1726	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	0.29	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: 8.1		Intersection LOS: A	
Intersection Capacity Utilization 70.4%		ICU Level of Service C	
Analysis Period (min) 15			

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



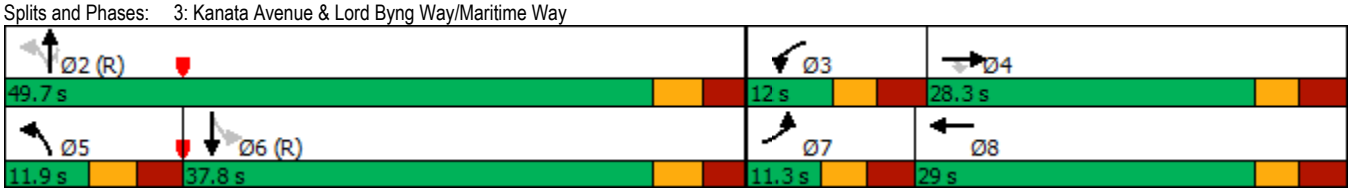


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	3	78	151	9	53	136	947	225	79	732	25
Future Volume (vph)	30	3	78	151	9	53	136	947	225	79	732	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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		0.872				0.850		0.996	
Flt Protected	0.950			0.950			0.950				0.995	
Satd. Flow (prot)	1262	1784	1268	3288	1522	0	1503	3390	1517	0	3340	0
Flt Permitted	0.950			0.950			0.212				0.742	
Satd. Flow (perm)	1246	1784	1247	3262	1522	0	335	3390	1479	0	2490	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			193		53				127		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	151	9	53	136	947	225	79	732	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	3	78	151	62	0	136	947	225	0	836	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	0.63	0.21		0.44	0.45	0.23		0.73	
Control Delay	60.3	30.0	1.6	63.8	13.6		11.7	11.8	5.7		27.2	
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	63.8	13.6		11.7	11.8	5.7		27.2	
LOS	E	C	A	E	B		B	B	A		C	
Approach Delay		18.2			49.2			10.8			27.2	
Approach LOS		B			D			B			C	
Queue Length 50th (m)	5.1	0.5	0.0	14.3	0.8		9.0	42.0	6.2		61.5	
Queue Length 95th (m)	#15.6	2.5	0.0	#28.6	7.8		m11.4	m51.5	m5.6		#112.4	
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	423		310	2086	959		1138	
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	0.63	0.15		0.44	0.45	0.23		0.73	

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: 0.73			
Intersection Signal Delay: 20.0		Intersection LOS: B	
Intersection Capacity Utilization 81.4%		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: 3: Kanata Avenue & Lord Byng Way/Maritime Way





Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	570	809	846	0	0	1226
Future Volume (vph)	570	809	846	0	0	1226
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)		81				
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)	570	809	846	0	0	1226
Shared Lane Traffic (%)						
Lane Group Flow (vph)	570	809	846	0	0	1226
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)	40.0	40.0	38.9			38.9
Actuated g/C Ratio	0.44	0.44	0.43			0.43
v/c Ratio	0.76	1.13	1.12			0.85
Control Delay	28.9	97.7	105.0			22.3
Queue Delay	0.0	0.0	1.1			2.4
Total Delay	28.9	97.7	106.1			24.7
LOS	C	F	F			C
Approach Delay	69.2		106.1			24.7
Approach LOS	E		F			C
Queue Length 50th (m)	79.8	~155.5	~162.3			44.1
Queue Length 95th (m)	121.0	#224.6	#237.7			69.6
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	753	719	756			1450
Starvation Cap Reductn	0	0	119			0
Spillback Cap Reductn	0	0	0			124
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.76	1.13	1.33			0.92

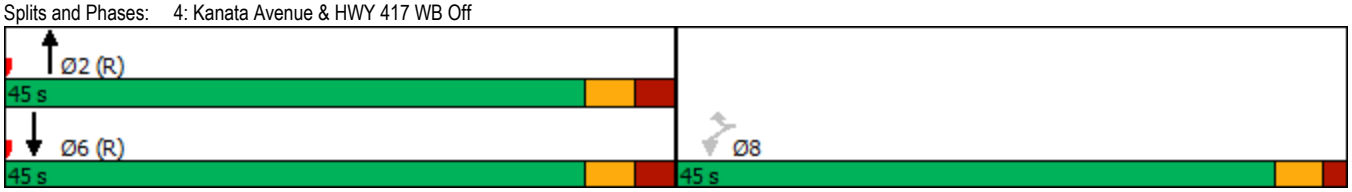
Intersection Summary

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: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.13
Intersection Signal Delay: 62.5 Intersection LOS: E
Intersection Capacity Utilization 140.9% 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



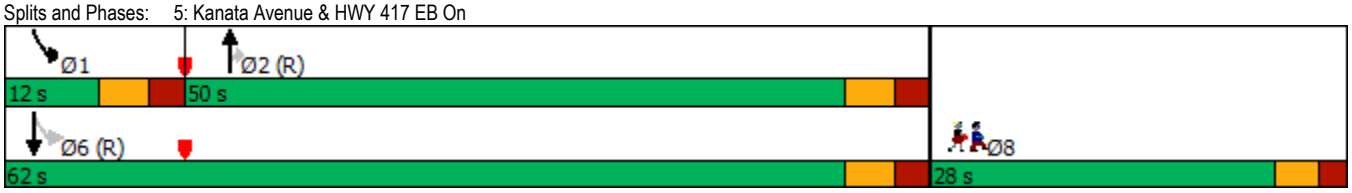


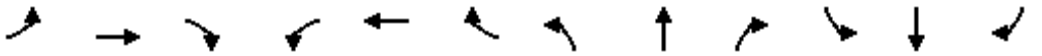
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations							
Traffic Volume (vph)	0	0	689	242	470	1116	
Future Volume (vph)	0	0	689	242	470	1116	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0		50.0	0.0		
Storage Lanes	0	0		1	1		
Taper Length (m)	7.6				7.6		
Lane Util. 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					0.158		
Satd. Flow (perm)	0	0	1733	1479	276	1784	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)				210			
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	689	242	470	1116	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	689	242	470	1116	
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)			46.6	46.6	78.9	83.5	
Actuated g/C Ratio			0.52	0.52	0.88	0.93	
v/c Ratio			0.77	0.28	0.72	0.67	
Control Delay			15.9	2.0	25.9	8.3	
Queue Delay			17.9	0.0	0.0	0.2	
Total Delay			33.8	2.0	25.9	8.5	
LOS			C	A	C	A	
Approach Delay			25.5			13.6	
Approach LOS			C			B	
Queue Length 50th (m)			64.5	6.5	38.7	14.5	
Queue Length 95th (m)			#121.0	m3.2	m#149.6	#277.4	
Internal Link Dist (m)	254.4		95.2			102.6	
Turn Bay Length (m)				50.0			
Base Capacity (vph)			898	867	650	1654	
Starvation Cap Reductn			136	0	0	91	
Spillback Cap Reductn			212	0	0	45	
Storage Cap Reductn			0	0	0	0	
Reduced v/c Ratio			1.00	0.28	0.72	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: 0.77			
Intersection Signal Delay: 18.0		Intersection LOS: B	
Intersection Capacity Utilization 140.9%		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.			
m Volume for 95th percentile queue is metered by upstream signal.			

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





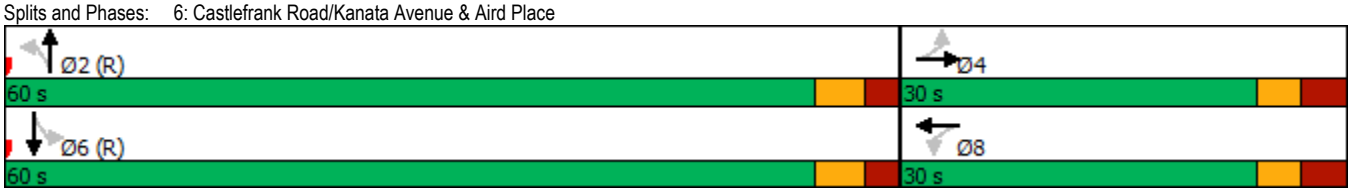
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	3	13	30	1	97	12	927	35	62	1111	24
Future Volume (vph)	17	3	13	30	1	97	12	927	35	62	1111	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	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			0.995			0.997	
Flt Protected		0.975			0.988		0.950			0.950		
Satd. Flow (prot)	0	1627	0	0	1542	0	1695	1757	0	1695	1777	0
Flt Permitted		0.735			0.909		0.141			0.222		
Satd. Flow (perm)	0	1219	0	0	1415	0	252	1757	0	396	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	927	35	62	1111	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	128	0	12	962	0	62	1135	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	

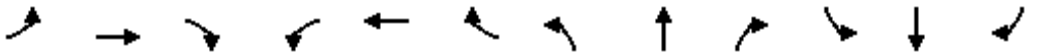
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.2	3.2		3.2	3.2		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.2			6.2		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		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		0.21	0.85	
Control Delay		26.2			19.2		5.2	11.3		6.1	13.3	
Queue Delay		0.0			0.0		0.0	0.3		0.0	0.0	
Total Delay		26.2			19.2		5.2	11.6		6.1	13.4	
LOS		C			B		A	B		A	B	
Approach Delay		26.2			19.2			11.5			13.0	
Approach LOS		C			B			B			B	
Queue Length 50th (m)		3.3			5.1		0.4	51.3		2.0	58.5	
Queue Length 95th (m)		9.9			17.8		m1.2	m#119.0		m5.0	#280.7	
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		190	1329		299	1343	
Starvation Cap Reductn		0			0		0	1		0	2	
Spillback Cap Reductn		0			3		0	60		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.10			0.29		0.06	0.76		0.21	0.85	

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: 0.85
Intersection Signal Delay: 12.9 Intersection LOS: B
Intersection Capacity Utilization 84.2% 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





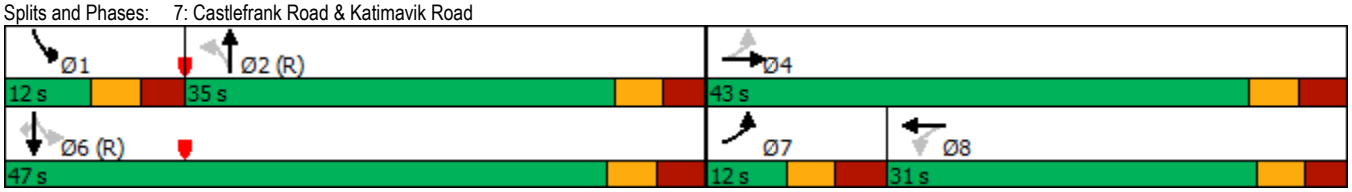
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	144	140	75	92	200	105	41	503	60	115	763	198
Future Volume (vph)	144	140	75	92	200	105	41	503	60	115	763	198
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage 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			0.948			0.984				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	1666	0	1558	1634	0	1695	1742	0	1647	1784	1473
Flt Permitted	0.250			0.624			0.224			0.141		
Satd. Flow (perm)	431	1666	0	1005	1634	0	395	1742	0	244	1784	1356
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			29			7				167
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)	144	140	75	92	200	105	41	503	60	115	763	198
Shared Lane Traffic (%)												
Lane Group Flow (vph)	144	215	0	92	305	0	41	563	0	115	763	198
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

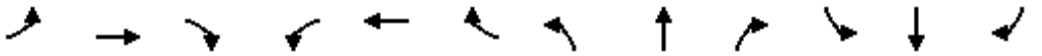
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.4	3.4		2.9	2.9		2.9	2.9		2.9	3.4	3.4
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7		6.2	6.2		6.2	6.2		6.2	6.7	6.7
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	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)	31.5	31.5		20.0	20.0		32.3	32.3		45.6	45.1	45.1
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	0.65	0.35		0.41	0.79		0.29	0.89		0.49	0.85	0.26
Control Delay	34.5	18.6		34.3	44.4		29.9	47.6		20.4	25.4	4.9
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	34.5	18.6		34.3	44.4		29.9	47.6		20.4	25.4	4.9
LOS	C	B		C	D		C	D		C	C	A
Approach Delay		25.0			42.0			46.4			21.1	
Approach LOS		C			D			D			C	
Queue Length 50th (m)	17.3	22.0		13.5	45.0		5.2	94.1		6.9	90.8	3.3
Queue Length 95th (m)	28.5	36.5		26.1	69.3		15.0	#163.2		m11.7	m#180.9	m9.5
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)	223	693		276	471		141	630		233	893	762
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	0.65	0.31		0.33	0.65		0.29	0.89		0.49	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: 0.89
Intersection Signal Delay: 31.4 Intersection LOS: C
Intersection Capacity Utilization 99.4% 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





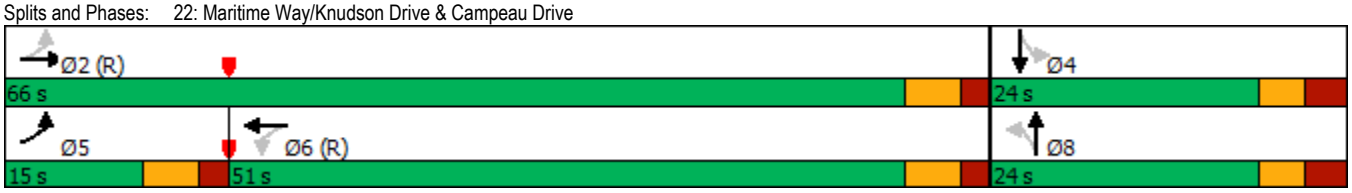
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	500	34	132	693	121	13	16	96	45	12	82
Future Volume (vph)	76	500	34	132	693	121	13	16	96	45	12	82
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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		35.9	15.1		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		35.9	15.1		39.9	14.3	
LOS	A	A		B	B		D	B		D	B	
Approach Delay		5.1			16.2			17.3			22.6	
Approach LOS		A			B			B			C	
Queue Length 50th (m)	2.6	24.8		9.3	88.6		2.0	3.2		7.3	1.9	
Queue Length 95th (m)	7.9	54.5		24.2	#195.8		m4.2	m9.1		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



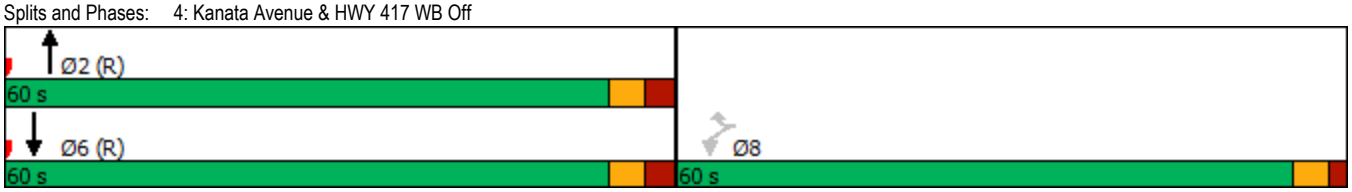


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	570	809	846	0	0	1226
Future Volume (vph)	570	809	846	0	0	1226
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
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)		89				
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)	570	809	846	0	0	1226
Shared Lane Traffic (%)						
Lane Group Flow (vph)	570	809	846	0	0	1226
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)	60.0	60.0	60.0			60.0
Total Split (%)	50.0%	50.0%	50.0%			50.0%
Maximum Green (s)	55.0	55.0	53.9			53.9
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)	55.0	55.0	53.9			53.9
Actuated g/C Ratio	0.46	0.46	0.45			0.45
v/c Ratio	0.73	1.09	1.08			0.81
Control Delay	33.5	88.7	87.4			34.1
Queue Delay	0.0	0.0	11.2			0.0
Total Delay	33.5	88.7	98.5			34.1
LOS	C	F	F			C
Approach Delay	65.9		98.5			34.1
Approach LOS	E		F			C
Queue Length 50th (m)	107.0	~202.6	~222.0			129.0
Queue Length 95th (m)	151.3	#277.3	#295.9			157.8
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	776	743	786			1507
Starvation Cap Reductn	0	0	189			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.73	1.09	1.42			0.81

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: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.09			
Intersection Signal Delay: 62.6		Intersection LOS: E	
Intersection Capacity Utilization 140.9%		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





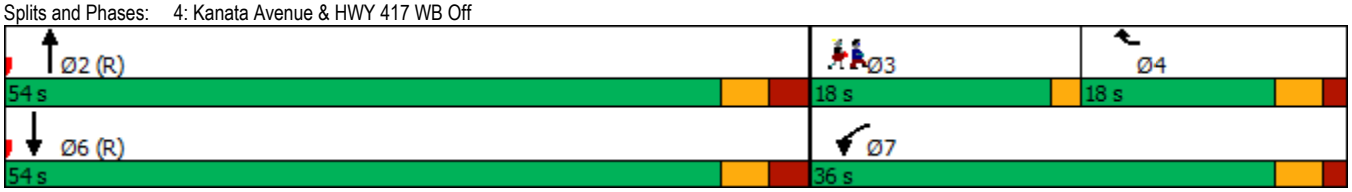
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lane Configurations							
Traffic Volume (vph)	295	276	423	0	0	1072	
Future Volume (vph)	295	276	423	0	0	1072	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Lane Util. Factor	1.00	0.88	0.95	1.00	1.00	0.95	
Frt		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	1695	2347	3262	0	0	3325	
Flt Permitted	0.950						
Satd. Flow (perm)	1695	2347	3262	0	0	3325	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		276					
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)	295	276	423	0	0	1072	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	295	276	423	0	0	1072	
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)	21.2	17.6	57.7			57.7	
Actuated g/C Ratio	0.24	0.20	0.64			0.64	
v/c Ratio	0.74	0.41	0.20			0.50	
Control Delay	42.7	6.4	12.9			7.7	
Queue Delay	0.0	0.0	0.0			0.0	
Total Delay	42.7	6.4	12.9			7.7	
LOS	D	A	B			A	
Approach Delay	25.2		12.9			7.7	
Approach LOS	C		B			A	
Queue Length 50th (m)	47.5	0.0	13.7			25.6	
Queue Length 95th (m)	66.2	11.8	55.3			32.9	
Internal Link Dist (m)	308.8		102.6			90.0	
Turn Bay Length (m)							
Base Capacity (vph)	583	688	2092			2133	
Starvation Cap Reductn	0	0	0			0	
Spillback Cap Reductn	0	0	0			79	
Storage Cap Reductn	0	0	0			0	
Reduced v/c Ratio	0.51	0.40	0.20			0.52	

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: 0.74			
Intersection Signal Delay: 13.6		Intersection LOS: B	
Intersection Capacity Utilization 84.2%		ICU Level of Service E	
Analysis Period (min) 15			

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





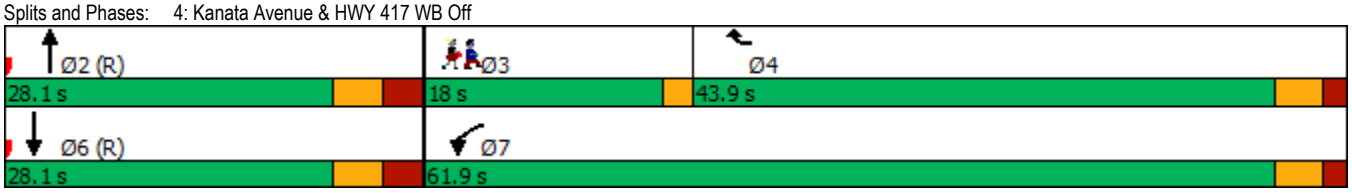
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lane Configurations							
Traffic Volume (vph)	570	809	846	0	0	1226	
Future Volume (vph)	570	809	846	0	0	1226	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Lane Util. Factor	1.00	0.88	0.95	1.00	1.00	0.95	
Ped Bike Factor							
Frt		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	1695	2669	3325	0	0	3357	
Flt Permitted	0.950						
Satd. Flow (perm)	1695	2669	3325	0	0	3357	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		809					
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)	570	809	846	0	0	1226	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	570	809	846	0	0	1226	
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)	61.9	43.9	28.1			28.1	18.0
Total Split (%)	68.8%	48.8%	31.2%			31.2%	20%
Maximum Green (s)	56.9	38.9	22.0			22.0	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)	40.3	36.7	38.6			38.6	
Actuated g/C Ratio	0.45	0.41	0.43			0.43	
v/c Ratio	0.75	0.52	0.59			0.85	
Control Delay	26.3	2.6	32.4			35.9	
Queue Delay	0.0	0.0	0.0			1.5	
Total Delay	26.3	2.6	32.4			37.4	
LOS	C	A	C			D	
Approach Delay	12.4		32.4			37.4	
Approach LOS	B		C			D	
Queue Length 50th (m)	79.1	0.0	80.7			79.3	
Queue Length 95th (m)	85.1	11.7	#110.7			#177.4	
Internal Link Dist (m)	308.8		102.6			90.0	
Turn Bay Length (m)							
Base Capacity (vph)	1071	1647	1424			1438	
Starvation Cap Reductn	0	0	0			0	
Spillback Cap Reductn	9	0	0			88	
Storage Cap Reductn	0	0	0			0	
Reduced v/c Ratio	0.54	0.49	0.59			0.91	

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: 0.85
Intersection Signal Delay: 26.2 Intersection LOS: C
Intersection Capacity Utilization 121.4% 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



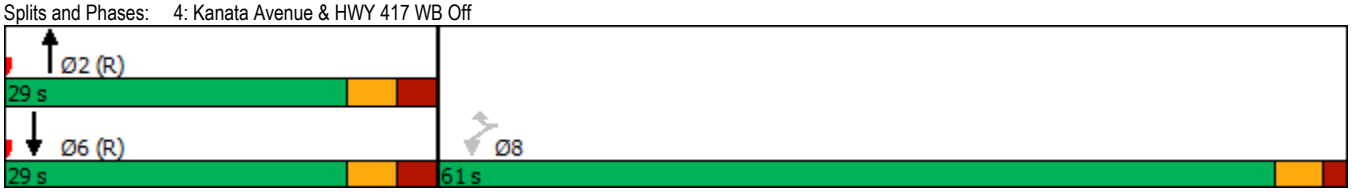


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	530	489	666	0	0	1226
Future Volume (vph)	530	489	666	0	0	1226
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
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)		32				
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)	530	489	666	0	0	1226
Shared Lane Traffic (%)						
Lane Group Flow (vph)	530	489	666	0	0	1226
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)	61.0	61.0	29.0			29.0
Total Split (%)	67.8%	67.8%	32.2%			32.2%
Maximum Green (s)	56.0	56.0	22.9			22.9
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)	38.2	38.2	40.7			40.7
Actuated g/C Ratio	0.42	0.42	0.45			0.45
v/c Ratio	0.74	0.74	0.84			0.81
Control Delay	27.1	26.2	44.3			32.0
Queue Delay	0.0	0.0	0.0			0.8
Total Delay	27.2	26.2	44.3			32.8
LOS	C	C	D			C
Approach Delay	26.7		44.3			32.8
Approach LOS	C		D			C
Queue Length 50th (m)	73.9	64.1	126.7			76.1
Queue Length 95th (m)	82.0	74.3	#216.4			#169.2
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	1054	956	790			1516
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	6	0	0			95
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.51	0.51	0.84			0.86

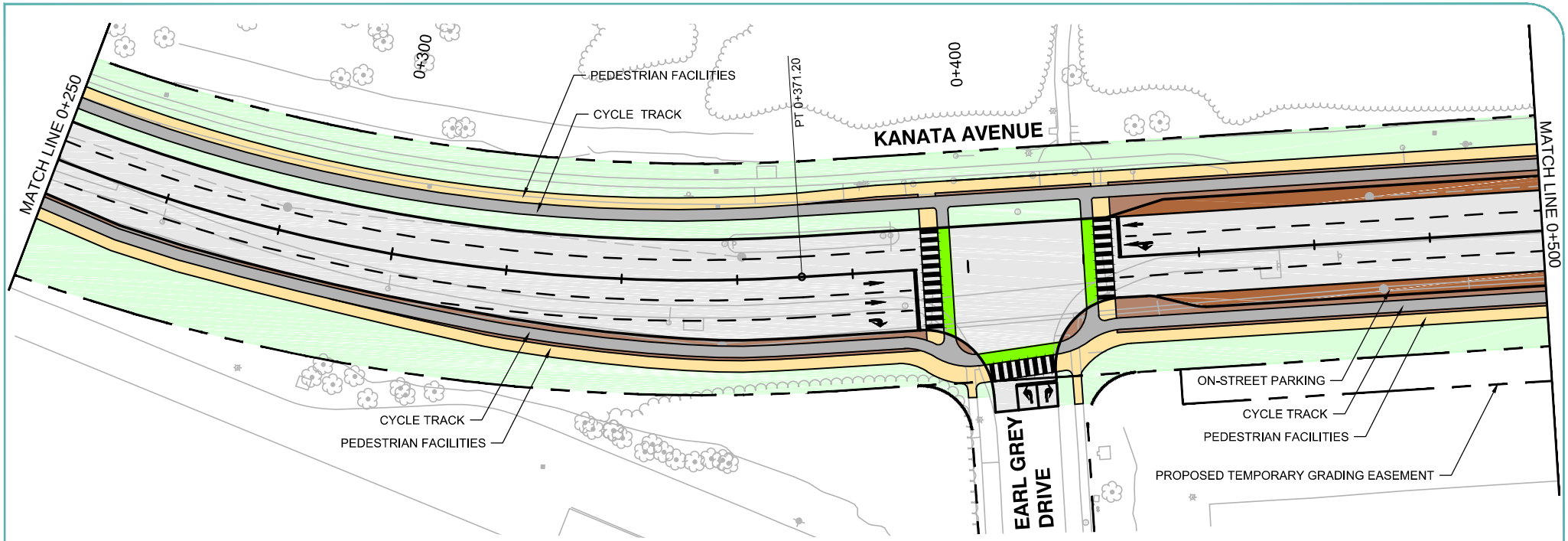
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 33.3		Intersection LOS: C	
Intersection Capacity Utilization 120.0%		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.			

