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- Commercial & Institutional
- Environmental Restoration

38 Years

# 1200 Maritime Way

## Transportation Impact Assessment

# 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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K2M 1P6

March 30, 2021
Novatech File: 120144
Ref: R-2021-018

NOVATECH
Engineers, Planners & Landscape Architects

March 30, 2021

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

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

Dear Ms. Gervais:

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

---

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

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

Yours truly,

**NOVATECH**

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

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 pathways will also be provided between the main building entrances and the surface parking areas. Due to grading constraints, pathway connections to Kanata Avenue are not proposed.
- All required TDM-supportive design and infrastructure measures in the TDM checklist are met.
- 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.

<u>Parking</u>

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

<u>Boundary Street Design</u>

- All roadways meet the target BLOS and TkLOS. However, none of the roadways meet the target PLOS A.
- To achieve the target PLOS A along Kanata Avenue and Maritime Way, a reduction in the curbside lane AADT to less than 3000vpd is required. This is identified for the City's consideration as funding becomes available.

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, location, and grading of the proposed access will adhere to the requirements of the PABL and ZBL.
- 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 166 transit trips (40 in, 126 out) during the weekday AM peak hour and 207 transit trips (128 in, 79 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 271 transit trips (65 in, 206 out) during the weekday AM peak hour and 336 transit trips (208 in, 128 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.

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

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

## 1.3 Screening Form

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

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

- Location Trigger – The development is located in a Transit Oriented Development (TOD) zone (within 600m of 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 Aird Place 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.

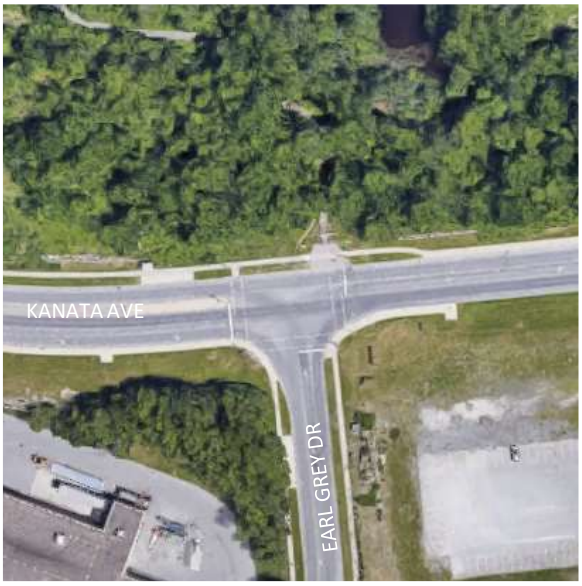
Aird Place travels from west of Castlefrank Road to Katimavik Road and is classified as a local roadway west of Castlefrank Road and a collector roadway east of Castlefrank Road. Aird Place has a two-lane undivided urban cross section with a posted speed limit of 40km/hr.

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.

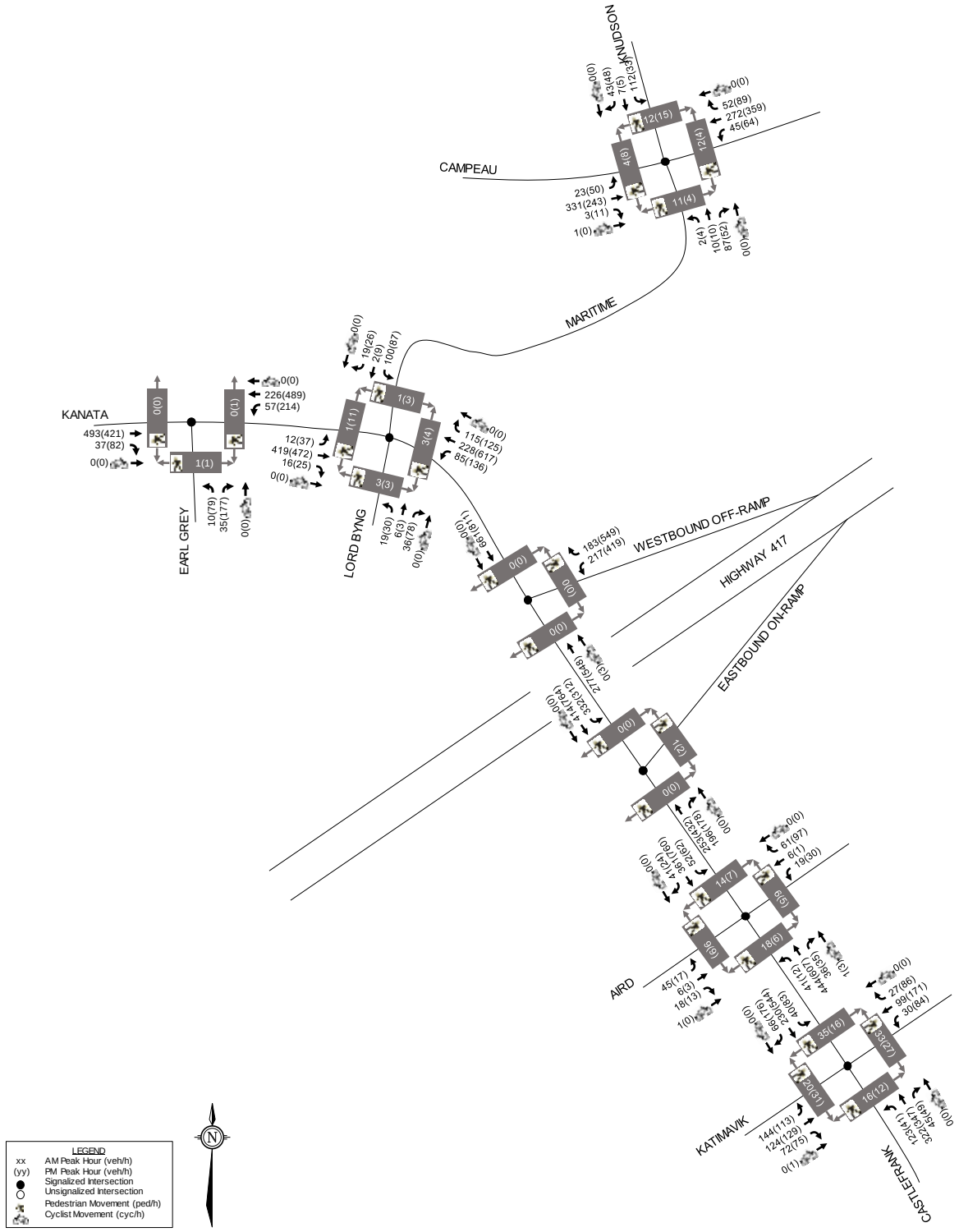
### 2.1.7 Existing Traffic Volumes

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.

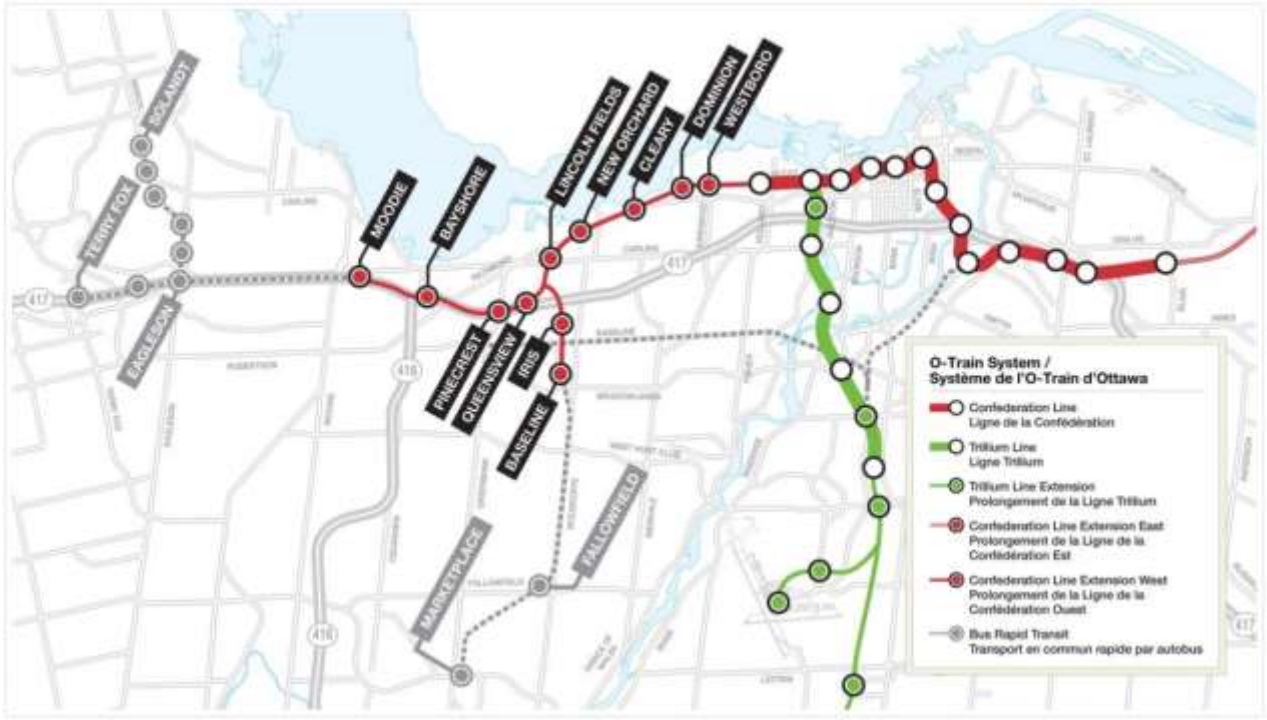
## 2.2 Planned Conditions

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.

Other area development includes:

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

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

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

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

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

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

## 2.3 Study Area and Time Periods

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

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

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

## 2.4 Exemptions Review

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

**Table 2: TIA Exemptions**

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

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

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

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

# 3.0 FORECASTING

## 3.1 Development-Generated Traffic

### 3.1.1 Trip Generation

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

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

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

**Table 3: Person Trip Generation**

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

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

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

**Table 4: Modal Shares by District/Zone**

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

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

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

- 30% Auto Driver
- 20% Auto Passenger
- 40% Transit
- 10% Non-Auto

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 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.

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

**Table 5: Person Trips by Modal Share**

| Travel Mode | Modal Share | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|---|
| | | In | Out | Total | In | Out | Total |
| *2028 Build-out Condition* | | | | | | | |
| *Total Person Trips* | | *100* | *316* | *416* | *321* | *197* | *518* |
| Auto Driver | 30% | 30 | 95 | 125 | 96 | 59 | 155 |
| Auto Passenger | 20% | 20 | 63 | 83 | 64 | 40 | 104 |
| Transit | 40% | 40 | 126 | 166 | 128 | 79 | 207 |
| Non-Auto | 10% | 10 | 32 | 42 | 32 | 20 | 52 |
| *2038 Horizon Year Condition* | | | | | | | |
| *Total Person Trips* | | *100* | *316* | *416* | *321* | *197* | *518* |
| Auto Driver | 15% | 15 | 47 | 62 | 48 | 30 | 78 |
| Auto Passenger | 5% | 5 | 16 | 21 | 16 | 10 | 26 |
| Transit | 65% | 65 | 206 | 271 | 208 | 128 | 336 |
| Non-Auto | 15% | 15 | 47 | 62 | 48 | 30 | 78 |

### 3.1.2 Trip Distribution

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

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

Traffic generated by the proposed development during the weekday AM and PM peak hours 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)**

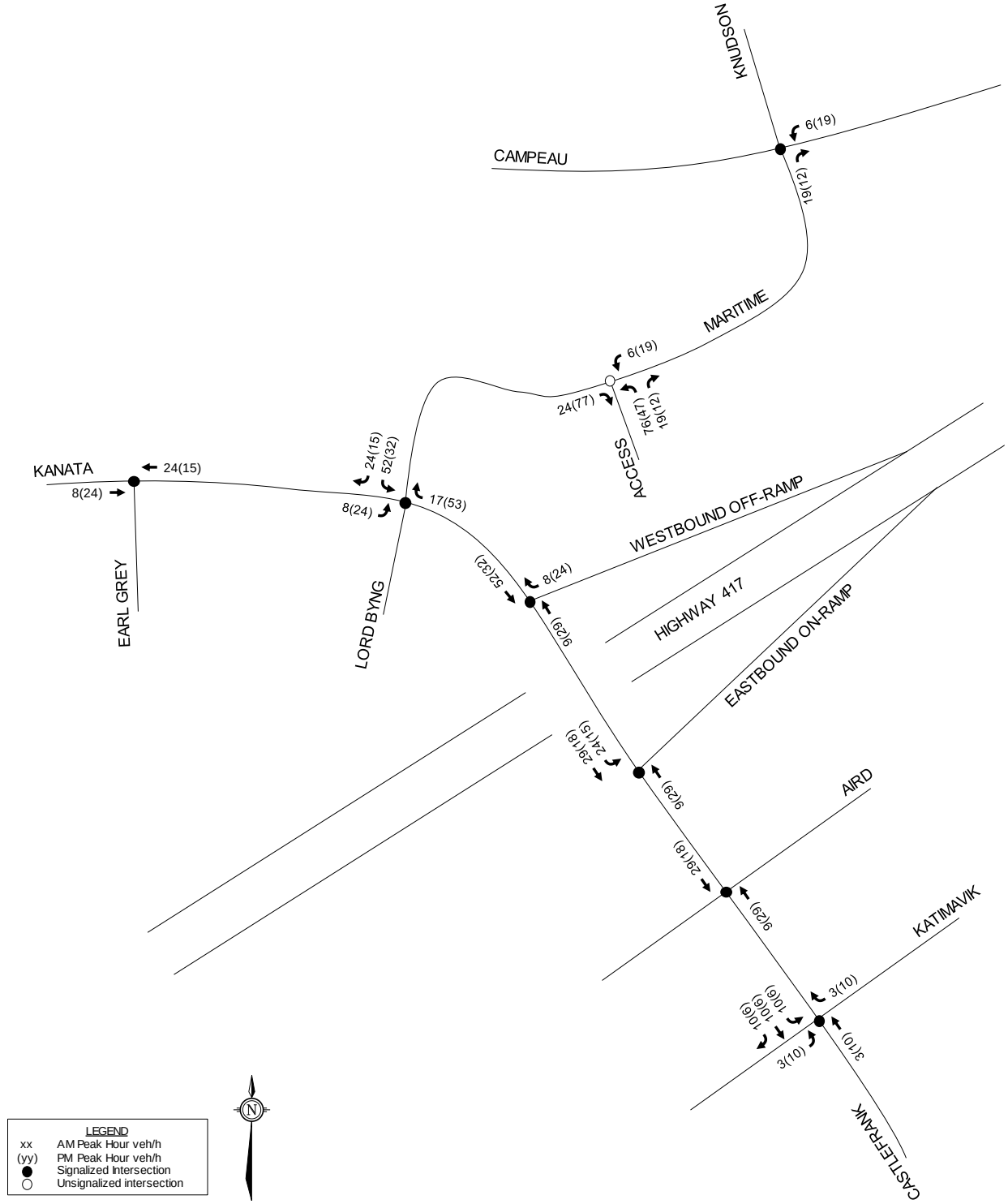
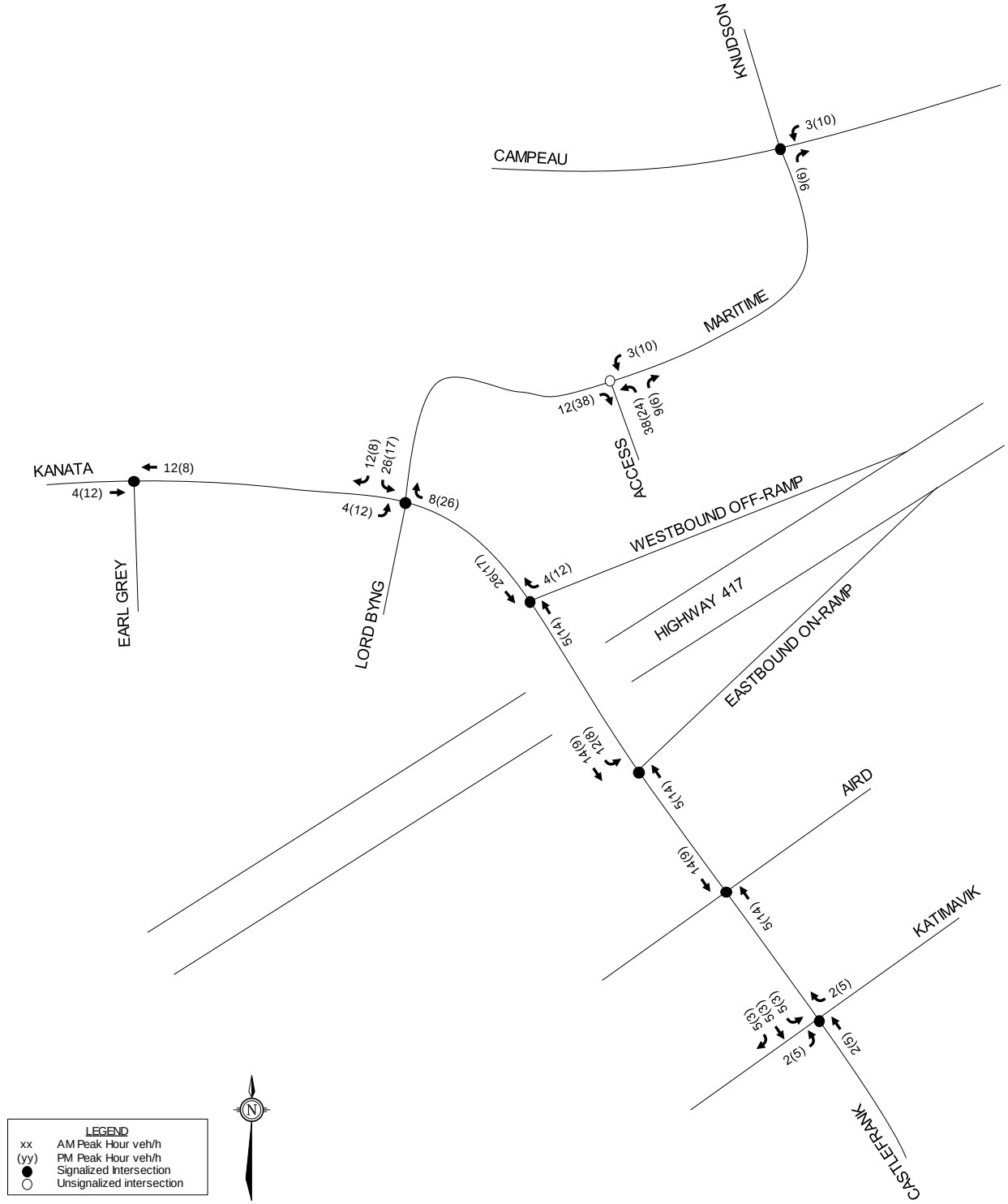


**Figure 8: Site Generated Traffic (2038 Horizon Year)**



## 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**

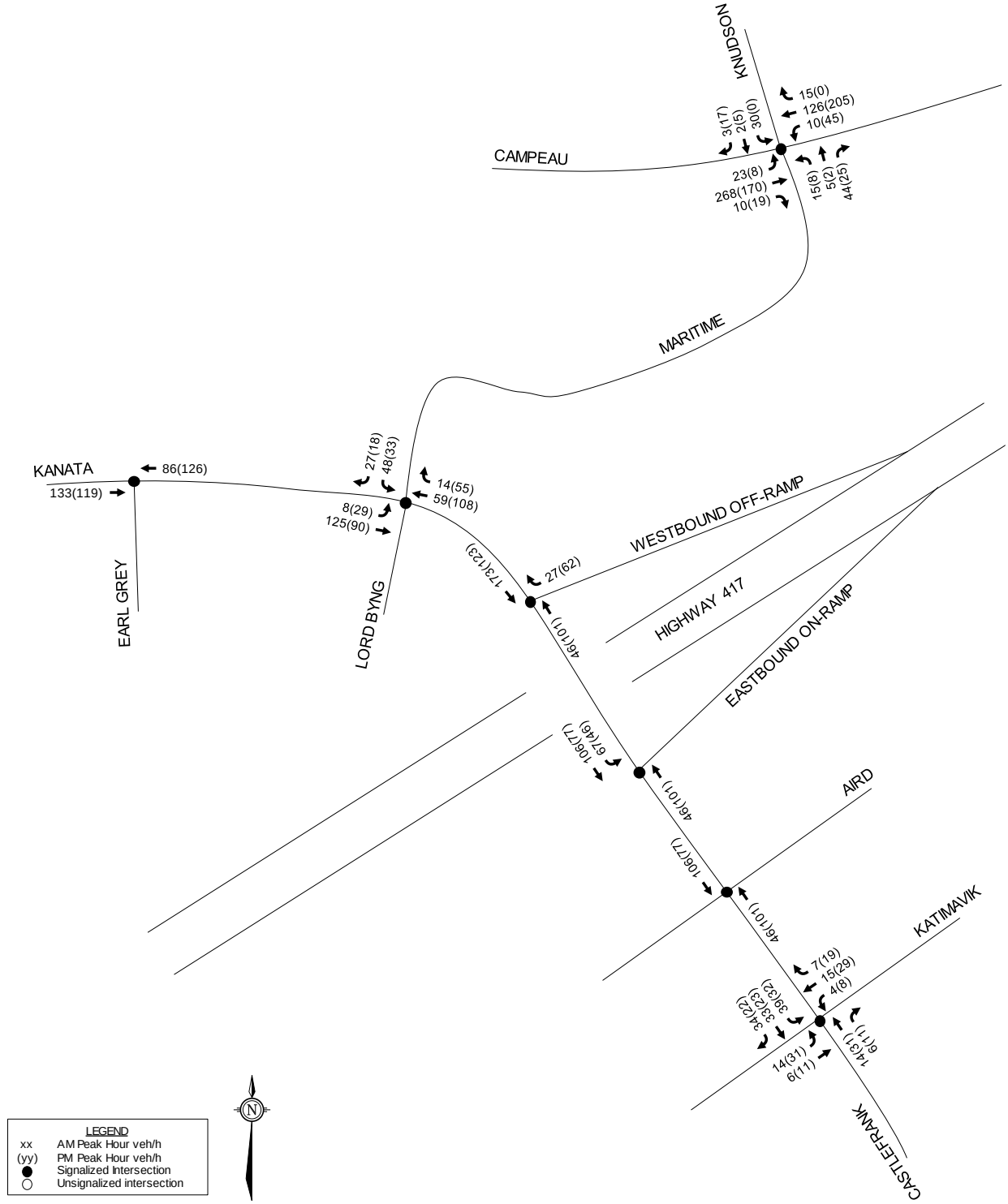


**Figure 10: 2028 Background Traffic**

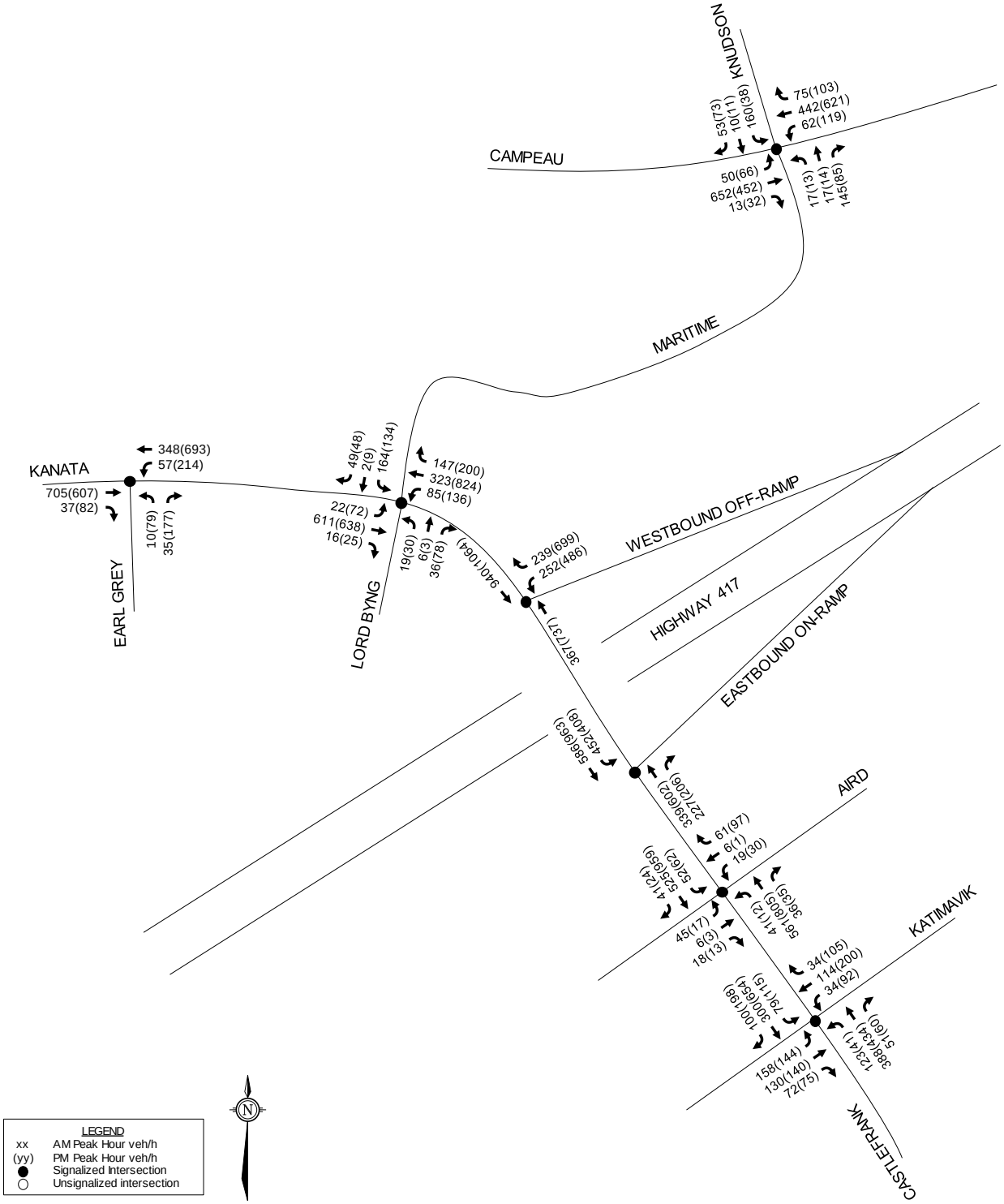


**Figure 11: 2033 Background Traffic**

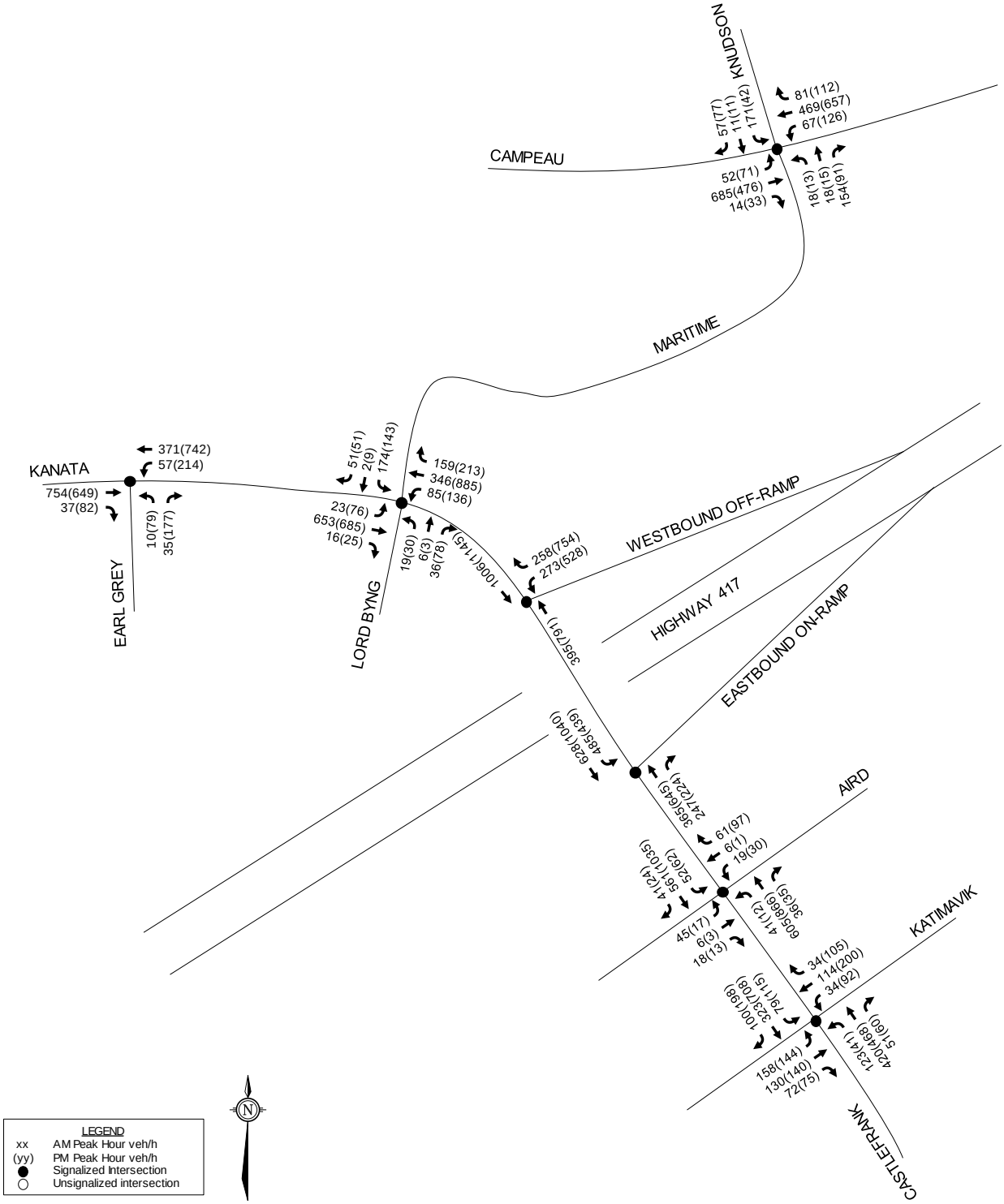


**Figure 12: 2038 Background Traffic**

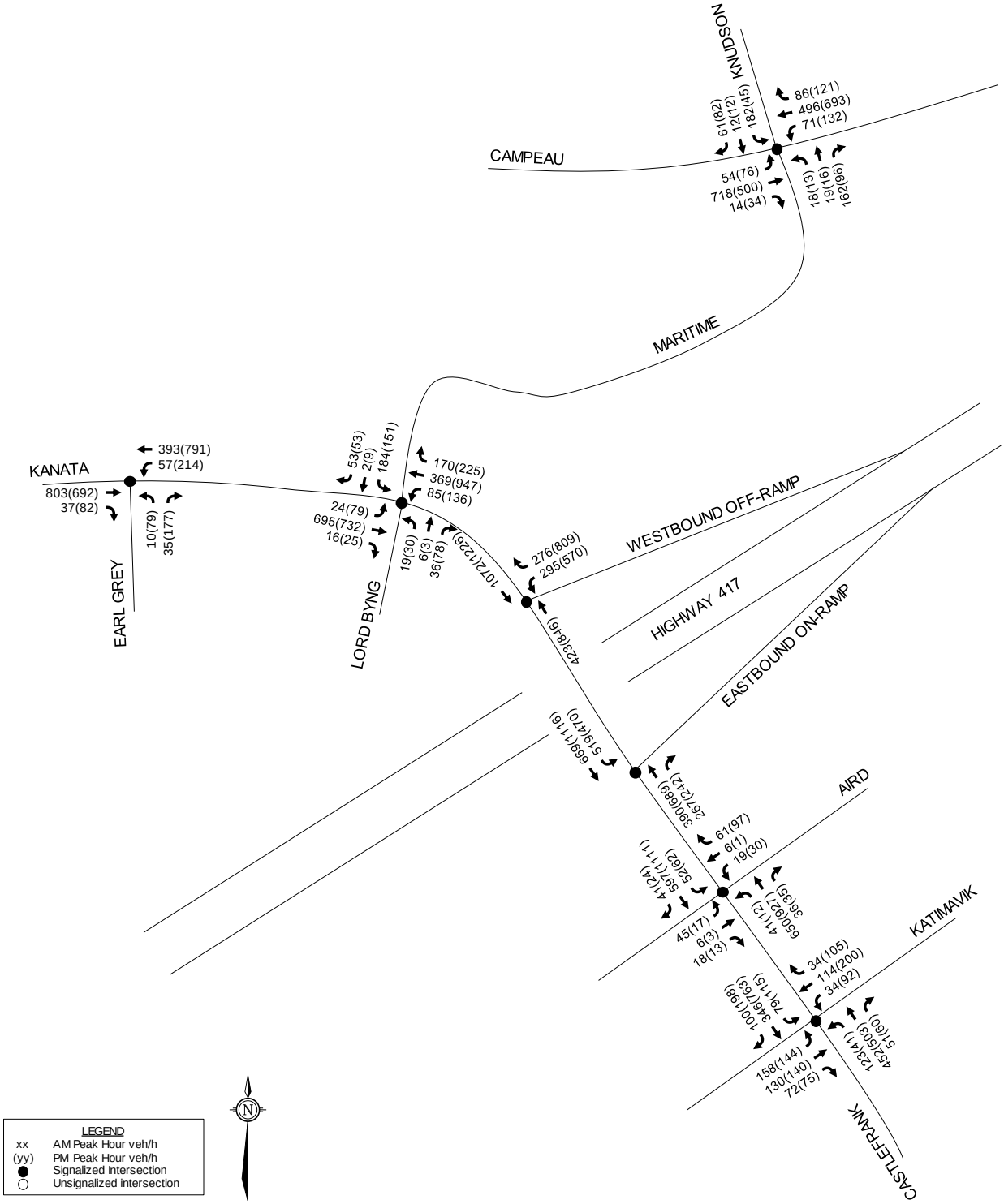


**Figure 13: 2028 Total Traffic**

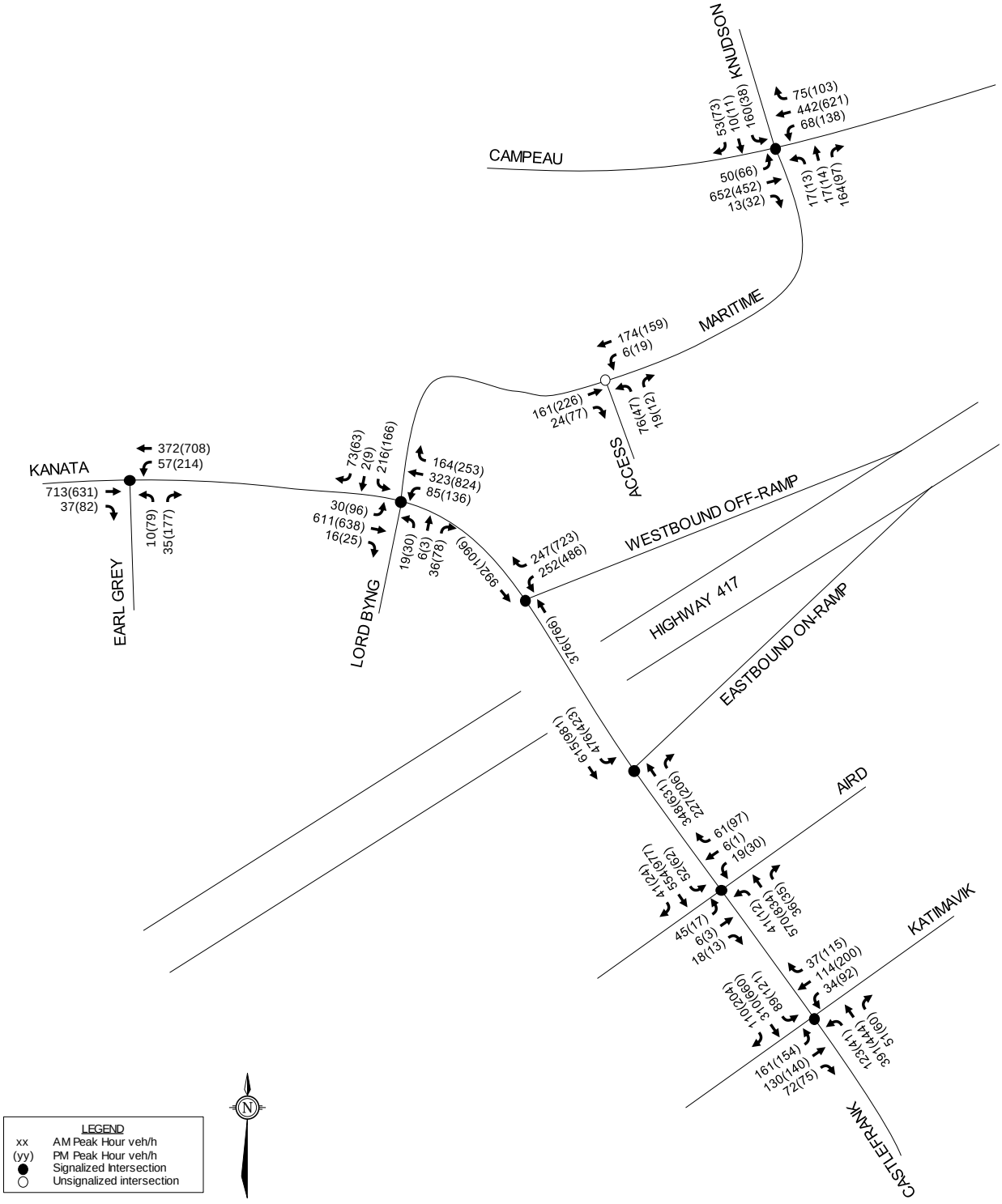


**Figure 14: 2033 Total Traffic**

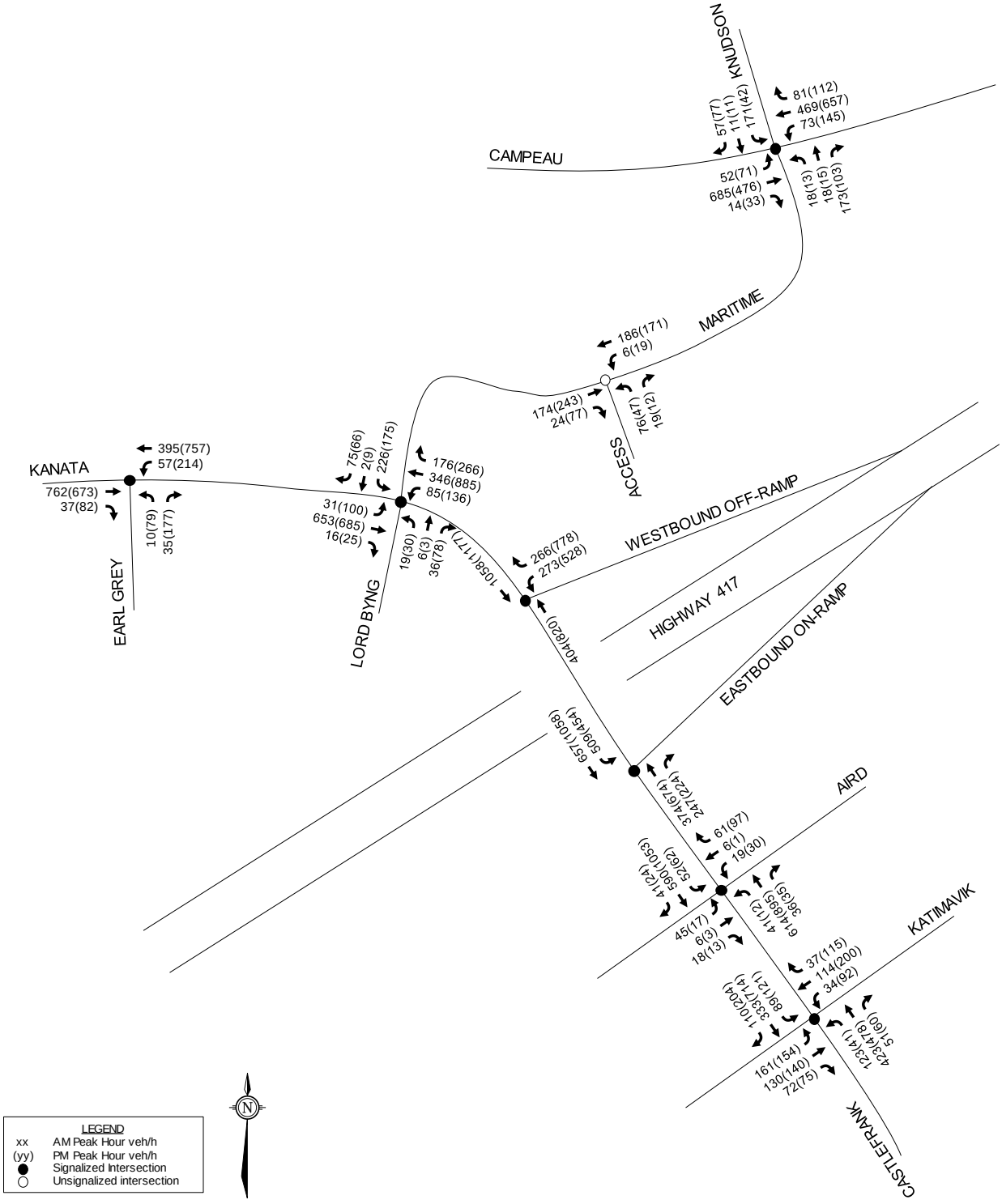
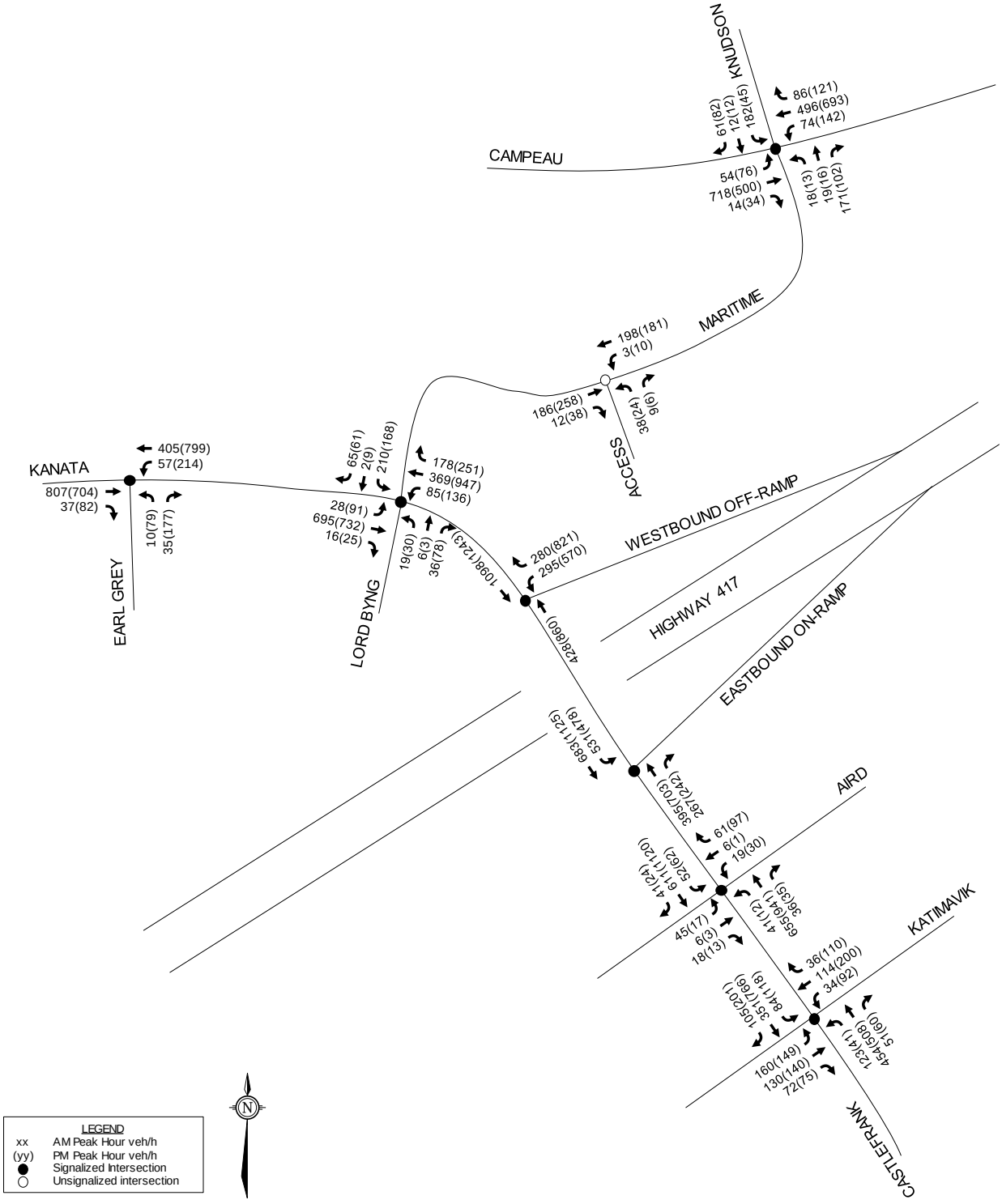


**Figure 15: 2038 Total Traffic**



### 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 6: 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. 95$^{th}$ 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 7: 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.

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 8: 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 9: 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.

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 10: 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 11: 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** |
| 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 |

| Intersection | AM Peak | | | PM Peak | | |
|---|---|---|---|---|---|---|
| | V/C Ratio | LOS | Mvmt | V/C Ratio | LOS | Mvmt |
| 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.

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 12: 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 pathways will also be provided between the main building entrances and the surface parking areas. Due to grading constraints, pathway connections to Kanata Avenue are not proposed.

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.

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 close to the street and do not locate parking areas between the street, and building entrances.
- 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 13: Parking Requirements**

| Land Use | Minimum Parking Rate | Units | Required | Provided |
|---|---|---|---|---|
| *Vehicle Parking* | | | | |
| Mid-Rise Apartments | Resident: 0.5 per unit in excess of 12 | 632 | 310 | 602 |
| | Visitor: 0.1 per unit in excess of 12 (no more than 30 per building) | | 60 | 60 |
| *Bicycle Parking* | | | | |
| Apartment Building | 0.5 per unit | 632 | 316 | 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 the Section 103 of the City's ZBL. Based on the ZBL, a maximum of 1.75 parking spaces are permitted per unit (combined total of resident and visitor), equating to a maximum of 1206 on-site parking spaces. The proposed 662 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 14: Segment MMLOS Summary**

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

Based on the foregoing, all roadways meet the target BLOS and TkLOS. However, none of the roadways meet the target PLOS A. To achieve the target PLOS A along Kanata Avenue and Maritime Way, a reduction in the curbside lane AADT to less than 3000vpd is required. This is identified for the City's consideration as funding becomes available.

### 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 6% for a distance of 9m within the property. A maximum grade of 6% will be provided for the first 9m within the property, adhering to the requirements of the PABL.

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 632 residential units consisting of 381 one-bedroom units and 251 two-bedroom units.

### 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 mode shares are: 30% auto driver, 20% auto passenger, 40% transit, and 10% non-auto.

