Transportation Impact Assessment – Final Report

High-Rise Residential Development – 100 Bayshore Drive (Lot 'B')

Prepared for Ivanhoé Cambridge
by IBI Group
April 3, 2020

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Transmittal

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From	David Hook, P.Eng.
Sent By	E-mail/Electronic Submission
Date	April 3, 2020
Project No	123069
Subject	100 Bayshore Lot 'B' - Transportation Impact Assessment: Final Report

Please find enclosed the finalized TIA report in support of the ZBLA submission relating to the proposed residential development at 100 Bayshore Drive (Lot 'B') on behalf of Ivanhoé Cambridge and KingSett Capital. We trust the circulation comments have been sufficiently addressed and incorporated in this report. All comments and responses associated with this study have been documented and provided in the report appendices.

If you require anything else, please don't hesitate to contact me at 613-225-1311 x64029.

Best Regards,

David Hook, P.Eng.

Document Control Page

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TIA Plan Reports - Certification

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 associate 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[1] professional in good standing, whose field of expertise [check √ appropriate field(s)] is either transportation engineering □ or transportation planning □.

[1] **License or 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.**

Dated at Ottawa this 3rd day of April, 2020.
(City)

Name: David Hook, P.Eng.

Professional Title: Project Engineer

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

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Executive Summary

IBI Group (IBI) was retained by Ivanhoé Cambridge to undertake a Transportation Impact Assessment (TIA) in support of a combined Official Plan Amendment and Zoning By-law Amendment application for a proposed high-rise residential development to be located on the western portion of 100 Bayshore Drive (Lot 'B') in Ottawa. The proposed development consists of 500 dwelling units distributed amongst two towers of 27 & 30 storeys in height. The development will be constructed in two phases, with the 30-storey west tower (Phase 1) projected to be fully occupied by 2024, followed by full build-out of the site by 2026. Access to the site will be provided via two full-movement site access driveways off Woodridge Crescent, west of the existing Transitway Access.

The site will provide 260 vehicle parking spaces, including 50 visitor parking spaces, within a 3-storey above-grade parking podium, in addition to one level below-grade. The resident and visitor parking spaces provided comply with the Zoning By-law for sites within 600m of a rapid transit station. A total of 272 bicycle parking spaces will be provided, exceeding the 250 spaces required by the Zoning By-law. In recognition of possible long-term reductions in parking demand, the design of the parking podium provisions for potential future conversion to active, non-auto use as driven by market demands.

It shall be acknowledged that the adjacent Accora Village community is expected to undergo a Master Planning process in the near future for the potential long-term redevelopment and intensification of those lands. As no concept plans or timeline were available at the time of this study, the magnitude or type of development would be speculative and therefore was not considered in the analysis of future conditions. There are no other planned developments of significance in the vicinity of the proposed development that were considered in this study.

The proposed development site is well-positioned to encourage the use of sustainable transportation modes and will not be reliant on private automobile transportation. An extensive network of off-road pathways presently exists within the community and improvements are planned to increase connections to adjacent neighbourhoods and the city-wide multi-use pathway (MUP) network. Further, the site is conveniently located within a Transit-Oriented Development (TOD) zone, immediately adjacent the Bayshore rapid transit station and Bayshore Shopping Centre, and will have direct physical sheltered connections to each. The design of the proposed development leverages the nearby multi-modal transportation alternatives offered in the area to minimize the use of private automobile transportation during peak periods.

Based on the traffic analysis results, the proposed development is expected to generate approximately 75 two-way vehicular trips during the weekday morning and afternoon peak hours following occupancy of Phase 1 in 2024. At full build-out of the site in 2026, however, the number of two-way vehicle trips is expected to decrease to approximately 51 trips during the weekday peak hours. The reduction in vehicular trips is attributable to the extension of Light Rail Transit (LRT) to Bayshore Station by 2025 as well as a robust Transportation Demand Management program that are both expected to offset the increased demand generated by Phase 2 of the development.

Baseline projections indicate that a 42% transit mode share will be achievable within the Bayshore Station area upon build-out of the development and once LRT is in place. The City of Ottawa, however, has established a target of 65% transit mode share and 15% non-auto mode share in Transit Oriented Development zones. It is expected that Transportation Demand Management through development design, off-site infrastructure improvements (by others) and the building's programming initiatives will achieve this target. A variety of measures have therefore been contemplated for the proposed development, such as direct connections to the adjacent Bayshore Shopping Centre, Bayshore Station and the planned MUP that will skirt the site's periphery. Direct access to secure indoor bicycle parking from this MUP has also been integrated into the building design. These design and infrastructure elements contribute to a development that significantly reduces dependence on private automobile usage by integrating well with the existing and proposed sustainable transportation infrastructure.

Based on the pedestrian crossover (PXO) warrant analysis conducted as part of this study, a Level 2 Type 'B' PXO was determined to be suitable for implementation on the west leg of the Woodridge/ Transitway Access intersection. A controlled pedestrian crossing at this location would help to satisfy both the existing pedestrian crossing demand, as well as a stronger desire line associated with the future multi-use path that is to connect to Woodridge Crescent. Recognizing the slight increase in traffic associated with the proposed development, the implementation of a PXO would be for the primary benefit of the adjacent community, with minimal pedestrian crossing demand further induced by the proposed development.

A multi-modal analysis of each study area intersection identified existing deficiencies in the road network and potential remediation measures have been suggested in which the City could consider to meet the prescribed LOS targets. These remediation measures would improve mobility and comfort for all transportation modes but are not required to accommodate the proposed development, nor the responsibility of the developer to improve.

All intersections within the study area are shown to operate well under their theoretical capacities beyond the 2031 horizon year of the study and no operational issues were identified from the queuing analysis. A post-development monitoring plan is therefore not a requirement of this study. Further, the analysis conducted indicates that no off-site intersection improvements are necessary as a direct consequence of the proposed development in order to accommodate the projected site-generated travel demands. The study therefore does not require an RMA for of-site roadworks.

Based on the findings of this study, it is the overall opinion of IBI Group that the proposed development will integrate well with and can be safely accommodated by the adjacent transportation network.

1 Introduction

IBI Group (IBI) was retained by Ivanhoé Cambridge to undertake a Transportation Impact Assessment (TIA) in support of a combined Official Plan Amendment and Zoning By-law Amendment application for a proposed high-rise residential development to be located on the western portion of 100 Bayshore Drive (Lot 'B') in Ottawa.

In accordance with the City of Ottawa's Transportation Impact Assessment Guidelines, published in June 2017, the following report is divided into four major components:

- **Screening** – Prior to the commencement of a TIA, an initial assessment of the proposed development is undertaken to establish the need for a comprehensive review of the site based on three triggers: Trip Generation, Location and Safety.
- **Scoping** – This component of the TIA report describes both the existing and planned conditions in the vicinity of the development and defines study parameters such as the study area, analysis periods and analysis years of the development. It also provides an opportunity to identify any scope exemptions that would eliminate elements of scope described in the TIA Guidelines that are not relevant to the development proposal, based on consultation with City staff.
- **Forecasting** – The Forecasting component of the TIA is intended to review both the development-generated travel demand and the background network travel demand, and provides an opportunity to rationalize this demand to ensure projections are within the capacity constraints of the transportation network.
- **Analysis** – This component documents the results of any analyses undertaken to ensure that the transportation related features of the proposed development are in conformance with prescribed technical standards and that its impacts on the transportation network are both sustainable and effectively managed. It also identifies a development strategy to ensure that what is being proposed is aligned with the City of Ottawa's city-building objectives, targets and policies.

Throughout the development of a TIA report, each of the four study components above are submitted in draft form to the City of Ottawa and undergo a review by a designated Transportation Project Manager. Any comments received are addressed to the satisfaction of the City's Transportation Project Manager before proceeding with subsequent components of the study. All technical comments and responses throughout this process are included in **Appendix A**.

2 TIA Screening

An initial screening was completed to confirm the need for a Transportation Impact Assessment by reviewing the following three triggers:

- **Trip Generation**: Based on the proposed number of apartment dwelling units, the minimum development size threshold has been exceeded and therefore the Trip Generation trigger is satisfied.
- **Location**: The proposed development is located within a Design Priority Area (DPA) and, as such, the Location trigger is satisfied.
- **Safety**: Boundary street conditions were reviewed to determine if there is an elevated potential for safety concerns adjacent the site. Based on this review, the Safety Trigger is not satisfied.

As the proposed development meets the Trip Generation, Location and Safety triggers, the need to undertake a Transportation Impact Assessment is confirmed.

A copy of the Screening Form is provided in **Appendix B**.

3 Project Scoping

3.1 Description of Proposed Development

3.1.1 Site Location

The proposed development is within the Bayshore community, immediately adjacent the Accora Village development and is approximately 0.7 hectares in size. It is bound by Woodridge Crescent to the north, the existing Bayshore Bus Rapid Transit (BRT) Station to the south, a shared access off Woodridge Crescent to the east that serves both the Transitway and Bayshore Shopping Centre parking facilities and an undeveloped parcel of land to the west.

The site location and its surrounding context is illustrated in **Exhibit 1**.

3.1.2 Land Use Details

The subject site is currently an undeveloped greenfield site and is zoned GM9[199]H(34) – General Mixed-Use, based on GeoOttawa.

The proposed development includes two towers of 30 storeys (Phase 1) and 27 storeys (Phase 2) on top of a 3-storey parking podium. **Table 1** summarizes the proposed land uses included in this development.

Table 1 - Land Use Statistics

LAND USE	SIZE
Apartments	500 dwelling units

The site will provide 260 vehicle parking spaces, including 50 visitor parking spaces, within the 3-storey above-grade parking podium as well as one level below-grade. The podium levels will provision for potential future conversion to active, non-auto use.

Direct connections to Woodridge Crescent will be provided via two full-movement intersections:

- Two, two-way private approaches linked by a semi-circular driveway. Access to the parking garage entrance will be provided via a drive aisle connection to the semi-circular driveway.

The configuration of the proposed development is illustrated in **Exhibit 2**.

3.1.3 Development Phasing & Date of Occupancy

The proposed development will be constructed in two phases, with the 30-storey west tower (Phase 1) projected to be fully occupied by 2024, followed by full build-out of the site by 2026.

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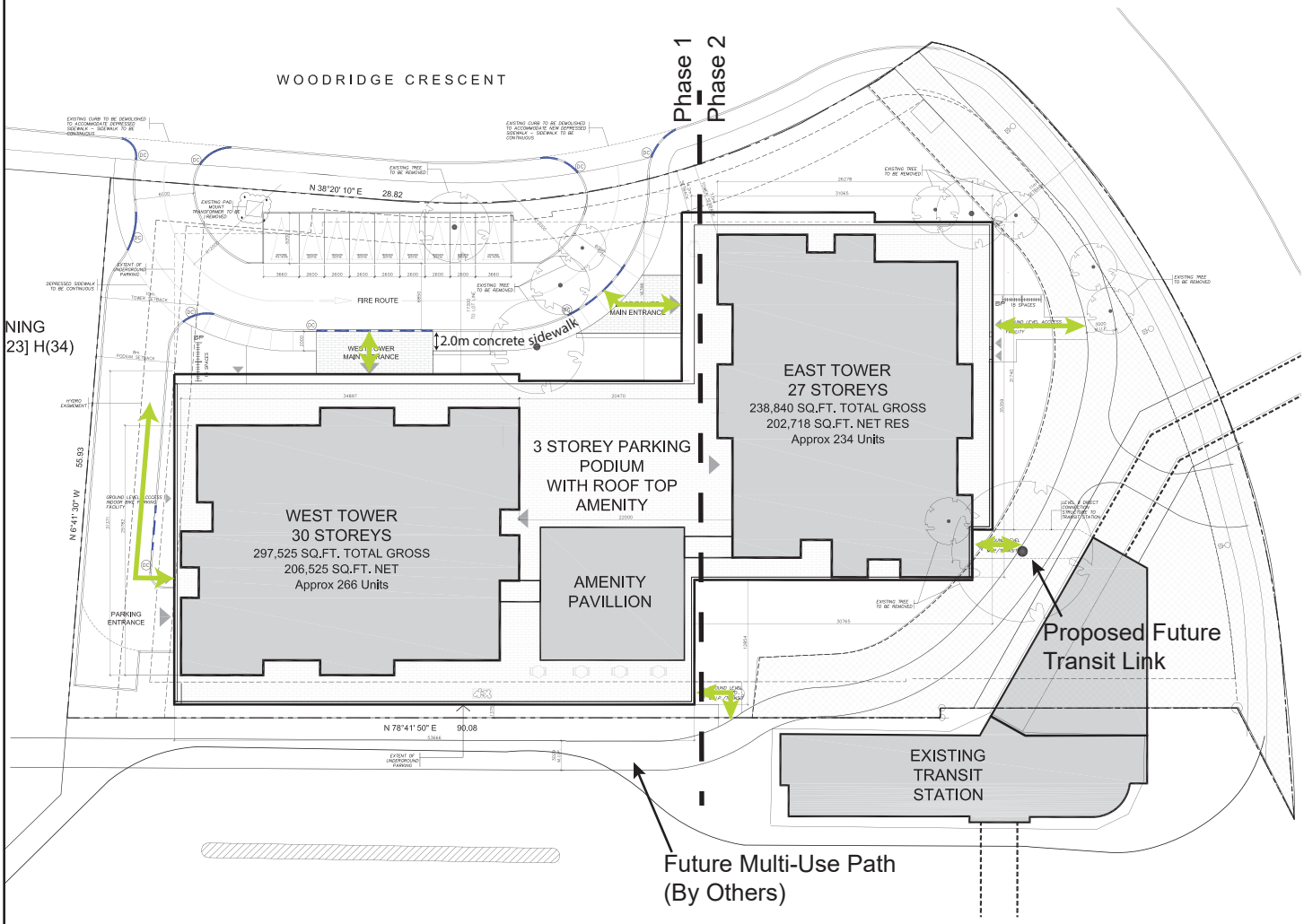
High-Rise Residential Development
100 Bayshore Drive (Lot 'B')
Transportation Impact Assessment

Exhibit 1: Site Location

PROJECT No. 123069
DATE: April 2020
SCALE: 100m 0m 200m



Legend

Pedestrian Connections

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100 Bayshore Drive (Lot 'B')
Transportation Impact Assessment

Exhibit 2:
Proposed Development

PROJECT No. 123069
DATE: April 2020
SCALE: 0m 10m 20m

3.2 Existing Conditions

3.2.1 Existing Road Network

3.2.1.1 Roadways

The proposed development is bound by the following street(s):

- **Woodridge Crescent** is an urban collector road under the jurisdiction of the City of Ottawa that forms a loop west and connects to Bayshore Drive at two signalized intersections offset by approximately 400m. Woodridge Crescent has a two-lane cross-section with a posted speed limit of 40 km/h and a right-of-way of 24m. Adjacent to the Bayshore Shopping Centre, Woodridge Crescent has a five-lane cross-section with a two-way left-turn lane and a right-of-way of 26m.

Other streets within the context area of the proposed development are as follows:

- **Bayshore Drive** is an urban arterial road under the jurisdiction of the City of Ottawa that extends north-south from Carling Avenue to Richmond Road. It has a 26m right-of-way with a posted speed limit of 40km/h. It generally consists of a four-lane undivided cross-section, however south of Woodridge Crescent it is configured as several ramp-type roads that connect to the upper parking level for Bayshore Shopping Centre, Richmond Road and the westbound Highway 417 off-ramp.
- **Carling Avenue** is an urban arterial road under the jurisdiction of the City of Ottawa that extends from March Road in the west to Bronson Avenue in the east. Through the context area, Carling Avenue consists of a four-lane divided cross-section with a posted speed limit of 60km/h.
- **Richmond Road** is an urban arterial road under the jurisdiction of the City of Ottawa that extends from Robertson Road in the west to Island Park Drive in the east, transitioning to Wellington Street West. Richmond Road has a right-of-way protection of 44.5m within the study area and has a posted speed limit of 70km/h with a four-lane divided cross-section west of Bayshore Drive and a four-lane undivided cross-section east of Bayshore Drive.

3.2.1.2 Driveways Adjacent to Development Access

As discussed previously, two private approaches will connect the proposed development to the existing road network:

- Two, two-way private approaches serving a semi-circular driveway providing opportunities for pick-ups and drop-offs. The western-most private approach will provide two-way direct access to the parking garage.

Existing driveways within 200m of the proposed development generally serve medium and high-density residential developments within Accora Village, the Bayshore Transitway Station and the Bayshore Shopping Centre. The nearest driveways (90 Woodridge Crescent and the Transitway Access) are not anticipated to be significantly impacted by the proposed development as a result of their separation.

3.2.1.3 Intersections

The following intersections have the greatest potential to be impacted by the proposed development:

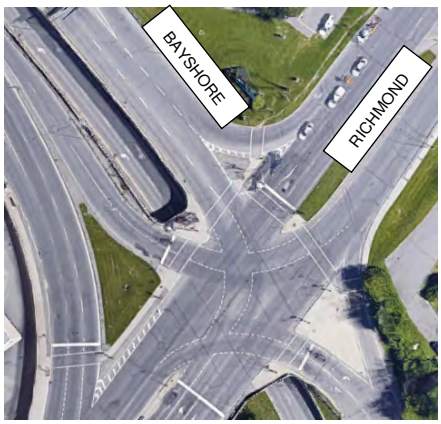
- **Woodridge Crescent (N) & Bayshore Drive** is a four-legged signalized intersection with single through lanes in each direction and an auxiliary left-turn lane on the eastbound approach. The westbound approach provides access to surface parking associated with residential developments including townhomes and a high-rise apartment complex.

- **Woodridge Crescent (S) & Bayshore Drive** is a three-legged signalized intersection. The northbound approach consists of a single dedicated left-turn lane, a shared through-left lane and an additional through lane separated from other movements on the northbound approach by a raised, concrete median. The southbound approach consists of a through lane and a shared through-right lane, while the eastbound approach consists of an eastbound left-turn lane and a double channelized right-turn lane. An unsignalized private driveway access to a high-rise apartment exists on the westbound approach, however, the presence of a concrete median extending from the northbound approach through the majority of the intersection restricts movements at this driveway to right-in/right-out.

- **Woodridge Crescent & Transitway Access** is a three-legged unsignalized intersection with a stop-controlled approach for the Transitway access and free-flow along Woodridge Crescent. The Transitway access provides a connection to Bayshore Station for local buses and access to the Bayshore Shopping Centre parking facilities for general traffic. Separate left- and right-turn lanes are provided on the northbound approach. The westbound approach provides separate through and left-turn lanes, while a single shared through/ right lane exists on the eastbound approach.

- **Woodridge Crescent & 220m W of Bayshore Drive** is a three-legged signalized intersection with two through lanes in either direction along Woodridge Crescent and a private approach with a single through lane on the southbound approach providing access to surface parking for several high-rise apartment buildings. A left-turn auxiliary lane is provided on the west leg only with no dedicated right-turn lanes existing on any approaches. An access to Bayshore Shopping Centre parking garage exists immediately east of the intersection.

Other intersections located within the context area of the proposed development are as follows:



- **Richmond Road & Bayshore Drive/ WB 417 Off-Ramp** is a four-legged signalized intersection with two through lanes on the eastbound approach, three through lanes on the westbound approach and no through lanes on the northbound and southbound approaches. Double left-turn auxiliary lanes exist on the northbound, southbound and eastbound approaches. A signalized, three-lane channelized right-turn exists on the southbound approach, while a single channelized right-turn lane is provided on both the northbound and westbound approaches. Northbound movements from Bayshore Drive are grade-separated through the intersection.

The intersection control and lane configurations for all intersections described above are shown in **Exhibit 3** below.

3.2.1.4 Traffic Management Measures

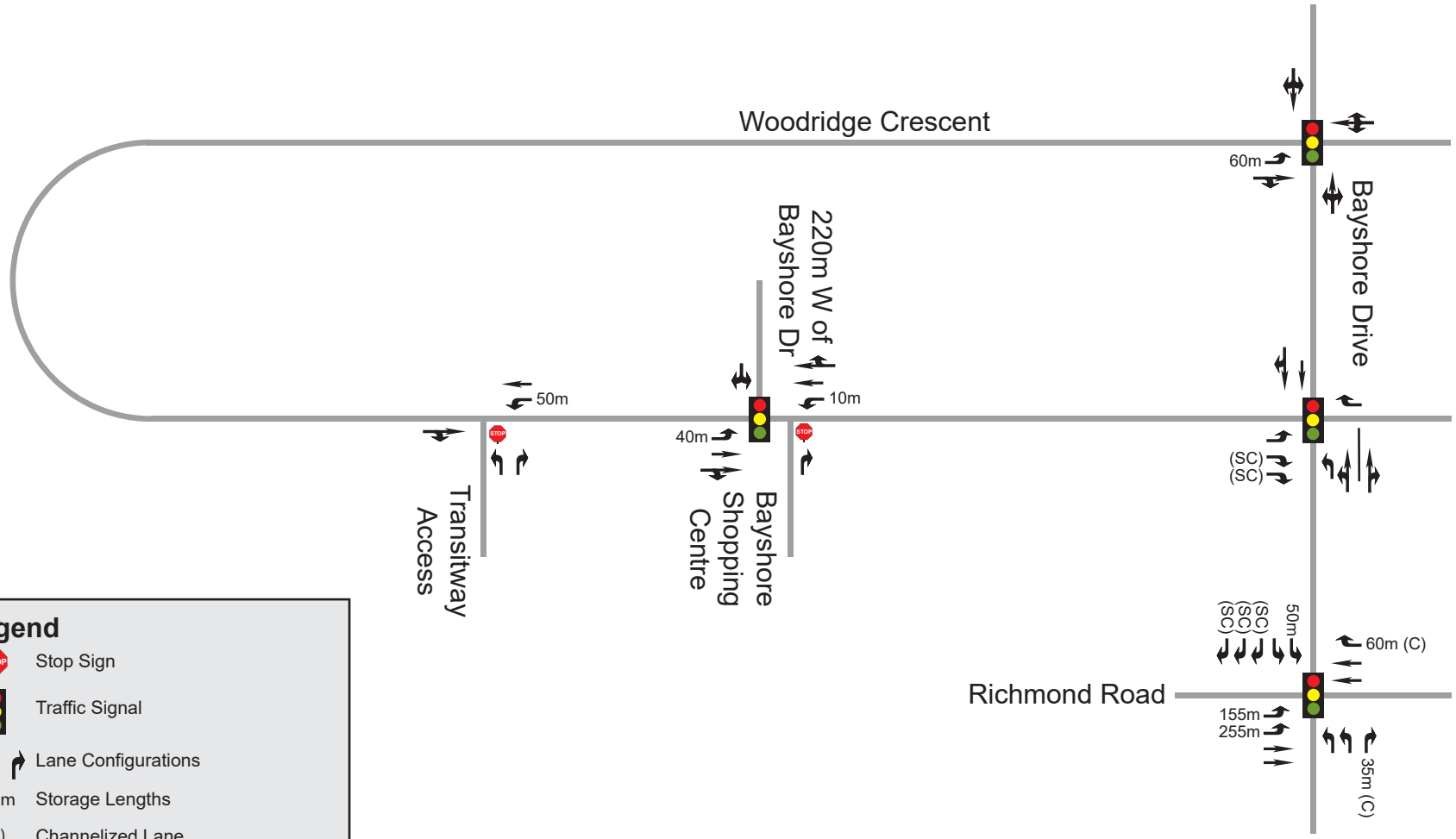
Traffic calming measures presently exist on Woodridge Crescent within the vicinity of Bayshore Public School. These consist of centreline flexible stakes, electronic speed display signs and other school area signage alerting motorists to drive with extra caution within the school priority area. A school priority zone also exists along Bayshore Drive serving the St. Rose of Lima Catholic Elementary School with traffic calming measures limited to school crossing signs.

3.2.1.5 Existing Traffic Volumes

As the proposed development will consist of residential land uses, the weekday peak hour traffic conditions will be most affected by any associated increase in traffic. Weekday morning and afternoon peak hour turning movement counts were therefore obtained from the City of Ottawa at the following intersections:

- Woodridge Crescent (N) & Bayshore Drive (City of Ottawa, November 2019)
- Woodridge Crescent (S) & Bayshore Drive (City of Ottawa, November 2019)
- Woodridge Crescent & Transitway Access (City of Ottawa, November 2019)
- Woodridge Crescent & Essex/Carleton Access (City of Ottawa, November 2019)
- Richmond Road & Bayshore Drive/ WB 417 Off-Ramp (City of Ottawa, November 2019)

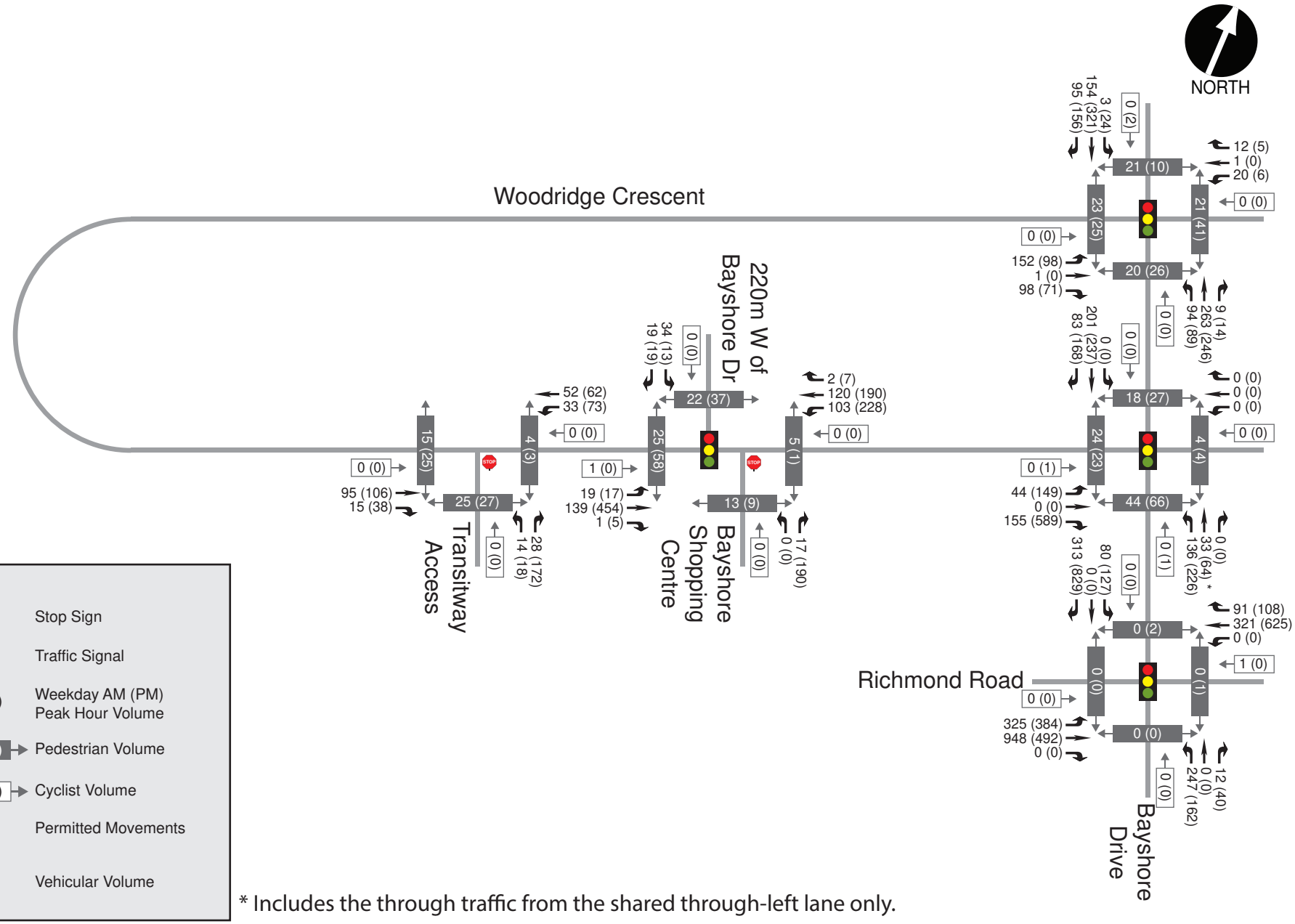
Peak hour traffic volumes representative of existing conditions are shown in **Exhibit 4**. Traffic count data is provided in **Appendix C**.



High-Rise Residential Development
100 Bayshore Drive (Lot 'B')
Transportation Impact Assessment

Exhibit 3:
Existing (2019)
Lane Configurations and
Intersection Control

PROJECT No. 123069
DATE: April 2020
SCALE: N.T.S.



* Includes the through traffic from the shared through-left lane only.

High-Rise Residential Development
100 Bayshore Drive (Lot 'B')
Transportation Impact Assessment

Exhibit 4:
Existing Traffic

PROJECT No. 123069
DATE: April 2020
SCALE: N.T.S.

3.2.2 Existing Bicycle and Pedestrian Facilities

Pedestrian facilities are provided on most roads within the context area including concrete sidewalks on both sides of Woodridge Crescent, Carling Avenue and Bayshore Drive. Concrete sidewalks are also provided on the north side of Richmond Road, west of Bayshore Drive, as well as on the south side of Richmond Road, east of Bayshore Drive.

Off-road pathways presently exist throughout Accora Village, providing an extensive network of interconnected pathways that promote the use of walking as a direct and convenient means of travel within the community. Some of these pathways provide connections to adjacent neighbourhoods such as the Creek Ends Lane near Holly Acres Road, or the city-wide multi-use pathway (MUP) network such as the Watts Creek Pathway (Trans Canada Trail).

There are presently no specific cycling facilities provided on any of the roads within the context area.

3.2.3 Existing Transit Facilities and Service

The following transit route, operated by OC Transpo, exists within the vicinity of the site:

- **Route #85** provides regular, all-day service between Bayshore Station and Terrasses de la Chaudière in Gatineau, operating on 15-minute headways during peak periods. On weekends, service is reduced to between 15- and 30-minute headways.

The nearest eastbound bus stop serving Route #85 is located 5 metres west of the proposed development, while the nearest westbound bus stop is located approximately 60 metres west of the site. The eastbound bus stop provides amenities including a route map, schedule and bench.

Furthermore, the proposed development is located immediately adjacent to Bayshore Station, a major bus rapid transit (BRT) hub that provides access to the City-wide rapid transit network with direct connections to the recently-opened Confederation Light Rail Transit (LRT) Line western terminus at Tunney's Pasture Station.

Transit maps for Route #85 and the City-wide rapid transit network are provided in **Appendix D**.

3.2.4 Collision History

A review of historical collision data has been undertaken for the boundary streets with the vicinity of the proposed development. The TIA Guidelines require a safety review if at least six collisions for any one movement or of a discernible pattern, have occurred over a five-year period. **Table 2** summarizes all reported collisions between January 1, 2014 and December 31, 2018.

Table 2 – Reported Collisions within Vicinity of Proposed Development

LOCATION	# OF REPORTED COLLISIONS
INTERSECTIONS	
Woodridge Crescent (N) & Bayshore Drive	19
Woodridge Crescent (S) & Bayshore Drive	22
Woodridge Crescent @ 220m W of Bayshore Drive	3
Richmond Road & Bayshore Drive	34
SEGMENTS	
Woodridge Crescent - 220m W of Bayshore Drive to Bayshore Drive	9
Woodridge Crescent - 220m W of Bayshore Drive to Transitway Access	2
Woodridge Crescent – Transitway Access to Bayshore Public School	13
Woodridge Crescent – Bayshore Drive to Bayshore Public School	17

Based on a preliminary review of the collision history noted above, intersection and road segments with more than six collisions over the five-year period may require further review.

Detailed collision records are provided in **Appendix E**.

3.3 Planned Conditions

3.3.1 Transportation Network

3.3.1.1 Future Road Network Projects

The 2013 Transportation Master Plan (TMP) outlines future road network modifications required in the 2031 'Affordable Network'. A review of the TMP Affordable Plan indicates that there are no planned changes to the arterial road network within the broader area surrounding the proposed development.