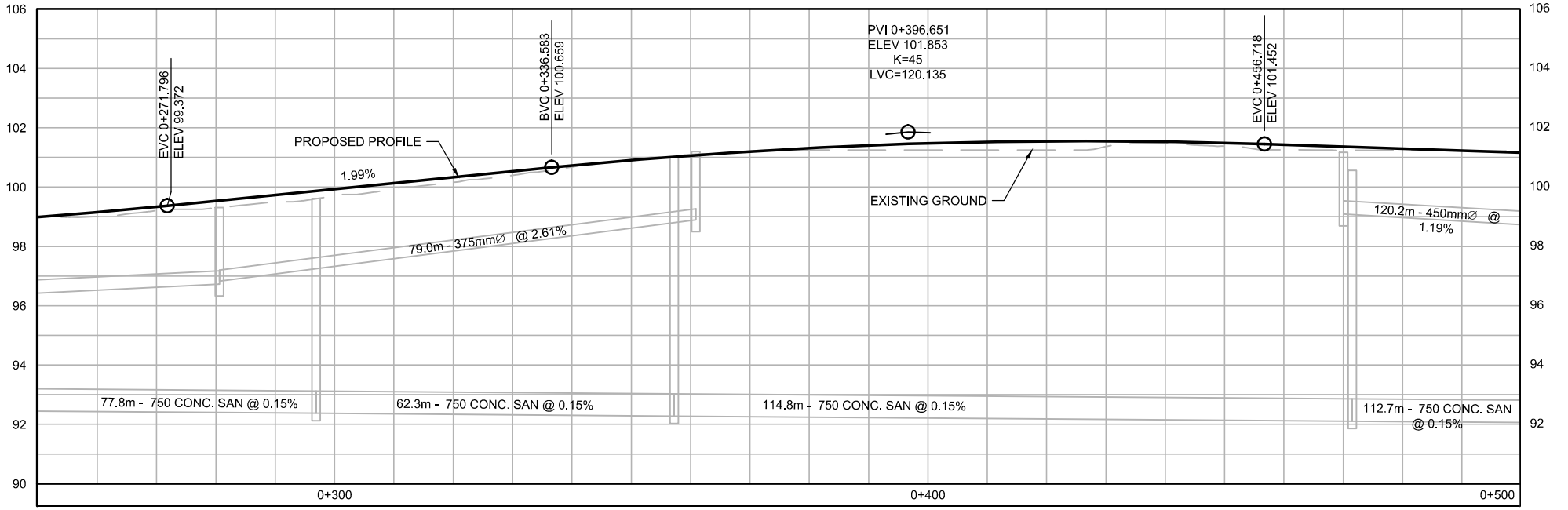
Splits and Phases: 4: Kanata Avenue & HWY 417 WB Off



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

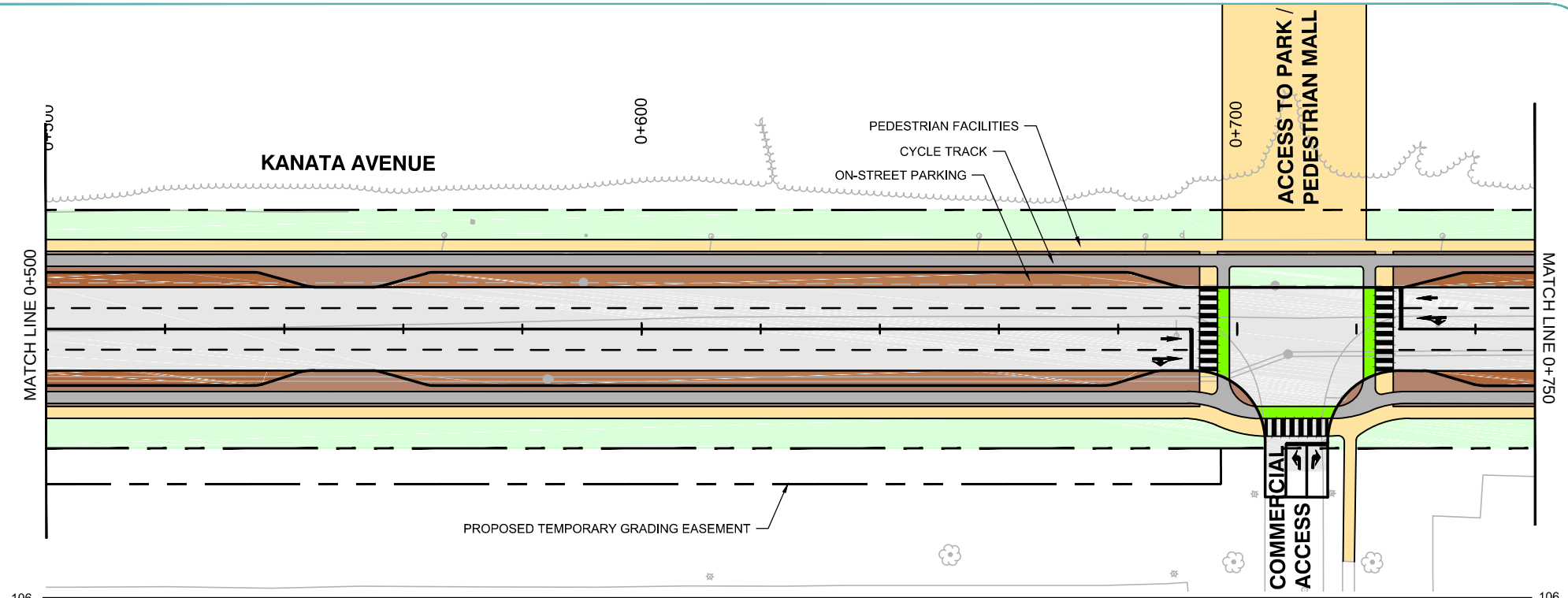
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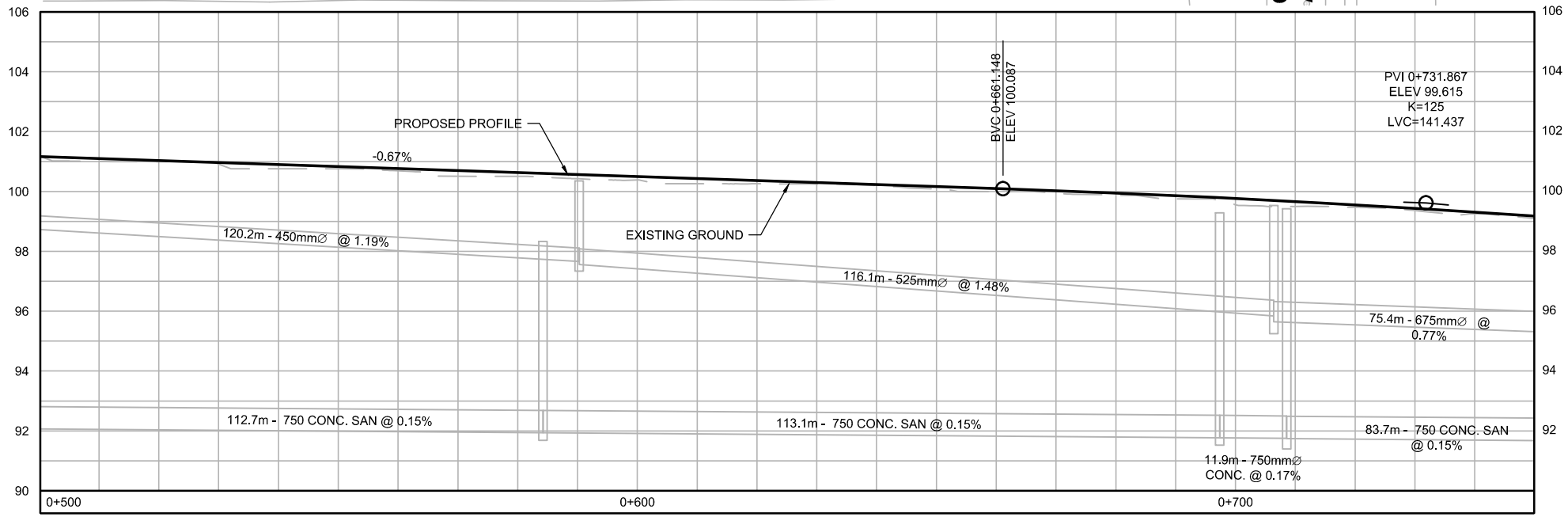
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DESIGNED BY: LDM

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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

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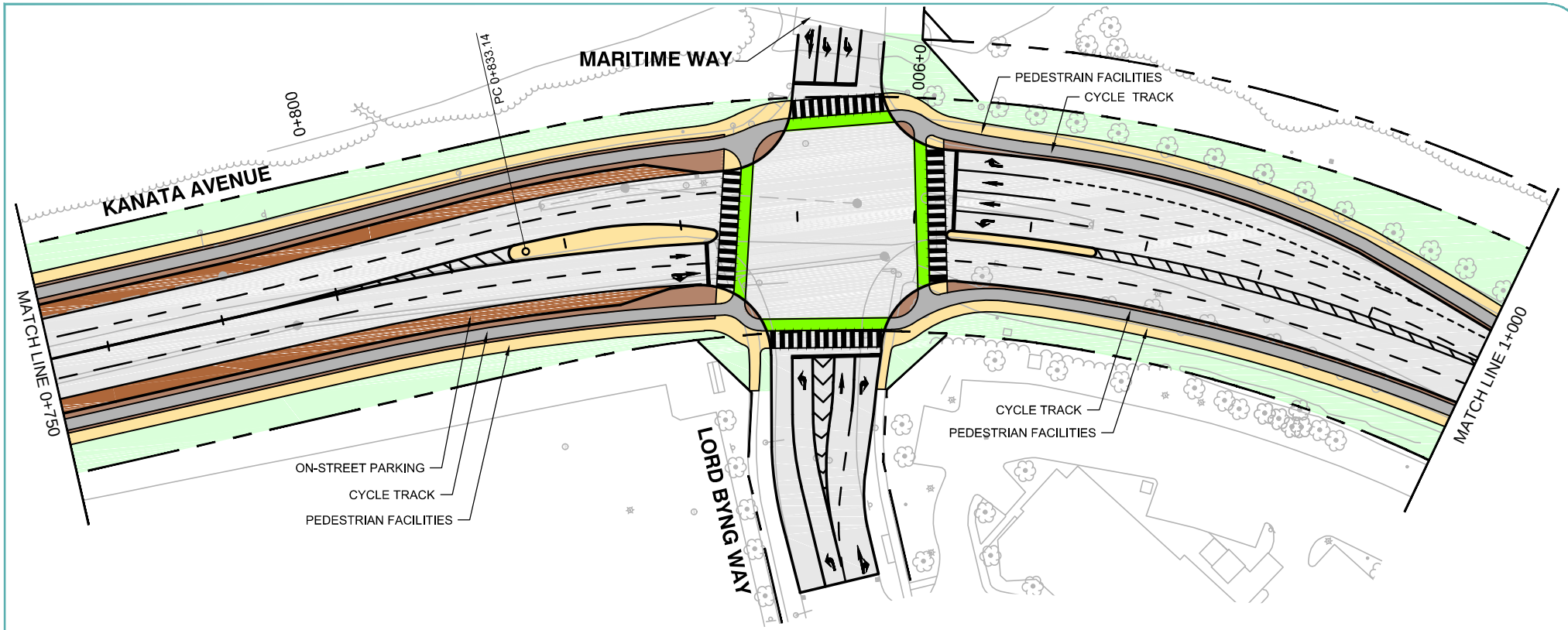
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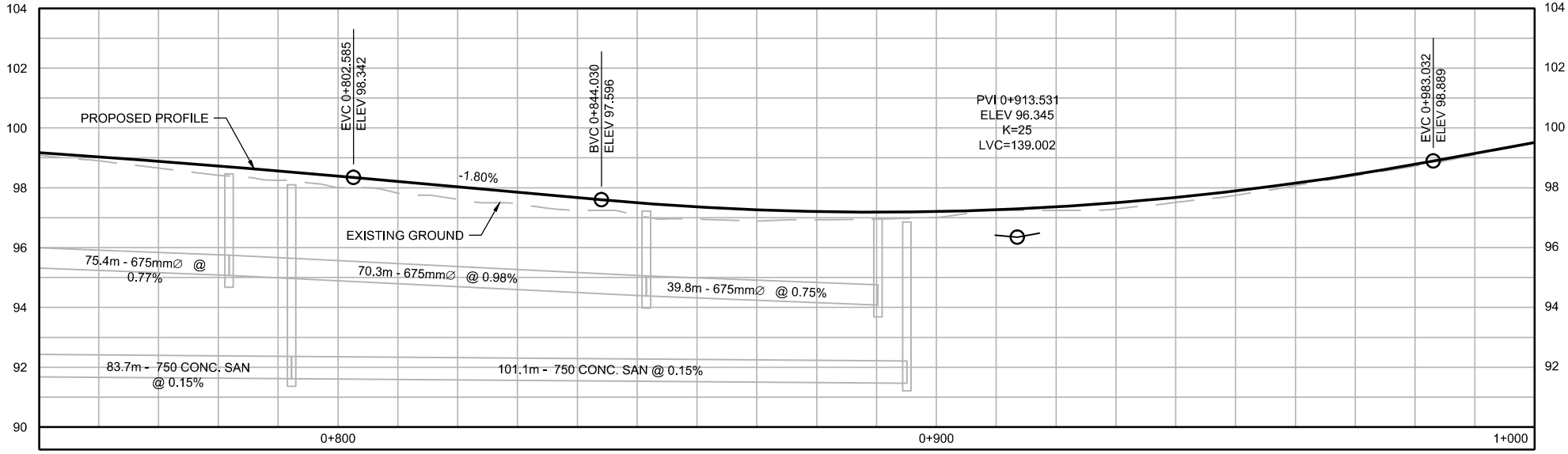
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BASE DATA PROVIDED BY CITY OF OTTAWA.

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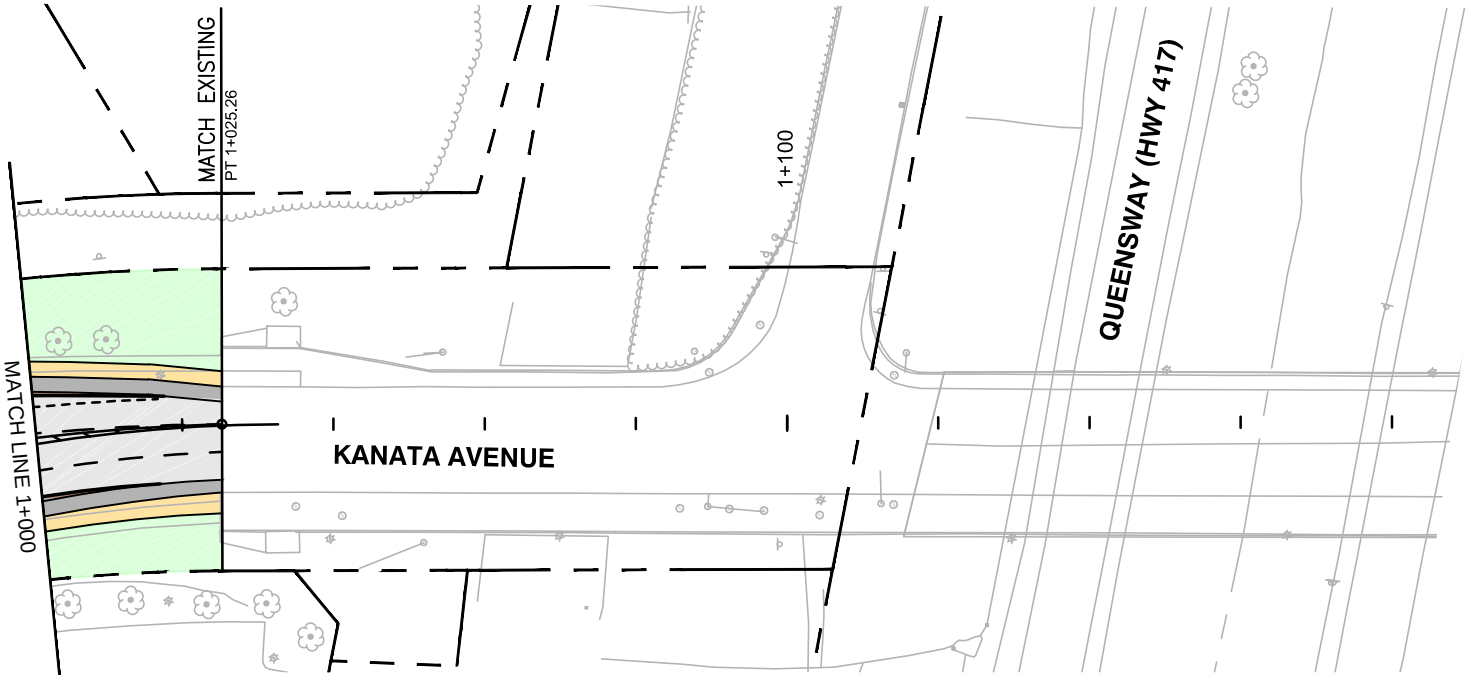
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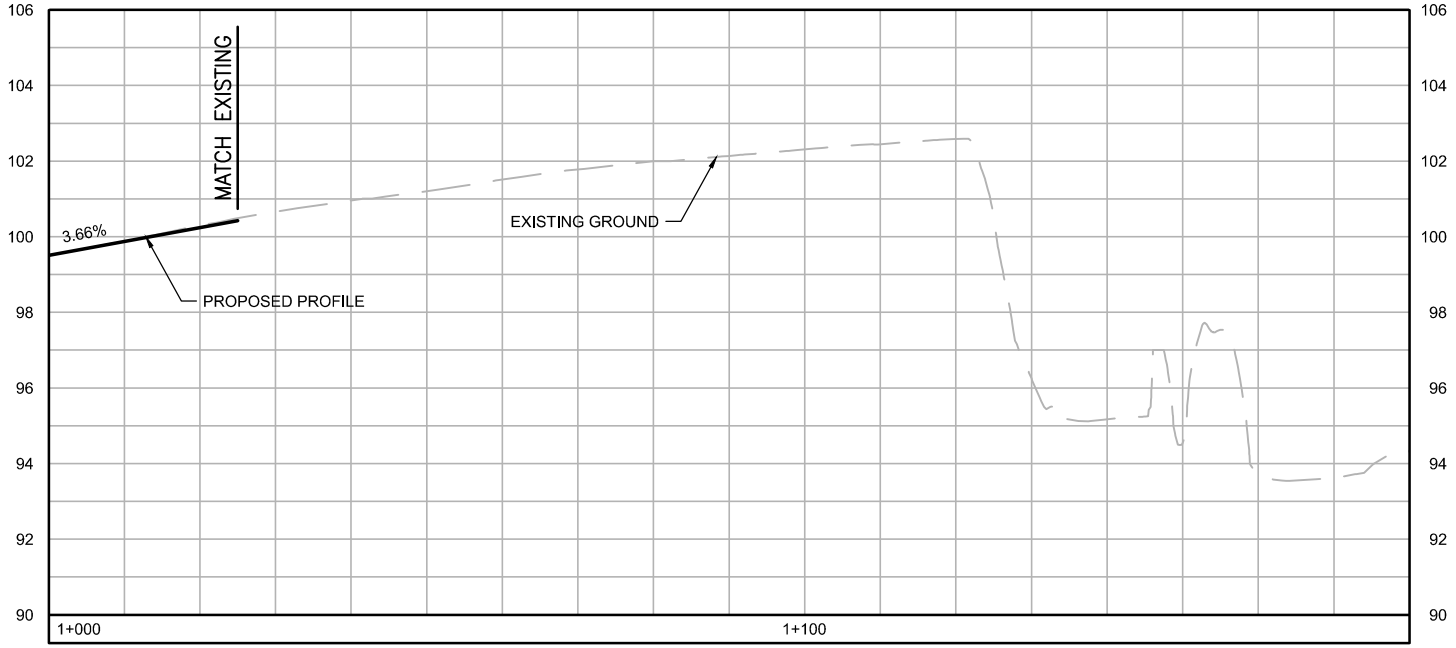
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PROJECT #:	STATUS:	DATE:
13-7460	FINAL (REVISED)	OCTOBER 2016





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

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

APPENDIX I

TDM Checklists

TDM-Supportive Development Design and Infrastructure Checklist:
Residential Developments (multi-family or condominium)

Legend

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

		TDM-supportive design & infrastructure measures: *Residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	1.	**WALKING & CYCLING: ROUTES**	
	1.1	**Building location & access points**	
BASIC	1.1.1	Locate building close to the street, and do not locate parking areas between the street and building entrances	☐
BASIC	1.1.2	Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations	☐
BASIC	1.1.3	Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort	☑
	1.2	**Facilities for walking & cycling**	
REQUIRED	1.2.1	Provide convenient, direct access to stations or major stops along rapid transit routes within 600 metres; minimize walking distances from buildings to rapid transit; provide pedestrian-friendly, weather-protected (where possible) environment between rapid transit accesses and building entrances; ensure quality linkages from sidewalks through building entrances to integrated stops/stations *(see Official Plan policy 4.3.3)*	☑
REQUIRED	1.2.2	Provide safe, direct and attractive pedestrian access from public sidewalks to building entrances through such measures as: reducing distances between public sidewalks and major building entrances; providing walkways from public streets to major building entrances; within a site, providing walkways along the front of adjoining buildings, between adjacent buildings, and connecting areas where people may congregate, such as courtyards and transit stops; and providing weather protection through canopies, colonnades, and other design elements wherever possible *(see Official Plan policy 4.3.12)*	☑

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

		TDM-supportive design & infrastructure measures: *Residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	2.	**WALKING & CYCLING: END-OF-TRIP FACILITIES**	
	2.1	**Bicycle parking**	
REQUIRED	2.1.1	Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible *(see Official Plan policy 4.3.6)*	☑
REQUIRED	2.1.2	Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas *(see Zoning By-law Section 111)*	☑
REQUIRED	2.1.3	Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored *(see Zoning By-law Section 111)*	☑
BASIC	2.1.4	Provide bicycle parking spaces equivalent to the expected number of resident-owned bicycles, plus the expected peak number of visitor cyclists	☐
	2.2	**Secure bicycle parking**	
REQUIRED	2.2.1	Where more than 50 bicycle parking spaces are provided for a single residential building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers *(see Zoning By-law Section 111)*	☑
BETTER	2.2.2	Provide secure bicycle parking spaces equivalent to at least the number of units at condominiums or multi-family residential developments	☐
	2.3	**Bicycle repair station**	
BETTER	2.3.1	Provide a permanent bike repair station, with commonly used tools and an air pump, adjacent to the main bicycle parking area (or secure bicycle parking area, if provided)	☐
	3.	**TRANSIT**	
	3.1	**Customer amenities**	
BASIC	3.1.1	Provide shelters, lighting and benches at any on-site transit stops	☐
BASIC	3.1.2	Where the site abuts an off-site transit stop and insufficient space exists for a transit shelter in the public right-of-way, protect land for a shelter and/or install a shelter	☐
BETTER	3.1.3	Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	☐

		TDM-supportive design & infrastructure measures: *Residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	4.	**RIDESHARING**	
	4.1	**Pick-up & drop-off facilities**	
BASIC	4.1.1	Provide a designated area for carpool drivers (plus taxis and ride-hailing services) to drop off or pick up passengers without using fire lanes or other no-stopping zones	☐
	5.	**CARSHARING & BIKESHARING**	
	5.1	**Carshare parking spaces**	
BETTER	5.1.1	Provide up to three carshare parking spaces in an R3, R4 or R5 Zone for specified residential uses *(see Zoning By-law Section 94)*	☐
	5.2	**Bikeshare station location**	
BETTER	5.2.1	Provide a designated bikeshare station area near a major building entrance, preferably lighted and sheltered with a direct walkway connection	☐
	6.	**PARKING**	
	6.1	**Number of parking spaces**	
REQUIRED	6.1.1	Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for	☑
BASIC	6.1.2	Provide parking for long-term and short-term users that is consistent with mode share targets, considering the potential for visitors to use off-site public parking	☐
BASIC	6.1.3	Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly *(see Zoning By-law Section 104)*	☐
BETTER	6.1.4	Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking *(see Zoning By-law Section 111)*	☐
	6.2	**Separate long-term & short-term parking areas**	
BETTER	6.2.1	Provide separate areas for short-term and long-term parking (using signage or physical barriers) to permit access controls and simplify enforcement (i.e. to discourage residents from parking in visitor spaces, and vice versa)	☐

TDM Measures Checklist:
Residential Developments (multi-family, condominium or subdivision)

Legend

BASIC — The measure is generally feasible and effective, and in most cases would benefit the development and its users