Using the 2011 TRANS O-D Survey Report, the typical residential commuter pattern in the Kanata/Stittsville district are represented by all observed trips from/within the district during the AM peak hour and all observed trips to/within the district in the PM peak hour. Based TRANS O-D Survey Report data, 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 15: 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 | 38 | **345** |
| Southbound | 239 | 38 | **277** | 213 | 25 | **238** |
| Two-way | 373 | 50 | **489** | 520 | 63 | **583** |
| Maritime Way at Campeau Drive | | | | | | |
| Northbound | 199 | 9 | **208** | 125 | 6 | **131** |
| Southbound | 97 | 3 | **100** | 178 | 10 | **188** |
| Two-way | 296 | 12 | **308** | 303 | 16 | **319** |

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 0.86 (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 166 transit trips (40 in, 126 out) during the weekday AM peak hour and 207 transit trips (128 in, 79 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 271 transit trips (65 in, 206 out) during the weekday AM peak hour and 336 transit trips (208 in, 128 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 16: 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<br>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<br>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<br>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<br>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<br>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 17: 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<br>north of Earl Grey Dr | | | | | |
| Northbound | 1,600 | 415 *(878)* | 0.26 *(0.55)* | A *(A)* | 0 *(0)* |
| Southbound | 1,600 | 844 *(786)* | 0.53 *(0.49)* | A *(A)* | 0 *(0)* |
| *South Screenline* | | | | | |
| Castlefrank Rd<br>South of Katimavik Rd | | | | | |
| Northbound | 800 | 628 *(609)* | 0.79 *(0.76)* | C *(C)* | 0 *(0)* |
| Southbound | 800 | 457 *(933)* | 0.57 *(1.17)* | A *(F)* | 0 *(133)* |
| *East Screenline* | | | | | |
| Campeau Dr<br>East of Maritime Way | | | | | |
| Eastbound | 800 | 1,071 *(647)* | 1.34 *(0.81)* | F *(D)* | 271 *(0)* |
| Westbound | 800 | 629 *(956)* | 0.79 *(1.20)* | C *(F)* | 0 *(156)* |
| Katimavik Rd<br>East of Castlefrank Rd | | | | | |
| Eastbound | 800 | 265 *(318)* | 0.33 *(0.40)* | A *(A)* | 0 *(0)* |
| Westbound | 800 | 184 *(402)* | 0.23 *(0.50)* | A *(A)* | 0 *(0)* |
| *West Screenline* | | | | | |
| Katimavik Rd<br>West of Castlefrank Rd | | | | | |
| Eastbound | 800 | 362 *(364)* | 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 18: 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 | - | 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. This is 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 and zebra striped crosswalks will be implemented on all legs. This is 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 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 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. Based on the existing northbound right turning volumes (170-195 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.

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 19: 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 | **1.09** | **F** | **SBL** |
| Kanata Avenue/ Highway 417 WB Off Ramp | 0.71 | C | WBL | **0.99** | **E** | **WBR** |
| | | | | **1.01** | **F** | **NB** |
| Kanata Avenue/ Highway 417 EB On Ramp | 0.56 | A | SBL | 0.63 | 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. However, 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.

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 20: 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[1] | - | - | - | 0.92 | E | WBL |
| Kanata Avenue/ Highway 417 WB Off Ramp | 0.69 | B | WBL | 0.75 | C | WBL |

The proposed development is anticipated to generate 85 new vehicle trips at the Kanata Avenue/Highway 417 Westbound Off-ramp intersection, 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 21: 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 | **1.08** | **F** | **NB** |
| | | | | **1.08** | **F** | **WBR** |
| Kanata Avenue/ Highway 417 EB On Ramp | 0.61 | B | SBL | 0.68 | B | SBL |
| Kanata Avenue/ Aird Place | 0.49 | A | NBT/R | 0.80 | C | SBT/R |
| 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 | 0.65 | 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.

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 22: 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 23: 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 | 0.79 | 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 | 0.69 | 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.

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 24: 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 | 0.84 | 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 43 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 pathways will also be provided between the main building entrances and the surface parking areas. Due to grading constraints, pathway connections to Kanata Avenue are not proposed.
- All required TDM-supportive design and infrastructure measures in the TDM checklist are met.
- 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.

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 BLOS and TkLOS. However, none of the roadways meet the target PLOS A.
- To achieve the target PLOS A along Kanata Avenue and Maritime Way, a reduction in the curbside lane AADT to less than 3000vpd is required. This is identified for the City's consideration as funding becomes available.

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, location, and grading of the proposed access will adhere to the requirements of the PABL and ZBL.

- 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 166 transit trips (40 in, 126 out) during the weekday AM peak hour and 207 transit trips (128 in, 79 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 271 transit trips (65 in, 206 out) during the weekday AM peak hour and 336 transit trips (208 in, 128 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.

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.

**NOVATECH**

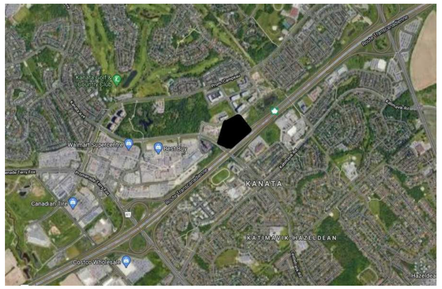
Prepared by:




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 | 3.05 m / 3.09 m |
| Min Corner Side Yard Setback | no minimum | 16.74 m |
| Min FSI | 2 | +/- 4.88 |
| Min Interior Side Yard Setback | no minimum | 14.70 m / 15.13 m |

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

## RENTAL - EAST TOWER

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

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

## RENTAL - WEST TOWER

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

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

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




NOTES GÉNÉRALES General Notes

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3. Veuillez aviser l'architecte de toute dimension erreur et/ou divergences entre ces documents et ceux des autres professionnels. / The architect must be notified of all errors, omissions and discrepancies between these documents and those of the others professionnals.
4. Les dimensions sur ces documents doivent être lues et non mesurées. / The dimensions on these documents must be read and not measured.


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

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

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

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


**SCEAU** / Seal

NEUF
ARCHITECT(E)S
NEUF ARCHITECTES SENCRL

CLIENT Client

CLARIDGE HOMES

OUVRAGE Project

# 1200 MARITIME WAY (KANATA RENTAL)

EMPLACEMENT Location
OTTAWA

NO PROJET No.
12371.00

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

DESSINÉ PAR Drawn by
PV

VÉRIFIÉ PAR Checked
LH

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

ÉCHELLE Scale
1 : 300

TITRE DU DESSIN Drawing Title

# SITE PLAN AT GROUND FLOOR LEVEL

RÉVISION Revision
F

NO. DESSIN Dwg Number
A203

C:\Fichiers Revit Locaux\12371_ARCH_OPTION 4_R20_pascalvendette.rvt

# 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.**

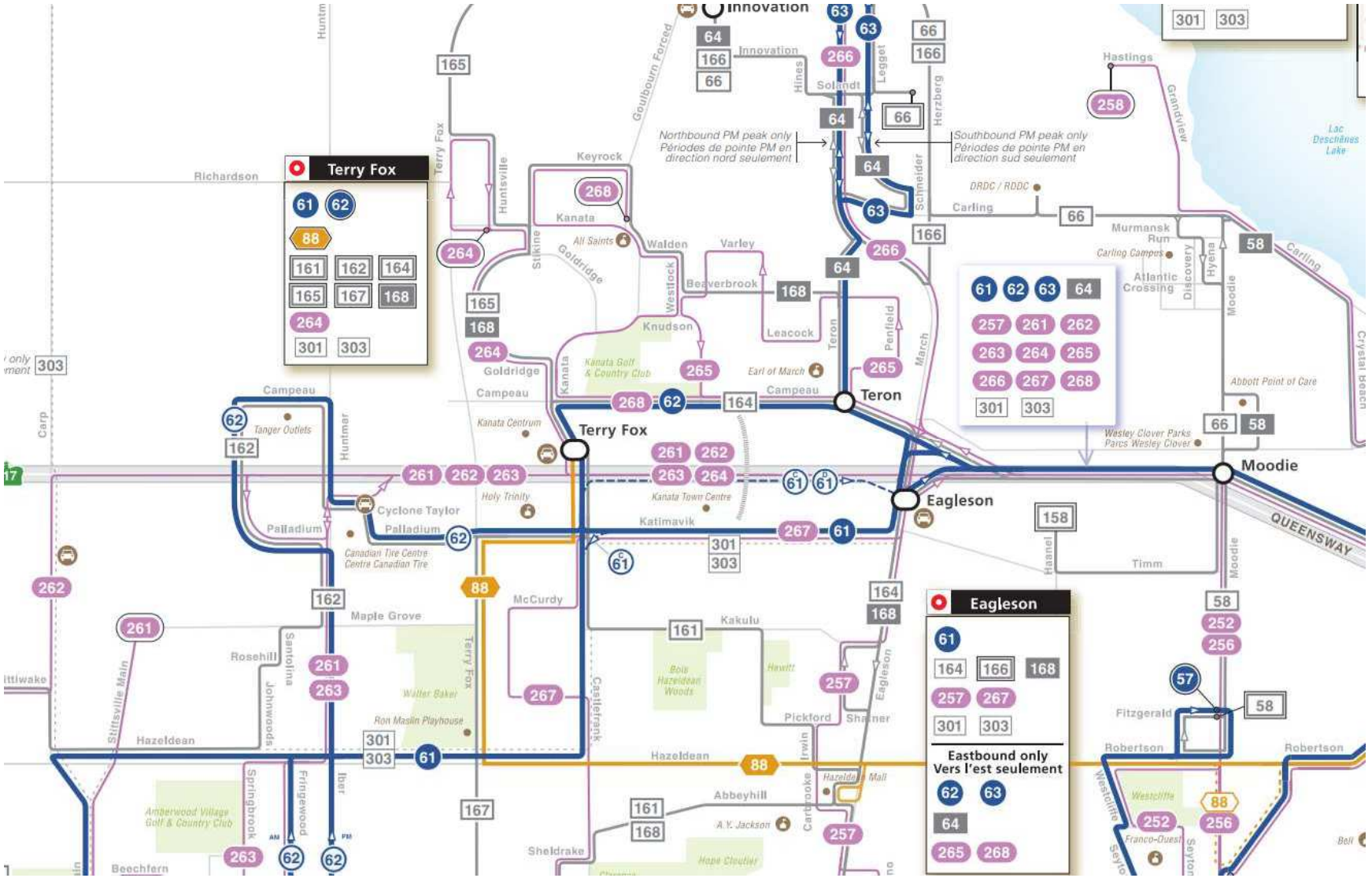
## 5. Summary

| | 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

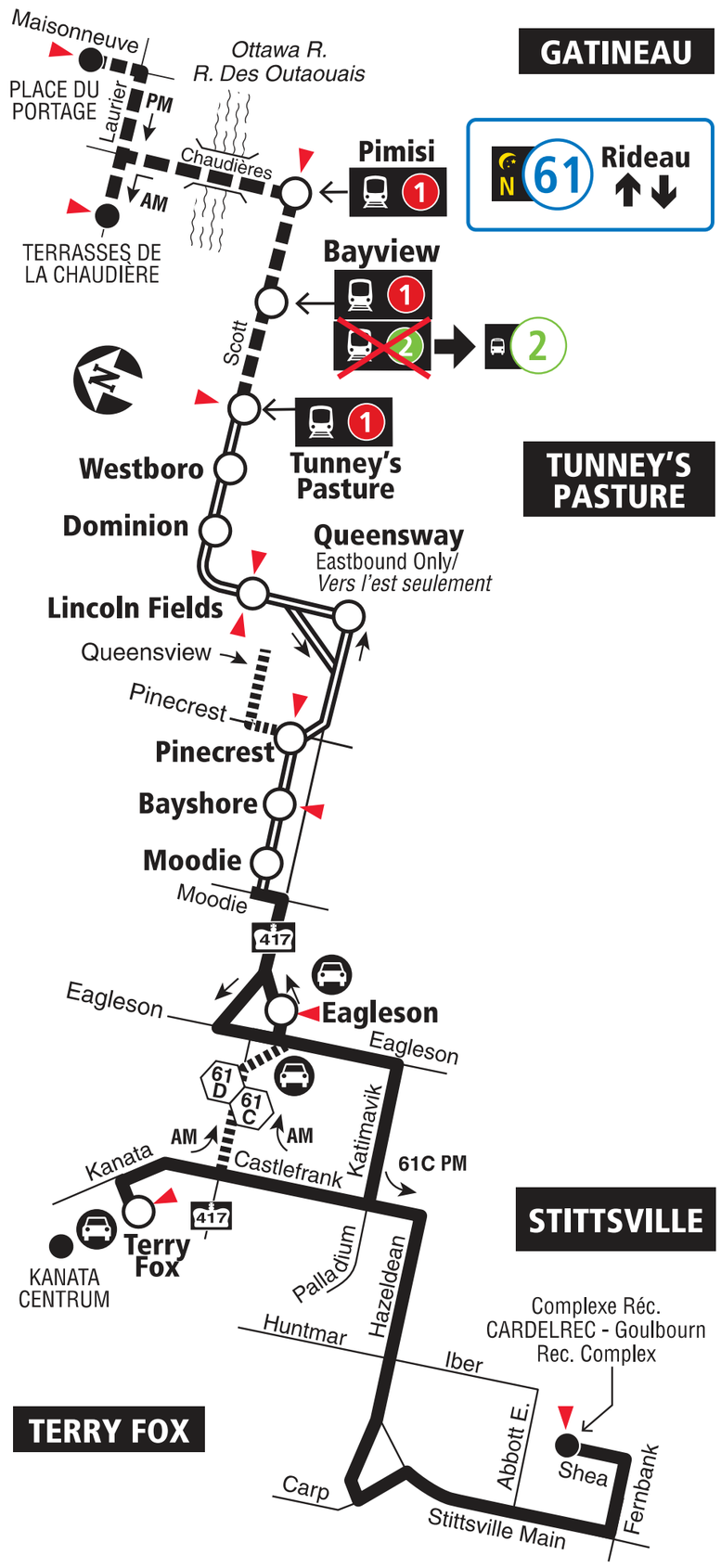

Terry Fox
61 62
88
161 162 164
165 167 168
264
301 303
Eagleson
61
164 166 168
257 267
301 303
Eastbound only
Vers l'est seulement
62 63
64
265 268
61 62 63 64
257 261 262
263 264 265
266 267 268
301 303
Northbound PM peak only
Périodes de pointe PM en direction nord seulement
Southbound PM peak only
Périodes de pointe PM en direction sud seulement
Innovation
Solandt
Hastings
Lac Deschênes Lake
Richardson
Keyrock
Kanata
Walden
Varley
Beaverbrook
Knudson
Leacock
Teron
Goldridge
Campeau
Kanata Centrum
Terry Fox
Kanata Town Centre
Katimavik
Kakulu
Eagleson
Moodie
Carling
DRDC / RDDC
Murmansk Run
Carling Campus
Atlantic Crossing
Abbott Point of Care
Wesley Clover Parks
Parcs Wesley Clover
Tanger Outlets
Cyclone Taylor
Palladium
Canadian Tire Centre
Centre Canadian Tire
Holy Trinity
Maple Grove
Rosehill
Hazeldean
Walter Baker
Ron Maslin Playhouse
McCurdy
Castlefrank
Pickford
Shearer
Abbeyhill
A.Y. Jackson
Sheldrake
Amberwood Village Golf & Country Club
Beechfern
Timm
Fitzgerald
Robertson
Westcliffe
Franco-Ouest
Bell
QUEENSWAY

# 61 Rapide

## TERRY FOX STITTSVILLE
## TUNNEY'S PASTURE GATINEAU

**7 days a week / 7 jours par semaine**

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




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

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

2020.05

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

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

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

Security / Sécurité ..... **613-741-2478**

**Effective May 3, 2020**
**En vigueur 3 mai 2020**

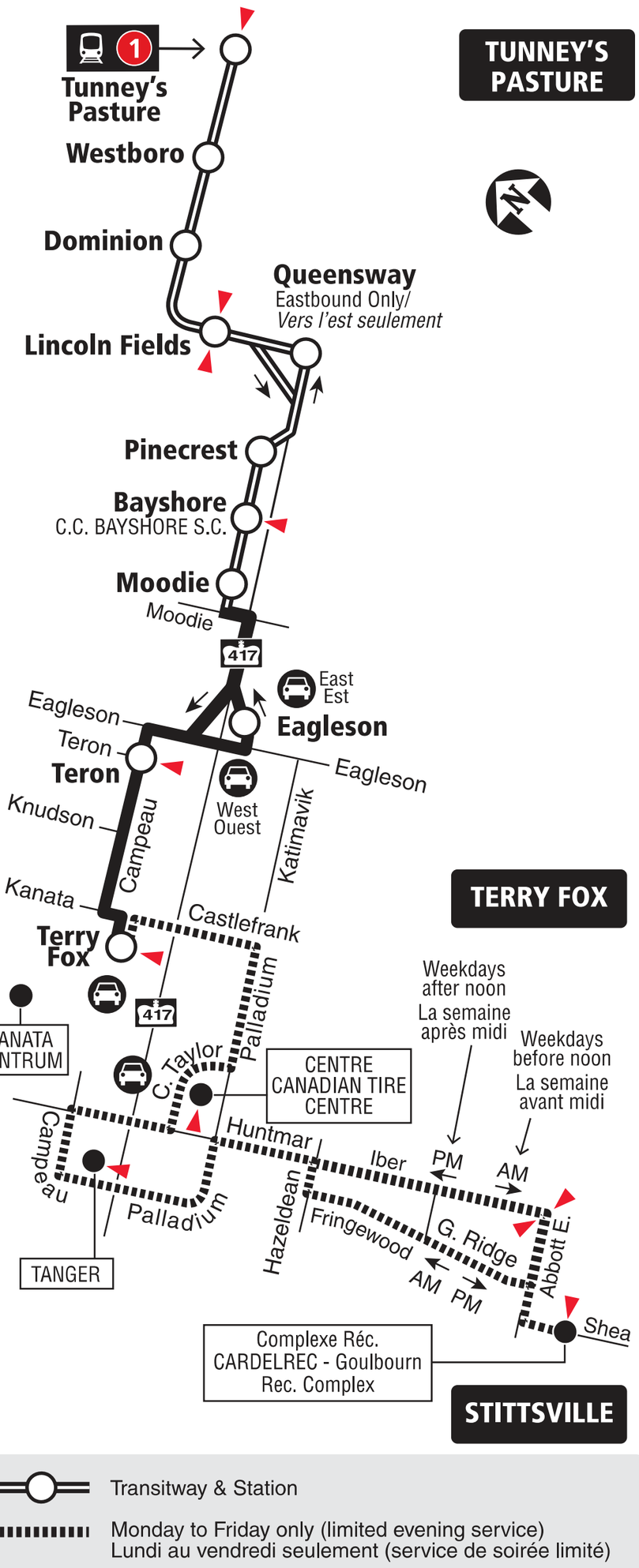
OC Transpo
**INFO 613-741-4390**
**octranspo.com**

# 62 Rapide

# TERRY FOX STITTSVILLE
# TUNNEY'S PASTURE

## 7 days a week / 7 jours par semaine

All day service
Service toute la journée




Transitway & Station

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

Park & Ride / Parc-o-bus

Timepoint / Heures de passage

2019.07

**Starting July 14, 2019**
**À partir du 14 juillet 2019**

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

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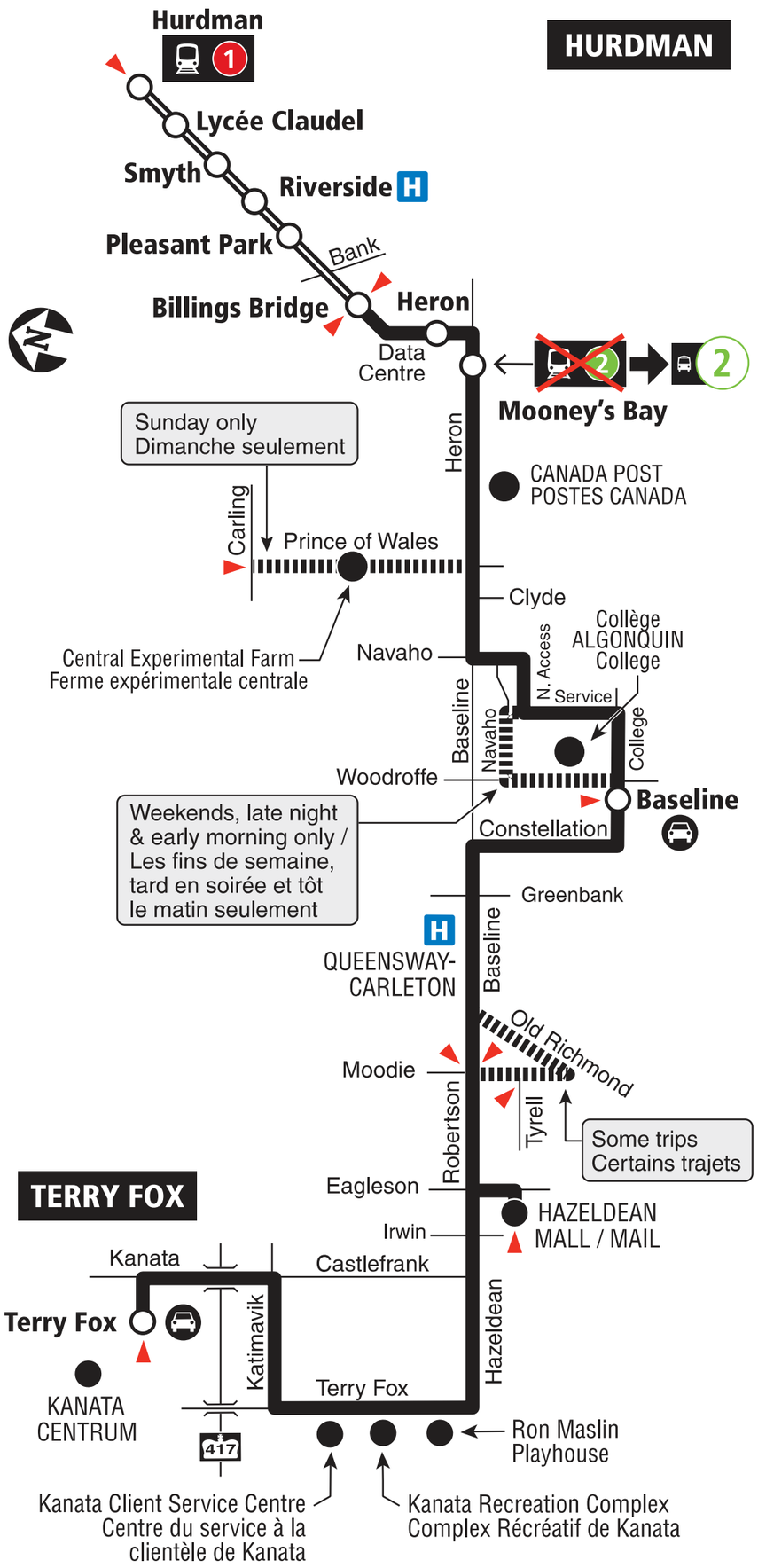
# 88

## HURDMAN
## TERRY FOX

*Fréquent*

**7 days a week / 7 jours par semaine**

All day service
Service toute la journée




Transitway & Station

Limited service / Service limité

Park & Ride / Parc-o-Bus

Timepoint / Heures de passage

2020.05

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

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

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

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

Security / Sécurité ..... **613-741-2478**

**Effective May 3, 2020**
**En vigueur 3 mai 2020**

OC Transpo

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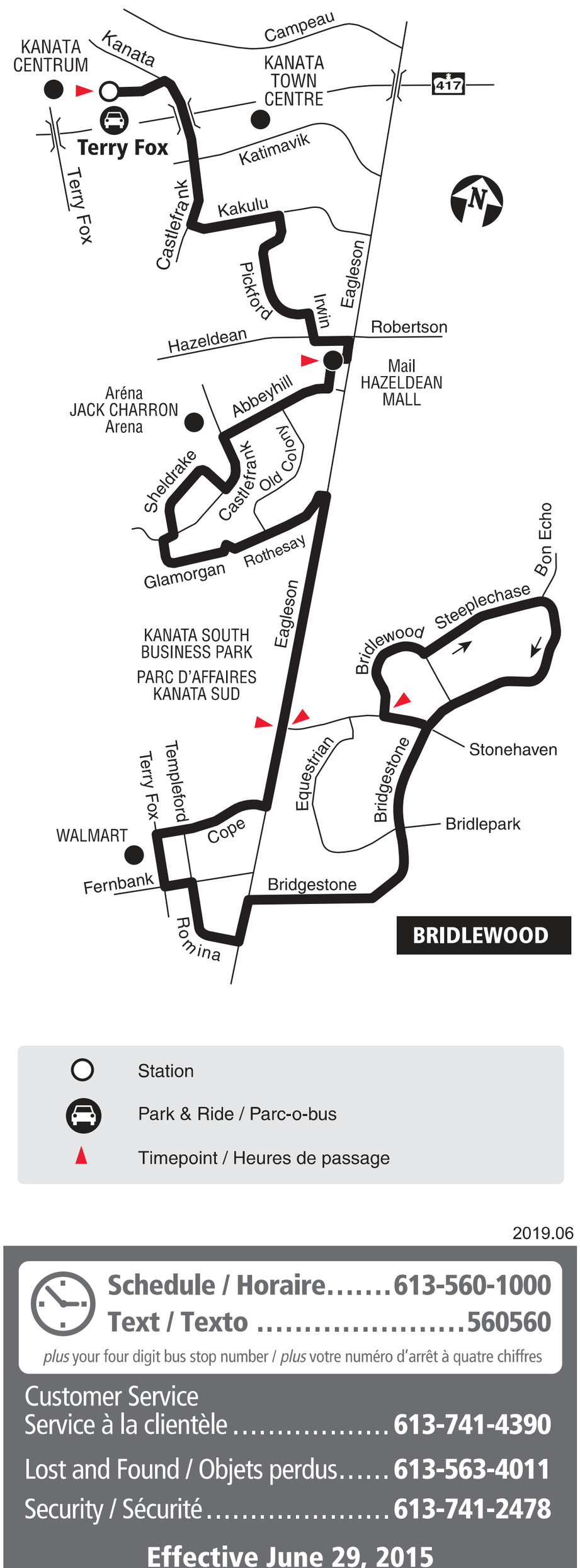
# 161

## 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**

OC Transpo

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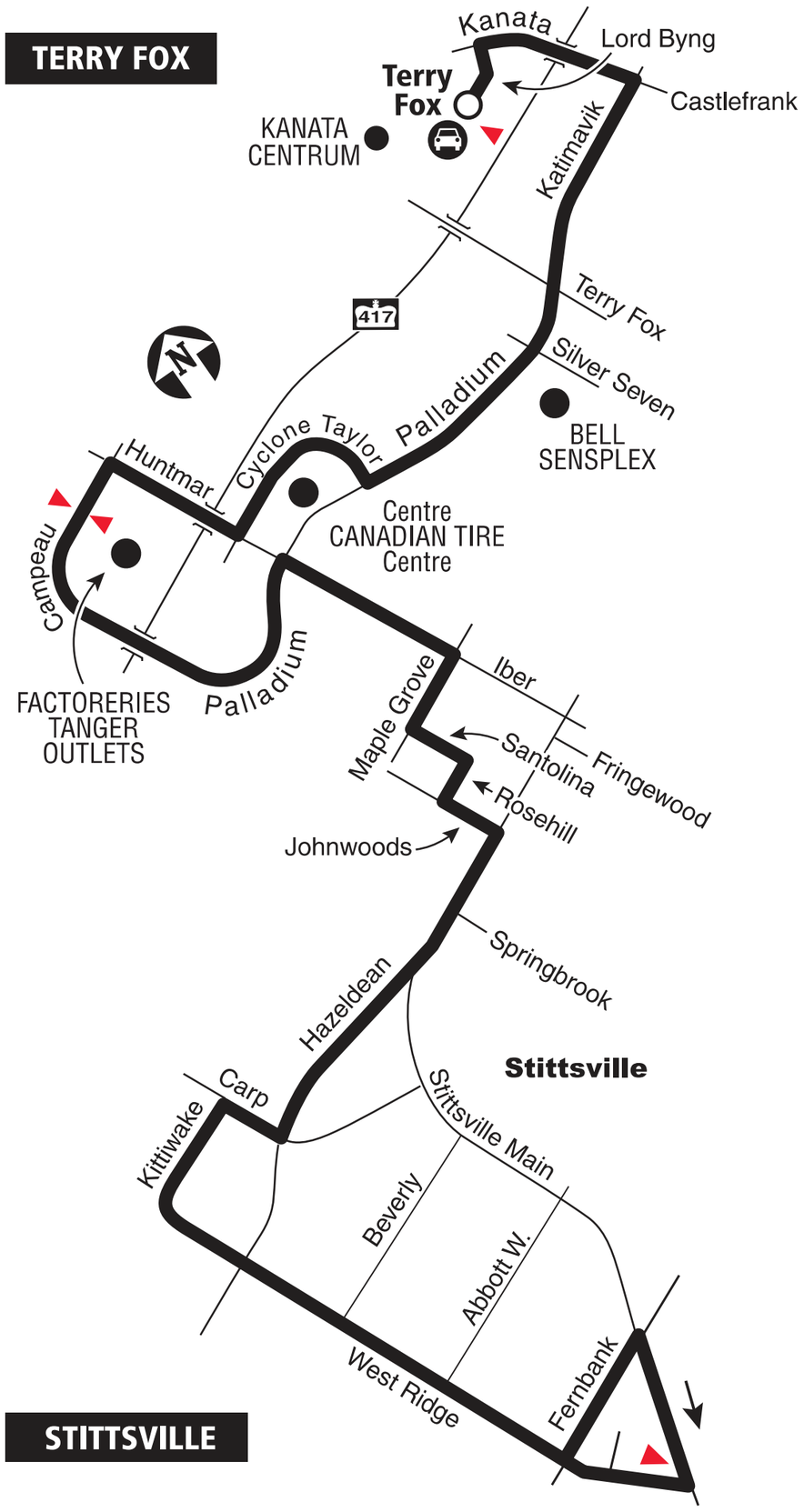
# 162

## 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

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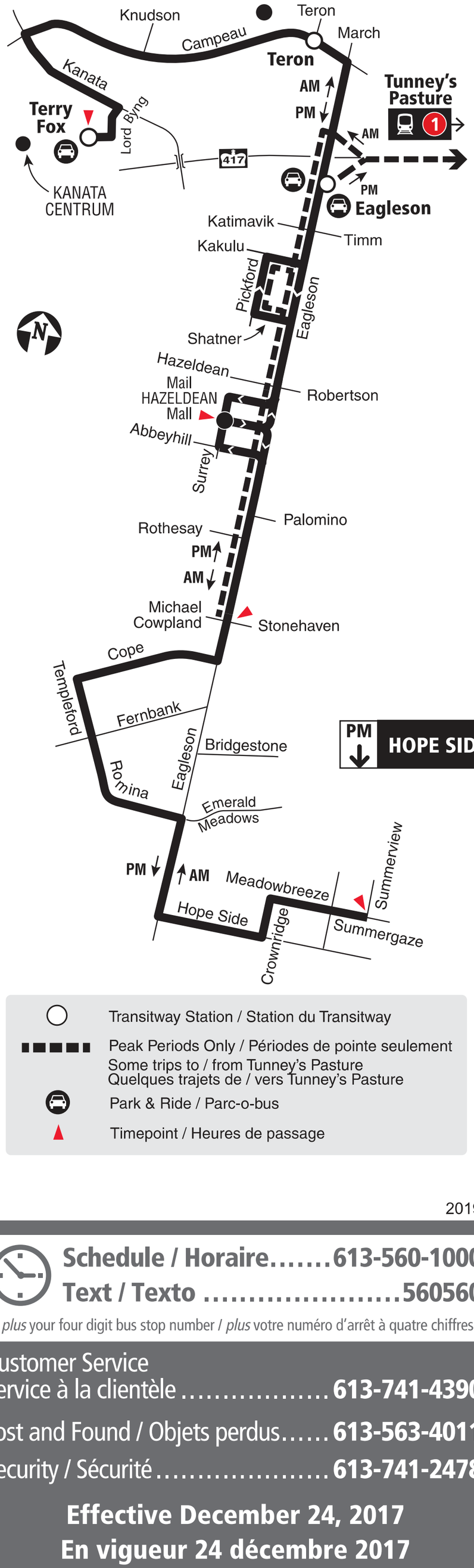
# 164 Local

## TERRY FOX
## HOPE SIDE

### Monday to Friday/ Lundi au vendredi

Peak periods only
Périodes de pointe seulement

**AM TERRY FOX**




**PM HOPE SIDE**

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

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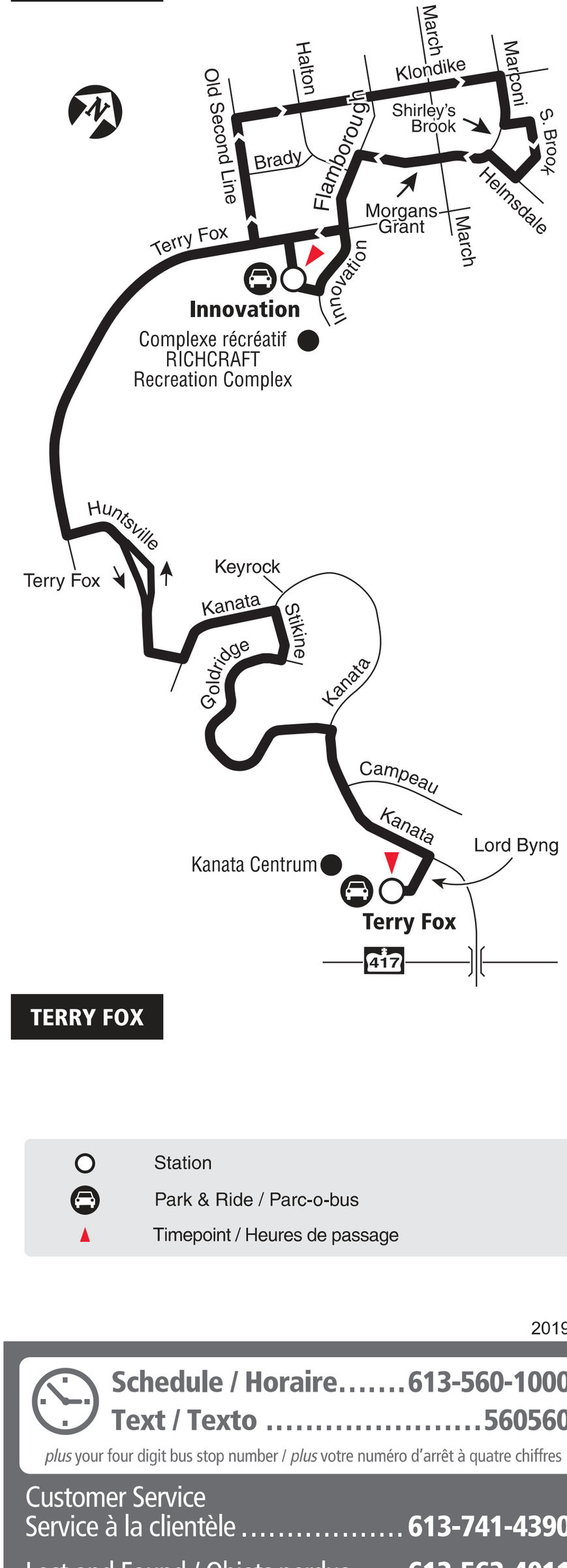
# 165 Local

## 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**

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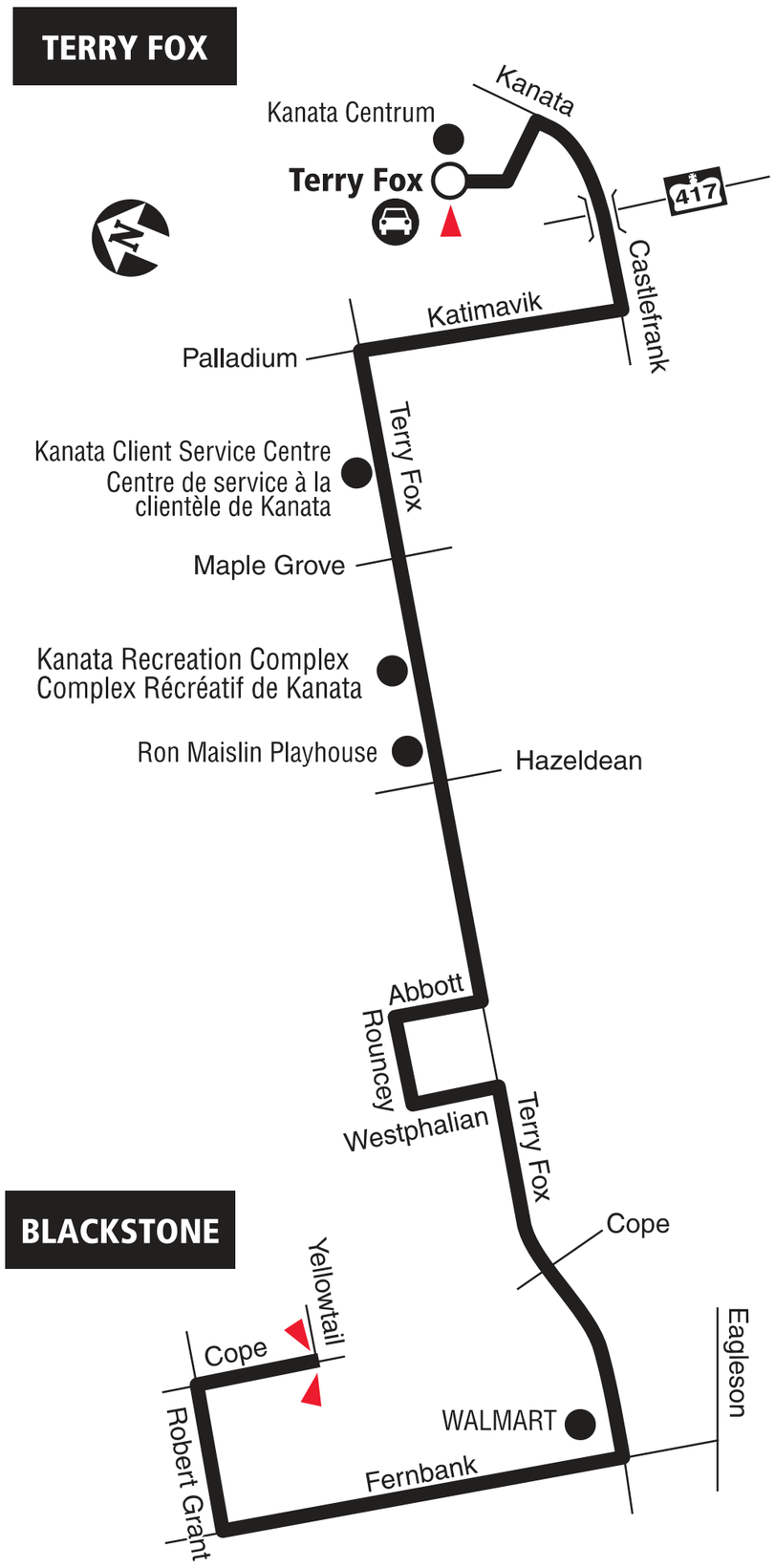
# 167

## TERRY FOX
## BLACKSTONE

*Local*

**Monday to Friday/ Lundi au vendredi**

Selected time periods
Périodes selectionnées




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 December 24, 2017**
**En vigueur 24 décembre 2017**

OC Transpo

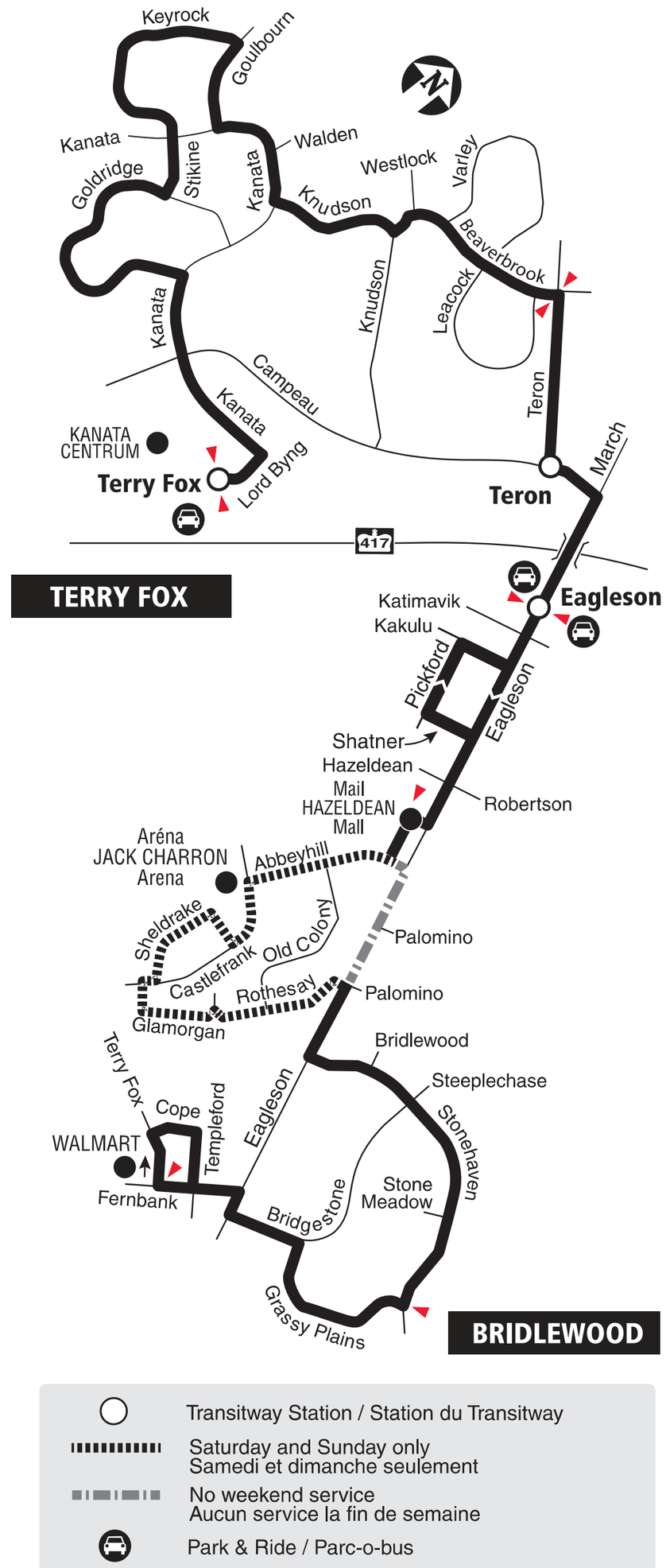
**INFO 613-741-4390**
**octranspo.com**

# 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<br>Samedi et dimanche seulement |
| ▮ ▮ ▮ ▮ ▮ | No weekend service<br>Aucun service la fin de semaine |
| P | Park & Ride / Parc-o-bus |
| ▲ | Timepoint / Heures de passage |

2019.06

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

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

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

Security / Sécurité..... **613-741-2478**

**Effective December 24, 2017**
**En vigueur 24 décembre 2017**

OC Transpo

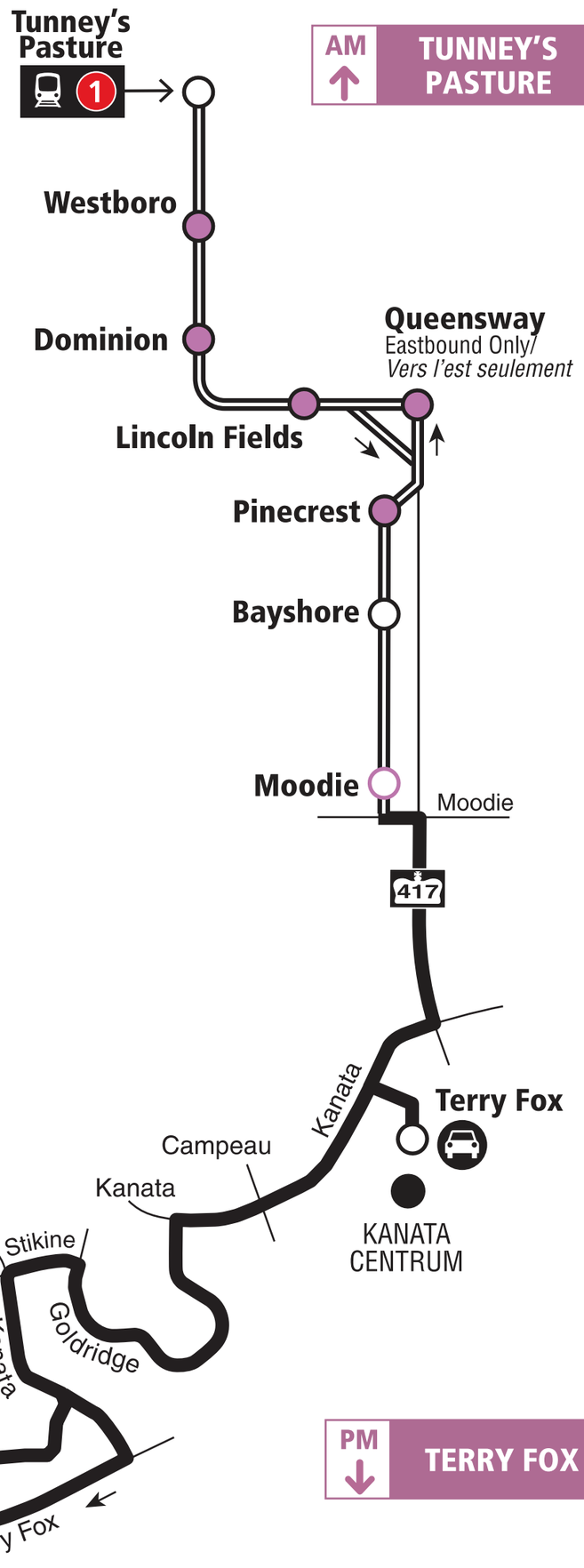
**INFO 613-741-4390**
**octranspo.com**

# 264 Connexion

# TERRY FOX
# TUNNEY'S PASTURE

## Monday to Friday / Lundi au vendredi

Peak periods only
Périodes de pointe seulement




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

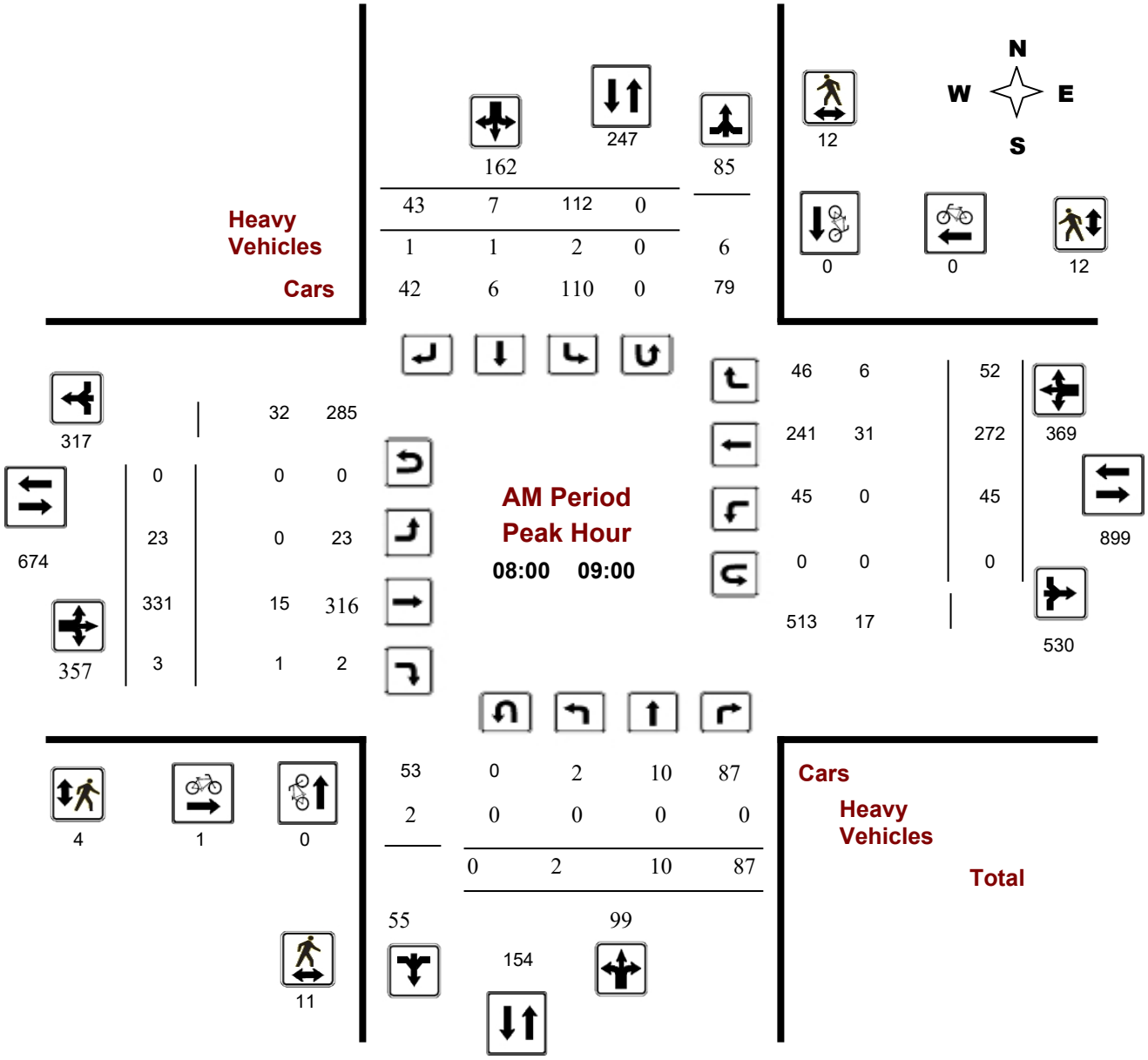
# Transportation Services - Traffic Services