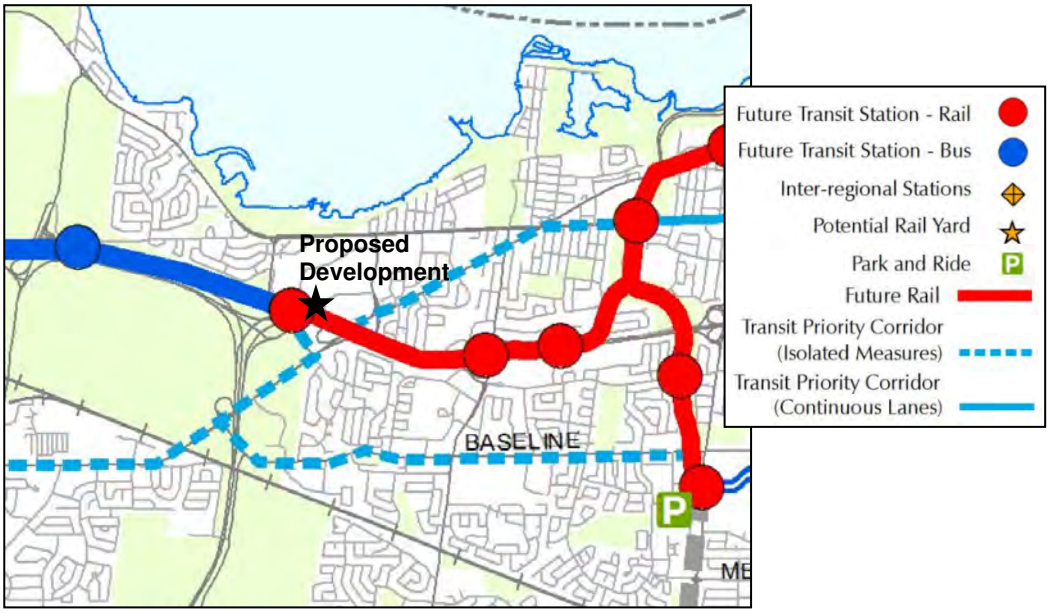
3.3.1.2 Future Transit Facilities and Services

The 2013 TMP outlines the future rapid transit and transit priority (RTTP) network. The following project was noted in the 'Affordable RTTP Network' that will have a significant impact future travel demand in the vicinity of the proposed development:

- **Confederation Line Extension** – Extension of the Confederation Line west from its current terminus at Tunney's Pasture Station to Bayshore Station as part of Stage 2 Light Trail Transit (LRT). Note: The *Moodie Light Rail Transit Extension – Environmental Project Report (December 2017)* study builds upon the TMP indicating that the Phase 2 of the Confederation Line will now extend further west to Moodie Station. Based on the official Stage 2 LRT website, the Confederation Line western extension is expected to begin full revenue service by 2025.

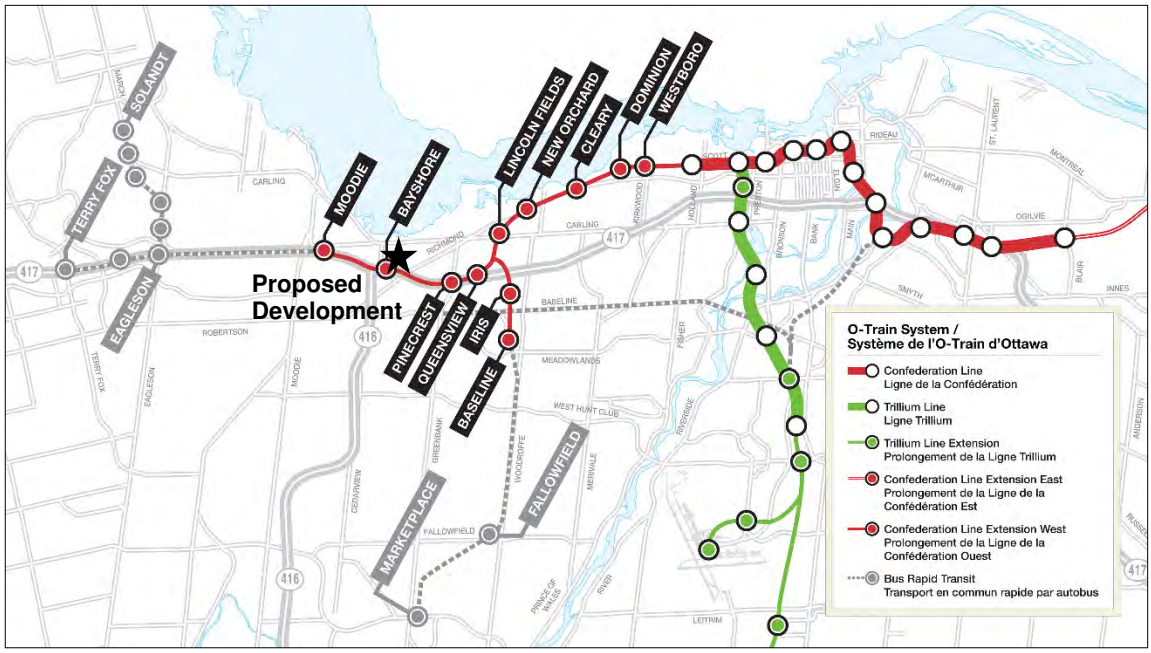
Figure 1 illustrates the transit infrastructure projects in the vicinity of the proposed development that are part of the TMP's 2031 Affordable Network. **Figure 2** illustrates the proposed Confederation Line western extension, including the recommendations from the Environmental Project Report.

Figure 1 - Future 'Affordable RTTP Network Projects'



Source: 2013 Transportation Master Plan – Map 5 '2031 Affordable Network'

Figure 2 - Stage 2 LRT - Confederation Line West Extension



Source: Stage 2 LRT Website – Trillium Line West Highlight Summary

3.3.1.3 Bayshore Station

The conversion of Bayshore Station to LRT is expected to incorporate a new station plaza and entrance west of the existing all-way stop intersection along the Transitway Access that will provide seamless pedestrian connectivity with the proposed development.

An artistic representation of the proposed Bayshore Station layout is provided in **Figure 3** below.

Figure 3 – Bayshore Station – LRT Stage 2, Artist Rendering

Source: City of Ottawa website, LRT Stage 2

3.3.1.4 Future Cycling and Pedestrian Facilities

The 2013 Ottawa Cycling Plan (OCP) designates Carling Avenue and Richmond Road as 'Spine Routes', which form part of a system linking the commercial, employment, institutional, residential and educational nodes throughout the city. As shown on **Figure 4**, portions of Woodridge Crescent and Bayshore Drive are designated as 'Local Routes', providing connections between 'Spine Routes' and 'Major Pathways'.

The OCP proposes to implement on-street cycling facilities or paved shoulders along Richmond Road from Highway 417 to Carling Avenue as part of Phase 2 (2020-2025) Cycling Plan.

Figure 4 – Future Cycling Facilities within Context Area

Source: GeoOttawa

Furthermore, as indicated on the site plan, a multi-use pathway (MUP) is proposed along the southern and eastern property boundaries to provide an active transportation linkage to the future Bayshore Light Rail Transit (LRT) Station from Accora Village as well as the community west of Holly Acres Road.

At the time of this study, there are no other known improvements to pedestrian facilities planned within the context area.

3.3.2 Future Adjacent Developments

The City of Ottawa Transportation Impact Assessment (TIA) Guidelines specify that all significant developments proposed within the surrounding area which are likely to occur within the study's horizon year must be identified and taken into consideration in the development of future background traffic projections.

It shall be acknowledged that the adjacent Accora Village community is expected to undergo a Master Planning process in the near future for the potential long-term redevelopment and intensification of those lands. As no concept plans or timeline were available at the time of this study, the magnitude or type of development would be speculative and therefore was not considered in the analysis of future conditions.

There are currently no other significant development applications within the context area that are either in the development application approval process, have already been approved and in pre-construction or are currently under construction.

3.3.3 Network Concept Screenline

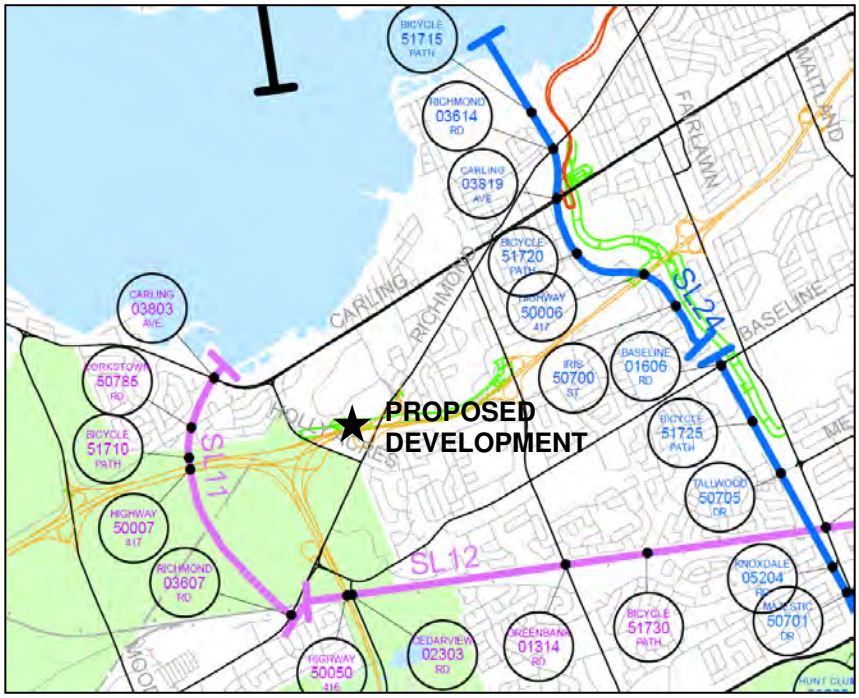
A screenline is an artificial boundary between areas of major traffic generation that captures all significant points of entry from one area to another to compare crossing demand with the available roadway capacity. Screenlines are typically located along geographical barriers such as rivers, rail lines or within the greenbelt. To capture existing flow and model future demand, count stations are established by the City of Ottawa at each crossing point along the screenline.

The nearest strategic planning screenlines adjacent to the development have been identified:

- **SL12 – CNR West** – This is the nearest east/west screenline with respect to the proposed development, and it follows the Canadian National Railroad (CNR) rail line from Highway 416 to Prince of Wales Drive. This screenline has six crossing points: Highway 416, Cedarview Road, Greenbank Road, Woodroffe Avenue, Merivale Road and Prince of Wales Drive.
- **SL24 – Western Parkway** – This is the nearest north/south screenline that would capture trips from the proposed development heading towards Ottawa's central area, and it roughly follows the Transitway alignment from Lincoln Fields Station to Baseline Station. The screenline has four crossing points: Richmond Road, Carling Avenue, Highway 417 and Iris Street.

SL12 and SL24 are shown in **Figure 5**, as determined from the City of Ottawa's *Road Network Development Report (2013)*, a supporting document to the 2013 Transportation Master Plan (TMP). A review of the above-noted screenlines will be conducted in the Analysis component of this study.

Figure 5 - Screenlines



Source: TRANS Screenline System (2010)

3.4 Study Area

With consideration of the information presented thus far, the following intersections have been identified as being most impacted by the proposed development and will be assessed for vehicular capacity as part of this study:

- Woodridge Crescent (N) & Bayshore Drive
- Woodridge Crescent (S) & Bayshore Drive
- Woodridge Crescent & Transitway Access
- Woodridge Crescent & 220m W of Bayshore Drive
- Richmond Road & Bayshore Drive/ WB 417 Off-Ramp

Beyond the bounds of the above noted-study area intersections, site-generated traffic impacts are expected to be minimal. Motorists have a variety of options to access the broader arterial road network surrounding the site, resulting in a dispersion of vehicular demand within the periphery of the context area. Furthermore, sustainable transportation modes are expected to represent a significant proportion of the overall site generation due to the proximity of this development to an existing bus rapid transit station that is slated for an upgrade to light rail prior to the proposed development's full build-out.

Multi-Modal Level of Service (MMLOS) will be conducted for all intersections listed above with the possible exception of Woodridge Crescent & Transitway Access, as this intersection is presently configured as a stop-controlled intersection, and no methodology currently exists for evaluating MMLOS at unsignalized intersections. The need to provide alternative means of traffic control (i.e. signals) at this intersection will be reviewed in the Analysis component of this study to determine whether signals are warranted or required operationally within the horizon year of this study.

Additional MMLOS analysis will be conducted for the relevant boundary street segments, which in this case is limited to Woodridge Crescent from the Transitway Access to the western property boundary.

3.5 Time Periods

Based on the proposed residential land use, traffic generated during the weekday morning and afternoon peak hour is expected to result in the most significant impact to traffic operations on the adjacent road network in terms of combined development-generated and background traffic. These two time periods will therefore be considered for operational analysis in this study.

3.6 Study Horizon Year

The following analysis years will be assessed in this study:

- Year 2024 – Interim Analysis Year – Full Build-Out of Phase 1
- Year 2026 – Full Build-out / Occupancy of Proposed Development (Phases 1 & 2)
- Year 2031 – 5 Years Beyond Full Build-out / Occupancy

3.7 Exemptions Review

The TIA Guidelines provide exemption considerations for elements of the Design Review and Network Impact components. **Table 3** summarizes the TIA modules that are not applicable to this study.

Table 3 - Exemptions Review

TIA MODULE	ELEMENT	EXEMPTION CONISDERATIONS	REQUIRED
DESIGN REVIEW COMPONENT			
4.1 Development Design	4.1.2 Circulation and Access	• Only required for site plans	✓
	4.1.3 New Street Networks	• Only required for plans of subdivision	✗
4.2 Parking	4.2.1 Parking Supply	• Only required for site plans	✓
	4.2.2 Spillover Parking	• Only required for site plans where parking supply is 15% below unconstrained demand	✗
NETWORK IMPACT COMPONENT			
4.5 Transportation Demand Management	All Elements	• Not required for site plans expected to have fewer than 60 employees and/or students on location at any given time	✓
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	✓
4.8 Network Concept	n/a	• Only required when proposed development generates more than 200 person-trips during the peak hour in excess of the equivalent volume permitted by established zoning	✓

4 Forecasting

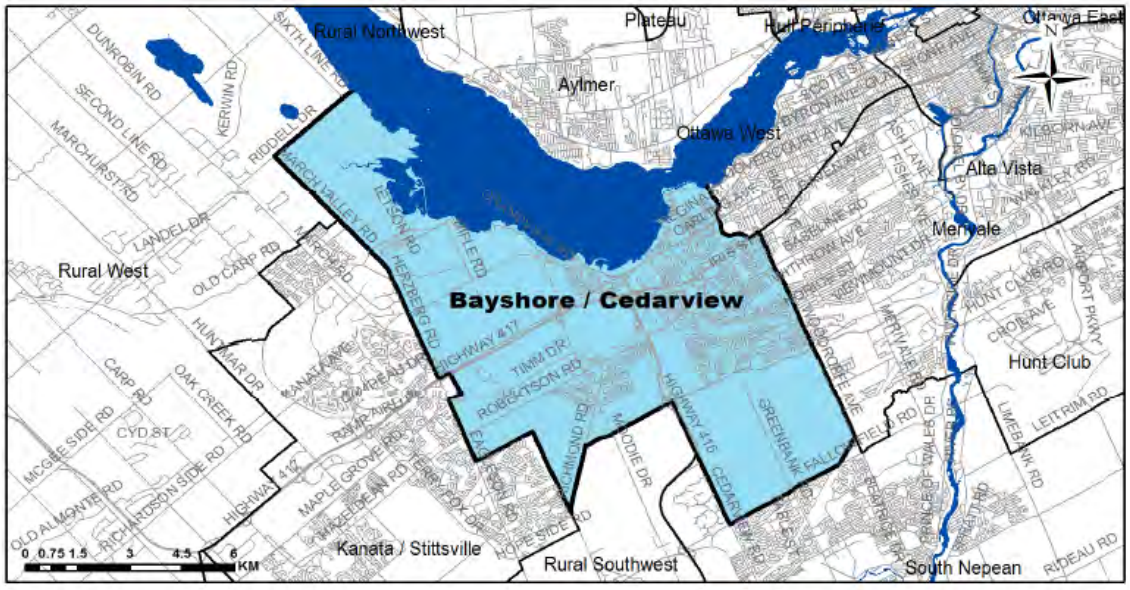
4.1 Development Generated Traffic

4.1.1 Trip Generation Methodology

Peak hour site-generated traffic volumes were developed using the 2009 TRANS Trip Generation Residential Trip Rates Study Report. The TRANS trip generation rates are based on a blended rate derived from 17 trip generation studies undertaken in 2008, the ITE Trip Generation Manual and the 2005 TRANS Origin-Destination (O-D) Travel Survey. Separate trip generation rates exist for each of the four general geographic areas in Ottawa: Core, Urban (Inside the Greenbelt), Suburban (Outside the Greenbelt) and Rural. These trip generation rates reflect existing travel behavior by dwelling type and geographic area. The TIA Guidelines recommend that the TRANS trip generation rates be converted to person-trips based on the vehicular mode share proportions detailed in the TRANS Trip Generation study. Person-trips are then subdivided based on representative mode share percentages applicable to the study area to determine the number of vehicle, transit, pedestrian, cycling and other trip types.

The local mode shares for the Bayshore / Cedarview Traffic Assessment Zone (TAZ), as presented in the more recent 2011 TRANS O-D Survey, consider a broad geographical area and therefore likely represent a much larger share of auto driver trips than would be expected for a development directly adjacent to a rapid transit station. As such, a count of all vehicle, pedestrian/transit and cyclist trips to and from the nearby 90 Woodridge Crescent apartment building was completed to obtain a local mode share distribution for comparison against the City of Ottawa mode share targets for Transit-Oriented Development (TOD) zones.

Figure 6 - Bayshore / Cedarview TAZ



Source: 2011 TRANS O-D Survey

4.1.2 Trip Generation Results

4.1.2.1 Vehicle Trip Generation

Weekday peak hour vehicular traffic volumes associated with the subject development were determined using the trip generation rates published in the TRANS Trip Generation study.

The vehicular trip generation results for the proposed development have been summarized in **Table 4**.

Table 4 - Base Vehicular Trip Generation Results

LAND USE	SIZE	PERIOD	GENERATED TRIPS (VPH)		
			IN	OUT	TOTAL
High-Rise Apartment (Phase 1)	266 units	AM	15	49	64
		PM	45	28	72
High-Rise Apartment (Phases 1 & 2)	500 units	AM	29	92	120
		PM	84	53	135

Note: vph = Vehicles Per Hour *Source: TRANS Trip Generation Residential Trip Rates, August 2009*

4.1.2.2 Person Trip Generation

The person-trip to vehicle-trip conversion factors for TRANS trip generation rates vary depending on the peak hour, geographic location and land use considered. The vehicular trip generation results from the previous section were divided by the vehicle mode shares to determine the number of person-trips generated.

The resulting number of person-trips have been summarized in **Table 5**.

Table 5 - Person-Trip Generation

LAND USE	AUTO MODE SHARE	PERIOD	PERSON TRIPS (PPH)		
			IN	OUT	TOTAL
High-Rise Apartment (Phase 1)	37%	AM	41	133	174
	40%	PM	111	70	181
High-Rise Apartment (Phases 1 & 2)	37%	AM	78	250	324
	40%	PM	209	132	338

Notes: pph = persons per hour

4.1.2.3 Mode Share Proportions

The 2011 TRANS Origin-Destination (O-D) Survey provides approximations of the existing modal share within the Bayshore / Cedarview Traffic Assessment Zone (TAZ), and is generally considered as a baseline when developing mode share projections. For this study, adjustments were made to the existing mode shares based on observations at Woodridge Crescent and TRANS model projections. The adjusted mode shares were then compared against the City's mode share targets for Transit-Oriented Development (TOD) zones at LRT stations for the full build-out and horizon years of the study, as described below.

Local Observed Mode Share

Weekday peak hour observations of all vehicle, pedestrian/transit and cyclist trips to and from the adjacent 90 Woodridge Crescent apartment building were conducted by IBI Group in late October and early November of 2019 to supplement the 2011 O-D Survey with local, site-specific data for the Bayshore Station area. Vehicle occupancy was not recorded as part of this exercise. For the purposes of this study, an average vehicle occupancy of 1.15 was assumed for all vehicle trips generated by the apartment building. It was also not possible to distinguish between pedestrian and transit trips as both begin and end as pedestrian trips. The pedestrian trips recorded were therefore proportionally divided based on the 2011 O-D Survey mode shares. As these trips may represent both local and regional trips, the weighted average weekday morning and afternoon mode shares from the 2011 O-D Survey were utilized to estimate the number of transit trips.

The 2024 (Phase 1) mode share was developed based on adjustments from the field observations at 90 Woodridge Crescent described above, with the assumption that the conservative assumption that the mode share would remain unchanged prior to the Confederation Line West Extension opening for full revenue service in 2025.

TRANS Model Projections

Based on TRANS model projections, transit travel demand from the adjacent Accora Village community is expected to increase by 11% between 2011 and 2031. This increase in transit use is almost entirely attributable to the planned conversion of Bayshore Station from Bus Rapid Transit to Light Rail Transit by 2025 as the model assumed only a negligible amount of population and employment growth would occur in the area during the same period. As such, it can be expected that this increase in transit use will not increase at a gradual rate but will rather increase suddenly following the completion of the western extension of the Confederation Line. As this is expected to occur by 2025, an 11% increase in the transit ridership is expected to occur by the 2026 analysis year of this study. This growth in transit mode share was assumed to result in a corresponding reduction in the auto mode share.

With the adjustments to the field observations from 90 Woodridge Crescent to account for the TRANS model projections, a baseline transit mode share of 42% was determined to be realistic, however this falls short of the 65% transit mode share targeted by the City. A Transportation Demand Management (TDM) strategy is required to help bridge the 23% gap between the transit mode shares, the details of which are discussed in subsequent sections of this report, and achieve the appropriate targets for 2026 and 2031.

Table 6 summarizes the 2011 O-D Survey mode shares for the Bayshore / Cedarview TAZ, the mode share targets for 2024 as well as 2026 and 2031. The target mode shares are assumed to remain unchanged from 2026 to 2031.

Relevant extracts from the 2011 O-D Survey are provided in **Appendix F**.

Table 6 - 2011 O-D Survey and Local Mode Shares, and Proposed Mode Share Targets

TRAVEL MODE	2011 O-D SURVEY MODE SHARE [1]	2024 MODE SHARE TARGET	2026 & 2031 MODE SHARE TARGETS (WITH TDM)
Auto Driver	57%	42%	15%
Auto Passenger	14%	6%	5%
Transit	15%	37%	65%
Walking	5%	13%	13%
Cycling	1%	2%	2%
Other	6%	0%	0%

[1] - *Weighted average of weekday morning and afternoon 'To District', 'From District' and 'Within District' mode shares.*

4.1.2.4 Trip Reduction Factors

Deduction of Existing Development Trips

Not Applicable: The proposed development lands are currently undeveloped and do not generate any traffic.

Pass-by Traffic

Not Applicable: The proposed development is residential and will not generate pass-by traffic.

Synergy/ Internalization

Not Applicable: The proposed development will include only residential land uses, therefore internalization reduction factors are not required for this study.

4.1.2.5 Trip Generation by Mode

The 2024 and 2026/ 2031 mode share targets presented above were applied to the number of development-generated person-trips to establish the number of trips per travel mode, as summarized in **Table 7**.

Table 7 – Peak Hour Person-Trips by Mode

MODE	2024				2026 & 2031			
	AM		PM		AM		PM	
	IN	OUT	IN	OUT	IN	OUT	IN	OUT
Auto Driver	17	55	46	29	12	37	31	20
Auto Passenger	3	8	7	4	4	13	10	7
Transit	15	49	41	26	50	162	136	85
Walking	5	18	15	9	10	32	27	17
Cycling	1	3	2	2	2	6	5	3
Other	0	0	0	0	0	0	0	0
Total	**155**		**162**		**328**		**342**	

Based on the above, the proposed development is expected to generate up to 75 two-way vehicular trips and 221 two-way transit trips during the weekday peak hours. It is important to note that the increase in transit and non-auto mode shares targeted by 2026 offset the increased auto-driver demand generated by Phase 2 of the proposed development, resulting in fewer auto trips at build-out.

4.1.3 Trip Distribution and Assignment

According to the 2011 O-D Survey, weekday peak hour travel demand is generally split between 'local' trips that remain within the Bayshore / Cedarview Traffic Assessment Zone (TAZ) and 'regional' trips that are primarily destined to more central areas in Ottawa. The O-D Survey indicates that approximately 37% of all trips generated in the TAZ are considered 'local', which constitutes a significant proportion of the overall travel demand within the zone and justifies the development of separate distributions to distinguish between 'local' and 'regional' trips.

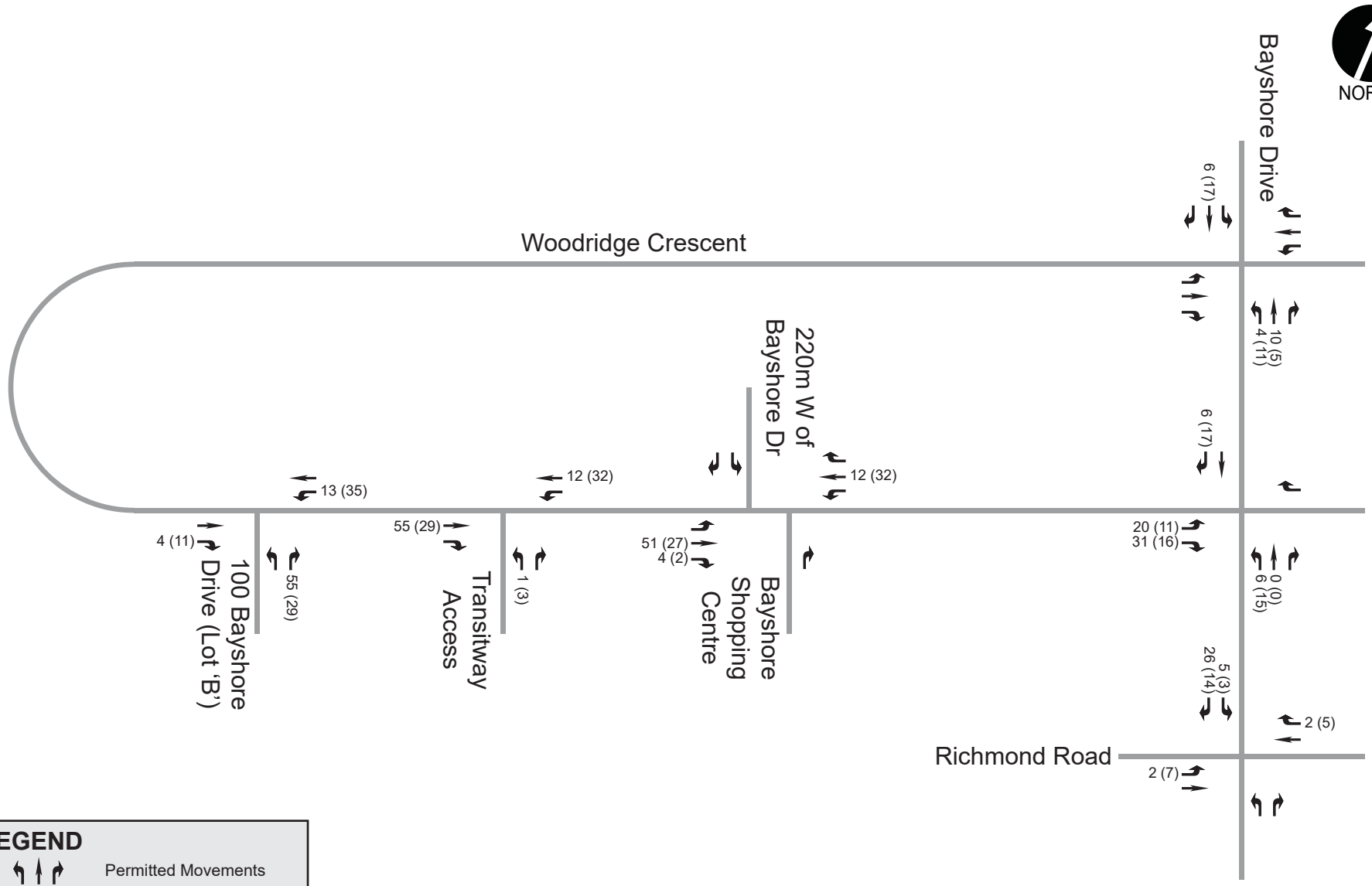
Route selection and weighting for the 'regional' distribution was developed based on a review of travel patterns from the O-D Survey and the configuration of the regional road network surrounding the proposed development. The 'local' distribution was established with consideration given to intersection-level travel patterns obtained from traffic count data and the geographical concentration of employment/ commercial areas within the TAZ.

Trips generated by the proposed development were distributed to the adjacent road network as shown in **Table 8**.

Table 8 – Proposed Development Distribution

REGIONAL (63%)	LOCAL (37%)
85% to/from the East ➢ 60% via Highway 417 ➢ 30% via Carling Avenue ➢ 10% via Richmond Road	40% to/from the East ➢ 70% via Carling Avenue ➢ 30% via Richmond Road
10% to/from the West ➢ 60% via Richmond Road / Highway 417 ➢ 40% via Carling Avenue	40% to/from the West ➢ 50% via Carling Avenue ➢ 50% via Richmond Road
5% to/from the South ➢ 100% via Richmond Road / Highway 416	20% to/from the Bayshore Shopping Centre ➢ 100% via access on Woodridge Crescent

Utilizing the estimated number of new auto trips and applying the above distributions, future site-generated traffic volumes for the 2024 and 2026/ 2031 analysis years are illustrated for each of the study area intersections in **Exhibit 5** and **Exhibit 6**, respectively.



LEGEND

Permitted Movements

xxx (xxx)
xxx (xxx)
xxx (xxx)

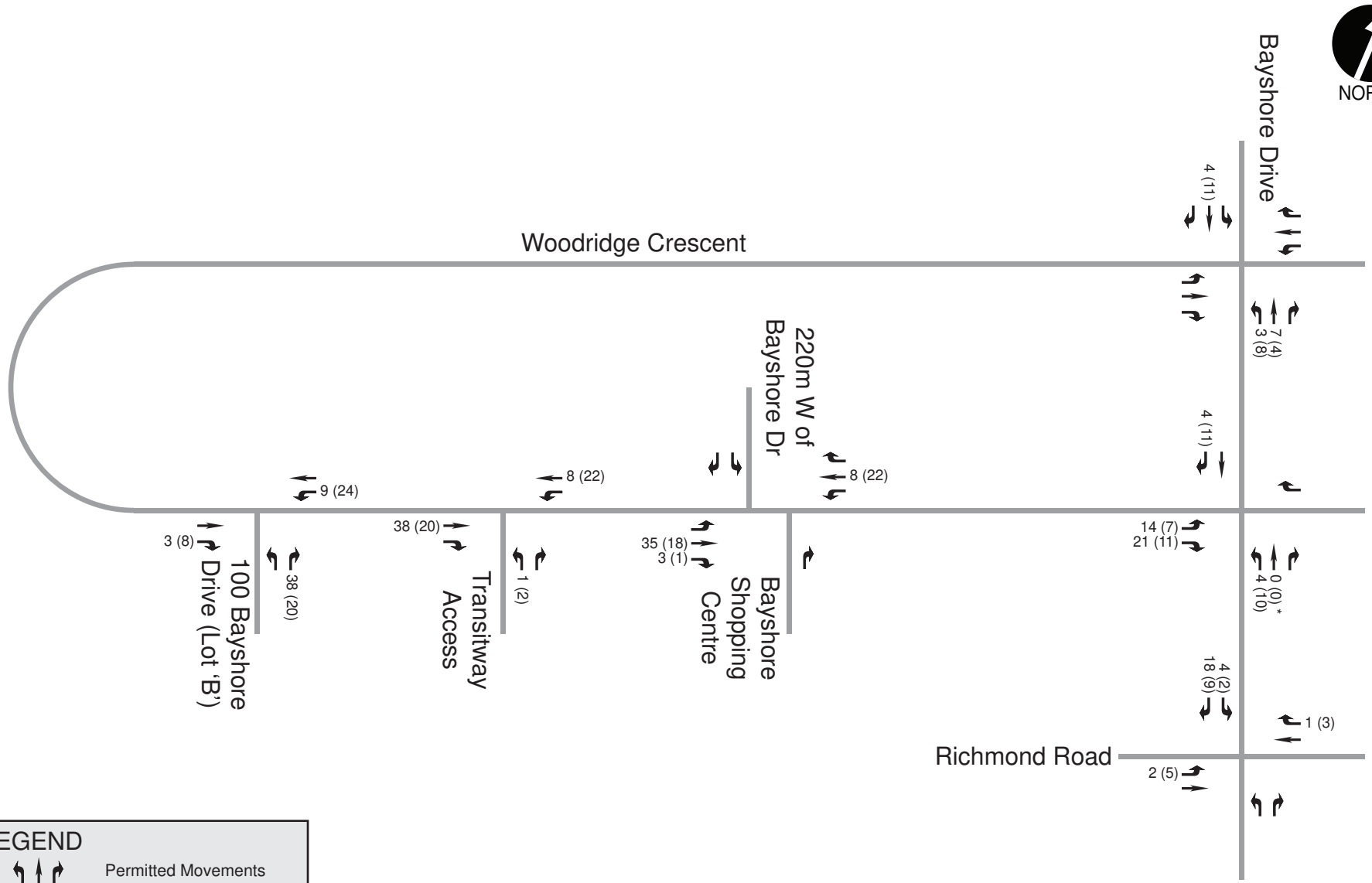
Weekday AM (PM) Peak Hour Vehicular Volume

* Includes the through traffic from the shared through-left lane only.