BETTER — The measure could maximize support for users of sustainable modes, and optimize development performance

★ — The measure is one of the most dependably effective tools to encourage the use of sustainable modes

		TDM measures: *Residential developments*	Check if proposed & add descriptions
	1.	**TDM PROGRAM MANAGEMENT**	
	1.1	**Program coordinator**	
BASIC ★	1.1.1	Designate an internal coordinator, or contract with an external coordinator	☐
	1.2	**Travel surveys**	
BETTER	1.2.1	Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress	☐
	2.	**WALKING AND CYCLING**	
	2.1	**Information on walking/cycling routes & destinations**	
BASIC	2.1.1	Display local area maps with walking/cycling access routes and key destinations at major entrances *(multi-family, condominium)*	☑
	2.2	**Bicycle skills training**	
BETTER	2.2.1	Offer on-site cycling courses for residents, or subsidize off-site courses	☐

			TDM measures: *Residential developments*	Check if proposed & add descriptions
		3.	**TRANSIT**	
		3.1	**Transit information**	
BASIC		3.1.1	Display relevant transit schedules and route maps at entrances *(multi-family, condominium)*	☑
BETTER		3.1.2	Provide real-time arrival information display at entrances *(multi-family, condominium)*	☐
		3.2	**Transit fare incentives**	
BASIC	★	3.2.1	Offer PRESTO cards preloaded with one monthly transit pass on residence purchase/move-in, to encourage residents to use transit	☐
BETTER		3.2.2	Offer at least one year of free monthly transit passes on residence purchase/move-in	☐
		3.3	**Enhanced public transit service**	
BETTER	★	3.3.1	Contract with OC Transpo to provide early transit services until regular services are warranted by occupancy levels *(subdivision)*	☐
		3.4	**Private transit service**	
BETTER		3.4.1	Provide shuttle service for seniors homes or lifestyle communities (e.g. scheduled mall or supermarket runs)	☐
		4.	**CARSHARING & BIKESHARING**	
		4.1	**Bikeshare stations & memberships**	
BETTER		4.1.1	Contract with provider to install on-site bikeshare station (*multi-family)*	☐
BETTER		4.1.2	Provide residents with bikeshare memberships, either free or subsidized *(multi-family)*	☐
		4.2	**Carshare vehicles & memberships**	
BETTER		4.2.1	Contract with provider to install on-site carshare vehicles and promote their use by residents	☑
BETTER		4.2.2	Provide residents with carshare memberships, either free or subsidized	☐
		5.	**PARKING**	
		5.1	**Priced parking**	
BASIC	★	5.1.1	Unbundle parking cost from purchase price *(condominium)*	☐
BASIC	★	5.1.2	Unbundle parking cost from monthly rent *(multi-family)*	☑

			TDM measures: *Residential developments*	Check if proposed & add descriptions
		6.	**TDM MARKETING & COMMUNICATIONS**	
		6.1	**Multimodal travel information**	
BASIC	★	6.1.1	Provide a multimodal travel option information package to new residents	☑
		6.2	**Personalized trip planning**	
BETTER	★	6.2.1	Offer personalized trip planning to new residents	☑

APPENDIX J

MMLOS Analysis

Pedestrian Level of Service (PLOS)

Sidewalk Width	Boulevard Width	Avg. Daily Curb Lane Traffic Volume	Presence of On-Street Parking	Operating Speed	Segment PLOS
Kanata Avenue (North Side)					
2.0m	2.0m	> 3,000 vpd	No	60 km/h	C
Maritime Way (South Side)					
1.8m	2.0m	> 3,000 vpd	Yes	60 km/h	C

Bicycle Level of Service (BLOS)

Road Class	Bike Route	Type of Bikeway	Travel Lanes (Per Direction)	Operating Speed	Segment BLOS
Kanata Avenue					
Arterial	Local Route	2m Bike Lanes	1	60 km/h	C
Maritime Way					
Local	Local Route	Mixed Traffic	1	60 km/h	F

Transit Level of Service (TLOS)

Facility Type	Level/Exposure to Congestion Delay, Friction and Incidents			Segment TLOS
	Congestion	Friction	Incident Potential	
Kanata Avenue				
Mixed Traffic	Yes	Low	Medium	D
Maritime Way				
Mixed Traffic	Yes	Medium	Medium	E

Truck Level of Service (TkLOS)

Curb Lane Width	Number of Travel Lanes (Per Direction)	Segment TkLOS
Kanata Avenue		
≤3.5m	1	C
Maritime Way		
>3.7m	1	B

Pedestrian Level of Service (PLOS)

Criteria	South Approach		East Approach		West Approach	
Kanata Avenue/Earl Grey Drive						
PETSI SCORE						
CROSSING DISTANCE CONDITIONS						
Median > 2.4m in Width	No	55	No	72	No	72
Lanes Crossed (3.5m Lane Width)	6		5		5	
SIGNAL PHASING AND TIMING						
Left Turn Conflict	Perm + Prot	-8	No Left Turn/Prohibited	0	Permissive	-8
Right Turn Conflict	Permissive or Yield	-5	Permissive or Yield	-5	No Right Turn/Prohibited	0
Right Turn on Red	RTOR Allowed	-3	N/A	0	RTOR Allowed	-3
Leading Pedestrian Interval	No	-2	No	-2	No	-2
CORNER RADIUS						
Parallel Radius	> 10m to 15m	-6	> 10m to 15m	-6	No Right Turn	0
Parallel Right Turn Channel	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn	0
Perpendicular Radius	N/A	0	N/A	0	N/A	0
Perpendicular Right Turn Channel	N/A	0	N/A	0	N/A	0
CROSSING TREATMENT						
Treatment	Standard	-4	Standard	-7	Standard	-7
PETSI SCORE		**23**		**48**		**52**
LOS		**F**		**D**		**D**
DELAY SCORE						
Cycle Length		55		100		100
Pedestrian Walk Time		7.6		12.1		12.1
DELAY SCORE		**20.4**		**38.6**		**38.6**
LOS		**C**		**D**		**D**
OVERALL		**F**		**D**		**D**

Criteria	North Approach		South Approach		East Approach		West Approach	
Kanata Avenue/Maritime Way/Lord Byng Way								
PETSI SCORE								
CROSSING DISTANCE CONDITIONS								
Median > 2.4m in Width	No	39	No	39	No	55	No	55
Lanes Crossed (3.5m Lane Width)	7		7		6		6	
SIGNAL PHASING AND TIMING								
Left Turn Conflict	Permissive	-8	Perm + Prot	-8	Permissive	-8	Permissive	-8
Right Turn Conflict	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5
Right Turn on Red	RTOR Allowed	-3	RTOR Allowed	-3	RTOR Allowed	-3	RTOR Allowed	-3
Leading Pedestrian Interval	No	-2	No	-2	No	-2	No	-2
CORNER RADIUS								
Parallel Radius	> 10m to 15m	-6	> 10m to 15m	-6	> 15m to 25m	-8	> 15m to 25m	-8
Parallel Right Turn Channel	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4
Perpendicular Radius	N/A	0	N/A	0	N/A	0	N/A	0
Perpendicular Right Turn Channel	N/A	0	N/A	0	N/A	0	N/A	0
CROSSING TREATMENT								
Treatment	Standard	-7	Standard	-4	Standard	-7	Standard	-7
PETSI SCORE		**4**		**7**		**18**		**18**
LOS		**F**		**F**		**F**		**F**
DELAY SCORE								
Cycle Length		90		90		90		90
Pedestrian Walk Time		6.7		6.7		35.7		20.7
DELAY SCORE		**38.5**		**38.5**		**16.4**		**26.7**
LOS		**D**		**D**		**B**		**C**
OVERALL		**F**		**F**		**F**		**F**

Criteria	North Approach		South Approach		East Approach	
Kanata Avenue/Highway 417 Westbound Off-Ramp						
PETSI SCORE						
CROSSING DISTANCE CONDITIONS						
Median > 2.4m in Width	No	88	N/A	N/A	No	72
Lanes Crossed (3.5m Lane Width)	4		N/A		5	
SIGNAL PHASING AND TIMING						
Left Turn Conflict	No Left Turn/Prohibited	0	N/A	N/A	No Left Turn/Prohibited	0
Right Turn Conflict	Permissive or Yield	-5	N/A	N/A	No Right Turn/Prohibited	0
Right Turn on Red	N/A	0	N/A	N/A	RTOR Allowed	-3
Leading Pedestrian Interval	No	-2	N/A	N/A	No	-2
CORNER RADIUS						
Parallel Radius	> 5m to 10m	-5	N/A	N/A	No Right Turn	0
Parallel Right Turn Channel	No Right Turn Channel	-4	N/A	N/A	No Right Turn	0
Perpendicular Radius	N/A	0	N/A	N/A	N/A	0
Perpendicular Right Turn Channel	N/A	0	N/A	N/A	N/A	0
CROSSING TREATMENT						
Treatment	Standard	-7	N/A	N/A	Standard	-7
PETSI SCORE		**65**		**N/A**		**60**
LOS		**C**		**N/A**		**C**
DELAY SCORE						
Cycle Length		90		N/A		90
Pedestrian Walk Time		21		N/A		23.9
DELAY SCORE		**26.5**		**N/A**		**24.3**
LOS		**C**		**N/A**		**C**
OVERALL		**C**		**N/A**		**C**

Criteria	North Approach		South Approach		East Approach	
Kanata Avenue/Highway 417 Eastbound On-Ramp						
PETSI SCORE						
CROSSING DISTANCE CONDITIONS						
Median > 2.4m in Width	N/A	N/A	No	55	No	72
Lanes Crossed (3.5m Lane Width)	N/A		6		5	
SIGNAL PHASING AND TIMING						
Left Turn Conflict	N/A	N/A	No Left Turn/Prohibited	0	Perm + Prot	-8
Right Turn Conflict	N/A	N/A	No Right Turn/Prohibited	0	Permissive or Yield	-5
Right Turn on Red	N/A	N/A	RTOR Allowed	-3	N/A	0
Leading Pedestrian Interval	N/A	N/A	No	-2	No	-2
CORNER RADIUS						
Parallel Radius	N/A	N/A	No Right Turn	0	> 10m to 15m	-6
Parallel Right Turn Channel	N/A	N/A	No Right Turn	0	No Right Turn Channel	-4
Perpendicular Radius	N/A	N/A	N/A	0	N/A	0
Perpendicular Right Turn Channel	N/A	N/A	N/A	0	N/A	0
CROSSING TREATMENT						
Treatment	N/A	N/A	Standard	-4	Standard	-7
PETSI SCORE		**N/A**		**46**		**40**
LOS		**N/A**		**D**		**E**
DELAY SCORE						
Cycle Length		N/A		90		90
Pedestrian Walk Time		N/A		8		33.3
DELAY SCORE		**N/A**		**37.4**		**17.9**
LOS		**N/A**		**D**		**B**
OVERALL		**N/A**		**D**		**E**

Criteria	North Approach		South Approach		East Approach		West Approach	
Kanata Avenue/Castlefrank Road/Aird Place								
PETSI SCORE								
CROSSING DISTANCE CONDITIONS								
Median > 2.4m in Width	No	55	No	72	No	72	No	72
Lanes Crossed (3.5m Lane Width)	6		5		5		5	
SIGNAL PHASING AND TIMING								
Left Turn Conflict	Permissive	-8	Permissive	-8	Permissive	-8	Permissive	-8
Right Turn Conflict	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5
Right Turn on Red	RTOR Allowed	-3	RTOR Allowed	-3	RTOR Allowed	-3	RTOR Allowed	-3
Leading Pedestrian Interval	No	-2	No	-2	No	-2	No	-2
CORNER RADIUS								
Parallel Radius	> 10m to 15m	-6	> 15m to 25m	-8	> 15m to 25m	-8	> 15m to 25m	-8
Parallel Right Turn Channel	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4
Perpendicular Radius	N/A	0	N/A	0	N/A	0	N/A	0
Perpendicular Right Turn Channel	N/A	0	N/A	0	N/A	0	N/A	0
CROSSING TREATMENT								
Treatment	Standard	-7	Standard	-4	Textured	-4	Textured	-4
PETSI SCORE		**20**		**38**		**38**		**38**
LOS		**F**		**E**		**E**		**E**
DELAY SCORE								
Cycle Length		90		90		90		90
Pedestrian Walk Time		8.8		8.8		42.3		42.3
DELAY SCORE		**36.6**		**36.6**		**12.6**		**12.6**
LOS		**D**		**D**		**B**		**B**
OVERALL		**F**		**E**		**E**		**E**

Criteria	North Approach		South Approach		East Approach		West Approach	
Castlefrank Road/Katimavik Road								
PETSI SCORE								
CROSSING DISTANCE CONDITIONS								
Median > 2.4m in Width	No	55	No	55	No	55	No	55
Lanes Crossed (3.5m Lane Width)	6		6		6		6	
SIGNAL PHASING AND TIMING								
Left Turn Conflict	Permissive	-8	Permissive	-8	Perm + Prot	-8	Permissive	-8
Right Turn Conflict	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5
Right Turn on Red	RTOR Allowed	-3	RTOR Allowed	-3	RTOR Allowed	-3	RTOR Allowed	-3
Leading Pedestrian Interval	No	-2	No	-2	No	-2	No	-2
CORNER RADIUS								
Parallel Radius	> 10m to 15m	-6	> 15m to 25m	-8	> 15m to 25m	-8	> 15m to 25m	-8
Parallel Right Turn Channel	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4
Perpendicular Radius	N/A	0	N/A	0	N/A	0	N/A	0
Perpendicular Right Turn Channel	N/A	0	N/A	0	N/A	0	N/A	0
CROSSING TREATMENT								
Treatment	Textured	-4	Textured	-4	Textured	-4	Textured	-4
PETSI SCORE		**23**		**21**		**21**		**21**
LOS		**F**		**F**		**F**		**F**
DELAY SCORE								
Cycle Length		90		90		90		90
Pedestrian Walk Time		8.3		20.3		12.8		17.8
DELAY SCORE		**37.1**		**27**		**33.1**		**29**
LOS		**D**		**C**		**D**		**C**
OVERALL		**F**		**F**		**F**		**F**

Criteria	North Approach		South Approach		East Approach		West Approach	
Campeau Drive/Maritime Way/Knudson Drive								
PETSI SCORE								
CROSSING DISTANCE CONDITIONS								
Median > 2.4m in Width	No	55	No	72	No	72	No	72
Lanes Crossed (3.5m Lane Width)	6		5		5		5	
SIGNAL PHASING AND TIMING								
Left Turn Conflict	Perm + Prot	-8	Permissive	-8	Permissive	-8	Permissive	-8
Right Turn Conflict	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5	Permissive or Yield	-5
Right Turn on Red	RTOR Allowed	-3	RTOR Allowed	-3	RTOR Allowed	-3	RTOR Allowed	-3
Leading Pedestrian Interval	No	-2	No	-2	No	-2	No	-2
CORNER RADIUS								
Parallel Radius	> 5m to 10m	-5	> 5m to 10m	-5	> 10m to 15m	-6	> 10m to 15m	-6
Parallel Right Turn Channel	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4	No Right Turn Channel	-4
Perpendicular Radius	N/A	0	N/A	0	N/A	0	N/A	0
Perpendicular Right Turn Channel	N/A	0	N/A	0	N/A	0	N/A	0
CROSSING TREATMENT								
Treatment	Standard	-7	Standard	-4	Standard	-7	Standard	-7
PETSI SCORE		**21**		**41**		**37**		**37**
LOS		**F**		**E**		**E**		**E**
DELAY SCORE								
Cycle Length		80		80		90		90
Pedestrian Walk Time		24.3		24.3		8		8
DELAY SCORE		**19.4**		**19.4**		**37.4**		**37.4**
LOS		**B**		**B**		**D**		**D**
OVERALL		**F**		**E**		**E**		**E**

Bicycle Level of Service (BLOS)

Approach	Bikeway Facility Type	Criteria	Travel Lanes and/or Speed	BLOS
Kanata Avenue/Earl Grey Drive				
South Approach	Mixed Traffic	Right Turn Lane Characteristics	No Impact to LTS	A
		Left Turn Accommodation	One Lane Crossed; 50km/h	D
East Approach	Bike Lane	Right Turn Lane Characteristics	Not Applicable	A
		Left Turn Accommodation	One Lane Crossed; 50km/h	C
West Approach	Pocket Bike Lane	Right Turn Lane Characteristics	Right turn lane to the right of bike lane; >50m long	D
		Left Turn Accommodation	Not Applicable	A
Kanata Avenue/Maritime Way/Lord Byng Way				
North Approach	Mixed Traffic	Right Turn Lane Characteristics	No Impact to LTS	A
		Left Turn Accommodation	One Lane Crossed; 50km/h	D
South Approach	Mixed Traffic	Right Turn Lane Characteristics	No Impact to LTS	A
		Left Turn Accommodation	One Lane Crossed; 50km/h	D
East Approach	Bike Lane	Right Turn Lane Characteristics	No Impact to LTS	A
		Left Turn Accommodation	One Lane Crossed; 50km/h	C
West Approach	Mixed Traffic	Right Turn Lane Characteristics	No Impact to LTS	A
		Left Turn Accommodation	One Lane Crossed; 50km/h	D
Kanata Avenue/Highway 417 Westbound Off-Ramp[1]				
North Approach	Bike Lane	Right Turn Lane Characteristics	Not Applicable	-
		Left Turn Accommodation	Not Applicable	-
South Approach	Bike Lane	Right Turn Lane Characteristics	Not Applicable	-
		Left Turn Accommodation	Not Applicable	-
East Approach	Mixed Traffic	Right Turn Lane Characteristics	Not Applicable	-
		Left Turn Accommodation	Not Applicable	-

Approach	Bikeway Facility Type	Criteria	Travel Lanes and/or Speed	BLOS
Kanata Avenue/Highway 417 Eastbound On-Ramp				
North Approach	Bike Lane	Right Turn Lane Characteristics	Not Applicable	-
		Left Turn Accommodation	Not Applicable	-
South Approach	Pocket Bike Lane	Right Turn Lane Characteristics	Right turn lane >50m	D
		Left Turn Accommodation	Not Applicable	-
East Approach	Mixed Traffic	Right Turn Lane Characteristics	Not Applicable	-
		Left Turn Accommodation	Not Applicable	-
Kanata Avenue/Castlefrank Road/Aird Place				
North Approach	Bike Lane	Right Turn Lane Characteristics	No Impact to LTS	A
		Left Turn Accommodation	One Lane Crossed; 50km/h	C
South Approach	Bike Lane	Right Turn Lane Characteristics	No Impact to LTS	A
		Left Turn Accommodation	One Lane Crossed; 50km/h	C
East Approach	Mixed Traffic	Right Turn Lane Characteristics	No Impact to LTS	A
		Left Turn Accommodation	No Lanes Crossed; 40km/h	B
West Approach	Mixed Traffic	Right Turn Lane Characteristics	No Impact to LTS	A
		Left Turn Accommodation	No Lanes Crossed; 40km/h	B
Castlefrank Road/Katimavik Road				
North Approach	Mixed Traffic	Right Turn Lane Characteristics	No Impact to LTS	A
		Left Turn Accommodation	One Lane Crossed; 50km/h	D
South Approach	Pocket Bike Lane	Right Turn Lane Characteristics	Right turn lane to the right of bike lane; <50m long	B
		Left Turn Accommodation	One Lane Crossed; 50km/h	C
East Approach	Mixed Traffic	Right Turn Lane Characteristics	No Impact to LTS	A
		Left Turn Accommodation	One Lane Crossed; 50km/h	D
West Approach	Mixed Traffic	Right Turn Lane Characteristics	No Impact to LTS	A
		Left Turn Accommodation	One Lane Crossed; 50km/h	D

Approach	Bikeway Facility Type	Criteria	Travel Lanes and/or Speed	BLOS
Campeau Drive/Maritime Way/Knudson Drive				
North Approach	Separated	Right Turn Lane Characteristics	No Impact to LTS	A
		Left Turn Accommodation	No Impact to LTS[1]	A
South Approach	Mixed Traffic	Right Turn Lane Characteristics	No Impact to LTS	A
		Left Turn Accommodation	One Lane Crossed; 40km/h	B
East Approach	Separated	Right Turn Lane Characteristics	No Impact to LTS	A
		Left Turn Accommodation	No Impact to LTS[1]	A
West Approach	Separated	Right Turn Lane Characteristics	No Impact to LTS	A
		Left Turn Accommodation	No Impact to LTS[1]	A

1. Cyclists are required to dismount and cross using the crosswalks

Transit Level of Service (TLOS)

Approach	Delay (sec.)		TLOS
	AM Peak	PM Peak	
Kanata Avenue/Earl Grey Drive			
East Approach	6 seconds	6 seconds	B
West Approach	8 seconds	12 seconds	C
South Approach	N/A	N/A	N/A
Kanata Avenue/Maritime Way/Lord Byng Way			
East Approach	N/A	N/A	N/A
West Approach	20 seconds	18 seconds	C
North Approach	14 seconds	16 seconds	C
South Approach	5 seconds	9 seconds	B
Kanata Avenue/Highway 417 Westbound Off-Ramp			
East Approach	N/A	N/A	N/A
North Approach	6 seconds	15 seconds	C
South Approach	3 seconds	20 seconds	C
Kanata Avenue/Highway 417 Eastbound On-Ramp			
North Approach	3 seconds	5 seconds	B
South Approach	4 seconds	3 seconds	B

Approach	Delay (sec.)		TLOS
	AM Peak	PM Peak	
Kanata Avenue/Castlefrank Road/Aird Place			
East Approach	N/A	N/A	N/A
West Approach	N/A	N/A	N/A
North Approach	6 seconds	8 seconds	B
South Approach	6 seconds	6 seconds	B
Castlefrank Road/Katimavik Road			
East Approach	36 seconds	42 seconds	F
West Approach	28 seconds	23 seconds	D
North Approach	9 seconds	17 seconds	C
South Approach	14 seconds	29 seconds	D
Campeau Drive/Maritime Way/Knudson Drive			
East Approach	6 seconds	10 seconds	B
West Approach	6 seconds	4 seconds	B
North Approach	32 seconds	24 seconds	E
South Approach	N/A	N/A	N/A

Truck Level of Service (TkLOS)

Approach	Effective Corner Radius	Number of Receiving Lanes on Departure from Intersection	LOS
Kanata Avenue/Earl Grey Drive			
South	10m to 15m	One	E
East	N/A	N/A	-
West	10m to 15m	One	E
Kanata Avenue/Maritime Way/Lord Byng Way			
North	> 15m	One	C
South	> 15m	One	C
East	10m to 15m	One	E
West	10m to 15m	One	E
Kanata Avenue/Highway 417 Westbound Off-Ramp			
East	> 15m	One	C

Approach	Effective Corner Radius	Number of Receiving Lanes on Departure from Intersection	LOS
Kanata Avenue/Highway 417 Eastbound On-Ramp			
North	N/A	N/A	-
South	> 15m	One	C
Kanata Avenue/Castlefrank Road/Aird Place			
North	> 15m	One	C
South	> 15m	One	C
East	> 15m	One	C
West	10m to 15m	One	E
Castlefrank Road/Katimavik Road			
North	> 15m	One	C
South	> 15m	One	C
East	> 15m	One	C
West	10m to 15m	One	E
Campeau Drive/Maritime Way/Knudson Drive			
North	10m to 15m	One	E
South	10m to 15m	One	E
East	< 10m	One	F
West	< 10m	One	F

Vehicle Level of Service (Auto LOS)

Intersection	AM Peak			PM Peak		
	Max V/C	LOS	Mvmt	Max V/C	LOS	Mvmt
Kanata Avenue/ Earl Grey Drive	0.41	A	EBT	0.57	A	NBR
Kanata Avenue/ Maritime Way/ Lord Byng Way	0.57	A	WBL	0.63	B	NBT/R
Kanata Avenue/ Highway 417 Westbound Off-Ramp	0.70	B	WBL	0.90	D	WBR
Kanata Avenue/ Highway 417 Eastbound On-Ramp	0.42	A	SBL	0.51	A	SBT
Kanata Avenue/ Castlefrank Road/ Aird Place	0.48	A	EB	0.65	B	SBT/R
Castlefrank Road/ Katimavik Road	0.62	B	EBL	0.77	C	WBT/R
Campeau Drive/ Maritime Way/ Knudson Drive	0.58	A	SBL	0.42	A	WBT/R

- The intersection parameters used in the analysis are consistent with the TIA guidelines (saturation flow rate: 1800 vphpl, PHF: 0.9)
- Detailed Synchro reports are included in **Appendix G**