## 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

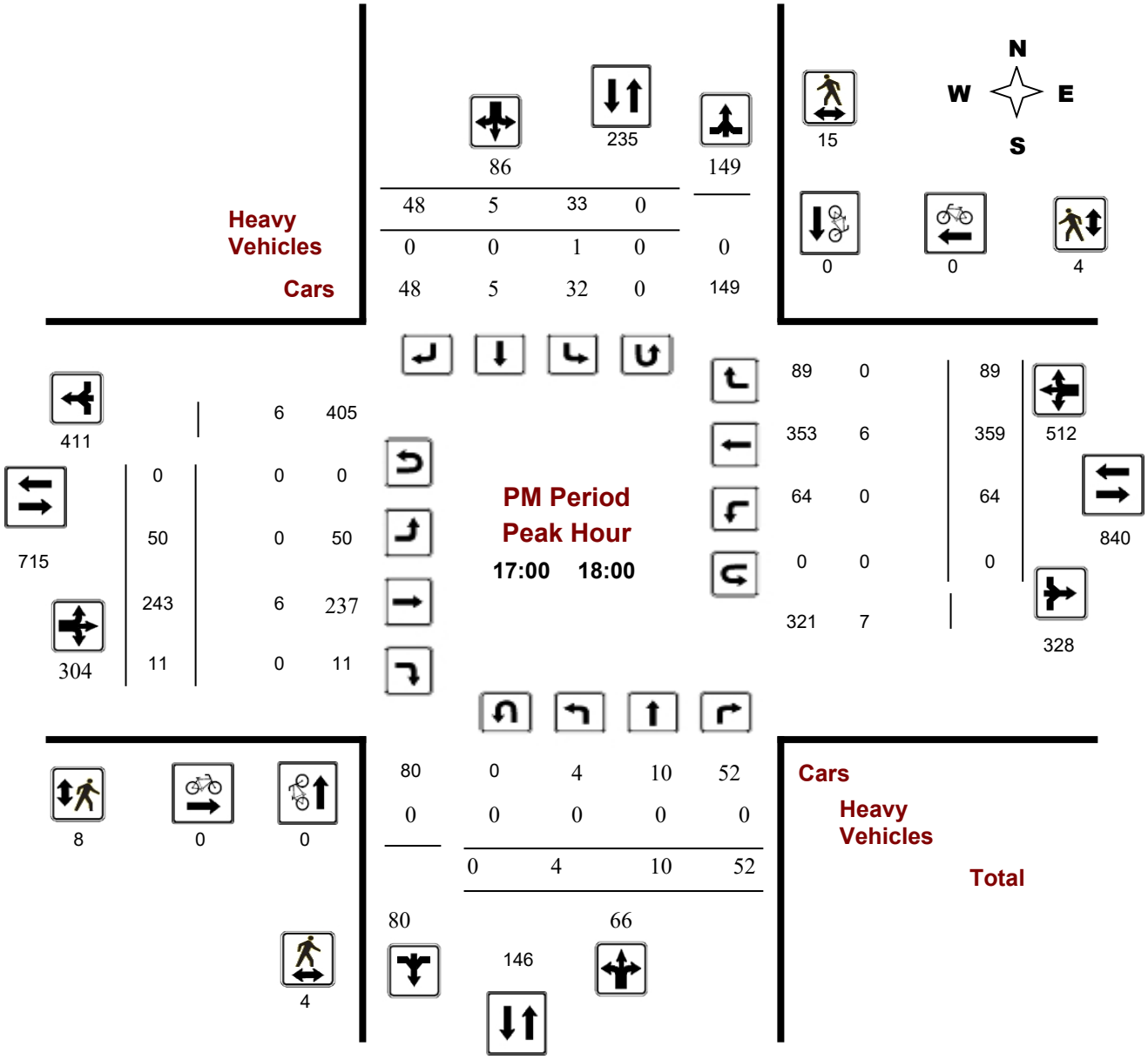
# Transportation Services - Traffic Services

## 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

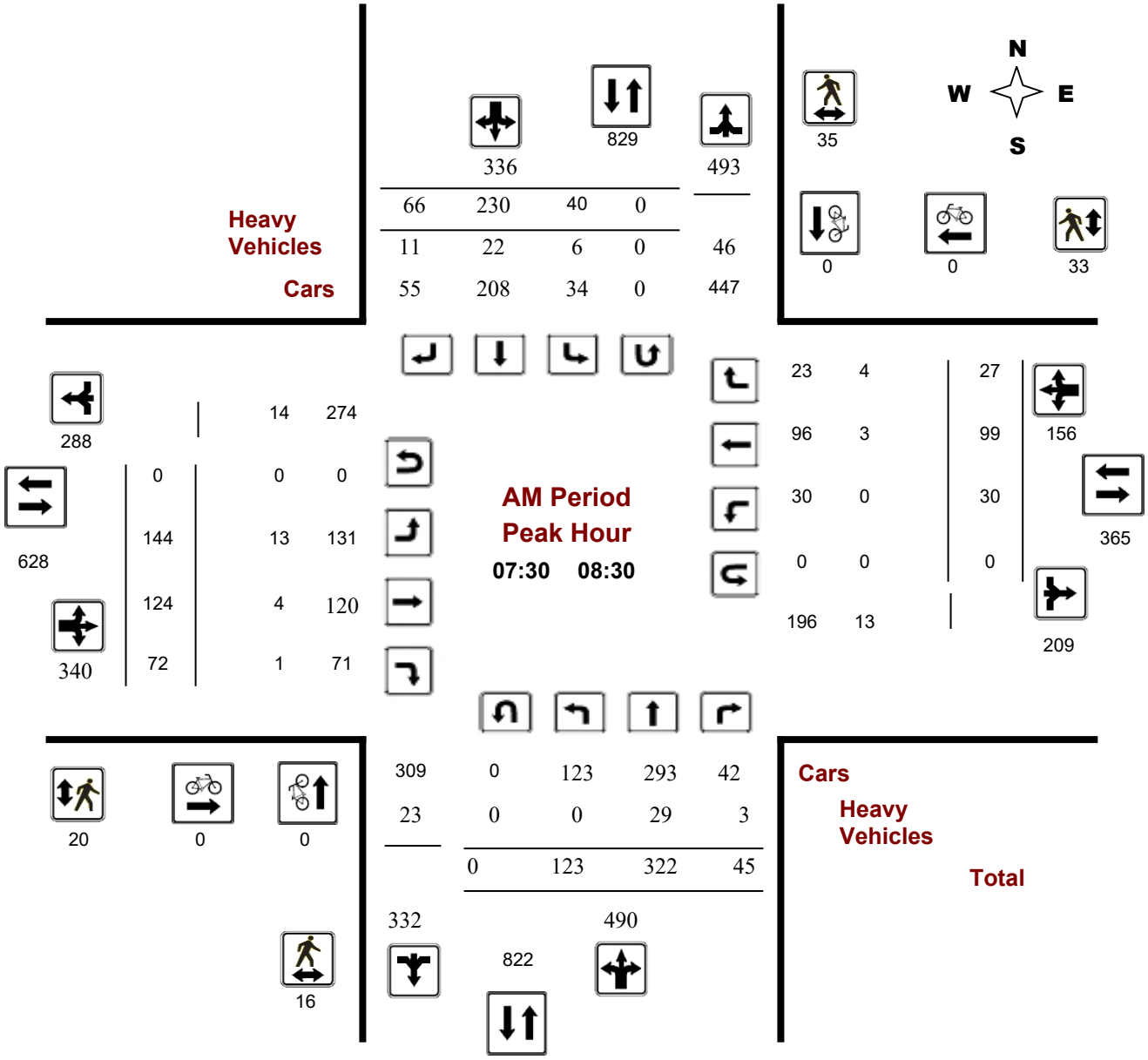
# Transportation Services - Traffic Services

## 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**

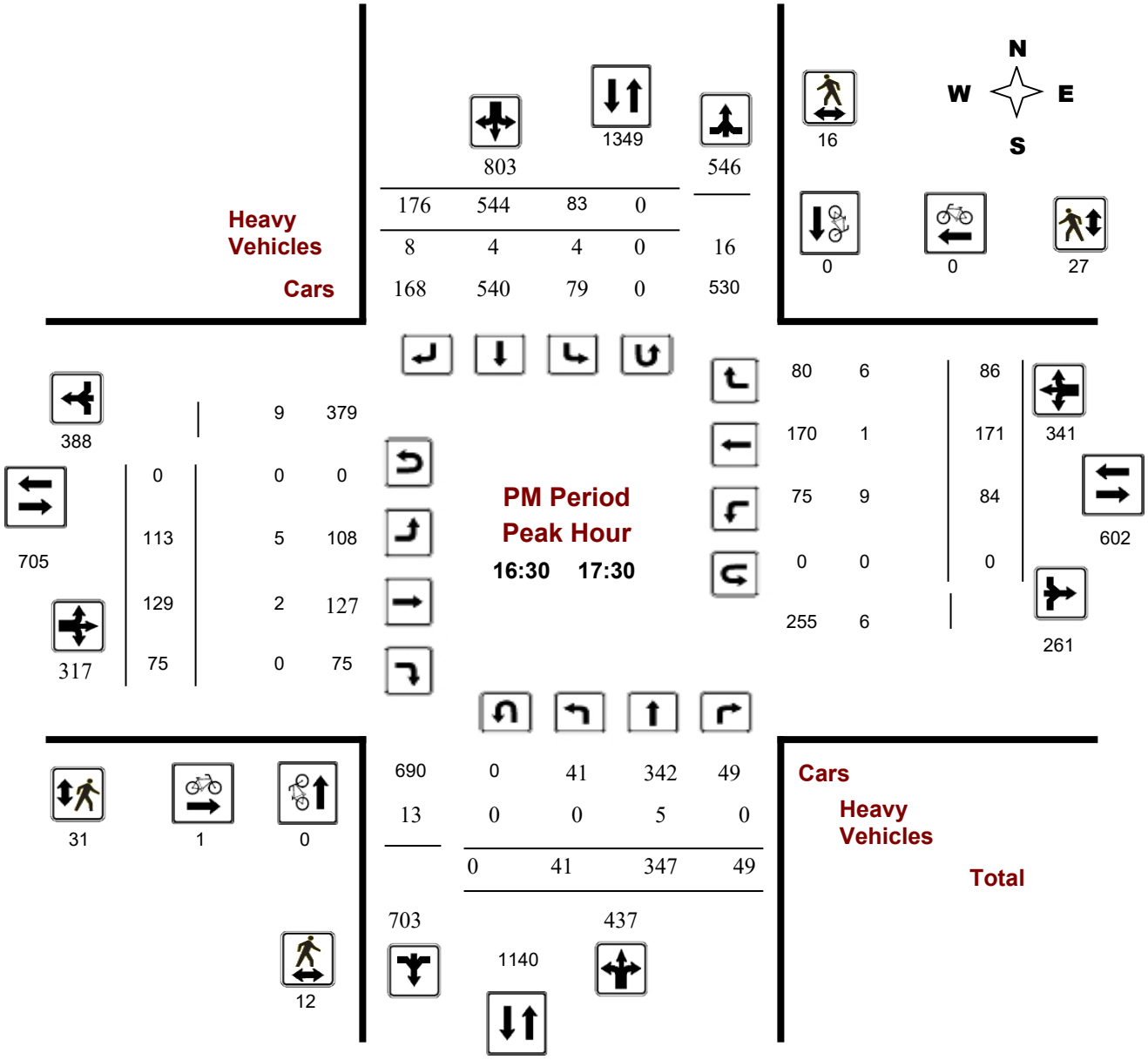
# Transportation Services - Traffic Services

## 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**

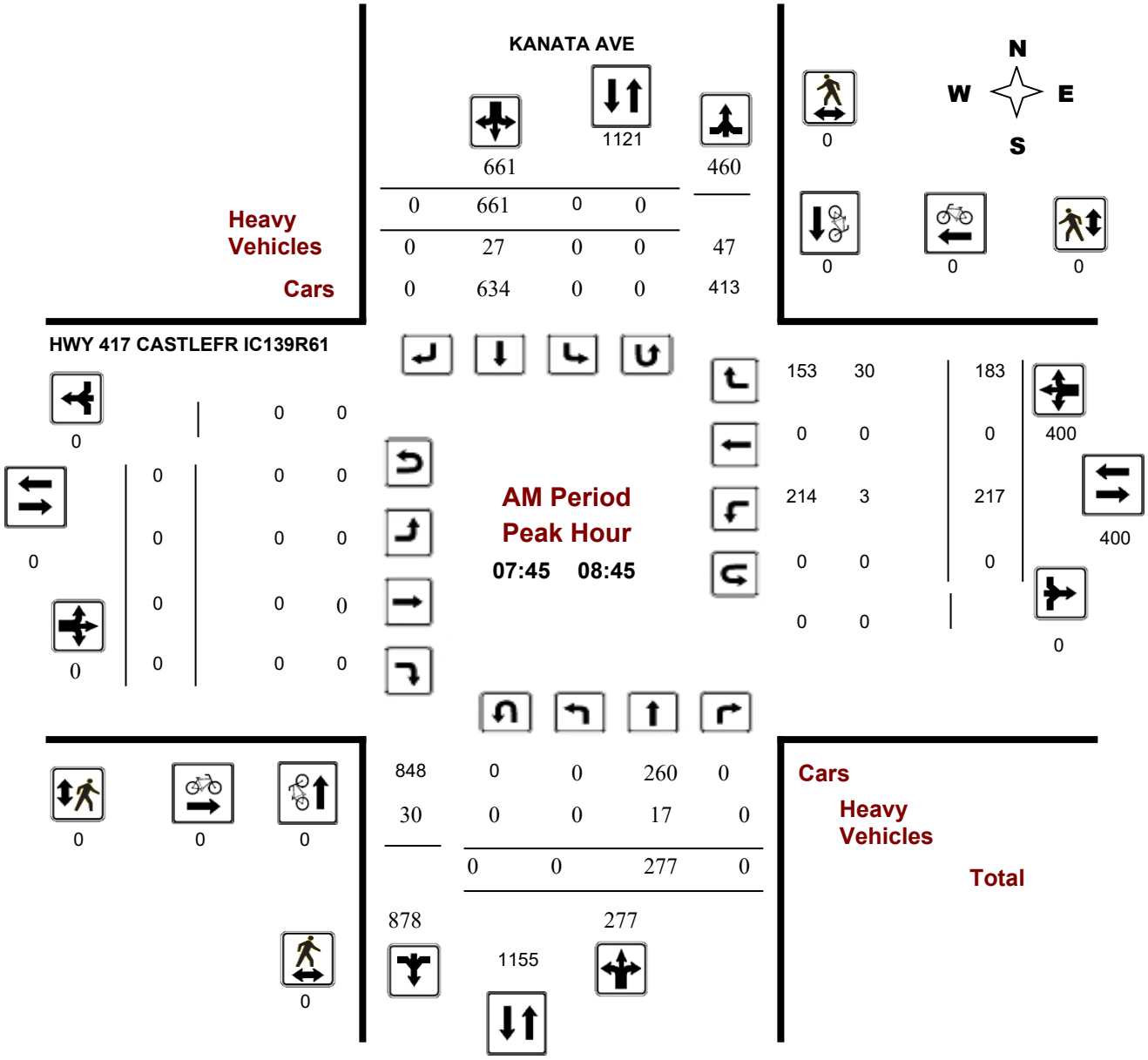
# Transportation Services - Traffic Services

## 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**

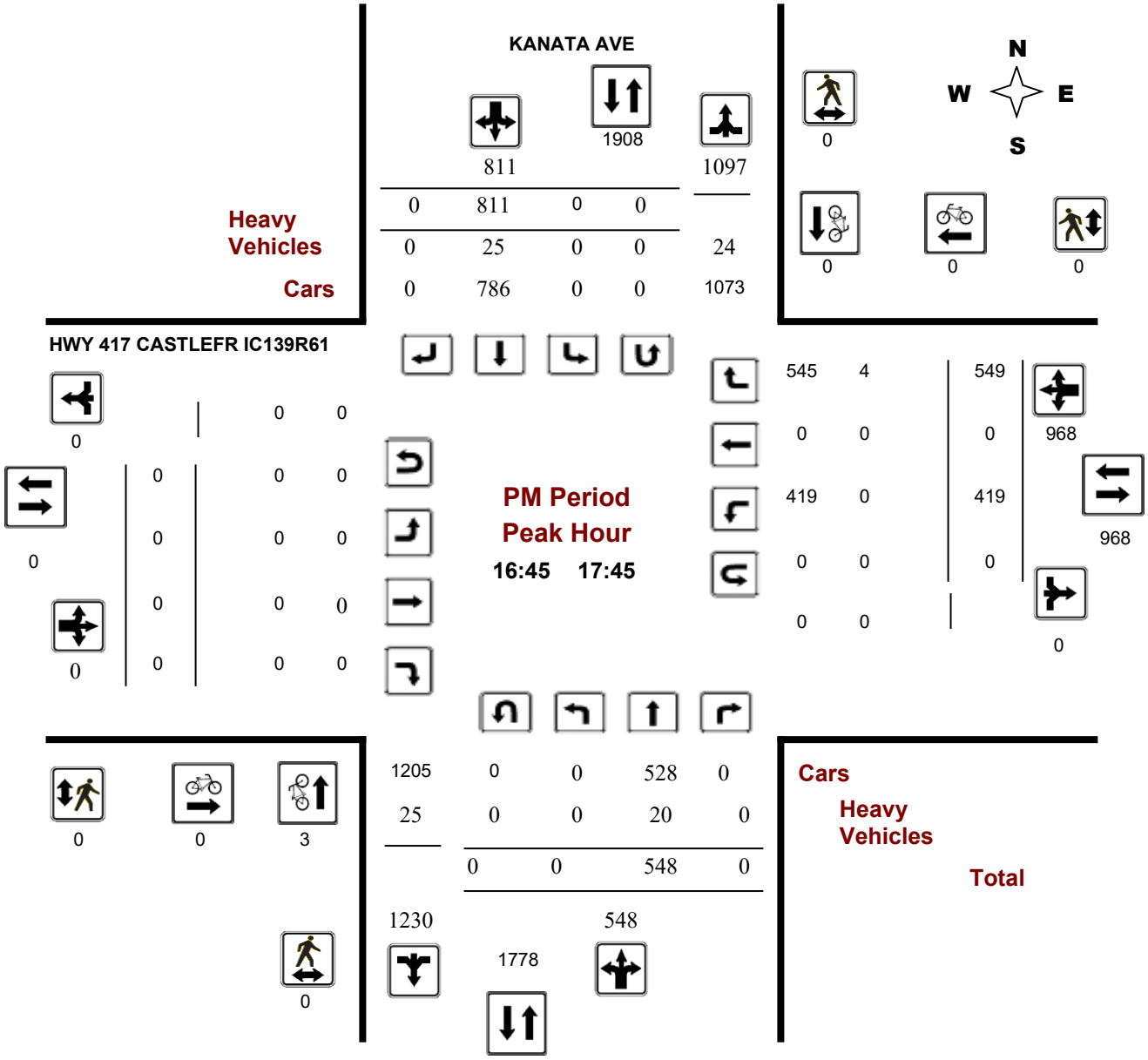
# Transportation Services - Traffic Services

## 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**

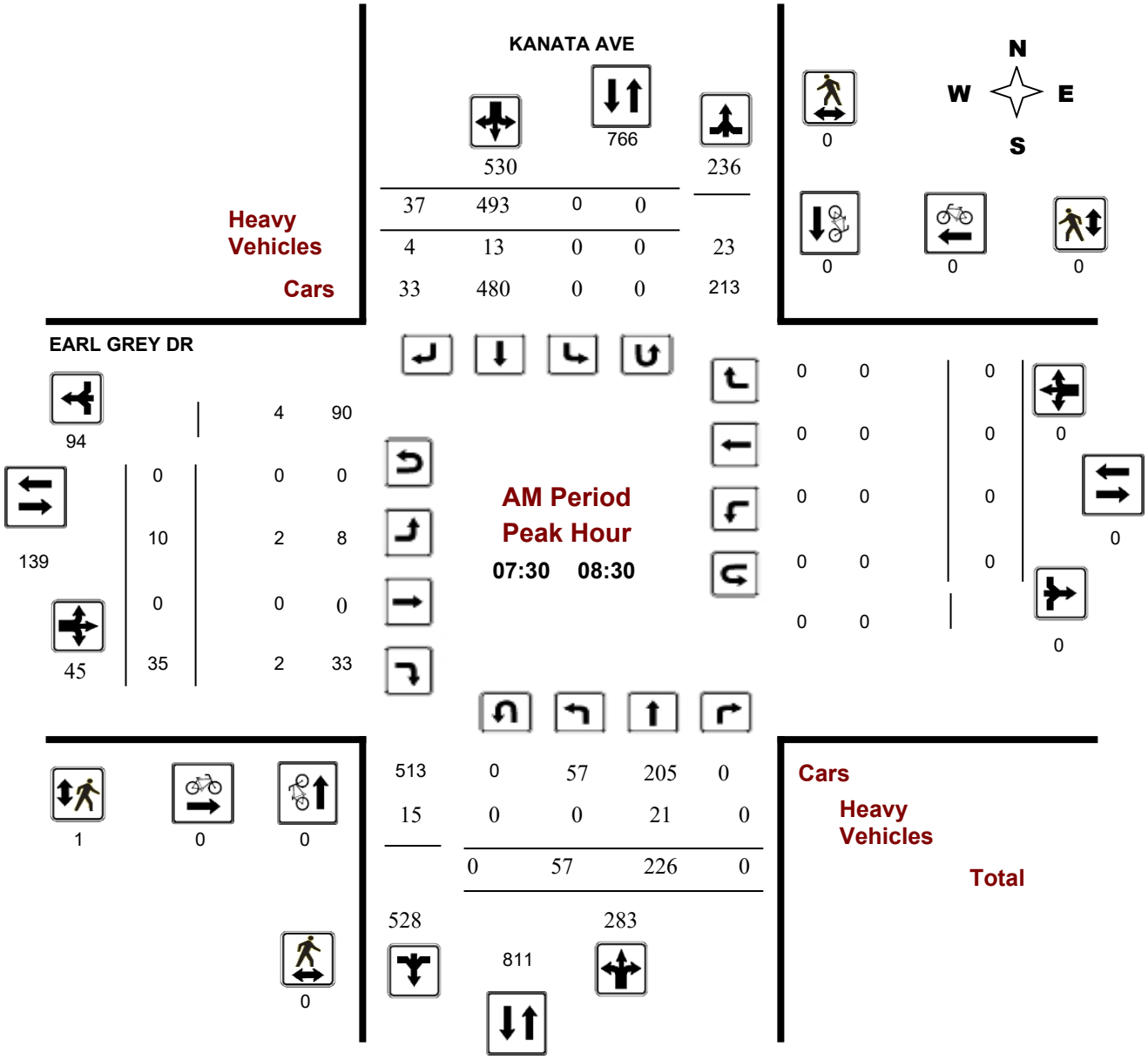
# Transportation Services - Traffic Services

## 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**

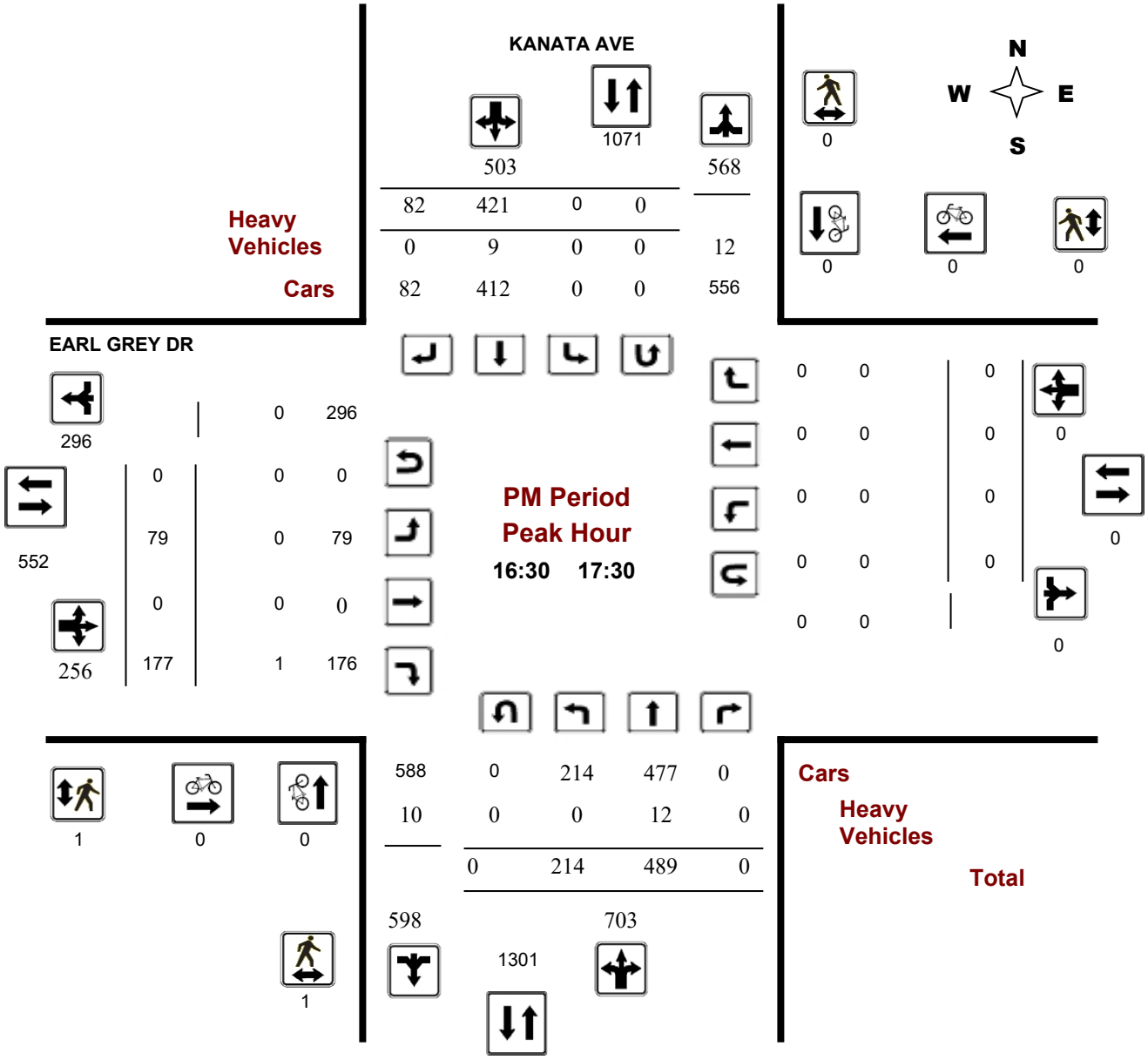
# Transportation Services - Traffic Services

## 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**

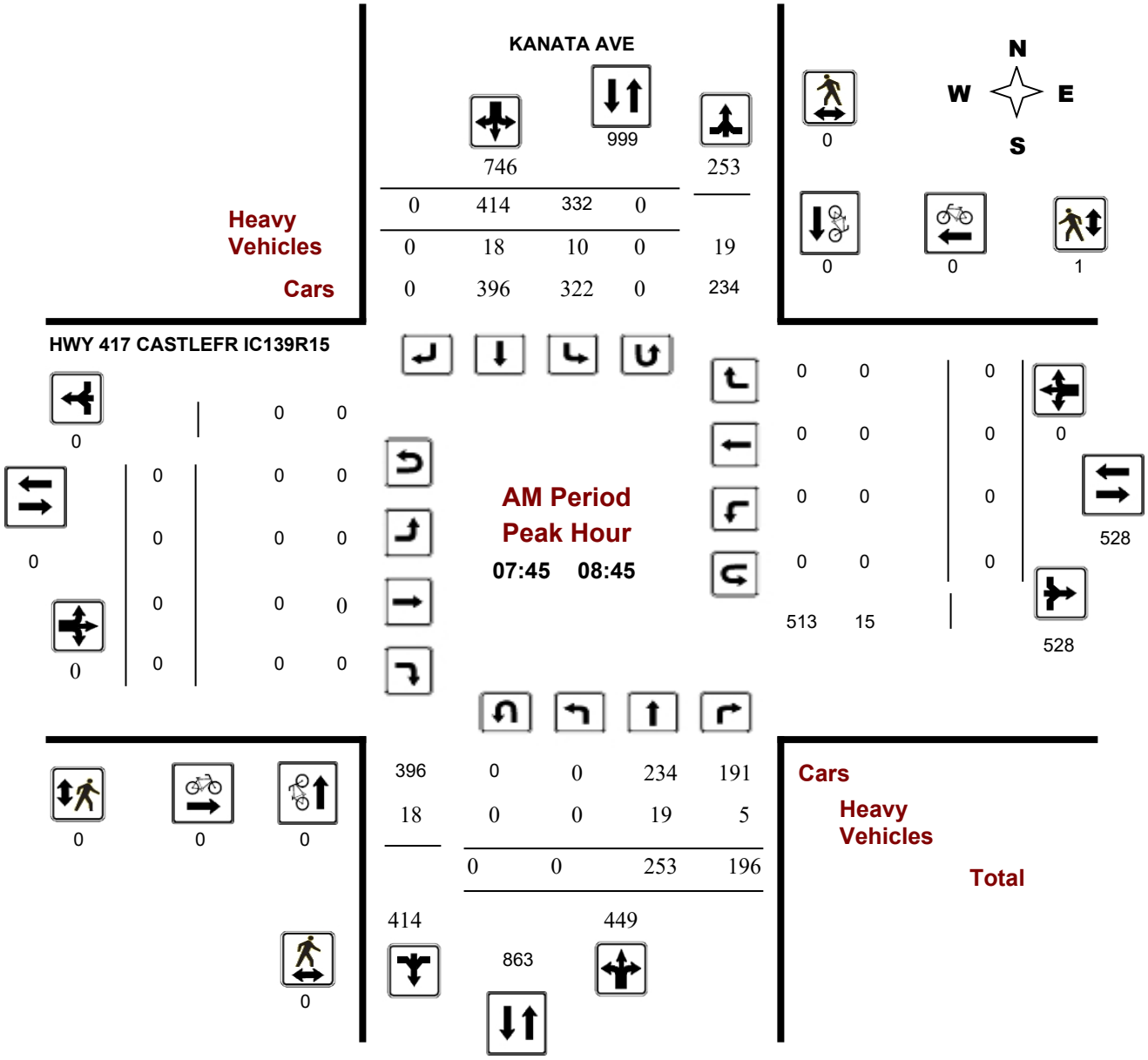
# Transportation Services - Traffic Services

## 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**

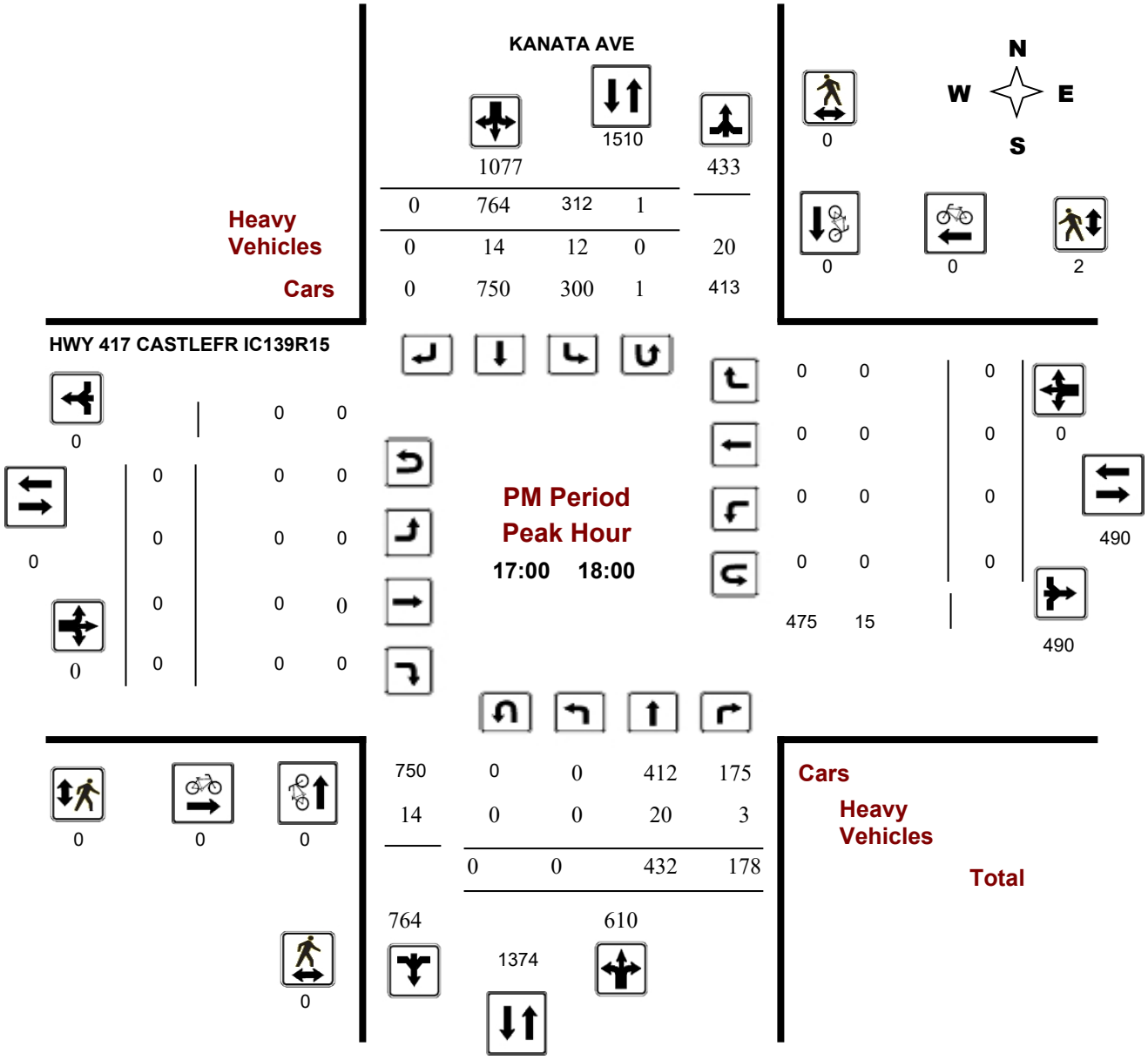
# Transportation Services - Traffic Services

## 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**

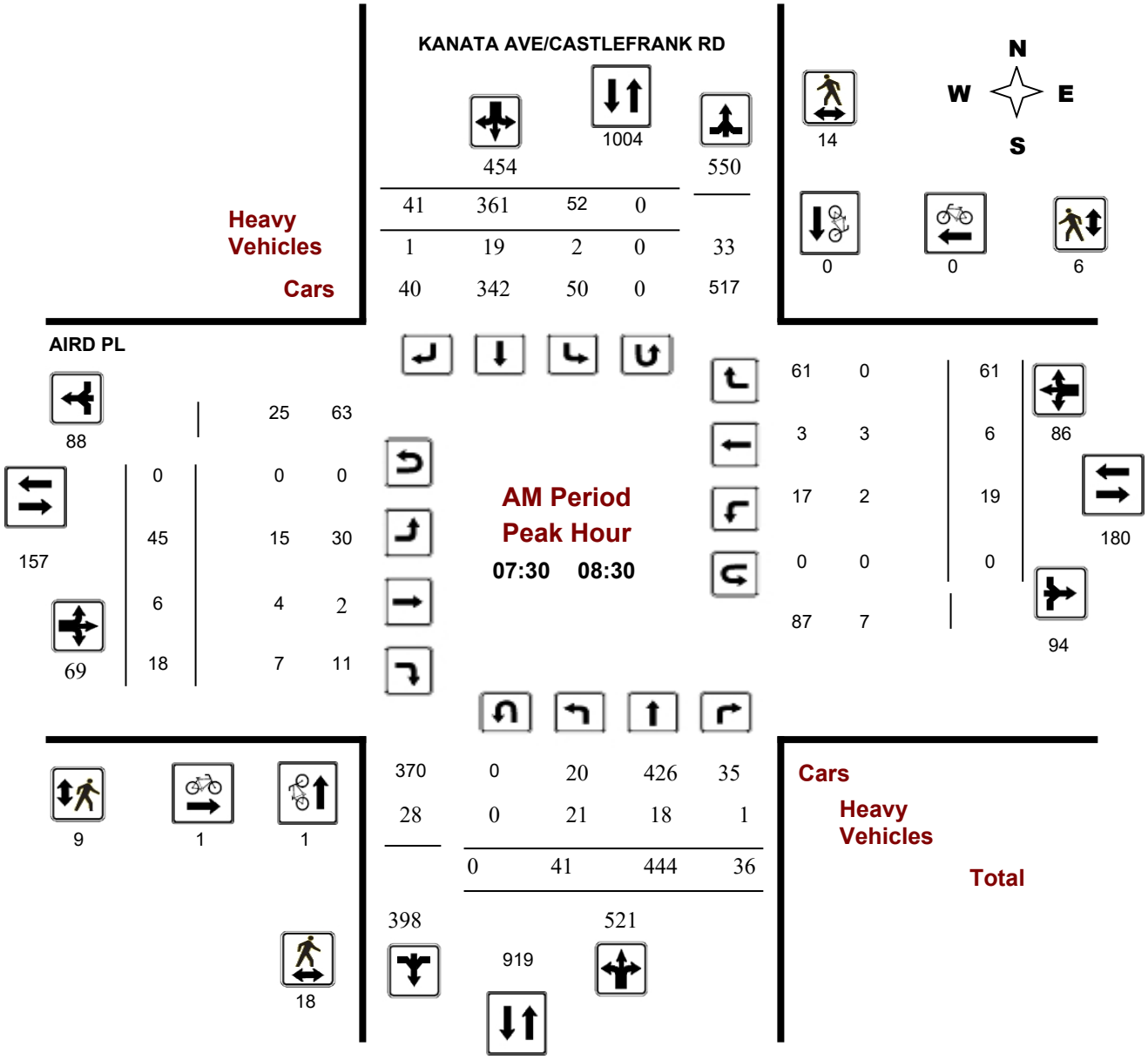
# Transportation Services - Traffic Services

## 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**

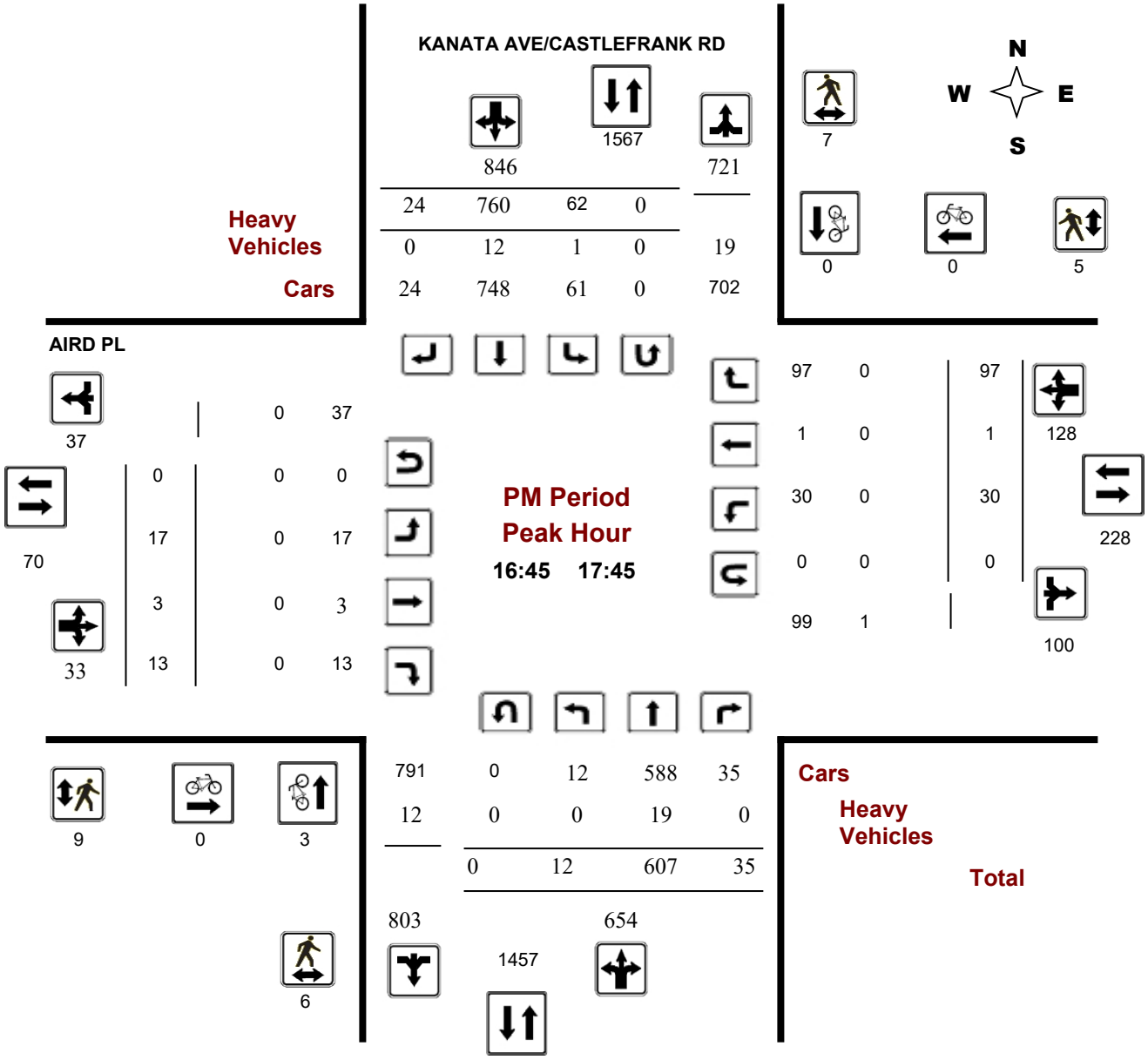
# Transportation Services - Traffic Services

## 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**

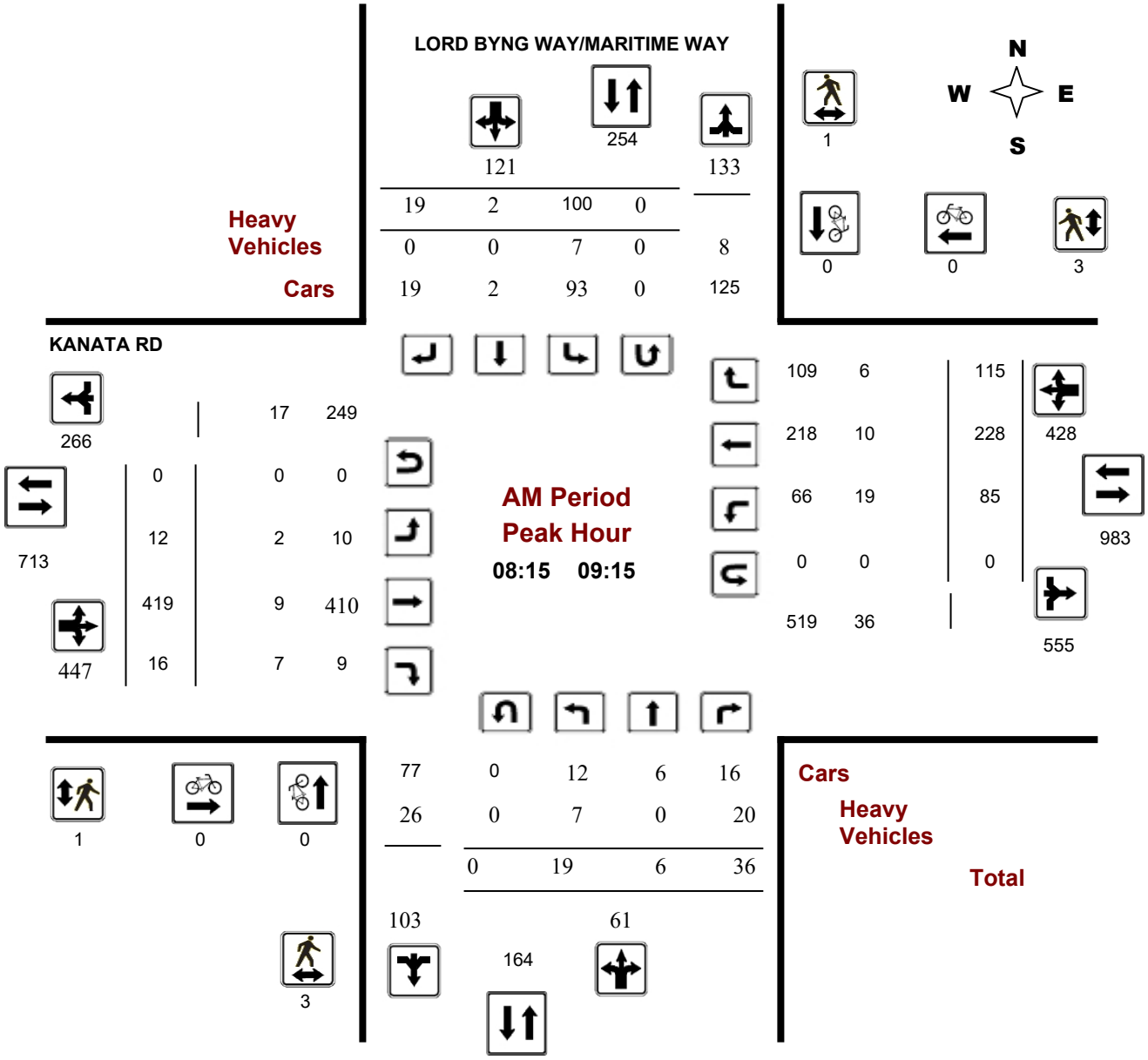
# Transportation Services - Traffic Services