High-Rise Residential Development
100 Bayshore Drive (Lot 'B')
Transportation Impact Assessment

Exhibit 5:
2024 Site-Generated
Traffic Volumes

PROJECT No. 123069
DATE: April 2020
SCALE: N.T.S.



LEGEND

Permitted Movements

xxx (xxx) xxx (xxx) xxx (xxx) — Weekday AM (PM) Peak Hour Vehicular Volume

* Includes the through traffic from the shared through-left lane only.

IBI

High-Rise Residential Development
100 Bayshore Drive (Lot 'B')
Transportation Impact Assessment

Exhibit 6:
2026 & 2031 Site-Generated
AM & PM Peak Hour
Traffic Volumes

PROJECT No. 123069
DATE: April 2020
SCALE: N.T.S.

4.2 Background Network Traffic

4.2.1 Changes to the Background Transportation Network

To properly assess future traffic conditions, planned modifications to the transportation network that may impact travel patterns or demand within the study area have been considered. The Scoping section of this report reviewed the anticipated changes to the study area transportation network based on the Transportation Master Plan (TMP) and determined that there are currently no planned future road network projects within the study area.

The TMP and Ottawa Cycling Plan (OCP) were also reviewed for planned future transit, cycling and pedestrian network projects. These changes were accounted for in the development of the target mode shares of the subject development. For the purposes of this analysis, the planned improvements to cycling infrastructure were assumed to have a negligible impact on the cycling mode share, but are accounted for in the targeted 15% non-auto mode share.

4.2.2 General Background Growth Rates

The background growth rate is intended to represent regional growth from outside the study area that will travel along the adjacent road network. Based on 2011 and 2031 peak directional traffic volumes obtained from the City's TRANS regional transportation demand model, Richmond Road and Bayshore Drive are projected to experience a growth rate of approximately 0.5% per year. As such, a linear 0.5% growth rate has been applied to through movements along Bayshore Drive and all movements at the intersection of Richmond Road & Bayshore Drive / WB 417 Off-Ramp for the calculation of future background traffic.

4.2.3 Other Area Development

The Scoping section of this report determined that there are presently no significant development applications within the context area of the subject development.

As discussed previously, a Master Planning process for the potential long-term redevelopment and intensification of the adjacent Accora Village community is expected to begin in the near future, however as no concept plans or timeline are currently available it was not considered in this study as an adjacent development.

4.3 Demand Rationalization

The purpose of this section is to rationalize future travel demands within the study area to account for potential capacity limitations in the transportation network and its ability to effectively accommodate the additional demand generated by a new development.

4.3.1 Description of Capacity Issues

The *Bayshore Shopping Centre Reinvestment Plan Transportation Impact Study Update (June 2011)* prepared by Delcan (now Parsons) indicates that the following intersections are expected to operate at acceptable levels of service beyond 2020:

- Woodridge Crescent (S) & Bayshore Drive
- Woodridge Crescent & Transitway Access
- Woodridge Crescent & 220m W of Bayshore Drive
- Richmond Road & Bayshore Drive/ WB 417 Off-Ramp

As there has been little development within the context area since this TIS was prepared, there are no other records of documented capacity issues at any of the study area intersections.

4.3.2 Adjustment to Development-Generated Demands

Given the lack of documented capacity issues within the study area, no adjustments have been made to development-generated traffic demand.

4.3.3 Adjustment to Background Network Demands

Recognizing the lack of documented capacity issues at any of the study area intersections, no adjustments have been made to future background traffic volumes.

4.4 Traffic Volume Summary

4.4.1 Future Background Traffic Volumes

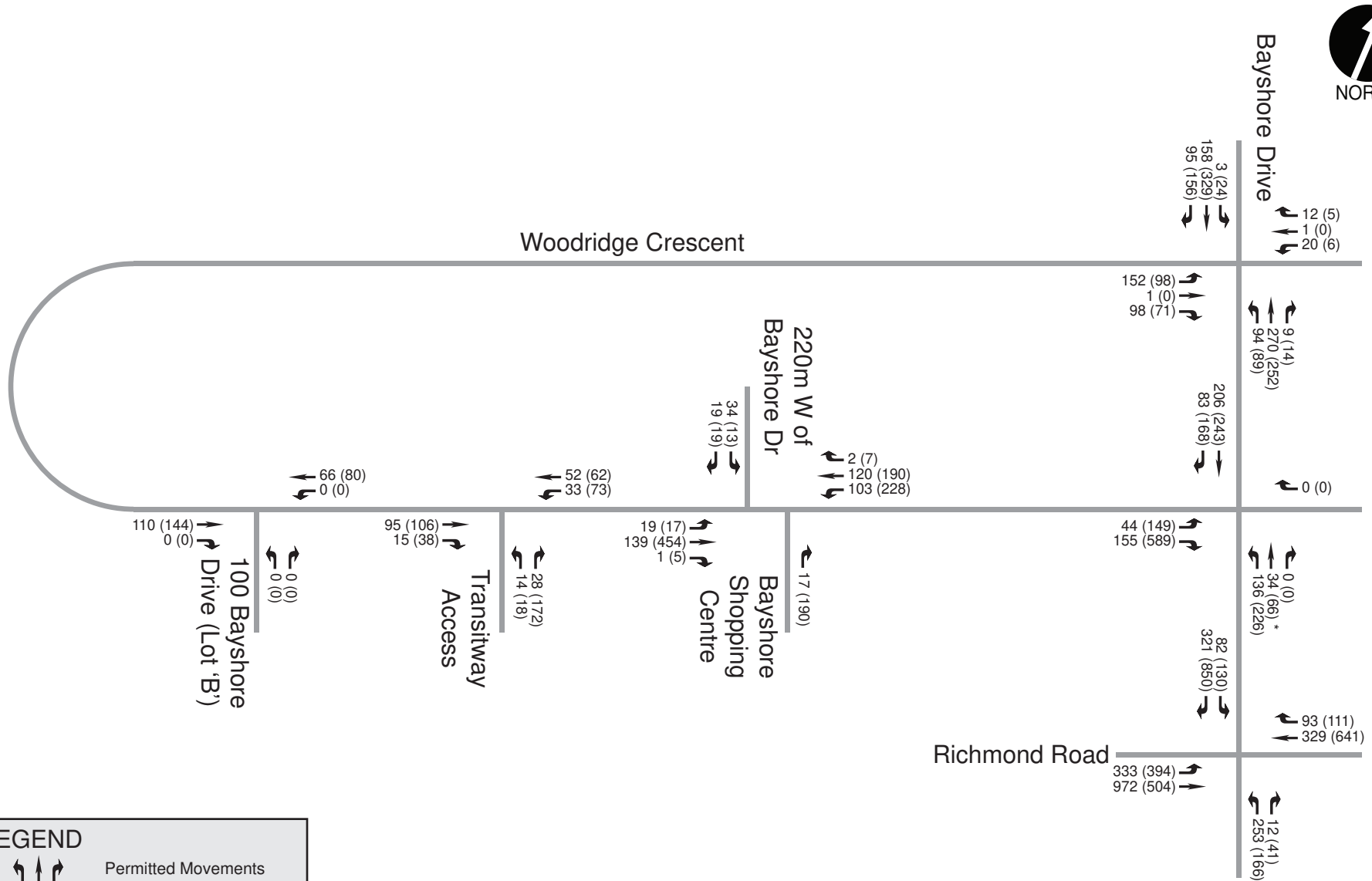
Future background traffic volumes have been established by applying a linear background growth rate to the Existing (2019) Traffic volumes, as described in previous sections of this report.

Exhibit 7, **Exhibit 8** and **Exhibit 9** present the future background traffic volumes anticipated for the 2024, 2026 and 2031 analysis years, respectively.

4.4.2 Future Total Traffic Volumes

Future total traffic volumes have been established by combining the site-generated traffic volumes with the future background traffic volumes.

Exhibit 10, **Exhibit 11** and **Exhibit 12** present the future total traffic volumes anticipated for the 2024, 2026 and 2031 analysis years, respectively.

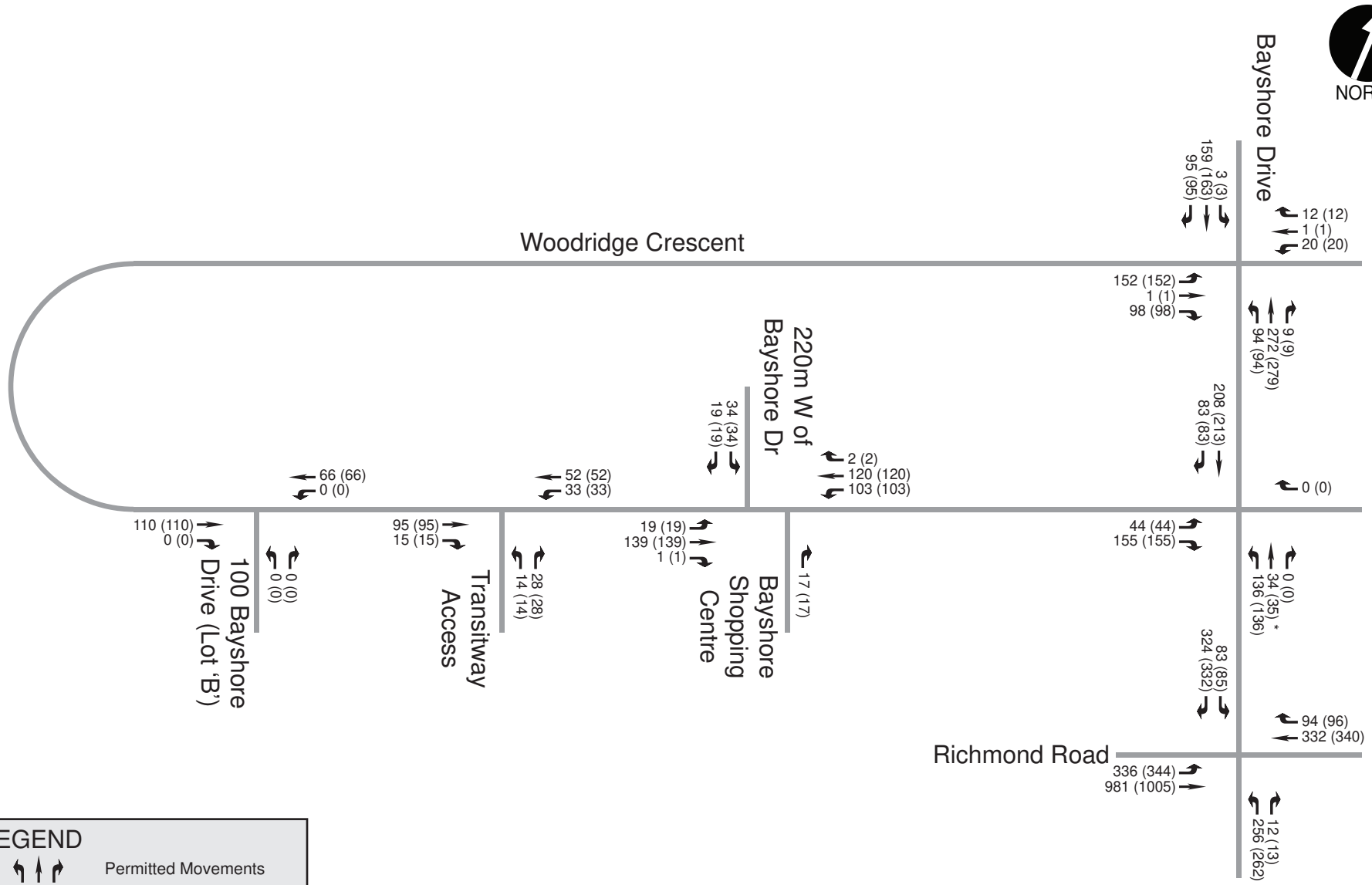


* Includes the through traffic from the shared through-left lane only.

High-Rise Residential Development
100 Bayshore Drive (Lot 'B')
Transportation Impact Assessment

Exhibit 7:
Future (2024)
Background Traffic

PROJECT No. 123069
DATE: April 2020
SCALE: N.T.S.



* Includes the through traffic from the shared through-left lane only.

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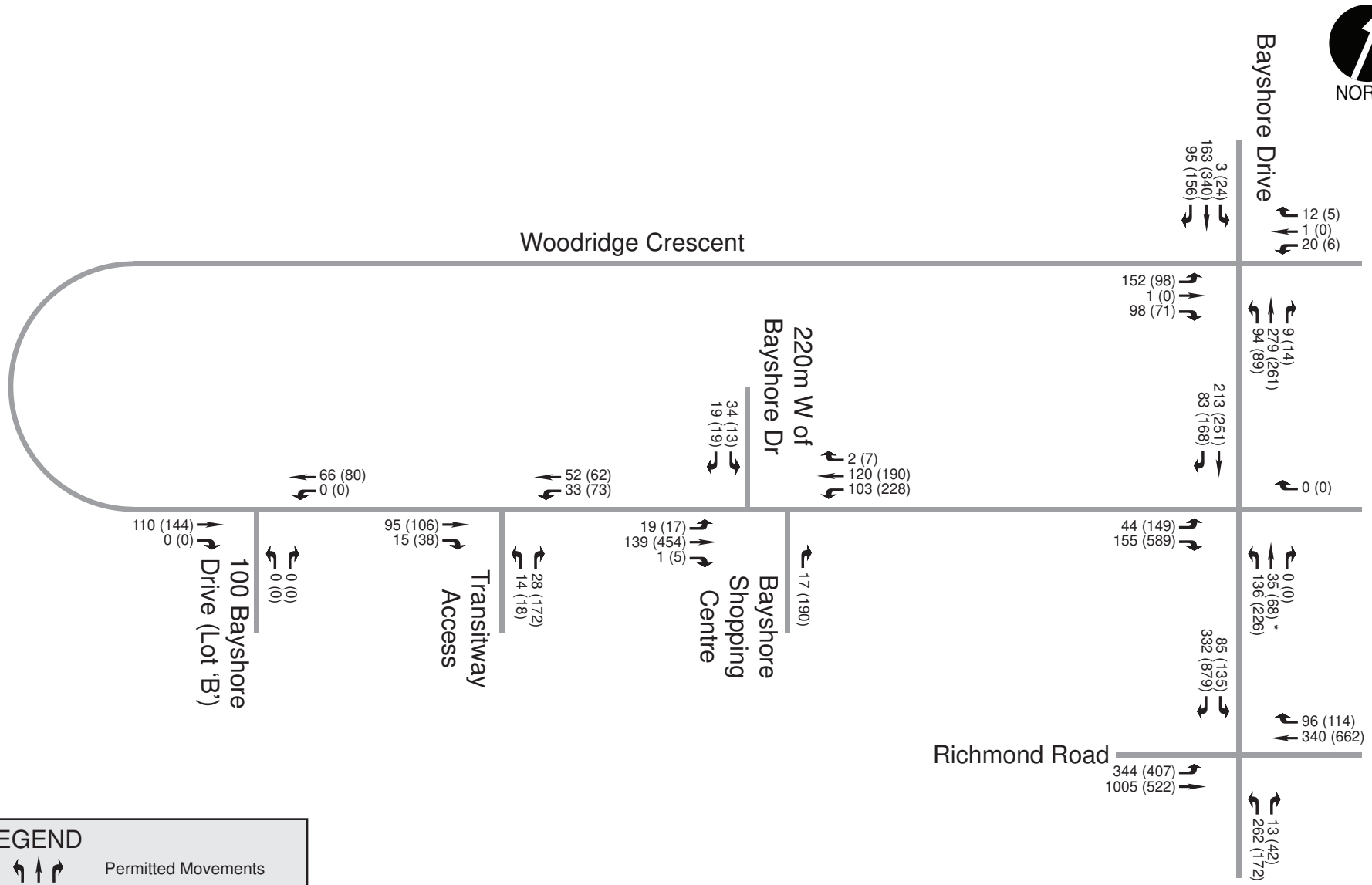
High-Rise Residential Development
100 Bayshore Drive (Lot 'B')
Transportation Impact Assessment

Exhibit 8:
Future (2026)
Background Traffic

PROJECT No. 123069
DATE: April 2020
SCALE: N.T.S.

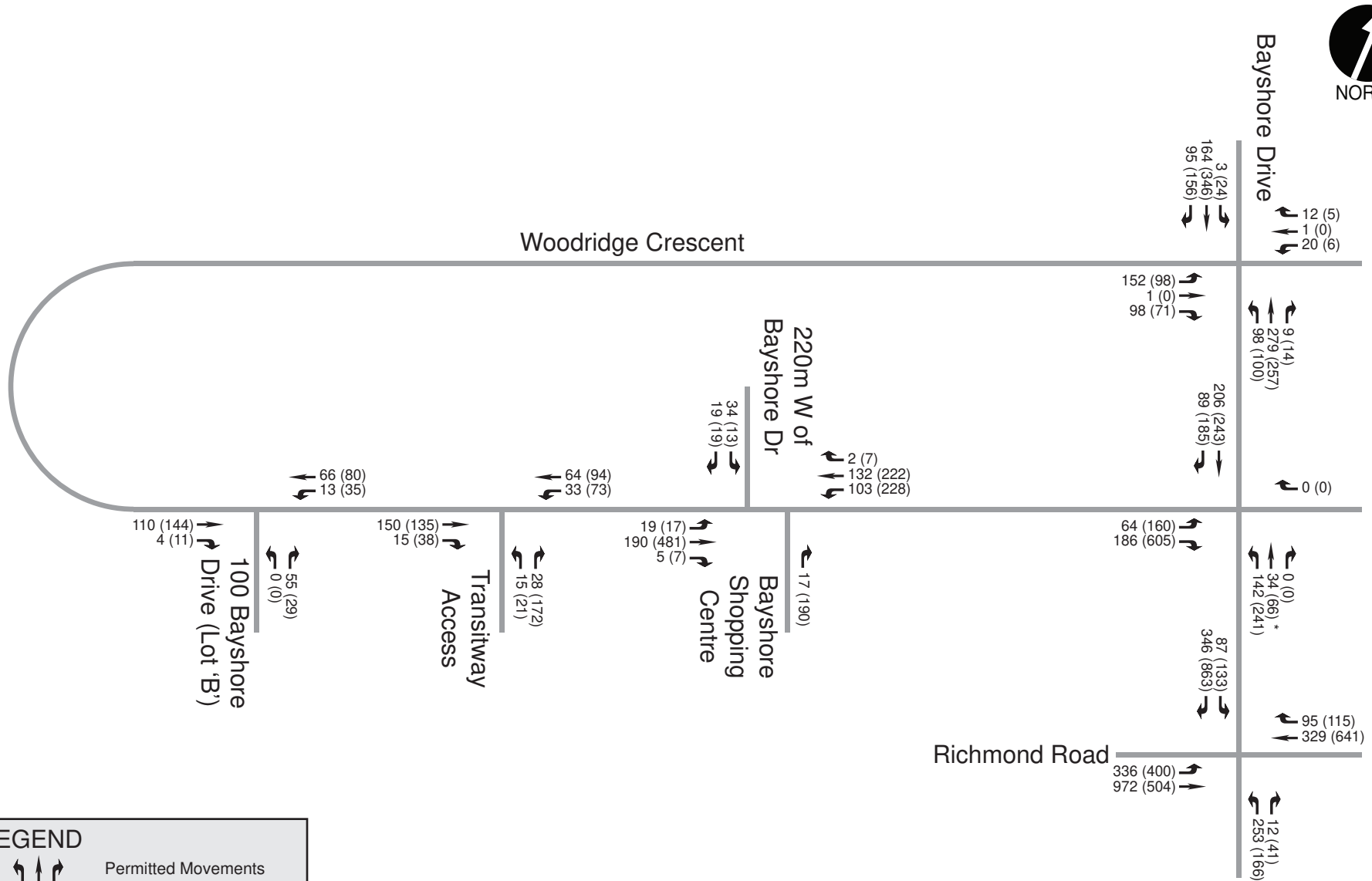


* Includes the through traffic from the shared through-left lane only.

High-Rise Residential Development
100 Bayshore Drive (Lot 'B')
Transportation Impact Assessment

Exhibit 9:
Future (2031)
Background Traffic

PROJECT No. 123069
DATE: April 2020
SCALE: N.T.S.

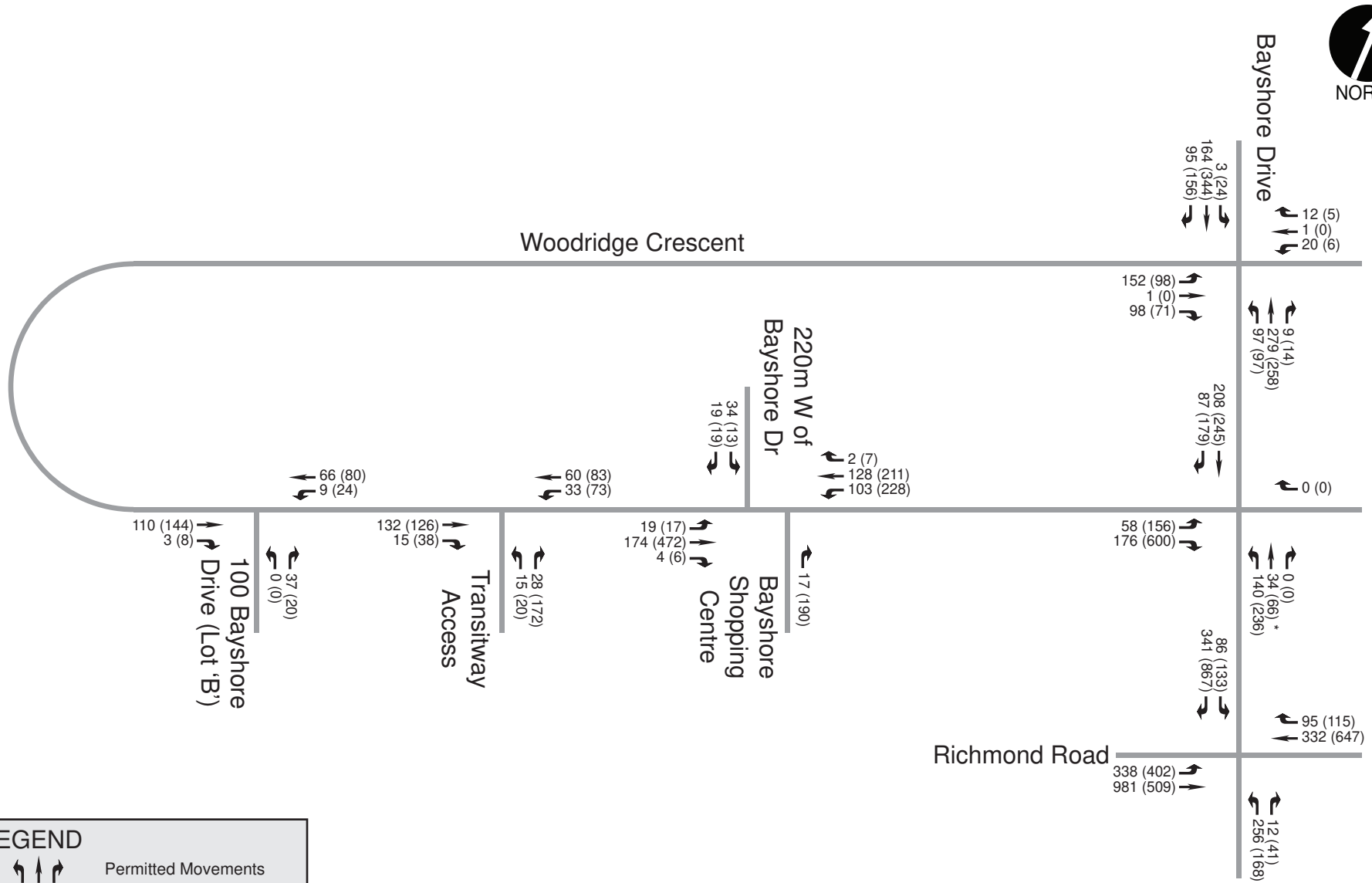


* Includes the through traffic from the shared through-left lane only.

High-Rise Residential Development
100 Bayshore Drive (Lot 'B')
Transportation Impact Assessment

Exhibit 10:
Future (2024)
Total Traffic

PROJECT No. 123069
DATE: April 2020
SCALE: N.T.S.

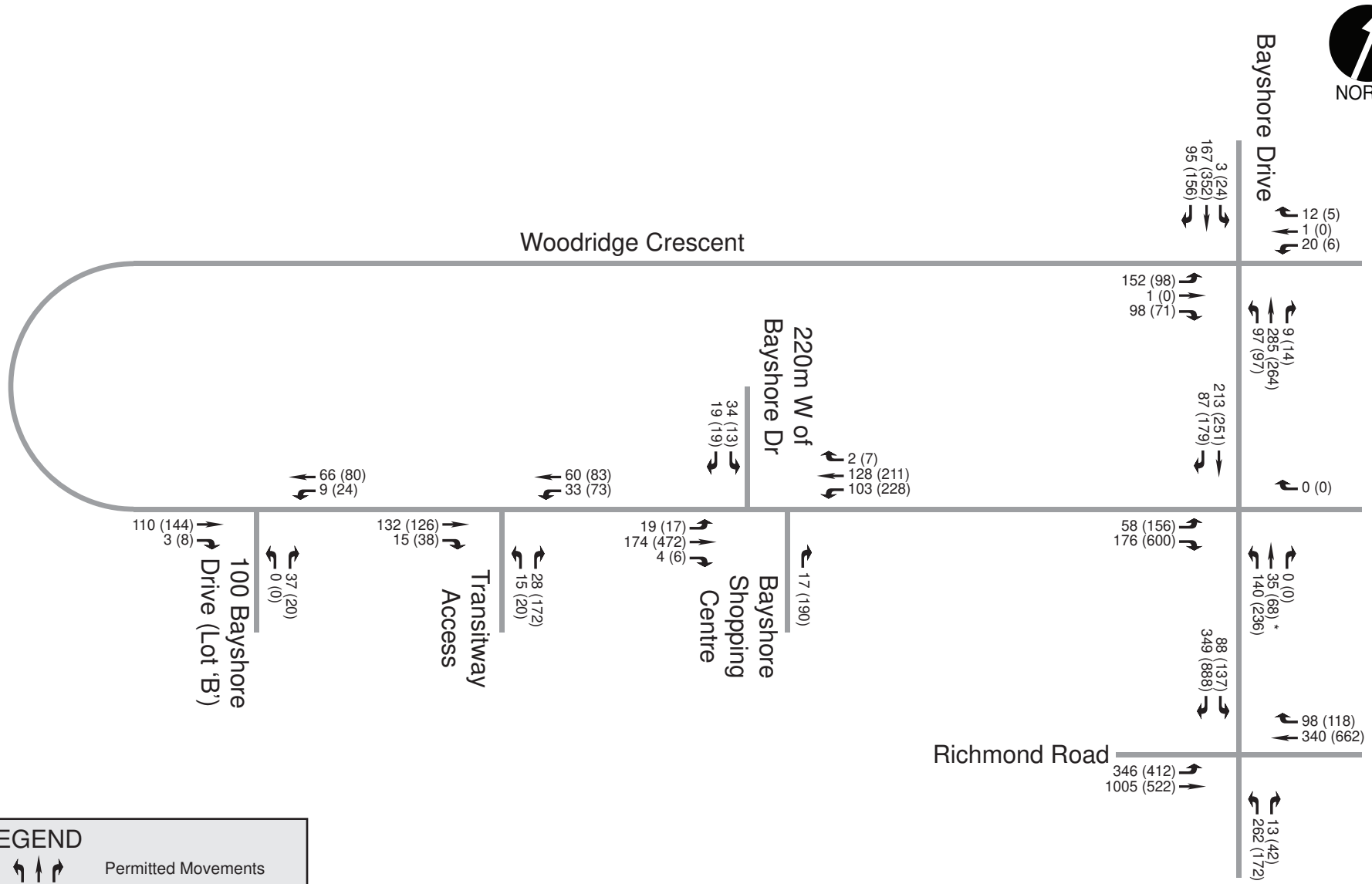


* Includes the through traffic from the shared through-left lane only.

High-Rise Residential Development
100 Bayshore Drive (Lot 'B')
Transportation Impact Assessment

Exhibit 11:
Future (2026)
Total Traffic

PROJECT No. 123069
DATE: April 2020
SCALE: N.T.S.



* Includes the through traffic from the shared through-left lane only.

High-Rise Residential Development
100 Bayshore Drive (Lot 'B')
Transportation Impact Assessment

Exhibit 12:
Future (2031)
Total Traffic

PROJECT No. 123069
DATE: April 2020
SCALE: N.T.S.

5 Analysis

5.1 Development Design

5.1.1 Design for Sustainable Modes

For consistency with the City of Ottawa's Urban Design Guidelines and transportation policies, new developments shall provide safe and efficient access for all users, while creating an environment that encourages walking, cycling and transit use.

The proposed development is located within an existing Transit-Oriented Development (TOD) zone and immediately adjacent to the Bayshore Transitway Station, which is planned for conversion to an LRT station by 2025. This high-density residential development is well suited in this context, given its proximity to high quality transit service and the numerous amenities offered at Bayshore Shopping Centre. The development conforms to city policies that encourage dense development within TOD zones.

An enclosed pedestrian bridge accessed via the buildings' podium will provide direct and convenient access by residents to Bayshore Station as well as Bayshore Shopping Centre, both of which are located within a 150 metre walking distance of the site. Given Ottawa's climate, this pedestrian connection will afford residents the ability to access these amenities efficiently in the winter months with minimal exposure to the elements. A ground-level pedestrian access is also planned to connect to Bayshore Station via the proposed multi-use pathway (MUP) passing along the southern boundary of the site.

Building entrances are strategically located to provide convenient and direct access to Woodridge Crescent, the future multi-use pathway (MUP) as well as the pick-up/drop-off area, facilitating a range of mobility options. Direct access to secure, indoor bicycle parking from the planned multi-use pathway (MUP) has also been integrated into the design of this development.

The above design and infrastructure elements contribute to a development that significantly reduces dependence on private automobile usage by integrating well with the existing and proposed sustainable transportation infrastructure.

The TDM-Supportive Development Design and Infrastructure Checklist was completed and is provided in **Appendix G**. This checklist identifies specific measures that are being considered in association with the proposed development to offset the vehicular impact on the adjacent road network.