APPENDIX K

Synchro Analysis Reports – Total Traffic

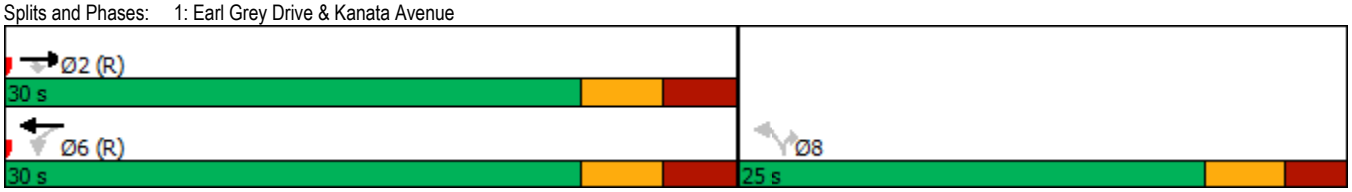


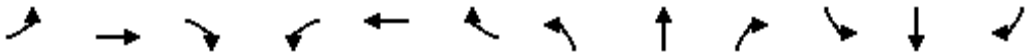
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	713	37	57	372	10	35
Future Volume (vph)	713	37	57	372	10	35
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		55.0	110.0		30.0	0.0
Storage Lanes		1	1		1	1
Taper Length (m)			100.0		45.0	
Lane Util. Factor	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			0.332		0.950	
Satd. Flow (perm)	1767	1394	592	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)	713	37	57	372	10	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	713	37	57	372	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	0.54	0.03	0.13	0.30	0.05	0.14
Control Delay	11.1	3.2	7.4	6.6	16.8	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.1	3.2	7.4	6.6	16.8	7.6
LOS	B	A	A	A	B	A
Approach Delay	10.7			6.7	9.6	
Approach LOS	B			A	A	
Queue Length 50th (m)	30.6	0.0	1.6	12.2	0.9	0.0
Queue Length 95th (m)	#125.1	3.9	9.9	45.8	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	445	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	0.54	0.03	0.13	0.30	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: 0.54			
Intersection Signal Delay: 9.3		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	216	2	73	85	323	164	30	611	16
Future Volume (vph)	19	6	36	216	2	73	85	323	164	30	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	0.81		0.81	0.98		1.00	0.99		1.00	1.00	
Frt		0.871			0.854			0.949			0.996	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1262	867	0	1616	1491	0	1417	1643	0	1478	1758	0
Flt Permitted	0.708			0.730			0.219			0.486		
Satd. Flow (perm)	939	867	0	1002	1491	0	326	1643	0	755	1758	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			73			53			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		100	100		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	216	2	73	85	323	164	30	611	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	42	0	216	75	0	85	487	0	30	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)	100	100		100	100			10		10	10	
Act Effct Green (s)	21.0	21.0		21.0	21.0		56.4	56.4		45.4	45.4	
Actuated g/C Ratio	0.23	0.23		0.23	0.23		0.63	0.63		0.50	0.50	
v/c Ratio	0.09	0.18		0.93	0.19		0.29	0.46		0.08	0.71	
Control Delay	27.8	13.3		78.7	8.6		9.7	7.9		14.3	24.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	27.8	13.3		78.7	8.6		9.7	7.9		14.3	24.2	
LOS	C	B		E	A		A	A		B	C	
Approach Delay		17.8			60.6			8.2			23.7	
Approach LOS		B			E			A			C	
Queue Length 50th (m)	2.6	0.8		36.2	0.3		3.4	17.0		2.8	86.6	
Queue Length 95th (m)	8.1	8.8		#76.8	10.5		14.5	55.7		7.8	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)	226	236		241	414		298	1050		380	888	
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	0.18		0.90	0.18		0.29	0.46		0.08	0.71	

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: 80
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.93
Intersection Signal Delay: 24.7 Intersection LOS: C
Intersection Capacity Utilization 75.0% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

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





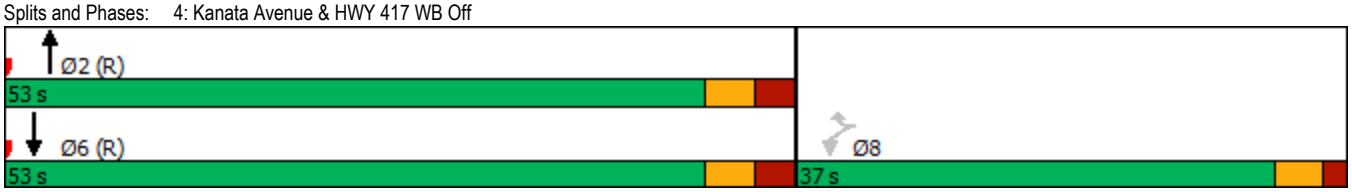
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	252	247	376	0	0	992
Future Volume (vph)	252	247	376	0	0	992
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1695	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)		247				
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)	252	247	376	0	0	992
Shared Lane Traffic (%)						
Lane Group Flow (vph)	252	247	376	0	0	992
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)	18.9	18.9	60.0			60.0
Actuated g/C Ratio	0.21	0.21	0.67			0.67
v/c Ratio	0.71	0.52	0.33			0.45
Control Delay	43.4	7.8	3.0			8.3
Queue Delay	0.0	0.0	0.2			0.0
Total Delay	43.4	7.8	3.1			8.3
LOS	D	A	A			A
Approach Delay	25.8		3.1			8.3
Approach LOS	C		A			A
Queue Length 50th (m)	40.8	0.0	6.7			28.1
Queue Length 95th (m)	58.6	16.5	8.5			m64.9
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	602	633	1144			2215
Starvation Cap Reductn	0	0	212			0
Spillback Cap Reductn	0	0	0			9
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.42	0.39	0.40			0.45

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: 0.71
Intersection Signal Delay: 11.9 Intersection LOS: B
Intersection Capacity Utilization 56.7% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

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



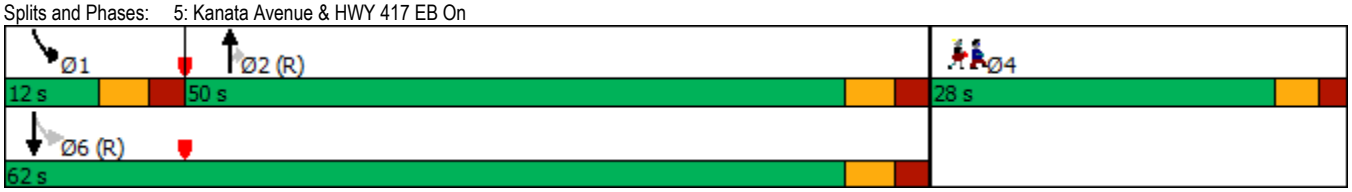


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lane Configurations							
Traffic Volume (vph)	0	0	348	227	476	615	
Future Volume (vph)	0	0	348	227	476	615	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0		50.0	0.0		
Storage Lanes	0	0		1	1		
Taper Length (m)	7.6				7.6		
Lane Util. 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					0.491		
Satd. Flow (perm)	0	0	1685	1468	867	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	348	227	476	615	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	348	227	476	615	
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)			63.6	63.6	78.9	83.5	
Actuated g/C Ratio			0.71	0.71	0.88	0.93	
v/c Ratio			0.29	0.21	0.56	0.38	
Control Delay			6.6	1.7	6.4	2.3	
Queue Delay			0.3	0.0	0.0	0.0	
Total Delay			6.9	1.7	6.4	2.3	
LOS			A	A	A	A	
Approach Delay			4.8			4.1	
Approach LOS			A			A	
Queue Length 50th (m)			11.9	0.5	5.6	0.0	
Queue Length 95th (m)			62.2	11.3	#34.7	39.5	
Internal Link Dist (m)	254.4		95.2			102.6	
Turn Bay Length (m)				50.0			
Base Capacity (vph)			1191	1104	846	1623	
Starvation Cap Reductn			383	0	6	2	
Spillback Cap Reductn			0	0	0	0	
Storage Cap Reductn			0	0	0	0	
Reduced v/c Ratio			0.43	0.21	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: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.56			
Intersection Signal Delay: 4.4		Intersection LOS: A	
Intersection Capacity Utilization 56.7%		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



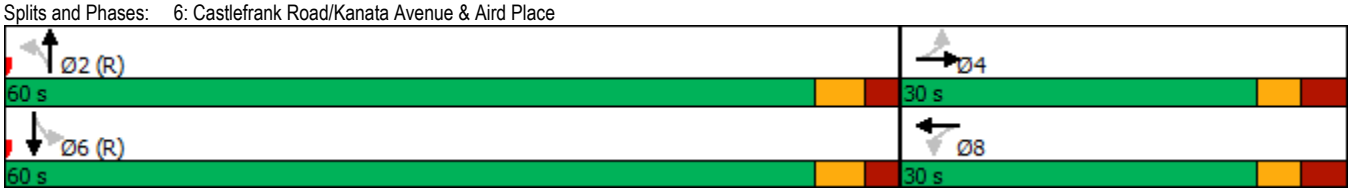
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	6	18	19	6	61	41	570	36	52	554	41
Future Volume (vph)	45	6	18	19	6	61	41	570	36	52	554	41
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	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			0.990	
Flt Protected		0.968			0.989		0.950			0.950		
Satd. Flow (prot)	0	1218	0	0	1464	0	1145	1732	0	1662	1715	0
Flt Permitted		0.809			0.909		0.403			0.397		
Satd. Flow (perm)	0	1001	0	0	1336	0	483	1732	0	692	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	570	36	52	554	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	69	0	0	86	0	41	606	0	52	595	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	

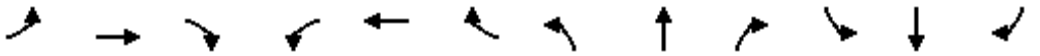
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.2	3.2		3.2	3.2		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.2			6.2		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		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	0.45		0.10	0.45	
Control Delay		34.5			17.0		5.0	5.7		5.5	6.7	
Queue Delay		0.0			0.0		0.0	0.0		0.0	0.2	
Total Delay		34.5			17.0		5.0	5.7		5.5	6.9	
LOS		C			B		A	A		A	A	
Approach Delay		34.5			17.0			5.7			6.8	
Approach LOS		C			B			A			A	
Queue Length 50th (m)		8.4			4.0		1.8	36.0		2.6	48.6	
Queue Length 95th (m)		18.3			14.6		m5.0	52.4		6.1	41.1	
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		373	1339		534	1326	
Starvation Cap Reductn		0			0		0	0		0	183	
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	0.45		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: 0.45			
Intersection Signal Delay: 8.2		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



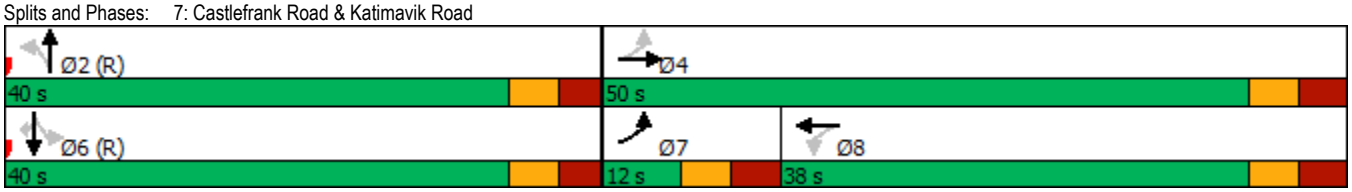


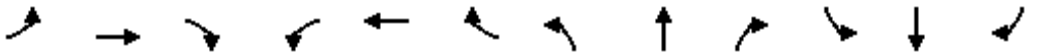
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	161	130	72	34	114	37	123	391	51	89	310	110
Future Volume (vph)	161	130	72	34	114	37	123	391	51	89	310	110
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage 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			0.963			0.983				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1586	1649	0	1695	1619	0	1695	1629	0	1503	1655	1322
Flt Permitted	0.441			0.631			0.550			0.442		
Satd. Flow (perm)	701	1649	0	1099	1619	0	959	1629	0	681	1655	1245
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			20			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)	161	130	72	34	114	37	123	391	51	89	310	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	161	202	0	34	151	0	123	442	0	89	310	110
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)	26.2	26.2		14.2	14.2		50.9	50.9		50.9	50.9	50.9
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	0.63	0.40		0.20	0.56		0.23	0.48		0.23	0.33	0.15
Control Delay	36.3	21.2		33.2	37.0		12.7	14.8		14.7	13.0	5.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	36.3	21.2		33.2	37.0		12.7	14.8		14.7	13.0	5.2
LOS	D	C		C	D		B	B		B	B	A
Approach Delay		27.9			36.3			14.3			11.6	
Approach LOS		C			D			B			B	
Queue Length 50th (m)	22.5	22.1		5.3	21.5		9.4	39.6		3.7	13.4	0.0
Queue Length 95th (m)	32.8	34.2		12.0	34.9		24.4	81.7		17.7	47.2	11.8
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)	256	815		382	576		541	924		384	935	758
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	0.63	0.25		0.09	0.26		0.23	0.48		0.23	0.33	0.15

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: 0.63			
Intersection Signal Delay: 19.0		Intersection LOS: B	
Intersection Capacity Utilization 80.7%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 7: Castlefrank Road & Katimavik Road





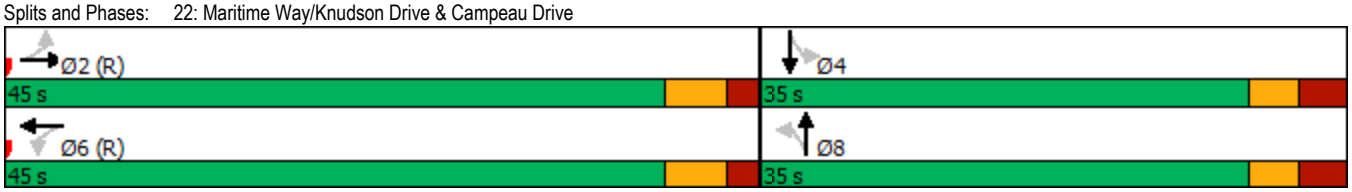
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	652	13	68	442	75	17	17	164	160	10	53
Future Volume (vph)	50	652	13	68	442	75	17	17	164	160	10	53
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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			0.864			0.874	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1718	0	1695	1592	0	1695	1475	0	1695	1493	0
Flt Permitted	0.419			0.323			0.716			0.603		
Satd. Flow (perm)	742	1718	0	574	1592	0	1267	1475	0	1052	1493	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			15			164			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	68	442	75	17	17	164	160	10	53
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	665	0	68	517	0	17	181	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)	51.4	51.4		51.4	51.4		16.9	16.9		16.9	16.9	
Actuated g/C Ratio	0.64	0.64		0.64	0.64		0.21	0.21		0.21	0.21	
v/c Ratio	0.11	0.60		0.18	0.50		0.06	0.41		0.72	0.18	
Control Delay	7.9	12.7		9.2	10.7		22.5	8.1		46.5	9.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	7.9	12.7		9.2	10.7		22.5	8.1		46.5	9.6	
LOS	A	B		A	B		C	A		D	A	
Approach Delay		12.3			10.5			9.3			36.1	
Approach LOS		B			B			A			D	
Queue Length 50th (m)	2.6	51.5		3.7	35.1		2.1	2.1		22.8	1.2	
Queue Length 95th (m)	8.7	108.1		12.1	75.7		6.1	15.2		38.1	9.2	
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)	476	1103		368	1027		459	639		381	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	0.11	0.60		0.18	0.50		0.04	0.28		0.42	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: 0.72
Intersection Signal Delay: 14.4 Intersection LOS: B
Intersection Capacity Utilization 87.5% ICU Level of Service E
Analysis Period (min) 15

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





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	161	25	6	174	77	19
Future Volume (Veh/h)	161	25	6	174	77	19
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	161	25	6	174	77	19
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	217					
pX, platoon unblocked						
vC, conflicting volume			186		360	174
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			186		360	174
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		88	98
cM capacity (veh/h)			1388		636	870

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	186	180	96
Volume Left	0	6	77
Volume Right	25	0	19
cSH	1700	1388	672
Volume to Capacity	0.11	0.00	0.14
Queue Length 95th (m)	0.0	0.1	3.8
Control Delay (s)	0.0	0.3	11.2
Lane LOS		A	B
Approach Delay (s)	0.0	0.3	11.2
Approach LOS			B

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	27.2%	ICU Level of Service	A
Analysis Period (min)	15		

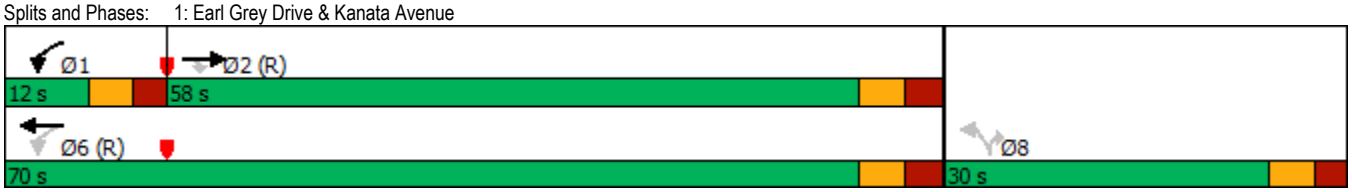


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	633	82	214	709	79	177
Future Volume (vph)	633	82	214	709	79	177
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		55.0	110.0		30.0	0.0
Storage Lanes		1	1		1	1
Taper Length (m)			100.0		45.0	
Lane Util. 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			0.300		0.950	
Satd. Flow (perm)	1640	1483	535	1784	1695	1482
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		79				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)	633	82	214	709	79	177
Shared Lane Traffic (%)						
Lane Group Flow (vph)	633	82	214	709	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	0.62	0.09	0.42	0.52	0.42	0.55
Control Delay	16.7	3.0	6.1	6.9	46.9	12.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.7	3.0	6.1	6.9	46.9	12.7
LOS	B	A	A	A	D	B
Approach Delay	15.2			6.7	23.3	
Approach LOS	B			A	C	
Queue Length 50th (m)	66.9	0.2	8.2	40.6	14.7	0.0
Queue Length 95th (m)	137.7	7.1	20.7	91.9	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	950	515	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	0.62	0.09	0.42	0.52	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: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 12.1		Intersection LOS: B	
Intersection Capacity Utilization 67.8%		ICU Level of Service C	
Analysis Period (min) 15			

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



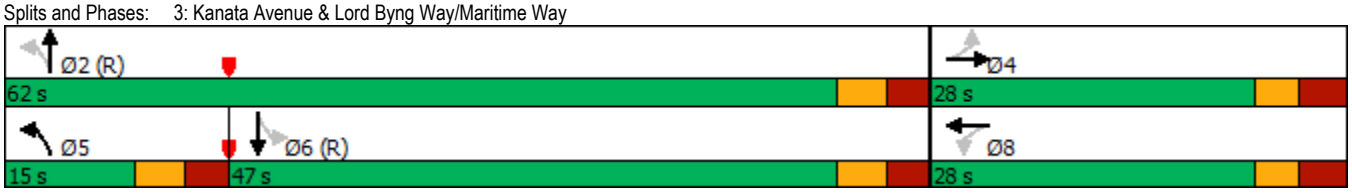
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	3	78	168	9	64	136	824	256	98	638	25
Future Volume (vph)	30	3	78	168	9	64	136	824	256	98	638	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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	0.74		0.77	0.96			0.99			1.00	
Frt		0.856			0.868			0.964			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1262	950	0	1695	1492	0	1503	1710	0	1695	1760	0
Flt Permitted	0.709			0.704			0.186			0.099		
Satd. Flow (perm)	923	950	0	969	1492	0	294	1710	0	177	1760	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		78			64			33			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		125	125		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	168	9	64	136	824	256	98	638	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	81	0	168	73	0	136	1080	0	98	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)	100	100		100	100			10		10	10	
Act Effct Green (s)	19.8	19.8		19.8	19.8		57.6	57.6		43.3	43.3	
Actuated g/C Ratio	0.22	0.22		0.22	0.22		0.64	0.64		0.48	0.48	
v/c Ratio	0.15	0.30		0.79	0.19		0.46	0.98		1.15	0.78	
Control Delay	29.1	10.6		54.8	7.2		7.6	20.7		175.6	28.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.6		0.0	0.0	
Total Delay	29.1	10.6		54.8	7.2		7.6	21.3		175.6	28.7	
LOS	C	B		D	A		A	C		F	C	
Approach Delay		15.6			40.4			19.8			47.6	
Approach LOS		B			D			B			D	
Queue Length 50th (m)	4.1	0.4		26.8	3.0		8.4	~137.1		~21.1	96.8	
Queue Length 95th (m)	11.2	11.5		#57.5	11.1		m8.4	m#135.8		#38.3	#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)	222	288		233	408		304	1106		85	848	
Starvation Cap Reductn	0	0		0	0		0	4		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	0.28		0.72	0.18		0.45	0.98		1.15	0.78	

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: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.15
Intersection Signal Delay: 30.8 Intersection LOS: C
Intersection Capacity Utilization 104.6% ICU Level of Service G
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.
m Volume for 95th percentile queue is metered by upstream signal.

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



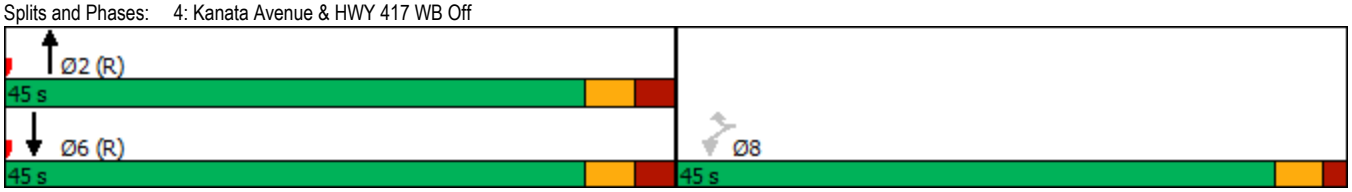


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	486	723	769	0	0	1098
Future Volume (vph)	486	723	769	0	0	1098
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
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)		103				
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)	486	723	769	0	0	1098
Shared Lane Traffic (%)						
Lane Group Flow (vph)	486	723	769	0	0	1098
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)	40.0	40.0	38.9			38.9
Actuated g/C Ratio	0.44	0.44	0.43			0.43
v/c Ratio	0.65	0.99	1.02			0.76
Control Delay	24.4	53.9	53.5			22.5
Queue Delay	0.4	1.8	30.4			0.0
Total Delay	24.8	55.7	83.9			22.5
LOS	C	E	F			C
Approach Delay	43.3		83.9			22.5
Approach LOS	D		F			C
Queue Length 50th (m)	63.3	107.7	~108.5			55.4
Queue Length 95th (m)	96.5	#185.8	#203.2			78.0
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	753	731	756			1450
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	49	6	105			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.69	1.00	1.18			0.76

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: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.02			
Intersection Signal Delay: 46.0		Intersection LOS: D	
Intersection Capacity Utilization 128.5%		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



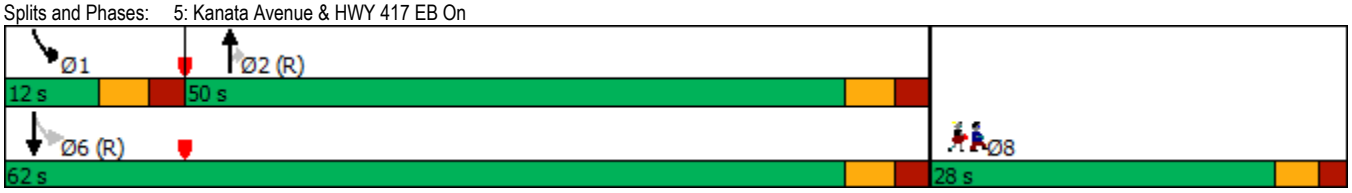


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations							
Traffic Volume (vph)	0	0	634	206	423	983	
Future Volume (vph)	0	0	634	206	423	983	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0		50.0	0.0		
Storage Lanes	0	0		1	1		
Taper Length (m)	7.6				7.6		
Lane Util. 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					0.241		
Satd. Flow (perm)	0	0	1733	1479	422	1784	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)				194			
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	634	206	423	983	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	634	206	423	983	
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)			51.7	51.7	78.9	83.5	
Actuated g/C Ratio			0.57	0.57	0.88	0.93	
v/c Ratio			0.64	0.22	0.64	0.59	
Control Delay			10.6	1.2	17.8	5.7	
Queue Delay			3.0	0.0	0.0	0.1	
Total Delay			13.6	1.2	17.8	5.8	
LOS			B	A	B	A	
Approach Delay			10.6			9.4	
Approach LOS			B			A	
Queue Length 50th (m)			52.1	2.4	27.6	7.4	
Queue Length 95th (m)			89.2	m2.9	m#81.2	#103.7	
Internal Link Dist (m)	254.4		95.2			102.6	
Turn Bay Length (m)				50.0			
Base Capacity (vph)			996	932	665	1654	
Starvation Cap Reductn			174	0	0	6	
Spillback Cap Reductn			253	0	0	111	
Storage Cap Reductn			0	0	0	0	
Reduced v/c Ratio			0.85	0.22	0.64	0.64	

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: 0.64			
Intersection Signal Delay: 9.9		Intersection LOS: A	
Intersection Capacity Utilization 128.5%		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



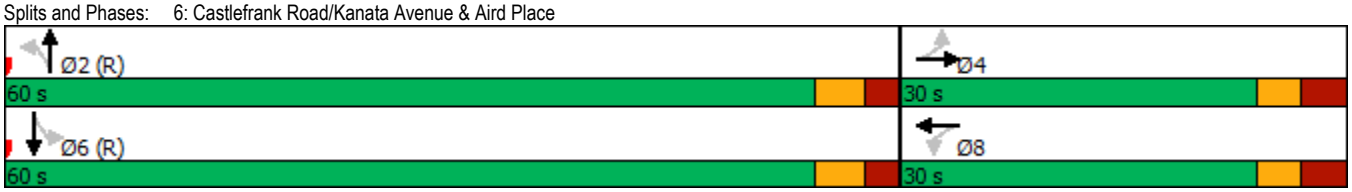
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	3	13	30	1	97	12	837	35	62	979	24
Future Volume (vph)	17	3	13	30	1	97	12	837	35	62	979	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	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		0.203			0.265		
Satd. Flow (perm)	0	1219	0	0	1415	0	362	1755	0	473	1775	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	837	35	62	979	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	128	0	12	872	0	62	1003	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	