## 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**

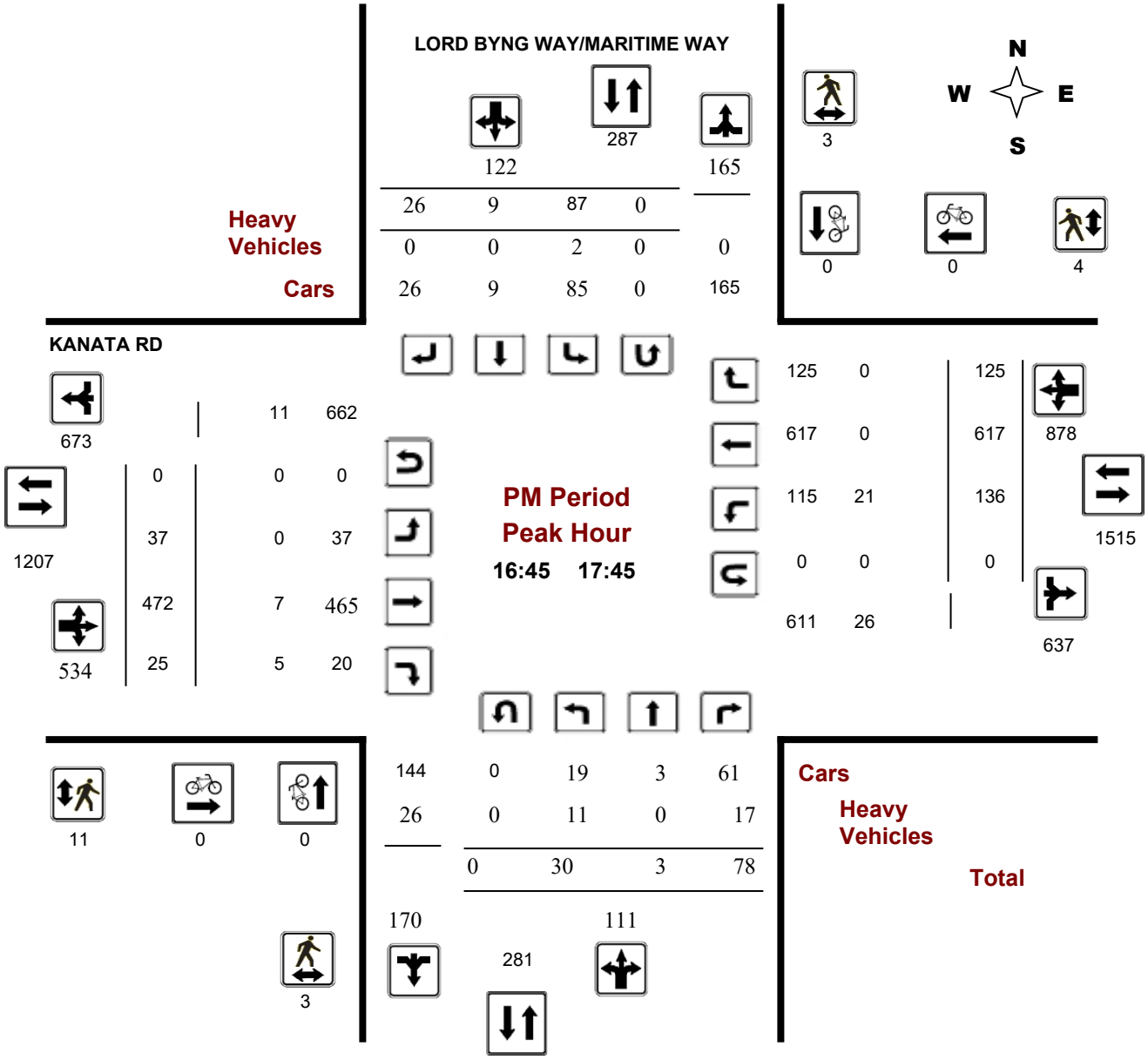
# Transportation Services - Traffic Services

## 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

TRANS

## Legend

AM Peak Hour Total Traffic Volume

1000 2000 3000 4000 5000

N

Distance (m)

100 200 300 400 500

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

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

# Traffic Signal Timing

*City of Ottawa, Transportation Services Department*

**Traffic Signal Operations Unit**

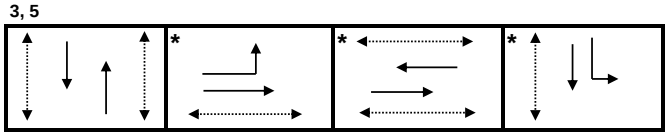
| | | | |
|---|---|---|---|
| **Intersection:** | ***Main:*** Castlefrank | ***Side:*** | Katimavik |
| **Controller:** | **MS 3200** | **TSD:** | **5995** |
| **Author:** | Matthew Anderson | **Date:** | 16-Oct-2020 |

## Existing Timing Plans†

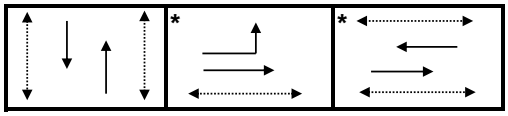
| | Plan | | | | | Ped Minimum Time | | |
|---|---|---|---|---|---|---|---|---|
| | **AM Peak** 1 | **Off Peak** 2 | **PM Peak** 3 | **Night** 4 | **Weekend** 5 | ***Walk*** | ***DW*** | ***A+R*** |
| **Cycle** | 90 | 75 | 90 | 60 | 85 | | | |
| **Offset** | 25 | 19 | 25 | X | 12 | | | |
| NB Thru |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

## Phasing Sequence‡

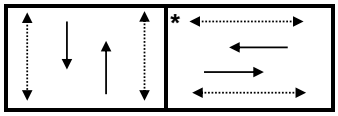
**Plan:** **3, 5**




**Plan:** **1, 2**




**Plan:** **4**




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

## Schedule

**Weekday**

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

**Saturday**

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

**Sunday**

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

## Notes

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

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

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $58.78 ($52.02 + HST)

# Traffic Signal Timing

*City of Ottawa, Transportation Services Department*

**Traffic Signal Operations Unit**

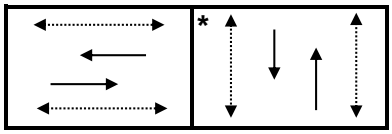
| | | | | | |
|---|---|---|---|---|---|
| **Intersection:** | ***Main:*** | Campeau | ***Side:*** | Knudson / Maritime |
| **Controller:** | **MS 3200** | | **TSD:** | **6548** |
| **Author:** | Matthew Anderson | | **Date:** | 16-Oct-2020 |

## Existing Timing Plans†

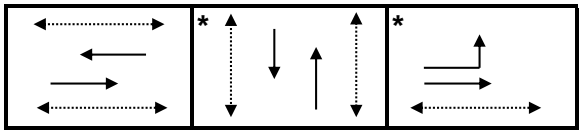
| | **Plan** | | | | **Ped Minimum Time** | | |
|---|---|---|---|---|---|---|---|
| | **AM Peak** 1 | **Off Peak** 2 | **PM Peak** 3 | **Night** 4 | ***Walk*** | ***DW*** | ***A+R*** |
| **Cycle** | 80 | 60 | 90 | 60 | | | |
| **Offset** | 0 | 0 | 0 | x | | | |
| EB Thru | 45 | 35 | 66 | max=45.7 | 7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

## Phasing Sequence‡

**Plan: 1, 2, & 4**




**Plan: 3**




## Schedule

**Weekday**

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

**Weekend**

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

## Notes

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

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

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $58.78 ($52.02 + HST)

# Traffic Signal Timing

*City of Ottawa, Transportation Services Department*

**Traffic Signal Operations Unit**

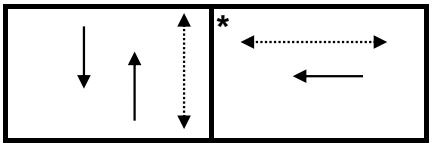
| | | | |
|---|---|---|---|
| **Intersection:** | ***Main:*** Kanata | ***Side:*** | 417 WB Ramp |
| **Controller:** | **MS 3200** | **TSD:** | **6556** |
| **Author:** | Matthew Anderson | **Date:** | 16-Oct-2020 |

## Existing Timing Plans†

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

## Phasing Sequence‡

**Plan: All**




## Schedule

**Weekday**

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

**Saturday**

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

**Sunday**

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

## Notes

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

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

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $58.78 ($52.02 + HST)

# Traffic Signal Timing

*City of Ottawa, Transportation Services Department*

**Traffic Signal Operations Unit**

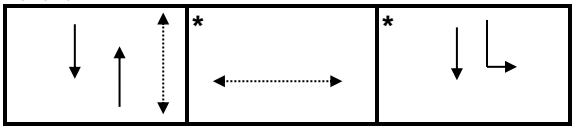
| | | | |
|---|---|---|---|
| **Intersection:** | ***Main:*** Kanata | ***Side:*** | 417 EB Ramp |
| **Controller:** | **ATC 3** | **TSD:** | **6557** |
| **Author:** | Matthew Anderson | **Date:** | 16-Oct-2020 |

## Existing Timing Plans†

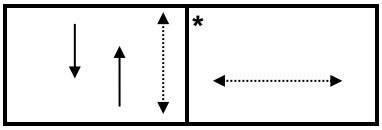
| | **Plan** | | | | | **Ped Minimum Time** | | |
|---|---|---|---|---|---|---|---|---|
| | **AM Peak** 1 | **Off Peak** 2 | **PM Peak** 3 | **Night** 4 | **Weekend** 5 | ***Walk*** | ***DW*** | ***A+R*** |
| **Cycle** | 90 | 75 | 90 | 60 | 85 | | | |
| **Offset** | 42 | 27 | 27 | X | 19 | | | |
| NB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

## Phasing Sequence‡

**Plan: 1, 2, 3, 5**




**Plan: 4**




## Schedule

**Weekday**

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

**Saturday**

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

**Sunday**

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

## Notes

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

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

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $58.78 ($52.02 + HST)

# Traffic Signal Timing

*City of Ottawa, Transportation Services Department*

**Traffic Signal Operations Unit**

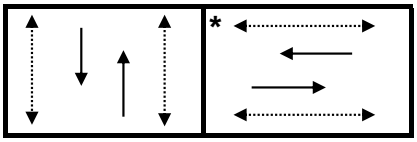
| | | | | | |
|---|---|---|---|---|---|
| **Intersection:** | ***Main:*** | Kanata / Castlefrank | ***Side:*** | Aird |
| **Controller:** | **MS 3200** | | **TSD:** | **6582** |
| **Author:** | Matthew Anderson | | **Date:** | 16-Oct-2020 |

## Existing Timing Plans†

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

## Phasing Sequence‡

**Plan: All**




## Schedule

**Weekday**

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

**Saturday**

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

**Sunday**

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

## Notes

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

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

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $58.78 ($52.02 + HST)

# Traffic Signal Timing

*City of Ottawa, Transportation Services Department*

**Traffic Signal Operations Unit**

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

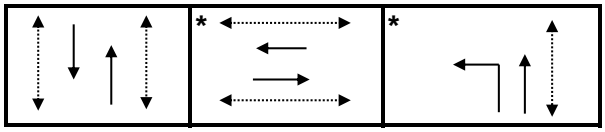
## Existing Timing Plans†

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

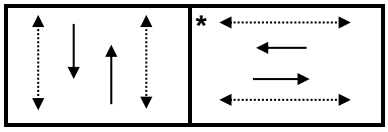
**Note:** Kanata is considered the NS movement

## Phasing Sequence‡

**Plan: 1,2,3**




**Plan: 4**




## Schedule

**Weekday**

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

**Saturday**

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

**Sunday**

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

## Notes

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

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

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $58.78 ($52.02 + HST)

# Traffic Signal Timing

*City of Ottawa, Transportation Services Department*

**Traffic Signal Operations Unit**

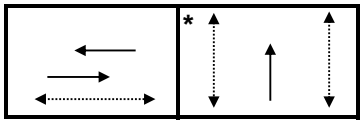
| | | | |
|---|---|---|---|
| **Intersection:** | ***Main:*** Kanata | ***Side:*** Earl Grey | |
| **Controller:** | **ATC-3** | **TSD:** | 6658 |
| **Author:** | Matthew Anderson | **Date:** | 16-Oct-20 |

## Existing Timing Plans†

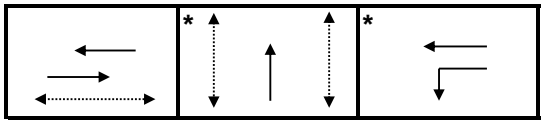
| | **Plan** | | | | **Ped Minimum Time** | | |
|---|---|---|---|---|---|---|---|
| | **AM Peak** 1 | **Off Peak** 2 | **PM Peak** 3 | **Night** 9 | ***Walk*** | ***DW*** | ***A+R*** |
| **Cycle** | 55 | 80 | 100 | Free | | | |
| **Offset** | 0 | 0 | 0 | X | | | |
| EB Thru | 30 | 55 | 70 | max=56.4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

## Phasing Sequence‡

**Plans: 1 & 9**




**Plans: 2 & 3**




## Schedule

**Weekday**

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

**Weekend**

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

## Notes

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

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

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $58.78 ($52.02 + HST)

# APPENDIX E

Collision Records

# Transportation Services - Traffic Services

## Collision Details Report - Public Version

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

**Location:** CASTLEFRANK RD @ KATIMAVIK RD

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

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

# Transportation Services - Traffic Services

## Collision Details Report - Public Version

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

**Location:** CASTLEFRANK RD @ KATIMAVIK RD

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

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

# Transportation Services - Traffic Services

## Collision Details Report - Public Version

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

**Location:** CASTLEFRANK RD @ KATIMAVIK RD

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

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

**Location:** KANATA AVE @ EARL GREY DR

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

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

# Transportation Services - Traffic Services

## Collision Details Report - Public Version

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

**Location:** KANATA AVE @ EARL GREY DR

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

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

**Location:** KANATA AVE/CASTLEFRANK RD @ AIRD PL

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

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

# Transportation Services - Traffic Services

## Collision Details Report - Public Version

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

**Location:** KANATA AVE/CASTLEFRANK RD @ AIRD PL

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

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

# Transportation Services - Traffic Services

## Collision Details Report - Public Version

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

**Location:** KANATA AVE/CASTLEFRANK RD @ AIRD PL

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

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

# Transportation Services - Traffic Services

## 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 |
|---|---|---|---|---|---|---|---|---|---|

# Transportation Services - Traffic Services

## Collision Details Report - Public Version

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

**Location:** HWY 417 CASTLEFR IC139R61 @ KANATA AVE

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

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

# Transportation Services - Traffic Services

## Collision Details Report - Public Version

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

**Location:** HWY 417 CASTLEFR IC139R61 @ KANATA AVE

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

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

# Transportation Services - Traffic Services

## Collision Details Report - Public Version

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

**Location:** HWY 417 CASTLEFR IC139R61 @ KANATA AVE

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

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

# Transportation Services - Traffic Services

## Collision Details Report - Public Version

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

**Location:** HWY 417 CASTLEFR IC139R61 @ KANATA AVE

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

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

# Transportation Services - Traffic Services

## Collision Details Report - Public Version

**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 | |

# 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 |
|---|---|---|---|---|---|---|---|---|---|
| 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 | |

# 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 |
|---|---|---|---|---|---|---|---|---|---|
| 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**

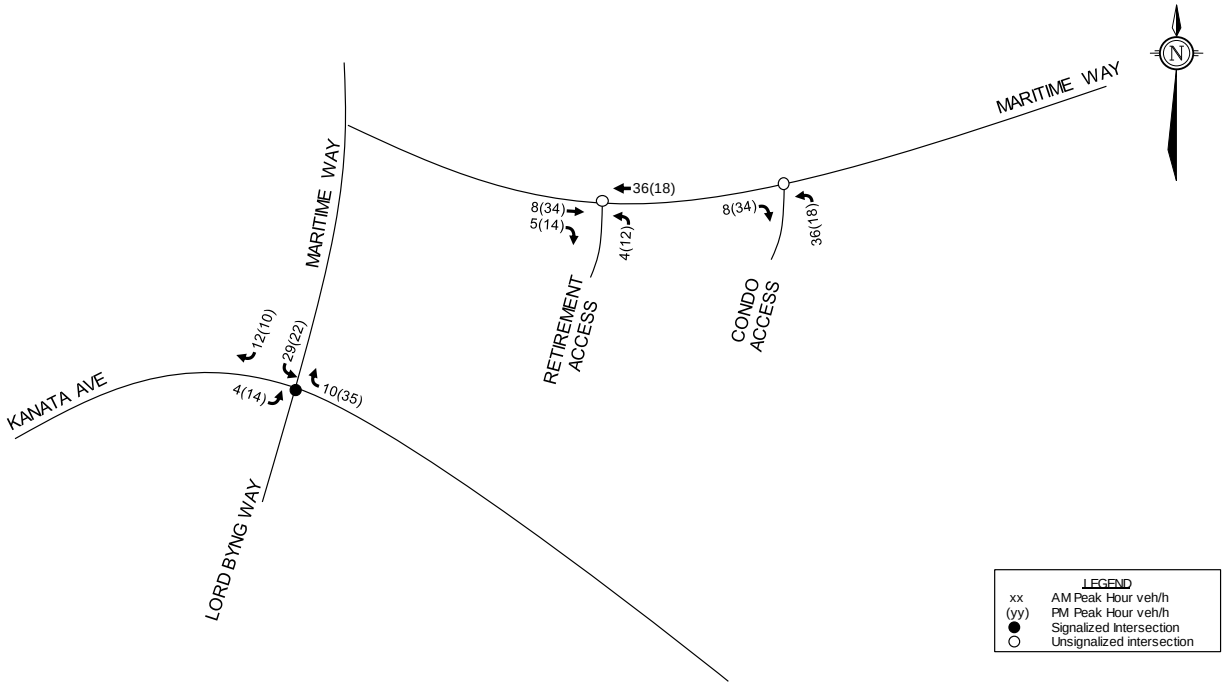



**Figure 8: Total Traffic Volumes**

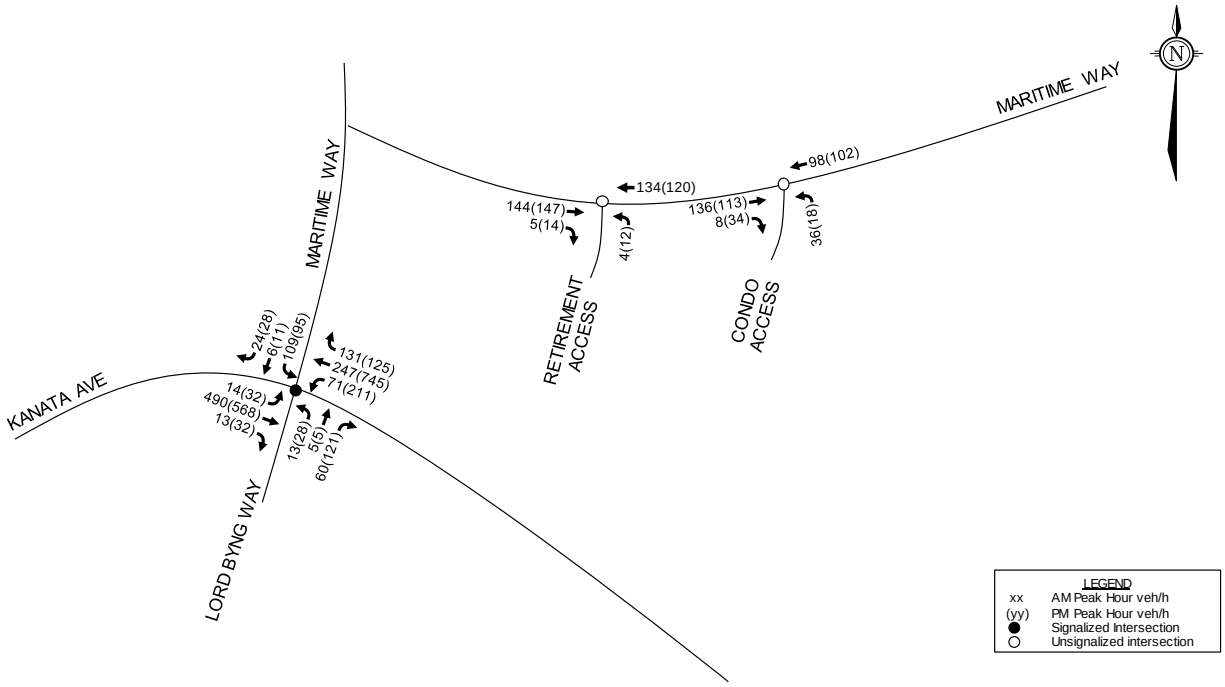


**Figure 9: Projected Site-Generated Traffic**

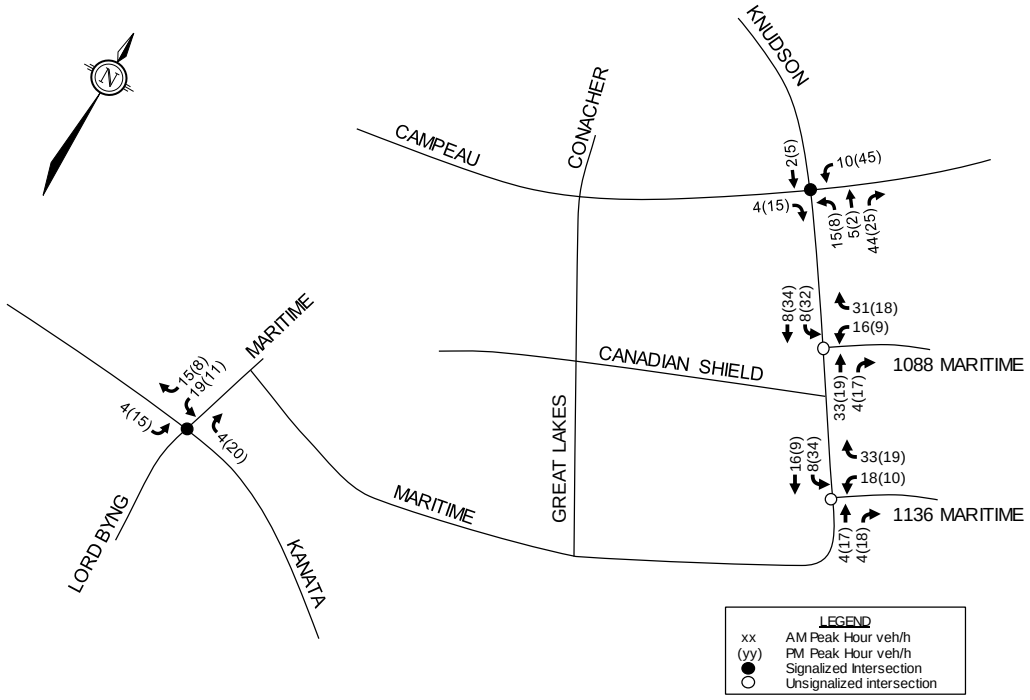
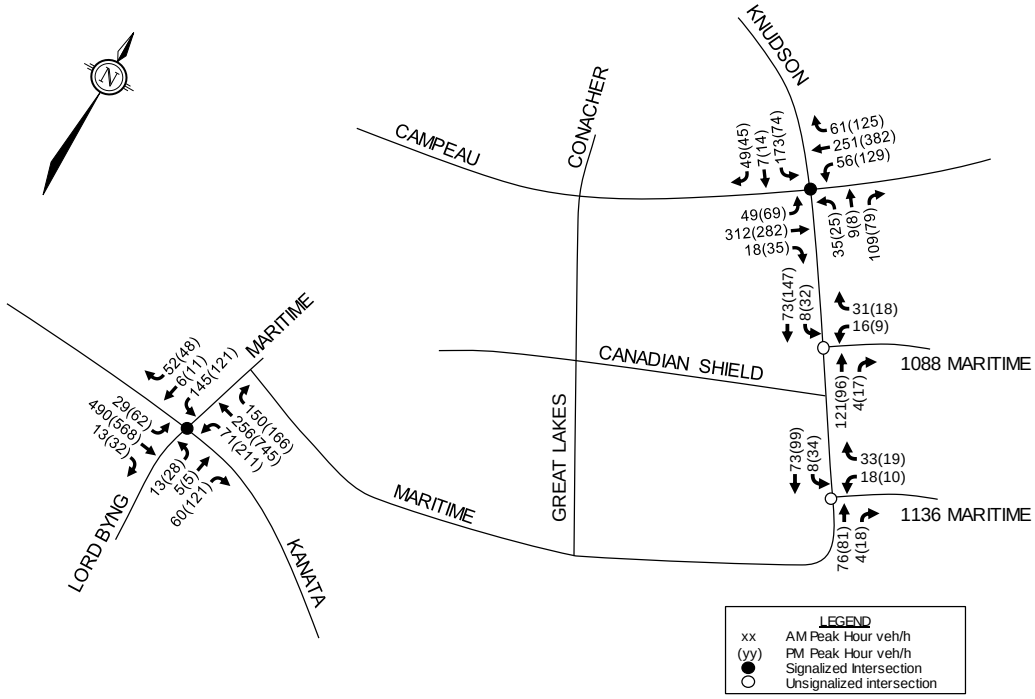
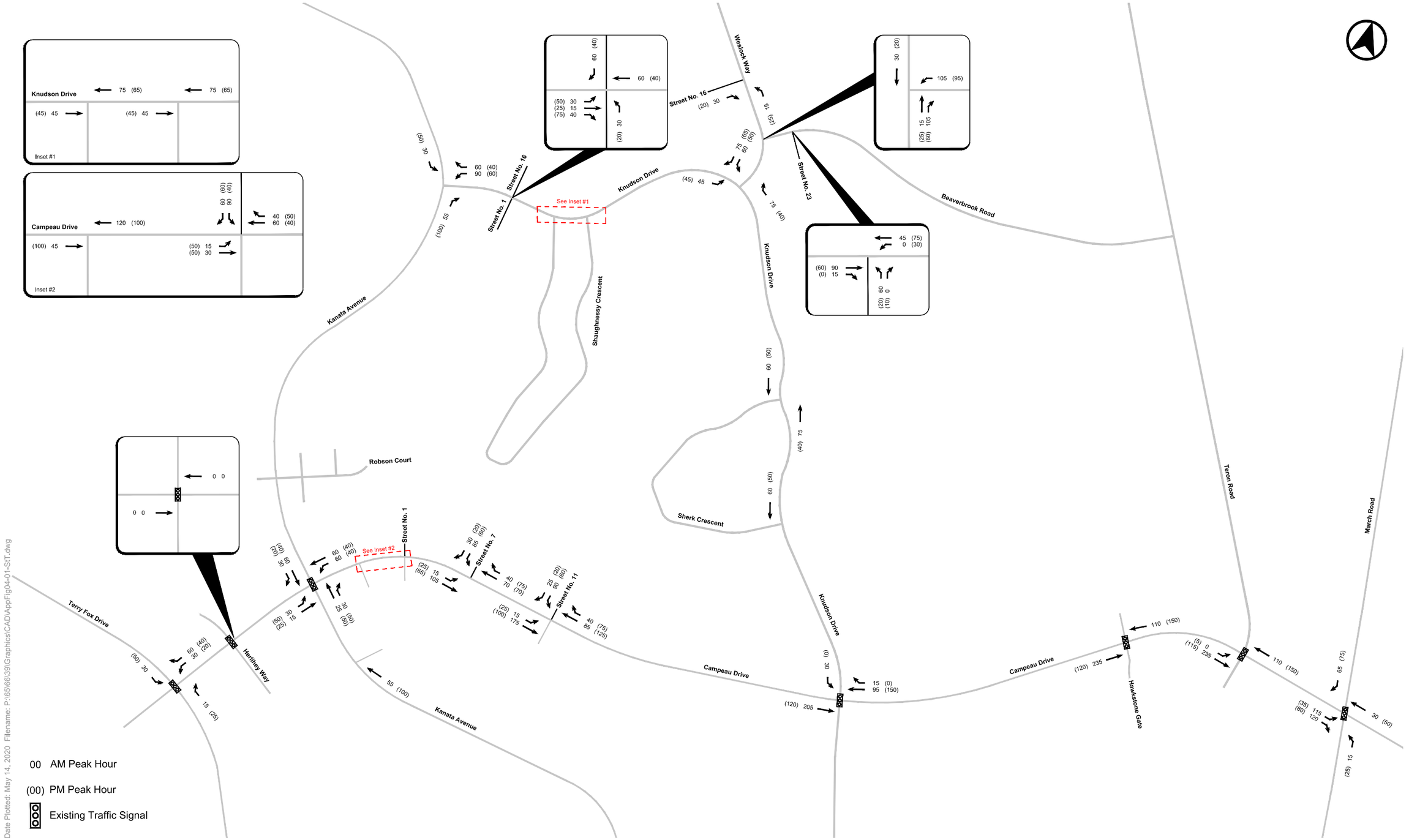



**Figure 10: Total Traffic**






**APPENDIX C FIGURE 4 SITE TRAFFIC VOLUMES**

Figure 6: Percent Assignment

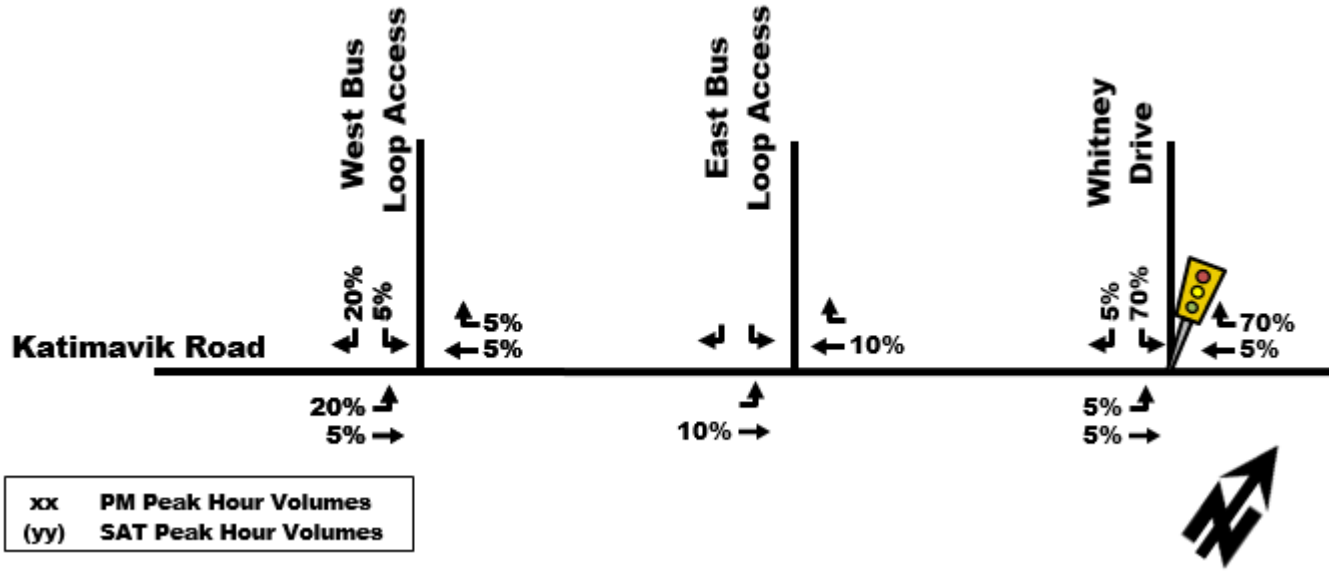
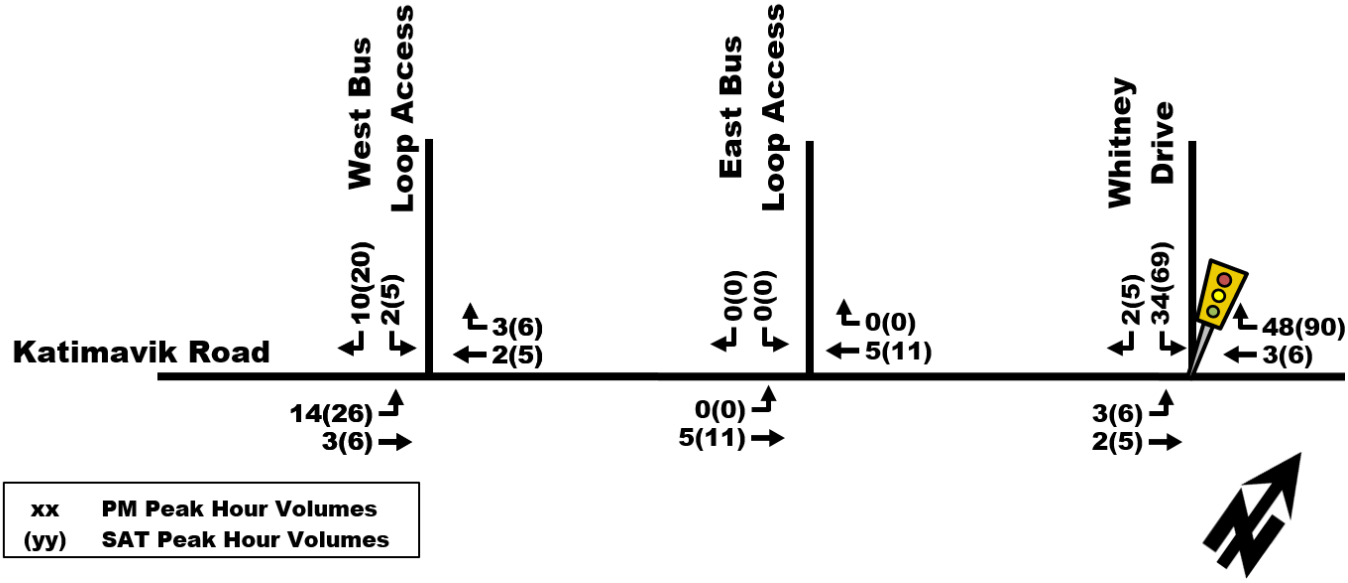


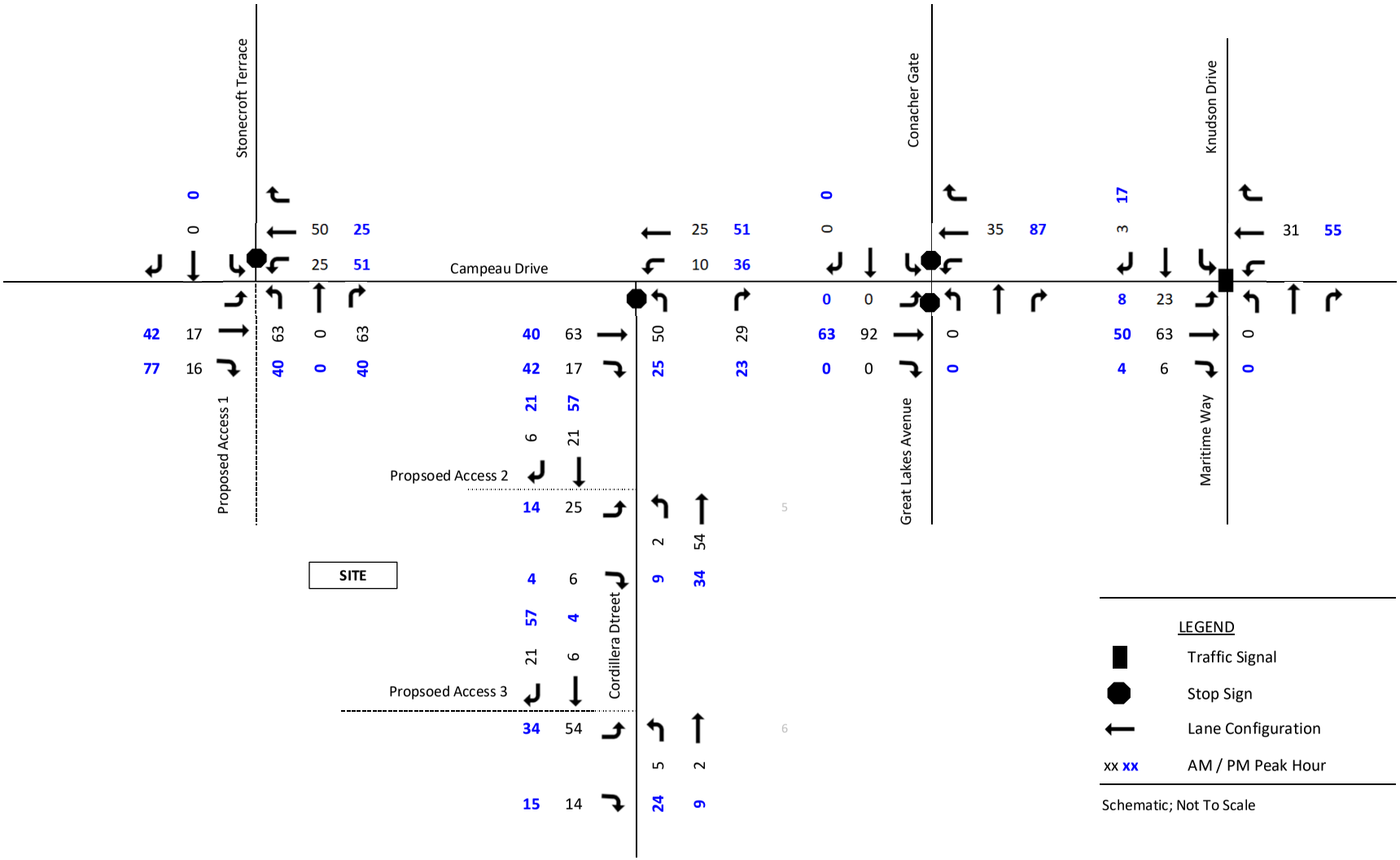

Figure 7: Site Generated Traffic Volumes




## 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

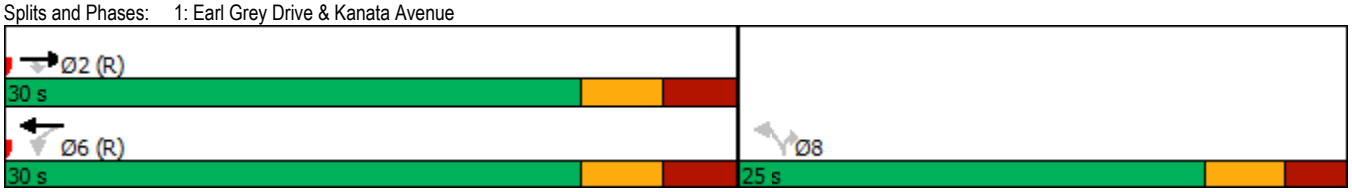


| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 493 | 37 | 57 | 226 | 10 | 35 |
| Future Volume (vph) | 493 | 37 | 57 | 226 | 10 | 35 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage 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

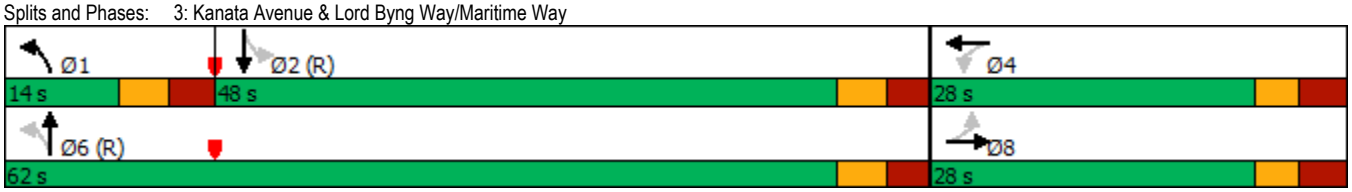


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 19 | 6 | 36 | 100 | 2 | 19 | 85 | 228 | 115 | 12 | 419 | 16 |
| Future Volume (vph) | 19 | 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



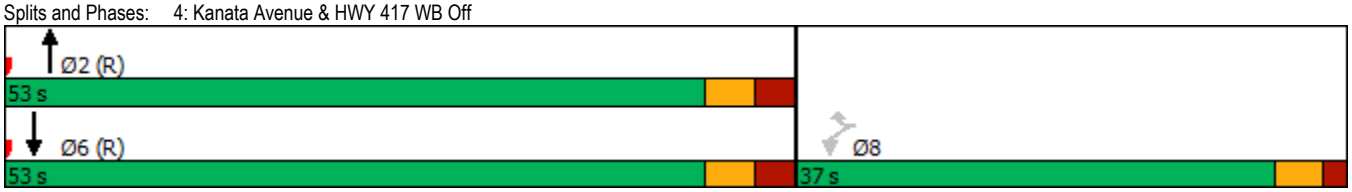


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 217 | 183 | 277 | 0 | 0 | 661 |
| Future Volume (vph) | 217 | 183 | 277 | 0 | 0 | 661 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Lane 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





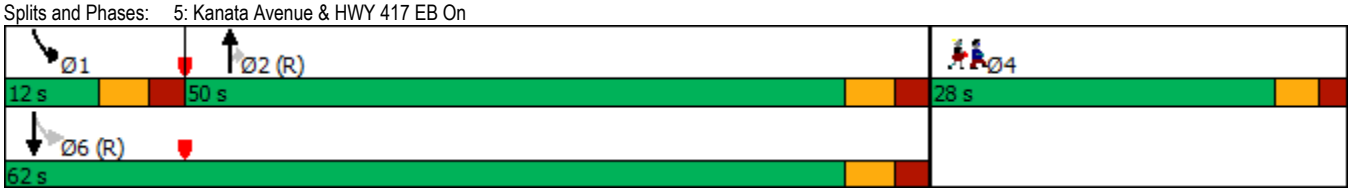
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø4 |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 253 | 196 | 332 | 414 | |
| Future Volume (vph) | 0 | 0 | 253 | 196 | 332 | 414 | |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 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



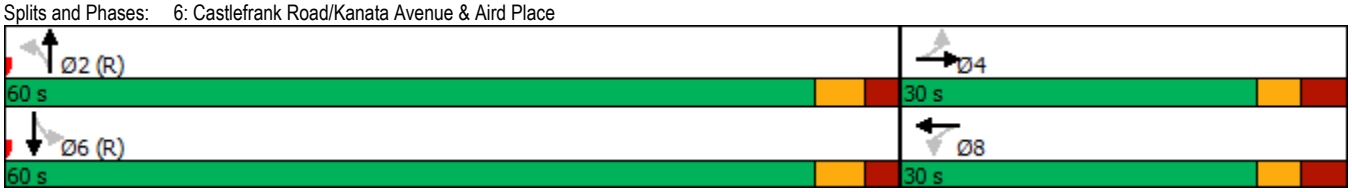
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 45 | 6 | 18 | 19 | 6 | 61 | 41 | 444 | 36 | 52 | 361 | 41 |
| Future Volume (vph) | 45 | 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 | |

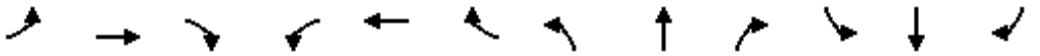
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | | 2.4 | 2.4 | | 2.4 | 2.4 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost 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



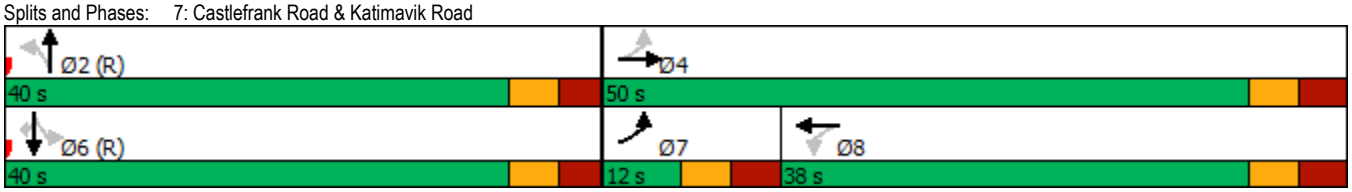


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 144 | 124 | 72 | 30 | 99 | 27 | 123 | 322 | 45 | 40 | 230 | 66 |
| Future Volume (vph) | 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



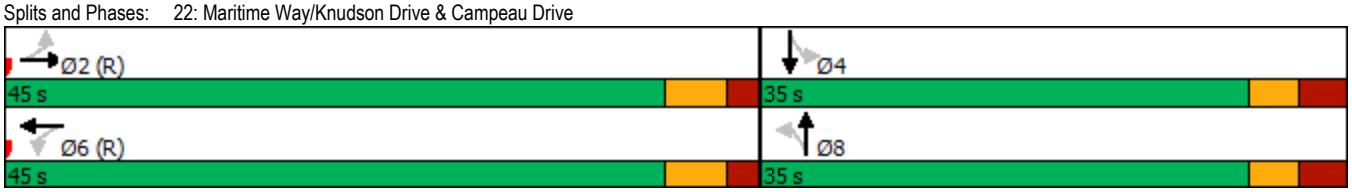
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 23 | 331 | 3 | 45 | 272 | 52 | 2 | 10 | 87 | 112 | 7 | 43 |
| Future Volume (vph) | 23 | 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



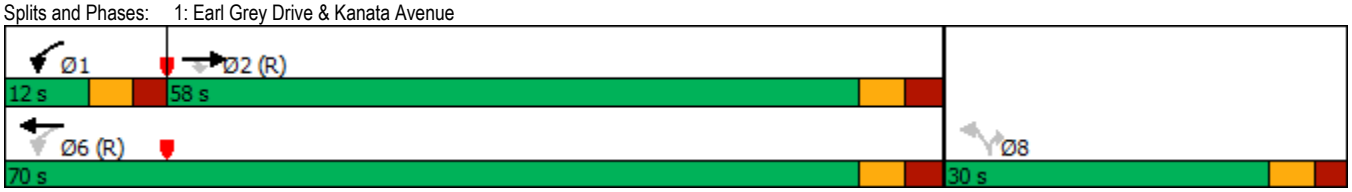


| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 421 | 82 | 214 | 489 | 79 | 177 |
| Future Volume (vph) | 421 | 82 | 214 | 489 | 79 | 177 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| 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

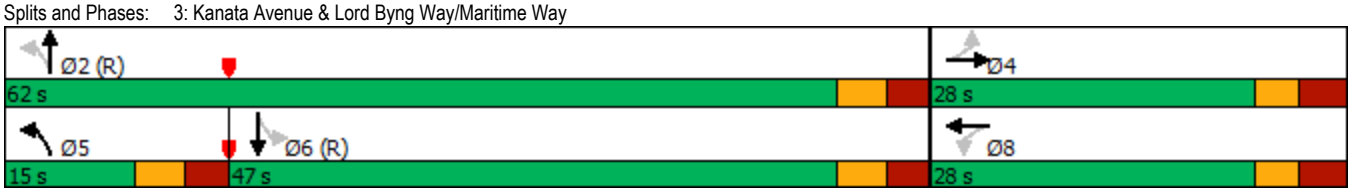


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 3 | 78 | 87 | 9 | 26 | 136 | 617 | 125 | 37 | 472 | 25 |
| Future Volume (vph) | 30 | 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



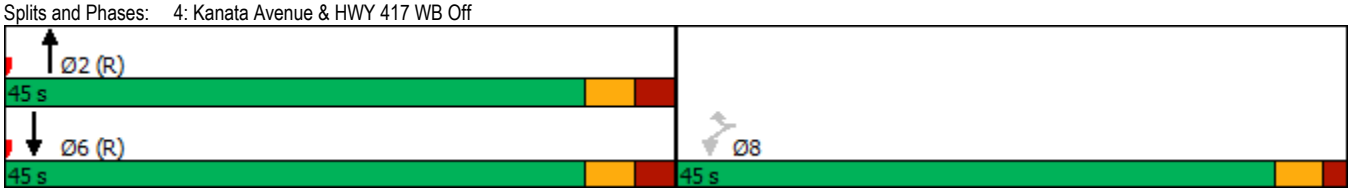


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 419 | 549 | 548 | 0 | 0 | 811 |
| Future Volume (vph) | 419 | 549 | 548 | 0 | 0 | 811 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Lane 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



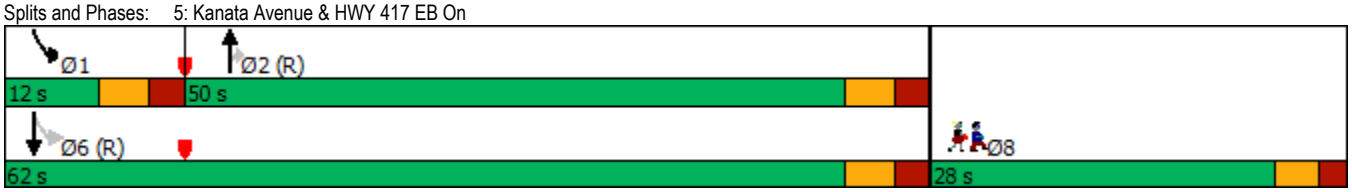


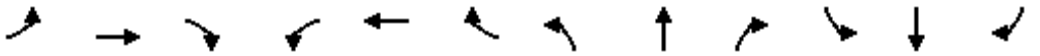
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø8 |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 432 | 178 | 312 | 764 | |
| Future Volume (vph) | 0 | 0 | 432 | 178 | 312 | 764 | |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 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