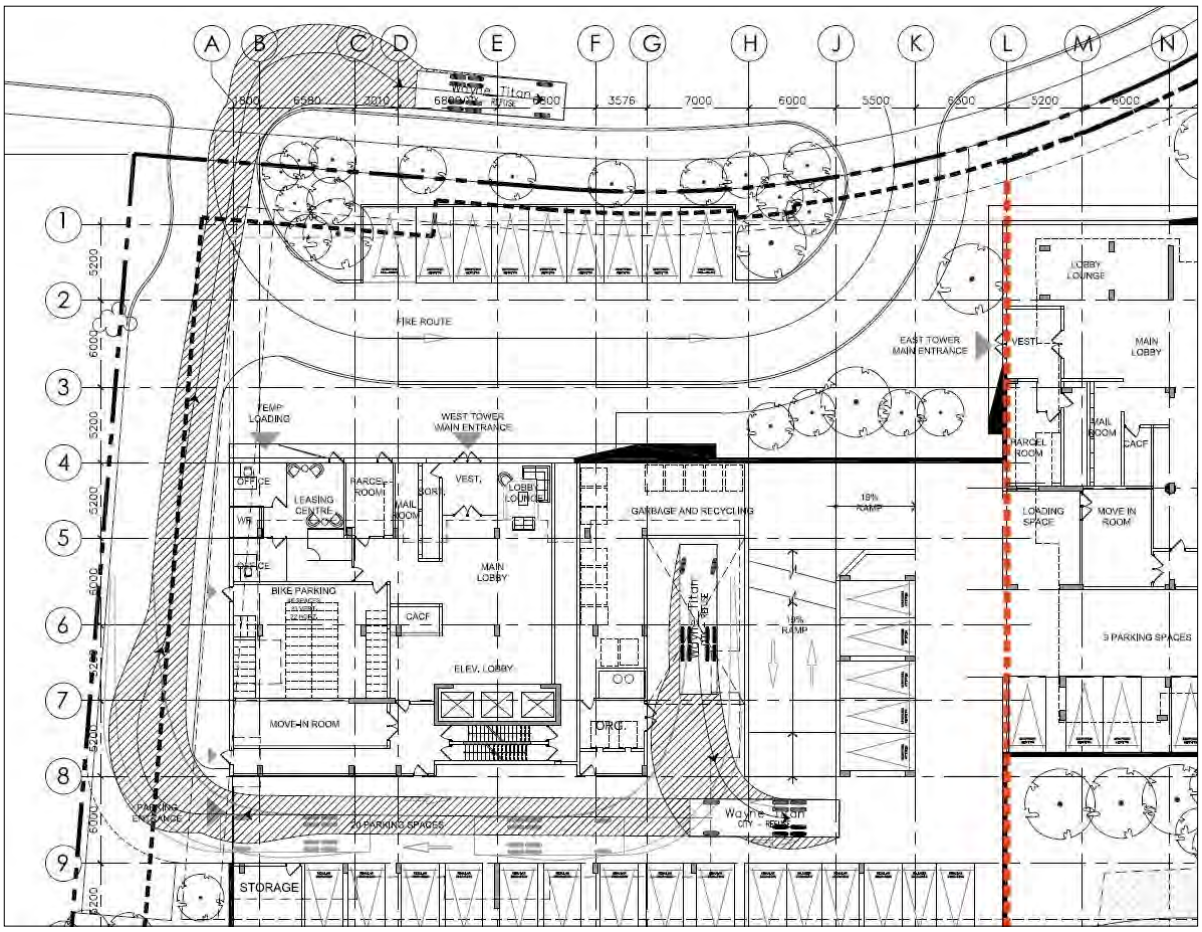
5.1.2 Circulation and Access

All site traffic will access the proposed development via 2 two-way private approaches connected by a circular driveway. The circular driveway will typically function as a pick-up/drop-off area or as a designated Fire Route. A 6.7-metre drive aisle along the western property boundary will provide access to the parking podium, while a 6.0-metre drive aisle is proposed within the parking garage.

Loading spaces will be provided at ground level within the podium area and directly below the west tower. The waste collection area has been designed with sufficient width and height to accommodate a front-loading Garbage Truck. Garbage and recycling is collected in a single designated area for both buildings to reduce the need for the Garbage Truck to maneuver throughout the parking garage.

As indicated in **Figure 7** below, a swept-path analysis was undertaken which confirms the ability for a front-loading waste collection vehicle to access the proposed garbage collection area within the structure. Sufficient vertical clearance has also been provided.

Figure 7 – Swept Path Analysis - Front-Loading Garbage Truck



5.1.3 New Street Networks

Not Applicable: The New Street Networks element is exempt from this TIA, as defined in the study scope. This element is not required for development applications involving site plans.

5.2 Parking

5.2.1 Total Parking Supply

Four levels of structured parking will be provided, with three of these housed within the building podium and the fourth below grade. It is intended that the podium could be converted to active space in the long term to adapt to a potential reduction in future parking demand.

The Zoning By-law indicates that no off-street vehicle parking, except for visitor parking, is required for the proposed development because it is located within Area Z of Schedule 1A of the Official Plan. As the proposed development is within 600m of a rapid transit station, a maximum of 1.75 vehicle parking spaces per unit may be provided. The proposed site plan indicates that a total of 260 vehicle parking spaces will be provided, including 50 visitor parking spaces, therefore the proposed parking supply is within the permissible range.

The Zoning By-law also indicates that the proposed development must provide at least 0.5 bicycle parking spaces per unit. A total of 272 bicycle parking spaces will be provided, exceeding the 250 spaces required.

5.2.2 Interim Phase 1 Parking Supply

The proposed development will be constructed in two phases. The west tower, consisting of 266 residential units will be constructed first and will provide parking for 137 bicycles and 138 vehicles. Phase 1 will also include short-term surface parking along the circular driveway.

5.2.3 Spillover Parking

The minimum parking supply requirement has been met, therefore, no further review of parking will be necessary for the purposes of this study.

5.3 Boundary Streets

There are two existing boundary streets adjacent to the proposed development: Woodridge Crescent and the Transitway Access. Neither of these streets currently have a Complete Streets concept plan, therefore Multi-Modal Level of Service (MMLOS) analysis has been conducted for both boundary streets.

5.3.1 Mobility

Segment-based Multi-Modal Level of Service (MMLOS) results for Woodridge Crescent and the Transitway Access along the proposed development frontage are provided in **Table 9** below.

Details of the Multi-Modal Level of Service (MMLOS) analysis are provided in **Appendix H**.

Table 9 - Segment MMLOS Results

LOCATION	LEVEL OF SERVICE BY MODE			
	PEDESTRIAN (PLOS)	BICYCLE (BLOS)	TRANSIT (TLOS)	TRUCK (TkLOS)
SEGMENTS				
Woodridge Crescent – Development Frontage	B (Target: A)	D (Target: D)	D (Target: D)	B (Target: N/A)
Transitway Access	B (Target: A)	D (Target: D)	D (Target: D)	B (Target: N/A)

The results of the Segment MMLOS indicate that both boundary streets are currently meeting their minimum desirable targets for all modes, as specified in the *Multi-Modal Level of Service (MMLOS) Guidelines,* with the exception of the PLOS. The PLOS was found to operate at 'B', marginally exceeding the PLOS target of 'A'. Potential modifications that the City may wish to consider exploring to help achieve this target include the integration of a horizontal separation (i.e. boulevard) between the sidewalk and the curb lane to increase pedestrian comfort and safety.

5.3.2 Road Safety

A summary of all reported collisions within the study period over the past five years was presented in the Scoping section of this TIA. The City requires a safety review if at least six collisions for any one movement or of a discernible pattern have occurred over a five-year period. Preliminary analysis identified some intersections and road segments of potential concern, therefore further review was conducted, as summarized below:

Woodridge Crescent (N) & Bayshore Drive

In the past five years, there have been a total of 19 collisions at this intersection, with 4 involving pedestrians. Compared with the relatively low recorded traffic volumes, this number of pedestrian

collisions can be considered significant, given that pedestrian collisions are typically less frequent and of higher severity. A review of the collision details indicates that 3 of the 4 collisions either occurred either in dark or snowy conditions. New trips generated by the proposed development are not expected to exacerbate these concerns. The City may wish to conduct a separate safety review, investigate illumination levels and monitor the interaction between motorists and pedestrians at this intersection. The implementation of enhanced pedestrian features such as an advanced walking phase, ladder crosswalk markings and improved lighting to increase visibility among road users should also be considered.

Woodridge Crescent (S) & Bayshore Drive

In the past five years, there have been eight rear-end collisions at this intersection. Details of these collisions were reviewed to determine if there is any probable cause for these repeated events. Based on the collision data, a variety of environmental factors may be contributing to northbound rear-end collisions. Five of the eight collisions observed occurred under adverse weather conditions (snowing, freezing rain) or under poor roadway conditions (wet, snow, slush, ice).

Richmond Road & Bayshore Drive

The vast majority of the 34 collisions observed at this intersection are classified as either rear-end or sideswipe collisions. These collisions are relatively evenly distributed amongst the four approaches, with only the eastbound rear-end collision type meeting the City's threshold of six collisions. It should be noted that three of these six rear-end collisions occurred during the weekday morning or afternoon peak periods. Given that traffic volumes passing through this intersection during these peak periods are typically in the order of 2300 to 2800 vehicles per hour, it is expected that a higher frequency of rear-end and sideswipe collisions would be observed.

There is no evident pattern or specific cause for collisions at this location and a review of site conditions does not indicate any geometric deficiencies or visibility restrictions that may contribute to this incident type.

Woodridge Crescent – Transitway Access to Bayshore Public School Access

No significant collision patterns have been observed. Overall, the majority of the collisions appear to be driveway related or collisions with parked vehicles.

Woodridge Crescent – Bayshore Drive to Bayshore Public School Access

Similar to the other segment of Woodridge Crescent that was analysed, no significant collision patterns have been observed. Overall, the majority of the collisions appear to be driveway-related or collisions with parked vehicles.

5.4 Access Intersections

5.4.1 Location and Design of Access

The proposed development will provide two new access driveways: 2 two-way private approaches providing access to a semi-circular driveway and parking garage entrance. The proposed site accesses are in conformance with the City of Ottawa Private Approach By-law 2003-447, with particular confirmation of the following items:

- Width: A private approach shall have a minimum width of 2.4m and a maximum width of 9.0m.
    - The semi-circular driveway will be 6.0m wide. ✓
- Quantity and Spacing of Private Approaches: For sites with frontage between 46 and 150 metres, one (1) two-way and two (2) one-way, or two (2) two-way private approaches are permitted. Any two private approaches must be separated by at least 9.0m and can be

reduced to 2.0m in the case of two one-way driveways. On lots that abut more than one roadway, these provisions apply to each frontage separately.

  - The frontage on Woodridge Crescent is approximately 90m, therefore the 2 two-way private approaches are compliant with the by-law. ✓
  - The distance between the two private approaches to the semi-circular driveway is approximately 39.8m. ✓

- Distance from Property Line: Private approaches must be at least 3.0m from the abutting property line, however this requirement can be reduced to 0.3m provided that the access is a safe distance from the access serving the adjacent property, sight lines are adequate and that it does not create a traffic hazard.
  - The western private approach serving the development is approximately 2.3m from the property line. ✓
    - As there is no existing development to the west of the site, the proposed distance of less than 3.0m from the property line is not expected to create any negative impacts.
- Grade of Private Approach: The grade of a private approach serving a parking area of more than 50 spaces must not exceed 2% within the private property for a distance of 9m from the highway/curb line.
  - The grade of all three private approaches will not exceed 2% within 9m of the curb line. ✓

Based on the Transportation Association of Canada's (TAC) Geometric Design Guide for Canadian Roads (June 2017), for a residential development with more than 200 units a minimum clear throat length of 25 metres is suggested for site access driveways on collector roads. The clear throat length is provided to ensure that any queues that form due to on-site circulation blockages do not spillback onto the collector road.

Clear through lengths of approximately 21.6 metres and 21.9 metres are proposed for the west and east site access driveways, respectively, as measured from the Woodridge streetline to the nearest surface parking spaces associated with the pick-up/drop-off area. These throat lengths are substandard, however, given that the parking garage entrance is far removed from either site access driveway, there are not expected to be any operational issues associated with this configuration.

5.4.2 Access Intersection Control

Both site access driveways will be stop-controlled. Intersection capacity analysis presented in **Section 5.9** of this report indicates that this form of intersection control is sufficient to achieve acceptable levels of service (i.e. LOS 'D' or better) throughout the timeframe of the study.

5.4.2.1 Traffic Signal Warrants

Not Applicable – As discussed above, no traffic signal warrant analysis is necessary for either of the proposed development's access intersections.

5.4.2.2 Roundabout Analysis

Not Applicable - As per the City's Roundabout Implementation Policy, intersections that satisfy any of the following criteria should be screened utilizing the Roundabout Initial Feasibility Screening Tool:

- At any new City intersection
- Where traffic signals are warranted
- At intersections where capacity or safety problems are being experienced

Since the site access driveways do not meet any of the above criteria, no roundabout analysis is required for either proposed access location.

5.4.3 Access Intersection Design (MMLOS)

Not Applicable – Both site access driveways will be unsignalized, therefore MMLOS analysis is not required.

5.5 Transportation Demand Management (TDM)

The City of Ottawa is committed to implementing Transportation Demand Management (TDM) measures on a City-wide basis in an effort to reduce automobile dependence, particularly during the weekday peak travel periods. TDM initiatives are aimed at encouraging individuals to use non-auto modes of travel during the peak periods.

5.5.1 Context for TDM

As discussed previously, the proposed development is located immediately adjacent to Bayshore Transitway Station and is within the Transit-Oriented Development (TOD) zone. This development therefore aligns with the City's policy objectives, which encourages high-density and compact growth within TOD zones. The planned unit breakdown for the proposed development is as follows: 39% One-Bedroom, 21% One-Bedroom + Den, 10% Junior Two-Bedroom, 30% Two-Bedroom.

The Forecasting section of this report presented mode shares used to estimate future development traffic that were based on the TRANS Origin-Destination (O-D) Survey for the Bayshore / Cedarview Traffic Assessment Zone (TAZ) and refined with the mode share travel data collected for the existing apartment building at 90 Woodridge as well as TRANS travel demand projections for 2031. These refined mode share targets were assumed to represent an average of the existing commuter peak period mode share for the proposed development after the conversion of Bayshore Station from BRT to LRT.

5.5.2 Need and Opportunity

Even with the conversion of Bayshore Station from BRT to LRT, a 23% gap is expected to exist between the 42% transit mode share for the site with no specific TDM Measures and the City's target of 65%.

The surrounding community presently has features such as a well-connected pathway network that provides direct connections for both pedestrians and cyclists. The implementation of design and infrastructure elements such as a multi-use pathway (MUP) passing directly adjacent the site and multiple direct connections to the Bayshore Transitway Station, including an enclosed pedestrian bridge connection to the station, are expected to further increase the sustainable mode share to help achieve the City's transit target of 65% and non-auto mode share of 15%.

5.5.3 TDM Program

The proposed development conforms to the City's TDM principles by providing convenient and direct connections to adjacent pedestrian, cycling and transit facilities, as well as nearby amenities such as Bayshore Shopping Centre.

The City of Ottawa's TDM Measures Checklist was completed for the proposed development and provided in **Appendix G**. This checklist indicates measures that are being contemplated as part of this development. A more detailed TDM program will be further developed at the site plan application stage.

5.6 Neighbourhood Traffic Management

5.6.1 Adjacent Neighbourhoods

As the development is dependent on Woodridge Crescent for access, a review of Neighbourhood Traffic Management thresholds is required as part of the TIA process.

The TIA Guidelines specify a liveability threshold of 300 vehicles per hour for collector roads. Within the development frontage, Woodridge Crescent is projected to operate with two-way total traffic volumes of up to 244 and 288 during the weekday morning and afternoon peak hours, respectively, within the timeframe of this study. Both weekday peak hours are expected to operate within the liveability threshold beyond the horizon year of the study, therefore a Neighbourhood Traffic Management (NTM) plan is not necessary for this development.

5.7 Transit

5.7.1 Route Capacity

The estimated Future (2026 & 2031) total transit passenger demand within the study area was provided in Section 4.1.2.5. The results have been summarized in **Table 10**.

Table 10 – 2026 & 2031 Development Generated Transit Demand

PERIOD	PEAK PERIOD DEMAND	
	IN	OUT
AM	50	162
PM	136	85

As shown above, site-generated two-way transit ridership volumes of roughly 212 and 221 passengers are expected during the weekday morning and afternoon peak hours, respectively. It is expected that these transit trips will be easily accommodated by LRT service at Bayshore Station upon its completion in 2025, with an expected two-way capacity in the order of 14,400 passengers per hour for trains operating on 5-minute headways. This equates to approximately 1.5% of the overall LRT capacity at Bayshore Station.

5.7.1 Transit Priority Measures

Transit priority measures are not required at any of the signalized study area intersections to accommodate site-generated transit trips, given that the development will connect directly to Bayshore Station and will not trigger any traffic congestion on local on-road transit routes.

5.8 Review of Network Concept

As discussed in the Scoping section of this TIA, the following screenlines are applicable to this study: SL12 – CNR West; and SL24 – Western Parkway. A summary comparison of the City 2031 Network Concept demand and capacity has been provided in **Table 11**.

Table 11 – 2031 Network Concept

SCREENLINE	AM 2031 PREFERRED INBOUND		
	DEMAND	CAPACITY	V/C RATIO
SL12 – CNR West	9,754	13,000	0.75
SL24 – Western Parkway	10,989	10,800	1.02

Note 1 - Table results from Road Network Development Report: Final Report (December 2013)

Traffic generated by the proposed development is projected to contribute negligible volumes in the order of 50 vehicle trips across both of the above screenlines during the weekday morning and afternoon peak hours. Any network capacity issues that may be experienced at SL 24 – Western Parkway are not expected to be exacerbated by the proposed development.

5.9 Intersection Design

The following sections summarize the methodology and results of the multi-modal intersection capacity analysis conducted within the study area.

5.9.1 Intersection Control

The following section evaluates the need to conduct traffic signal warrant analyses and roundabout analyses at any applicable study area intersections.

Traffic signal warrants and roundabout analyses for site access intersections was discussed previously in **Section 5.4**.

5.9.1.1 Traffic Signal Warrants

Not Applicable – All intersections within the study area are presently signalized with the exception of the Transitway Access and Woodridge Crescent, which is configured with stop control on the minor road. The capacity analysis presented in subsequent sections of this report indicates that this intersection is expected to operate at an acceptable level of service (i.e. LOS 'D' or better) beyond the horizon year of this study. As such, no traffic signal warrant analysis is necessary for this study.

5.9.1.2 Roundabout Analysis

Not Applicable - As per the City's Roundabout Implementation Policy, intersections that satisfy any of the following criteria should be screened utilizing the Roundabout Initial Feasibility Screening Tool:

- At any new City intersection
- Where traffic signals are warranted
- At intersections where capacity or safety problems are being experienced

None of the study area intersections meet any of the above criteria, therefore no roundabout analysis is required for this study.

5.9.1.3 Pedestrian Crossover (PXO) Warrant & Type Selection

With the termination of the multi-use path proposed at the southwest corner of the Woodridge/ Transitway Access intersection, it is likely that the existing desire line for pedestrian activity crossing Woodridge Crescent will be further strengthened at this location. Pedestrian crossover (PXO) warrants were completed to determine whether a controlled pedestrian crossing facility would be desirable at this location, and a selection matrix was subsequently reviewed to determine the appropriate PXO type that could be implemented to satisfy the pedestrian environment.

PXO Warrant

The OTM Book 15: Decision Support Tool indicates that a Pedestrian Crossover is warranted if the following criteria are met:

- There are no other traffic control devices on Woodridge Crescent within 200 metres of the proposed crossing location;
- 8-hour pedestrian volumes are greater than or equal to 100;
- 8-hour vehicular volumes are greater than or equal to 750; and

Based on a review of weekday 8-hour vehicular and pedestrian data collected by City staff in November 2019, the subject crossing location meets all of the above noted criteria, therefore a PXO is technically warranted at this location.

Selection of PXO Type

Pedestrian crossovers come in a variety of types and are dependent on the roadway conditions, including two-way vehicular volumes, crossing pedestrian volumes, posted speed limit and the number of travel lanes.

According to the OTM's Pedestrian Crossover Selection Matrix, at minimum a Level 2 Type 'B' Pedestrian Crossover is deemed appropriate for Woodridge Crescent based on existing two-way 8-hour volumes of 1,333 vehicles, 113 crossing pedestrians, a posted speed limit of 40km/h and an existing crossing distance of approximately 14.0 metres. It should be noted, as well, that a similar PXO configuration presently exists approximately 290 metres to the west on Woodridge Crescent. It is possible that a reduction in the pedestrian crossing distance on Woodridge Crescent may be achieved through the use of curb bulb-outs, which may justify the usage of a lower-order PXO (i.e. Level 2 Type 'C'), however these details will be determined during the design stage.

Further details regarding the pedestrian crossover warrant and selection matrix are provided in **Appendix I**.

5.9.2 Intersection Analysis Criteria (Automobile)

The following section outlines the City of Ottawa's methodology for determining motor vehicle Level-of-Service (LOS) at signalized and unsignalized intersections.

5.9.2.1 Signalized Intersections

In qualitative terms, the Level-of-Service (LOS) defines operational conditions within a traffic stream and their perception by motorists. A LOS definition generally describes these conditions in terms of such factors as delay, speed and travel time, freedom to manoeuvre, traffic interruptions, safety, comfort and convenience. LOS can also be related to the ratio of the volume to capacity (v/c) which is simply the relationship of the traffic volume (either measured or forecast) to the capability of the intersection or road section to accommodate a given traffic volume. This capability varies depending on the factors described above. LOS are given letter designations from 'A' to 'F'. LOS 'A' represents the best operating conditions and LOS 'E' represents the level at which the intersection or an approach to the intersection is carrying the maximum traffic volume that can,

practicably, be accommodated. LOS 'F' indicates that the intersection is operating beyond its theoretical capacity.

The City of Ottawa has developed criteria as part of the Transportation Impact Assessment Guidelines, which directly relate the volume to capacity (v/c) ratio of a signalized intersection to a LOS designation. These criteria are presented in **Table 12** as follows:

Table 12 - LOS Criteria for Signalized Intersections

LOS	VOLUME TO CAPACITY RATIO (v/c)
A	0 to 0.60
B	0.61 to 0.70
C	0.71 to 0.80
D	0.81 to 0.90
E	0.91 to 1.00
F	> 1.00

The intersection capacity analysis technique provides an indication of the LOS for each movement at the intersection under consideration and for the intersection as a whole. The overall v/c ratio for an intersection is defined as the sum of equivalent volumes for all critical movements at the intersection divided by the sum of capacities for all critical movements.

The Level of Service calculation is based on locally-specific parameters as described in the TIA Guidelines and incorporates existing signal timing plans obtained from the City of Ottawa. The analysis existing conditions utilized a Peak Hour Factor (PHF) of 0.90, while future conditions considers optimized signal timing plans and use of a Peak Hour Factor (PHF) of 1.0 to recognize peak spreading beyond a 15-minute period in congested conditions.

5.9.2.2 Unsignalized Intersections

The capacity of an unsignalized intersection can also be expressed in terms of the LOS it provides. For an unsignalized intersection, the Level of Service is defined in terms of the average movement delays at the intersection. This is defined as the total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line; this includes the time required for a vehicle to travel from the last-in-queue position to the first-in-queue position. The average delay for any particular minor movement at the un-signalized intersection is a function of the capacity of the approach and the degree of saturation.

The Highway Capacity Manual 2010 (HCM), prepared by the Transportation Research Board, includes the following Levels of Service criteria for un-signalized intersections, related to average movement delays at the intersection, as indicated in **Table 13** below.

Table 13 - LOS Criteria for Unsignalized Intersections

LOS	DELAY (seconds)
A	<10
B	>10 and <15
C	>15 and <25
D	>25 and <35
E	>35 and <50
F	>50

The unsignalized intersection capacity analysis technique included in the HCM and used in the current study provides an indication of the Level of Service for each movement of the intersection under consideration. By this technique, the performance of the unsignalized intersection can be compared under varying traffic scenarios, using the Level of Service concept in a qualitative sense. One unsignalized intersection can be compared with another unsignalized intersection using this concept. Level of Service 'E' represents the capacity of the movement under consideration and generally, in large urban areas, Level of Service 'D' is considered to represent an acceptable operating condition. Level of Service 'E' is considered an acceptable operating condition for planning purposes for intersections located within Ottawa's Urban Core the downtown and its vicinity). Level of Service 'F' indicates that the movement is operating beyond its design capacity.

5.9.3 Intersection Capacity Analysis

Following the established intersection capacity analysis criteria described above, the existing and future conditions are analyzed during the weekday peak hour traffic volumes derived in this study.

The following section presents the results of the intersection capacity analysis. All tables summarize study area intersection LOS results during the weekday morning and afternoon peak hour periods.

The Synchro output files have been provided in **Appendix J.**

5.9.3.1 Existing (2019) Traffic

An intersection capacity analysis has been undertaken using the Existing (2019) Traffic volumes presented in **Exhibit 4. Table 14** summarizes the results of the intersection capacity analysis.

Table 14 - Intersection Capacity Analysis: Existing (2019) Traffic

INTERSECTION	TRAFFIC CONTROL	AM PEAK HOUR		PM PEAK HOUR	
		OVERALL LOS (V/C OR DELAY)	CRITICAL MOVEMENTS (V/C OR DELAY)	OVERALL LOS (V/C OR DELAY)	CRITICAL MOVEMENTS (V/C OR DELAY)
Richmond Road & Bayshore Drive	Signalized	A (0.38)	EBL (0.76)	A (0.60)	EBL (0.72)
Bayshore Drive & Woodridge Crescent (S)	Signalized	A (0.25)	SBTR (0.33)	A (0.43)	SBTR (0.48)
Bayshore Drive & Woodridge Crescent (N)	Signalized	A (0.50)	EBL (0.61)	A (0.50)	EBL (0.50)
Woodridge Crescent & 220m W of Bayshore	Signalized	A (0.08)	SBRL (0.34)	A (0.17)	SBRL (0.23)
Woodridge Crescent & Transitway Access	Unsignalized	B (11.1s)	NBL (11.1s)	B (13.2s)	NBL (13.2s)

Based on the results of the analysis, all study area intersections presently operate at an overall Level of Service of 'B' or better under Existing (2019) Traffic conditions, which is well within acceptable operating conditions. The most critical intersection movement identified is the eastbound left-turn movement at the intersection of Richmond Road & Bayshore Drive with a v/c ratio of 0.72 during the weekday morning peak hour.

5.9.3.2 Future (2024) Background Traffic

An intersection capacity analysis has been undertaken using the Future (2024) Background Traffic volumes presented in **Exhibit 7**, yielding the following results:

Table 15 - Intersection Capacity Analysis: Future (2024) Background Traffic

INTERSECTION	TRAFFIC CONTROL	AM PEAK HOUR		PM PEAK HOUR	
		OVERALL LOS (V/C OR DELAY)	CRITICAL MOVEMENTS (V/C OR DELAY)	OVERALL LOS (V/C OR DELAY)	CRITICAL MOVEMENTS (V/C OR DELAY)
Richmond Road & Bayshore Drive	Signalized	A (0.36)	EBL (0.71)	A (0.56)	EBL (0.68)
Bayshore Drive & Woodridge Crescent (S)	Signalized	A (0.25)	SBTR (0.31)	A (0.40)	EBL (0.45)
Bayshore Drive & Woodridge Crescent (N)	Signalized	A (0.45)	EBL (0.59)	A (0.45)	EBL (0.47)
Woodridge Crescent & 220m W of Bayshore	Signalized	A (0.06)	SBRL (0.31)	A (0.15)	SBRL (0.21)
Woodridge Crescent & Transitway Access	Unsignalized	B (10.8s)	NBL (10.8s)	B (12.6s)	NBL (12.6s)

5.9.3.3 Future (2026) Background Traffic

An intersection capacity analysis has been undertaken using the Future (2026) Background Traffic volumes presented in **Exhibit 8**, yielding the following results:

Table 16 - Intersection Capacity Analysis: 2026 Background Traffic

INTERSECTION	TRAFFIC CONTROL	AM PEAK HOUR		PM PEAK HOUR	
		OVERALL LOS (V/C OR DELAY)	CRITICAL MOVEMENTS (V/C OR DELAY)	OVERALL LOS (V/C OR DELAY)	CRITICAL MOVEMENTS (V/C OR DELAY)
Richmond Road & Bayshore Drive	Signalized	A (0.36)	EBL (0.72)	A (0.57)	EBL (0.68)
Bayshore Drive & Woodridge Crescent (S)	Signalized	A (0.25)	SBTR (0.31)	A (0.40)	EBL (0.45)
Bayshore Drive & Woodridge Crescent (N)	Signalized	A (0.45)	EBL (0.59)	A (0.45)	EBL (0.47)
Woodridge Crescent & 220m W of Bayshore	Signalized	A (0.06)	SBRL (0.31)	A (0.15)	SBRL (0.21)
Woodridge Crescent & Transitway Access	Unsignalized	B (10.8s)	NBL (10.8s)	B (12.6s)	NBL (12.6s)

5.9.3.4 Future (2031) Background Traffic

An intersection capacity analysis has been undertaken using the Future (2031) Background Traffic volumes presented in **Exhibit 9**, yielding the following results:

Table 17 - Intersection Capacity Analysis: 2031 Background Traffic

INTERSECTION	TRAFFIC CONTROL	AM PEAK HOUR		PM PEAK HOUR	
		OVERALL LOS (V/C OR DELAY)	CRITICAL MOVEMENTS (V/C OR DELAY)	OVERALL LOS (V/C OR DELAY)	CRITICAL MOVEMENTS (V/C OR DELAY)
Richmond Road & Bayshore Drive	Signalized	A (0.37)	EBL (0.73)	A (0.57)	EBL (0.69)
Bayshore Drive & Woodridge Crescent (S)	Signalized	A (0.26)	SBTR (0.32)	A (0.40)	SBTR (0.45)
Bayshore Drive & Woodridge Crescent (N)	Signalized	A (0.46)	EBL (0.59)	A (0.46)	EBL (0.47)
Woodridge Crescent & 220m W of Bayshore	Signalized	A (0.06)	SBRL (0.31)	A (0.15)	SBRL (0.21)
Woodridge Crescent & Transitway Access	Unsignalized	B (10.8s)	NBL (10.8s)	B (12.6s)	NBL (12.6s)

5.9.3.5 Future (2024) Total Traffic

An intersection capacity analysis has been undertaken using the Future (2024) Total Traffic volumes presented in **Exhibit 10**, yielding the following results:

Table 18 - Intersection Capacity Analysis: 2024 Total Traffic

INTERSECTION	TRAFFIC CONTROL	AM PEAK HOUR		PM PEAK HOUR	
		OVERALL LOS (V/C OR DELAY)	CRITICAL MOVEMENTS (V/C OR DELAY)	OVERALL LOS (V/C OR DELAY)	CRITICAL MOVEMENTS (V/C OR DELAY)
Richmond Road & Bayshore Drive	Signalized	A (0.36)	EBL (0.72)	A (0.57)	EBL (0.68)
Bayshore Drive & Woodridge Crescent (S)	Signalized	A (0.26)	EBL (0.36)	A (0.42)	EBL (0.47)
Bayshore Drive & Woodridge Crescent (N)	Signalized	A (0.46)	EBL (0.59)	A (0.46)	EBL (0.47)
Woodridge Crescent & 220m W of Bayshore	Signalized	A (0.10)	SBRL (0.31)	A (0.16)	SBRL (0.21)
Woodridge Crescent & Transitway Access	Unsignalized	B (11.4s)	NBL (11.4s)	B (13.4s)	NBL (13.4s)
Woodridge Crescent & Site Access	Unsignalized	A (9.1s)	NBRL (9.1s)	A (9.2s)	NBRL (9.2s)

5.9.3.6 Future (2026) Total Traffic

An intersection capacity analysis has been undertaken using the Future (2026) Total Traffic volumes presented in **Exhibit 11**, yielding the following results:

Table 19 - Intersection Capacity Analysis: 2026 Total Traffic

INTERSECTION	TRAFFIC CONTROL	AM PEAK HOUR		PM PEAK HOUR	
		OVERALL LOS (V/C OR DELAY)	CRITICAL MOVEMENTS (V/C OR DELAY)	OVERALL LOS (V/C OR DELAY)	CRITICAL MOVEMENTS (V/C OR DELAY)
Richmond Road & Bayshore Drive	Signalized	A (0.36)	EBL (0.72)	A (0.57)	EBL (0.69)
Bayshore Drive & Woodridge Crescent (S)	Signalized	A (0.26)	EBL (0.34)	A (0.41)	EBL (0.46)
Bayshore Drive & Woodridge Crescent (N)	Signalized	A (0.46)	EBL (0.59)	A (0.46)	EBL (0.47)
Woodridge Crescent & 220m W of Bayshore	Signalized	A (0.09)	SBRL (0.31)	A (0.16)	SBRL (0.21)
Woodridge Crescent & Transitway Access	Unsignalized	B (11.2s)	NBL (11.2s)	B (13.2s)	NBL (13.2s)
Woodridge Crescent & Site Access	Unsignalized	A (9.0s)	NBRL (9.0s)	A (9.2s)	NBRL (9.2s)

5.9.3.7 Future (2031) Total Traffic

An intersection capacity analysis has been undertaken using the Future (2031) Total Traffic volumes presented in **Exhibit 12**, yielding the following results:

Table 20 - Intersection Capacity Analysis: 2031 Total Traffic

INTERSECTION	TRAFFIC CONTROL	AM PEAK HOUR		PM PEAK HOUR	
		OVERALL LOS (V/C OR DELAY)	CRITICAL MOVEMENTS (V/C OR DELAY)	OVERALL LOS (V/C OR DELAY)	CRITICAL MOVEMENTS (V/C OR DELAY)
Richmond Road & Bayshore Drive	Signalized	A (0.37)	EBL (0.74)	A (0.58)	EBL (0.70)
Bayshore Drive & Woodridge Crescent (S)	Signalized	A (0.26)	EBL (0.34)	A (0.42)	SBTR (0.46)
Bayshore Drive & Woodridge Crescent (N)	Signalized	A (0.47)	EBL (0.59)	A (0.47)	SBTRL (0.47)
Woodridge Crescent & 220m W of Bayshore	Signalized	A (0.09)	SBRL (0.31)	A (0.16)	SBRL (0.21)
Woodridge Crescent & Transitway Access	Unsignalized	B (11.2s)	NBL (11.2s)	B (13.2s)	NBL (13.2s)
Woodridge Crescent & Site Access	Unsignalized	A (9.0s)	NBRL (9.0s)	A (9.2s)	NBRL (9.2s)

5.9.4 Intersection Design (MMLOS)

5.9.4.1 Intersection MMLOS Methodology

Analysis criteria for each of the four non-auto modes are briefly described as follows:

Intersection Pedestrian Level of Service (PLOS)

The PLOS at intersections is based on several factors including the number of traffic lanes that pedestrians must cross, corner radii, and whether the crossing allows for permissive or protective right or left turns, among others. The City of Ottawa target for PLOS within 600m of a rapid transit station is 'A'.