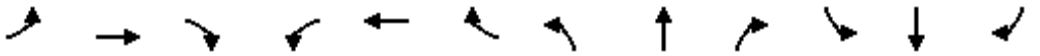
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.2	3.2		3.2	3.2		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.2			6.2		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		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	0.66		0.17	0.75	
Control Delay		26.2			19.2		4.8	8.5		6.8	13.2	
Queue Delay		0.0			0.0		0.0	0.1		0.0	0.0	
Total Delay		26.2			19.2		4.8	8.6		6.8	13.2	
LOS		C			B		A	A		A	B	
Approach Delay		26.2			19.2			8.6			12.8	
Approach LOS		C			B			A			B	
Queue Length 50th (m)		3.3			5.1		0.3	37.9		3.4	92.1	
Queue Length 95th (m)		9.9			17.8		m1.1	103.3		m5.7	#230.1	
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		273	1327		357	1342	
Starvation Cap Reductn		0			0		0	17		0	6	
Spillback Cap Reductn		0			2		0	45		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.10			0.29		0.04	0.68		0.17	0.75	

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: 0.75
Intersection Signal Delay: 11.6 Intersection LOS: B
Intersection Capacity Utilization 76.9% 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: 6: Castlefrank Road/Kanata Avenue & Aird Place





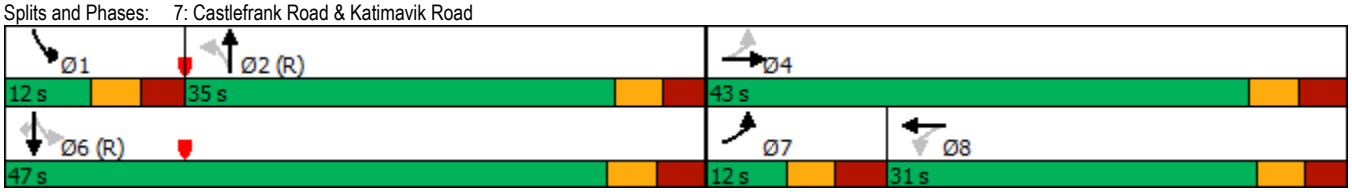
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	140	75	92	200	116	41	445	60	121	661	204
Future Volume (vph)	155	140	75	92	200	116	41	445	60	121	661	204
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage 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			0.945			0.982				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	1666	0	1558	1626	0	1695	1737	0	1647	1784	1473
Flt Permitted	0.241			0.624			0.331			0.191		
Satd. Flow (perm)	416	1666	0	1005	1626	0	579	1737	0	331	1784	1356
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			32			8				199
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)	155	140	75	92	200	116	41	445	60	121	661	204
Shared Lane Traffic (%)												
Lane Group Flow (vph)	155	215	0	92	316	0	41	505	0	121	661	204
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

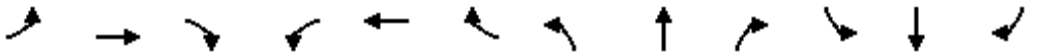
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.4	3.4		2.9	2.9		2.9	2.9		2.9	3.4	3.4
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7		6.2	6.2		6.2	6.2		6.2	6.7	6.7
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	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)	31.9	31.9		20.4	20.4		32.1	32.1		45.2	44.7	44.7
Actuated g/C Ratio	0.35	0.35		0.23	0.23		0.36	0.36		0.50	0.50	0.50
v/c Ratio	0.70	0.35		0.41	0.81		0.20	0.81		0.45	0.75	0.26
Control Delay	39.0	18.4		33.9	45.1		25.4	39.4		16.1	21.6	4.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	39.0	18.4		33.9	45.1		25.4	39.4		16.1	21.6	4.1
LOS	D	B		C	D		C	D		B	C	A
Approach Delay		27.0			42.6			38.4			17.3	
Approach LOS		C			D			D			B	
Queue Length 50th (m)	18.6	21.8		13.5	46.3		5.1	81.0		7.5	85.6	3.1
Queue Length 95th (m)	#33.8	36.5		26.1	71.9		13.6	#139.5		m13.9	#155.4	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)	220	693		276	471		206	624		267	886	774
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	0.70	0.31		0.33	0.67		0.20	0.81		0.45	0.75	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: 0.81
Intersection Signal Delay: 28.3 Intersection LOS: C
Intersection Capacity Utilization 94.8% 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



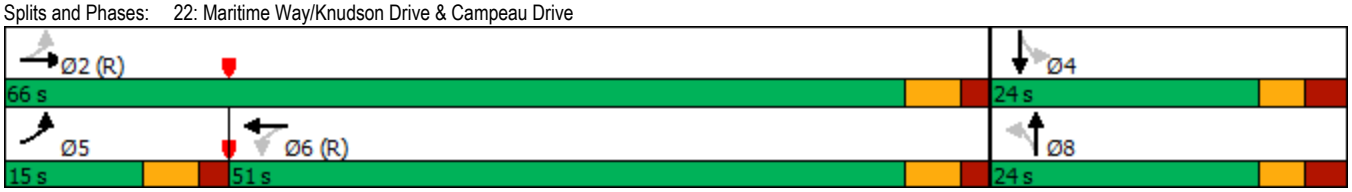


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	66	452	32	139	621	103	13	14	98	38	11	73
Future Volume (vph)	66	452	32	139	621	103	13	14	98	38	11	73
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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			0.869			0.870	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1763	0	1695	1734	0	1695	1509	0	1679	1497	0
Flt Permitted	0.257			0.487			0.702			0.685		
Satd. Flow (perm)	459	1763	0	865	1734	0	1229	1509	0	1199	1497	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			13			98			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	139	621	103	13	14	98	38	11	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	66	484	0	139	724	0	13	112	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		0.24	0.61		0.08	0.41		0.25	0.33	
Control Delay	4.3	4.8		10.1	14.4		33.3	17.1		38.7	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		10.1	14.4		33.3	17.1		38.7	14.4	
LOS	A	A		B	B		C	B		D	B	
Approach Delay		4.7			13.7			18.8			21.9	
Approach LOS		A			B			B			C	
Queue Length 50th (m)	2.3	21.6		9.7	71.1		2.5	8.5		6.1	1.8	
Queue Length 95th (m)	7.1	47.6		24.9	142.5		m2.8	m9.1		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	380		239	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		0.24	0.61		0.05	0.29		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: 11.7		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

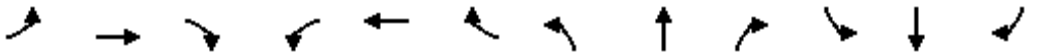




Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	226	83	20	159	50	13
Future Volume (Veh/h)	226	83	20	159	50	13
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	226	83	20	159	50	13
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	217					
pX, platoon unblocked						
vC, conflicting volume			309		466	268
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			309		466	268
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		91	98
cM capacity (veh/h)			1252		546	771

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	309	179	63
Volume Left	0	20	50
Volume Right	83	0	13
cSH	1700	1252	581
Volume to Capacity	0.18	0.02	0.11
Queue Length 95th (m)	0.0	0.4	2.8
Control Delay (s)	0.0	1.0	12.0
Lane LOS		A	B
Approach Delay (s)	0.0	1.0	12.0
Approach LOS			B

Intersection Summary			
Average Delay	1.7		
Intersection Capacity Utilization	37.0%	ICU Level of Service	A
Analysis Period (min)	15		

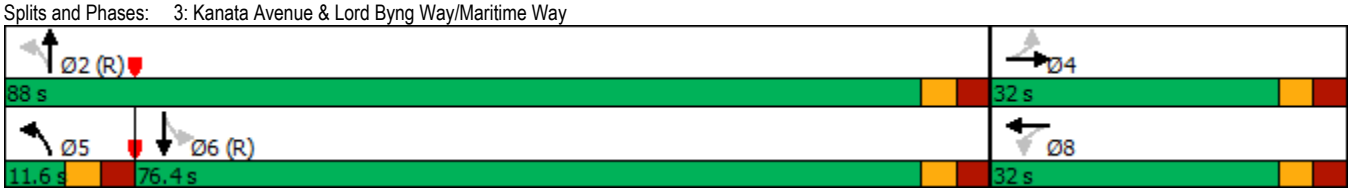


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	3	78	168	9	64	136	824	256	98	638	25
Future Volume (vph)	30	3	78	168	9	64	136	824	256	98	638	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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	0.97	0.66		0.70	0.96			0.99			1.00	
Frt		0.856			0.868			0.964			0.994	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1262	847	0	1695	1482	0	1503	1709	0	1695	1760	0
Flt Permitted	0.709			0.704			0.258			0.128		
Satd. Flow (perm)	916	847	0	873	1482	0	408	1709	0	228	1760	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		78			64			29			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		125	125		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	168	9	64	136	824	256	98	638	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	81	0	168	73	0	136	1080	0	98	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)	32.0	32.0		32.0	32.0		11.6	88.0		76.4	76.4	
Total Split (%)	26.7%	26.7%		26.7%	26.7%		9.7%	73.3%		63.7%	63.7%	
Maximum Green (s)	25.7	25.7		25.7	25.7		5.3	81.7		70.1	70.1	
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)	100	100		100	100			10		10	10	
Act Effct Green (s)	25.0	25.0		25.0	25.0		82.4	82.4		70.6	70.6	
Actuated g/C Ratio	0.21	0.21		0.21	0.21		0.69	0.69		0.59	0.59	
v/c Ratio	0.16	0.34		0.93	0.20		0.41	0.91		0.73	0.64	
Control Delay	40.9	13.5		97.9	13.1		6.5	17.5		53.0	20.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	9.4		0.0	0.0	
Total Delay	40.9	13.5		97.9	13.1		6.5	26.9		53.0	20.0	
LOS	D	B		F	B		A	C		D	B	
Approach Delay		20.9			72.2			24.6			24.2	
Approach LOS		C			E			C			C	
Queue Length 50th (m)	5.8	0.6		38.8	1.7		8.9	121.6		15.9	98.2	
Queue Length 95th (m)	14.4	14.1		#80.1	13.9		m8.7	m154.3		#49.7	137.4	
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)	196	242		186	367		331	1182		134	1036	
Starvation Cap Reductn	0	0		0	0		0	96		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	0.15	0.33		0.90	0.20		0.41	0.99		0.73	0.64	

Intersection Summary			
Area Type:	Other		
Cycle Length: 120			
Actuated Cycle Length: 120			
Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 29.2		Intersection LOS: C	
Intersection Capacity Utilization 104.6%		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.			
m Volume for 95th percentile queue is metered by upstream signal.			

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





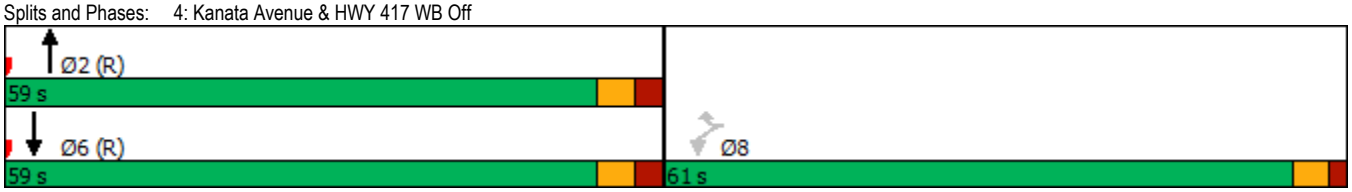
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	486	723	769	0	0	1098
Future Volume (vph)	486	723	769	0	0	1098
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
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)		108				
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)	486	723	769	0	0	1098
Shared Lane Traffic (%)						
Lane Group Flow (vph)	486	723	769	0	0	1098
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)	61.0	61.0	59.0			59.0
Total Split (%)	50.8%	50.8%	49.2%			49.2%
Maximum Green (s)	56.0	56.0	52.9			52.9
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)	54.6	54.6	54.3			54.3
Actuated g/C Ratio	0.46	0.46	0.45			0.45
v/c Ratio	0.63	0.97	0.97			0.72
Control Delay	29.1	52.9	59.1			24.2
Queue Delay	0.0	0.4	41.3			0.0
Total Delay	29.1	53.3	100.4			24.2
LOS	C	D	F			C
Approach Delay	43.6		100.4			24.2
Approach LOS	D		F			C
Queue Length 50th (m)	83.5	141.3	176.9			72.5
Queue Length 95th (m)	118.9	#224.5	#260.3			m105.6
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	791	765	791			1518
Starvation Cap Reductn	0	0	200			0
Spillback Cap Reductn	0	3	64			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.61	0.95	1.30			0.72

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: 0.97
Intersection Signal Delay: 50.9 Intersection LOS: D
Intersection Capacity Utilization 128.5% 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: 4: Kanata Avenue & HWY 417 WB Off





Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lane Configurations							
Traffic Volume (vph)	252	247	376	0	0	992	
Future Volume (vph)	252	247	376	0	0	992	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Lane Util. Factor	1.00	0.88	0.95	1.00	1.00	0.95	
Frt		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	1695	2347	3262	0	0	3325	
Flt Permitted	0.950						
Satd. Flow (perm)	1695	2347	3262	0	0	3325	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		247					
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)	252	247	376	0	0	992	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	252	247	376	0	0	992	
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

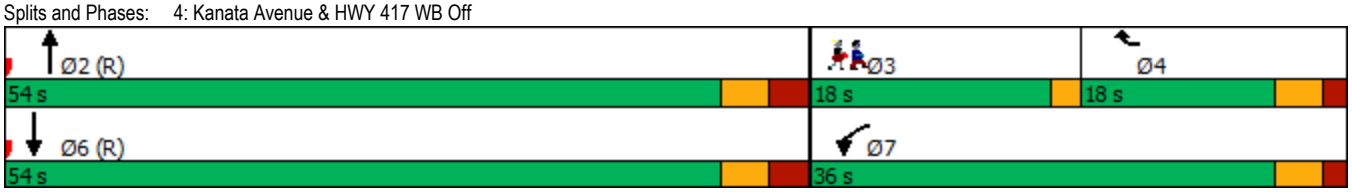


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Recall Mode	None	None	C-Max			C-Max	None
Walk Time (s)			7.0				7.0
Flash Dont Walk (s)			15.0				9.0
Pedestrian Calls (#/hr)			10				10
Act Effct Green (s)	19.4	15.8	59.5			59.5	
Actuated g/C Ratio	0.22	0.18	0.66			0.66	
v/c Ratio	0.69	0.40	0.17			0.45	
Control Delay	41.7	6.9	12.0			11.4	
Queue Delay	0.0	0.0	0.0			0.0	
Total Delay	41.7	6.9	12.0			11.4	
LOS	D	A	B			B	
Approach Delay	24.5		12.0			11.4	
Approach LOS	C		B			B	
Queue Length 50th (m)	40.8	0.0	9.7			62.1	
Queue Length 95th (m)	56.3	11.4	50.2			m82.6	
Internal Link Dist (m)	308.8		102.6			90.0	
Turn Bay Length (m)							
Base Capacity (vph)	583	631	2157			2198	
Starvation Cap Reductn	0	0	0			0	
Spillback Cap Reductn	0	0	0			138	
Storage Cap Reductn	0	0	0			0	
Reduced v/c Ratio	0.43	0.39	0.17			0.48	

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: 0.69			
Intersection Signal Delay: 15.0		Intersection LOS: B	
Intersection Capacity Utilization 56.7%		ICU Level of Service B	
Analysis Period (min) 15			

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

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





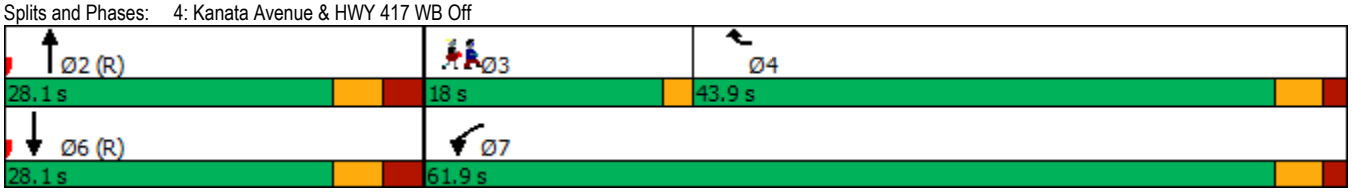
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lane Configurations							
Traffic Volume (vph)	486	723	769	0	0	1098	
Future Volume (vph)	486	723	769	0	0	1098	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Lane Util. Factor	1.00	0.88	0.95	1.00	1.00	0.95	
Ped Bike Factor							
Frt		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	1695	2669	3325	0	0	3357	
Flt Permitted	0.950						
Satd. Flow (perm)	1695	2669	3325	0	0	3357	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		723					
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)	486	723	769	0	0	1098	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	486	723	769	0	0	1098	
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)	61.9	43.9	28.1			28.1	18.0
Total Split (%)	68.8%	48.8%	31.2%			31.2%	20%
Maximum Green (s)	56.9	38.9	22.0			22.0	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)	34.4	30.8	44.5			44.5	
Actuated g/C Ratio	0.38	0.34	0.49			0.49	
v/c Ratio	0.75	0.52	0.47			0.66	
Control Delay	30.8	3.3	27.0			18.3	
Queue Delay	0.0	0.2	0.0			0.2	
Total Delay	30.8	3.4	27.0			18.4	
LOS	C	A	C			B	
Approach Delay	14.4		27.0			18.4	
Approach LOS	B		C			B	
Queue Length 50th (m)	71.0	0.0	72.3			81.3	
Queue Length 95th (m)	85.5	13.1	92.4			#128.5	
Internal Link Dist (m)	308.8		102.6			90.0	
Turn Bay Length (m)							
Base Capacity (vph)	1071	1567	1643			1659	
Starvation Cap Reductn	0	0	0			0	
Spillback Cap Reductn	9	214	0			94	
Storage Cap Reductn	0	0	0			0	
Reduced v/c Ratio	0.46	0.53	0.47			0.70	

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: 0.75
Intersection Signal Delay: 19.0 Intersection LOS: B
Intersection Capacity Utilization 109.7% 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



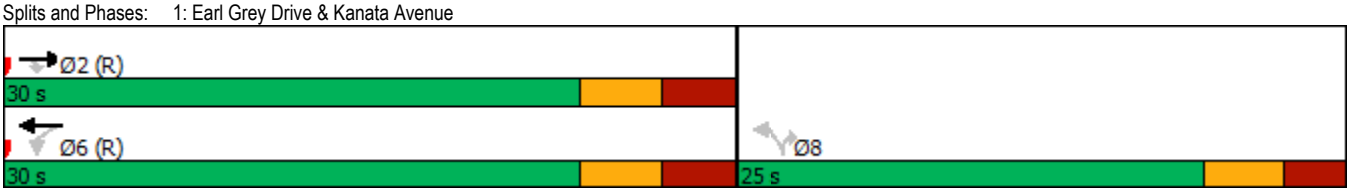


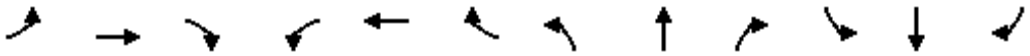
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	762	37	57	395	10	35
Future Volume (vph)	762	37	57	395	10	35
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		40.0	110.0		30.0	0.0
Storage Lanes		1	0		1	1
Taper Length (m)			100.0		45.0	
Lane Util. Factor	0.95	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor				1.00		
Frt		0.850				0.850
Flt Protected				0.994	0.950	
Satd. Flow (prot)	3357	1394	0	3179	1441	1459
Flt Permitted				0.808	0.950	
Satd. Flow (perm)	3357	1394	0	2584	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)	762	37	57	395	10	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	762	37	0	452	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		0.23	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)	13.3	0.0		7.4	0.9	0.0
Queue Length 95th (m)	40.9	3.9		25.0	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		1944	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		0.23	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: 0.30			
Intersection Signal Delay: 5.7		Intersection LOS: A	
Intersection Capacity Utilization 55.3%		ICU Level of Service B	
Analysis Period (min) 15			

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



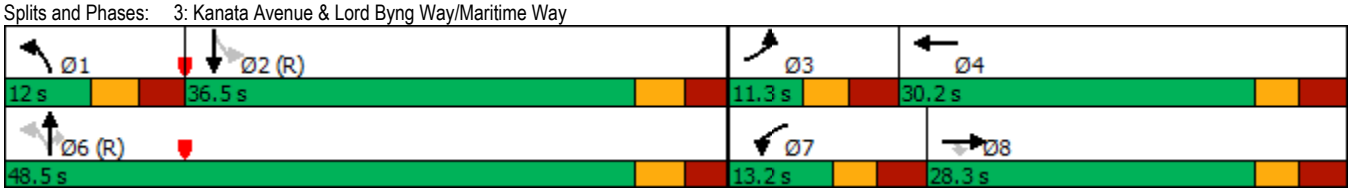


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	6	36	226	2	75	85	346	176	31	653	16
Future Volume (vph)	19	6	36	226	2	75	85	346	176	31	653	16
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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		0.87	0.80	0.99		1.00		0.98		1.00	
Frt			0.850		0.854				0.850		0.997	
Flt Protected	0.950			0.950			0.950				0.998	
Satd. Flow (prot)	1262	1784	992	3135	1504	0	1417	3325	1473	0	3319	0
Flt Permitted	0.950			0.950			0.239				0.922	
Satd. Flow (perm)	1261	1784	860	2499	1504	0	356	3325	1441	0	3066	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			193		75				176		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		100	100		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	226	2	75	85	346	176	31	653	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	6	36	226	77	0	85	346	176	0	700	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)		100	100		100			10	10	10	10	
Act Effct Green (s)	5.0	19.6	19.6	7.5	25.6		47.2	47.2	47.2		37.6	
Actuated g/C Ratio	0.06	0.22	0.22	0.08	0.28		0.52	0.52	0.52		0.42	
v/c Ratio	0.27	0.02	0.11	0.86	0.16		0.33	0.20	0.21		0.55	
Control Delay	50.7	26.0	0.6	72.7	7.6		17.2	14.4	5.3		24.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	50.7	26.0	0.6	72.7	7.6		17.2	14.4	5.3		24.9	
LOS	D	C	A	E	A		B	B	A		C	
Approach Delay		18.7			56.2			12.2			24.9	
Approach LOS		B			E			B			C	
Queue Length 50th (m)	3.2	0.8	0.0	20.4	0.2		11.3	25.1	8.2		54.0	
Queue Length 95th (m)	10.1	3.7	0.0	#41.9	10.2		12.3	21.1	5.9		73.3	
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	356	262	526		254	1745	840		1283	
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	0.10	0.86	0.15		0.33	0.20	0.21		0.55	

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: 0.86			
Intersection Signal Delay: 25.7		Intersection LOS: C	
Intersection Capacity Utilization 78.7%		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.			