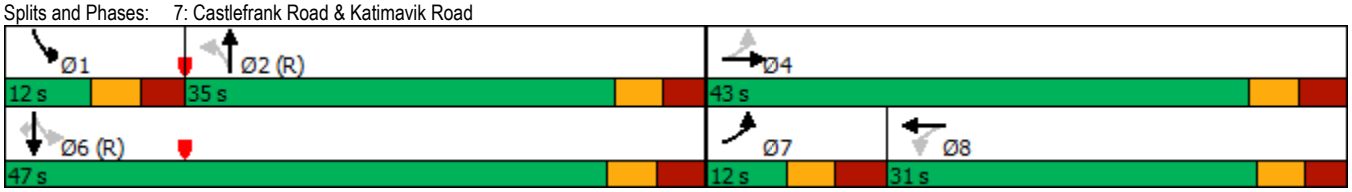
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 113 | 129 | 75 | 84 | 171 | 86 | 41 | 347 | 49 | 83 | 544 | 176 |
| Future Volume (vph) | 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 |

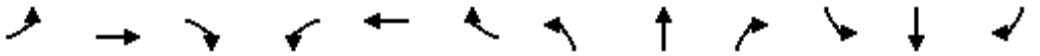
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 3.4 | 3.4 | | 2.9 | 2.9 | | 2.9 | 2.9 | | 2.9 | 3.4 | 3.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 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



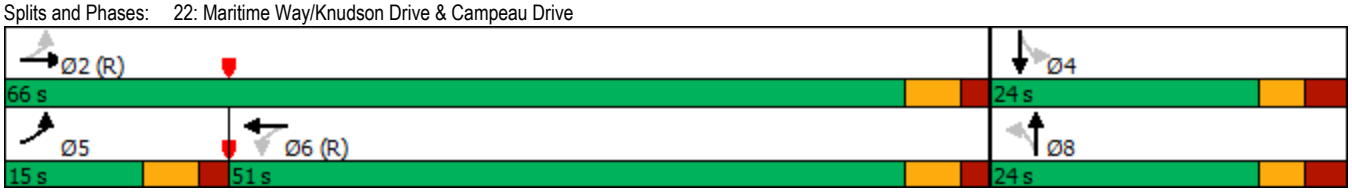


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 50 | 243 | 11 | 64 | 359 | 89 | 4 | 10 | 52 | 33 | 5 | 48 |
| Future Volume (vph) | 50 | 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



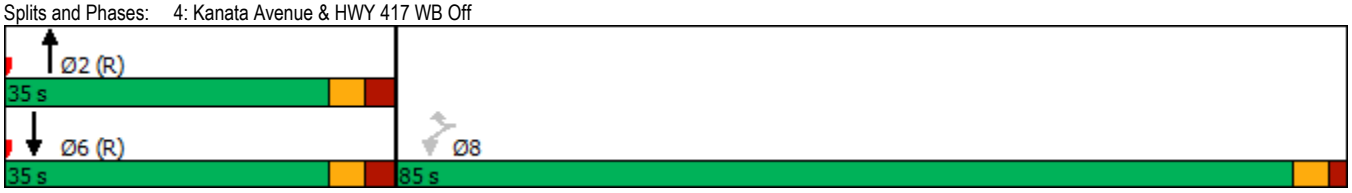


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 419 | 549 | 548 | 0 | 0 | 811 |
| Future Volume (vph) | 419 | 549 | 548 | 0 | 0 | 811 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Lane 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



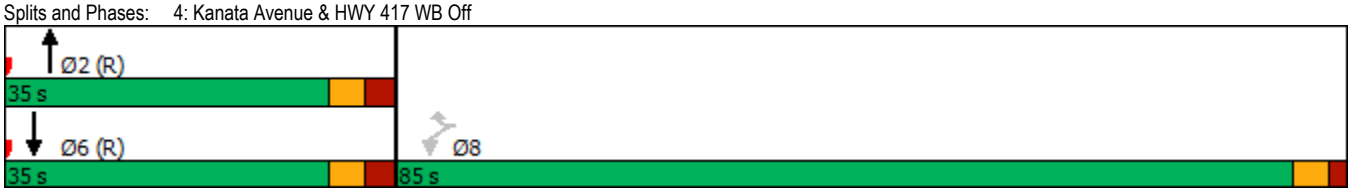


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 419 | 549 | 548 | 0 | 0 | 811 |
| Future Volume (vph) | 419 | 549 | 548 | 0 | 0 | 811 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Lane 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



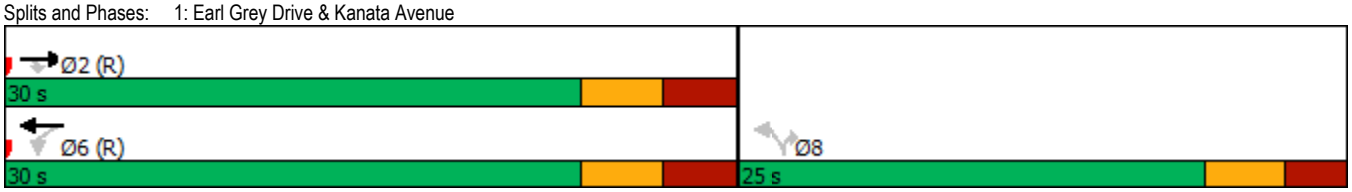


| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 705 | 37 | 57 | 348 | 10 | 35 |
| Future Volume (vph) | 705 | 37 | 57 | 348 | 10 | 35 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage 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

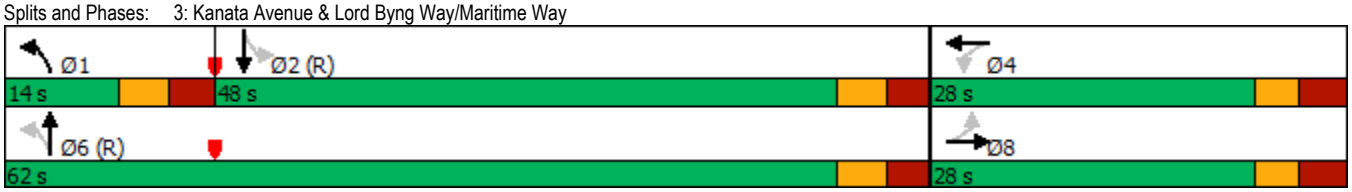


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 19 | 6 | 36 | 164 | 2 | 49 | 85 | 323 | 147 | 22 | 611 | 16 |
| Future Volume (vph) | 19 | 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



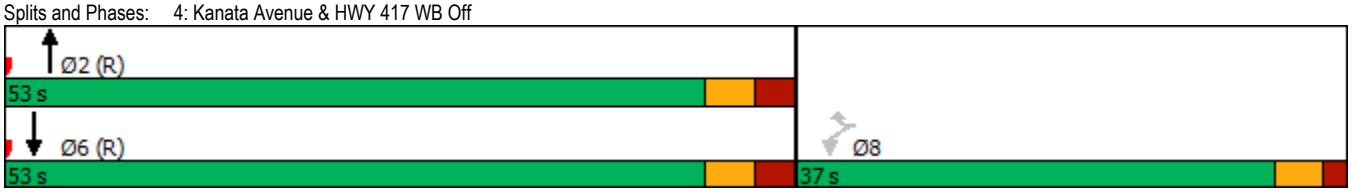


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 252 | 239 | 367 | 0 | 0 | 940 |
| Future Volume (vph) | 252 | 239 | 367 | 0 | 0 | 940 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Lane 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



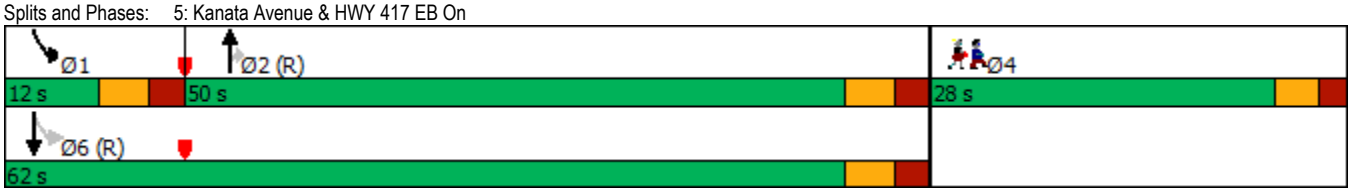


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø4 |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 339 | 227 | 452 | 586 | |
| Future Volume (vph) | 0 | 0 | 339 | 227 | 452 | 586 | |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 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



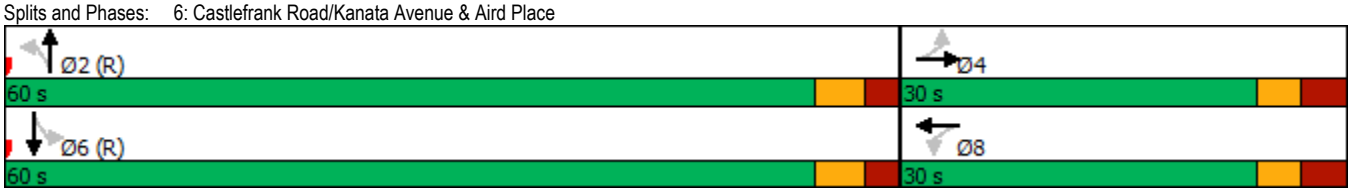
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 45 | 6 | 18 | 19 | 6 | 61 | 41 | 561 | 36 | 52 | 525 | 41 |
| Future Volume (vph) | 45 | 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 | |

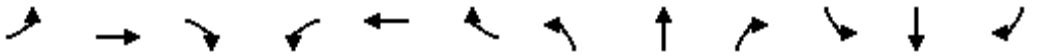
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | | 2.4 | 2.4 | | 2.4 | 2.4 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost 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



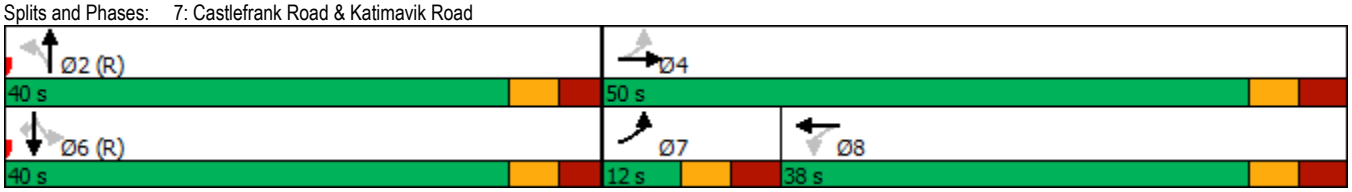


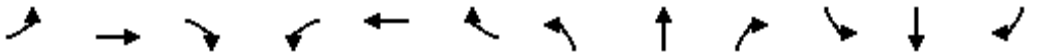
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 158 | 130 | 72 | 34 | 114 | 34 | 123 | 388 | 51 | 79 | 300 | 100 |
| Future Volume (vph) | 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





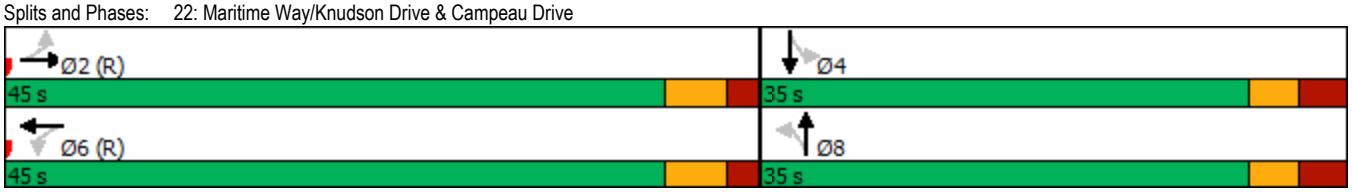
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 50 | 652 | 13 | 62 | 442 | 75 | 17 | 17 | 145 | 160 | 10 | 53 |
| Future Volume (vph) |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



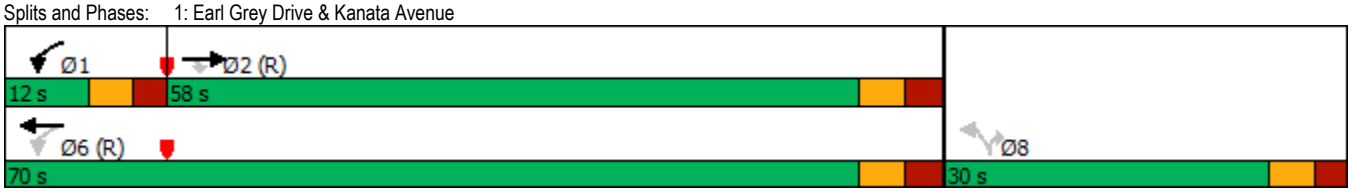


| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 607 | 82 | 214 | 693 | 79 | 177 |
| Future Volume (vph) | 607 | 82 | 214 | 693 | 79 | 177 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| 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

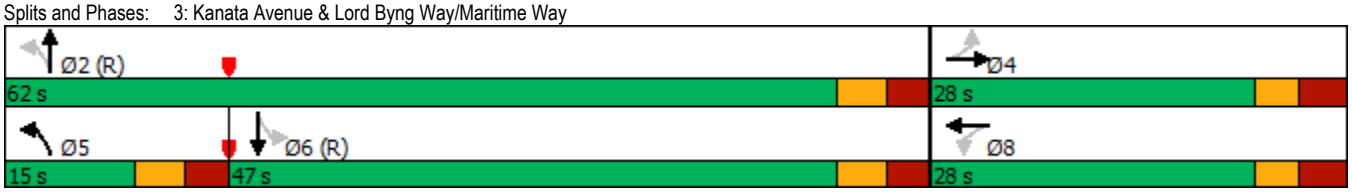


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 3 | 78 | 134 | 9 | 48 | 136 | 824 | 200 | 72 | 638 | 25 |
| Future Volume (vph) | 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



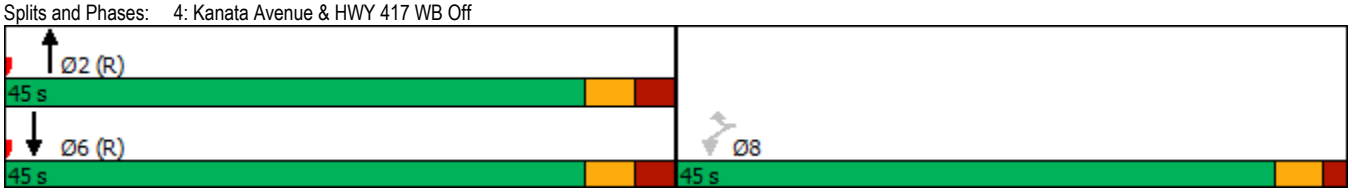


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 486 | 699 | 737 | 0 | 0 | 1064 |
| Future Volume (vph) | 486 | 699 | 737 | 0 | 0 | 1064 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Lane 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



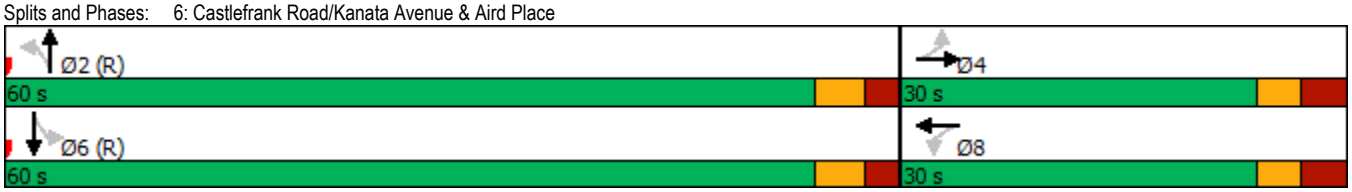
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 3 | 13 | 30 | 1 | 97 | 12 | 805 | 35 | 62 | 959 | 24 |
| Future Volume (vph) | 17 | 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 | |

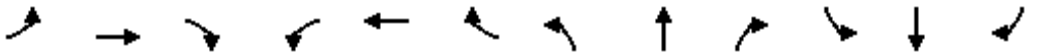
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | | 2.4 | 2.4 | | 2.4 | 2.4 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost 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





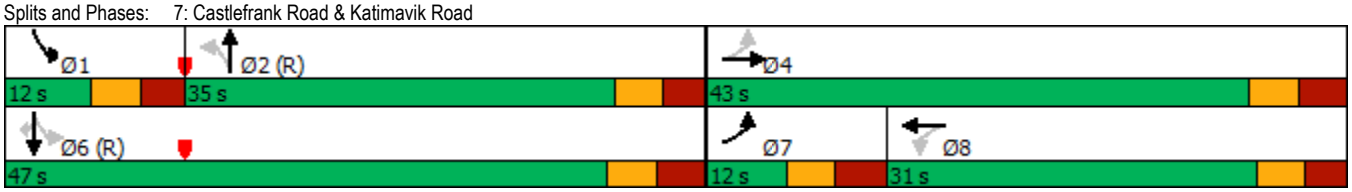
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 144 | 140 | 75 | 92 | 200 | 105 | 41 | 434 | 60 | 115 | 654 | 198 |
| Future Volume (vph) | 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 |

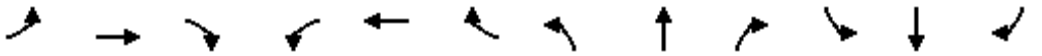
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 3.4 | 3.4 | | 2.9 | 2.9 | | 2.9 | 2.9 | | 2.9 | 3.4 | 3.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 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



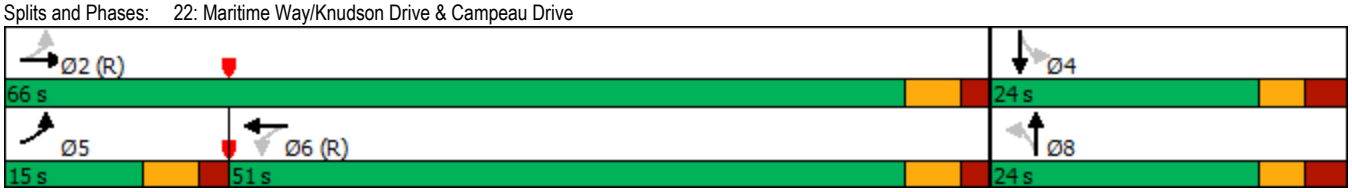


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 66 | 452 | 32 | 119 | 621 | 103 | 13 | 14 | 85 | 38 | 11 | 73 |
| Future Volume (vph) | 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



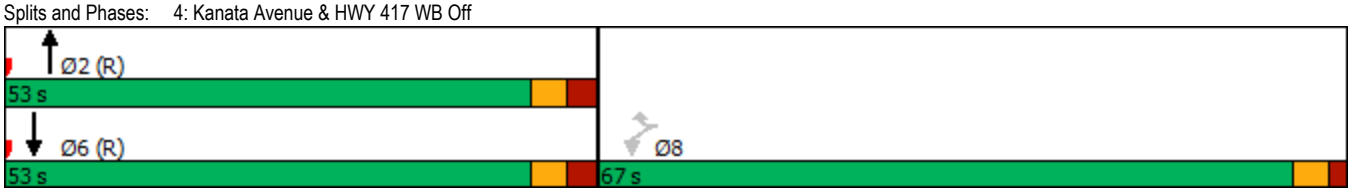


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 486 | 699 | 737 | 0 | 0 | 1064 |
| Future Volume (vph) | 486 | 699 | 737 | 0 | 0 | 1064 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Lane 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





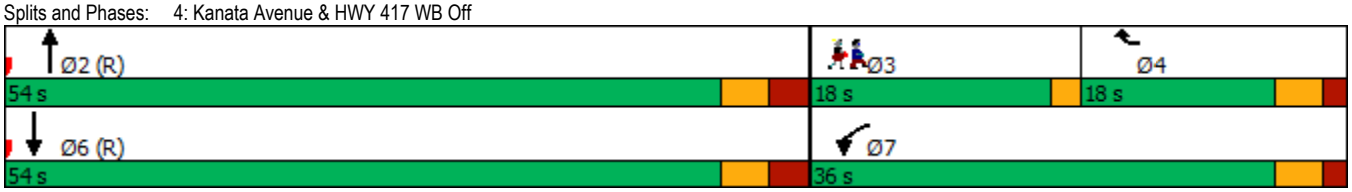
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø3 |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 252 | 239 | 367 | 0 | 0 | 940 | |
| Future Volume (vph) | 252 | 239 | 367 | 0 | 0 | 940 | |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 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





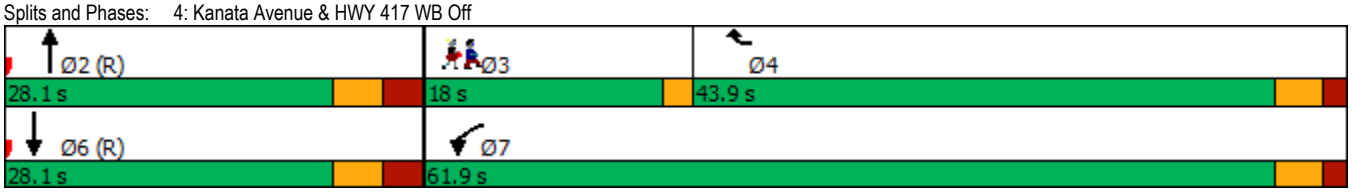
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø3 |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 486 | 699 | 737 | 0 | 0 | 1064 | |
| Future Volume (vph) | 486 | 699 | 737 | 0 | 0 | 1064 | |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 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



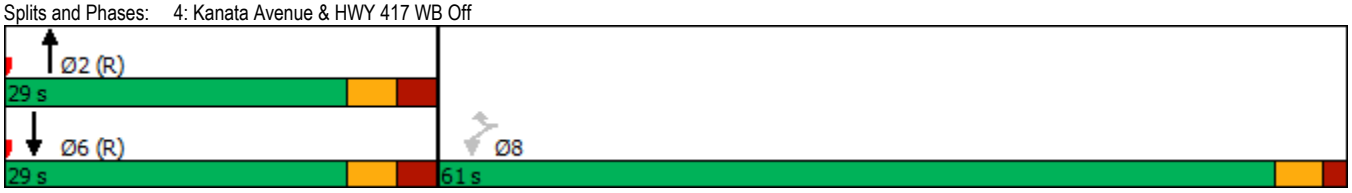


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 486 | 489 | 677 | 0 | 0 | 1064 |
| Future Volume (vph) | 486 | 489 | 677 | 0 | 0 | 1064 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Lane 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



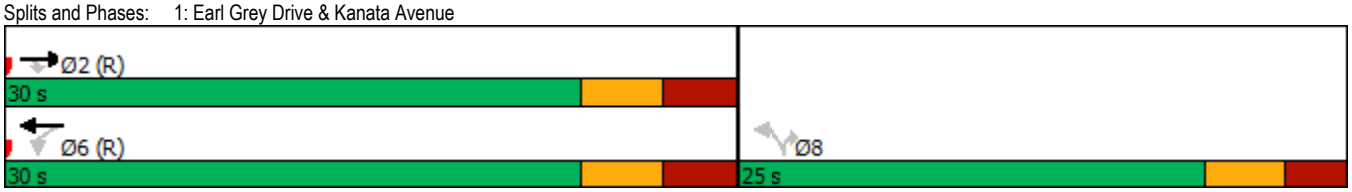


| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 754 | 37 | 57 | 371 | 10 | 35 |
| Future Volume (vph) | 754 | 37 | 57 | 371 | 10 | 35 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage 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

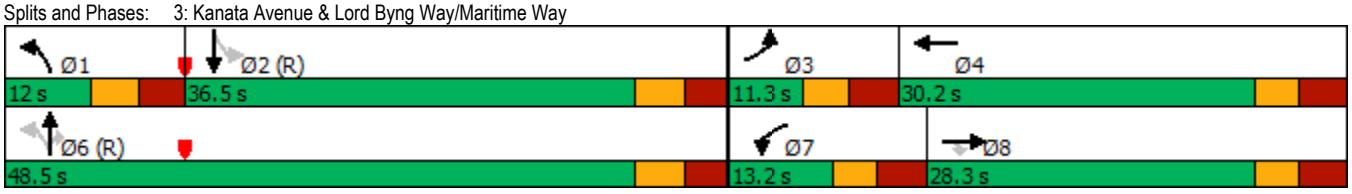


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 19 | 6 | 36 | 174 | 2 | 51 | 85 | 346 | 159 | 23 | 653 | 16 |
| Future Volume (vph) | 19 | 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



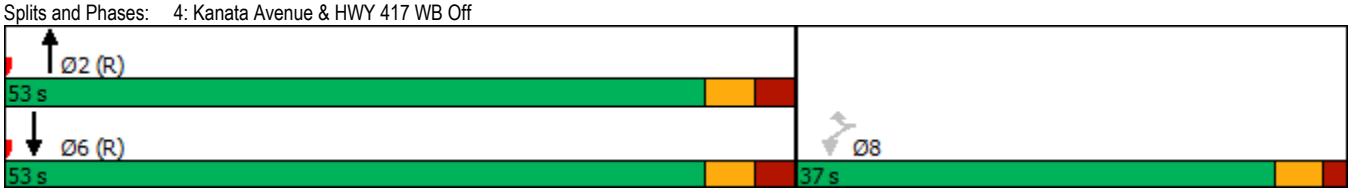


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 273 | 258 | 395 | 0 | 0 | 987 |
| Future Volume (vph) | 273 | 258 | 395 | 0 | 0 | 987 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Lane 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



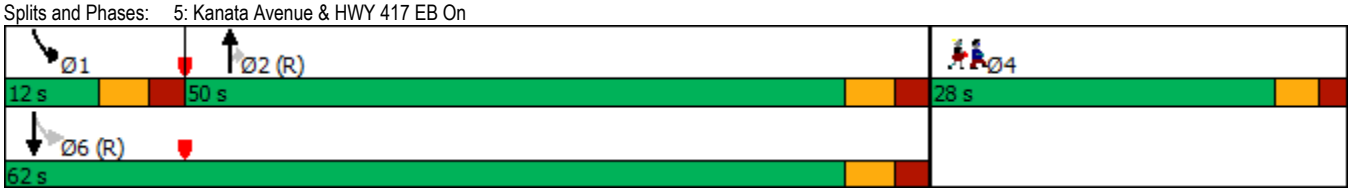


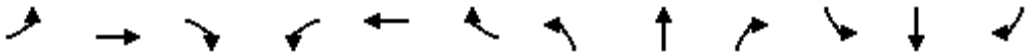
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø4 |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 365 | 247 | 485 | 628 | |
| Future Volume (vph) | 0 | 0 | 365 | 247 | 485 | 628 | |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 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





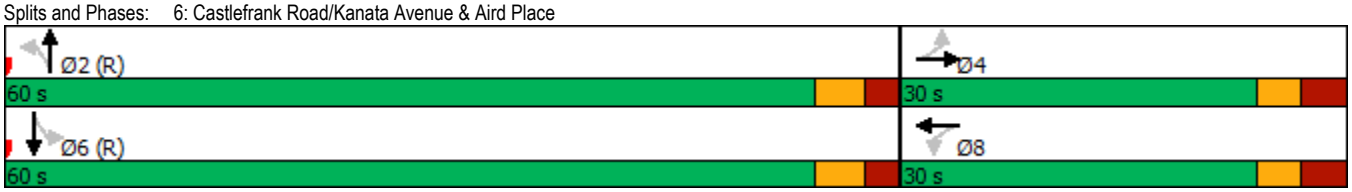
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 45 | 6 | 18 | 19 | 6 | 61 | 41 | 605 | 36 | 52 | 561 | 41 |
| Future Volume (vph) | 45 | 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 | |

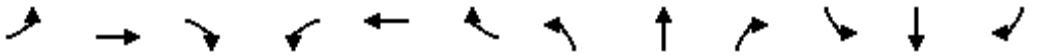
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | | 2.4 | 2.4 | | 2.4 | 2.4 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost 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



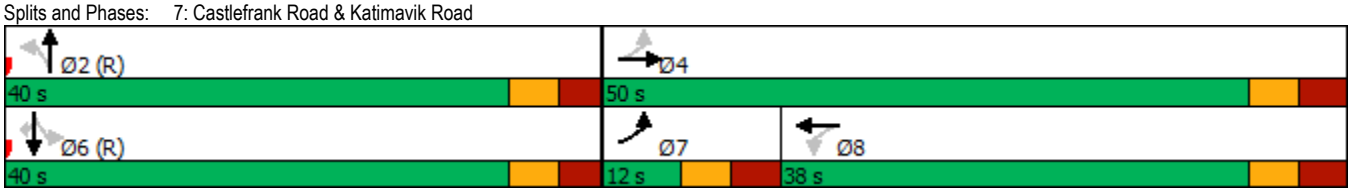


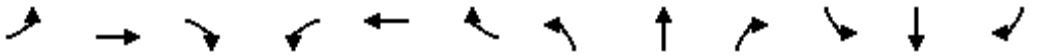
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 158 | 130 | 72 | 34 | 114 | 34 | 123 | 420 | 51 | 79 | 323 | 100 |
| Future Volume (vph) | 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





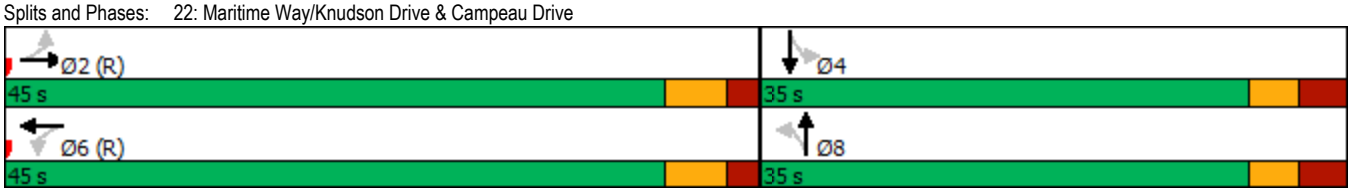
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 52 | 685 | 14 | 67 | 469 | 81 | 18 | 18 | 154 | 171 | 11 | 57 |
| Future Volume (vph) |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



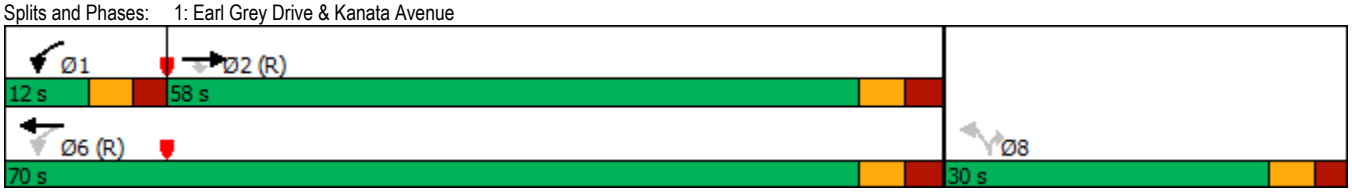


| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 649 | 82 | 214 | 742 | 79 | 177 |
| Future Volume (vph) | 649 | 82 | 214 | 742 | 79 | 177 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| 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

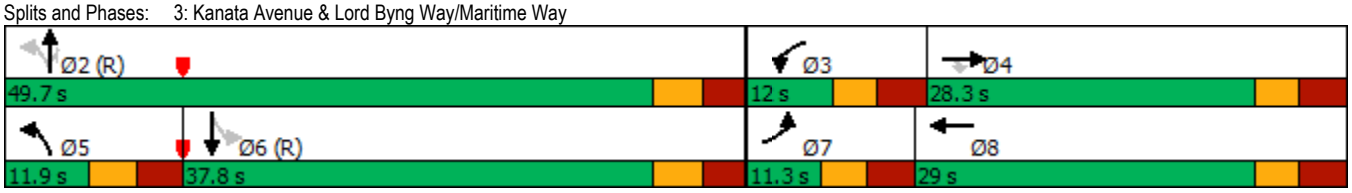


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 3 | 78 | 143 | 9 | 51 | 136 | 885 | 213 | 76 | 685 | 25 |
| Future Volume (vph) | 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 | | | | | | |

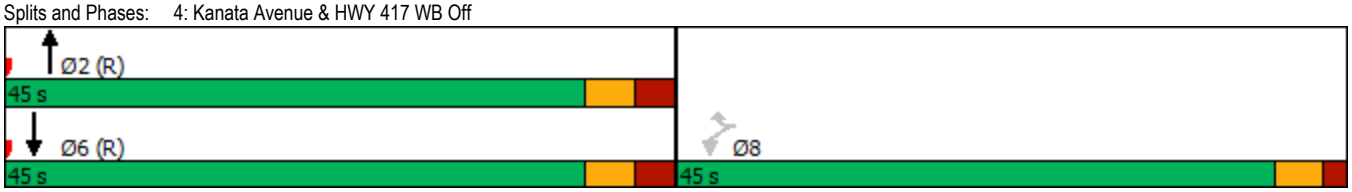
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | | 3.0 |
| Recall Mode | None | None | C-Max | | | C-Max |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | | | |
| Flash Dont Walk (s) | 11.0 | 11.0 | 15.0 | | | |
| 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



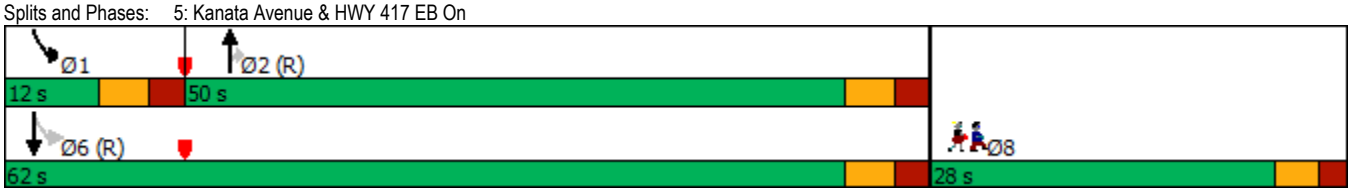


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø8 |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 645 | 224 | 439 | 1040 | |
| Future Volume (vph) | 0 | 0 | 645 | 224 | 439 | 1040 | |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 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



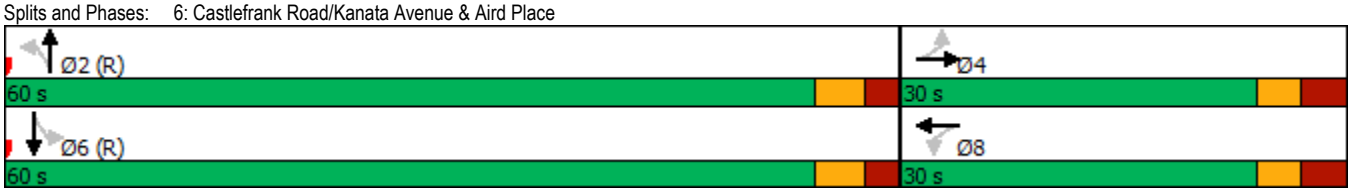
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 3 | 13 | 30 | 1 | 97 | 12 | 866 | 35 | 62 | 1035 | 24 |
| Future Volume (vph) | 17 | 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 | |

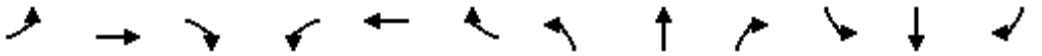
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | | 2.4 | 2.4 | | 2.4 | 2.4 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost 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





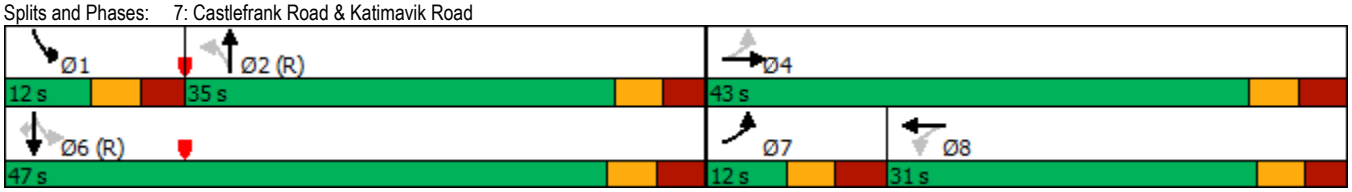
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 144 | 140 | 75 | 92 | 200 | 105 | 41 | 468 | 60 | 115 | 708 | 198 |
| Future Volume (vph) | 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 |

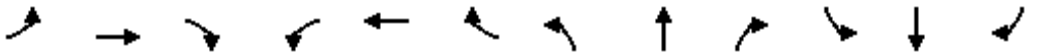
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 3.4 | 3.4 | | 2.9 | 2.9 | | 2.9 | 2.9 | | 2.9 | 3.4 | 3.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 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





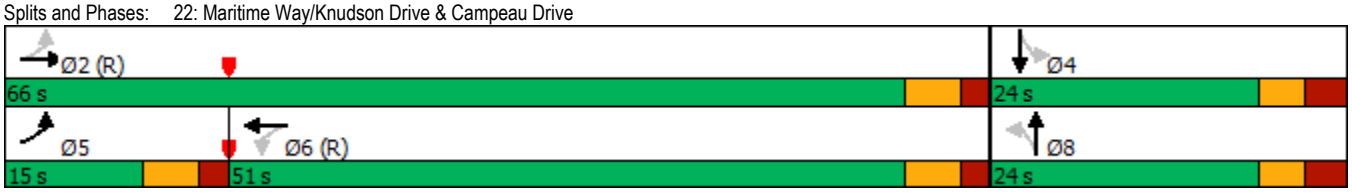
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 71 | 476 | 33 | 126 | 657 | 112 | 13 | 15 | 91 | 42 | 11 | 77 |
| Future Volume (vph) | 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



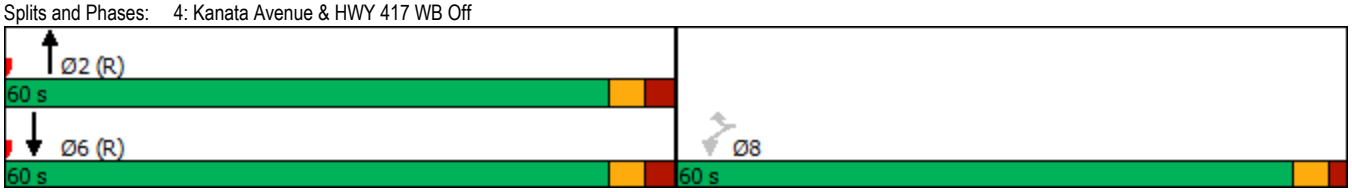


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 528 | 754 | 791 | 0 | 0 | 1145 |
| Future Volume (vph) | 528 | 754 | 791 | 0 | 0 | 1145 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Lane 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





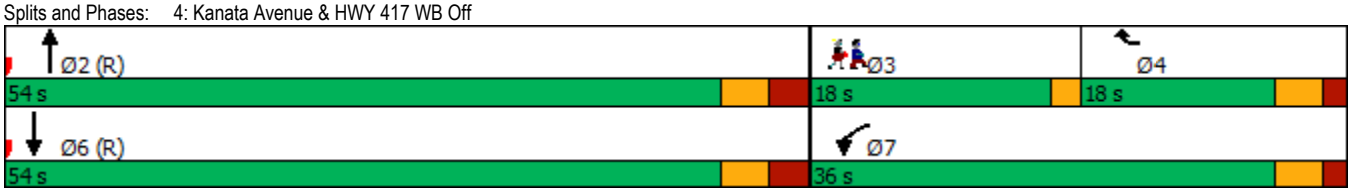
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø3 |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 273 | 258 | 395 | 0 | 0 | 1006 | |
| Future Volume (vph) | 273 | 258 | 395 | 0 | 0 | 1006 | |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 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





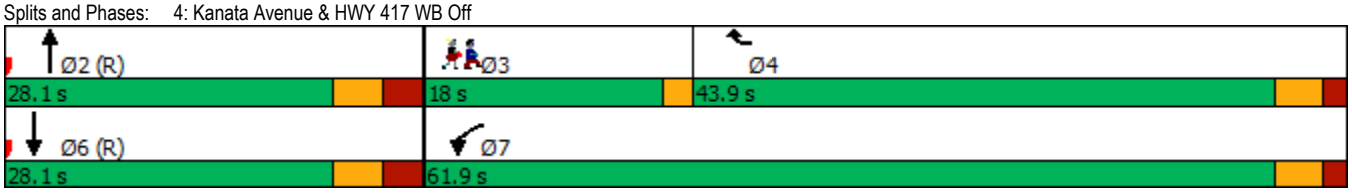
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø3 |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 528 | 754 | 791 | 0 | 0 | 1145 | |
| Future Volume (vph) | 528 | 754 | 791 | 0 | 0 | 1145 | |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 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





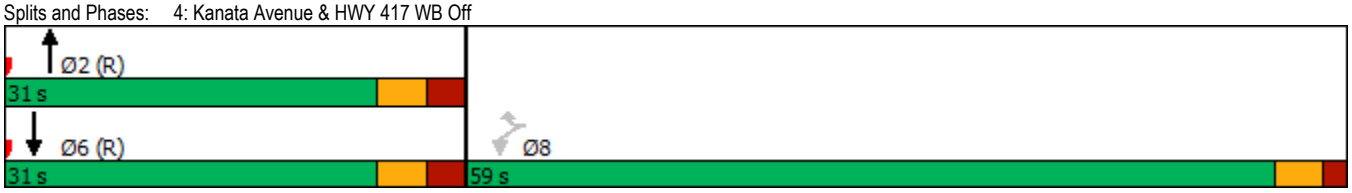
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 528 | 494 | 681 | 0 | 0 | 1145 |
| Future Volume (vph) | 528 | 494 | 681 | 0 | 0 | 1145 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Lane 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



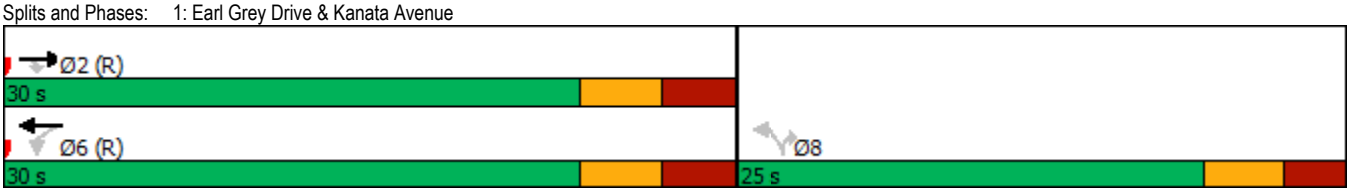


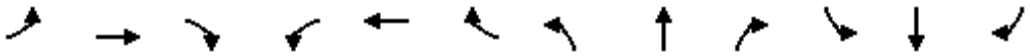
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 803 | 37 | 57 | 393 | 10 | 35 |
| Future Volume (vph) | 803 | 37 | 57 | 393 | 10 | 35 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage 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



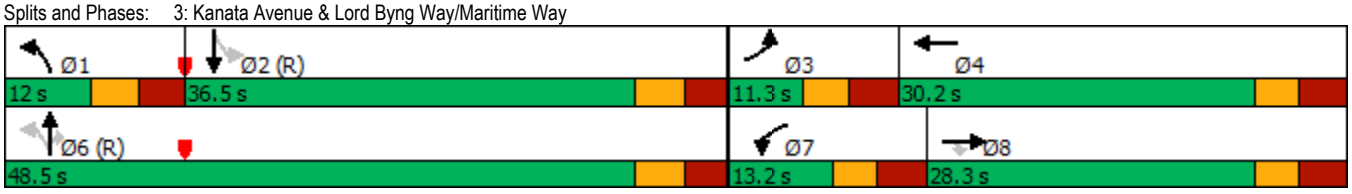


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 19 | 6 | 36 | 184 | 2 | 53 | 85 | 369 | 170 | 24 | 695 | 16 |
| Future Volume (vph) | 19 | 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



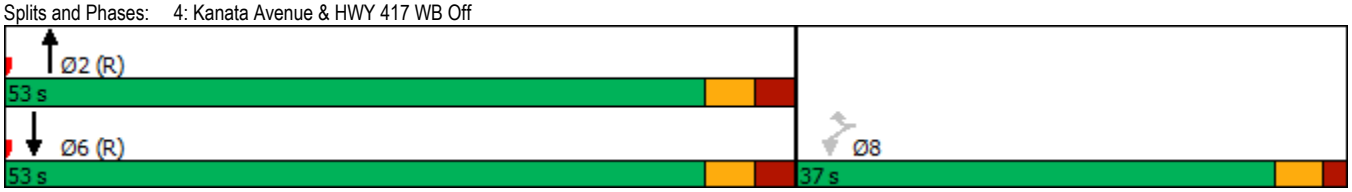


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 295 | 276 | 423 | 0 | 0 | 1072 |
| Future Volume (vph) | 295 | 276 | 423 | 0 | 0 | 1072 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Lane 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



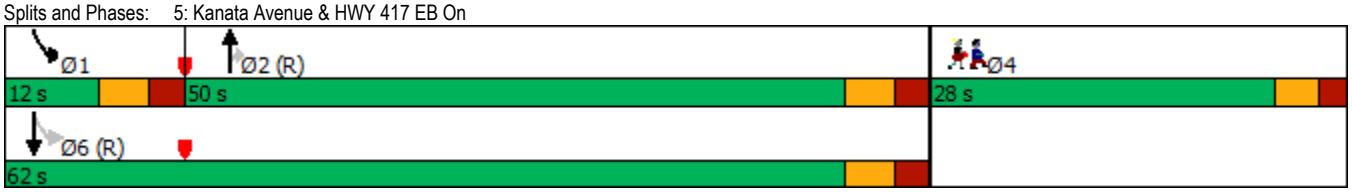


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø4 |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 390 | 267 | 519 | 669 | |
| Future Volume (vph) | 0 | 0 | 390 | 267 | 519 | 669 | |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 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



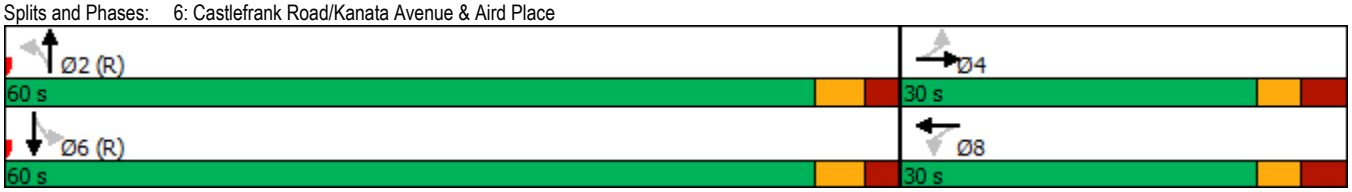
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 45 | 6 | 18 | 19 | 6 | 61 | 41 | 650 | 36 | 52 | 597 | 41 |
| Future Volume (vph) | 45 | 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 | |

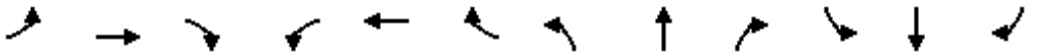
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | | 2.4 | 2.4 | | 2.4 | 2.4 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost 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