Intersection Bicycle Level of Service (BLOS)

The BLOS at intersections is dependent on several factors: the number of lanes that the cyclist is required to cross to make a left-turn; the presence of a dedicated right-turn lane on the approach; and the operating speed of each approach. The City target for BLOS within 600m of a rapid transit station is 'C' along spine routes on arterial roads, 'B' along on local routes and 'D' elsewhere.

Intersection Transit Level of Service (TLOS)

Intersection TLOS is based on the average signal delay experienced by transit vehicles at each intersection. The City Target TLOS within 600m of a rapid transit corridor is 'D'.

Intersection Truck Level of Service (TkLOS)

The Truck LOS (TkLOS) is based on the right-turn radii, as well as the number of receiving lanes for vehicles making a right-turn from the traffic lane being analyzed. The City of Ottawa target for TkLOS along arterial road within 600m of a rapid transit station is 'D' for truck routes or 'E' for non-truck routes. No target is given for collector roads that are not on a truck route.

5.9.4.2 Intersection MMLOS Results

An analysis of the future conditions for each mode has been conducted based on the methodology prescribed in the City of Ottawa Multi-Modal Level of Service (MMLOS) Guidelines. The Level of Service (LOS) for each mode has been calculated for each intersection where signals exist or are anticipated.

The intersection MMLOS results for Existing and Future conditions have been summarized in **Table 21**.

Detailed intersection MMLOS analysis results are provided **Appendix H**.

Table 21 - Intersection MMLOS – Existing & Future Conditions

LOCATION	SCENARIO	LEVEL OF SERVICE BY MODE			
		PEDESTRIAN (PLOS)	BICYCLE (BLOS)	TRANSIT (TLOS)	TRUCK (TkLOS)
INTERSECTIONS					
Richmond Road & Bayshore Drive	Existing & Future Conditions	**F** (Target: A)	**F** (Target: C)	**F** (Target: D)	**A** (Target: D)
Bayshore Drive & Woodridge Crescent (S)	Existing & Future Conditions	**E** (Target: A)	**F** (Target: D)	**D** (Target: D)	**D** (Target: E)
Bayshore Drive & Woodridge Crescent (N)	Existing & Future Conditions	**D** (Target: A)	**D** (Target: B)	**C** (Target: D)	**F** (Target: D)
Woodridge Crescent & 220m W of Bayshore	Existing & Future Conditions	**D** (Target: A)	**F** (Target: D)	**D** (Target: D)	**F** (Target: N/A)

5.9.4.3 Summary of Potential Improvements

Based on the MMLOS results outlined in **Table 21**, the following measures have been identified that could improve conditions for each travel mode:

Pedestrians

- The analysis indicates that all study area intersections are presently operating below the City's PLOS target of 'A', with results ranging from 'D' to 'F'. These poor results are primarily a result of the delay to pedestrians associated with the short pedestrian walk times or the number of lanes required to cross the intersection. In circumstances where the Pedestrian Delay Evaluation governs the intersection, there may be opportunities to adjust cycle lengths to improve the PLOS. Otherwise, improving the PLOS would likely involve geometrical improvements to the intersection such as incorporating median refuge islands of at least 2.4m in width at each approach to reduce overall pedestrian crossing distances. The PLOS deficiency represents an existing condition and therefore any upgrades are not the responsibility of the developer to address.

Cyclists

- Based on the analysis, none of the study area intersections meet their respective BLOS targets, which is primarily due to the high operating speeds along both roadways (i.e. 60 km/h or greater) and/or the number of lanes that cyclists must cross to make a left-turn. Exploring the use of bike boxes may be considered as a viable option to improve BLOS at most intersections within the study area, however this treatment may not be appropriate Richmond & Bayshore due to high operating speeds (>60 km/h) that could pose a safety risk for cyclists. Protected intersections would help vastly improve BLOS, however there are presently no protected intersections within the study area. The BLOS deficiency represents an existing condition and therefore any upgrades are not the responsibility of the developer to address.

Automobile

- The vehicular Level of Service at all study area intersections is within the target of 'D', as summarized previously in Section 5.9.3.

Transit

- The results of the analysis indicate that all study area intersections operate within their respective TLOS targets, with the sole exception of Richmond & Bayshore. According to the Synchro results, the most significant delays at Richmond & Bayshore are expected to be experienced on the east and west legs of the intersection under Future (2031) Total Traffic Conditions. The TMP 2031 'Affordable Network' indicates that transit priority measures are planned in both directions along Richmond Road east and west of Bayshore Drive, which will help to reduce any transit delays experienced along this corridor as a result of background traffic growth.

Truck

- The intersections of Richmond & Bayshore as well as Bayshore & Woodridge (S) meet their respective TkLOS targets with results of 'A' and 'D', respectively.
- The remaining study area intersections exceed the City's targets with a TKLOS of 'F' due to the single-receiving lanes on each approach, as well as the tighter turning radii. It should be noted, however, that intersections experiencing a TkLOS of 'F' are located within the residential portion of the community and not on designated truck routes. As such, these corridors are expected to only accommodate occasional truck traffic. There are no known geometric constraints related to transit vehicles within the study area.

The recommended measures listed above are intended only as suggestions to the City on how the MMLOS within the study area could be improved and do not identify measures to be implemented as a direct consequence of this development. The MMLOS analysis identifies existing deficiencies in the study area and are not expected to be exacerbated by the proposed development.

5.10 Geometric Review

The following section reviews all geometric requirements for the study area intersections.

5.10.1 Sight Distance and Corner Clearances

Both proposed site access driveways are located west of a gradual 45-degree bend in Woodridge Crescent. Given the location of the site access driveways on the outside of edge of this curve, this will afford drivers a favourable perspective upstream and downstream of the intersection. Furthermore, the location of the site access driveways allows for visibility of at least 85 metres, as required by TAC for a road with a design speed of 60 km/h. Intersection sight distance and corner clearances are therefore not expected to be a concern for the proposed development's site access driveways.

The stopping sight distance visibility for both site access driveways is illustrated in **Figure 8** below.

Figure 8 – Site Access Driveways - Sight Distances

5.10.2 Auxiliary Lane Analysis

Auxiliary turning lane requirements for all intersections within the study area are described as follows:

5.10.2.1 Unsignalized Auxiliary Left-Turn Lane Requirements

The proposed Site Access intersections on Woodridge Crescent do not warrant left-turn lanes, based on the advancing and opposing volumes projected along this corridor within the timeframe of this study.

The intersection capacity analysis indicates that the Transitway Access at the westbound left-turn does not warrant additional storage to accommodate projected 2031 total traffic volumes.

The results of the left-turn lane warrant analysis are provided in **Appendix K.**

5.10.2.2 Signalized Auxiliary Left-Turn Requirements

A review of auxiliary left-turn lane storage requirements was completed at all signalized intersections within the study area under Future (2031) Total Traffic conditions. The review compared the projected 95th percentile queue lengths from Synchro operational results, and the standard queue length calculation based on the following equation:

$$Storage\ Length = \frac{NL}{C} \times 1.5$$

Where:
N = number of vehicles per hour
L = Length occupied by a vehicle in the queue = 7 m
C = number of traffic signal cycles per hour

The results of the auxiliary left-turn lane analysis are summarized below in **Table 22**.

Table 22 - Auxiliary Left-Turn Storage Analysis at Signalized Intersections

INTERSECTION	APPROACH	95TH %ILE QUEUE LENGTH / CALCULATED QUEUE (M)		EXISTING STORAGE LENGTH (M)	STORAGE DEFICIENCY (M)
		AM PEAK HR	PM PEAK HR		
Bayshore Drive & Richmond Road	NB	37.2 / 48.3	31.4 / 34.4	- [1]	-
	SB	14.8 / 16.3	26.0 / 27.4	50 (D)	-
	EB	#51.7 / 63.9	65.0 / 82.5	205 (D)	-
Bayshore Drive & Woodridge Crescent (N)	EB	29.3 / 33.3	20.3 / 21.4	60	-
Woodridge Crescent (S) & 220m W of Bayshore	EB	2.0 / 4.2	1.7 / 3.7	40	-

Notes: 'D' stands for double left-turn lane.
1. Highway 417 off-ramp transitions to double left-turn lanes without defined storage restrictions.

Based on the results of the left-turn lane analysis presented in **Table 22** above and confirmed through intersection capacity analysis, no storage deficiencies are anticipated under Future (2031) Total traffic conditions.

5.10.2.3 Unsignalized Auxiliary Right-Turn Lane Requirements

The Transportation Association of Canada (TAC) suggests that auxiliary right-turn lanes be considered "when the volume of decelerating or accelerating vehicles compared with through vehicles causes undue hazard." Consideration for auxiliary right-turn lanes is typically given when the right-turning traffic exceeds 10% of the through volume and is at least 60 vehicles per hour.

None of the right-turning movements associated with unsignalized study area intersections are projected to exceed these thresholds under Future (2031) Total Traffic conditions, therefore

additional right-turn lanes were not considered at any of the unsignalized intersections within the study area.

5.10.2.4 Signalized Auxiliary Right-Turn Lane Requirements

Similarly for signalized intersections, Section 9.14 of TAC suggests that auxiliary right-turn lanes shall be considered when more than 10% of vehicles on an approach are turning right and when the peak hour demand exceeds 60 vehicles. The purpose of this guideline is to mitigate operational impacts to through-traffic, particularly on high-speed arterial roadways, and may not be applicable in all circumstances.

The results of the auxiliary right-turn lane analysis are summarized below in **Table 23** below:

Table 23 – Auxiliary Right-Turn Lane Storage Analysis at Signalized Intersections

INTERSECTION	APPROACH	NUMBER OF RIGHT-TURNS / % RIGHT-TURNS		95TH %ILE QUEUE (M) AM/ PM	EXISTING STORAGE LENGTH (M)	STORAGE DEFICIENCY (M)
		AM PEAK HOUR	PM PEAK HOUR			
Bayshore Drive & Richmond Road	WB	98 / 22%	118 / 15%	<10 / <10	60	-
	NB	13 / 5%	42 / 20%	<10 / <10	35	-
Bayshore Drive & Woodridge Crescent (S)	SB	87 / 29%	179 / 42%	-	-	- [1]
Bayshore Drive & Woodridge Crescent (N)	NB	9 / 2%	14 / 4%	-	-	-
	SB	95 / 36%	156 / 29%	-	-	- [1]
	EB	98 / 39%	71 / 42%	-	-	- [2]
	WB	12 / 36%	5 / 45%	-	-	-
Woodridge Crescent (S) & 220m W of Bayshore	WB	2 / 1%	7 / 1%	-	-	-
Woodridge Crescent & Transitway Access	EB	15 / 20%	38 / 37%	-	-	-

Notes:

1. Technically meets right-turn criteria, however, this criteria is not applicable for low posted-speed (40 km/h) arterial roads such as Bayshore Drive.
2. Technically meets right-turn criteria, however, minimal through traffic is expected on the EB approach, skewing the proportion of right-turning vehicles in comparison to the overall approach volumes.

Based on the results of the right-turn lane analysis presented in **Table 23** above and confirmed through intersection capacity analysis, no storage deficiencies are anticipated at any of the study area intersections under 2031 total traffic projections.

5.11 Summary of Improvements Indicated and Modification Options

Based on the intersection capacity, Multi-Modal Level of Service and auxiliary lane analyses results presented above, no off-site improvements to the adjacent road network are required as a direct consequence of the proposed development in order to accommodate multi-modal transportation demands generated by the site.

The MMLOS results indicated existing deficiencies with respect to user comfort that could be considered for implementation by the City but are not the responsibility of the developer, nor are they required to safely accommodate the proposed development.

As indicated by the Safety Review, the City should review historical pedestrian collisions at the Bayview/ Woodridge (N) intersection and consider improvements to streetlighting, crosswalk enhancements and pedestrian signal phasing.

Based on the pedestrian crossover (PXO) warrant analysis conducted as part of this study, a Level 2 Type 'B' PXO was determined to be suitable for implementation on the west leg of the Woodridge/ Transitway Access intersection. A controlled pedestrian crossing at this location would help to satisfy both the existing pedestrian crossing demand, as well as a stronger desire line associated with the future multi-use path that is to connect to Woodridge Crescent. Recognizing the slight increase in traffic associated with the proposed development, the implementation of a PXO would be for the primary benefit of the adjacent community, with minimal pedestrian crossing demand further induced by the proposed development.

6 Conclusion

The proposed residential development at 100 Bayshore Drive (Lot 'B') is expected to generate up to 72 and 75 two-way vehicular trips during the weekday morning and afternoon peak hours, respectively, following occupancy of Phase 1 by 2024. At full build-out of the site in 2026, however, the number of two-way vehicle trips is expected to decline to, at most, 51 trips during the weekday peak hours, based on the target transit mode share of 65% specified by the City for Transit-Oriented Development (TOD) zones. This target is expected to be achievable through a combination of Transportation Demand Management (TDM) Measures for the site and the planned opening of the Confederation Line LRT West Extension by 2025. Features to help maximize and support sustainable transportation demand include a planned multi-use pathway (by others) passing directly adjacent the site, an enclosed pedestrian connection link from the building podium to Bayshore Transitway Station as well as direct and convenient access to Bayshore Shopping Centre. At the zoning application stage, some details regarding the TDM Program have yet to be determined and may be refined during the site plan application process. The TDM measures proposed will help to bridge the gap between the existing transit mode share of 42%, and the City's target of 65% by reducing reliance on private automobile transportation.

Based on the pedestrian crossover (PXO) warrant analysis conducted as part of this study, a Level 2 Type 'B' PXO was determined to be suitable for implementation on the west leg of the Woodridge/ Transitway Access intersection. A controlled pedestrian crossing at this location would help to satisfy both the existing pedestrian crossing demand, as well as a stronger desire line associated with the future multi-use path that is to connect to Woodridge Crescent. Recognizing the slight increase in traffic associated with the proposed development, the implementation of a PXO would be for the primary benefit of the adjacent community, with minimal pedestrian crossing demand further induced by the proposed development.

A multi-modal analysis of each study area intersection identified deficiencies in the existing road network and potential remediation measures have been suggested in which the City could consider to meet the prescribed targets. These remediation measures would improve mobility and comfort for all transportation modes but are not required to safely accommodate the proposed development.

All intersections were shown to operate well under their theoretical capacities beyond the horizon year of the study and no operational issues were identified from the queuing analysis. A post-development monitoring plan is therefore not a requirement of this study. Further, the analysis conducted indicated that no off-site intersection improvements are necessary to accommodate the projected travel demands of the proposed development, and as such an RMA will not be required.

Based on the findings of this study, it is the overall opinion of IBI Group that the proposed development will integrate well with and can be safely accommodated by the adjacent transportation network.

Appendix A – City Circulation Comments

Step 1 & 2 Submission (Screening & Scoping) – Circulation Comments & Response

Report Submitted: November 8, 2019
Comments Received: November 18, 2019
Transportation Project Manager: Mike Giampa

No comments received for Step 1 & 2 Submission.

Step 3 Submission (Forecasting) – Circulation Comments & Response

Report Submitted: November 22, 2019
Comments Received: December 5, 2019
Transportation Project Manager: Mike Giampa

Section 3.2.1.3 Intersections:

The westbound approach at the intersection of Woodridge Crescent and the Transitway Access also includes a dedicated westbound left turn lane.

- The description of the Woodridge Crescent & Transitway Access intersection has been revised accordingly.

Section 3.2.2 Existing Bicycle and Pedestrian Facilities:

Include discussion of the numerous off-road pathways within the context area, including the pathway links through the centre of Accora Village, the pathway from the parking lot of 90 Woodridge Crescent to Creeks End Lane / Holly Acres Road, and the nearby Watts Creek Pathway (Trans Canada Trail).

- Additional discussion has been added to this section to discuss the various off-road pathways within the context area of the proposed development.

Section 3.2.3 Existing Transit Facilities and Service:

Discuss the location of the nearest Route 85 eastbound/westbound stops on Woodridge Crescent and the amenities provided (shelter, bench, etc.) at these stops.

- Section 3.2.3 has been revised accordingly.

Section 3.3.1.2 Future Transit Facilities and Services:

Figure 1 shows Map 4 - the 2031 Network Concept not Map 5 - the 2031 Affordable Network, please correct either the description or image.

- Figure 1 has been corrected to illustrate the 2031 Affordable Network rather than the 2031 Network Concept.

Discuss in greater detail the changes to Bayshore Station, including the new station plaza and entrance adjacent to the all-way stop on the Transitway Access, approximately 60m south of Woodridge Crescent.

- Additional discussion will be provided regarding the concept plan for Bayshore Station.

Section 3.3.3 Network Concept Screenline:

The Western Parkway screenline is SL24 not SL52.

- The text in Section 3.3.3 has been corrected as indicated.

Section 4.1.2.3 Mode Share Proportions:

While 11% transit growth might be expected for the Accora Village area in general, higher transit growth should be expected at 100 Bayshore Drive - located directly adjacent to Bayshore Station. Given that this

development is within a Transit Oriented Development area (within a 600 metre walking distance of a rapid transit stop or station), the future mode share targets should match the targets used by similar TOD plans for the lands surrounding St. Laurent Station and Blair Station. These plans include sustainable mode share targets of 65% Transit, 15% active modes, 15% driver and 5% passenger. Discuss with City staff before completing Step 4 – Analysis of the TIA Guidelines.

- Acknowledged. The mode share targets for 2026 and 2031 have been adjusted to account for mode share targets within the TOD zone of an LRT station.

Section 4.1.2.5 Trip Generation by Mode:

Total person trips generated by the Site in 2024 (shown in Table 7 and Exhibit 5) should be much less than 2026 or 2031 as only Phase 1 (264 units) is expected to be completed by 2024.

- Acknowledged. Total person-trip generation for 2024 has been corrected.

Preliminary Comments on Site Plan and General Comments:

Given the site's potential for high transit modal share, a robust Transportation Demand Management program is expected, including an assessment of the development based on the City's TDM-supportive Development Design and Infrastructure Checklist, completion of the TDM Measures Checklist, and an implementation plan for the proposed TDM measures.

- Acknowledged. Further discussion on the TDM measures will be provided in Section 5.5 in the Analysis component of this TIA.

Step 4 Submission (Analysis) – Circulation Comments & Response

Report Submitted: December 19, 2019
Comments Received: February 25, 2020
Transportation Project Manager: Mike Giampa

Response to Technical Comments (Transportation)
Official Plan and Zoning By-law Amendment 100 Bayshore Drive

Traffic Signals

16. Synchro comments:

    a. Clarify how is the north/south pedestrian crossing on the eastside of the Bayshore/Richmond intersection being accounted for in model.

        - The north/south pedestrian phase is included in Phase 9, the fully protected southbound right-turn phase.

    b. The number of pedestrian actuations at all signalized intersections should be modeled as well.

        - Acknowledged, however, modeling pedestrian actuations in this case doesn't appear to significantly change the overall results of the intersection capacity analyses.

Street Lighting

17. Be advised that the applicant will be 100% responsible for all costs associated with any relocations/modifications to the existing street light plant.

    - Noted.

Transit

18. Bus stop #1167 has eastbound service (85 Gatineau) and is located roughly 60m west of the site. Please update section 3.2.3

    - Section 3.2.3 has been updated accordingly.

19. Bus stop #5247 (85 Bayshore) is located along the frontage of the site. Confirm that the new access from Woodridge will not conflict with the existing location of the bus stop.

    - Confirmed. Bus stop #5247 is located 5 metres to the west of the western property line and will not be impacted by the proposed access.

20. Further to the TDM Measure Checklist item 3.2.1: OC Transpo has been working with PIED to include the purchase of pre-loaded Presto cards with e-Purse for future residents of

developments within proximity to LRT stations. A similar arrangement is currently being implemented via draft conditions for the project situated on 1960 Scott Street. Discussions are still being held to clarify official policy, but it is expected that developers purchase a Presto card for each future owner/tenant. The Presto cards will be preloaded with a certain amount of money in e-Purse format and will require a $6 activation fee. For any questions regarding this initiative, please contact Erica Springate, Team Lead of Network Service Design, ext. 52184.

- It is agreed in principle that the Developer will provide a pre-loaded *Presto* card in conjunction with the leasing of a unit at a value to be determined by the Developer. This move-in benefit will be limited to only the initial lease of a unit and not subsequent leasing of the same unit. The Transportation Demand Management form included in the Transportation Impact Assessment has been revised accordingly.

LRT Stage 2

21. The subject property is outside of the Development Zone of Influence (DZOI) – however the applicants appear to have relocated a Multi Use Pathway (MUP) onto lands that are directly within the Bus loop – which is not acceptable. There is a requirement for the MUP to be outside of the fare paid zone and will be required adjacent to their property, on their property or shared on the property line.

    - The location of the Multi-Use Path has already been negotiated and agreed-upon between the Developer and the City.

22. There is a planned passenger pick-up and drop-off directly north of the site on Woodridge crescent. This will have to be provided in a safe manner.

    - The proposed development will introduce two new private approaches on the southern side of Woodridge Crescent thereby reducing curbside space by approximately 14m each. As such, its impact to any planned curbside passenger pick-up and drop-off area is expected to be minimal and may still be accommodated by the City.

23. As this has the potential to interfere with Stage 2 LRT works, we require the construction scheduling and traffic management plan prior to any building permits being issued.

    - Noted.

24. The comments above should be transferred to the site plan application as well.

    - Noted.

25. Some of the property making up the development land parcel is being acquired by the City:

    a. permanent property rights to construct a multi-use pathway and an addition to the existing Bayshore Station; and,

    b. temporary easements needed for construction purposes

        - Noted.

26. Part of the access road between the development parcel and the mall lands is owned by the City (PIN 04701-0105(LT)). An easement over these lands is registered on the title as in instrument LT1327796. The only lands that benefit from the Easement appear to be the Bayshore Shopping Mall Lands identified in PIN 04701-0118(LT) and not the Bayshore lands identified in PIN 04701-0103 (the development parcel)

    - Noted. The access road is jointly owned by both the Developer and the City with easement over each other currently in place. The proposed development will not benefit from or rely on this easement in terms of public access, however a temporary construction easement may be required from the City.

27. It will be important to consider any potential cross impact resulting from the Stage 2 LRT project:

    a. MUP

    b. Station

    c. PPUDO

    d. Knockout panels to be constructed as per following extract from the agreement:

    The City shall instruct the contractor engaged to design and construct the Stage 2 Project to design and construct two (2) "knockout panels" at Bayshore Station, one at the bus terminal entrance level and one at the pedestrian bridge level in order to facilitate the construction of future integrated connections from the Owner's Lands to Bayshore Station. The said knock out panels shall provide for an opening 4.0 metres wide and 3.0 metres high. Any future connection to Bayshore Station shall be subject to the terms of an entrance connection agreement satisfactory to the City and the Owner, each acting reasonably.

    - Noted.

Transportation Engineering Services

28. Section 5.1.1 Design for Sustainable Modes:

    a. Dimension the proposed sidewalk widths on the site plan.

        - The existing sidewalk width along Woodridge Crescent will be maintained and the width of the on-site sidewalk has been dimensioned on the plan.

    b. Suggest that the internal site sidewalk on the south side of the semi-circular driveway continue west from the west tower main entrance to connect to Woodridge Crescent on the west side of the property. Consider making this new sidewalk connection continuous through the 6.7-metre west drive aisle (to mimic the City's sidewalk and curb standard drawing SC7.1 for unsignalized entrance).

        - The site plan has been updated accordingly.

    c. Consider a short pathway connection at the southwest corner of the property from the proposed MUP to the 6.7-metre drive aisle. The purpose of this connection would be to

connect the proposed MUP to the "ground level indoor bike parking" access on the west side of the West Tower.

- A pathway connection will not be provided at this location in order to discourage cut-through pedestrian traffic on the site and instead consolidate pedestrian traffic along the Multi-Use Path between Woodridge Crescent and Bayshore Station. Access between the parking podium and the Multi-Use Path will be provided at two other locations.

29. Section 5.1.2 Circulation and Access:

    a. The connections to Woodridge Crescent are described (in Sections 3.1.2, 5.1.2, & 5.4.1) as two, two-way private approaches. However, these approaches are labelled as "one-way private approach" in the site plan. Please confirm whether the semi-circular driveway is one-way or two-way. Provide design vehicle turning templates at all access locations and size entrances and internal roads accordingly.

        - The easternmost access is intended to function as a one-way egress while the western access is intended to function as a two-way access. The semi-circular driveway is 6.0 metres in width and designed as a Fire Route.

    b. Provide a site plan/parking podium plan with turning templates illustrating how a garbage truck will access the waste collection area.

        - Turning templates illustrating how a garbage truck will access the waste collection area has been provide – see Section 5.1.2.

30. Section 5.3.1 (Boundary Streets) Mobility:

    a. Along the development's Woodridge Crescent frontage, the developer should provide adequate horizontal separation (i.e. boulevard) between the sidewalk and the curb lane to achieve the target PLOS A. If this is not feasible provide justification for why a boulevard was not provided.

        - It is not intended for the existing sidewalk along the site frontage to be modified as part of the construction of the proposed development, other than to accommodate the new private approaches, however this may be reconsidered by the Developer and resolved through the Site Plan Approval process.

    b. Review Woodridge Crescent for traffic calming needs. The midblock collision frequency seems high for this type of location. Suggest a review for PXO crossings and bulb outs to bank the on-street parking (create layby parking). Consult the City of Ottawa Traffic Calming Design Guidelines, 2019 for details and other options. Consider a possible PXO crossing of Woodridge Crescent (with consideration for increased pedestrian activity in the area and possible pedestrian desire lines resulting from the proposed MUP terminating at the southeast corner of the Woodridge Crescent/Transitway Access intersection).

- It is not expected that the proposed development will contribute significantly to the pedestrian crossing demand along this segment of Woodridge Crescent. Furthermore, this is an existing condition that will be exacerbated primarily by the conversion of Bayshore Station to LRT and the extension of a multi-use path by the City. As the proposed development will contribute additional traffic to Woodridge Crescent, however, the warrant for the implementation of a PXO at this location will be reviewed and consideration has been given toward the contribution to its implementation as a potential community benefit – see Section 5.9.1.3 for PXO warrant analysis results.

31. Section 5.3.2 (Boundary Streets) Road Safety:

    a. The report indicates that there are no identifiable patterns in the causes of the collisions on the Woodridge Crescent – Transitway Access to Bayshore Public School Access segment. However, the number of collisions over five years (13) for a roadway segment is high enough to warrant investigating measures to improve safety. Contact Cathy Kourouma (613-580-2424 Ext 26622) regarding any collision history review completed by the City.

        - Based on a detailed review of the collision history, there were four collisions involving unattended vehicles on this road segment while the remaining collisions all appeared to be one-off events. Due to the lack of apparent collision patterns, there is insufficient information available to make informed recommendations to improve safety along this roadway segment.

32. Section 5.4.1 Location and Design of Access:

    a. Ensure the site plan shows the curb (depressed) and concrete sidewalk continuous through the proposed accesses (please refer to the City's sidewalk and curb standard drawing SC7.1 for unsignalized entrance).

        - The site plan has been updated to include depressed curbs and continuous sidewalks through the proposed private approaches.

    b. Provide a drawing showing adequate access intersection sight distances.

        - A figure has been added to the report illustrating the available sight distances. See Section 5.10.1.

Response to Public Comments for 100 Bayshore Drive (Transportation) – Official Plan and Zoning By-law Amendment 100 Bayshore Drive

Traffic

1. The Bayshore and Crystal Beach-Lakeview neighborhoods (includes Bayshore Drive, Carling Avenue and Holly Acres Road) already experience significant congestion of vehicular traffic. There will be increased traffic over current levels on intersections already approaching failure during rush hours.

    - As indicated in the Transportation Impact Assessment, traffic associated with the proposed development is expected to be primarily (80%) served by non-auto modes. The residual traffic impact within the study area will therefore be nominal and will have a negligible influence of the operation of intersections within the study area and further disperse with distance from the site.

2. There are major changes to arterial roadways and access to Highway 417 off of Holly Acres Road and increased bus traffic being planned. This will cause further gridlock.

    - Traffic impacts associated with this development to these interchanges at the periphery of the study area are expected to be negligible, as indicated in the Transportation Impact Assessment.

3. There have already been several serious accidents involving pedestrians connecting between the bus station and the shopping center as well as residents crossing to and from Woodridge Crescent. Over 1,000 additional people transiting at this same location will be dangerous.

    - Noted. The proposed development is expected to generate approximately 250 pedestrian trips during the weekday peak hours, but will not significantly contribute to pedestrian crossings on Woodridge Crescent. The development will, however, result in an increase in automobile traffic on Woodridge Crescent east of the site. The need for a Pedestrian Cross-Over (PXO) has therefore been reviewed as part of the Transportation Impact Assessment (see Section 5.9.1.3).

Transit

1. The community and planners need to hear from the transit experts about how the future Bayshore LRT and bus station will be impacting the community expansion.

    - Noted. As indicated in the Transportation Impact Assessment, the Bayshore LRT station will increase transit capacity in the immediate area with an 11% increase in transit ridership over existing conditions expected.