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





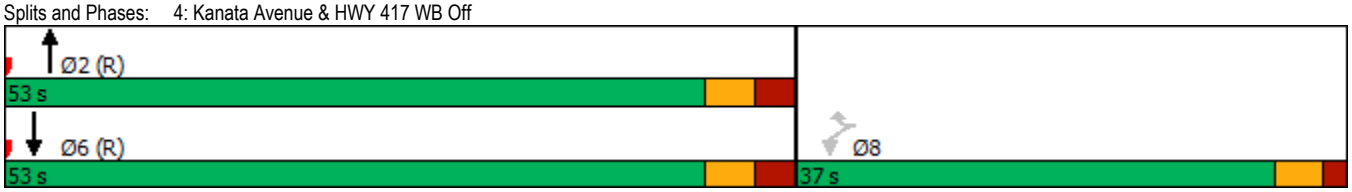
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	273	266	404	0	0	1058
Future Volume (vph)	273	266	404	0	0	1058
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1695	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)		266				
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. Peds. (#/hr)					1006	
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)	273	266	404	0	0	1058
Shared Lane Traffic (%)						
Lane Group Flow (vph)	273	266	404	0	0	1058
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						

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)	20.0	20.0	58.9			58.9
Actuated g/C Ratio	0.22	0.22	0.65			0.65
v/c Ratio	0.73	0.53	0.36			0.49
Control Delay	43.1	7.5	3.2			7.6
Queue Delay	0.0	0.0	0.1			0.0
Total Delay	43.1	7.5	3.3			7.6
LOS	D	A	A			A
Approach Delay	25.5		3.3			7.6
Approach LOS	C		A			A
Queue Length 50th (m)	44.1	0.0	7.3			65.2
Queue Length 95th (m)	62.6	16.6	9.3			m90.6
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	602	645	1123			2175
Starvation Cap Reductn	0	0	166			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.45	0.41	0.42			0.49

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: 0.73			
Intersection Signal Delay: 11.6		Intersection LOS: B	
Intersection Capacity Utilization 60.0%		ICU Level of Service B	
Analysis Period (min) 15			

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

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



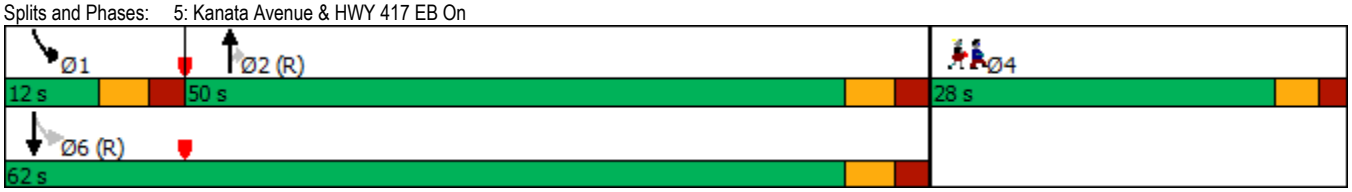


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø4
Lane Configurations							
Traffic Volume (vph)	0	0	374	247	509	657	
Future Volume (vph)	0	0	374	247	509	657	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0		50.0	0.0		
Storage Lanes	0	0		1	1		
Taper Length (m)	7.6				7.6		
Lane Util. 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					0.462		
Satd. Flow (perm)	0	0	1685	1468	816	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	374	247	509	657	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	374	247	509	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)			60.1	60.1	78.9	83.5	
Actuated g/C Ratio			0.67	0.67	0.88	0.93	
v/c Ratio			0.33	0.23	0.61	0.40	
Control Delay			7.5	1.9	11.0	1.6	
Queue Delay			0.4	0.0	0.1	0.0	
Total Delay			7.9	1.9	11.0	1.6	
LOS			A	A	B	A	
Approach Delay			5.5			5.7	
Approach LOS			A			A	
Queue Length 50th (m)			25.2	3.5	18.0	0.0	
Queue Length 95th (m)			65.4	14.5	#50.8	32.5	
Internal Link Dist (m)	254.4		95.2			102.6	
Turn Bay Length (m)				50.0			
Base Capacity (vph)			1125	1063	840	1623	
Starvation Cap Reductn			345	0	12	2	
Spillback Cap Reductn			0	0	0	0	
Storage Cap Reductn			0	0	0	0	
Reduced v/c Ratio			0.48	0.23	0.61	0.41	

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: 5.6		Intersection LOS: A	
Intersection Capacity Utilization 60.0%		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	614	36	52	590	41
Future Volume (vph)	45	6	18	19	6	61	41	614	36	52	590	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		0.383			0.373		
Satd. Flow (perm)	0	1001	0	0	1336	0	459	1734	0	650	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	614	36	52	590	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	69	0	0	86	0	41	650	0	52	631	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	

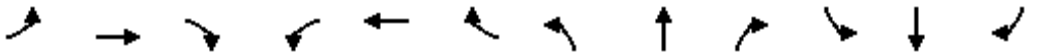
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.2	3.2		3.2	3.2		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.2			6.2		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		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		0.12	0.49		0.10	0.48	
Control Delay		34.5			17.0		4.9	5.7		5.8	5.9	
Queue Delay		0.0			0.0		0.0	0.1		0.0	0.2	
Total Delay		34.5			17.0		4.9	5.7		5.8	6.0	
LOS		C			B		A	A		A	A	
Approach Delay		34.5			17.0			5.7			6.0	
Approach LOS		C			B			A			A	
Queue Length 50th (m)		8.4			4.0		1.7	37.4		1.7	21.1	
Queue Length 95th (m)		18.3			14.6		m4.5	53.5		6.0	42.7	
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		354	1340		502	1326	
Starvation Cap Reductn		0			0		0	62		0	158	
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		0.12	0.51		0.10	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: 0.49
Intersection Signal Delay: 7.8 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



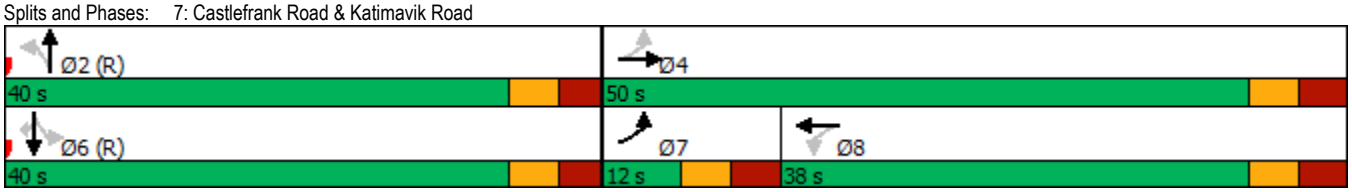


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	161	130	72	34	114	37	123	423	51	89	333	110
Future Volume (vph)	161	130	72	34	114	37	123	423	51	89	333	110
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage 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			0.963			0.984				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1586	1649	0	1695	1619	0	1695	1632	0	1503	1655	1322
Flt Permitted	0.441			0.631			0.530			0.417		
Satd. Flow (perm)	701	1649	0	1099	1619	0	926	1632	0	645	1655	1245
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			20			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)	161	130	72	34	114	37	123	423	51	89	333	110
Shared Lane Traffic (%)												
Lane Group Flow (vph)	161	202	0	34	151	0	123	474	0	89	333	110
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)	26.2	26.2		14.2	14.2		50.9	50.9		50.9	50.9	50.9
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	0.63	0.40		0.20	0.56		0.24	0.51		0.24	0.36	0.15
Control Delay	36.3	21.2		33.2	37.0		12.8	15.4		19.1	17.5	7.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	36.3	21.2		33.2	37.0		12.8	15.4		19.1	17.5	7.1
LOS	D	C		C	D		B	B		B	B	A
Approach Delay		27.9			36.3			14.9			15.6	
Approach LOS		C			D			B			B	
Queue Length 50th (m)	22.5	22.1		5.3	21.5		9.5	43.8		8.4	31.3	2.8
Queue Length 95th (m)	32.8	34.2		12.0	34.9		24.6	89.9		18.3	51.2	11.6
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)	256	815		382	576		523	925		364	935	758
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	0.63	0.25		0.09	0.26		0.24	0.51		0.24	0.36	0.15

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: 0.63			
Intersection Signal Delay: 20.3		Intersection LOS: C	
Intersection Capacity Utilization 82.5%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 7: Castlefrank Road & Katimavik Road



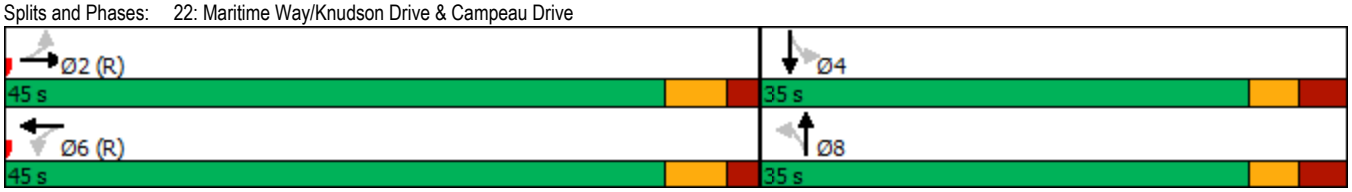
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	685	14	73	469	81	18	18	173	171	11	57
Future Volume (vph)	52	685	14	73	469	81	18	18	173	171	11	57
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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			0.864			0.874	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1718	0	1695	1592	0	1695	1475	0	1695	1493	0
Flt Permitted	0.393			0.297			0.713			0.587		
Satd. Flow (perm)	696	1718	0	528	1592	0	1261	1475	0	1025	1493	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		2			15			165			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	73	469	81	18	18	173	171	11	57
Shared Lane Traffic (%)												
Lane Group Flow (vph)	52	699	0	73	550	0	18	191	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)	50.6	50.6		50.6	50.6		17.7	17.7		17.7	17.7	
Actuated g/C Ratio	0.63	0.63		0.63	0.63		0.22	0.22		0.22	0.22	
v/c Ratio	0.12	0.64		0.22	0.54		0.06	0.42		0.75	0.18	
Control Delay	8.6	14.2		10.4	11.9		21.8	8.5		48.6	9.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	8.6	14.2		10.4	11.9		21.8	8.5		48.6	9.2	
LOS	A	B		B	B		C	A		D	A	
Approach Delay		13.8			11.8			9.6			37.4	
Approach LOS		B			B			A			D	
Queue Length 50th (m)	2.8	58.1		4.2	40.1		2.2	3.2		24.4	1.3	
Queue Length 95th (m)	9.5	122.0		13.8	86.2		6.4	16.5		40.2	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)	440	1087		333	1012		457	639		371	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		0.22	0.54		0.04	0.30		0.46	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: 0.75
Intersection Signal Delay: 15.7 Intersection LOS: B
Intersection Capacity Utilization 90.5% ICU Level of Service E
Analysis Period (min) 15

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





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	174	25	6	186	77	19
Future Volume (Veh/h)	174	25	6	186	77	19
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	174	25	6	186	77	19
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	217					
pX, platoon unblocked						
vC, conflicting volume			199		384	186
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			199		384	186
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		87	98
cM capacity (veh/h)			1373		616	856

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	199	192	96
Volume Left	0	6	77
Volume Right	25	0	19
cSH	1700	1373	652
Volume to Capacity	0.12	0.00	0.15
Queue Length 95th (m)	0.0	0.1	3.9
Control Delay (s)	0.0	0.3	11.5
Lane LOS		A	B
Approach Delay (s)	0.0	0.3	11.5
Approach LOS			B

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	27.8%	ICU Level of Service	A
Analysis Period (min)	15		

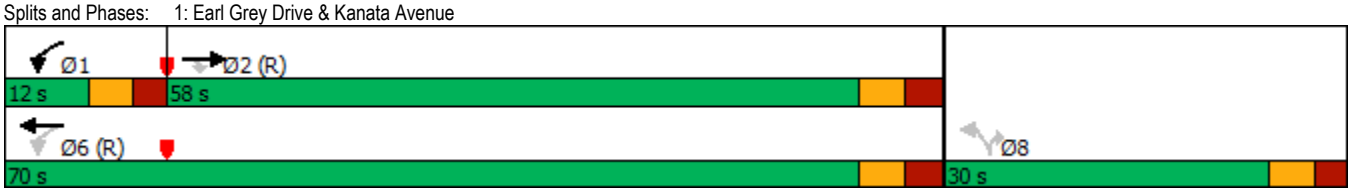


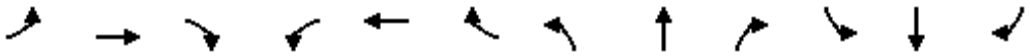
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	675	82	214	758	79	177
Future Volume (vph)	675	82	214	758	79	177
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		40.0	110.0		30.0	0.0
Storage Lanes		1	0		1	1
Taper Length (m)			100.0		45.0	
Lane Util. 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				0.665	0.950	
Satd. Flow (perm)	3115	1483	0	2254	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)	675	82	214	758	79	177
Shared Lane Traffic (%)						
Lane Group Flow (vph)	675	82	0	972	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		0.56	0.42	0.55
Control Delay	4.3	1.2		7.0	46.9	12.6
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	4.3	1.2		7.0	46.9	12.6
LOS	A	A		A	D	B
Approach Delay	4.0			7.0	23.2	
Approach LOS	A			A	C	
Queue Length 50th (m)	15.6	0.0		31.0	14.7	0.0
Queue Length 95th (m)	32.2	4.1		66.3	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		1728	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		0.56	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: 0.56			
Intersection Signal Delay: 7.9		Intersection LOS: A	
Intersection Capacity Utilization 68.9%		ICU Level of Service C	
Analysis Period (min) 15			

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



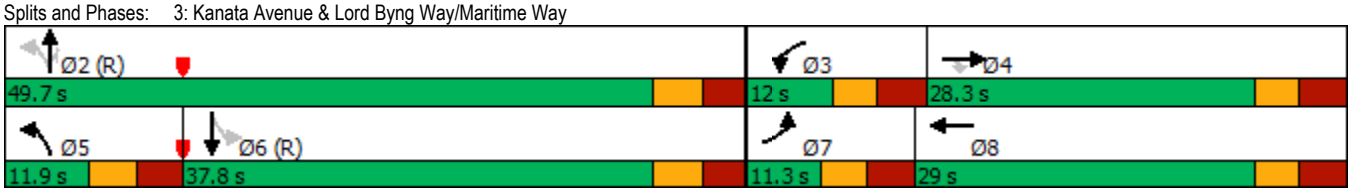


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	3	78	177	9	67	136	885	269	102	685	25
Future Volume (vph)	30	3	78	177	9	67	136	885	269	102	685	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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		0.84	0.75	0.98		1.00		0.98		1.00	
Frt			0.850		0.868				0.850		0.995	
Flt Protected	0.950			0.950			0.950				0.994	
Satd. Flow (prot)	1262	1784	1268	3288	1514	0	1503	3390	1517	0	3332	0
Flt Permitted	0.950			0.950			0.193				0.696	
Satd. Flow (perm)	1247	1784	1062	2451	1514	0	305	3390	1479	0	2333	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			193		67				162		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		125	125		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	177	9	67	136	885	269	102	685	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	3	78	177	76	0	136	885	269	0	812	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)		100	100		100			10	10	10	10	
Act Effct Green (s)	5.0	19.6	19.6	6.6	22.4		48.2	48.2	48.2		36.1	
Actuated g/C Ratio	0.06	0.22	0.22	0.07	0.25		0.54	0.54	0.54		0.40	
v/c Ratio	0.43	0.01	0.20	0.74	0.18		0.57	0.49	0.31		0.86	
Control Delay	60.3	26.0	1.2	68.8	9.4		15.4	14.8	5.9		38.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	60.3	26.0	1.2	68.8	9.4		15.4	14.8	5.9		38.7	
LOS	E	C	A	E	A		B	B	A		D	
Approach Delay		17.8			50.9			13.0			38.7	
Approach LOS		B			D			B			D	
Queue Length 50th (m)	5.1	0.4	0.0	16.7	0.7		13.7	59.7	11.3		72.2	
Queue Length 95th (m)	#15.6	2.5	0.0	#34.7	8.5		m12.4	m54.8	m9.1		#112.8	
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	405	239	467		239	1815	867		939	
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	0.19	0.74	0.16		0.57	0.49	0.31		0.86	

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: 0.86			
Intersection Signal Delay: 25.6		Intersection LOS: C	
Intersection Capacity Utilization 83.7%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
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)	528	778	823	0	0	1179
Future Volume (vph)	528	778	823	0	0	1179
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)		87				
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)	528	778	823	0	0	1179
Shared Lane Traffic (%)						
Lane Group Flow (vph)	528	778	823	0	0	1179
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)	40.0	40.0	38.9			38.9
Actuated g/C Ratio	0.44	0.44	0.43			0.43
v/c Ratio	0.70	1.08	1.09			0.81
Control Delay	26.3	80.4	74.3			20.5
Queue Delay	0.4	0.0	0.0			0.0
Total Delay	26.7	80.4	74.3			20.5
LOS	C	F	E			C
Approach Delay	58.7		74.3			20.5
Approach LOS	E		E			C
Queue Length 50th (m)	71.3	~142.7	~158.4			93.1
Queue Length 95th (m)	108.2	#210.7	#224.3			m133.4
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	753	722	756			1450
Starvation Cap Reductn	0	0	0			0
Spillback Cap Reductn	33	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.73	1.08	1.09			0.81

Intersection Summary

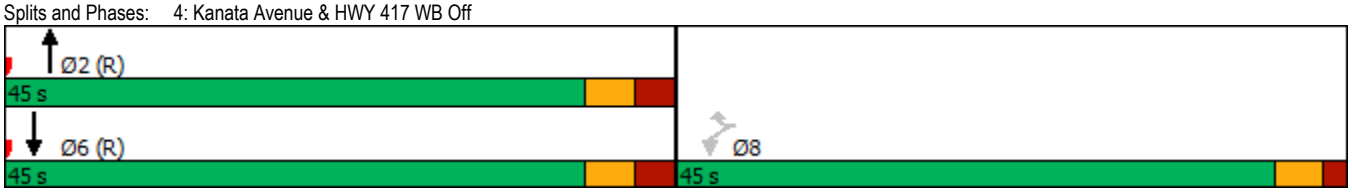
Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 32 (36%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.09
Intersection Signal Delay: 49.0 Intersection LOS: D
Intersection Capacity Utilization 136.9% 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.

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

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



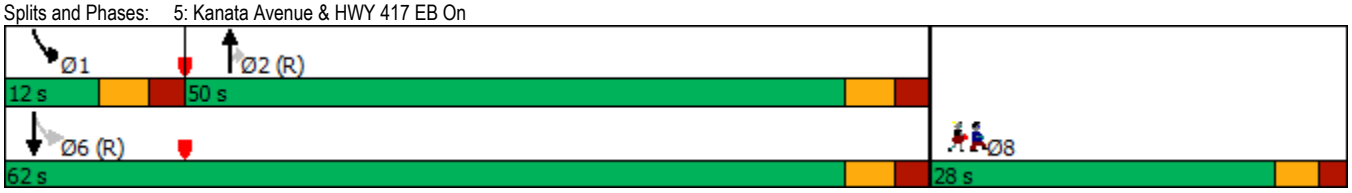


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations							
Traffic Volume (vph)	0	0	677	224	454	1060	
Future Volume (vph)	0	0	677	224	454	1060	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0		50.0	0.0		
Storage Lanes	0	0		1	1		
Taper Length (m)	7.6				7.6		
Lane Util. 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					0.177		
Satd. Flow (perm)	0	0	1733	1479	310	1784	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)				198			
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	224	454	1060	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	677	224	454	1060	
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)			47.7	47.7	78.9	83.5	
Actuated g/C Ratio			0.53	0.53	0.88	0.93	
v/c Ratio			0.74	0.26	0.69	0.64	
Control Delay			14.7	1.8	23.0	6.8	
Queue Delay			26.4	0.0	0.0	0.3	
Total Delay			41.1	1.8	23.0	7.2	
LOS			D	A	C	A	
Approach Delay			31.3			11.9	
Approach LOS			C			B	
Queue Length 50th (m)			63.1	5.6	39.8	18.8	
Queue Length 95th (m)			105.7	m3.0	m#101.2	#245.9	
Internal Link Dist (m)	254.4		95.2			102.6	
Turn Bay Length (m)				50.0			
Base Capacity (vph)			919	877	654	1654	
Starvation Cap Reductn			146	0	0	6	
Spillback Cap Reductn			263	0	0	175	
Storage Cap Reductn			0	0	0	0	
Reduced v/c Ratio			1.03	0.26	0.69	0.72	

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: 19.2		Intersection LOS: B	
Intersection Capacity Utilization 136.9%		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.			
m Volume for 95th percentile queue is metered by upstream signal.			

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



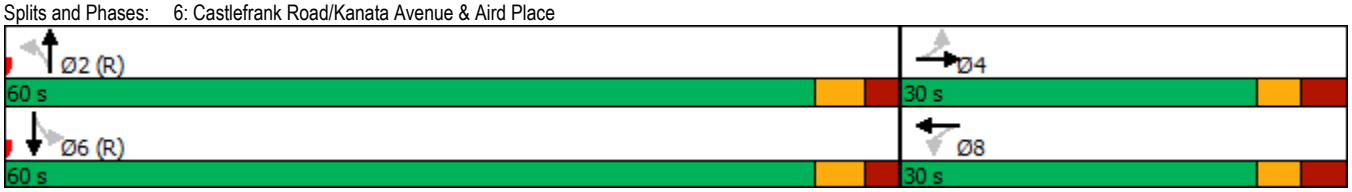
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	3	13	30	1	97	12	898	35	62	1055	24
Future Volume (vph)	17	3	13	30	1	97	12	898	35	62	1055	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	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		0.168			0.236		
Satd. Flow (perm)	0	1219	0	0	1415	0	300	1755	0	421	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	898	35	62	1055	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	128	0	12	933	0	62	1079	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	

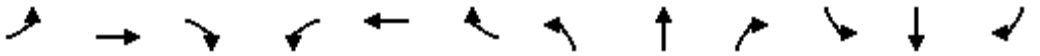
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.2	3.2		3.2	3.2		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.2			6.2		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		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	0.70		0.19	0.80	
Control Delay		26.2			19.2		4.9	10.2		7.3	15.8	
Queue Delay		0.0			0.0		0.0	0.2		0.0	0.0	
Total Delay		26.2			19.2		4.9	10.4		7.3	15.8	
LOS		C			B		A	B		A	B	
Approach Delay		26.2			19.2			10.3			15.3	
Approach LOS		C			B			B			B	
Queue Length 50th (m)		3.3			5.1		0.4	48.1		3.8	115.8	
Queue Length 95th (m)		9.9			17.8		m1.1	m#113.6		m5.3	#259.4	
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		227	1327		318	1343	
Starvation Cap Reductn		0			0		0	7		0	4	
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		0.05	0.73		0.19	0.81	

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: 0.80
Intersection Signal Delay: 13.6 Intersection LOS: B
Intersection Capacity Utilization 81.1% 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





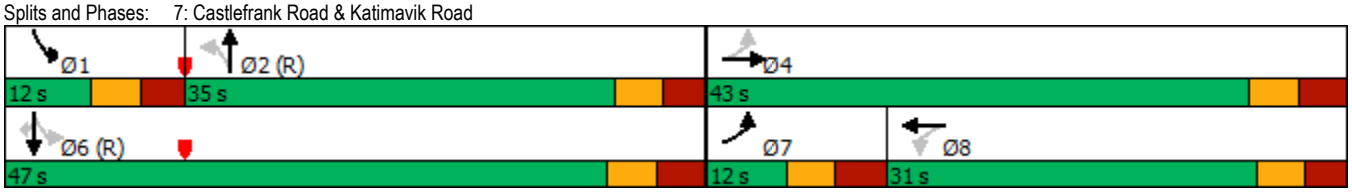
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	140	75	92	200	116	41	479	60	121	715	204
Future Volume (vph)	155	140	75	92	200	116	41	479	60	121	715	204
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage 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			0.945			0.983				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	1666	0	1558	1626	0	1695	1740	0	1647	1784	1473
Flt Permitted	0.241			0.624			0.272			0.157		
Satd. Flow (perm)	416	1666	0	1005	1626	0	478	1740	0	272	1784	1356
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			32			7				184
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)	155	140	75	92	200	116	41	479	60	121	715	204
Shared Lane Traffic (%)												
Lane Group Flow (vph)	155	215	0	92	316	0	41	539	0	121	715	204
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

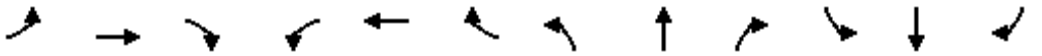
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.4	3.4		2.9	2.9		2.9	2.9		2.9	3.4	3.4
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7		6.2	6.2		6.2	6.2		6.2	6.7	6.7
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	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)	31.9	31.9		20.4	20.4		31.9	31.9		45.2	44.7	44.7
Actuated g/C Ratio	0.35	0.35		0.23	0.23		0.35	0.35		0.50	0.50	0.50
v/c Ratio	0.70	0.35		0.41	0.81		0.24	0.87		0.49	0.81	0.27
Control Delay	39.0	18.4		33.9	45.1		27.4	44.9		18.6	22.9	4.2
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	39.0	18.4		33.9	45.1		27.4	44.9		18.6	22.9	4.2
LOS	D	B		C	D		C	D		B	C	A
Approach Delay		27.0			42.6			43.7			18.7	
Approach LOS		C			D			D			B	
Queue Length 50th (m)	18.6	21.8		13.5	46.3		5.2	89.5		7.0	88.6	2.9
Queue Length 95th (m)	#33.8	36.5		26.1	71.9		14.2	#153.7		m13.0	m#175.6	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)	220	693		276	471		169	621		245	886	766
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	0.70	0.31		0.33	0.67		0.24	0.87		0.49	0.81	0.27

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: 0.87
Intersection Signal Delay: 30.1 Intersection LOS: C
Intersection Capacity Utilization 97.8% 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





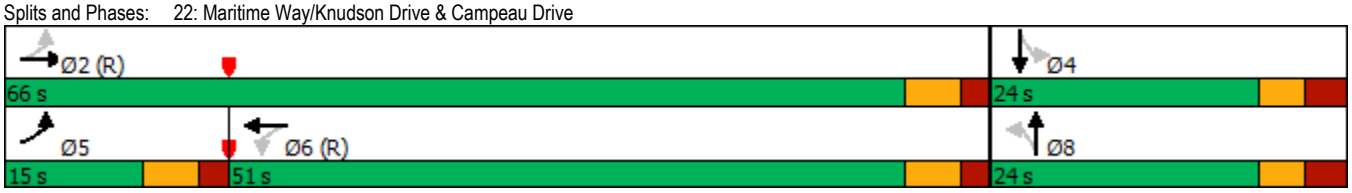
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	476	33	146	657	112	13	15	104	42	11	77
Future Volume (vph)	71	476	33	146	657	112	13	15	104	42	11	77
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage 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			0.869			0.869	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1763	0	1695	1732	0	1695	1509	0	1679	1495	0
Flt Permitted	0.219			0.476			0.700			0.681		
Satd. Flow (perm)	391	1763	0	846	1732	0	1226	1509	0	1193	1495	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			14			104			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	146	657	112	13	15	104	42	11	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	71	509	0	146	769	0	13	119	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)	66.9	66.9		56.9	56.9		11.4	11.4		11.4	11.4	
Actuated g/C Ratio	0.74	0.74		0.63	0.63		0.13	0.13		0.13	0.13	
v/c Ratio	0.18	0.39		0.27	0.70		0.08	0.42		0.28	0.34	
Control Delay	4.7	5.5		10.8	17.2		35.2	15.1		39.5	14.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	4.7	5.5		10.8	17.2		35.2	15.1		39.5	14.2	
LOS	A	A		B	B		D	B		D	B	
Approach Delay		5.4			16.1			17.0			22.4	
Approach LOS		A			B			B			C	
Queue Length 50th (m)	2.5	23.2		10.4	79.5		1.8	3.7		6.8	1.7	
Queue Length 95th (m)	7.5	51.1		26.5	#177.3		m4.2	m9.5		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)	425	1311		534	1099		245	385		238	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	0.17	0.39		0.27	0.70		0.05	0.31		0.18	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: 0.70
Intersection Signal Delay: 13.1 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