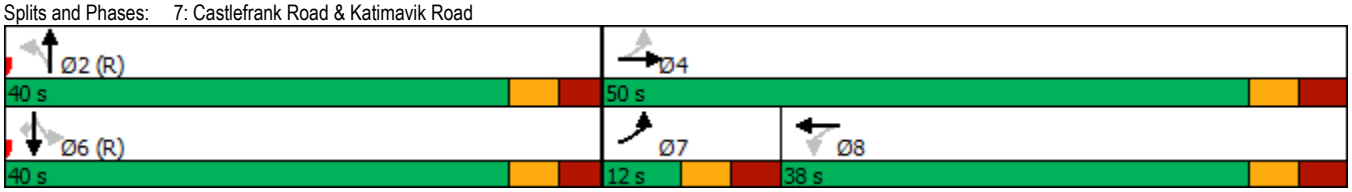


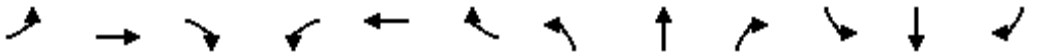
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 158 | 130 | 72 | 34 | 114 | 34 | 123 | 452 | 51 | 79 | 346 | 100 |
| Future Volume (vph) | 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





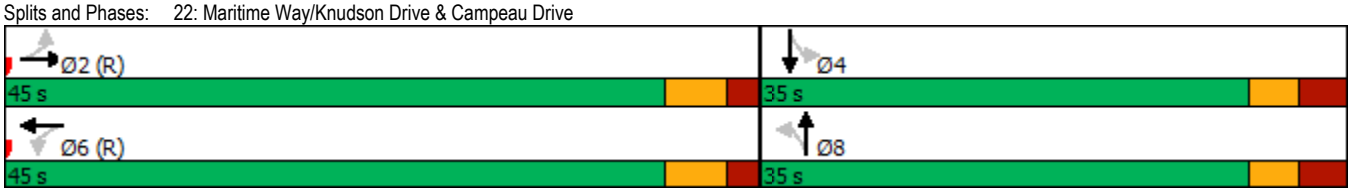
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 54 | 718 | 14 | 71 | 496 | 86 | 18 | 19 | 162 | 182 | 12 | 61 |
| Future Volume (vph) |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



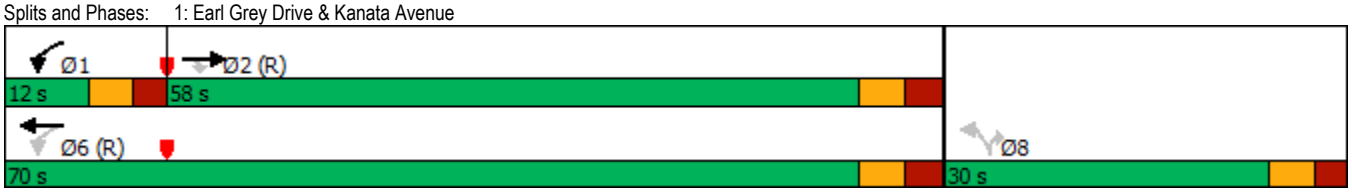


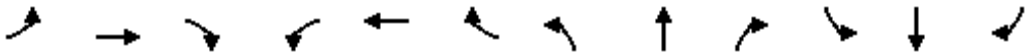
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 692 | 82 | 214 | 791 | 79 | 177 |
| Future Volume (vph) | 692 | 82 | 214 | 791 | 79 | 177 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| 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



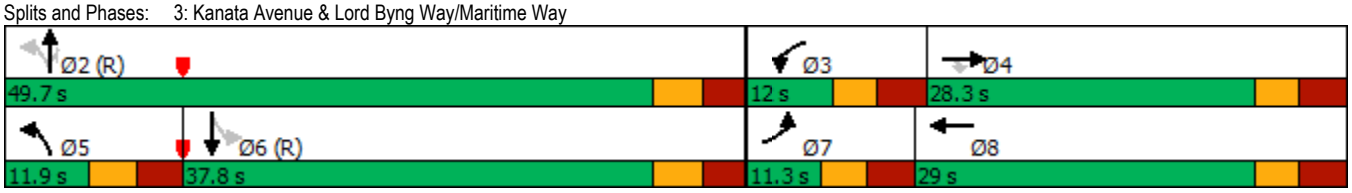


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 3 | 78 | 151 | 9 | 53 | 136 | 947 | 225 | 79 | 732 | 25 |
| Future Volume (vph) | 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





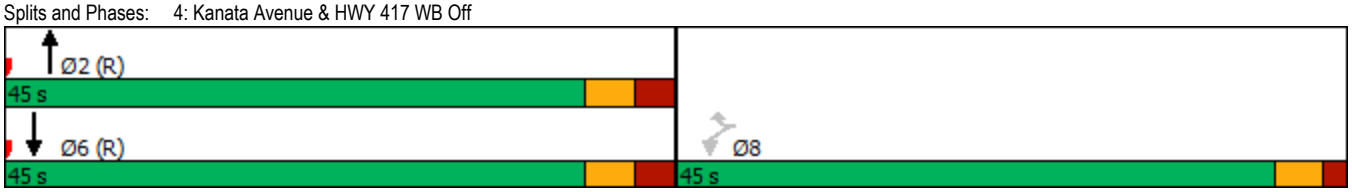
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 570 | 809 | 846 | 0 | 0 | 1226 |
| Future Volume (vph) | 570 | 809 | 846 | 0 | 0 | 1226 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Lane 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



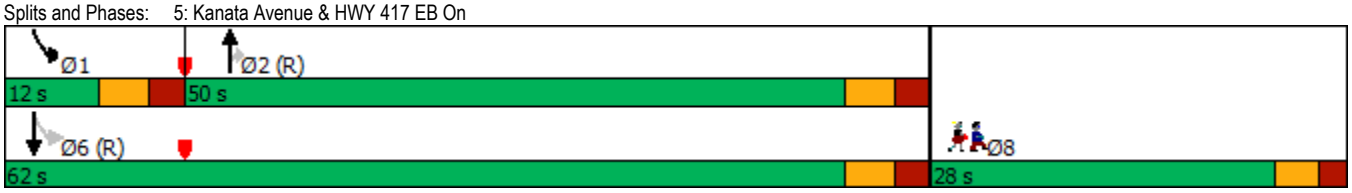


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø8 |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 689 | 242 | 470 | 1116 | |
| Future Volume (vph) | 0 | 0 | 689 | 242 | 470 | 1116 | |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 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



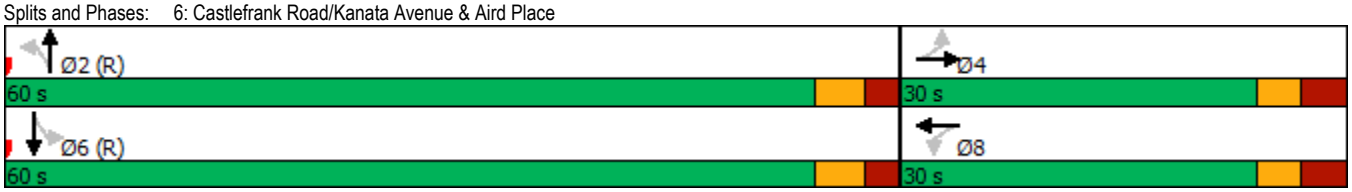
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 3 | 13 | 30 | 1 | 97 | 12 | 927 | 35 | 62 | 1111 | 24 |
| Future Volume (vph) | 17 | 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 | |

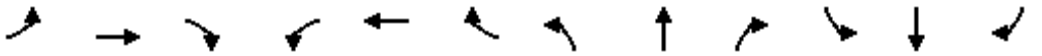
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | | 2.4 | 2.4 | | 2.4 | 2.4 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost 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





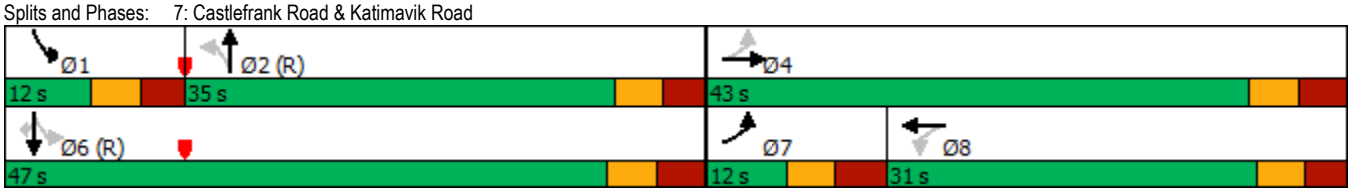
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 144 | 140 | 75 | 92 | 200 | 105 | 41 | 503 | 60 | 115 | 763 | 198 |
| Future Volume (vph) | 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 |

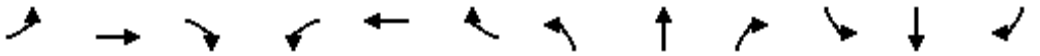
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 3.4 | 3.4 | | 2.9 | 2.9 | | 2.9 | 2.9 | | 2.9 | 3.4 | 3.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 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



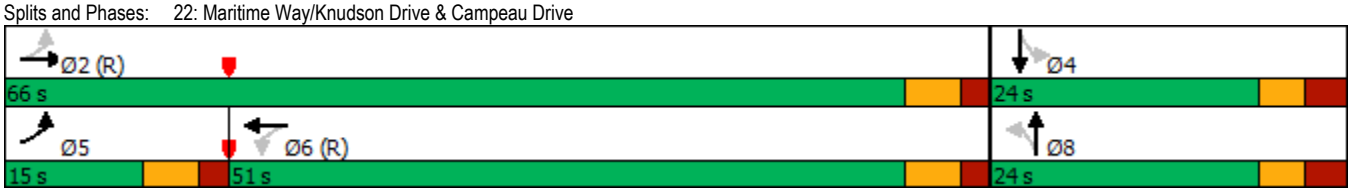


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 76 | 500 | 34 | 132 | 693 | 121 | 13 | 16 | 96 | 45 | 12 | 82 |
| Future Volume (vph) | 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



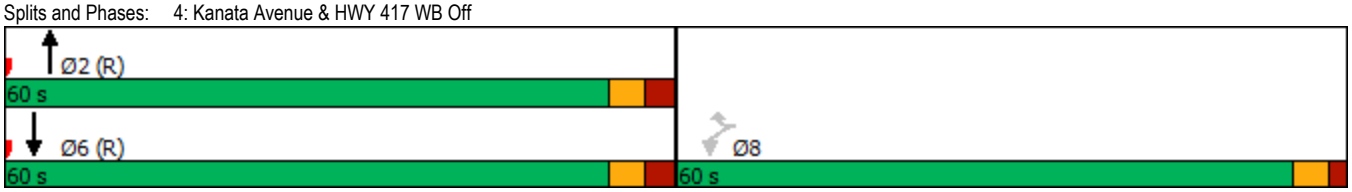


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 570 | 809 | 846 | 0 | 0 | 1226 |
| Future Volume (vph) | 570 | 809 | 846 | 0 | 0 | 1226 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Lane 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





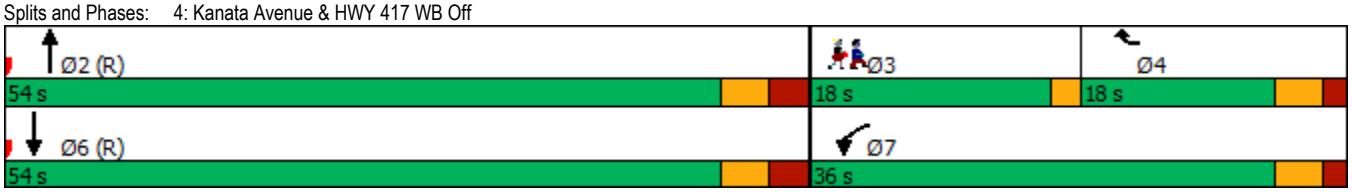
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø3 |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 295 | 276 | 423 | 0 | 0 | 1072 | |
| Future Volume (vph) | 295 | 276 | 423 | 0 | 0 | 1072 | |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 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



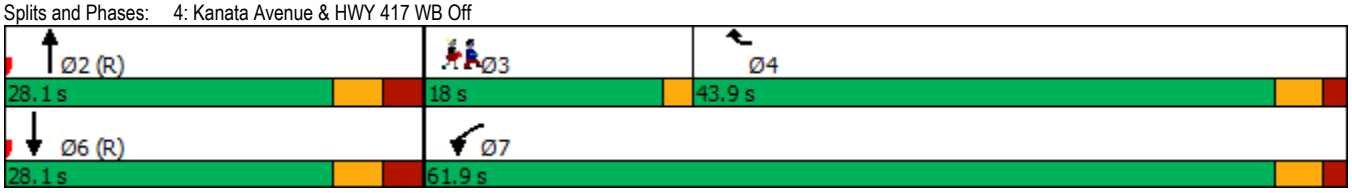


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø3 |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 570 | 809 | 846 | 0 | 0 | 1226 | |
| Future Volume (vph) | 570 | 809 | 846 | 0 | 0 | 1226 | |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 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



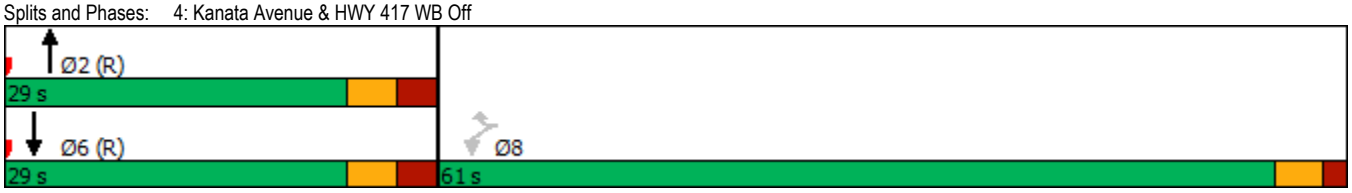


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 530 | 489 | 666 | 0 | 0 | 1226 |
| Future Volume (vph) | 530 | 489 | 666 | 0 | 0 | 1226 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Lane 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 |

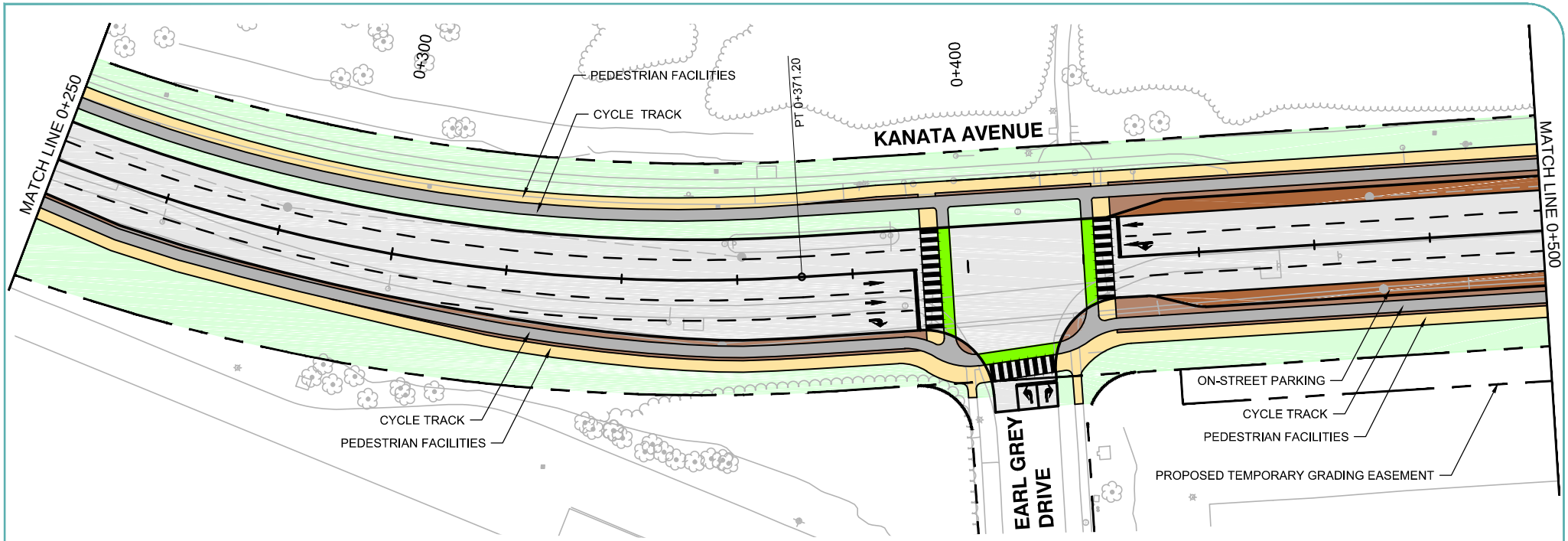
| Intersection Summary | | | |
|---|---|---|---|
| Area Type: | Other | | |
| Cycle Length: 90 | | | |
| Actuated Cycle Length: 90 | | | |
| Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green | | | |
| Natural Cycle: 60 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c 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. | | | |

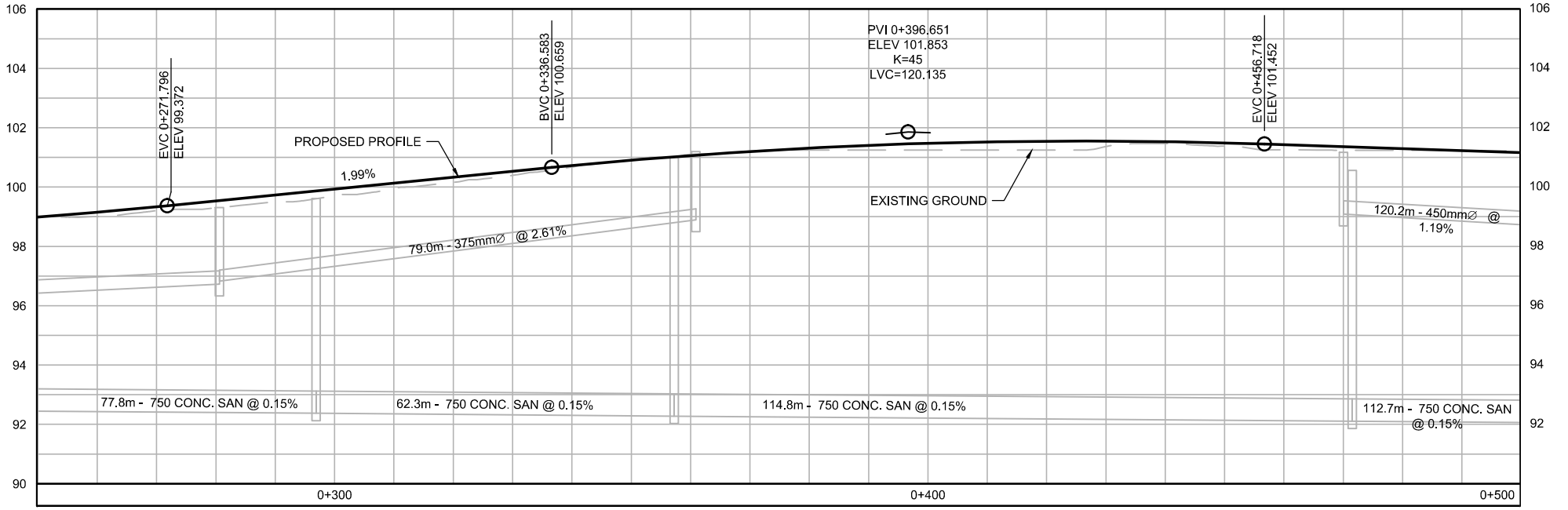
Splits and Phases: 4: Kanata Avenue & HWY 417 WB Off



# 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

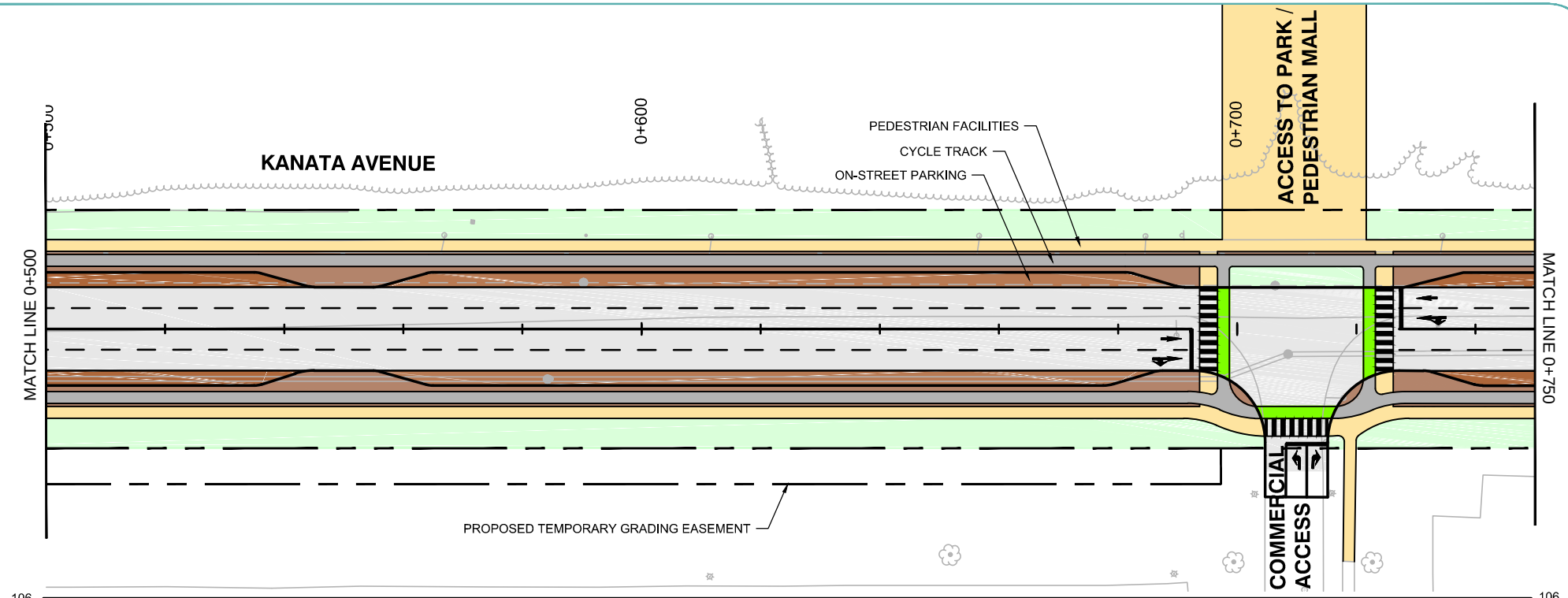
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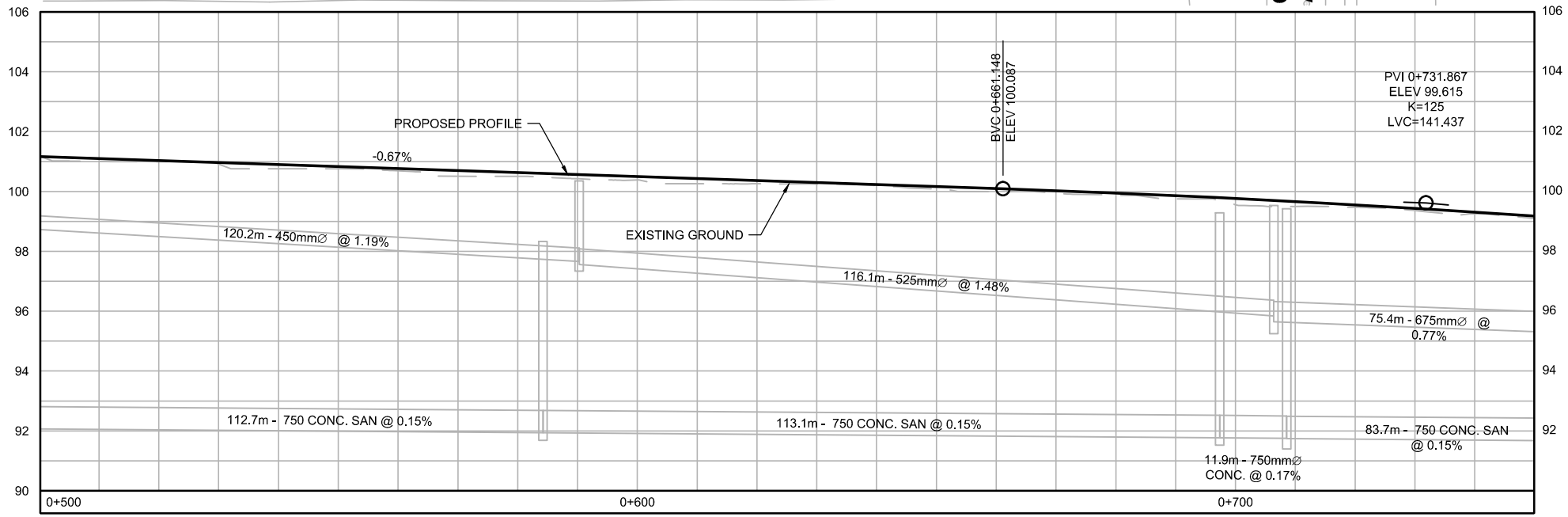
CREATED BY: DTM
CHECKED BY: LDM
DESIGNED BY: LDM

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

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




**CITY OF OTTAWA**
KANATA AVENUE MAIN STREET
MUNICIPAL CLASS EA

**PREFERRED DESIGN PLAN/PROFILE**
SHEET #03

DILLON CONSULTING

LEGEND

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

SCALE 1:1000
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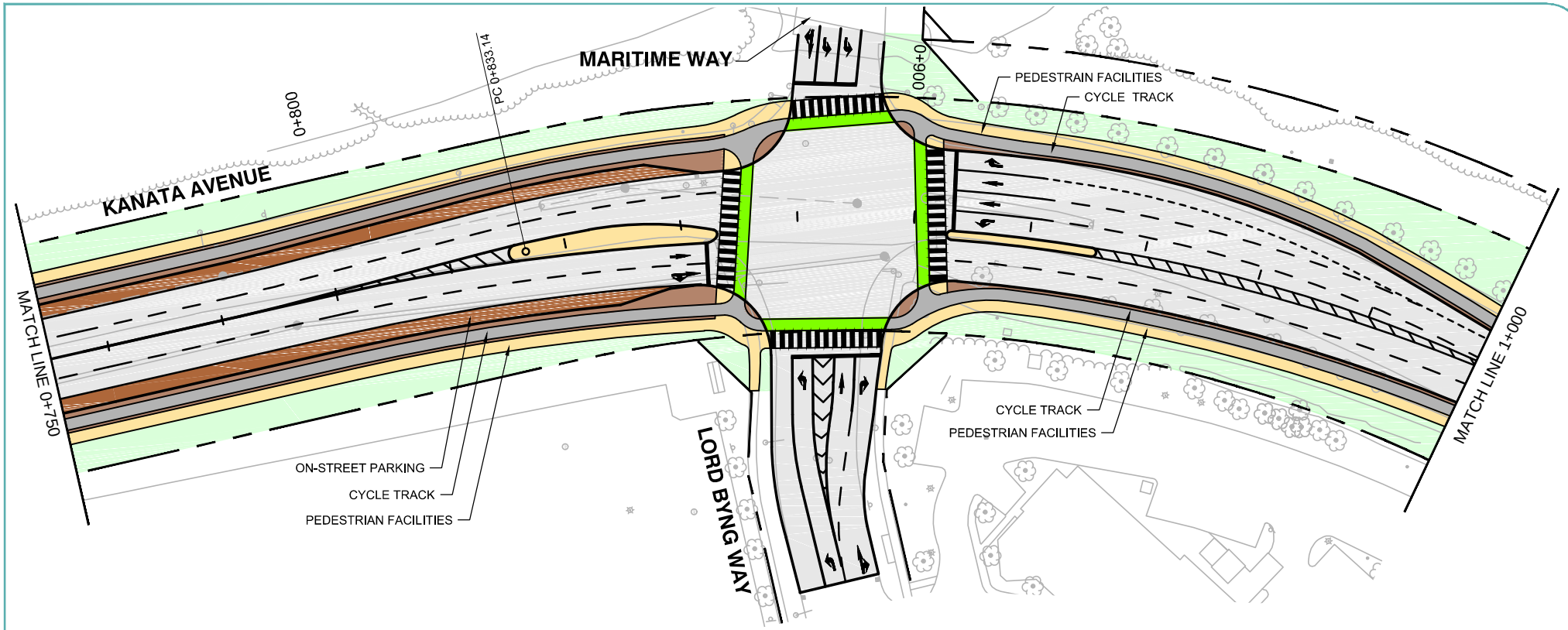
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CHECKED BY: LDM
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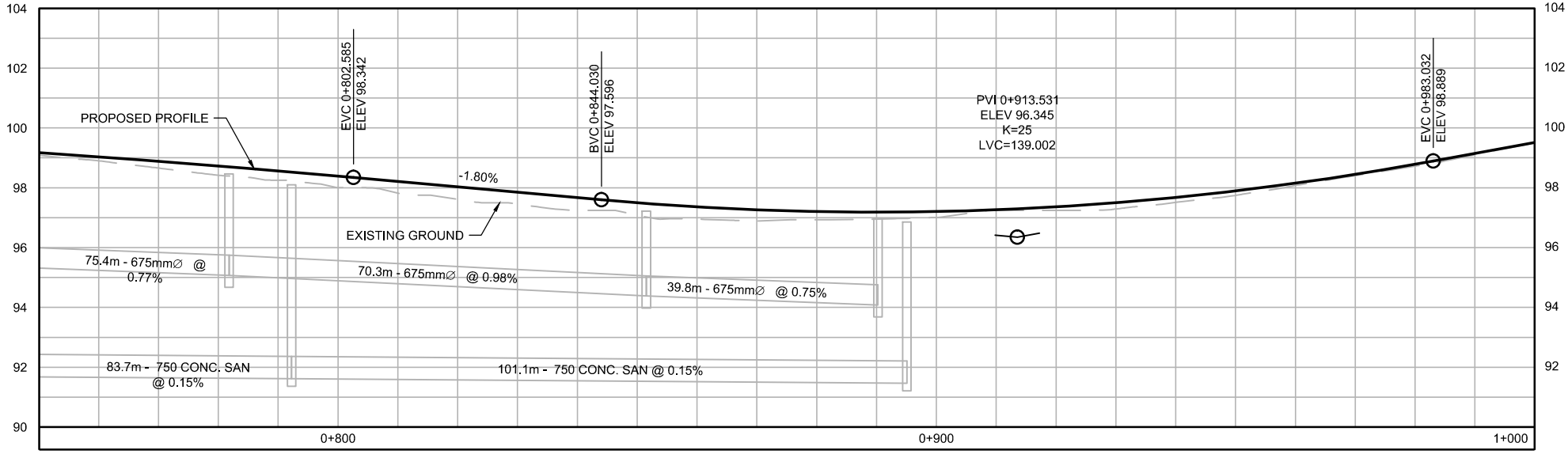
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MAP/DRAWING INFORMATION
BASE DATA PROVIDED BY CITY OF OTTAWA.

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




**CITY OF OTTAWA**
KANATA AVENUE MAIN STREET
MUNICIPAL CLASS EA

**PREFERRED DESIGN PLAN/PROFILE**
SHEET #04

DILLON CONSULTING

LEGEND

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

SCALE 1:1000
0 20m

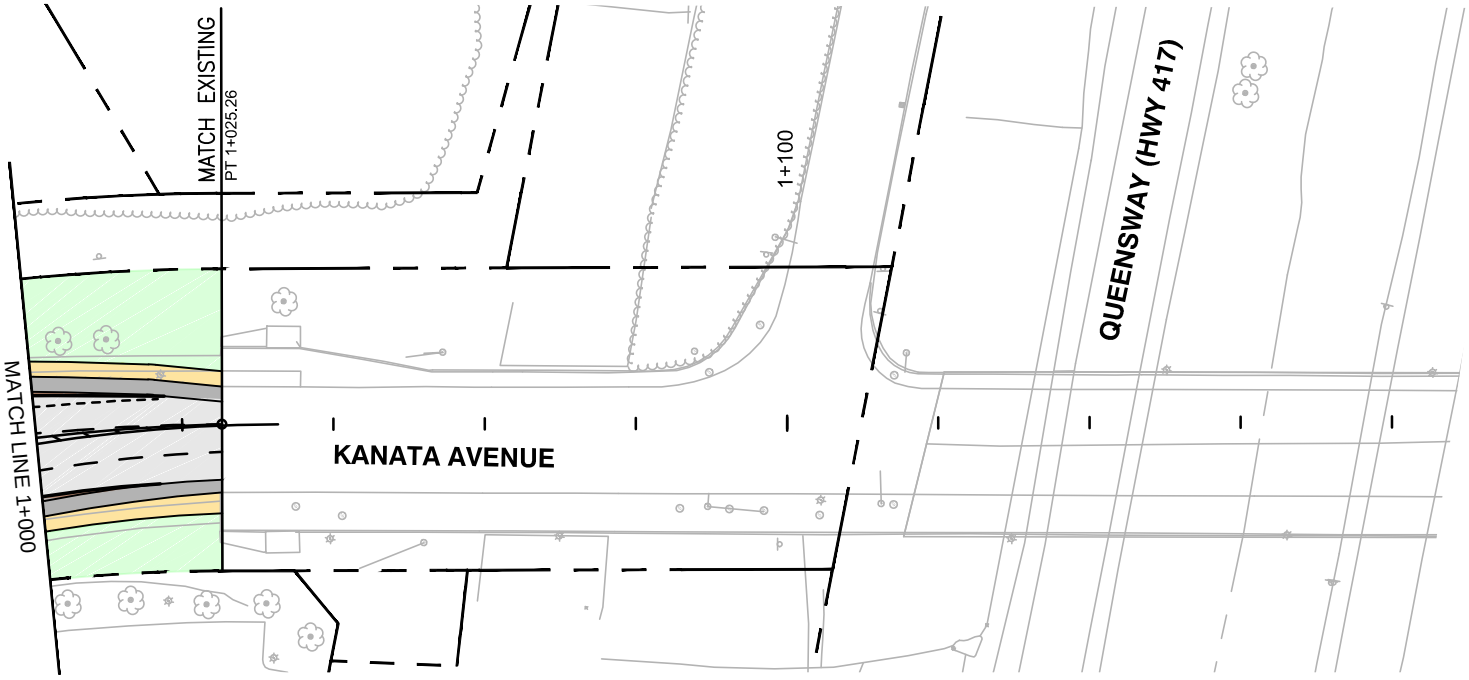
CREATED BY: DTM
CHECKED BY: LDM
DESIGNED BY: LDM

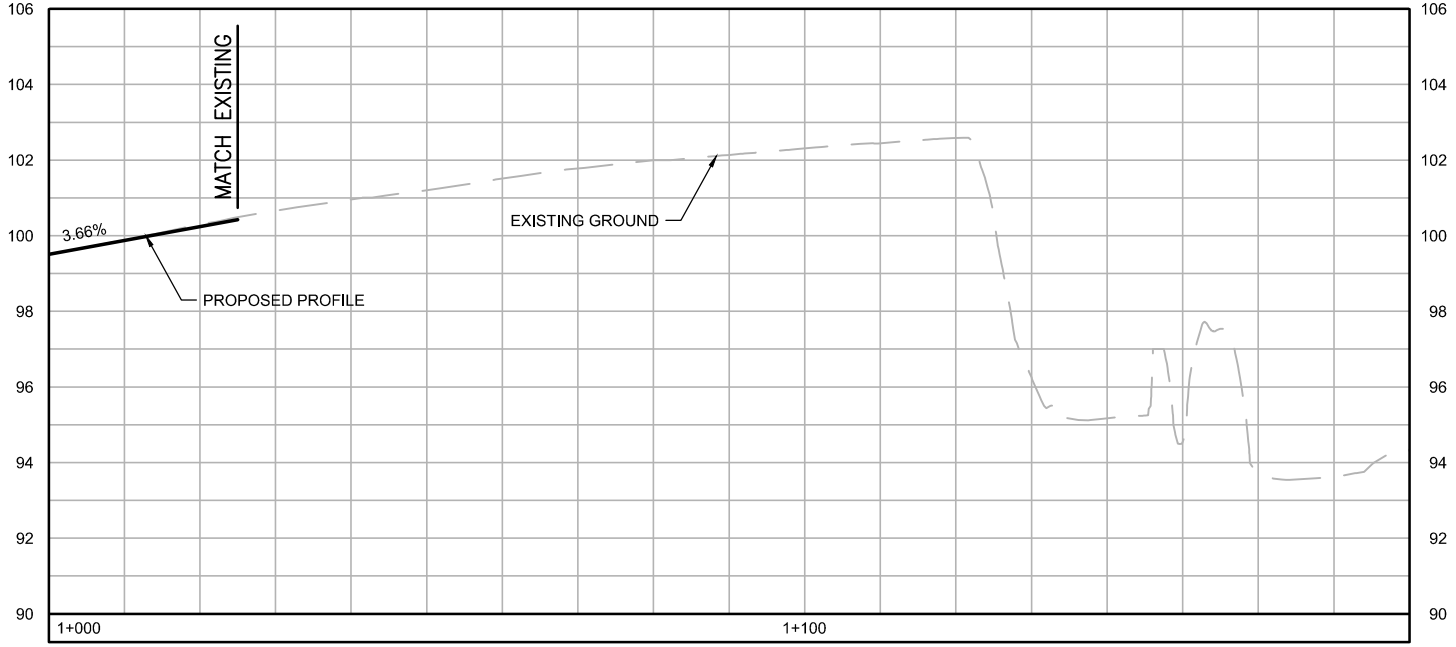
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MAP/DRAWING INFORMATION
BASE DATA PROVIDED BY CITY OF OTTAWA.

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




**CITY OF OTTAWA**
KANATA AVENUE MAIN STREET
MUNICIPAL CLASS EA

**PREFERRED DESIGN PLAN/PROFILE**
SHEET #05

DILLON CONSULTING

LEGEND

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

SCALE 1:1000
0 20m

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

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File Location:
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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 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 | ☑ |

# 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) | ☐ |

# 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 | 50 km/h | B |
| **Maritime Way (South Side)** | | | | | |
| 1.8m | 2.0m | > 3,000 vpd | Yes | 50 km/h | B |

### 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 | 50 km/h | A |
| **Maritime Way** | | | | | |
| Local | Local Route | Mixed Traffic | 1 | 50 km/h | B |

### 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[1]** | | | | |
| North Approach | Bike Lane | Right Turn Lane Characteristics | Not Applicable | - |
| | | Left Turn Accommodation | Not Applicable | - |
| South Approach | Pocket 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 | - |
| **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

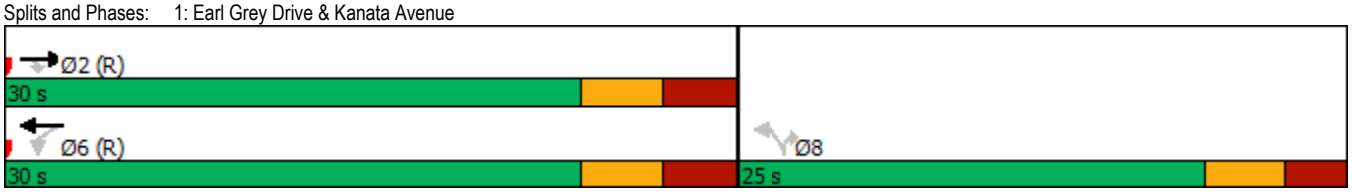


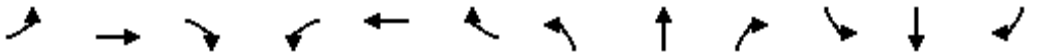
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 713 | 37 | 57 | 372 | 10 | 35 |
| Future Volume (vph) | 713 | 37 | 57 | 372 | 10 | 35 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage 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





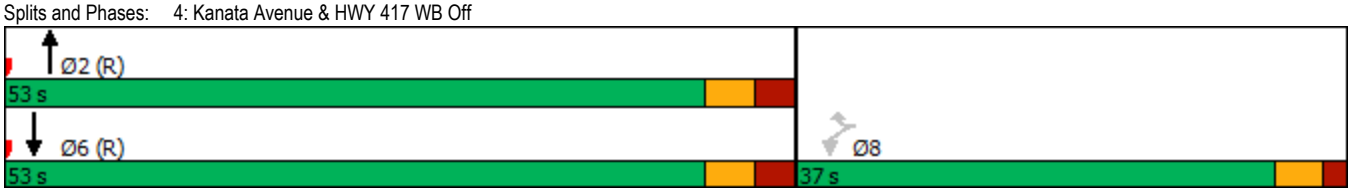
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 252 | 247 | 376 | 0 | 0 | 992 |
| Future Volume (vph) | 252 | 247 | 376 | 0 | 0 | 992 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Lane 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



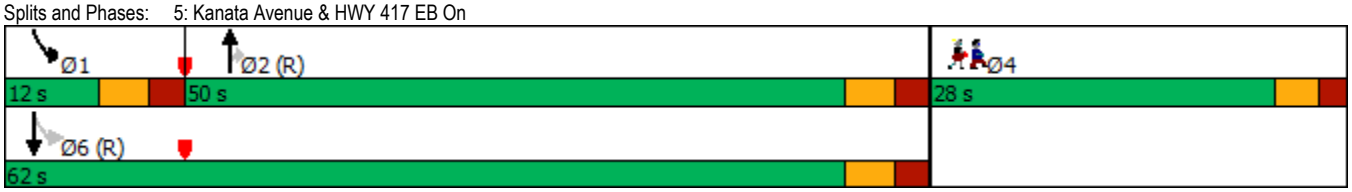


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø4 |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 348 | 227 | 476 | 615 | |
| Future Volume (vph) | 0 | 0 | 348 | 227 | 476 | 615 | |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 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



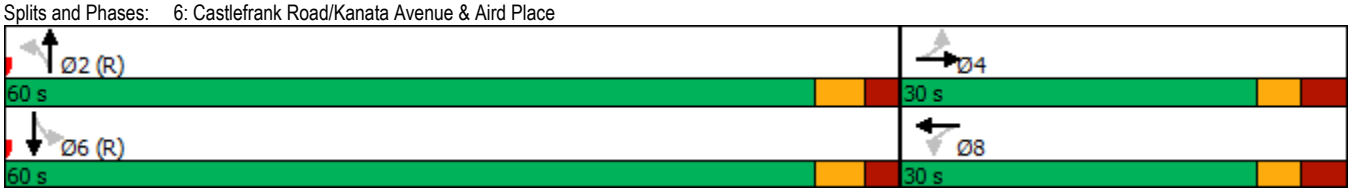
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 45 | 6 | 18 | 19 | 6 | 61 | 41 | 570 | 36 | 52 | 554 | 41 |
| Future Volume (vph) | 45 | 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 | |

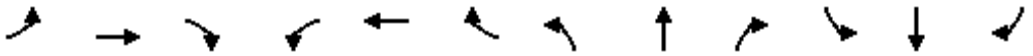
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | | 2.4 | 2.4 | | 2.4 | 2.4 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost 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



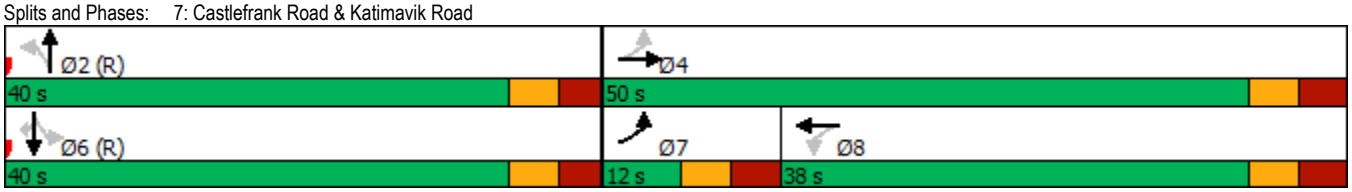


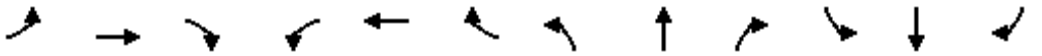
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 161 | 130 | 72 | 34 | 114 | 37 | 123 | 391 | 51 | 89 | 310 | 110 |
| Future Volume (vph) | 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





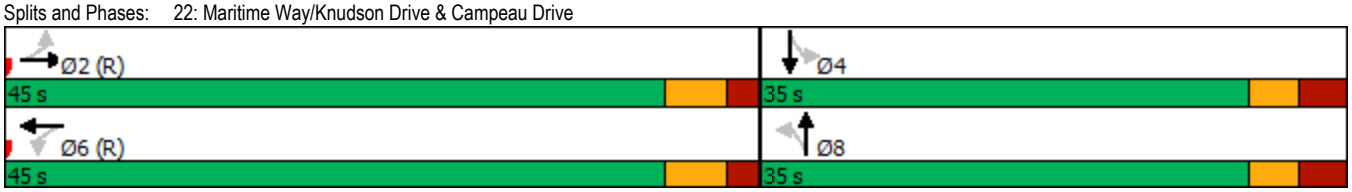
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 50 | 652 | 13 | 68 | 442 | 75 | 17 | 17 | 164 | 160 | 10 | 53 |
| Future Volume (vph) | 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 | 24 | 6 | 174 | 76 | 19 |
| Future Volume (Veh/h) | 161 | 24 | 6 | 174 | 76 | 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 | 24 | 6 | 174 | 76 | 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 | | | 185 | | 359 | 173 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 185 | | 359 | 173 |
| 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) | | | 1390 | | 637 | 871 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 185 | 180 | 95 |
| Volume Left | 0 | 6 | 76 |
| Volume Right | 24 | 0 | 19 |
| cSH | 1700 | 1390 | 673 |
| Volume to Capacity | 0.11 | 0.00 | 0.14 |
| Queue Length 95th (m) | 0.0 | 0.1 | 3.7 |
| 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 | 27.1% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

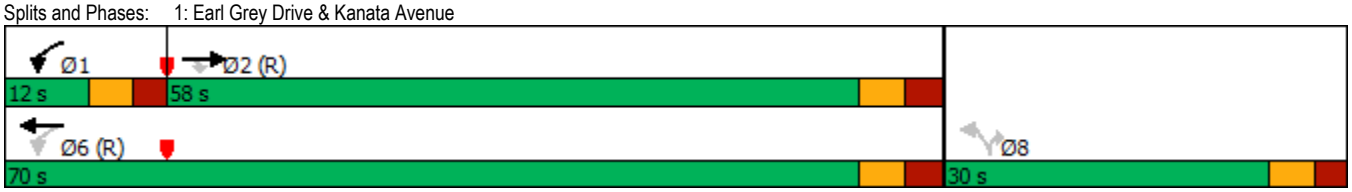


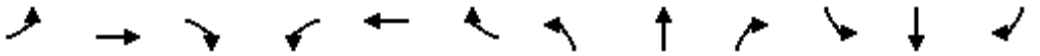
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 631 | 82 | 214 | 708 | 79 | 177 |
| Future Volume (vph) | 631 | 82 | 214 | 708 | 79 | 177 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| 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 | | | 0.301 | | 0.950 | |
| Satd. Flow (perm) | 1640 | 1483 | 537 | 1784 | 1695 | 1482 |
| Right Turn on Red | | Yes | | | | Yes |
| Satd. Flow (RTOR) | | 80 | | | | 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) | 631 | 82 | 214 | 708 | 79 | 177 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 631 | 82 | 214 | 708 | 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 | 0.41 | 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 | 15.1 | | | 6.7 | 23.3 | |
| Approach LOS | B | | | A | C | |
| Queue Length 50th (m) | 66.6 | 0.2 | 8.2 | 40.4 | 14.7 | 0.0 |
| Queue Length 95th (m) | 136.9 | 7.0 | 20.7 | 91.6 | 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 | 516 | 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 | 0.41 | 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 67.6% | | 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 | 166 | 9 | 63 | 136 | 824 | 253 | 96 | 638 | 25 |
| Future Volume (vph) | 30 | 3 | 78 | 166 | 9 | 63 | 136 | 824 | 253 | 96 | 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 | | | 0.869 | | | 0.965 | | | 0.994 | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1262 | 950 | 0 | 1695 | 1494 | 0 | 1503 | 1712 | 0 | 1695 | 1760 | 0 |
| Flt Permitted | 0.710 | | | 0.704 | | | 0.187 | | | 0.103 | | |
| Satd. Flow (perm) | 924 | 950 | 0 | 969 | 1494 | 0 | 296 | 1712 | 0 | 184 | 1760 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 78 | | | 63 | | | 32 | | | 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 | 166 | 9 | 63 | 136 | 824 | 253 | 96 | 638 | 25 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 30 | 81 | 0 | 166 | 72 | 0 | 136 | 1077 | 0 | 96 | 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) | 19.7 | 19.7 | | 19.7 | 19.7 | | 57.7 | 57.7 | | 43.4 | 43.4 | |
| 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 | | 0.78 | 0.19 | | 0.46 | 0.97 | | 1.09 | 0.78 | |
| Control Delay | 29.1 | 10.6 | | 53.9 | 7.3 | | 7.5 | 20.1 | | 152.8 | 28.6 | |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.5 | | 0.0 | 0.0 | |
| Total Delay | 29.1 | 10.6 | | 53.9 | 7.3 | | 7.5 | 20.7 | | 152.8 | 28.6 | |
| LOS | C | B | | D | A | | A | C | | F | C | |
| Approach Delay | | 15.6 | | | 39.8 | | | 19.2 | | | 44.3 | |
| Approach LOS | | B | | | D | | | B | | | D | |
| Queue Length 50th (m) | 4.1 | 0.4 | | 26.4 | 3.0 | | 8.5 | ~135.8 | | ~19.8 | 96.8 | |
| Queue Length 95th (m) | 11.2 | 11.5 | | #56.4 | 10.9 | | m8.4 | m#135.0 | | #49.6 | #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) | 222 | 288 | | 233 | 408 | | 306 | 1108 | | 88 | 849 | |
| 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 | | 0.71 | 0.18 | | 0.44 | 0.98 | | 1.09 | 0.78 | |