Appendix B – Screening Form

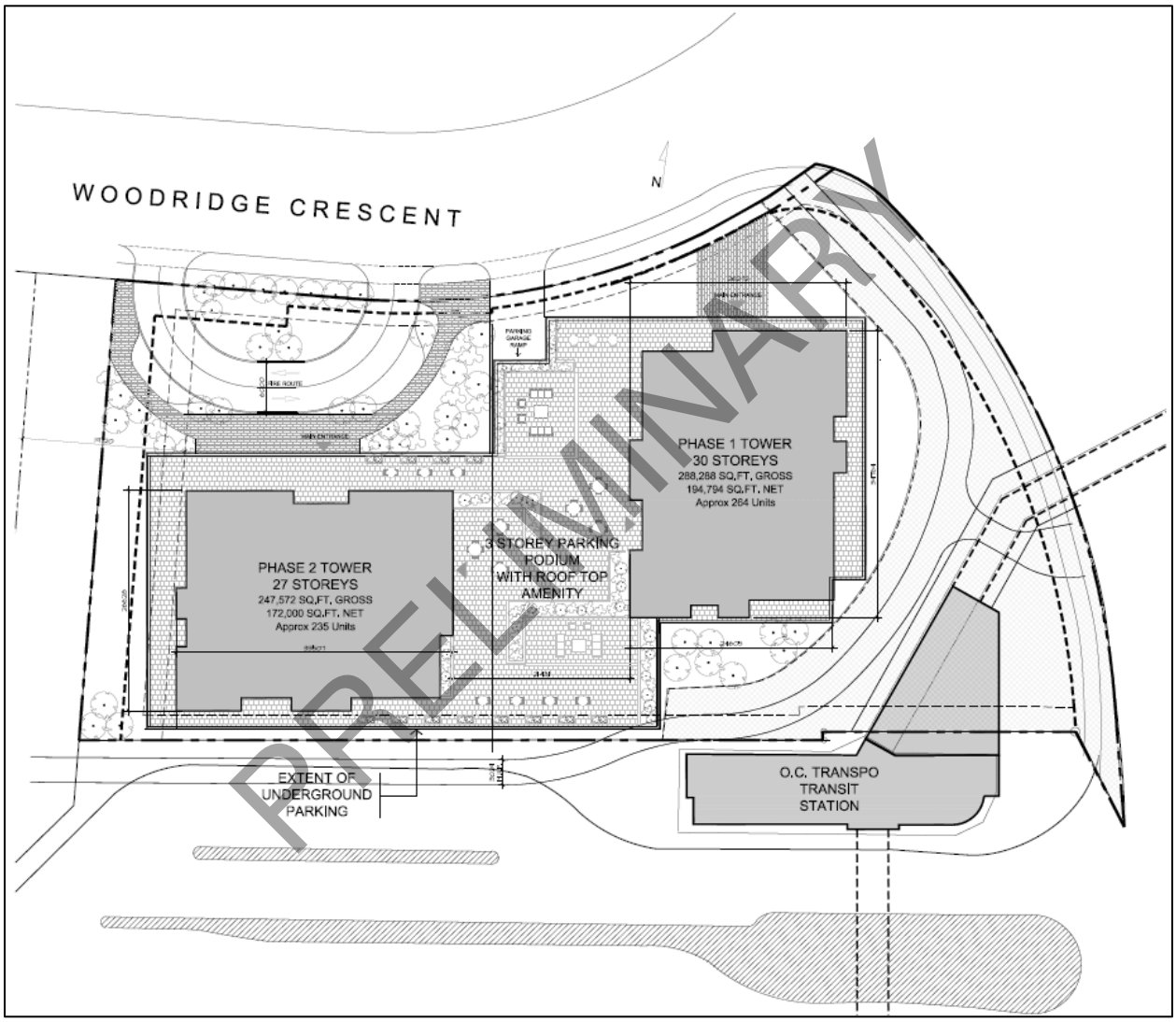
City of Ottawa 2017 TIA Guidelines Screening Form

1. Description of Proposed Development

Municipal Address	100 Bayshore Drive (Lot 'B')
Description of Location	The site is situated to the west of Bayshore Mall and immediately north of the Bayshore Transitway station, with direct frontage on Woodridge Crescent. 
Land Use Classification	High-Rise Residential
Development Size (units)	499 Residential Units
Development Size (m^2)	Residential Apartment/Condominium
Number of Accesses and Locations	Three two-way accesses on Woodridge Crescent
Phase of Development	Two Phases
Buildout Year	2026

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

Proposed Development:



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.*

- **Based on the results 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?		✓
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).*

- **Based on the results above, the Location Trigger is satisfied.**

4. Safety Triggers

	Yes	No
Are posted speed limits on a boundary street are 80 km/hr or greater?		✓
Are there any horizontal/vertical curvatures on a boundary street that limits sight lines at a proposed driveway?		✓
Is the proposed driveway within the area of influence of an adjacent traffic signal or roundabout (i.e. within 300 m of intersection in rural conditions, or within 150 m of intersection in urban/ suburban conditions)?		✓
Is the proposed driveway within auxiliary lanes of an intersection?		✓
Does the proposed driveway make use of an existing median break that serves an existing site?		✓
Is there is a documented history of traffic operations or safety concerns on the boundary streets within 500 m of the development?		✓
Does the development include a drive-thru facility?		✓

- **Based on the results above, the Safety Trigger is NOT 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?		✓

CONCLUSION: The Trip Generation and Location Triggers are satisfied, therefore a TIA is required.

Appendix C – Traffic Data

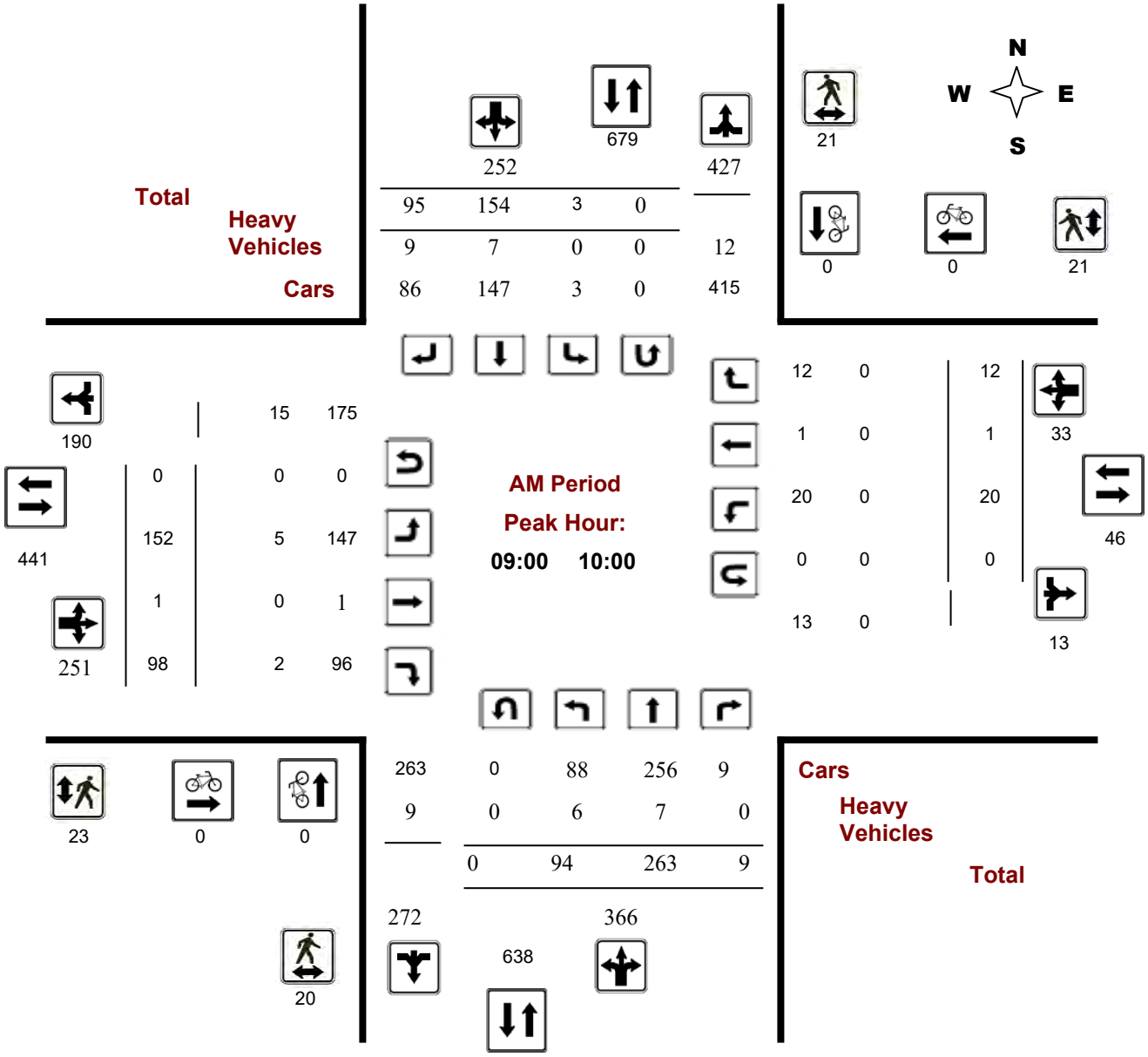
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

BAYSHORE DR @ WOODRIDGE CRES N

Survey Date: Tuesday, November 05, 2019 **WO No:** 38937

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



Comments

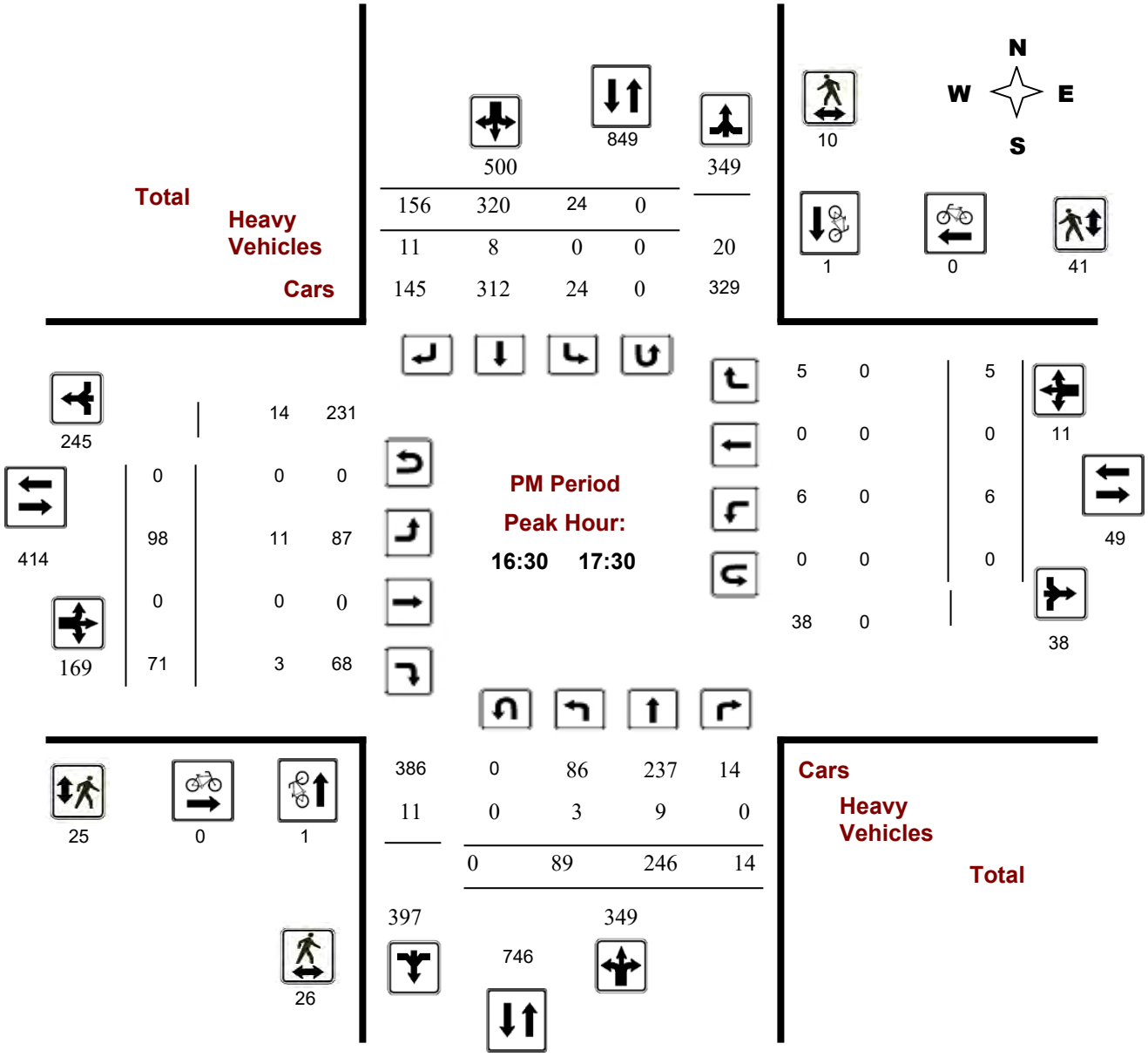
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

BAYSHORE DR @ WOODRIDGE CRES N

Survey Date: Tuesday, November 05, 2019 **WO No:** 38937

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



Comments

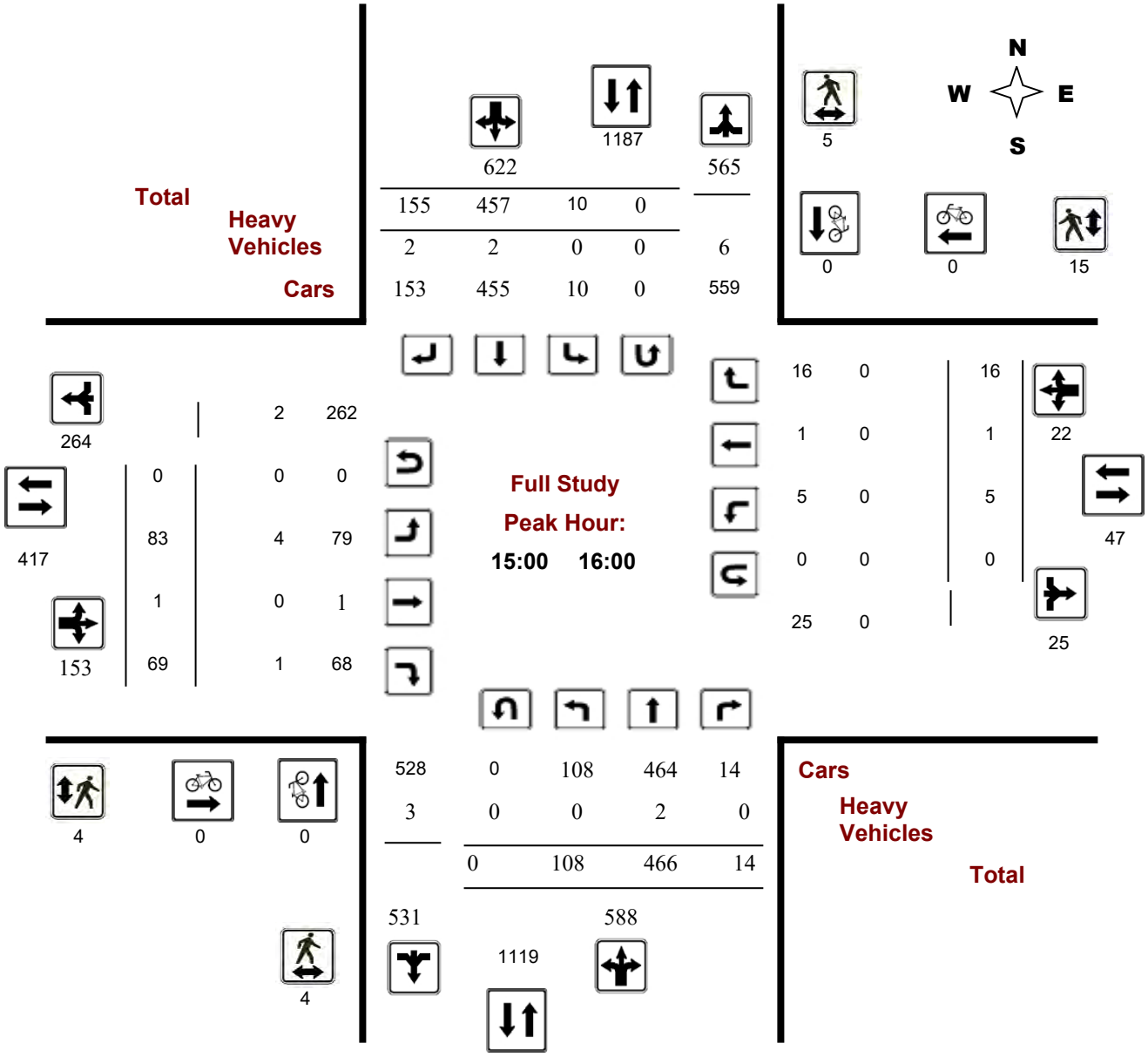
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

BAYSHORE DR @ WOODRIDGE CRES N

Survey Date: Saturday, November 02, 2019 **WO No:** 38943

Start Time: 11:00 **Device:** Miovision



Comments

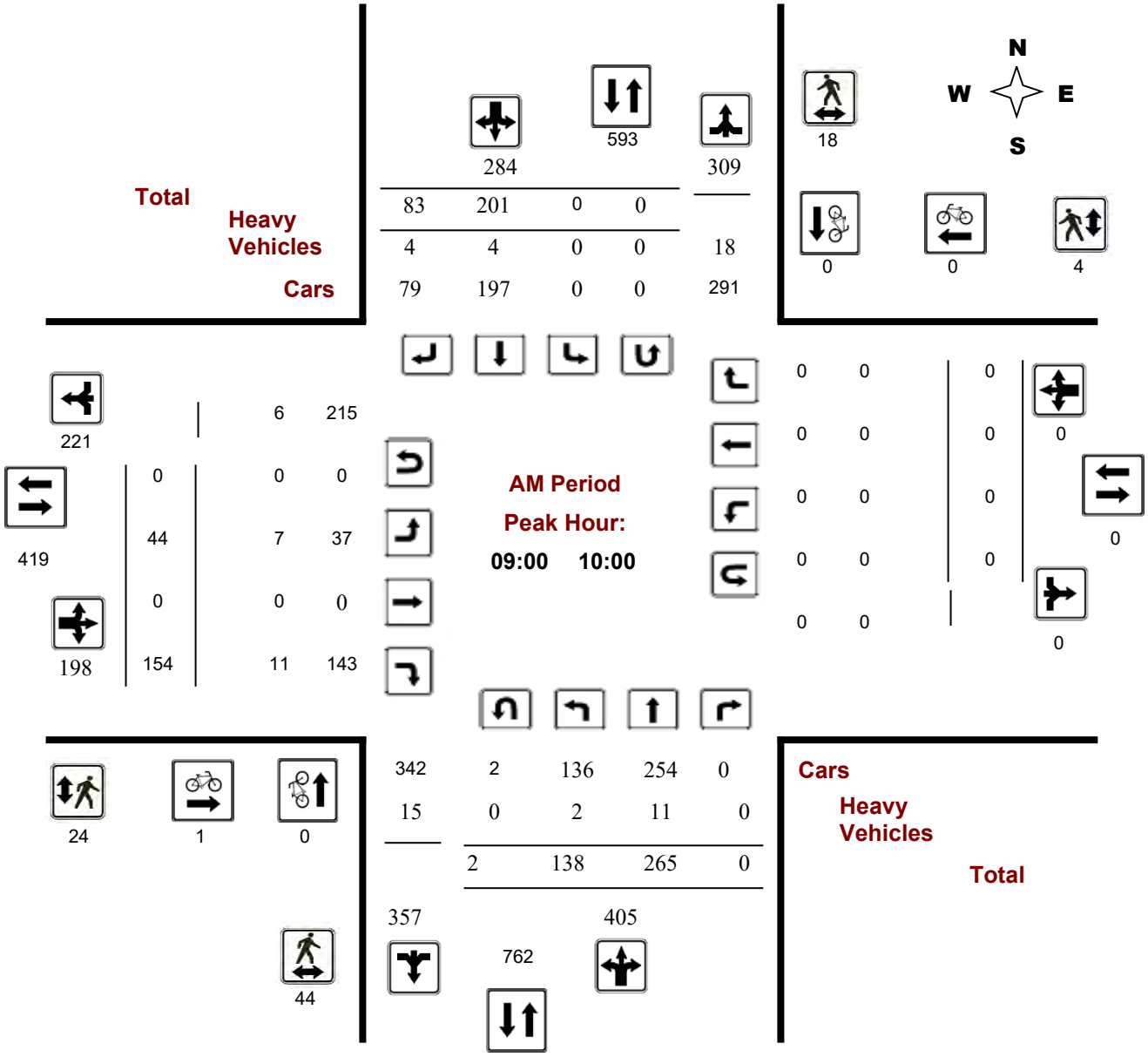
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

BAYSHORE DR @ WOODRIDGE CRES S

Survey Date: Tuesday, November 05, 2019 **WO No:** 38938

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



Comments

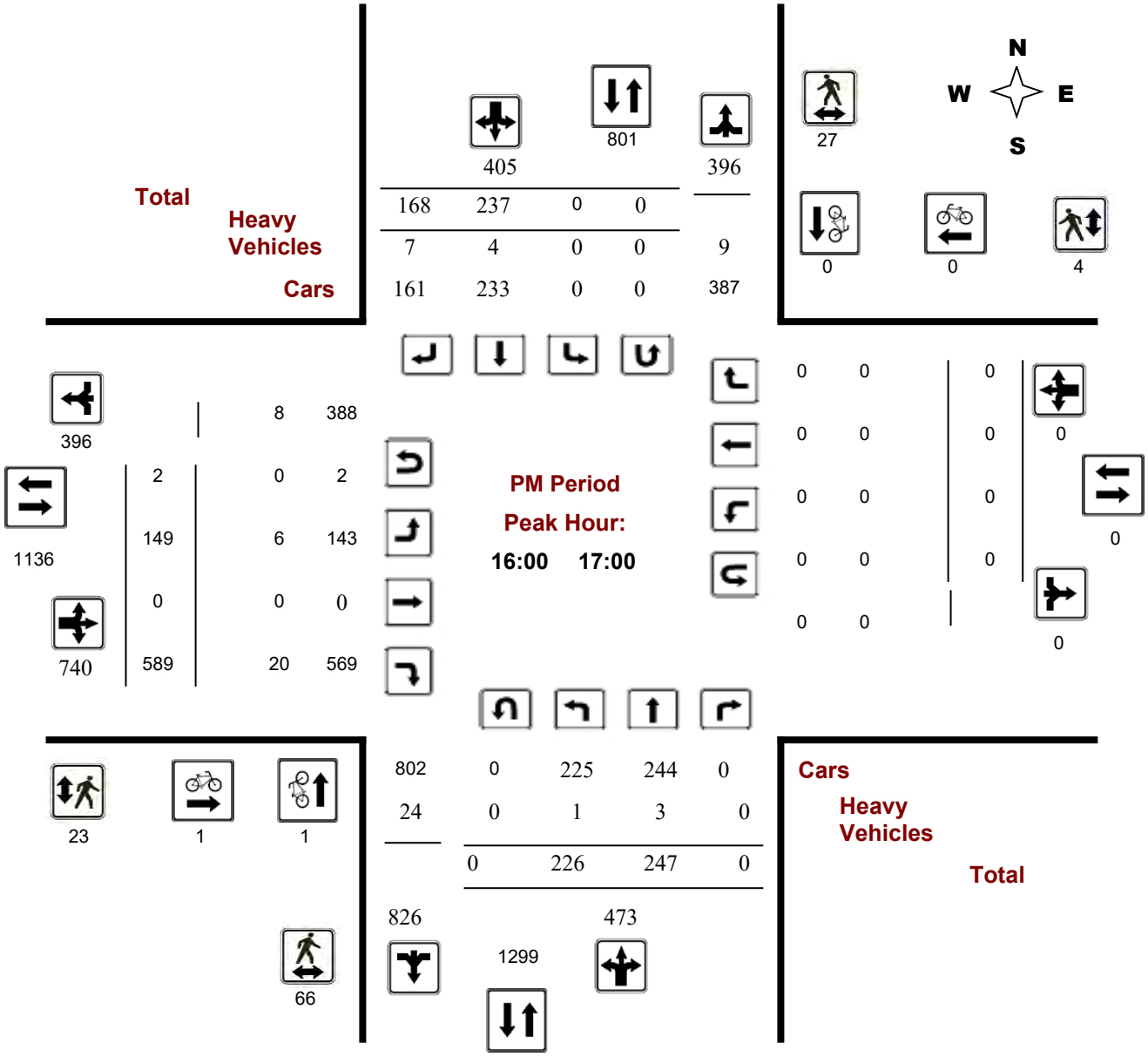
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

BAYSHORE DR @ WOODRIDGE CRES S

Survey Date: Tuesday, November 05, 2019 **WO No:** 38938

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



Comments

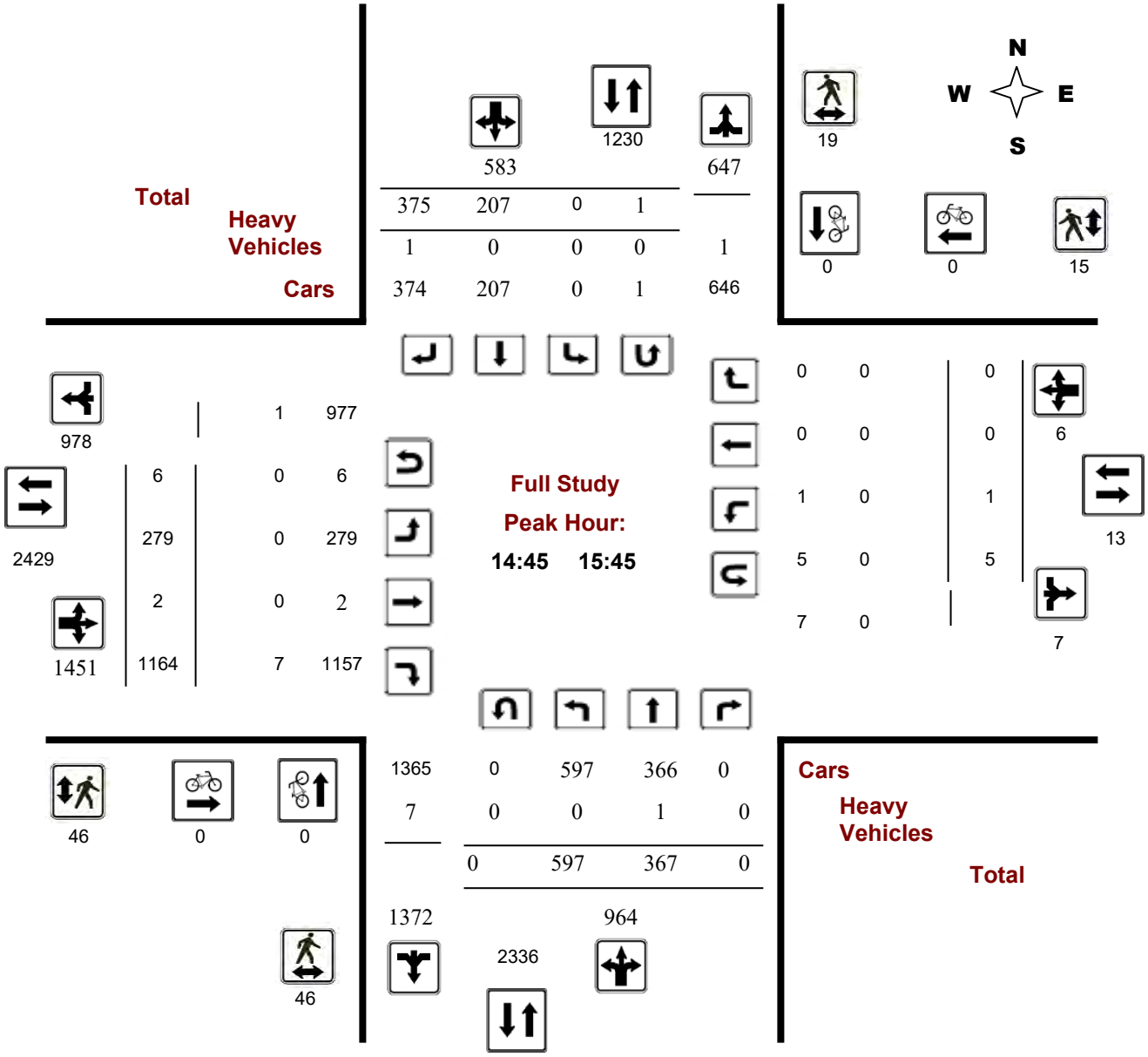
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

BAYSHORE DR @ WOODRIDGE CRES S

Survey Date: Saturday, November 02, 2019 **WO No:** 38998

Start Time: 11:00 **Device:** Miovision



Comments

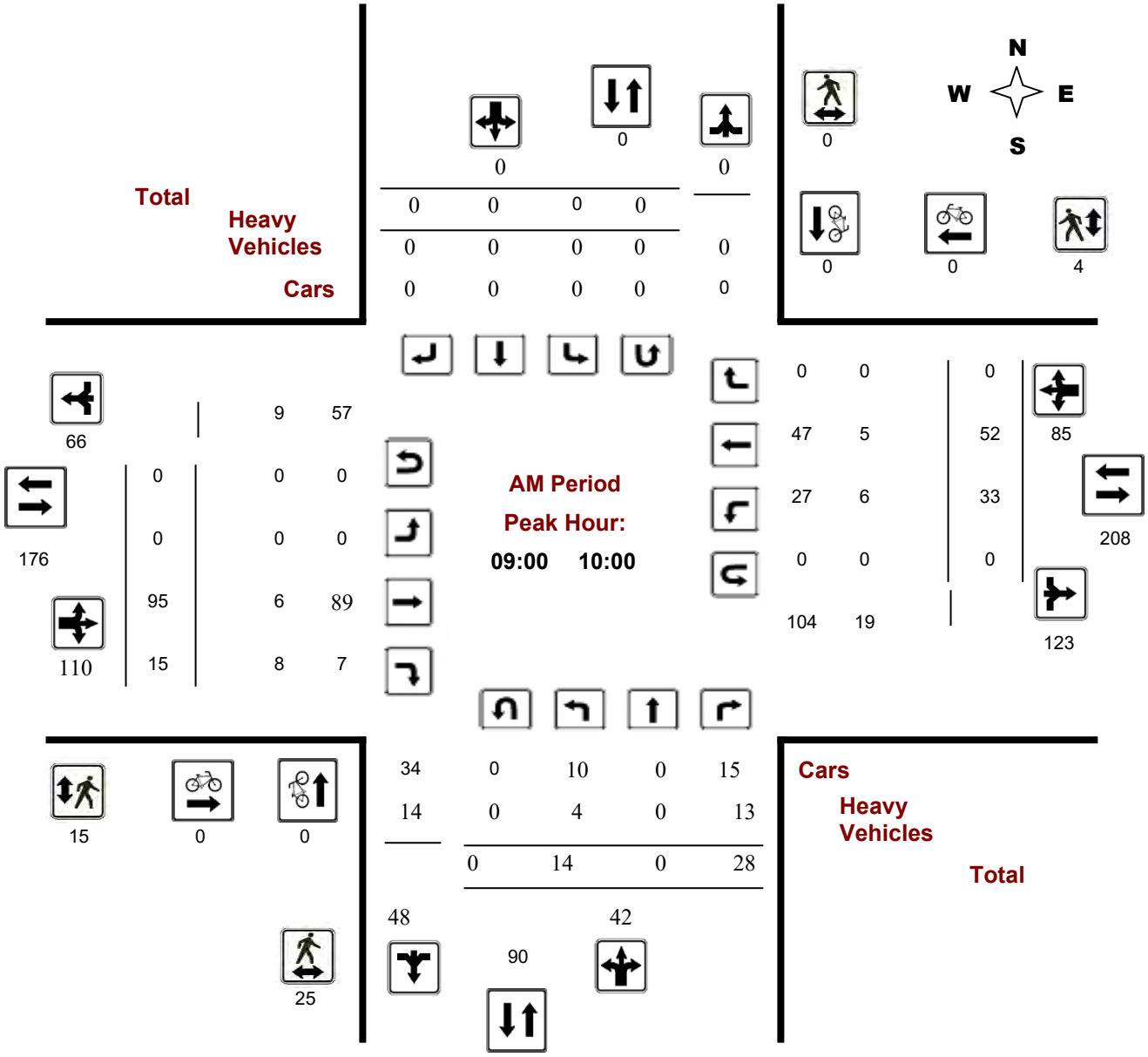
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