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	243	83	20	171	50	13
Future Volume (Veh/h)	243	83	20	171	50	13
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	243	83	20	171	50	13
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	217					
pX, platoon unblocked						
vC, conflicting volume			326		496	284
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			326		496	284
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		90	98
cM capacity (veh/h)			1234		525	754

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	326	191	63
Volume Left	0	20	50
Volume Right	83	0	13
cSH	1700	1234	560
Volume to Capacity	0.19	0.02	0.11
Queue Length 95th (m)	0.0	0.4	2.9
Control Delay (s)	0.0	1.0	12.2
Lane LOS		A	B
Approach Delay (s)	0.0	1.0	12.2
Approach LOS			B

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	37.6%	ICU Level of Service	A
Analysis Period (min)	15		

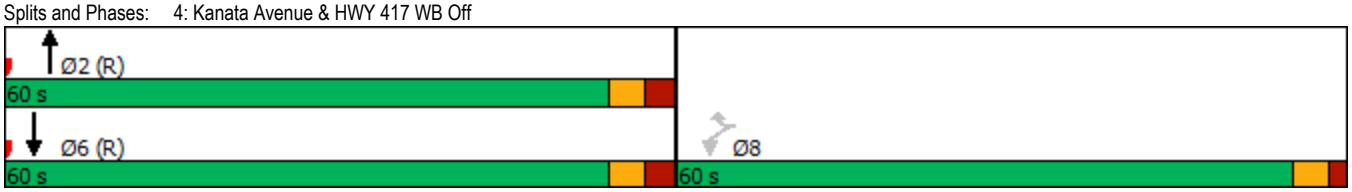


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	528	778	823	0	0	1179
Future Volume (vph)	528	778	823	0	0	1179
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
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)		96				
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)	528	778	823	0	0	1179
Shared Lane Traffic (%)						
Lane Group Flow (vph)	528	778	823	0	0	1179
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)	60.0	60.0	60.0			60.0
Total Split (%)	50.0%	50.0%	50.0%			50.0%
Maximum Green (s)	55.0	55.0	53.9			53.9
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)	55.0	55.0	53.9			53.9
Actuated g/C Ratio	0.46	0.46	0.45			0.45
v/c Ratio	0.68	1.04	1.05			0.78
Control Delay	31.1	73.1	78.2			32.6
Queue Delay	0.0	0.0	22.0			0.0
Total Delay	31.1	73.1	100.1			32.6
LOS	C	E	F			C
Approach Delay	56.1		100.1			32.6
Approach LOS	E		F			C
Queue Length 50th (m)	95.6	~185.2	~210.7			121.3
Queue Length 95th (m)	135.4	#259.0	#284.2			148.8
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	776	747	786			1507
Starvation Cap Reductn	0	0	194			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.68	1.04	1.39			0.78

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: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay: 58.7		Intersection LOS: E	
Intersection Capacity Utilization 136.9%		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	Ø3
Lane Configurations							
Traffic Volume (vph)	273	266	404	0	0	1058	
Future Volume (vph)	273	266	404	0	0	1058	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Lane Util. Factor	1.00	0.88	0.95	1.00	1.00	0.95	
Frt		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	1695	2347	3262	0	0	3325	
Flt Permitted	0.950						
Satd. Flow (perm)	1695	2347	3262	0	0	3325	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		266					
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)	273	266	404	0	0	1058	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	273	266	404	0	0	1058	
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

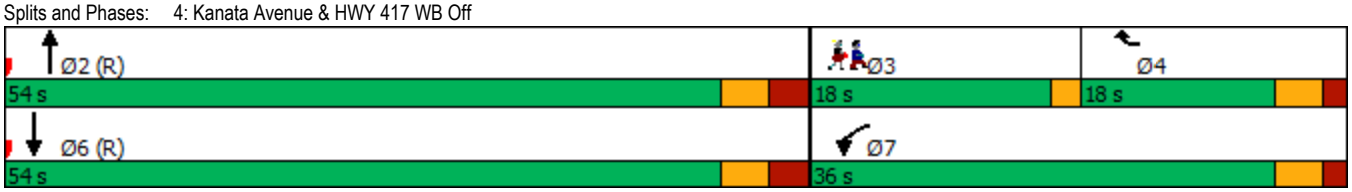


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Recall Mode	None	None	C-Max			C-Max	None
Walk Time (s)			7.0				7.0
Flash Dont Walk (s)			15.0				9.0
Pedestrian Calls (#/hr)			10				10
Act Effct Green (s)	20.3	16.7	58.6			58.6	
Actuated g/C Ratio	0.23	0.19	0.65			0.65	
v/c Ratio	0.71	0.41	0.19			0.49	
Control Delay	42.1	6.6	12.5			8.5	
Queue Delay	0.0	0.0	0.0			0.0	
Total Delay	42.1	6.6	12.5			8.5	
LOS	D	A	B			A	
Approach Delay	24.6		12.5			8.5	
Approach LOS	C		B			A	
Queue Length 50th (m)	44.1	0.0	11.8			29.2	
Queue Length 95th (m)	61.1	11.6	53.4			m37.3	
Internal Link Dist (m)	308.8		102.6			90.0	
Turn Bay Length (m)							
Base Capacity (vph)	583	662	2124			2165	
Starvation Cap Reductn	0	0	0			0	
Spillback Cap Reductn	0	0	0			84	
Storage Cap Reductn	0	0	0			0	
Reduced v/c Ratio	0.47	0.40	0.19			0.51	

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: 0.71
Intersection Signal Delay: 13.6 Intersection LOS: B
Intersection Capacity Utilization 60.0% ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

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





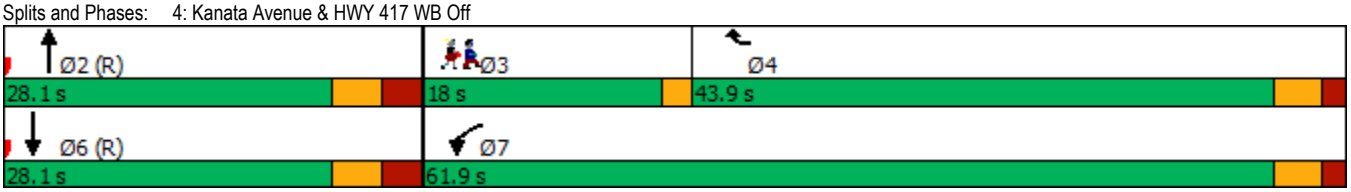
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Lane Configurations							
Traffic Volume (vph)	528	778	823	0	0	1179	
Future Volume (vph)	528	778	823	0	0	1179	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Lane Util. Factor	1.00	0.88	0.95	1.00	1.00	0.95	
Ped Bike Factor							
Frt		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	1695	2669	3325	0	0	3357	
Flt Permitted	0.950						
Satd. Flow (perm)	1695	2669	3325	0	0	3357	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		778					
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)	528	778	823	0	0	1179	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	528	778	823	0	0	1179	
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)	61.9	43.9	28.1			28.1	18.0
Total Split (%)	68.8%	48.8%	31.2%			31.2%	20%
Maximum Green (s)	56.9	38.9	22.0			22.0	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)	37.5	33.9	41.4			41.4	
Actuated g/C Ratio	0.42	0.38	0.46			0.46	
v/c Ratio	0.75	0.52	0.54			0.76	
Control Delay	28.3	2.9	29.4			35.7	
Queue Delay	0.0	0.0	0.0			0.5	
Total Delay	28.3	2.9	29.4			36.2	
LOS	C	A	C			D	
Approach Delay	13.1		29.4			36.2	
Approach LOS	B		C			D	
Queue Length 50th (m)	75.3	0.0	78.1			97.5	
Queue Length 95th (m)	84.3	12.3	99.3			m#153.8	
Internal Link Dist (m)	308.8		102.6			90.0	
Turn Bay Length (m)							
Base Capacity (vph)	1071	1611	1529			1544	
Starvation Cap Reductn	0	0	0			0	
Spillback Cap Reductn	9	0	0			92	
Storage Cap Reductn	0	0	0			0	
Reduced v/c Ratio	0.50	0.48	0.54			0.81	

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: 0.76
Intersection Signal Delay: 25.4 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.
m Volume for 95th percentile queue is metered by upstream signal.

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



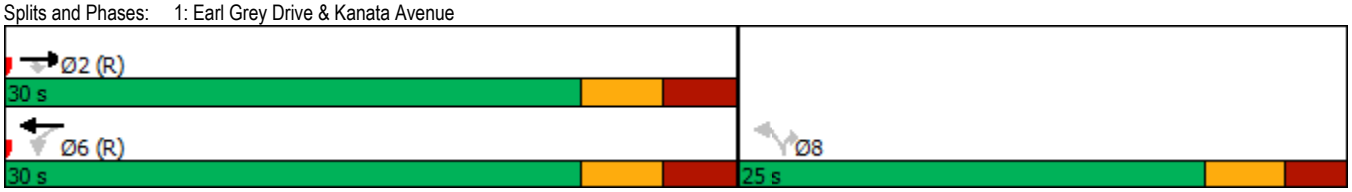


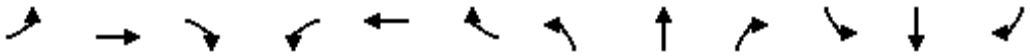
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	807	37	57	405	10	35
Future Volume (vph)	807	37	57	405	10	35
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		40.0	110.0		30.0	0.0
Storage Lanes		1	0		1	1
Taper Length (m)			100.0		45.0	
Lane Util. Factor	0.95	1.00	0.95	0.95	1.00	1.00
Ped Bike Factor				1.00		
Frt		0.850				0.850
Flt Protected				0.994	0.950	
Satd. Flow (prot)	3357	1394	0	3179	1441	1459
Flt Permitted				0.803	0.950	
Satd. Flow (perm)	3357	1394	0	2568	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)	807	37	57	405	10	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	807	37	0	462	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		0.24	0.05	0.14
Control Delay	5.7	3.2		5.6	16.8	7.6
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	5.7	3.2		5.6	16.8	7.6
LOS	A	A		A	B	A
Approach Delay	5.6			5.6	9.6	
Approach LOS	A			A	A	
Queue Length 50th (m)	14.3	0.0		7.5	0.9	0.0
Queue Length 95th (m)	44.0	3.9		25.6	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		1932	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		0.24	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 56.9%		ICU Level of Service B	
Analysis Period (min) 15			

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



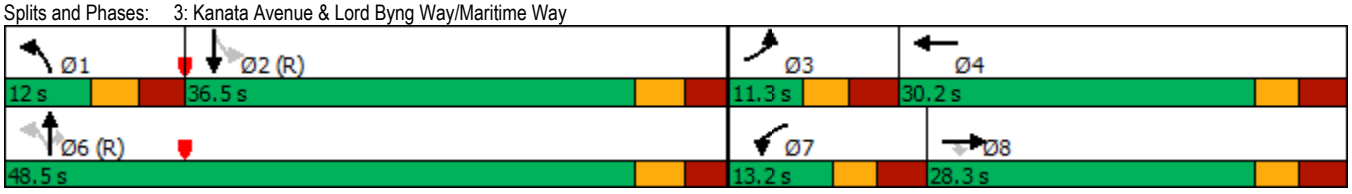


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	6	36	210	2	65	85	369	178	28	695	16
Future Volume (vph)	19	6	36	210	2	65	85	369	178	28	695	16
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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		0.87	0.80	0.99		1.00		0.98		1.00	
Frt			0.850		0.854				0.850		0.997	
Flt Protected	0.950			0.950			0.950				0.998	
Satd. Flow (prot)	1262	1784	992	3135	1504	0	1417	3325	1473	0	3323	0
Flt Permitted	0.950			0.950			0.220				0.926	
Satd. Flow (perm)	1261	1784	860	2499	1504	0	328	3325	1441	0	3083	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			193		65				178		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		100	100		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	210	2	65	85	369	178	28	695	16
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	6	36	210	67	0	85	369	178	0	739	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)		100	100		100			10	10	10	10	
Act Effct Green (s)	5.0	19.6	19.6	7.5	25.6		47.2	47.2	47.2		37.6	
Actuated g/C Ratio	0.06	0.22	0.22	0.08	0.28		0.52	0.52	0.52		0.42	
v/c Ratio	0.27	0.02	0.11	0.80	0.14		0.35	0.21	0.21		0.57	
Control Delay	50.7	26.0	0.6	65.0	8.0		17.1	13.9	5.0		25.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	50.7	26.0	0.6	65.0	8.0		17.1	13.9	5.0		25.4	
LOS	D	C	A	E	A		B	B	A		C	
Approach Delay		18.7			51.3			11.8			25.4	
Approach LOS		B			D			B			C	
Queue Length 50th (m)	3.2	0.8	0.0	18.8	0.2		11.3	26.8	8.3		57.7	
Queue Length 95th (m)	10.1	3.7	0.0	#38.3	9.6		12.3	22.5	5.5		78.1	
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	356	262	519		240	1745	841		1291	
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	0.10	0.80	0.13		0.35	0.21	0.21		0.57	

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: 0.80			
Intersection Signal Delay: 24.4		Intersection LOS: C	
Intersection Capacity Utilization 78.7%		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.			

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



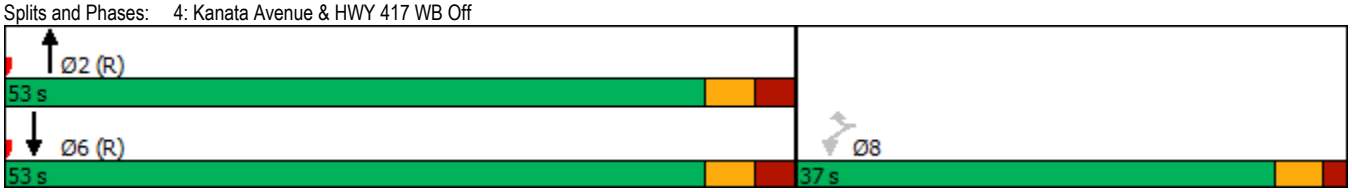


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	295	280	428	0	0	1098
Future Volume (vph)	295	280	428	0	0	1098
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Frt		0.850				
Flt Protected	0.950					
Satd. Flow (prot)	1695	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)		280				
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)	295	280	428	0	0	1098
Shared Lane Traffic (%)						
Lane Group Flow (vph)	295	280	428	0	0	1098
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)	21.2	21.2	57.7			57.7
Actuated g/C Ratio	0.24	0.24	0.64			0.64
v/c Ratio	0.74	0.53	0.39			0.52
Control Delay	42.7	7.1	3.5			9.0
Queue Delay	0.0	0.0	0.1			0.0
Total Delay	42.7	7.1	3.7			9.0
LOS	D	A	A			A
Approach Delay	25.4		3.7			9.0
Approach LOS	C		A			A
Queue Length 50th (m)	47.5	0.0	7.8			72.5
Queue Length 95th (m)	66.4	16.6	10.5			124.3
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	602	654	1100			2132
Starvation Cap Reductn	0	0	129			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.49	0.43	0.44			0.52

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: 0.74			
Intersection Signal Delay: 12.4		Intersection LOS: B	
Intersection Capacity Utilization 86.3%		ICU Level of Service E	
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	395	267	531	683	
Future Volume (vph)	0	0	395	267	531	683	
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					0.432		
Satd. Flow (perm)	0	0	1685	1468	763	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	395	267	531	683	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	395	267	531	683	
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)			56.3	56.3	78.9	83.5	
Actuated g/C Ratio			0.63	0.63	0.88	0.93	
v/c Ratio			0.37	0.26	0.63	0.42	
Control Delay			8.9	2.1	13.4	1.6	
Queue Delay			0.6	0.0	0.1	0.0	
Total Delay			9.5	2.1	13.5	1.6	
LOS			A	A	B	A	
Approach Delay			6.5			6.8	
Approach LOS			A			A	
Queue Length 50th (m)			26.2	4.8	23.6	0.0	
Queue Length 95th (m)			66.9	14.1	#65.2	34.5	
Internal Link Dist (m)	254.4		95.2			102.6	
Turn Bay Length (m)				50.0			
Base Capacity (vph)			1054	1018	840	1623	
Starvation Cap Reductn			328	0	18	4	
Spillback Cap Reductn			0	0	0	0	
Storage Cap Reductn			0	0	0	0	
Reduced v/c Ratio			0.54	0.26	0.65	0.42	

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: 90			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.63			
Intersection Signal Delay: 6.7		Intersection LOS: A	
Intersection Capacity Utilization 86.3%		ICU Level of Service E	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 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	655	36	52	611	41
Future Volume (vph)	45	6	18	19	6	61	41	655	36	52	611	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			0.991	
Flt Protected		0.968			0.989		0.950			0.950		
Satd. Flow (prot)	0	1218	0	0	1464	0	1145	1734	0	1662	1716	0
Flt Permitted		0.809			0.909		0.372			0.351		
Satd. Flow (perm)	0	1001	0	0	1336	0	446	1734	0	612	1716	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	655	36	52	611	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	69	0	0	86	0	41	691	0	52	652	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	

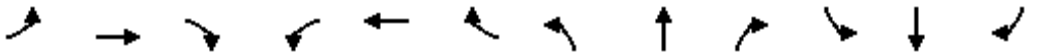
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.2	3.2		3.2	3.2		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.2			6.2		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		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		0.12	0.52		0.11	0.49	
Control Delay		34.5			17.0		4.8	5.7		6.1	6.1	
Queue Delay		0.0			0.0		0.0	0.1		0.0	0.2	
Total Delay		34.5			17.0		4.8	5.7		6.1	6.2	
LOS		C			B		A	A		A	A	
Approach Delay		34.5			17.0			5.7			6.2	
Approach LOS		C			B			A			A	
Queue Length 50th (m)		8.4			4.0		1.7	38.1		1.5	19.8	
Queue Length 95th (m)		18.3			14.6		m4.2	54.2		6.9	50.1	
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		344	1340		472	1326	
Starvation Cap Reductn		0			0		0	55		0	143	
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		0.12	0.54		0.11	0.55	

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: 0.52
Intersection Signal Delay: 7.8 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



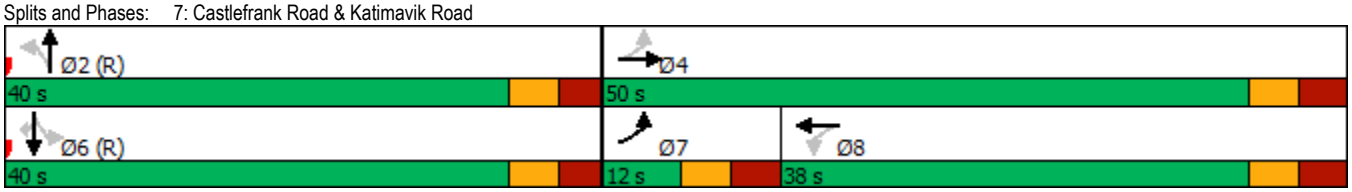


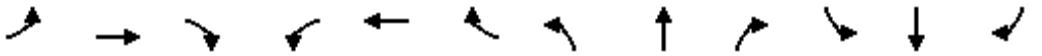
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	130	72	34	114	36	123	454	51	84	351	105
Future Volume (vph)	160	130	72	34	114	36	123	454	51	84	351	105
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage 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			0.964			0.985				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1586	1649	0	1695	1622	0	1695	1634	0	1503	1655	1322
Flt Permitted	0.443			0.631			0.515			0.393		
Satd. Flow (perm)	705	1649	0	1099	1622	0	900	1634	0	609	1655	1245
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			19			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)	160	130	72	34	114	36	123	454	51	84	351	105
Shared Lane Traffic (%)												
Lane Group Flow (vph)	160	202	0	34	150	0	123	505	0	84	351	105
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)	26.2	26.2		14.2	14.2		50.9	50.9		50.9	50.9	50.9
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	0.62	0.40		0.20	0.55		0.24	0.55		0.24	0.38	0.14
Control Delay	36.0	21.3		33.2	37.1		13.0	16.1		19.3	18.0	6.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	36.0	21.3		33.2	37.1		13.0	16.1		19.3	18.0	6.7
LOS	D	C		C	D		B	B		B	B	A
Approach Delay		27.8			36.4			15.5			16.0	
Approach LOS		C			D			B			B	
Queue Length 50th (m)	22.3	22.1		5.3	21.5		9.5	47.9		8.6	36.1	3.2
Queue Length 95th (m)	32.6	34.2		12.0	34.7		24.9	98.1		16.6	50.5	9.7
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)	257	815		382	576		509	926		344	935	758
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	0.25		0.09	0.26		0.24	0.55		0.24	0.38	0.14

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: 0.62			
Intersection Signal Delay: 20.5		Intersection LOS: C	
Intersection Capacity Utilization 84.1%		ICU Level of Service E	
Analysis Period (min) 15			

Splits and Phases: 7: Castlefrank Road & Katimavik Road





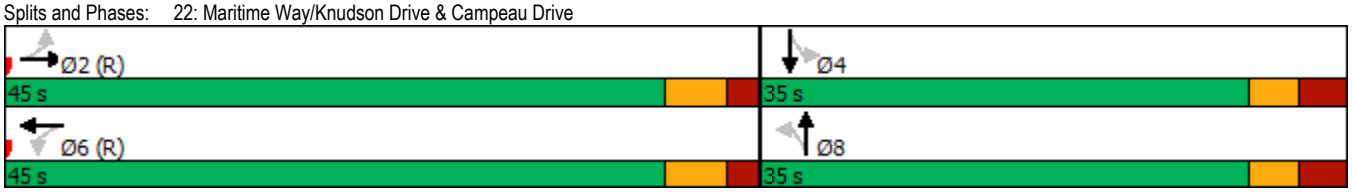
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	718	14	74	496	86	18	19	172	182	12	61
Future Volume (vph)	54	718	14	74	496	86	18	19	172	182	12	61
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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			0.865			0.875	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1718	0	1695	1592	0	1695	1477	0	1695	1494	0
Flt Permitted	0.367			0.271			0.709			0.593		
Satd. Flow (perm)	650	1718	0	484	1592	0	1254	1477	0	1035	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	74	496	86	18	19	172	182	12	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	54	732	0	74	582	0	18	191	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)	49.8	49.8		49.8	49.8		18.5	18.5		18.5	18.5	
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		0.25	0.58		0.06	0.42		0.76	0.19	
Control Delay	9.5	16.4		11.8	13.4		20.9	9.3		47.7	8.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	9.5	16.4		11.8	13.4		20.9	9.3		47.7	8.7	
LOS	A	B		B	B		C	A		D	A	
Approach Delay		15.9			13.2			10.3			36.5	
Approach LOS		B			B			B			D	
Queue Length 50th (m)	3.0	65.0		4.5	45.4		2.2	4.9		25.9	1.4	
Queue Length 95th (m)	10.4	#156.0		15.4	99.2		6.2	17.8		41.4	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)	404	1070		301	996		454	631		375	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		0.25	0.58		0.04	0.30		0.49	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: 0.76
Intersection Signal Delay: 17.1 Intersection LOS: B
Intersection Capacity Utilization 92.9% 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.