**Intersection Summary**

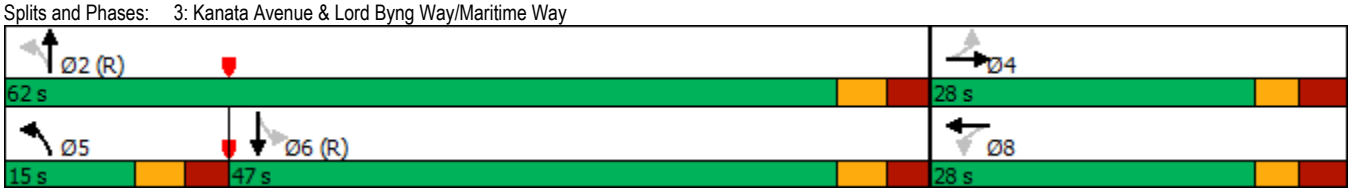
Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 31 (34%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.09
Intersection Signal Delay: 29.4 Intersection LOS: C
Intersection Capacity Utilization 104.4% 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



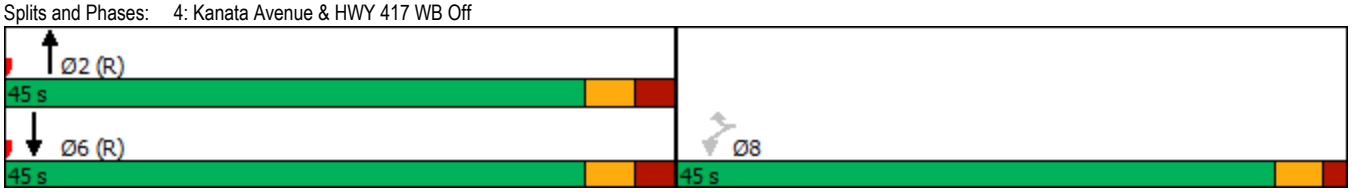


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 486 | 723 | 766 | 0 | 0 | 1069 |
| Future Volume (vph) | 486 | 723 | 766 | 0 | 0 | 1069 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Lane 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) | | 104 | | | | |
| 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 | 766 | 0 | 0 | 1069 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 486 | 723 | 766 | 0 | 0 | 1069 |
| 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 | 1.01 | | | 0.74 |
| Control Delay | 24.4 | 53.5 | 52.5 | | | 22.0 |
| Queue Delay | 0.4 | 1.5 | 31.5 | | | 0.0 |
| Total Delay | 24.8 | 55.0 | 84.0 | | | 22.0 |
| LOS | C | E | F | | | C |
| Approach Delay | 42.9 | | 84.0 | | | 22.0 |
| Approach LOS | D | | F | | | C |
| Queue Length 50th (m) | 63.3 | 107.4 | ~107.1 | | | 53.2 |
| Queue Length 95th (m) | 96.5 | #185.6 | #202.3 | | | 75.4 |
| Internal Link Dist (m) | 308.8 | | 102.6 | | | 90.0 |
| Turn Bay Length (m) | | | | | | |
| Base Capacity (vph) | 753 | 732 | 756 | | | 1450 |
| Starvation Cap Reductn | 0 | 0 | 0 | | | 0 |
| Spillback Cap Reductn | 48 | 5 | 102 | | | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | | | 0 |
| Reduced v/c Ratio | 0.69 | 0.99 | 1.17 | | | 0.74 |

| 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: 1.01 | | | |
| Intersection Signal Delay: 45.9 | | Intersection LOS: D | |
| Intersection Capacity Utilization 127.5% | | 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



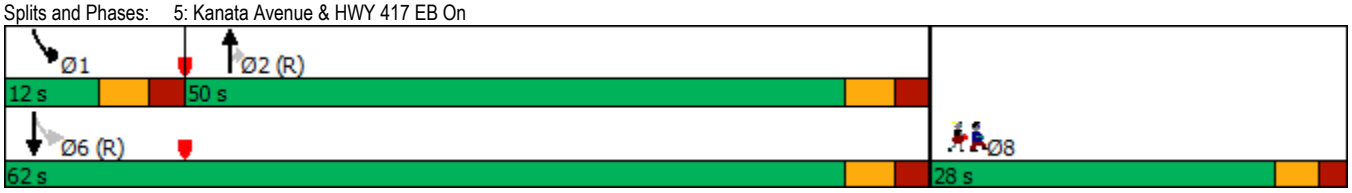


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø8 |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 631 | 206 | 423 | 981 | |
| Future Volume (vph) | 0 | 0 | 631 | 206 | 423 | 981 | |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 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 | | | | | 0.244 | | |
| Satd. Flow (perm) | 0 | 0 | 1733 | 1479 | 427 | 1784 | |
| Right Turn on Red | | Yes | | Yes | | | |
| Satd. Flow (RTOR) | | | | 195 | | | |
| 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 | 631 | 206 | 423 | 981 | |
| Shared Lane Traffic (%) | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 631 | 206 | 423 | 981 | |
| 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) | | | 51.8 | 51.8 | 78.9 | 83.5 | |
| Actuated g/C Ratio | | | 0.58 | 0.58 | 0.88 | 0.93 | |
| v/c Ratio | | | 0.63 | 0.22 | 0.63 | 0.59 | |
| Control Delay | | | 10.5 | 1.2 | 17.6 | 5.7 | |
| Queue Delay | | | 2.5 | 0.0 | 0.0 | 0.1 | |
| Total Delay | | | 13.0 | 1.2 | 17.6 | 5.8 | |
| LOS | | | B | A | B | A | |
| Approach Delay | | | 10.1 | | | 9.4 | |
| Approach LOS | | | B | | | A | |
| Queue Length 50th (m) | | | 51.5 | 2.4 | 26.3 | 7.8 | |
| Queue Length 95th (m) | | | 87.8 | m2.9 | #82.2 | #117.9 | |
| Internal Link Dist (m) | 254.4 | | 95.2 | | | 102.6 | |
| Turn Bay Length (m) | | | | 50.0 | | | |
| Base Capacity (vph) | | | 997 | 934 | 667 | 1654 | |
| Starvation Cap Reductn | | | 176 | 0 | 0 | 6 | |
| Spillback Cap Reductn | | | 241 | 0 | 0 | 105 | |
| Storage Cap Reductn | | | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | | | 0.83 | 0.22 | 0.63 | 0.63 | |

| 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: 0.63 | | | |
| Intersection Signal Delay: 9.6 | | Intersection LOS: A | |
| Intersection Capacity Utilization 127.5% | | 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



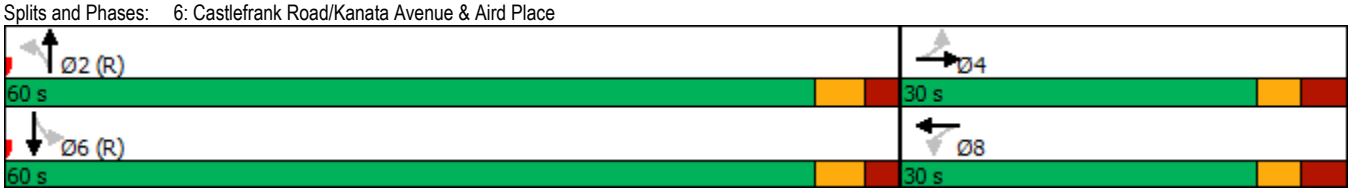
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 3 | 13 | 30 | 1 | 97 | 12 | 834 | 35 | 62 | 977 | 24 |
| Future Volume (vph) | 17 | 3 | 13 | 30 | 1 | 97 | 12 | 834 | 35 | 62 | 977 | 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 | | 0.204 | | | 0.266 | | |
| Satd. Flow (perm) | 0 | 1219 | 0 | 0 | 1415 | 0 | 364 | 1755 | 0 | 475 | 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 | 834 | 35 | 62 | 977 | 24 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 33 | 0 | 0 | 128 | 0 | 12 | 869 | 0 | 62 | 1001 | 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 | 0.65 | | 0.17 | 0.75 | |
| Control Delay | | 26.2 | | | 19.2 | | 4.8 | 8.5 | | 6.8 | 13.0 | |
| 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 | 13.0 | |
| LOS | | C | | | B | | A | A | | A | B | |
| Approach Delay | | 26.2 | | | 19.2 | | | 8.5 | | | 12.7 | |
| Approach LOS | | C | | | B | | | A | | | B | |
| Queue Length 50th (m) | | 3.3 | | | 5.1 | | 0.3 | 37.8 | | 3.3 | 89.8 | |
| Queue Length 95th (m) | | 9.9 | | | 17.8 | | m1.1 | 102.6 | | m5.7 | #229.2 | |
| 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 | | 274 | 1327 | | 359 | 1342 | |
| Starvation Cap Reductn | | 0 | | | 0 | | 0 | 18 | | 0 | 6 | |
| Spillback Cap Reductn | | 0 | | | 2 | | 0 | 44 | | 0 | 0 | |
| Storage Cap Reductn | | 0 | | | 0 | | 0 | 0 | | 0 | 0 | |
| Reduced v/c Ratio | | 0.10 | | | 0.29 | | 0.04 | 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 76.7% ICU Level of Service D
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

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



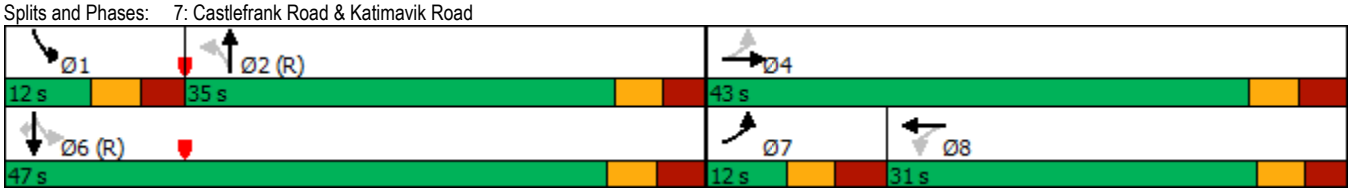
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 154 | 140 | 75 | 92 | 200 | 115 | 41 | 444 | 60 | 121 | 660 | 204 |
| Future Volume (vph) | 154 | 140 | 75 | 92 | 200 | 115 | 41 | 444 | 60 | 121 | 660 | 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 | | | 0.332 | | | 0.195 | | |
| Satd. Flow (perm) | 416 | 1666 | 0 | 1005 | 1626 | 0 | 581 | 1737 | 0 | 338 | 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) | 154 | 140 | 75 | 92 | 200 | 115 | 41 | 444 | 60 | 121 | 660 | 204 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 154 | 215 | 0 | 92 | 315 | 0 | 41 | 504 | 0 | 121 | 660 | 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 |

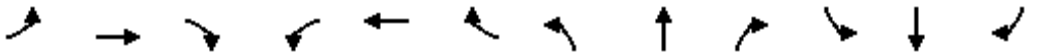
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 3.4 | 3.4 | | 2.9 | 2.9 | | 2.9 | 2.9 | | 2.9 | 3.4 | 3.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 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) | 31.8 | 31.8 | | 20.3 | 20.3 | | 32.1 | 32.1 | | 45.3 | 44.8 | 44.8 |
| 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 | 0.80 | | 0.20 | 0.81 | | 0.45 | 0.74 | 0.26 |
| Control Delay | 38.6 | 18.4 | | 33.9 | 44.9 | | 25.4 | 39.2 | | 16.0 | 21.5 | 4.1 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 38.6 | 18.4 | | 33.9 | 44.9 | | 25.4 | 39.2 | | 16.0 | 21.5 | 4.1 |
| LOS | D | B | | C | D | | C | D | | B | C | A |
| Approach Delay | | 26.9 | | | 42.4 | | | 38.2 | | | 17.2 | |
| Approach LOS | | C | | | D | | | D | | | B | |
| Queue Length 50th (m) | 18.5 | 21.8 | | 13.5 | 46.1 | | 5.1 | 80.8 | | 7.5 | 86.2 | 3.1 |
| Queue Length 95th (m) | #33.1 | 36.5 | | 26.1 | 71.6 | | 13.6 | #139.1 | | m13.9 | #155.1 | m10.9 |
| Internal Link Dist (m) | | 289.1 | | | 271.7 | | | 230.6 | | | 168.1 | |
| Turn Bay Length (m) | 35.0 | | | 55.0 | | | 35.0 | | | 90.0 | | 60.0 |
| Base Capacity (vph) | 220 | 693 | | 276 | 471 | | 207 | 625 | | 270 | 887 | 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 | 0.74 | 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: 28.2 Intersection LOS: C
Intersection Capacity Utilization 94.6% 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



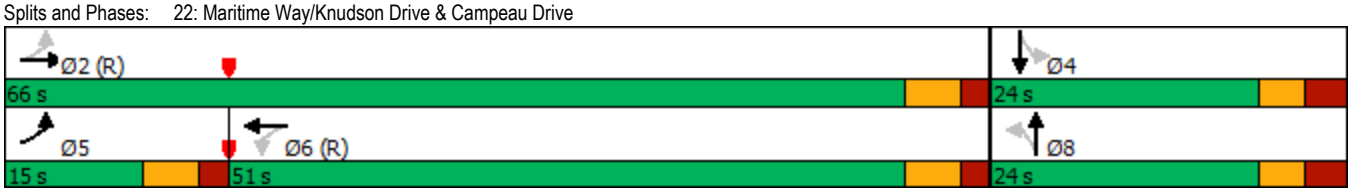


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 66 | 452 | 32 | 138 | 621 | 103 | 13 | 14 | 97 | 38 | 11 | 73 |
| Future Volume (vph) | 66 | 452 | 32 | 138 | 621 | 103 | 13 | 14 | 97 | 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 | | | 97 | | | 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 | 138 | 621 | 103 | 13 | 14 | 97 | 38 | 11 | 73 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 66 | 484 | 0 | 138 | 724 | 0 | 13 | 111 | 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 | | 0.23 | 0.61 | | 0.08 | 0.40 | | 0.25 | 0.33 | |
| Control Delay | 4.3 | 4.8 | | 10.1 | 14.4 | | 33.4 | 17.4 | | 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 | | 33.4 | 17.4 | | 38.7 | 14.4 | |
| LOS | A | A | | B | B | | C | B | | D | B | |
| Approach Delay | | 4.7 | | | 13.7 | | | 19.1 | | | 21.9 | |
| Approach LOS | | A | | | B | | | B | | | C | |
| Queue Length 50th (m) | 2.3 | 21.6 | | 9.6 | 71.1 | | 2.5 | 8.5 | | 6.1 | 1.8 | |
| Queue Length 95th (m) | 7.1 | 47.6 | | 24.6 | 142.5 | | m2.8 | m9.7 | | 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 | 379 | | 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 | | 0.23 | 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

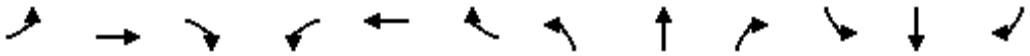




| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 226 | 77 | 19 | 159 | 47 | 12 |
| Future Volume (Veh/h) | 226 | 77 | 19 | 159 | 47 | 12 |
| Sign Control | Free | | | Free | Stop | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| Hourly flow rate (vph) | 226 | 77 | 19 | 159 | 47 | 12 |
| 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 | | | 303 | | 462 | 264 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 303 | | 462 | 264 |
| 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) | | | 1258 | | 550 | 774 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 303 | 178 | 59 |
| Volume Left | 0 | 19 | 47 |
| Volume Right | 77 | 0 | 12 |
| cSH | 1700 | 1258 | 584 |
| Volume to Capacity | 0.18 | 0.02 | 0.10 |
| Queue Length 95th (m) | 0.0 | 0.3 | 2.5 |
| Control Delay (s) | 0.0 | 1.0 | 11.9 |
| Lane LOS | | A | B |
| Approach Delay (s) | 0.0 | 1.0 | 11.9 |
| Approach LOS | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.6 | | |
| Intersection Capacity Utilization | 35.8% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

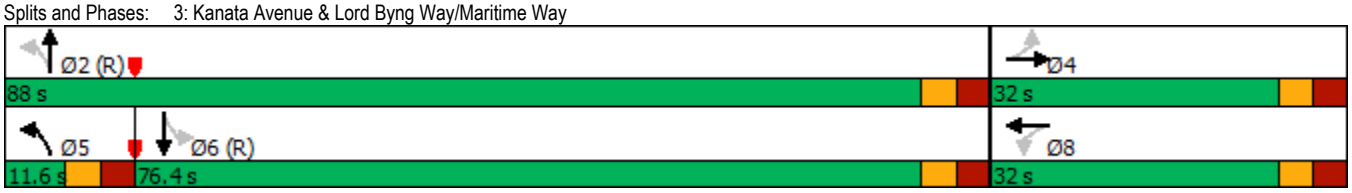


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 3 | 78 | 166 | 9 | 63 | 136 | 824 | 253 | 96 | 638 | 25 |
| Future Volume (vph) | 30 | 3 | 78 | 166 | 9 | 63 | 136 | 824 | 253 | 96 | 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 | | | 0.869 | | | 0.965 | | | 0.994 | |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1262 | 847 | 0 | 1695 | 1484 | 0 | 1503 | 1711 | 0 | 1695 | 1760 | 0 |
| Flt Permitted | 0.710 | | | 0.704 | | | 0.258 | | | 0.130 | | |
| Satd. Flow (perm) | 918 | 847 | 0 | 873 | 1484 | 0 | 408 | 1711 | 0 | 232 | 1760 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 78 | | | 63 | | | 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 | 166 | 9 | 63 | 136 | 824 | 253 | 96 | 638 | 25 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 30 | 81 | 0 | 166 | 72 | 0 | 136 | 1077 | 0 | 96 | 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 | | 0.92 | 0.20 | | 0.41 | 0.91 | | 0.71 | 0.64 | |
| Control Delay | 40.9 | 13.5 | | 95.6 | 13.1 | | 6.5 | 17.3 | | 49.3 | 20.0 | |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 8.8 | | 0.0 | 0.0 | |
| Total Delay | 40.9 | 13.5 | | 95.6 | 13.1 | | 6.5 | 26.1 | | 49.3 | 20.0 | |
| LOS | D | B | | F | B | | A | C | | D | B | |
| Approach Delay | | 20.9 | | | 70.7 | | | 23.9 | | | 23.7 | |
| Approach LOS | | C | | | E | | | C | | | C | |
| Queue Length 50th (m) | 5.8 | 0.6 | | 38.2 | 1.7 | | 9.0 | 121.2 | | 15.2 | 98.2 | |
| Queue Length 95th (m) | 14.4 | 14.1 | | #78.7 | 13.7 | | m8.8 | m153.8 | | #48.1 | 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 | 1184 | | 136 | 1036 | |
| Starvation Cap Reductn | 0 | 0 | | 0 | 0 | | 0 | 97 | | 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 | | 0.89 | 0.20 | | 0.41 | 0.99 | | 0.71 | 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: 90 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.92 | | | |
| Intersection Signal Delay: 28.5 | | Intersection LOS: C | |
| Intersection Capacity Utilization 104.4% | | 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





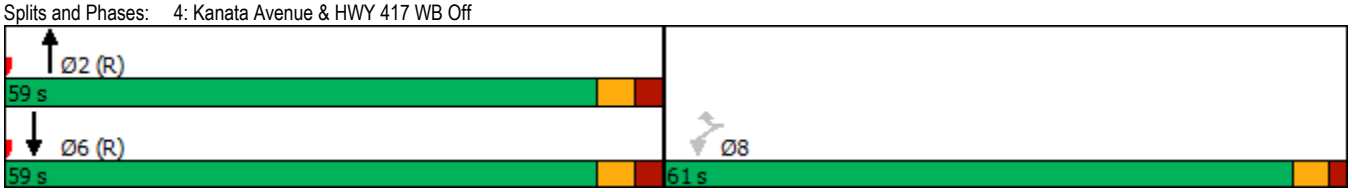
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 486 | 723 | 766 | 0 | 0 | 1096 |
| Future Volume (vph) | 486 | 723 | 766 | 0 | 0 | 1096 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Lane 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) | | 109 | | | | |
| 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 | 766 | 0 | 0 | 1096 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 486 | 723 | 766 | 0 | 0 | 1096 |
| 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 | 52.8 | 58.1 | | | 24.1 |
| Queue Delay | 0.0 | 0.4 | 42.1 | | | 0.0 |
| Total Delay | 29.1 | 53.2 | 100.2 | | | 24.1 |
| LOS | C | D | F | | | C |
| Approach Delay | 43.5 | | 100.2 | | | 24.1 |
| Approach LOS | D | | F | | | C |
| Queue Length 50th (m) | 83.5 | 141.0 | 175.9 | | | 72.3 |
| Queue Length 95th (m) | 118.9 | #224.3 | #258.9 | | | m105.9 |
| Internal Link Dist (m) | 308.8 | | 102.6 | | | 90.0 |
| Turn Bay Length (m) | | | | | | |
| Base Capacity (vph) | 791 | 766 | 792 | | | 1519 |
| Starvation Cap Reductn | 0 | 0 | 201 | | | 0 |
| Spillback Cap Reductn | 0 | 3 | 61 | | | 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: 50.7 Intersection LOS: D
Intersection Capacity Utilization 128.3% 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 |

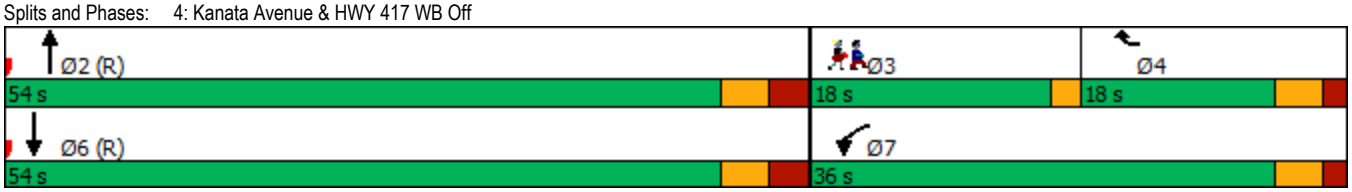


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø3 |
|---|---|---|---|---|---|---|---|
| Recall Mode | None | None | C-Max | | | C-Max | None |
| Walk Time (s) | | | 7.0 | | | | 7.0 |
| Flash Dont Walk (s) | | | 15.0 | | | | 9.0 |
| Pedestrian Calls (#/hr) | | | 10 | | | | 10 |
| Act Effct Green (s) | 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 | 766 | 0 | 0 | 1096 | |
| Future Volume (vph) | 486 | 723 | 766 | 0 | 0 | 1096 | |
| 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 | 766 | 0 | 0 | 1096 | |
| Shared Lane Traffic (%) | | | | | | | |
| Lane Group Flow (vph) | 486 | 723 | 766 | 0 | 0 | 1096 | |
| 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 |

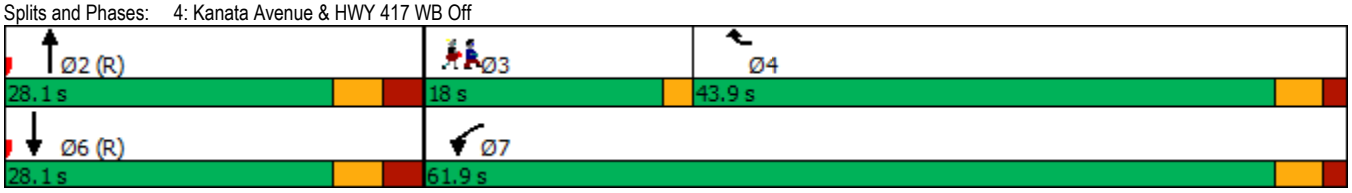


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø3 |
|---|---|---|---|---|---|---|---|
| Lead-Lag Optimize? | | Yes | | | | | Yes |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | | 3.0 | 3.0 |
| Recall Mode | None | None | C-Max | | | C-Max | None |
| Walk Time (s) | | | 7.0 | | | | 7.0 |
| Flash Dont 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 | 26.9 | | | 18.2 | |
| Queue Delay | 0.0 | 0.2 | 0.0 | | | 0.2 | |
| Total Delay | 30.8 | 3.4 | 26.9 | | | 18.4 | |
| LOS | C | A | C | | | B | |
| Approach Delay | 14.4 | | 26.9 | | | 18.4 | |
| Approach LOS | B | | C | | | B | |
| Queue Length 50th (m) | 71.0 | 0.0 | 72.0 | | | 81.3 | |
| Queue Length 95th (m) | 85.5 | 13.1 | 92.2 | | | #127.8 | |
| 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 | 205 | 0 | | | 93 | |
| 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 109.5% — 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



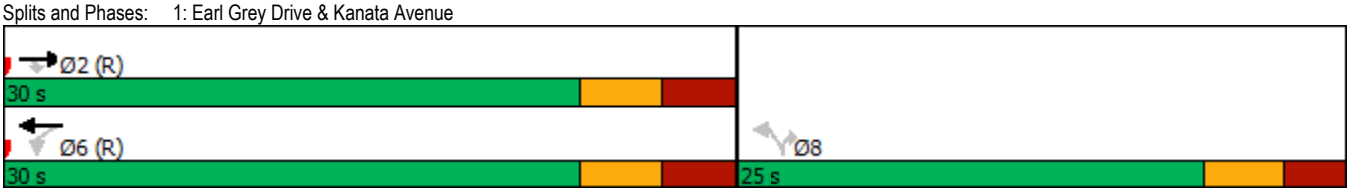


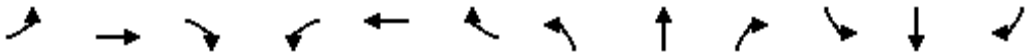
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 762 | 37 | 57 | 395 | 10 | 35 |
| Future Volume (vph) | 762 | 37 | 57 | 395 | 10 | 35 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage 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



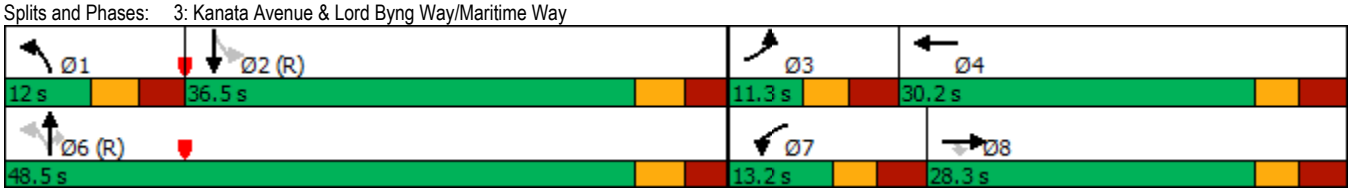


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 19 | 6 | 36 | 226 | 2 | 75 | 85 | 346 | 176 | 31 | 653 | 16 |
| Future Volume (vph) | 19 | 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





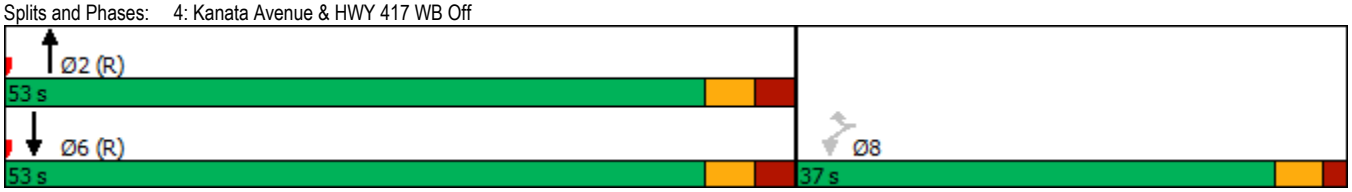
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 273 | 266 | 404 | 0 | 0 | 1058 |
| Future Volume (vph) | 273 | 266 | 404 | 0 | 0 | 1058 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Lane 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



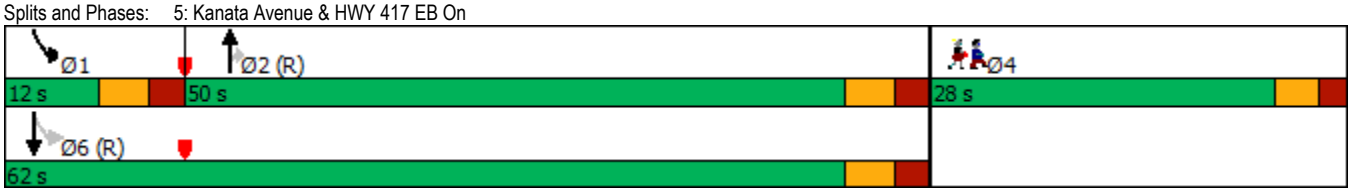


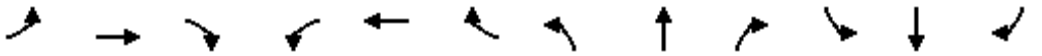
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø4 |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 374 | 247 | 509 | 657 | |
| Future Volume (vph) | 0 | 0 | 374 | 247 | 509 | 657 | |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 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





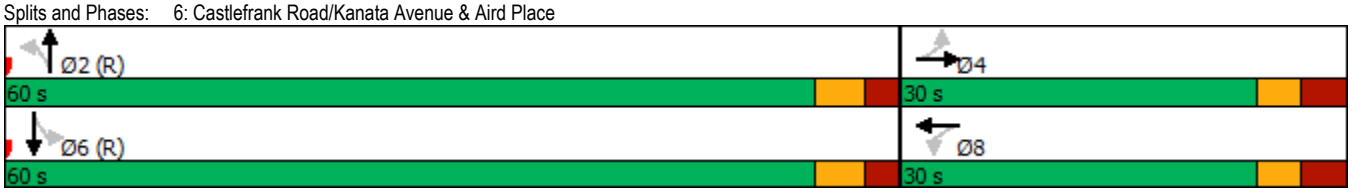
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 45 | 6 | 18 | 19 | 6 | 61 | 41 | 614 | 36 | 52 | 590 | 41 |
| Future Volume (vph) | 45 | 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 | |

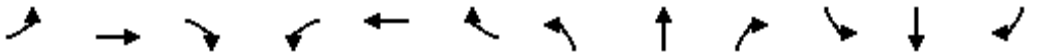
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | | 2.4 | 2.4 | | 2.4 | 2.4 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost 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



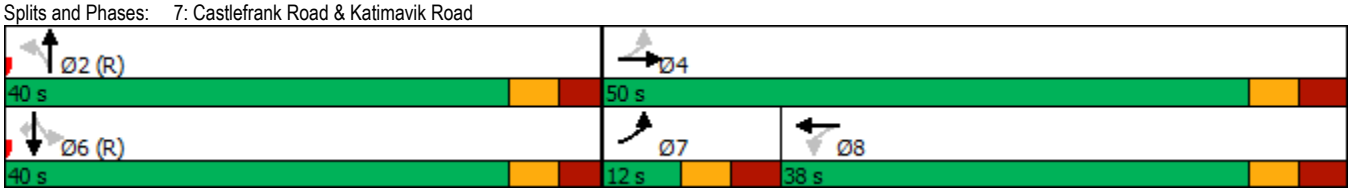


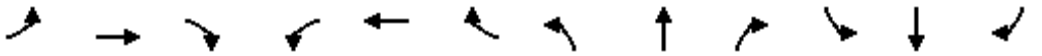
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 161 | 130 | 72 | 34 | 114 | 37 | 123 | 423 | 51 | 89 | 333 | 110 |
| Future Volume (vph) | 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





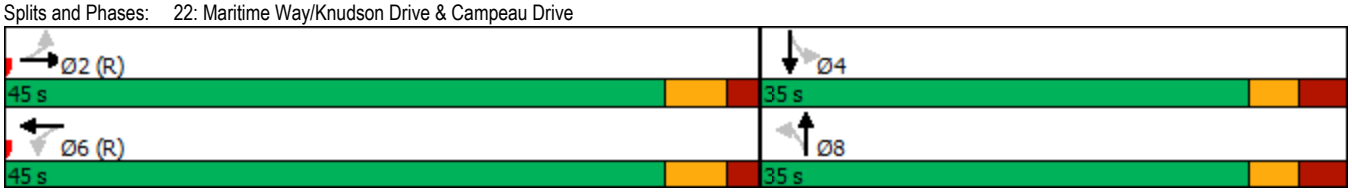
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 52 | 685 | 14 | 73 | 469 | 81 | 18 | 18 | 173 | 171 | 11 | 57 |
| Future Volume (vph) | 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 | 24 | 6 | 186 | 76 | 19 |
| Future Volume (Veh/h) | 174 | 24 | 6 | 186 | 76 | 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 | 24 | 6 | 186 | 76 | 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 | | | 198 | | 384 | 186 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 198 | | 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 | | 88 | 98 |
| cM capacity (veh/h) | | | 1375 | | 616 | 856 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 198 | 192 | 95 |
| Volume Left | 0 | 6 | 76 |
| Volume Right | 24 | 0 | 19 |
| cSH | 1700 | 1375 | 653 |
| 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 | | |

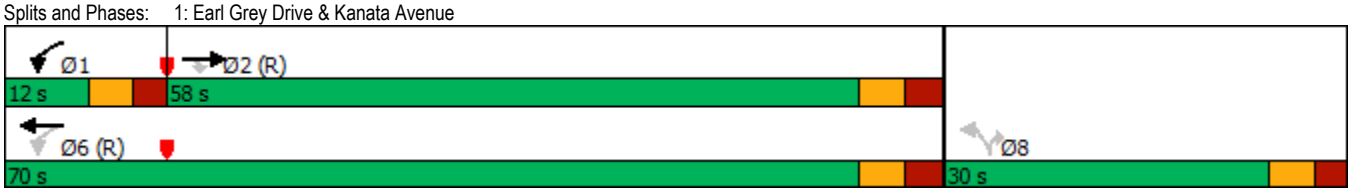


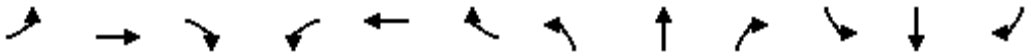
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 673 | 82 | 214 | 757 | 79 | 177 |
| Future Volume (vph) | 673 | 82 | 214 | 757 | 79 | 177 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| 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) | 673 | 82 | 214 | 757 | 79 | 177 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 673 | 82 | 0 | 971 | 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 | 3.9 | | | 7.0 | 23.2 | |
| Approach LOS | A | | | A | C | |
| Queue Length 50th (m) | 15.5 | 0.0 | | 31.0 | 14.7 | 0.0 |
| Queue Length 95th (m) | 32.1 | 4.1 | | 66.2 | 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



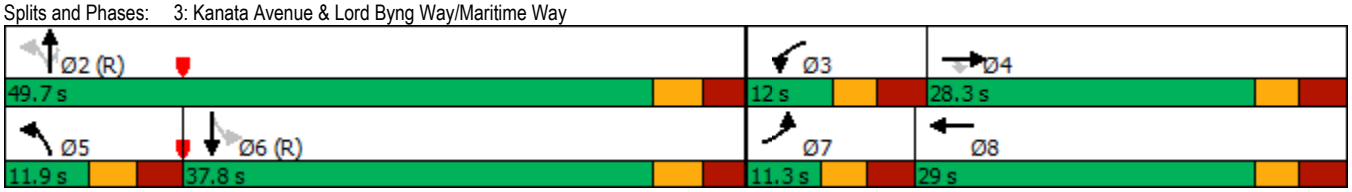


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 3 | 78 | 175 | 9 | 66 | 136 | 885 | 266 | 100 | 685 | 25 |
| Future Volume (vph) | 30 | 3 | 78 | 175 | 9 | 66 | 136 | 885 | 266 | 100 | 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 | | | 0.194 | | | | 0.698 | |
| Satd. Flow (perm) | 1247 | 1784 | 1062 | 2451 | 1514 | 0 | 307 | 3390 | 1479 | 0 | 2340 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 193 | | 66 | | | | 160 | | 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 | 175 | 9 | 66 | 136 | 885 | 266 | 100 | 685 | 25 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 30 | 3 | 78 | 175 | 75 | 0 | 136 | 885 | 266 | 0 | 810 | 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 | 0.73 | 0.18 | | 0.57 | 0.49 | 0.31 | | 0.86 | |
| Control Delay | 60.3 | 26.0 | 1.2 | 68.3 | 9.4 | | 15.3 | 14.8 | 5.9 | | 38.3 | |
| 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 | 68.3 | 9.4 | | 15.3 | 14.8 | 5.9 | | 38.3 | |
| LOS | E | C | A | E | A | | B | B | A | | D | |
| Approach Delay | | 17.8 | | | 50.6 | | | 13.0 | | | 38.3 | |
| Approach LOS | | B | | | D | | | B | | | D | |
| Queue Length 50th (m) | 5.1 | 0.4 | 0.0 | 16.4 | 0.6 | | 13.6 | 59.7 | 11.1 | | 71.8 | |
| Queue Length 95th (m) | #15.6 | 2.5 | 0.0 | #34.4 | 8.6 | | m12.5 | m54.8 | m9.1 | | #112.2 | |
| 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 | 405 | 239 | 467 | | 240 | 1815 | 866 | | 941 | |
| 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 | 0.73 | 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: 25.4 | | 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 | 820 | 0 | 0 | 1177 |
| Future Volume (vph) | 528 | 778 | 820 | 0 | 0 | 1177 |
| 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) | | 88 | | | | |
| 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 | 820 | 0 | 0 | 1177 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 528 | 778 | 820 | 0 | 0 | 1177 |
| 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 | | | | | | |

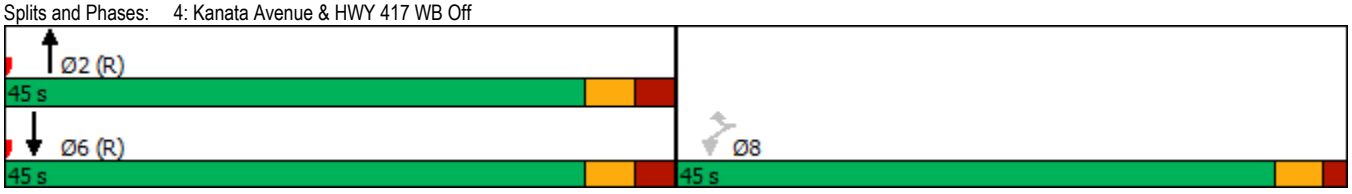
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lead-Lag Optimize? | | | | | | |
| Vehicle Extension (s) | 3.0 | 3.0 | 3.0 | | | 3.0 |
| Recall Mode | None | None | C-Max | | | C-Max |
| Walk Time (s) | 7.0 | 7.0 | 7.0 | | | |
| Flash Dont Walk (s) | 11.0 | 11.0 | 15.0 | | | |
| 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 | 1.08 | | | 0.81 |
| Control Delay | 26.3 | 79.8 | 74.8 | | | 20.5 |
| Queue Delay | 0.4 | 0.0 | 0.0 | | | 0.0 |
| Total Delay | 26.7 | 79.8 | 74.8 | | | 20.5 |
| LOS | C | E | E | | | C |
| Approach Delay | 58.3 | | 74.8 | | | 20.5 |
| Approach LOS | E | | E | | | C |
| Queue Length 50th (m) | 71.3 | ~142.5 | ~158.2 | | | 93.1 |
| Queue Length 95th (m) | 108.2 | #210.5 | #223.6 | | | m133.7 |
| Internal Link Dist (m) | 308.8 | | 102.6 | | | 90.0 |
| Turn Bay Length (m) | | | | | | |
| Base Capacity (vph) | 753 | 723 | 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 | 1.08 | | | 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: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.08
Intersection Signal Delay: 48.9 Intersection LOS: D
Intersection Capacity Utilization 143.5% 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.
m Volume for 95th percentile queue is metered by upstream signal.