WOODRIDGE CRES @ TRANSITWAY LINK

Survey Date: Tuesday, November 05, 2019 **WO No:** 39001

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



Comments

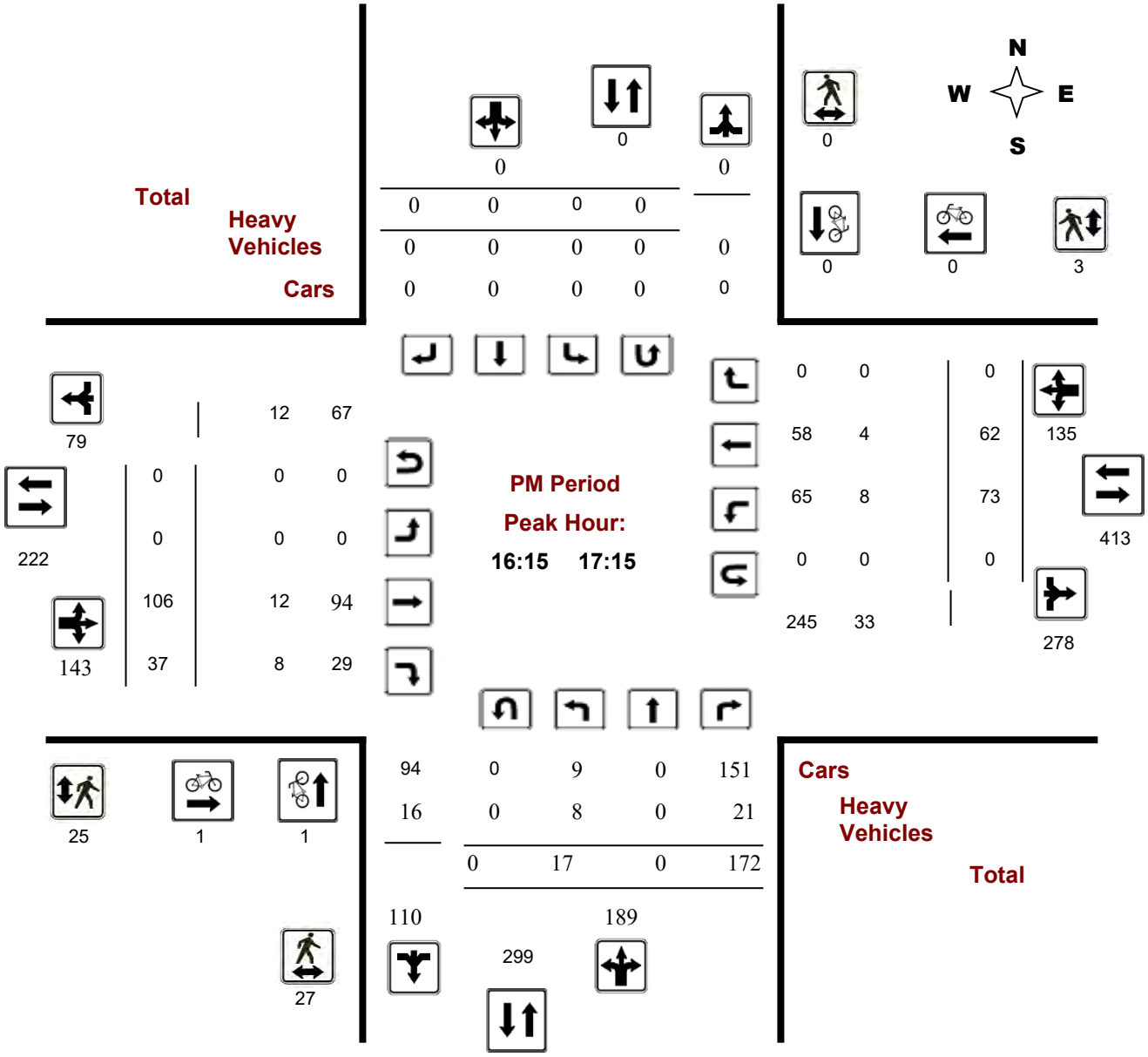
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

WOODRIDGE CRES @ TRANSITWAY LINK

Survey Date: Tuesday, November 05, 2019 **WO No:** 39001

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



Comments

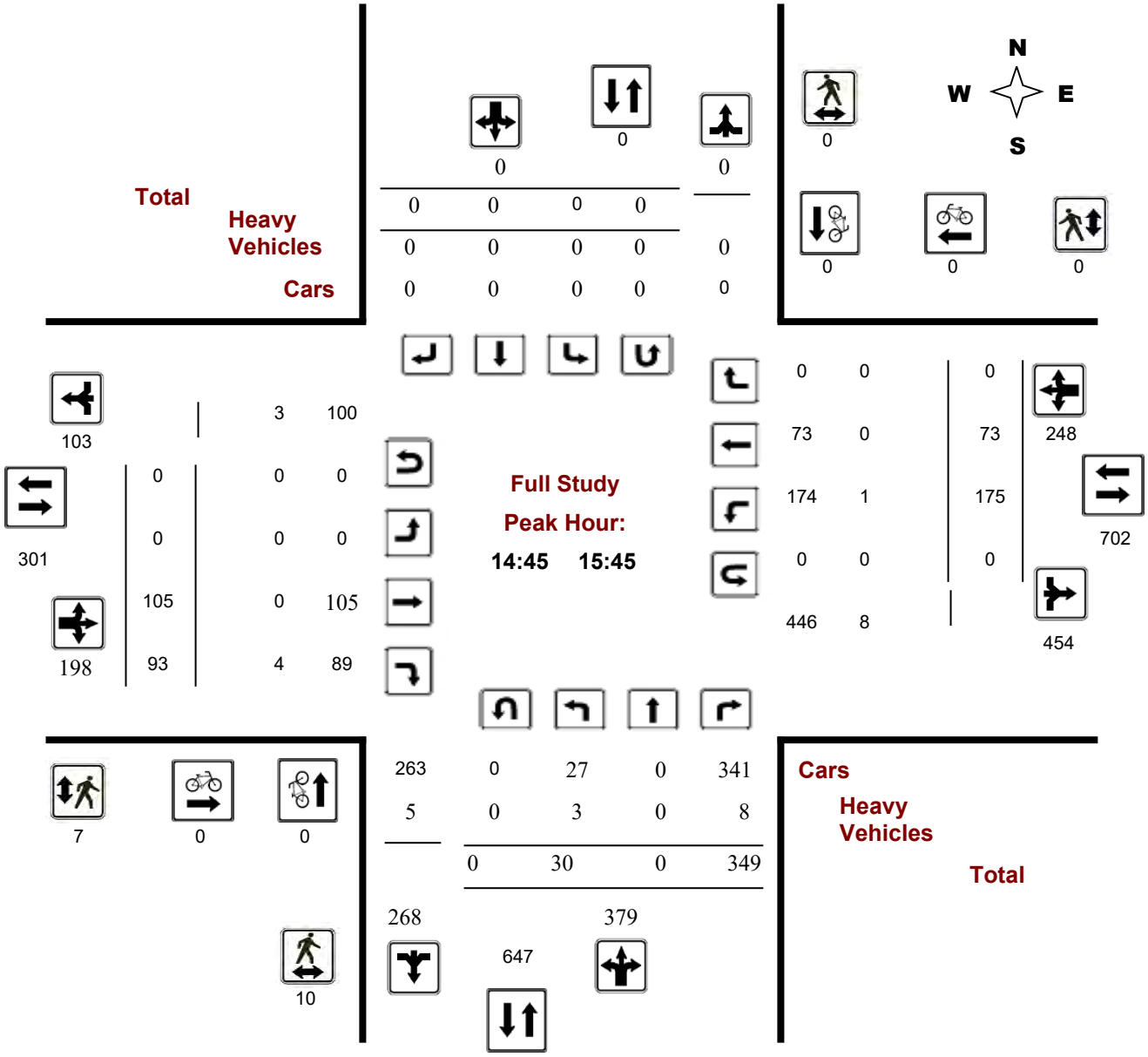
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

WOODRIDGE CRES @ TRANSITWAY LINK

Survey Date: Saturday, November 02, 2019 **WO No:** 39000

Start Time: 11:00 **Device:** Miovision



Comments

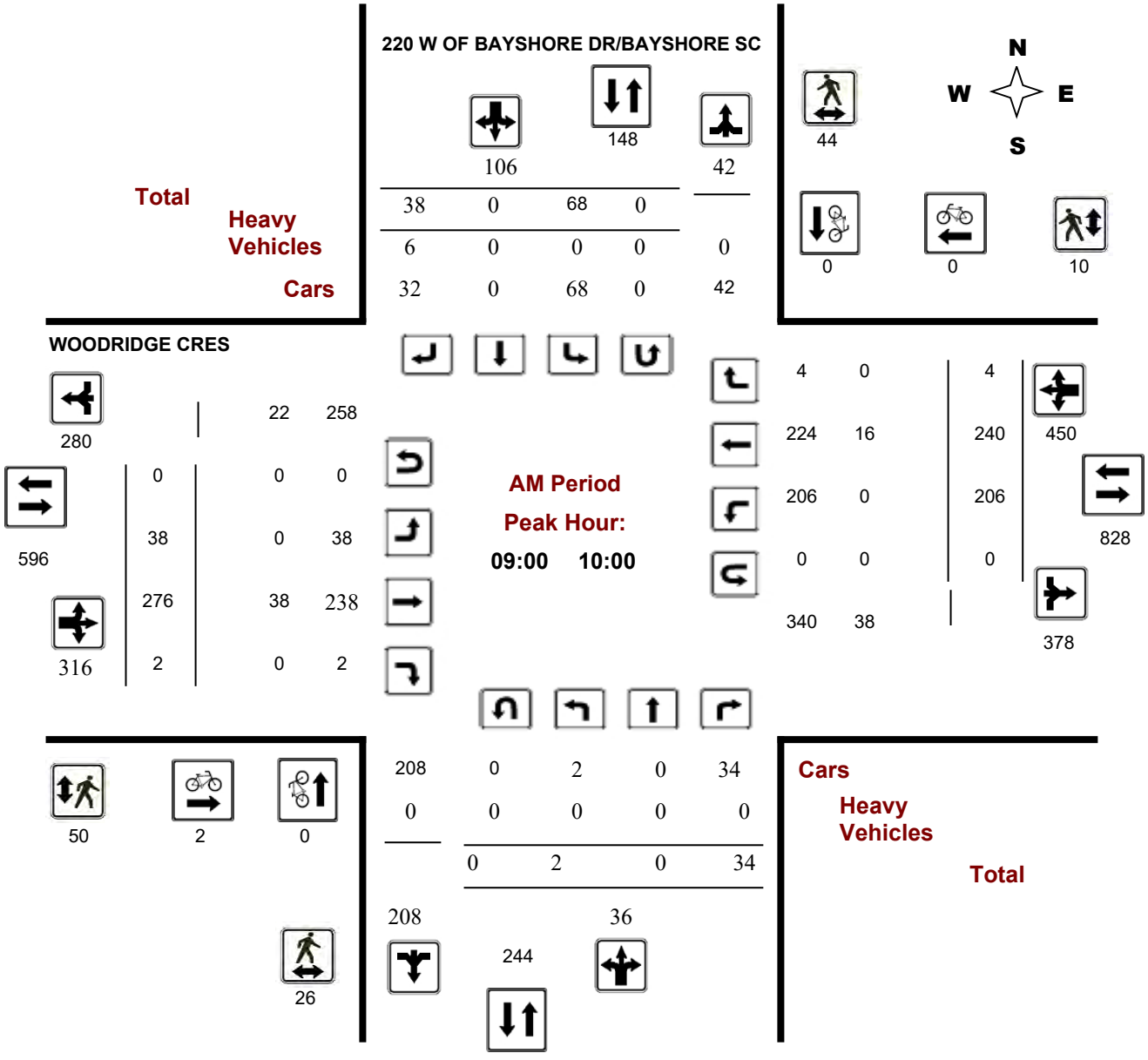
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

WOODRIDGE CRES @ 220 W OF BAYSHORE DR/BAYSHORE

Survey Date: Tuesday, November 05, 2019 **WO No:** 38940

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



Comments

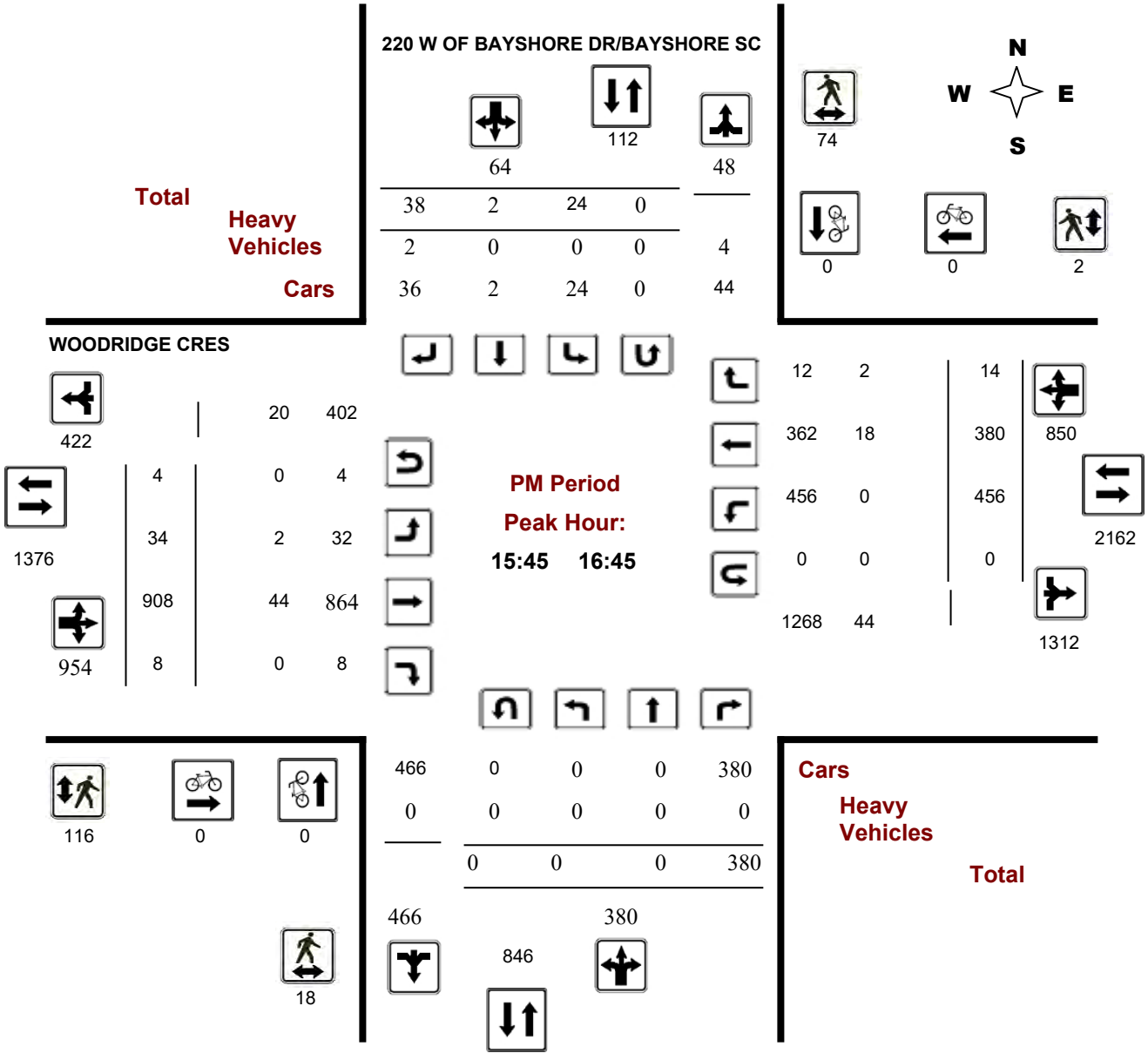
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

WOODRIDGE CRES @ 220 W OF BAYSHORE DR/BAYSHORE

Survey Date: Tuesday, November 05, 2019 **WO No:** 38940

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



Comments

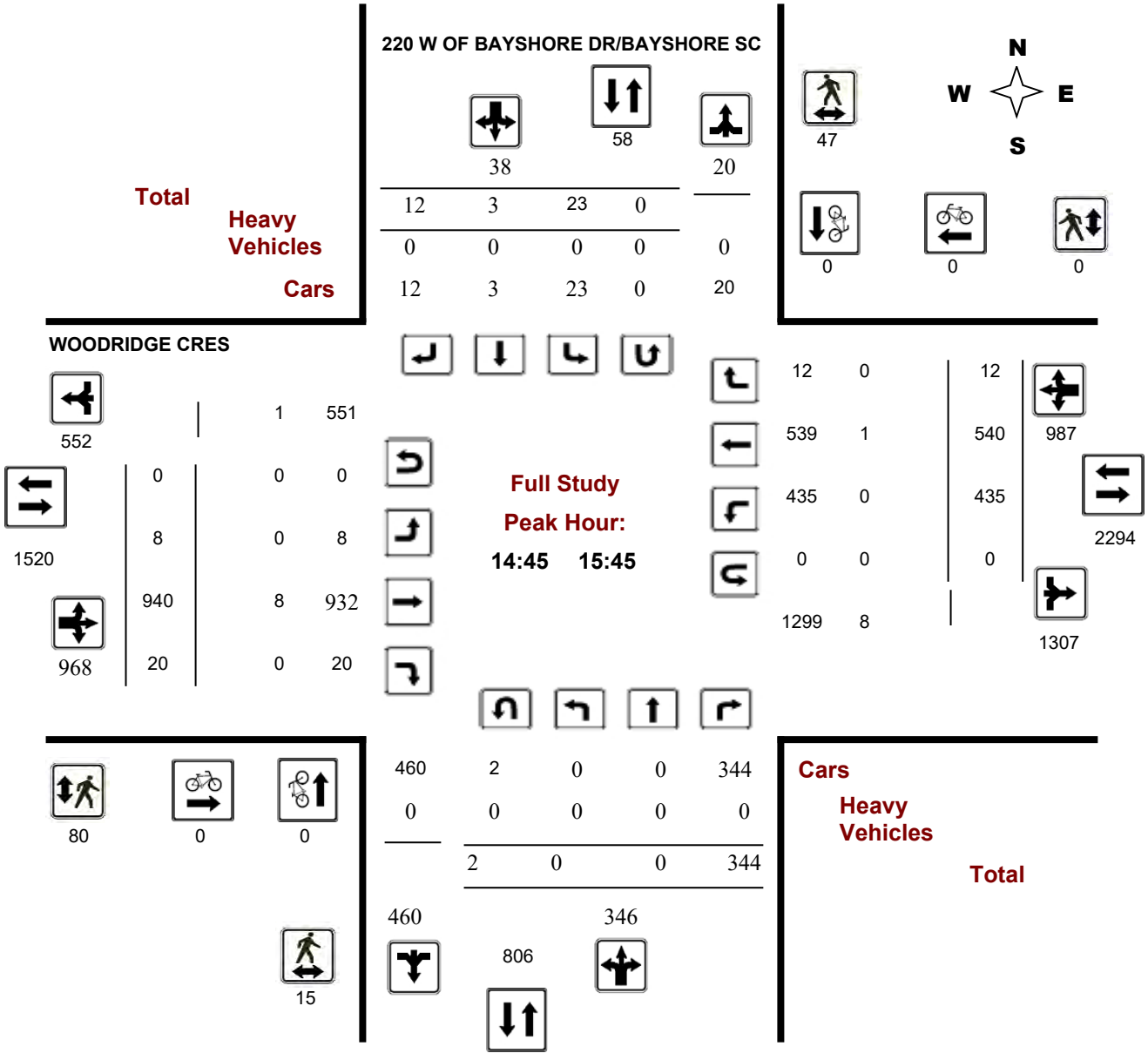
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

WOODRIDGE CRES @ 220 W OF BAYSHORE DR/BAYSHORE

Survey Date: Saturday, November 02, 2019 **WO No:** 38999

Start Time: 11:00 **Device:** Miovision



Comments

Transportation Services - Traffic Services

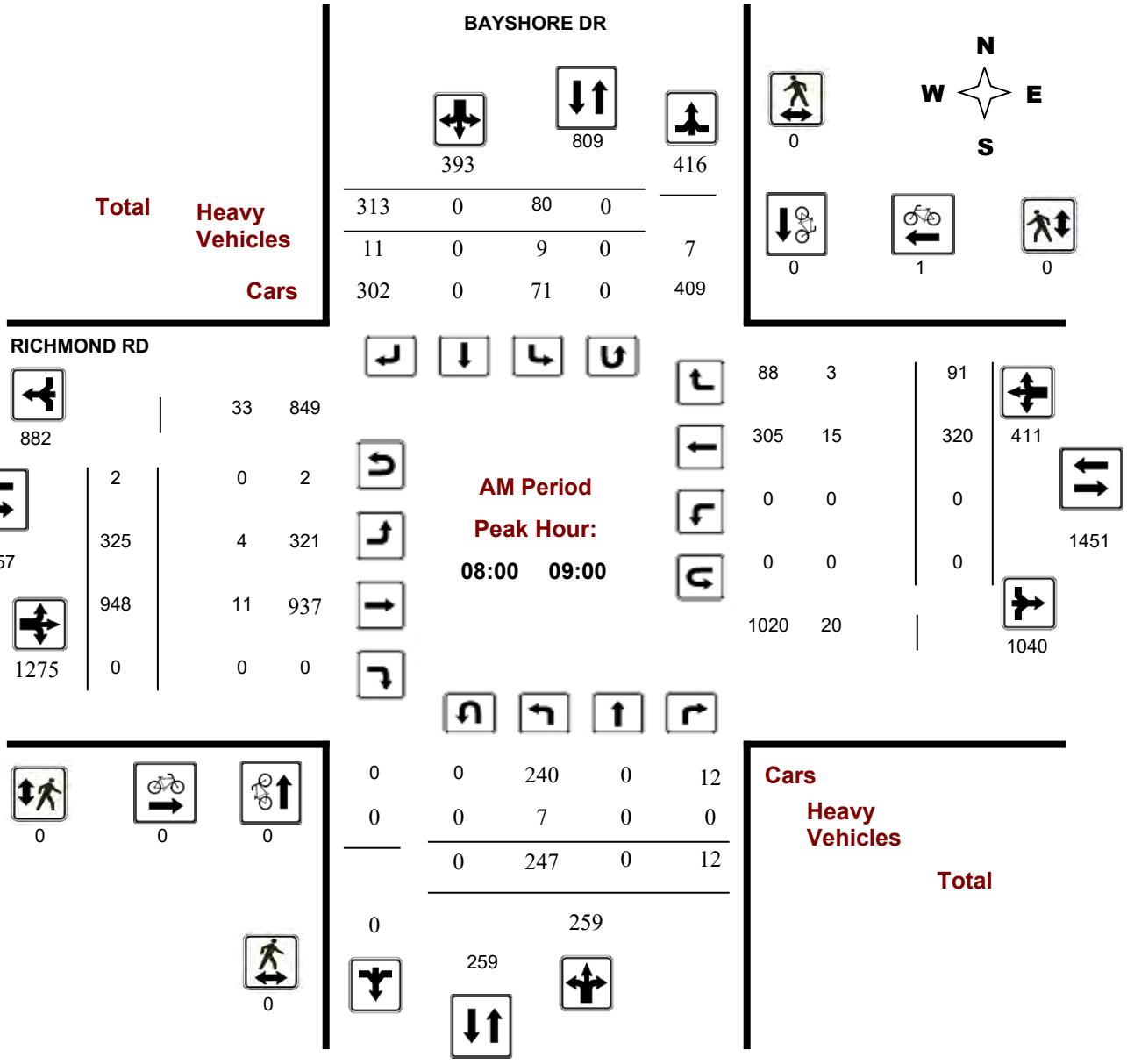
Turning Movement Count - Study Results

BAYSHORE DR @ RICHMOND RD

Survey Date: Wednesday, November 13, 2019 **WO No:** 38939

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

AM Period Peak Hour Diagram



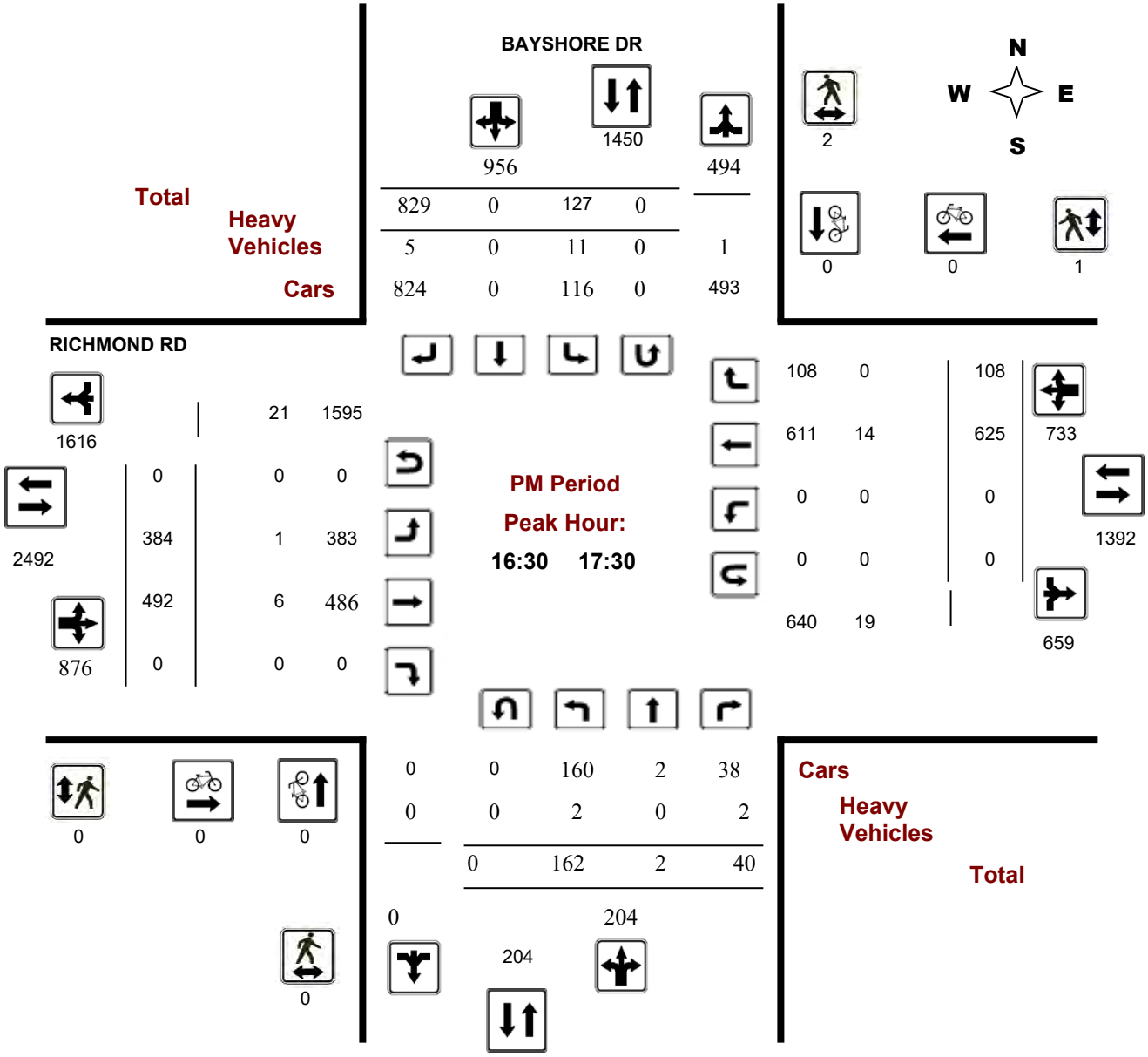
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

BAYSHORE DR @ RICHMOND RD

Survey Date: Wednesday, November 13, 2019 **WO No:** 38939

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



Comments

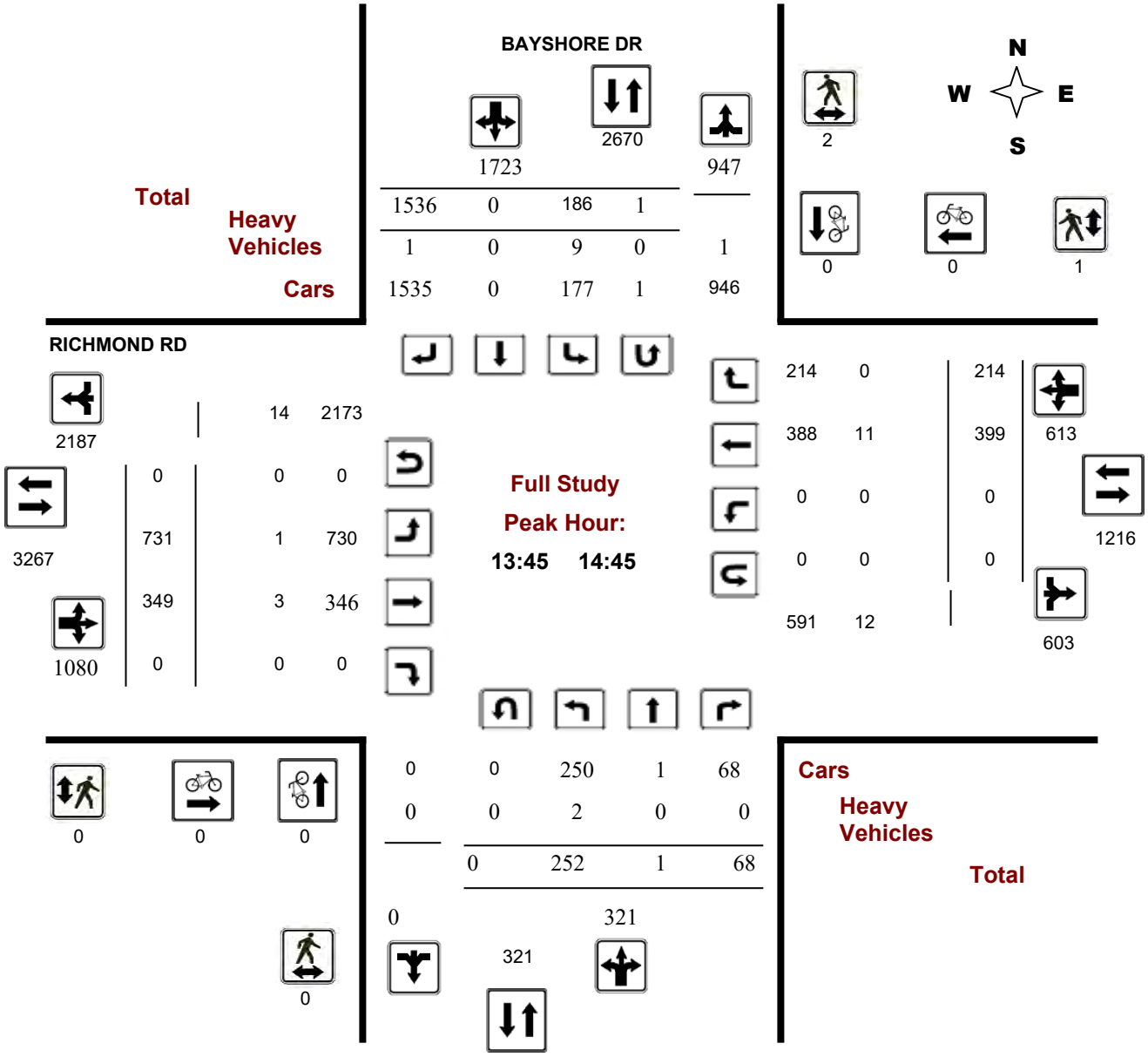
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