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





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	186	13	3	198	39	10
Future Volume (Veh/h)	186	13	3	198	39	10
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	186	13	3	198	39	10
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	217					
pX, platoon unblocked						
vC, conflicting volume			199		396	192
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			199		396	192
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		94	99
cM capacity (veh/h)			1373		607	849

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	199	201	49
Volume Left	0	3	39
Volume Right	13	0	10
cSH	1700	1373	645
Volume to Capacity	0.12	0.00	0.08
Queue Length 95th (m)	0.0	0.0	1.9
Control Delay (s)	0.0	0.1	11.0
Lane LOS		A	B
Approach Delay (s)	0.0	0.1	11.0
Approach LOS			B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	23.5%	ICU Level of Service	A
Analysis Period (min)	15		

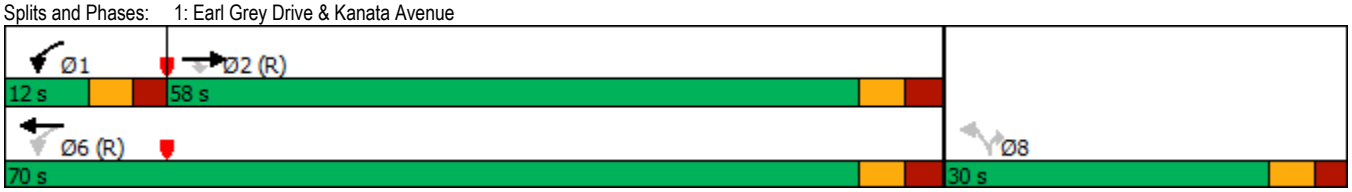


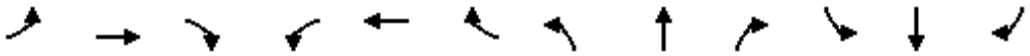
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	706	82	214	800	79	177
Future Volume (vph)	706	82	214	800	79	177
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)		40.0	110.0		30.0	0.0
Storage Lanes		1	0		1	1
Taper Length (m)			100.0		45.0	
Lane Util. 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				0.990	0.950	
Satd. Flow (prot)	3115	1517	0	3356	1695	1517
Flt Permitted				0.662	0.950	
Satd. Flow (perm)	3115	1483	0	2244	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)	706	82	214	800	79	177
Shared Lane Traffic (%)						
Lane Group Flow (vph)	706	82	0	1014	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	0.30	0.07		0.59	0.42	0.55
Control Delay	4.4	1.2		7.5	46.9	12.6
Queue Delay	0.0	0.0		0.0	0.0	0.0
Total Delay	4.4	1.2		7.5	46.9	12.6
LOS	A	A		A	D	B
Approach Delay	4.0			7.5	23.2	
Approach LOS	A			A	C	
Queue Length 50th (m)	16.5	0.0		33.5	14.7	0.0
Queue Length 95th (m)	34.0	4.1		71.8	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		1720	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	0.30	0.07		0.59	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: 0.59			
Intersection Signal Delay: 8.1		Intersection LOS: A	
Intersection Capacity Utilization 71.1%		ICU Level of Service C	
Analysis Period (min) 15			

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



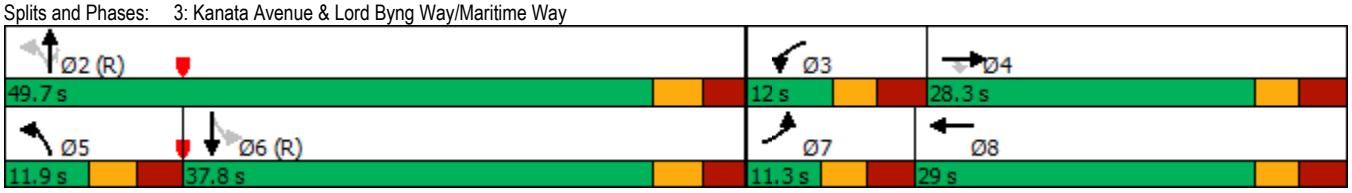


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	3	78	170	9	62	136	947	254	93	732	25
Future Volume (vph)	30	3	78	170	9	62	136	947	254	93	732	25
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (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		0.84	0.75	0.98		1.00		0.98		1.00	
Frt			0.850		0.869				0.850		0.996	
Flt Protected	0.950			0.950			0.950				0.995	
Satd. Flow (prot)	1262	1784	1268	3288	1516	0	1503	3390	1517	0	3340	0
Flt Permitted	0.950			0.950			0.177				0.704	
Satd. Flow (perm)	1247	1784	1062	2451	1516	0	280	3390	1479	0	2363	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			193		62				143		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		125	125		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	170	9	62	136	947	254	93	732	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	3	78	170	71	0	136	947	254	0	850	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)		100	100		100			10	10	10	10	
Act Effct Green (s)	5.0	19.6	19.6	6.6	22.4		48.2	48.2	48.2		36.1	
Actuated g/C Ratio	0.06	0.22	0.22	0.07	0.25		0.54	0.54	0.54		0.40	
v/c Ratio	0.43	0.01	0.20	0.71	0.17		0.60	0.52	0.30		0.89	
Control Delay	60.3	26.0	1.2	67.2	9.8		17.0	16.5	7.3		41.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	60.3	26.0	1.2	67.2	9.8		17.0	16.5	7.3		41.5	
LOS	E	C	A	E	A		B	B	A		D	
Approach Delay		17.8			50.3			14.8			41.5	
Approach LOS		B			D			B			D	
Queue Length 50th (m)	5.1	0.4	0.0	16.0	0.6		12.9	60.3	9.1		~83.0	
Queue Length 95th (m)	#15.6	2.5	0.0	#33.4	8.5		m11.1	m50.2	m6.1		#119.8	
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	405	239	465		228	1815	858		950	
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	0.19	0.71	0.15		0.60	0.52	0.30		0.89	

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: 0.89			
Intersection Signal Delay: 27.2		Intersection LOS: C	
Intersection Capacity Utilization 86.6%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
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)	570	821	863	0	0	1245
Future Volume (vph)	570	821	863	0	0	1245
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)		76				
Link Speed (k/h)	50		50			50
Link Distance (m)	587.9		126.6			114.0
Travel Time (s)	42.3		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)	570	821	863	0	0	1245
Shared Lane Traffic (%)						
Lane Group Flow (vph)	570	821	863	0	0	1245
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)	40.0	40.0	38.9			38.9
Actuated g/C Ratio	0.44	0.44	0.43			0.43
v/c Ratio	0.76	1.15	1.14			0.86
Control Delay	28.9	106.1	114.1			25.7
Queue Delay	0.0	0.0	1.5			3.1
Total Delay	28.9	106.1	115.5			28.8
LOS	C	F	F			C
Approach Delay	74.4		115.5			28.8
Approach LOS	E		F			C
Queue Length 50th (m)	79.8	~161.0	~168.8			60.8
Queue Length 95th (m)	121.0	#230.1	#244.2			m70.4
Internal Link Dist (m)	563.9		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	753	716	756			1450
Starvation Cap Reductn	0	0	150			0
Spillback Cap Reductn	0	0	0			125
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.76	1.15	1.42			0.94

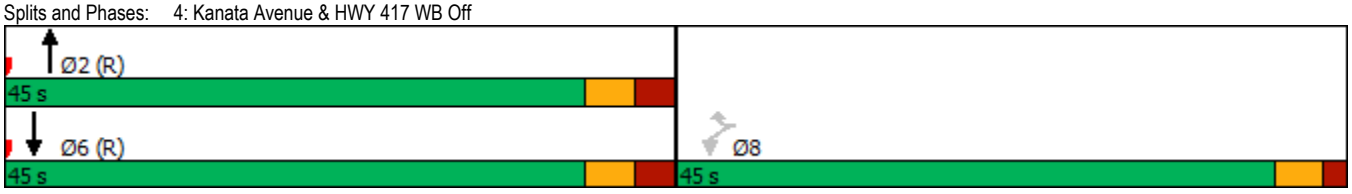
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green			
Natural Cycle: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.15			
Intersection Signal Delay: 68.3		Intersection LOS: E	
Intersection Capacity Utilization 143.2%		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.

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

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



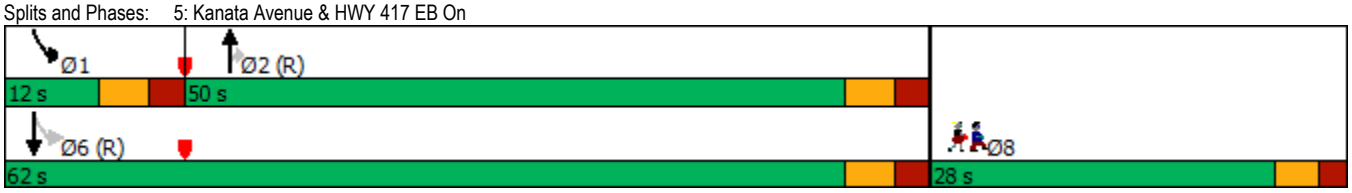


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø8
Lane Configurations							
Traffic Volume (vph)	0	0	706	242	478	1127	
Future Volume (vph)	0	0	706	242	478	1127	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Storage Length (m)	0.0	0.0		50.0	0.0		
Storage Lanes	0	0		1	1		
Taper Length (m)	7.6				7.6		
Lane Util. 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					0.136		
Satd. Flow (perm)	0	0	1733	1479	238	1784	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)				205			
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	706	242	478	1127	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	0	0	706	242	478	1127	
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)			45.7	45.7	78.9	83.5	
Actuated g/C Ratio			0.51	0.51	0.88	0.93	
v/c Ratio			0.80	0.28	0.74	0.68	
Control Delay			17.8	2.2	27.4	8.1	
Queue Delay			50.8	0.0	0.0	0.2	
Total Delay			68.7	2.2	27.4	8.3	
LOS			E	A	C	A	
Approach Delay			51.7			14.0	
Approach LOS			D			B	
Queue Length 50th (m)			70.0	7.3	41.2	10.0	
Queue Length 95th (m)			#163.1	m3.2	m#154.7	m#277.4	
Internal Link Dist (m)	254.4		95.2			102.6	
Turn Bay Length (m)				50.0			
Base Capacity (vph)			880	852	643	1654	
Starvation Cap Reductn			123	0	0	92	
Spillback Cap Reductn			273	0	0	46	
Storage Cap Reductn			0	0	0	0	
Reduced v/c Ratio			1.16	0.28	0.74	0.72	

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: 110			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 28.0		Intersection LOS: C	
Intersection Capacity Utilization 143.2%		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



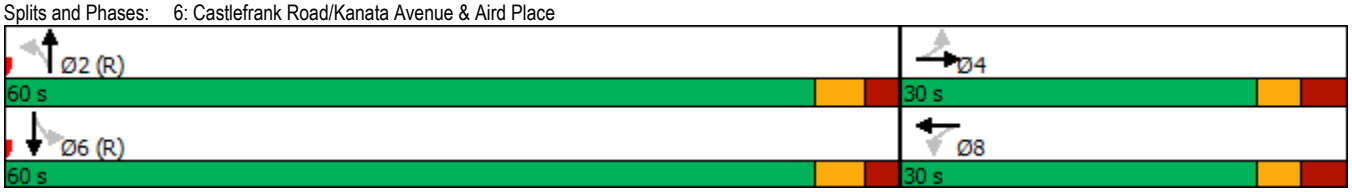
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	3	13	30	1	97	12	944	35	62	1122	24
Future Volume (vph)	17	3	13	30	1	97	12	944	35	62	1122	24
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	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			0.995			0.997	
Flt Protected		0.975			0.988		0.950			0.950		
Satd. Flow (prot)	0	1627	0	0	1542	0	1695	1757	0	1695	1777	0
Flt Permitted		0.735			0.909		0.136			0.214		
Satd. Flow (perm)	0	1219	0	0	1415	0	243	1757	0	382	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	944	35	62	1122	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	33	0	0	128	0	12	979	0	62	1146	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	

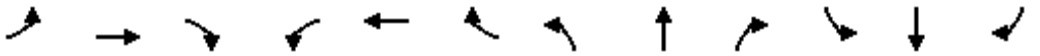
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.2	3.2		3.2	3.2		2.4	2.4		2.4	2.4	
Lost Time Adjust (s)		0.0			0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)		6.2			6.2		5.7	5.7		5.7	5.7	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		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		0.07	0.74		0.22	0.85	
Control Delay		26.2			19.2		5.2	11.8		6.1	13.6	
Queue Delay		0.0			0.0		0.0	0.3		0.0	0.0	
Total Delay		26.2			19.2		5.2	12.1		6.1	13.7	
LOS		C			B		A	B		A	B	
Approach Delay		26.2			19.2			12.0			13.3	
Approach LOS		C			B			B			B	
Queue Length 50th (m)		3.3			5.1		0.4	59.6		1.9	58.4	
Queue Length 95th (m)		9.9			17.8		m1.2	m#122.4		m5.0	#284.5	
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		183	1329		288	1343	
Starvation Cap Reductn		0			0		0	1		0	2	
Spillback Cap Reductn		0			3		0	64		0	0	
Storage Cap Reductn		0			0		0	0		0	0	
Reduced v/c Ratio		0.10			0.29		0.07	0.77		0.22	0.85	

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: 0.85			
Intersection Signal Delay: 13.2		Intersection LOS: B	
Intersection Capacity Utilization 84.8%		ICU Level of Service E	
Analysis Period (min) 15			

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

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





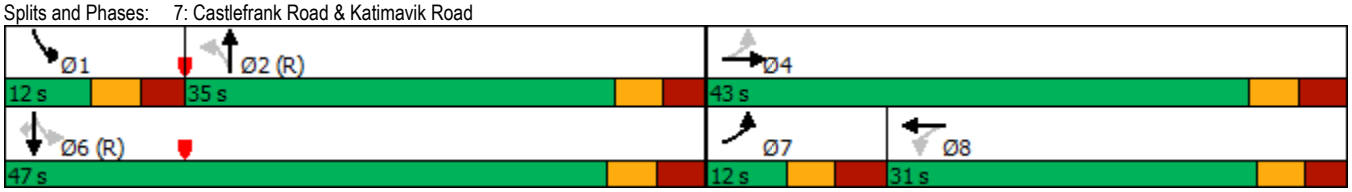
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	140	75	92	200	111	41	509	60	118	767	201
Future Volume (vph)	150	140	75	92	200	111	41	509	60	118	767	201
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage 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	0.89		0.98	0.98		0.99	0.99				0.92
Frt		0.948			0.946			0.984				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1662	1511	0	1558	1629	0	1695	1742	0	1647	1784	1473
Flt Permitted	0.245			0.624			0.217			0.132		
Satd. Flow (perm)	423	1511	0	1005	1629	0	382	1742	0	229	1784	1356
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		36			31			7				169
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		149	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)	150	140	75	92	200	111	41	509	60	118	767	201
Shared Lane Traffic (%)												
Lane Group Flow (vph)	150	215	0	92	311	0	41	569	0	118	767	201
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

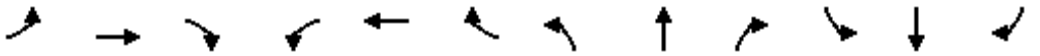
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
All-Red Time (s)	3.4	3.4		2.9	2.9		2.9	2.9		2.9	3.4	3.4
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Lost Time (s)	6.7	6.7		6.2	6.2		6.2	6.2		6.2	6.7	6.7
Lead/Lag	Lead			Lag	Lag		Lag	Lag		Lead		
Lead-Lag Optimize?	Yes			Yes	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)	31.7	31.7		20.2	20.2		32.1	32.1		45.4	44.9	44.9
Actuated g/C Ratio	0.35	0.35		0.22	0.22		0.36	0.36		0.50	0.50	0.50
v/c Ratio	0.68	0.39		0.41	0.80		0.30	0.91		0.52	0.86	0.26
Control Delay	36.7	19.2		34.1	44.6		30.7	50.1		21.9	26.2	5.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	36.7	19.2		34.1	44.6		30.7	50.1		21.9	26.2	5.0
LOS	D	B		C	D		C	D		C	C	A
Approach Delay		26.4			42.2			48.8			21.8	
Approach LOS		C			D			D			C	
Queue Length 50th (m)	18.0	22.2		13.5	45.6		5.3	96.5		7.2	91.9	3.6
Queue Length 95th (m)	#30.6	37.5		26.1	70.7		15.2	#165.5		m11.9	m#179.9	m9.5
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)	222	630		276	471		136	625		227	889	760
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	0.68	0.34		0.33	0.66		0.30	0.91		0.52	0.86	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: 0.91
Intersection Signal Delay: 32.5 Intersection LOS: C
Intersection Capacity Utilization 100.2% 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Castlefrank Road & Katimavik Road



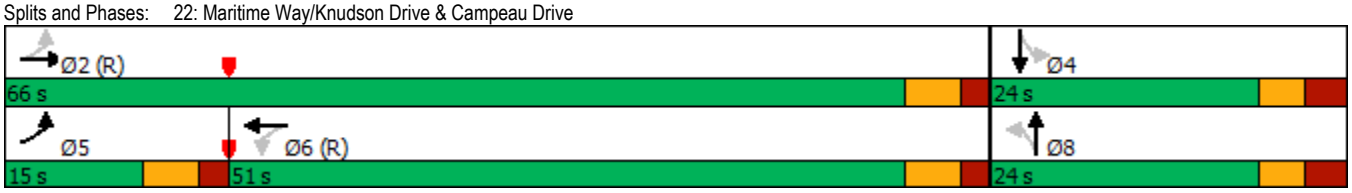


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	500	34	143	693	121	13	16	103	45	12	82
Future Volume (vph)	76	500	34	143	693	121	13	16	103	45	12	82
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage 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			0.870			0.869	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1695	1763	0	1695	1732	0	1695	1512	0	1679	1495	0
Flt Permitted	0.193			0.465			0.696			0.681		
Satd. Flow (perm)	344	1763	0	826	1732	0	1219	1512	0	1193	1495	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		8			14			103			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	143	693	121	13	16	103	45	12	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	534	0	143	814	0	13	119	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)	66.8	66.8		56.7	56.7		11.5	11.5		11.5	11.5	
Actuated g/C Ratio	0.74	0.74		0.63	0.63		0.13	0.13		0.13	0.13	
v/c Ratio	0.21	0.41		0.28	0.74		0.08	0.42		0.30	0.36	
Control Delay	5.0	5.7		11.0	19.0		36.0	14.9		39.9	14.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	5.0	5.7		11.0	19.0		36.0	14.9		39.9	14.2	
LOS	A	A		B	B		D	B		D	B	
Approach Delay		5.6			17.8			16.9			22.6	
Approach LOS		A			B			B			C	
Queue Length 50th (m)	2.6	24.8		10.2	88.6		1.8	3.2		7.3	1.9	
Queue Length 95th (m)	7.9	54.5		26.2	#195.8		m4.1	m8.8		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)	394	1310		520	1096		243	384		238	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	0.19	0.41		0.28	0.74		0.05	0.31		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: 0.74			
Intersection Signal Delay: 14.0		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





Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	258	44	11	181	27	7
Future Volume (Veh/h)	258	44	11	181	27	7
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	258	44	11	181	27	7
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh)						
Upstream signal (m)	217					
pX, platoon unblocked						
vC, conflicting volume			302		483	280
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			302		483	280
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		95	99
cM capacity (veh/h)			1259		538	759

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	302	192	34
Volume Left	0	11	27
Volume Right	44	0	7
cSH	1700	1259	572
Volume to Capacity	0.18	0.01	0.06
Queue Length 95th (m)	0.0	0.2	1.4
Control Delay (s)	0.0	0.5	11.7
Lane LOS		A	B
Approach Delay (s)	0.0	0.5	11.7
Approach LOS			B

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	29.6%	ICU Level of Service	A
Analysis Period (min)	15		

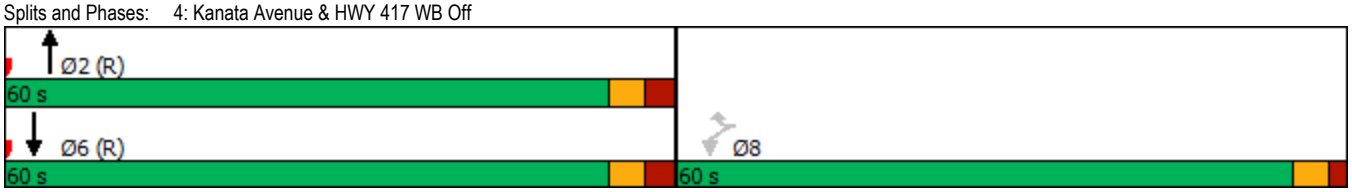


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	570	821	863	0	0	1245
Future Volume (vph)	570	821	863	0	0	1245
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	0.95
Ped Bike Factor						
Frt		0.850				
Flt Protected	0.950					
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)		85				
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)	570	821	863	0	0	1245
Shared Lane Traffic (%)						
Lane Group Flow (vph)	570	821	863	0	0	1245
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)	60.0	60.0	60.0			60.0
Total Split (%)	50.0%	50.0%	50.0%			50.0%
Maximum Green (s)	55.0	55.0	53.9			53.9
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)	55.0	55.0	53.9			53.9
Actuated g/C Ratio	0.46	0.46	0.45			0.45
v/c Ratio	0.73	1.11	1.10			0.83
Control Delay	33.5	95.6	94.7			34.7
Queue Delay	0.0	0.0	2.6			0.0
Total Delay	33.5	95.6	97.3			34.7
LOS	C	F	F			C
Approach Delay	70.2		97.3			34.7
Approach LOS	E		F			C
Queue Length 50th (m)	107.0	~209.7	~230.3			132.1
Queue Length 95th (m)	151.3	#284.4	#304.8			161.7
Internal Link Dist (m)	308.8		102.6			90.0
Turn Bay Length (m)						
Base Capacity (vph)	776	741	786			1507
Starvation Cap Reductn	0	0	185			0
Spillback Cap Reductn	0	0	0			0
Storage Cap Reductn	0	0	0			0
Reduced v/c Ratio	0.73	1.11	1.44			0.83

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: 130			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.11			
Intersection Signal Delay: 64.3		Intersection LOS: E	
Intersection Capacity Utilization 143.2%		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	Ø3
Lane Configurations							
Traffic Volume (vph)	295	280	428	0	0	1098	
Future Volume (vph)	295	280	428	0	0	1098	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Lane Util. Factor	1.00	0.88	0.95	1.00	1.00	0.95	
Frt		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	1695	2347	3262	0	0	3325	
Flt Permitted	0.950						
Satd. Flow (perm)	1695	2347	3262	0	0	3325	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		280					
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)	295	280	428	0	0	1098	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	295	280	428	0	0	1098	
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

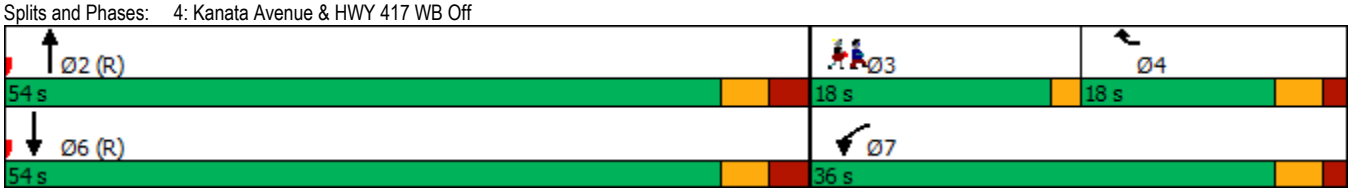


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø3
Recall Mode	None	None	C-Max			C-Max	None
Walk Time (s)			7.0				7.0
Flash Dont Walk (s)			15.0				9.0
Pedestrian Calls (#/hr)			10				10
Act Effct Green (s)	21.2	17.6	57.7			57.7	
Actuated g/C Ratio	0.24	0.20	0.64			0.64	
v/c Ratio	0.74	0.41	0.20			0.52	
Control Delay	42.7	6.4	13.9			8.2	
Queue Delay	0.0	0.0	0.0			0.0	
Total Delay	42.7	6.4	13.9			8.2	
LOS	D	A	B			A	
Approach Delay	25.0		13.9			8.2	
Approach LOS	C		B			A	
Queue Length 50th (m)	47.5	0.0	13.8			28.4	
Queue Length 95th (m)	66.0	11.9	55.8			36.2	
Internal Link Dist (m)	308.8		102.6			90.0	
Turn Bay Length (m)							
Base Capacity (vph)	583	692	2091			2132	
Starvation Cap Reductn	0	0	0			0	
Spillback Cap Reductn	0	0	0			84	
Storage Cap Reductn	0	0	0			0	
Reduced v/c Ratio	0.51	0.40	0.20			0.54	

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: 0.74
Intersection Signal Delay: 14.0 Intersection LOS: B
Intersection Capacity Utilization 85.2% ICU Level of Service E
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)	570	821	863	0	0	1245	
Future Volume (vph)	570	821	863	0	0	1245	
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	
Lane Util. Factor	1.00	0.88	0.95	1.00	1.00	0.95	
Ped Bike Factor							
Frt		0.850					
Flt Protected	0.950						
Satd. Flow (prot)	1695	2669	3325	0	0	3357	
Flt Permitted	0.950						
Satd. Flow (perm)	1695	2669	3325	0	0	3357	
Right Turn on Red		Yes		Yes			
Satd. Flow (RTOR)		778					
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)	570	821	863	0	0	1245	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	570	821	863	0	0	1245	
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)	70.0	52.0	30.0			30.0	18.0
Total Split (%)	70.0%	52.0%	30.0%			30.0%	18%
Maximum Green (s)	65.0	47.0	23.9			23.9	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)	45.0	41.4	43.9			43.9	
Actuated g/C Ratio	0.45	0.41	0.44			0.44	
v/c Ratio	0.75	0.53	0.59			0.85	
Control Delay	28.3	3.1	26.0			34.3	
Queue Delay	0.0	0.0	0.0			0.0	
Total Delay	28.3	3.1	26.0			34.3	
LOS	C	A	C			C	
Approach Delay	13.4		26.0			34.3	
Approach LOS	B		C			C	
Queue Length 50th (m)	88.9	2.5	64.8			110.2	
Queue Length 95th (m)	92.8	14.8	#116.5			#200.0	
Internal Link Dist (m)	308.8		102.6			90.0	
Turn Bay Length (m)							
Base Capacity (vph)	1101	1681	1458			1472	
Starvation Cap Reductn	0	0	0			0	
Spillback Cap Reductn	0	0	0			0	
Storage Cap Reductn	0	0	0			0	
Reduced v/c Ratio	0.52	0.49	0.59			0.85	

Intersection Summary

Area Type: Other
Cycle Length: 100
Actuated Cycle Length: 100
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: 0.85
Intersection Signal Delay: 24.0 — Intersection LOS: C
Intersection Capacity Utilization 122.9% — 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