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



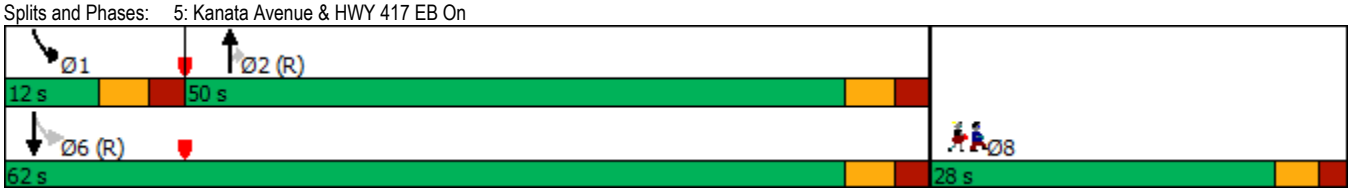


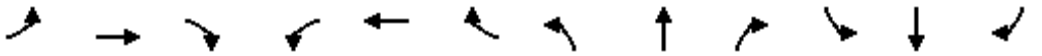
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø8 |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 645 | 674 | 454 | 1058 | |
| Future Volume (vph) | 0 | 0 | 645 | 674 | 454 | 1058 | |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 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 | | | | | 0.214 | | |
| Satd. Flow (perm) | 0 | 0 | 1733 | 1479 | 374 | 1784 | |
| Right Turn on Red | | Yes | | Yes | | | |
| Satd. Flow (RTOR) | | | | 624 | | | |
| 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 | 674 | 454 | 1058 | |
| Shared Lane Traffic (%) | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 645 | 674 | 454 | 1058 | |
| 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) | | | 49.3 | 49.3 | 78.9 | 83.5 | |
| Actuated g/C Ratio | | | 0.55 | 0.55 | 0.88 | 0.93 | |
| v/c Ratio | | | 0.68 | 0.62 | 0.68 | 0.64 | |
| Control Delay | | | 14.1 | 3.6 | 20.6 | 6.8 | |
| Queue Delay | | | 16.8 | 0.7 | 0.0 | 0.3 | |
| Total Delay | | | 30.9 | 4.3 | 20.6 | 7.2 | |
| LOS | | | C | A | C | A | |
| Approach Delay | | | 17.3 | | | 11.2 | |
| Approach LOS | | | B | | | B | |
| Queue Length 50th (m) | | | 59.5 | 11.9 | 35.7 | 18.7 | |
| Queue Length 95th (m) | | | 105.1 | 7.5 | m#94.2 | #245.0 | |
| Internal Link Dist (m) | 254.4 | | 95.2 | | | 102.6 | |
| Turn Bay Length (m) | | | | 50.0 | | | |
| Base Capacity (vph) | | | 949 | 1092 | 670 | 1654 | |
| Starvation Cap Reductn | | | 201 | 162 | 0 | 6 | |
| Spillback Cap Reductn | | | 300 | 0 | 0 | 174 | |
| Storage Cap Reductn | | | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | | | 0.99 | 0.72 | 0.68 | 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: 90 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 0.68 | | | |
| Intersection Signal Delay: 14.0 | | Intersection LOS: B | |
| Intersection Capacity Utilization 143.5% | | 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





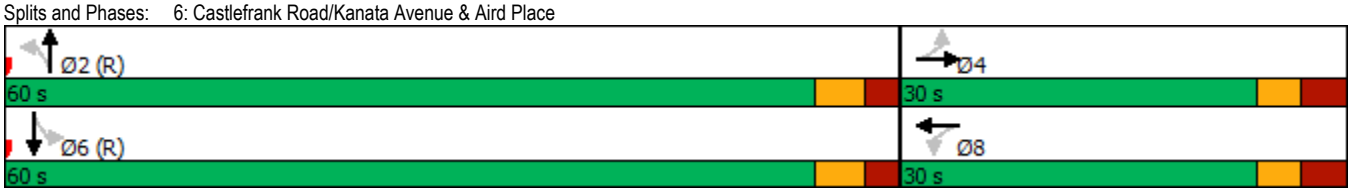
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 3 | 13 | 30 | 1 | 97 | 12 | 895 | 35 | 62 | 1053 | 24 |
| Future Volume (vph) | 17 | 3 | 13 | 30 | 1 | 97 | 12 | 895 | 35 | 62 | 1053 | 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 | | 0.169 | | | 0.237 | | |
| Satd. Flow (perm) | 0 | 1219 | 0 | 0 | 1415 | 0 | 302 | 1755 | 0 | 423 | 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 | 895 | 35 | 62 | 1053 | 24 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 33 | 0 | 0 | 128 | 0 | 12 | 930 | 0 | 62 | 1077 | 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 | |

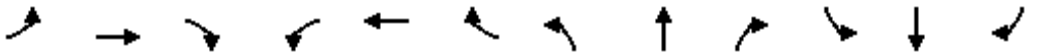
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | | 2.4 | 2.4 | | 2.4 | 2.4 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost 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 | 10.1 | | 7.3 | 15.7 | |
| Queue Delay | | 0.0 | | | 0.0 | | 0.0 | 0.2 | | 0.0 | 0.0 | |
| Total Delay | | 26.2 | | | 19.2 | | 4.9 | 10.3 | | 7.3 | 15.7 | |
| LOS | | C | | | B | | A | B | | A | B | |
| Approach Delay | | 26.2 | | | 19.2 | | | 10.3 | | | 15.2 | |
| Approach LOS | | C | | | B | | | B | | | B | |
| Queue Length 50th (m) | | 3.3 | | | 5.1 | | 0.4 | 47.2 | | 3.8 | 115.0 | |
| Queue Length 95th (m) | | 9.9 | | | 17.8 | | m1.1 | m#111.3 | | m5.3 | #258.3 | |
| 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 | | 228 | 1327 | | 319 | 1343 | |
| Starvation Cap Reductn | | 0 | | | 0 | | 0 | 7 | | 0 | 4 | |
| Spillback Cap Reductn | | 0 | | | 3 | | 0 | 62 | | 0 | 0 | |
| Storage Cap Reductn | | 0 | | | 0 | | 0 | 0 | | 0 | 0 | |
| Reduced v/c Ratio | | 0.10 | | | 0.29 | | 0.05 | 0.74 | | 0.19 | 0.80 | |

**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: 13.5 Intersection LOS: B
Intersection Capacity Utilization 81.0% 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





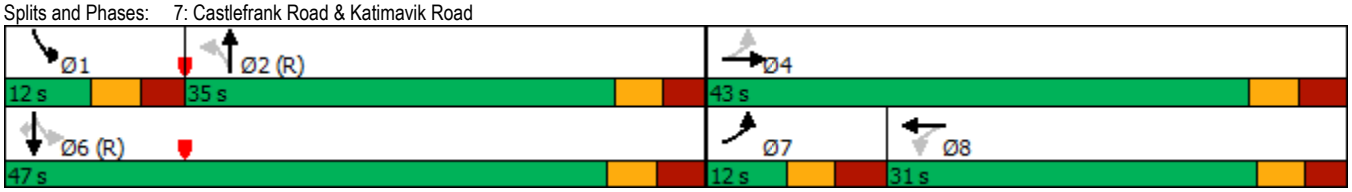
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 154 | 140 | 75 | 92 | 200 | 115 | 41 | 478 | 60 | 121 | 714 | 204 |
| Future Volume (vph) | 154 | 140 | 75 | 92 | 200 | 115 | 41 | 478 | 60 | 121 | 714 | 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 | | | 0.274 | | | 0.160 | | |
| Satd. Flow (perm) | 416 | 1666 | 0 | 1005 | 1626 | 0 | 481 | 1740 | 0 | 277 | 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) | 154 | 140 | 75 | 92 | 200 | 115 | 41 | 478 | 60 | 121 | 714 | 204 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 154 | 215 | 0 | 92 | 315 | 0 | 41 | 538 | 0 | 121 | 714 | 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 |

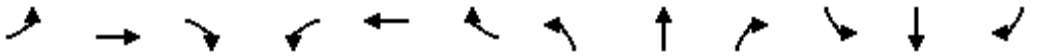
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 3.4 | 3.4 | | 2.9 | 2.9 | | 2.9 | 2.9 | | 2.9 | 3.4 | 3.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 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) | 31.8 | 31.8 | | 20.3 | 20.3 | | 31.9 | 31.9 | | 45.3 | 44.8 | 44.8 |
| 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 | 0.80 | | 0.24 | 0.87 | | 0.49 | 0.80 | 0.27 |
| Control Delay | 38.6 | 18.4 | | 33.9 | 44.9 | | 27.3 | 44.7 | | 18.2 | 22.8 | 4.2 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 38.6 | 18.4 | | 33.9 | 44.9 | | 27.3 | 44.7 | | 18.2 | 22.8 | 4.2 |
| LOS | D | B | | C | D | | C | D | | B | C | A |
| Approach Delay | | 26.9 | | | 42.4 | | | 43.4 | | | 18.6 | |
| Approach LOS | | C | | | D | | | D | | | B | |
| Queue Length 50th (m) | 18.5 | 21.8 | | 13.5 | 46.1 | | 5.2 | 89.4 | | 7.0 | 88.6 | 2.9 |
| Queue Length 95th (m) | #33.1 | 36.5 | | 26.1 | 71.6 | | 14.2 | #153.0 | | m13.0 | m#175.6 | m10.2 |
| 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) | 220 | 693 | | 276 | 471 | | 170 | 621 | | 248 | 887 | 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 | 0.80 | 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: 29.9 Intersection LOS: C
Intersection Capacity Utilization 97.6% 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





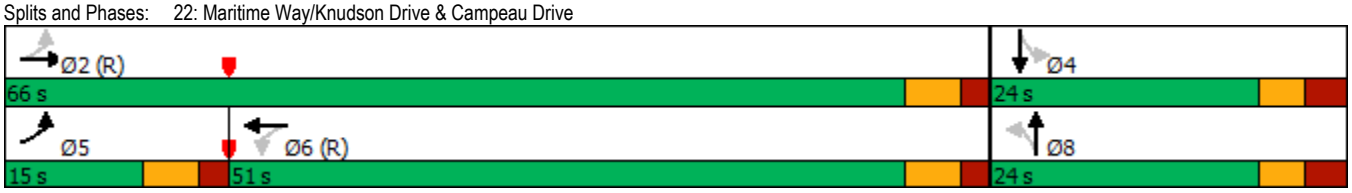
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 71 | 476 | 33 | 145 | 657 | 112 | 13 | 15 | 103 | 42 | 11 | 77 |
| Future Volume (vph) | 71 | 476 | 33 | 145 | 657 | 112 | 13 | 15 | 103 | 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 | 0.233 | | | 0.476 | | | 0.700 | | | 0.681 | | |
| Satd. Flow (perm) | 416 | 1763 | 0 | 846 | 1732 | 0 | 1226 | 1509 | 0 | 1193 | 1495 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 8 | | | 14 | | | 103 | | | 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 | 145 | 657 | 112 | 13 | 15 | 103 | 42 | 11 | 77 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 71 | 509 | 0 | 145 | 769 | 0 | 13 | 118 | 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 | | 0.25 | 0.65 | | 0.08 | 0.42 | | 0.28 | 0.34 | |
| Control Delay | 4.5 | 4.9 | | 10.4 | 15.7 | | 35.3 | 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 | 4.5 | 4.9 | | 10.4 | 15.7 | | 35.3 | 15.1 | | 39.5 | 14.2 | |
| LOS | A | A | | B | B | | D | B | | D | B | |
| Approach Delay | | 4.9 | | | 14.9 | | | 17.1 | | | 22.4 | |
| Approach LOS | | A | | | B | | | B | | | C | |
| Queue Length 50th (m) | 2.5 | 23.2 | | 10.3 | 79.5 | | 1.8 | 3.7 | | 6.8 | 1.7 | |
| Queue Length 95th (m) | 7.5 | 51.1 | | 26.2 | #177.3 | | m4.2 | m9.4 | | 15.1 | 13.6 | |
| Internal Link Dist (m) | | 224.0 | | | 179.8 | | | 199.0 | | | 120.1 | |
| Turn Bay Length (m) | 30.0 | | | 30.0 | | | 40.0 | | | 35.0 | | |
| Base Capacity (vph) | 455 | 1396 | | 575 | 1182 | | 245 | 384 | | 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 | 0.16 | 0.36 | | 0.25 | 0.65 | | 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: 0.65
Intersection Signal Delay: 12.3 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.
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 | 77 | 19 | 171 | 47 | 12 |
| Future Volume (Veh/h) | 243 | 77 | 19 | 171 | 47 | 12 |
| 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 | 77 | 19 | 171 | 47 | 12 |
| 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 | | | 320 | | 490 | 282 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 320 | | 490 | 282 |
| 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) | | | 1240 | | 529 | 757 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 320 | 190 | 59 |
| Volume Left | 0 | 19 | 47 |
| Volume Right | 77 | 0 | 12 |
| cSH | 1700 | 1240 | 563 |
| Volume to Capacity | 0.19 | 0.02 | 0.10 |
| Queue Length 95th (m) | 0.0 | 0.4 | 2.7 |
| Control Delay (s) | 0.0 | 0.9 | 12.1 |
| Lane LOS | | A | B |
| Approach Delay (s) | 0.0 | 0.9 | 12.1 |
| Approach LOS | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 1.6 | | |
| Intersection Capacity Utilization | 36.4% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

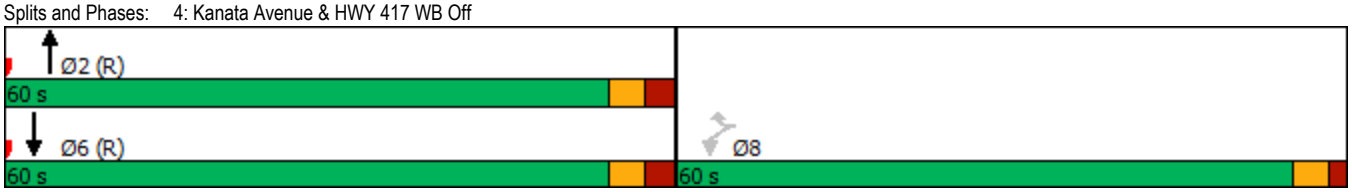


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 528 | 778 | 820 | 0 | 0 | 1177 |
| Future Volume (vph) | 528 | 778 | 820 | 0 | 0 | 1177 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Lane 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) | | 97 | | | | |
| 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 | 820 | 0 | 0 | 1177 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 528 | 778 | 820 | 0 | 0 | 1177 |
| 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 | 1.04 | | | 0.78 |
| Control Delay | 31.1 | 73.0 | 77.0 | | | 32.6 |
| Queue Delay | 0.0 | 0.0 | 23.3 | | | 0.0 |
| Total Delay | 31.1 | 73.0 | 100.3 | | | 32.6 |
| LOS | C | E | F | | | C |
| Approach Delay | 56.1 | | 100.3 | | | 32.6 |
| Approach LOS | E | | F | | | C |
| Queue Length 50th (m) | 95.6 | ~184.9 | ~209.2 | | | 121.0 |
| Queue Length 95th (m) | 135.4 | #258.7 | #282.7 | | | 148.4 |
| 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 | 195 | | | 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: 100 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 1.04 | | | |
| Intersection Signal Delay: 58.7 | | Intersection LOS: E | |
| Intersection Capacity Utilization 136.6% | | 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 |

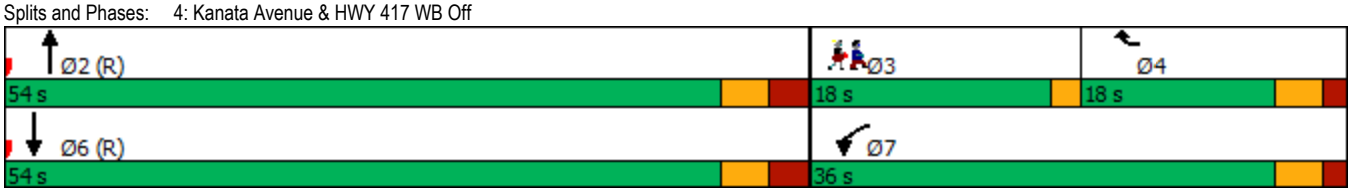


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø3 |
|---|---|---|---|---|---|---|---|
| Recall Mode | None | None | C-Max | | | C-Max | None |
| Walk Time (s) | | | 7.0 | | | | 7.0 |
| Flash Dont Walk (s) | | | 15.0 | | | | 9.0 |
| Pedestrian Calls (#/hr) | | | 10 | | | | 10 |
| Act Effct Green (s) | 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





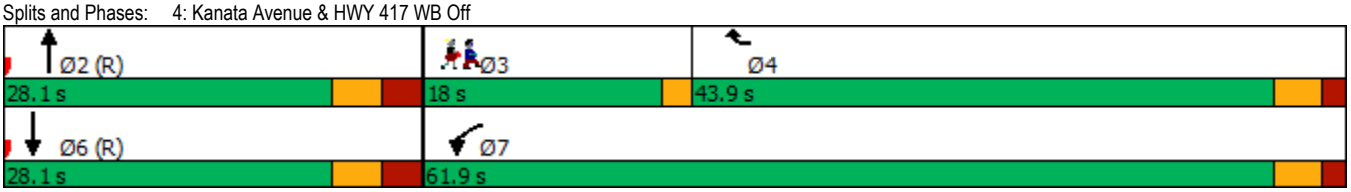
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø3 |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 528 | 778 | 820 | 0 | 0 | 1177 | |
| Future Volume (vph) | 528 | 778 | 820 | 0 | 0 | 1177 | |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 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 | 820 | 0 | 0 | 1177 | |
| Shared Lane Traffic (%) | | | | | | | |
| Lane Group Flow (vph) | 528 | 778 | 820 | 0 | 0 | 1177 | |
| 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 | 77.7 | | | 97.2 | |
| Queue Length 95th (m) | 84.3 | 12.3 | 98.9 | | | m#154.4 | |
| 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 116.7% ICU Level of Service H
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

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



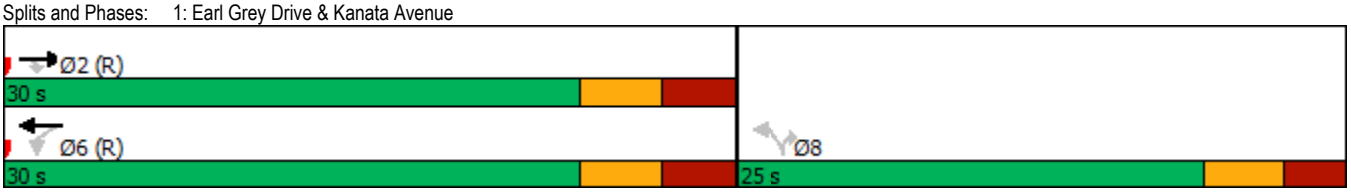


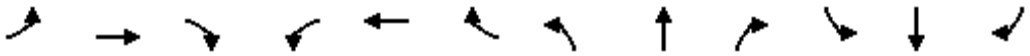
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 807 | 37 | 57 | 405 | 10 | 35 |
| Future Volume (vph) | 807 | 37 | 57 | 405 | 10 | 35 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Storage 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



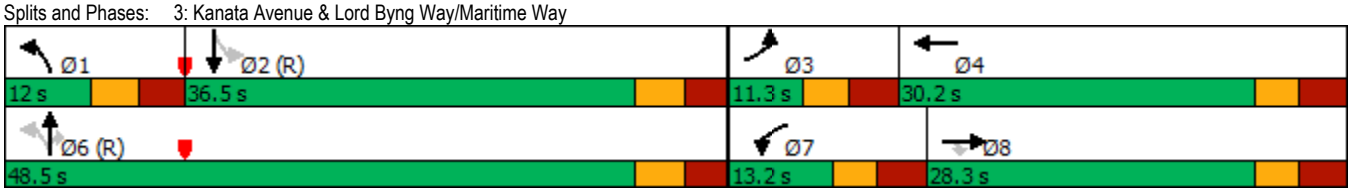


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 19 | 6 | 36 | 210 | 2 | 65 | 85 | 369 | 178 | 28 | 695 | 16 |
| Future Volume (vph) | 19 | 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



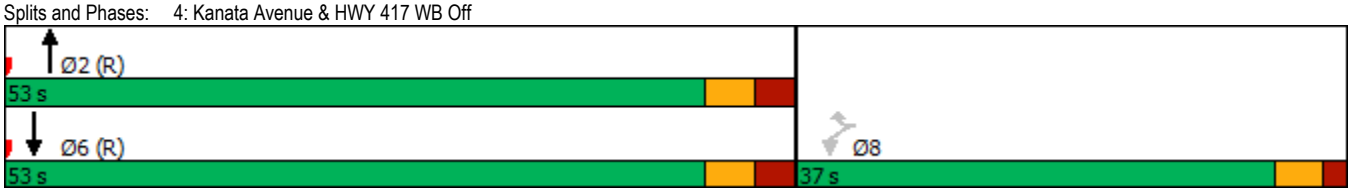


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 295 | 280 | 428 | 0 | 0 | 1098 |
| Future Volume (vph) | 295 | 280 | 428 | 0 | 0 | 1098 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Lane 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



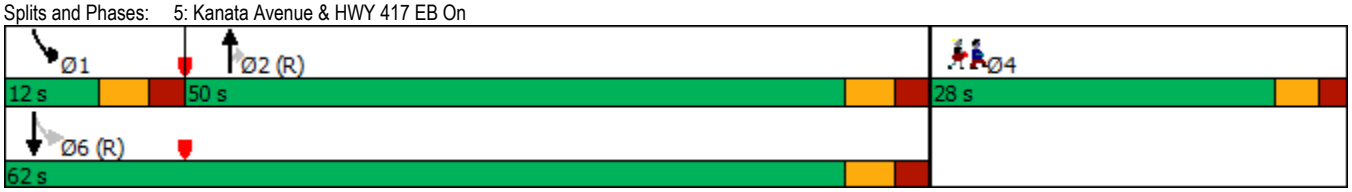


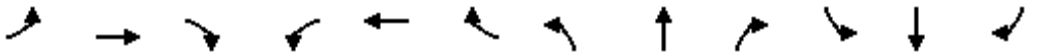
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø4 |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 395 | 267 | 531 | 683 | |
| Future Volume (vph) | 0 | 0 | 395 | 267 | 531 | 683 | |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 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





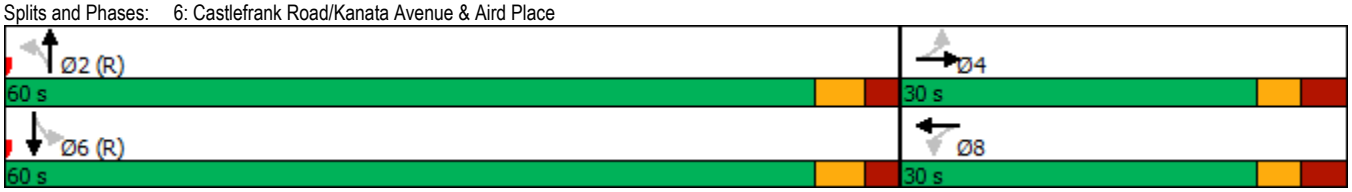
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 45 | 6 | 18 | 19 | 6 | 61 | 41 | 655 | 36 | 52 | 611 | 41 |
| Future Volume (vph) | 45 | 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 | |

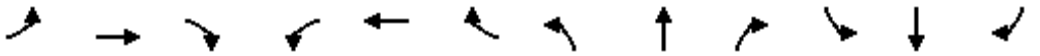
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | | 2.4 | 2.4 | | 2.4 | 2.4 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost 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



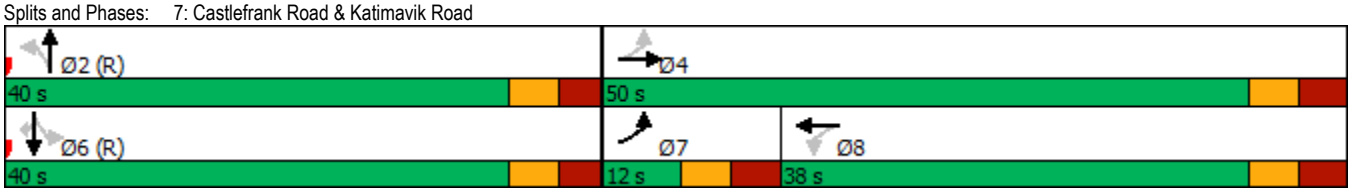


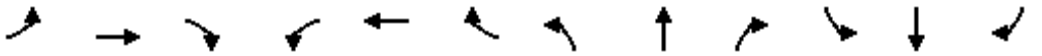
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 160 | 130 | 72 | 34 | 114 | 36 | 123 | 454 | 51 | 84 | 351 | 105 |
| Future Volume (vph) | 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





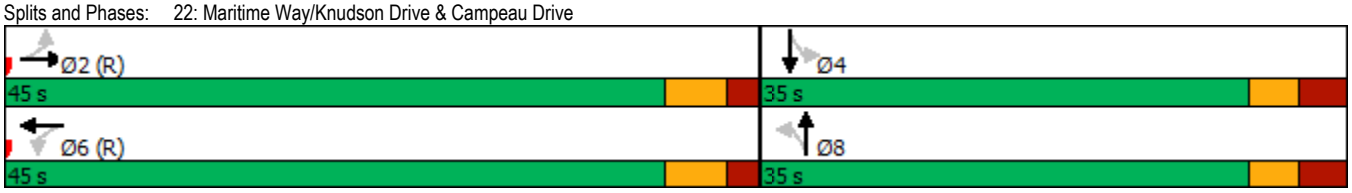
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 54 | 718 | 14 | 74 | 496 | 86 | 18 | 19 | 171 | 182 | 12 | 61 |
| Future Volume (vph) | 54 | 718 | 14 | 74 | 496 | 86 | 18 | 19 | 171 | 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 | | | 0.595 | | |
| Satd. Flow (perm) | 650 | 1718 | 0 | 484 | 1592 | 0 | 1254 | 1477 | 0 | 1039 | 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 | 171 | 182 | 12 | 61 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 54 | 732 | 0 | 74 | 582 | 0 | 18 | 190 | 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 | | 47.5 | 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 | | 47.5 | 8.7 | |
| LOS | A | B | | B | B | | C | A | | D | A | |
| Approach Delay | | 15.9 | | | 13.2 | | | 10.3 | | | 36.4 | |
| Approach LOS | | B | | | B | | | B | | | D | |
| Queue Length 50th (m) | 3.0 | 65.0 | | 4.5 | 45.4 | | 2.2 | 4.8 | | 25.9 | 1.4 | |
| Queue Length 95th (m) | 10.4 | #156.0 | | 15.4 | 99.2 | | 6.2 | 17.5 | | 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 | | 376 | 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 | | 0.48 | 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 | 12 | 3 | 198 | 38 | 9 |
| Future Volume (Veh/h) | 186 | 12 | 3 | 198 | 38 | 9 |
| 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 | 12 | 3 | 198 | 38 | 9 |
| 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 | | | 198 | | 396 | 192 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 198 | | 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) | | | 1375 | | 608 | 850 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 198 | 201 | 47 |
| Volume Left | 0 | 3 | 38 |
| Volume Right | 12 | 0 | 9 |
| cSH | 1700 | 1375 | 643 |
| Volume to Capacity | 0.12 | 0.00 | 0.07 |
| Queue Length 95th (m) | 0.0 | 0.0 | 1.8 |
| 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 | 1.2 | | |
| Intersection Capacity Utilization | 23.5% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

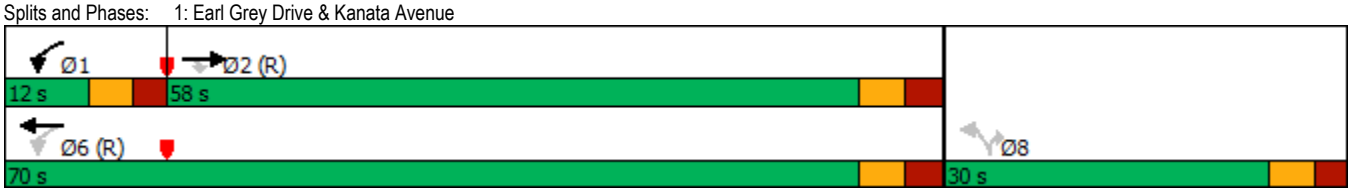


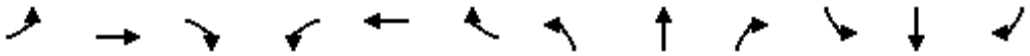
| Lane Group | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 704 | 82 | 214 | 799 | 79 | 177 |
| Future Volume (vph) | 704 | 82 | 214 | 799 | 79 | 177 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| 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) | 704 | 82 | 214 | 799 | 79 | 177 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 704 | 82 | 0 | 1013 | 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 | | 0.59 | 0.42 | 0.55 |
| Control Delay | 4.3 | 1.2 | | 7.4 | 46.9 | 12.6 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 4.3 | 1.2 | | 7.4 | 46.9 | 12.6 |
| LOS | A | A | | A | D | B |
| Approach Delay | 4.0 | | | 7.4 | 23.2 | |
| Approach LOS | A | | | A | C | |
| Queue Length 50th (m) | 16.5 | 0.0 | | 33.4 | 14.7 | 0.0 |
| Queue Length 95th (m) | 33.9 | 4.1 | | 71.6 | 26.1 | 17.0 |
| Internal Link Dist (m) | 263.1 | | | 447.4 | 104.3 | |
| Turn Bay Length (m) | | 40.0 | | | 30.0 | |
| Base Capacity (vph) | 2388 | 1156 | | 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 | 0.29 | 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 71.0% | | ICU Level of Service C | |
| Analysis Period (min) 15 | | | |

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



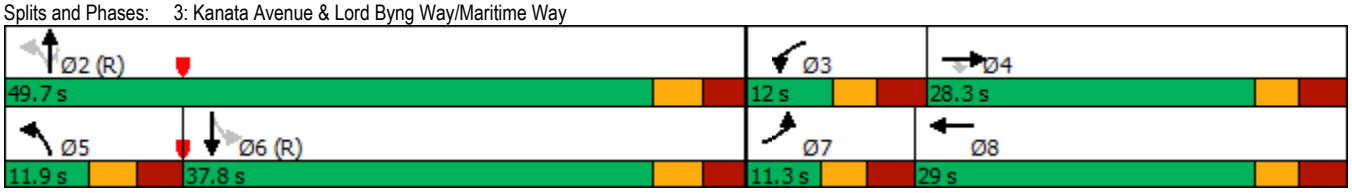


| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 30 | 3 | 78 | 168 | 9 | 61 | 136 | 947 | 251 | 91 | 732 | 25 |
| Future Volume (vph) | 30 | 3 | 78 | 168 | 9 | 61 | 136 | 947 | 251 | 91 | 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 | | | 0.178 | | | | 0.708 | |
| Satd. Flow (perm) | 1247 | 1784 | 1062 | 2451 | 1516 | 0 | 281 | 3390 | 1479 | 0 | 2376 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | | 193 | | 61 | | | | 141 | | 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 | 168 | 9 | 61 | 136 | 947 | 251 | 91 | 732 | 25 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 30 | 3 | 78 | 168 | 70 | 0 | 136 | 947 | 251 | 0 | 848 | 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 | 0.70 | 0.17 | | 0.60 | 0.52 | 0.29 | | 0.89 | |
| Control Delay | 60.3 | 26.0 | 1.2 | 66.9 | 9.9 | | 17.0 | 16.5 | 7.3 | | 40.7 | |
| 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 | 66.9 | 9.9 | | 17.0 | 16.5 | 7.3 | | 40.7 | |
| LOS | E | C | A | E | A | | B | B | A | | D | |
| Approach Delay | | 17.8 | | | 50.1 | | | 14.8 | | | 40.7 | |
| Approach LOS | | B | | | D | | | B | | | D | |
| Queue Length 50th (m) | 5.1 | 0.4 | 0.0 | 15.8 | 0.7 | | 12.9 | 60.3 | 8.9 | | ~78.7 | |
| Queue Length 95th (m) | #15.6 | 2.5 | 0.0 | #32.8 | 8.4 | | m11.1 | m50.3 | m6.1 | | #119.0 | |
| 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 | 464 | | 228 | 1815 | 857 | | 956 | |
| 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 | 0.70 | 0.15 | | 0.60 | 0.52 | 0.29 | | 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: 26.9 | | 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 | 860 | 0 | 0 | 1243 |
| Future Volume (vph) | 570 | 821 | 860 | 0 | 0 | 1243 |
| 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) | | 77 | | | | |
| 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 | 860 | 0 | 0 | 1243 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 570 | 821 | 860 | 0 | 0 | 1243 |
| 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 | 105.4 | 112.2 | | | 25.6 |
| Queue Delay | 0.0 | 0.0 | 1.3 | | | 3.0 |
| Total Delay | 28.9 | 105.4 | 113.4 | | | 28.5 |
| LOS | C | F | F | | | C |
| Approach Delay | 74.1 | | 113.4 | | | 28.5 |
| Approach LOS | E | | F | | | C |
| Queue Length 50th (m) | 79.8 | ~160.8 | ~167.4 | | | 60.4 |
| Queue Length 95th (m) | 121.0 | #229.9 | #243.2 | | | m70.3 |
| Internal Link Dist (m) | 308.8 | | 102.6 | | | 90.0 |
| Turn Bay Length (m) | | | | | | |
| Base Capacity (vph) | 753 | 717 | 756 | | | 1450 |
| Starvation Cap Reductn | 0 | 0 | 134 | | | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | | | 124 |
| Storage Cap Reductn | 0 | 0 | 0 | | | 0 |
| Reduced v/c Ratio | 0.76 | 1.15 | 1.38 | | | 0.94 |

Intersection Summary

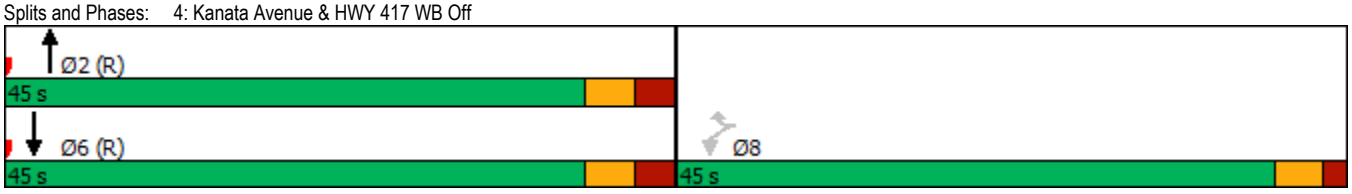
Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.15
Intersection Signal Delay: 67.6 Intersection LOS: E
Intersection Capacity Utilization 143.0% ICU 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



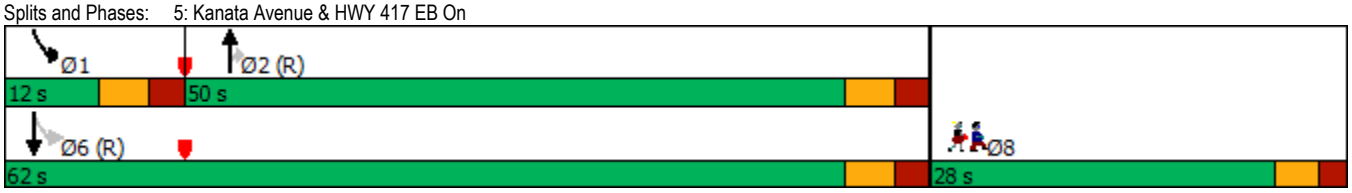


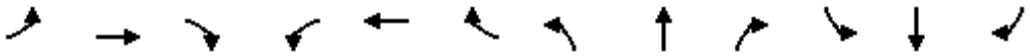
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø8 |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 0 | 0 | 703 | 242 | 470 | 1125 | |
| Future Volume (vph) | 0 | 0 | 703 | 242 | 470 | 1125 | |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 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 | | | | | 0.143 | | |
| Satd. Flow (perm) | 0 | 0 | 1733 | 1479 | 250 | 1784 | |
| Right Turn on Red | | Yes | | Yes | | | |
| Satd. Flow (RTOR) | | | | 206 | | | |
| Link Speed (k/h) | 48 | | 50 | | | 50 | |
| Link Distance (m) | 278.4 | | 119.2 | | | 126.6 | |
| Travel Time (s) | 20.9 | | 8.6 | | | 9.1 | |
| Confl. Peds. (#/hr) | | | | 2 | 2 | | |
| Peak Hour Factor | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | |
| Heavy Vehicles (%) | 0% | 0% | 5% | 2% | 4% | 2% | |
| Adj. Flow (vph) | 0 | 0 | 703 | 242 | 470 | 1125 | |
| Shared Lane Traffic (%) | | | | | | | |
| Lane Group Flow (vph) | 0 | 0 | 703 | 242 | 470 | 1125 | |
| 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) | | | 46.2 | 46.2 | 78.9 | 83.5 | |
| Actuated g/C Ratio | | | 0.51 | 0.51 | 0.88 | 0.93 | |
| v/c Ratio | | | 0.79 | 0.28 | 0.73 | 0.68 | |
| Control Delay | | | 17.1 | 2.1 | 26.8 | 8.1 | |
| Queue Delay | | | 49.3 | 0.0 | 0.0 | 0.2 | |
| Total Delay | | | 66.4 | 2.1 | 26.8 | 8.3 | |
| LOS | | | E | A | C | A | |
| Approach Delay | | | 49.9 | | | 13.7 | |
| Approach LOS | | | D | | | B | |
| Queue Length 50th (m) | | | 68.8 | 7.2 | 40.3 | 9.7 | |
| Queue Length 95th (m) | | | #140.8 | m3.2 | m#150.4 | m#276.9 | |
| Internal Link Dist (m) | 254.4 | | 95.2 | | | 102.6 | |
| Turn Bay Length (m) | | | | 50.0 | | | |
| Base Capacity (vph) | | | 889 | 859 | 643 | 1654 | |
| Starvation Cap Reductn | | | 128 | 0 | 0 | 92 | |
| Spillback Cap Reductn | | | 248 | 0 | 0 | 46 | |
| Storage Cap Reductn | | | 0 | 0 | 0 | 0 | |
| Reduced v/c Ratio | | | 1.10 | 0.28 | 0.73 | 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: 0.79 | | | |
| Intersection Signal Delay: 27.2 | | Intersection LOS: C | |
| Intersection Capacity Utilization 143.0% | | 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. | | | |
| m Volume for 95th percentile queue is metered by upstream signal. | | | |

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





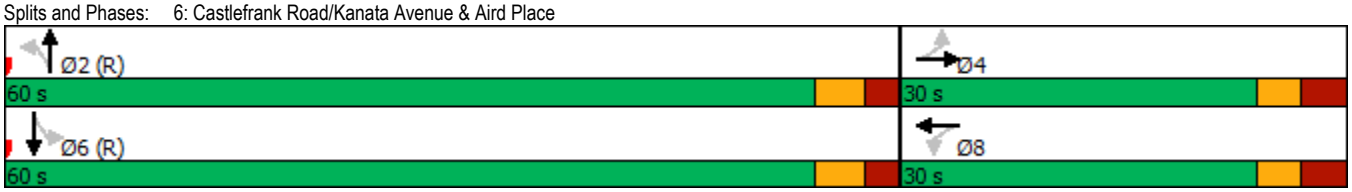
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 17 | 3 | 13 | 30 | 1 | 97 | 12 | 941 | 35 | 62 | 1120 | 24 |
| Future Volume (vph) | 17 | 3 | 13 | 30 | 1 | 97 | 12 | 941 | 35 | 62 | 1120 | 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 | | 0.137 | | | 0.216 | | |
| Satd. Flow (perm) | 0 | 1219 | 0 | 0 | 1415 | 0 | 244 | 1757 | 0 | 385 | 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 | 941 | 35 | 62 | 1120 | 24 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 0 | 33 | 0 | 0 | 128 | 0 | 12 | 976 | 0 | 62 | 1144 | 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 | |

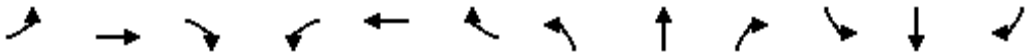
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 3.2 | 3.2 | | 3.2 | 3.2 | | 2.4 | 2.4 | | 2.4 | 2.4 | |
| Lost Time Adjust (s) | | 0.0 | | | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | |
| Total Lost 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 | 0.73 | | 0.21 | 0.85 | |
| Control Delay | | 26.2 | | | 19.2 | | 5.2 | 11.7 | | 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 | 12.0 | | 6.1 | 13.6 | |
| LOS | | C | | | B | | A | B | | A | B | |
| Approach Delay | | 26.2 | | | 19.2 | | | 11.9 | | | 13.2 | |
| Approach LOS | | C | | | B | | | B | | | B | |
| Queue Length 50th (m) | | 3.3 | | | 5.1 | | 0.4 | 58.1 | | 1.9 | 58.4 | |
| Queue Length 95th (m) | | 9.9 | | | 17.8 | | m1.2 | m#121.6 | | m5.0 | #283.6 | |
| Internal Link Dist (m) | | 101.4 | | | 108.9 | | | 168.1 | | | 95.2 | |
| Turn Bay Length (m) | | | | | | | 30.0 | | | 50.0 | | |
| Base Capacity (vph) | | 331 | | | 445 | | 184 | 1329 | | 290 | 1343 | |
| Starvation Cap Reductn | | 0 | | | 0 | | 0 | 1 | | 0 | 2 | |
| Spillback Cap Reductn | | 0 | | | 3 | | 0 | 63 | | 0 | 0 | |
| Storage Cap Reductn | | 0 | | | 0 | | 0 | 0 | | 0 | 0 | |
| Reduced v/c Ratio | | 0.10 | | | 0.29 | | 0.07 | 0.77 | | 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: 13.2 Intersection LOS: B
Intersection Capacity Utilization 84.7% 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: 6: Castlefrank Road/Kanata Avenue & Aird Place





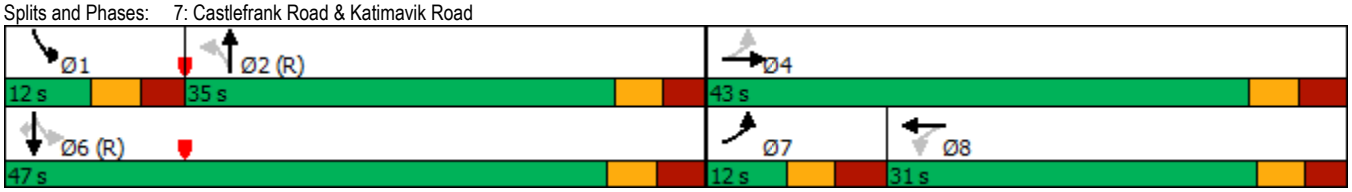
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 144 | 140 | 75 | 92 | 200 | 110 | 41 | 508 | 60 | 118 | 766 | 201 |
| Future Volume (vph) | 144 | 140 | 75 | 92 | 200 | 110 | 41 | 508 | 60 | 118 | 766 | 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 | | | 0.947 | | | 0.984 | | | | 0.850 |
| Flt Protected | 0.950 | | | 0.950 | | | 0.950 | | | 0.950 | | |
| Satd. Flow (prot) | 1662 | 1511 | 0 | 1558 | 1631 | 0 | 1695 | 1742 | 0 | 1647 | 1784 | 1473 |
| Flt Permitted | 0.246 | | | 0.624 | | | 0.218 | | | 0.132 | | |
| Satd. Flow (perm) | 424 | 1511 | 0 | 1005 | 1631 | 0 | 384 | 1742 | 0 | 229 | 1784 | 1356 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 36 | | | 30 | | | 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) | 144 | 140 | 75 | 92 | 200 | 110 | 41 | 508 | 60 | 118 | 766 | 201 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 144 | 215 | 0 | 92 | 310 | 0 | 41 | 568 | 0 | 118 | 766 | 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 |

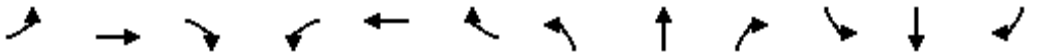
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| All-Red Time (s) | 3.4 | 3.4 | | 2.9 | 2.9 | | 2.9 | 2.9 | | 2.9 | 3.4 | 3.4 |
| Lost Time Adjust (s) | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 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 | 0.65 | 0.39 | | 0.41 | 0.80 | | 0.30 | 0.91 | | 0.52 | 0.86 | 0.26 |
| Control Delay | 34.8 | 19.2 | | 34.1 | 44.7 | | 30.6 | 49.8 | | 21.9 | 26.1 | 5.0 |
| Queue Delay | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | | 0.0 | 0.0 | 0.0 |
| Total Delay | 34.8 | 19.2 | | 34.1 | 44.7 | | 30.6 | 49.8 | | 21.9 | 26.1 | 5.0 |
| LOS | C | B | | C | D | | C | D | | C | C | A |
| Approach Delay | | 25.5 | | | 42.3 | | | 48.5 | | | 21.7 | |
| Approach LOS | | C | | | D | | | D | | | C | |
| Queue Length 50th (m) | 17.2 | 22.2 | | 13.5 | 45.6 | | 5.3 | 96.2 | | 7.2 | 91.7 | 3.6 |
| Queue Length 95th (m) | 28.5 | 37.5 | | 26.1 | 70.6 | | 15.1 | #165.1 | | m11.9 | m#179.4 | 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 | 761 |
| 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 | 0.34 | | 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: 32.3 Intersection LOS: C
Intersection Capacity Utilization 99.9% ICU Level of Service F
Analysis Period (min) 15
# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Castlefrank Road & Katimavik Road





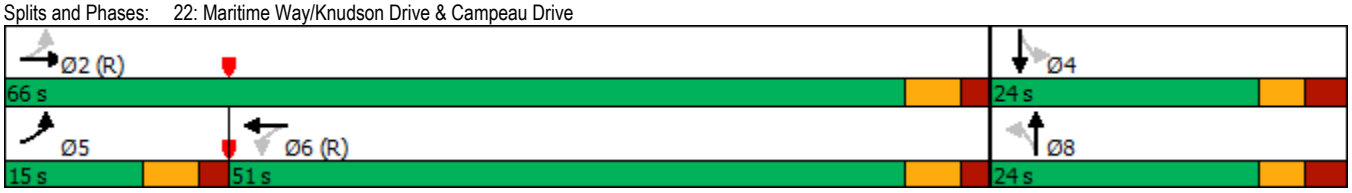
| Lane Group | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | | | | | | |
| Traffic Volume (vph) | 76 | 500 | 34 | 142 | 693 | 121 | 13 | 16 | 102 | 45 | 12 | 82 |
| Future Volume (vph) | 76 | 500 | 34 | 142 | 693 | 121 | 13 | 16 | 102 | 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 | 0.207 | | | 0.465 | | | 0.696 | | | 0.681 | | |
| Satd. Flow (perm) | 369 | 1763 | 0 | 826 | 1732 | 0 | 1219 | 1512 | 0 | 1193 | 1495 | 0 |
| Right Turn on Red | | | Yes | | | Yes | | | Yes | | | Yes |
| Satd. Flow (RTOR) | | 8 | | | 14 | | | 102 | | | 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 | 142 | 693 | 121 | 13 | 16 | 102 | 45 | 12 | 82 |
| Shared Lane Traffic (%) | | | | | | | | | | | | |
| Lane Group Flow (vph) | 76 | 534 | 0 | 142 | 814 | 0 | 13 | 118 | 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 | | 0.25 | 0.69 | | 0.08 | 0.42 | | 0.30 | 0.36 | |
| Control Delay | 4.8 | 5.1 | | 10.6 | 17.2 | | 36.1 | 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 | 4.8 | 5.1 | | 10.6 | 17.2 | | 36.1 | 14.9 | | 39.9 | 14.2 | |
| LOS | A | A | | B | B | | D | B | | D | B | |
| Approach Delay | | 5.1 | | | 16.2 | | | 17.0 | | | 22.6 | |
| Approach LOS | | A | | | B | | | B | | | C | |
| Queue Length 50th (m) | 2.6 | 24.8 | | 10.1 | 88.6 | | 1.8 | 3.2 | | 7.3 | 1.9 | |
| Queue Length 95th (m) | 7.9 | 54.5 | | 26.0 | #195.8 | | m4.1 | m8.7 | | 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 | 1395 | | 560 | 1179 | | 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 | 0.18 | 0.38 | | 0.25 | 0.69 | | 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: 0.69
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





| Movement | EBT | EBR | WBL | WBT | NBL | NBR |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (veh/h) | 258 | 38 | 10 | 181 | 24 | 6 |
| Future Volume (Veh/h) | 258 | 38 | 10 | 181 | 24 | 6 |
| 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 | 38 | 10 | 181 | 24 | 6 |
| 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 | | | 296 | | 478 | 277 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | | | 296 | | 478 | 277 |
| 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 | | 96 | 99 |
| cM capacity (veh/h) | | | 1265 | | 542 | 762 |

| Direction, Lane # | EB 1 | WB 1 | NB 1 |
|---|---|---|---|
| Volume Total | 296 | 191 | 30 |
| Volume Left | 0 | 10 | 24 |
| Volume Right | 38 | 0 | 6 |
| cSH | 1700 | 1265 | 575 |
| Volume to Capacity | 0.17 | 0.01 | 0.05 |
| Queue Length 95th (m) | 0.0 | 0.2 | 1.3 |
| Control Delay (s) | 0.0 | 0.5 | 11.6 |
| Lane LOS | | A | B |
| Approach Delay (s) | 0.0 | 0.5 | 11.6 |
| Approach LOS | | | B |

| Intersection Summary | | | |
|---|---|---|---|
| Average Delay | 0.8 | | |
| Intersection Capacity Utilization | 28.7% | ICU Level of Service | A |
| Analysis Period (min) | 15 | | |

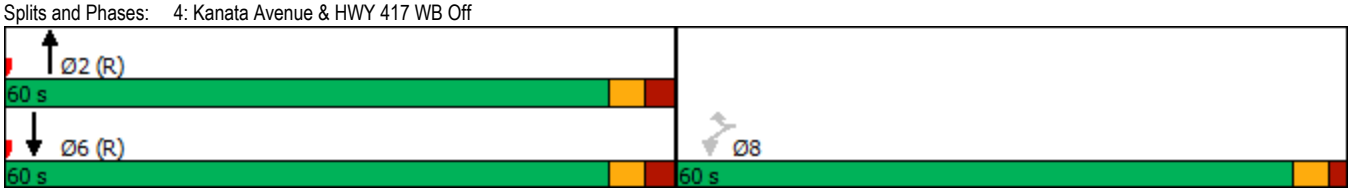


| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT |
|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | |
| Traffic Volume (vph) | 570 | 821 | 860 | 0 | 0 | 1243 |
| Future Volume (vph) | 570 | 821 | 860 | 0 | 0 | 1243 |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 1800 |
| Lane 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) | | 86 | | | | |
| 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 | 860 | 0 | 0 | 1243 |
| Shared Lane Traffic (%) | | | | | | |
| Lane Group Flow (vph) | 570 | 821 | 860 | 0 | 0 | 1243 |
| 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 | 1.09 | | | 0.82 |
| Control Delay | 33.5 | 95.6 | 93.4 | | | 34.7 |
| Queue Delay | 0.0 | 0.0 | 4.1 | | | 0.0 |
| Total Delay | 33.5 | 95.6 | 97.5 | | | 34.7 |
| LOS | C | F | F | | | C |
| Approach Delay | 70.1 | | 97.5 | | | 34.7 |
| Approach LOS | E | | F | | | C |
| Queue Length 50th (m) | 107.0 | ~209.4 | ~228.8 | | | 131.8 |
| Queue Length 95th (m) | 151.3 | #284.1 | #303.3 | | | 161.3 |
| 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 | 186 | | | 0 |
| Spillback Cap Reductn | 0 | 0 | 0 | | | 0 |
| Storage Cap Reductn | 0 | 0 | 0 | | | 0 |
| Reduced v/c Ratio | 0.73 | 1.11 | 1.43 | | | 0.82 |

| 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: 120 | | | |
| Control Type: Actuated-Coordinated | | | |
| Maximum v/c Ratio: 1.11 | | | |
| Intersection Signal Delay: 64.3 | | Intersection LOS: E | |
| Intersection Capacity Utilization 143.0% | | 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





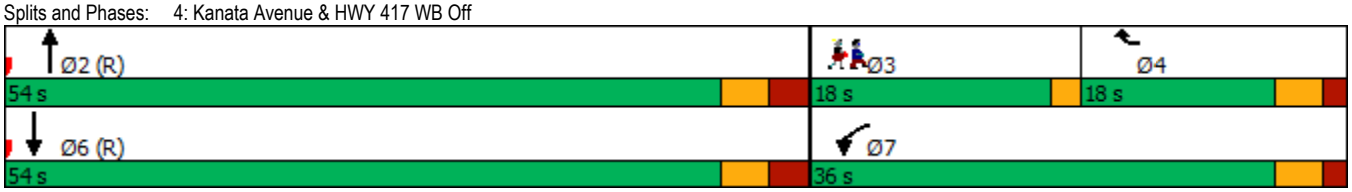
| Lane Group | WBL | WBR | NBT | NBR | SBL | SBT | Ø3 |
|---|---|---|---|---|---|---|---|
| Lane Configurations | | | | | | | |
| Traffic Volume (vph) | 295 | 280 | 428 | 0 | 0 | 1098 | |
| Future Volume (vph) | 295 | 280 | 428 | 0 | 0 | 1098 | |
| Ideal Flow (vphpl) | 1800 | 1800 | 1800 | 1800 | 1800 | 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 | 860 | 0 | 0 | 1243 | |
| Future Volume (vph) | 570 | 821 | 860 | 0 | 0 | 1243 | |
| 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 | 860 | 0 | 0 | 1243 | |
| Shared Lane Traffic (%) | | | | | | | |
| Lane Group Flow (vph) | 570 | 821 | 860 | 0 | 0 | 1243 | |
| 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 | | | 0.84 | |
| Control Delay | 28.3 | 3.1 | 25.9 | | | 34.2 | |
| Queue Delay | 0.0 | 0.0 | 0.0 | | | 0.0 | |
| Total Delay | 28.3 | 3.1 | 25.9 | | | 34.2 | |
| LOS | C | A | C | | | C | |
| Approach Delay | 13.4 | | 25.9 | | | 34.2 | |
| Approach LOS | B | | C | | | C | |
| Queue Length 50th (m) | 88.9 | 2.5 | 64.5 | | | 109.8 | |
| Queue Length 95th (m) | 92.8 | 14.8 | #115.6 | | | #199.6 | |
| 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 | | | 0.84 | |

| 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: 0.84 | | | |
| Intersection Signal Delay: 23.9 | | Intersection LOS: C | |
| Intersection Capacity Utilization 122.7% | | 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. | | | |

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