BAYSHORE DR @ RICHMOND RD

Survey Date: Saturday, November 09, 2019 **WO No:** 38945

Start Time: 11:00 **Device:** Miovision



Comments

Appendix D – OC Transpo Routes

85

Fréquent

GATINEAU

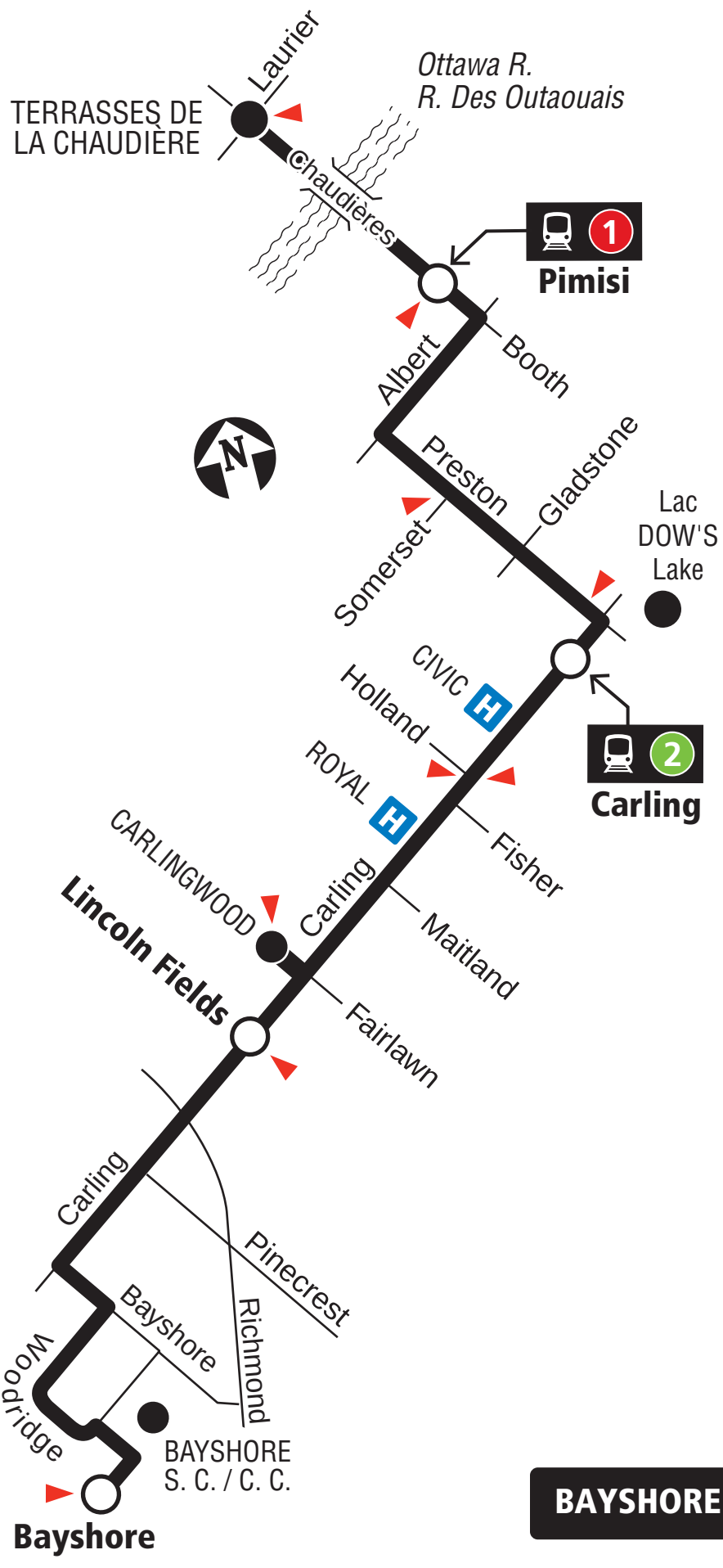
BAYSHORE

7 days a week / 7 jours par semaine

All day service

Service toute la journée

GATINEAU



BAYSHORE

Station

Timepoint / Heures de passage

2019.07

1

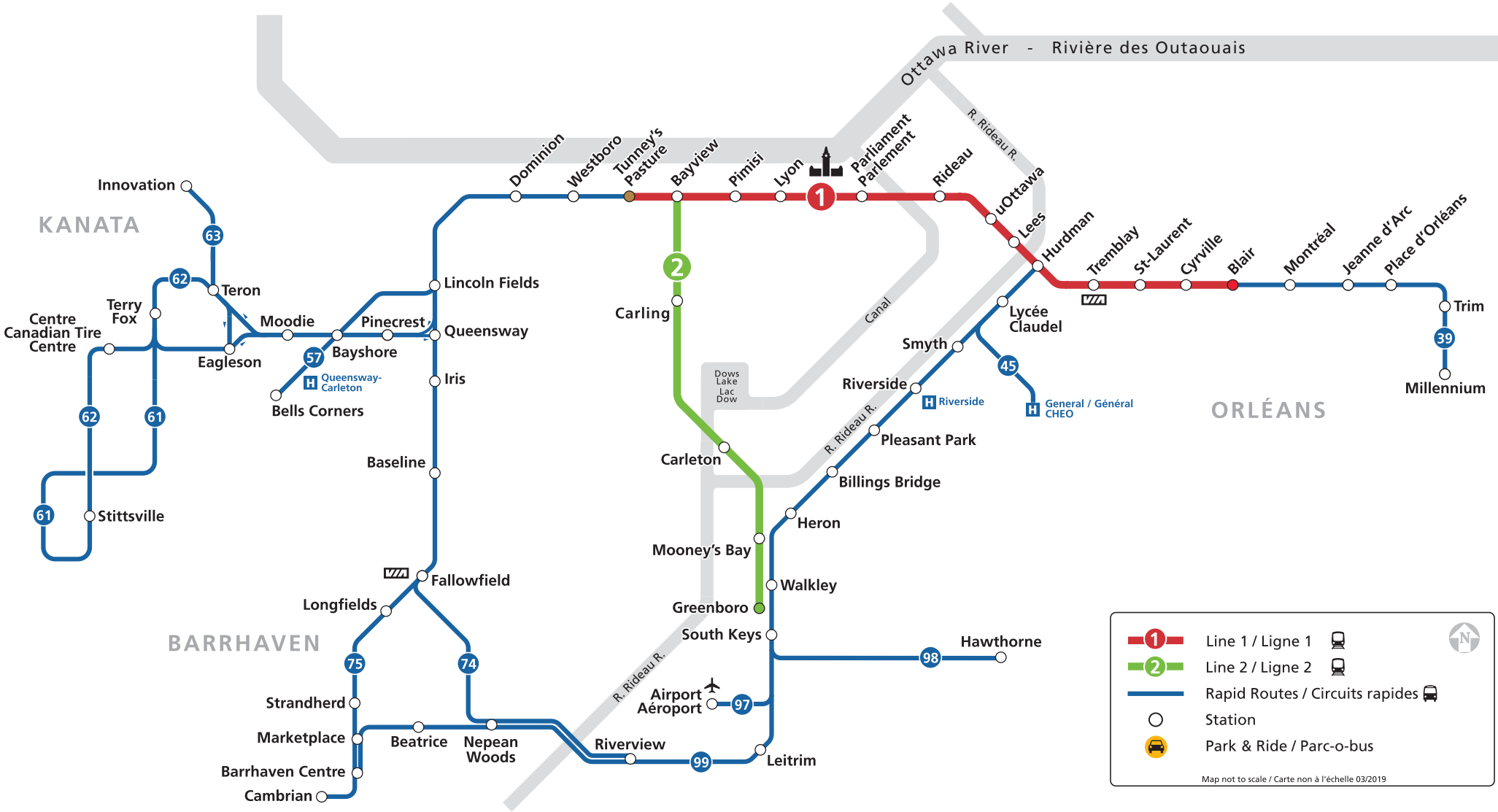
Future route after O-Train Line 1 is open
Trajet du circuit après l'ouverture de la Ligne 1 de l'O-Train

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

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

OC Transpo

INFO 613-741-4390
octranspo.com


Ottawa River - Rivière des Outaouais
R. Rideau R.
Canal
KANATA
BARRHAVEN
ORLÉANS
Innovation
Teron
Terry Fox
Centre Canadian Tire Centre
Eagleson
Moodie
Pinecrest
Bayshore
Queensway-Carleton
Bells Corners
Lincoln Fields
Queensway
Iris
Baseline
Fallowfield
Longfields
Strandherd
Marketplace
Barrhaven Centre
Cambrian
Stittsville
Dominion
Westboro
Tunney's Pasture
Bayview
Pimisi
Lyon
Parliament Parlement
Rideau
uOttawa
Lees
Hurdman
Tremblay
St-Laurent
Cyrville
Blair
Montréal
Jeanne d'Arc
Place d'Orléans
Trim
Millennium
Carling
Dows Lake Lac Dow
Carleton
Mooney's Bay
Greenboro
South Keys
Beatrice
Nepean Woods
Riverview
Airport Aéroport
Leitrim
Lycée Claudel
Smyth
Riverside
General / Général CHEO
Pleasant Park
Billings Bridge
Heron
Walkley
Hawthorne
Line 1 / Ligne 1
Line 2 / Ligne 2
Rapid Routes / Circuits rapides
Station
Park & Ride / Parc-o-bus
Map not to scale / Carte non à l'échelle 03/2019

Appendix E – Collision Data

City Operations - Transportation Services

Collision Details Report - Public Version

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

Location: BAYSHORE DR @ BAYSHORE CS

Traffic Control: Traffic signal

Total Collisions: 4

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Sep-13, Sat,15:10	Rain	Angle	P.D. only	Wet	East	Turning left	Pick-up truck	Other motor vehicle	
					North	Going ahead	Passenger van	Other motor vehicle	
2014-Jan-24, Fri,14:34	Clear	Rear end	Non-fatal injury	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Mar-26, Sat,12:23	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Pick-up truck	Other motor vehicle	
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2017-May-08, Mon,11:57	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: BAYSHORE DR @ RICHMOND RD

Traffic Control: Traffic signal

Total Collisions: 34

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Jan-22, Wed,07:45	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	

					East	Stopped	Automobile, station wagon	Other motor vehicle
2014-May-31, Sat,22:21	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle
					South	Going ahead	Pick-up truck	Other motor vehicle
2014-Jul-03, Thu,15:54	Clear	Rear end	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle
					South	Stopped	Automobile, station wagon	Other motor vehicle
2014-Jul-30, Wed,10:27	Clear	Other	P.D. only	Dry	North	Reversing	Delivery van	Other motor vehicle
					South	Going ahead	Automobile, station wagon	Other motor vehicle
2014-Dec-27, Sat,11:10	Clear	Sideswipe	P.D. only	Dry	East	Turning left	Pick-up truck	Other motor vehicle
					East	Turning left	Pick-up truck	Other motor vehicle
2014-Dec-15, Mon,18:05	Clear	Turning movement	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle
					South	Turning left	Pick-up truck	Other motor vehicle
2014-Aug-25, Mon,10:55	Clear	Other	P.D. only	Dry	North	Reversing	Construction equipment	Other motor vehicle
					South	Stopped	Automobile, station wagon	Other motor vehicle
2014-Jan-12, Sun,16:00	Clear	Sideswipe	P.D. only	Wet	West	Going ahead	Automobile, station wagon	Unattended vehicle

					West	Going ahead	Automobile, station wagon	Other motor vehicle
2014-Apr-01, Tue,23:00	Clear	SMV other	P.D. only	Dry	South	Turning right	Automobile, station wagon	Steel guide rail
2015-Mar-03, Tue,07:35	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Pick-up truck	Other motor vehicle
					North	Stopped	Automobile, station wagon	Other motor vehicle
2015-Mar-10, Tue,17:23	Clear	Rear end	Non-fatal injury	Wet	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle
					East	Stopped	Automobile, station wagon	Other motor vehicle
2015-Oct-15, Thu,17:35	Rain	Rear end	Non-fatal injury	Wet	West	Going ahead	Automobile, station wagon	Other motor vehicle
					West	Stopped	Pick-up truck	Other motor vehicle
2015-May-30, Sat,16:30	Rain	Turning movement	P.D. only	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle
					East	Turning left	Automobile, station wagon	Other motor vehicle
2016-Jan-28, Thu,06:30	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Pick-up truck	Other motor vehicle
					East	Going ahead	Passenger van	Other motor vehicle
2016-Feb-11, Thu,08:40	Snow	Sideswipe	P.D. only	Loose snow	East	Changing lanes	Pick-up truck	Other motor vehicle
					East	Turning left	Automobile, station wagon	Other motor vehicle

2016-Mar-08, Tue,19:45	Clear	Rear end	P.D. only	Wet	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle
					South	Stopped	Pick-up truck	Other motor vehicle
2016-Oct-18, Tue,07:58	Clear	SMV other	P.D. only	Wet	East	Going ahead	Automobile, station wagon	Steel guide rail
2016-Nov-19, Sat,12:54	Clear	Other	P.D. only	Dry	West	Reversing	Pick-up truck	Other motor vehicle
					East	Stopped	Pick-up truck	Other motor vehicle
2016-Dec-31, Sat,14:13	Snow	Sideswipe	P.D. only	Loose snow	South	Changing lanes	Pick-up truck	Other motor vehicle
					South	Going ahead	Pick-up truck	Other motor vehicle
2016-Dec-03, Sat,16:56	Clear	Turning movement	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle
					South	Turning left	Automobile, station wagon	Other motor vehicle
2016-Aug-10, Wed,10:16	Clear	Angle	P.D. only	Dry	West	Going ahead	Delivery van	Other motor vehicle
					South	Turning left	Automobile, station wagon	Other motor vehicle
2016-Nov-01, Tue,10:54	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle
					West	Stopped	Automobile, station wagon	Other motor vehicle
2017-Aug-02, Wed,14:01	Clear	Rear end	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle

					West	Turning left	Automobile, station wagon	Other motor vehicle
2017-Aug-29, Tue,16:30	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle
2017-May-11, Thu,08:11	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Pick-up truck	Other motor vehicle
					East	Stopped	Automobile, station wagon	Other motor vehicle
2017-May-20, Sat,19:13	Clear	Rear end	Non-fatal injury	Dry	South	Going ahead	Motorcycle	Other motor vehicle
					South	Stopped	Automobile, station wagon	Other motor vehicle
2017-May-29, Mon,13:40	Rain	Rear end	P.D. only	Wet	East	Slowing or stopping	Passenger van	Other motor vehicle
					East	Slowing or stopping	Pick-up truck	Other motor vehicle
2017-Oct-16, Mon,09:07	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle
					North	Turning left	Passenger van	Other motor vehicle
2017-Feb-11, Sat,13:37	Snow	Rear end	P.D. only	Loose snow	East	Slowing or stopping	Unknown	Other motor vehicle
					East	Stopped	Automobile, station wagon	Other motor vehicle
2018-Apr-20, Fri,09:40	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle

					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle
2018-Sep-04, Tue,14:32	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle
2018-Aug-17, Fri,12:25	Rain	Rear end	P.D. only	Wet	West	Going ahead	Automobile, station wagon	Other motor vehicle
					West	Stopped	Automobile, station wagon	Other motor vehicle
2018-Sep-15, Sat,17:52	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle
					South	Going ahead	Automobile, station wagon	Other motor vehicle
2018-Feb-02, Fri,20:00	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle
					South	Stopped	Automobile, station wagon	Other motor vehicle

Location: BAYSHORE DR @ WOODRIDGE CRES N

Traffic Control: Traffic signal **Total Collisions:** 19

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-May-02, Sat,16:03	Clear	Turning movement	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Pick-up truck	Other motor vehicle	
2015-Jun-14, Sun,14:59	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	
					South	Going ahead	Automobile, station wagon	Other motor vehicle	

2015-Jul-07, Tue,16:30	Clear	Rear end	P.D. only	Dry	South	Going ahead	Passenger van	Other motor vehicle	
					South	Stopped	Passenger van	Other motor vehicle	
2015-Jul-22, Wed,11:46	Clear	Turning movement	P.D. only	Dry	North	Making "U" turn	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Pick-up truck	Other motor vehicle	
2015-Oct-29, Thu,15:39	Clear	Rear end	P.D. only	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Feb-21, Sat,02:25	Clear	SMV other	Non-fatal injury	Dry	East	Going ahead	Automobile, station wagon	Pedestrian	1
2015-Dec-10, Thu,08:31	Clear	SMV other	Non-fatal injury	Dry	East	Turning left	Automobile, station wagon	Pedestrian	1
2016-Feb-04, Thu,20:02	Clear	SMV other	Non-fatal injury	Dry	East	Turning left	Automobile, station wagon	Pedestrian	1
2016-Feb-16, Tue,13:09	Snow	SMV other	Non-fatal injury	Loose snow	East	Turning left	Municipal transit bus	Pedestrian	1
2016-Apr-09, Sat,11:27	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	
					South	Going ahead	Pick-up truck	Other motor vehicle	
2016-Nov-20, Sun,14:45	Snow	Rear end	P.D. only	Ice	North	Slowing or stopping	Automobile, station wagon	Skidding/sliding	

					North	Stopped	Automobile, station wagon	Other motor vehicle
2016-Dec-26, Mon,19:23	Freezing Rain	Rear end	P.D. only	Ice	East	Changing lanes	Automobile, station wagon	Other motor vehicle
					East	Turning right	Automobile, station wagon	Other motor vehicle
2017-Sep-23, Sat,00:49	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle
2017-Nov-20, Mon,18:17	Clear	Angle	P.D. only	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle
2017-Nov-26, Sun,00:35	Snow	Rear end	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle
					South	Turning right	Passenger van	Other motor vehicle
2017-Dec-18, Mon,19:27	Snow	Rear end	P.D. only	Slush	East	Going ahead	Municipal transit bus	Other motor vehicle
					East	Stopped	Automobile, station wagon	Other motor vehicle
2018-Jun-03, Sun,10:18	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle
					South	Going ahead	Automobile, station wagon	Other motor vehicle
2018-Jun-09, Sat,12:00	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle

					North	Stopped	Pick-up truck	Other motor vehicle	
2018-Dec-14, Fri,15:05	Rain	Rear end	P.D. only	Slush	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	

Location: BAYSHORE DR @ WOODRIDGE CRES S

Traffic Control: Traffic signal **Total Collisions:** 22

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Feb-01, Sat,13:52	Snow	Rear end	P.D. only	Slush	North	Turning left	Pick-up truck	Other motor vehicle	
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2014-Feb-05, Wed,13:18	Snow	Rear end	P.D. only	Loose snow	North	Slowing or stopping	Pick-up truck	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2014-Feb-05, Wed,14:32	Snow	Sideswipe	P.D. only	Loose snow	North	Changing lanes	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Pick-up truck	Other motor vehicle	
2014-Feb-26, Wed,17:05	Clear	Rear end	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2014-Aug-23, Sat,17:16	Clear	Rear end	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	
					North	Turning left	Automobile, station wagon	Other motor vehicle	

					North	Turning left	Automobile, station wagon	Other motor vehicle
2014-Oct-09, Thu,08:20	Clear	Sideswipe	P.D. only	Dry	East	Turning right	Truck - closed	Other motor vehicle
					East	Turning right	Automobile, station wagon	Other motor vehicle
2015-Feb-02, Mon,13:00	Snow	Rear end	P.D. only	Ice	North	Slowing or stopping	Passenger van	Other motor vehicle
					North	Stopped	Automobile, station wagon	Other motor vehicle
2014-May-22, Thu,21:24	Clear	Rear end	Non-fatal injury	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle
					South	Stopped	Automobile, station wagon	Other motor vehicle
2015-Jan-14, Wed,21:21	Clear	Other	Non-fatal injury	Wet	North	Turning left	Automobile, station wagon	Curb
					North	Going ahead	Pick-up truck	Other motor vehicle
2015-Jun-30, Tue,14:00	Clear	Rear end	P.D. only	Dry	East	Turning right	Pick-up truck	Other motor vehicle
					East	Turning right	Automobile, station wagon	Other motor vehicle
2016-Dec-04, Sun,23:42	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle
2017-Aug-20, Sun,20:53	Clear	Rear end	Non-fatal injury	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle

					East	Turning left	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Sep-28, Thu,15:58	Clear	SMV other	Non-fatal injury	Dry	South	Going ahead	Automobile, station wagon	Pedestrian	1
2017-Dec-21, Thu,09:25	Clear	Angle	Non-fatal injury	Ice	South	Slowing or stopping	Automobile, station wagon	Skidding/sliding	
					East	Going ahead	Truck - closed	Other motor vehicle	
2017-Mar-14, Tue,14:09	Clear	Rear end	P.D. only	Dry	North	Unknown	Automobile, station wagon	Other motor vehicle	
					North	Unknown	Automobile, station wagon	Other motor vehicle	
2018-Mar-03, Sat,14:45	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jan-13, Sat,13:11	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Nov-21, Wed,18:59	Drifting Snow	Rear end	P.D. only	Loose snow	South	Slowing or stopping	Bus (other)	Other motor vehicle	
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2018-Nov-23, Fri,15:06	Clear	Sideswipe	P.D. only	Wet	East	Turning left	Automobile, station wagon	Other motor vehicle	

					East	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Dec-14, Fri,20:28	Freezing Rain	Rear end	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Nov-30, Fri,17:30	Clear	Rear end	Non-fatal injury	Wet	North	Slowing or stopping	Pick-up truck	Other motor vehicle	
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2018-May-25, Fri,16:30	Clear	SMV other	Non-fatal injury	Dry	East	Turning right	Automobile, station wagon	Pedestrian	1

Location: BAYSHORE DR btwn CARLING AVE & WOODRIDGE CRES N

Traffic Control: No control **Total Collisions:** 10

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Mar-14, Fri,14:02	Clear	Turning movement	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Mar-13, Fri,17:44	Clear	Turning movement	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Apr-30, Sat,10:50	Clear	Turning movement	P.D. only	Dry	East	Going ahead	Pick-up truck	Other motor vehicle	
					East	Turning right	Automobile, station wagon	Other motor vehicle	

2017-Aug-25, Fri,23:40	Clear	SMV other	Non-fatal injury	Dry	East	Going ahead	Automobile, station wagon	Ran off road	
2017-Jan-06, Fri,19:20	Clear	Sideswipe	P.D. only	Wet	North	Changing lanes	Unknown	Other motor vehicle	
					North	Stopped	Municipal transit bus	Other motor vehicle	
2014-May-26, Mon,08:35	Clear	SMV other	Non-fatal injury	Dry	North	Going ahead	Pick-up truck	Pedestrian	2
2015-Jun-30, Tue,16:45	Clear	SMV other	Non-fatal injury	Dry	South	Going ahead	Automobile, station wagon	Pedestrian	2
2018-Nov-28, Wed,18:28	Clear	Turning movement	P.D. only	Wet	North	Making "U" turn	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Nov-25, Sun,01:11	Freezing Rain	Sideswipe	P.D. only	Wet	North	Changing lanes	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Oct-19, Fri,23:21	Clear	Angle	P.D. only	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	
					South	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: BAYSHORE DR btwn WOODRIDGE CRES & HWY417 IC130 RAMP66

Traffic Control: No control

Total Collisions: 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Dec-18, Sun,17:16	Clear	Sideswipe	P.D. only	Packed snow	North	Overtaking	Ambulance	Other motor vehicle	

					North	Pulling onto shoulder or toward curb	Pick-up truck	Other motor vehicle	

Location: BAYSHORE DR btwn WOODRIDGE CRES N & BAYSHORE CS

Traffic Control: No control

Total Collisions: 9

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Sep-04, Thu,00:59	Clear	SMV other	Non-fatal injury	Dry	North	Going ahead	Motorcycle	Curb	
2014-May-02, Fri,11:00	Clear	Rear end	P.D. only	Dry	South	Overtaking	Passenger van	Other motor vehicle	
					South	Turning right	Automobile, station wagon	Other motor vehicle	
2016-May-07, Sat,12:54	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Pick-up truck	Other motor vehicle	
					North	Going ahead	Passenger van	Other motor vehicle	
2017-Oct-06, Fri,18:44	Clear	Rear end	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Dec-22, Fri,15:14	Clear	Turning movement	P.D. only	Wet	North	Turning left	Pick-up truck	Other motor vehicle	
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jul-27, Fri,19:33	Clear	Rear end	Non-fatal injury	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	

2018-Oct-13, Sat,16:28	Clear	Angle	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Nov-17, Sat,22:00	Clear	Rear end	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	
					North	Turning right	Automobile, station wagon	Other motor vehicle	
					West	Turning right	Automobile, station wagon	Other motor vehicle	
2018-Nov-05, Mon,07:40	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	
					South	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: BAYSHORE DR btwn WOODRIDGE CRES S & BAYSHORE CS

Traffic Control: No control

Total Collisions: 33

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Jan-06, Mon,18:22	Clear	Turning movement	P.D. only	Slush	North	Making "U" turn	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2014-Jan-22, Wed,19:30	Clear	Turning movement	P.D. only	Ice	North	Turning left	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2014-Apr-22, Tue,16:43	Rain	Turning movement	P.D. only	Wet	North	Making "U" turn	Pick-up truck	Other motor vehicle	
					North	Going ahead	Delivery van	Other motor vehicle	

2014-May-09, Fri,10:07	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Delivery van	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle
2014-May-20, Tue,14:06	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle
					North	Going ahead	Passenger van	Other motor vehicle
2014-Jul-12, Sat,10:00	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle
2014-Aug-03, Sun,15:59	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle
					North	Going ahead	Pick-up truck	Other motor vehicle
2014-Aug-25, Mon,08:30	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle
2014-Jan-09, Thu,13:00	Clear	Turning movement	P.D. only	Dry	North	Making "U" turn	Automobile, station wagon	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle
2014-Jan-08, Wed,18:11	Clear	Sideswipe	P.D. only	Wet	South	Going ahead	Unknown	Other motor vehicle
					South	Stopped	Municipal transit bus	Other motor vehicle

2014-Mar-26, Wed,18:50	Clear	SMV other	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Pedestrian	1
2015-Feb-16, Mon,13:17	Clear	Sideswipe	P.D. only	Wet	North	Changing lanes	Passenger van	Other motor vehicle	
					North	Going ahead	Pick-up truck	Other motor vehicle	
2015-Oct-21, Wed,18:50	Rain	Rear end	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2015-Mar-25, Wed,16:23	Clear	Turning movement	P.D. only	Dry	North	Making "U" turn	Automobile, station wagon	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Oct-27, Thu,08:33	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Passenger van	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Dec-26, Mon,12:37	Freezing Rain	Angle	P.D. only	Ice	South	Turning left	Automobile, station wagon	Other motor vehicle	
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Dec-23, Fri,15:16	Clear	Angle	P.D. only	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	
					South	Going ahead	Pick-up truck	Other motor vehicle	
2016-Dec-10, Sat,16:50	Clear	Angle	P.D. only	Wet	East	Turning left	Pick-up truck	Other motor vehicle	

					South	Unknown	Unknown	Other motor vehicle
2016-Feb-10, Wed,19:26	Snow	Approaching	P.D. only	Slush	East	Turning left	Automobile, station wagon	Other motor vehicle
					West	Turning left	Automobile, station wagon	Other motor vehicle
2017-Mar-03, Fri,11:42	Clear	Turning movement	P.D. only	Dry	North	Making "U" turn	Automobile, station wagon	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle
2017-Feb-14, Tue,19:59	Snow	Sideswipe	P.D. only	Loose snow	East	Pulling away from shoulder or curb	Automobile, station wagon	Other motor vehicle
					East	Going ahead	Automobile, station wagon	Other motor vehicle
2017-Dec-27, Wed,15:56	Clear	Angle	P.D. only	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle
					South	Going ahead	Automobile, station wagon	Other motor vehicle
2017-Nov-02, Thu,10:04	Rain	Rear end	Non-fatal injury	Wet	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle
					North	Stopped	Pick-up truck	Other motor vehicle
2018-Jan-01, Mon,15:38	Clear	Turning movement	Non-fatal injury	Dry	North	Making "U" turn	Automobile, station wagon	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle
2018-Feb-21, Wed,18:29	Clear	Sideswipe	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle

					South	Going ahead	Automobile, station wagon	Other motor vehicle
2018-Apr-10, Tue,17:50	Clear	Turning movement	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle
					South	Going ahead	Passenger van	Other motor vehicle
2018-May-13, Sun,18:23	Clear	Turning movement	P.D. only	Dry	North	Making "U" turn	Automobile, station wagon	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle
2018-Sep-04, Tue,09:23	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Passenger van	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle
2018-Sep-08, Sat,15:56	Clear	Turning movement	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle
2018-Dec-08, Sat,17:35	Clear	Turning movement	Non-fatal injury	Dry	North	Making "U" turn	Automobile, station wagon	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle
2018-Nov-07, Wed,14:16	Rain	Turning movement	P.D. only	Wet	North	Making "U" turn	Automobile, station wagon	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle
2018-Dec-18, Tue,20:34	Clear	Turning movement	P.D. only	Dry	North	Making "U" turn	Automobile, station wagon	Other motor vehicle

					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2014-Oct-25, Sat,16:37	Clear	Approaching	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	
					North	Turning left	Automobile, station wagon	Other motor vehicle	

Location: BAYSHORE DR NB btwn WOODRIDGE CRES & RICHMOND RD

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

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Oct-02, Fri,11:57	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					North	Slowing or stopping	Pick-up truck	Other motor vehicle	

Location: BAYSHORE DR SB btwn WOODRIDGE CRES & BAYSHORE DR SB RAMPS TO RICHMOND

Traffic Control: No control **Total Collisions:** 3

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Apr-27, Mon,07:05	Clear	SMV other	Non-fatal injury	Dry	North	Changing lanes	Passenger van	Building or wall	
2016-Dec-27, Tue,16:55	Snow	Sideswipe	P.D. only	Ice	East	Merging	Automobile, station wagon	Other motor vehicle	
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Jan-02, Mon,14:51	Clear	Angle	P.D. only	Wet	North	Turning right	Passenger van	Other motor vehicle	
					East	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: CARLING AVE @ BAYSHORE DR/BIRCHDALE AVE

Traffic Control: Traffic signal **Total Collisions:** 53

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Feb-08, Sat,17:10	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Passenger van	Other motor vehicle	
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2014-May-27, Tue,18:07	Clear	SMV other	Non-fatal injury	Dry	West	Turning left	Automobile, station wagon	Pedestrian	1
2014-Jun-16, Mon,08:05	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Pick-up truck	Other motor vehicle	
					East	Stopped	Passenger van	Other motor vehicle	
					East	Stopped	Passenger van	Other motor vehicle	
2014-Jun-27, Fri,15:51	Clear	Turning movement	P.D. only	Dry	East	Turning right	Pick-up truck	Other motor vehicle	
					East	Going ahead	Motorcycle	Other motor vehicle	
2014-Sep-29, Mon,19:30	Clear	Turning movement	Non-fatal injury	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	
					East	Going ahead	Pick-up truck	Other motor vehicle	
2014-Dec-03, Wed,16:41	Rain	Sideswipe	P.D. only	Slush	West	Changing lanes	Pick-up truck	Other motor vehicle	
					West	Going ahead	Pick-up truck	Other motor vehicle	
2014-Oct-26, Sun,13:00	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	

					North	Stopped	Passenger van	Other motor vehicle
2015-Jan-29, Thu,19:30	Clear	Turning movement	P.D. only	Loose snow	West	Turning left	Pick-up truck	Other motor vehicle
					West	Going ahead	Automobile, station wagon	Other motor vehicle
2014-Jun-25, Wed,15:13	Clear	Rear end	Non-fatal injury	Dry	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle
					East	Slowing or stopping	Pick-up truck	Other motor vehicle
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle
2014-Oct-02, Thu,21:00	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle
					North	Going ahead	Automobile, station wagon	Other motor vehicle
2015-Jun-26, Fri,11:57	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle
					North	Turning right	Pick-up truck	Other motor vehicle
2015-Aug-29, Sat,19:13	Rain	Turning movement	Non-fatal injury	Wet	West	Turning left	Automobile, station wagon	Other motor vehicle
					East	Going ahead	Automobile, station wagon	Other motor vehicle
2015-Jul-08, Wed,22:25	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle
					North	Stopped	Automobile, station wagon	Other motor vehicle

2015-Nov-26, Thu,14:58	Clear	Angle	P.D. only	Dry	South	Going ahead	Passenger van	Other motor vehicle
					East	Going ahead	Automobile, station wagon	Other motor vehicle
2016-Jan-14, Thu,06:42	Snow	Rear end	P.D. only	Loose snow	North	Going ahead	Unknown	Other motor vehicle
					North	Stopped	Automobile, station wagon	Other motor vehicle
2016-Jan-13, Wed,06:39	Snow	Turning movement	P.D. only	Loose snow	East	Making "U" turn	Pick-up truck	Other motor vehicle
					East	Going ahead	Pick-up truck	Other motor vehicle
2016-Feb-18, Thu,08:36	Clear	Sideswipe	P.D. only	Wet	East	Overtaking	Pick-up truck	Other motor vehicle
					East	Stopped	Pick-up truck	Other motor vehicle
2015-Jan-22, Thu,07:45	Clear	Rear end	P.D. only	Dry	East	Going ahead	Unknown	Other motor vehicle
					East	Stopped	Automobile, station wagon	Other motor vehicle
2016-Mar-06, Sun,16:28	Clear	Rear end	P.D. only	Dry	East	Turning right	Pick-up truck	Other motor vehicle
					East	Turning right	Passenger van	Other motor vehicle
2016-Jul-16, Sat,14:44	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle
					North	Turning right	Pick-up truck	Other motor vehicle

2016-Sep-09, Fri,19:36	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle
					North	Turning right	Passenger van	Other motor vehicle
2016-Dec-29, Thu,13:44	Clear	Rear end	Non-fatal injury	Ice	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle
					North	Stopped	Automobile, station wagon	Other motor vehicle
2016-Dec-27, Tue,13:32	Clear	Sideswipe	P.D. only	Wet	West	Going ahead	Automobile, station wagon	Other motor vehicle
					West	Changing lanes	Automobile, station wagon	Other motor vehicle
2016-Dec-14, Wed,15:30	Snow	Turning movement	P.D. only	Slush	West	Turning left	Pick-up truck	Other motor vehicle
					East	Turning right	Pick-up truck	Other motor vehicle
2016-Mar-29, Tue,20:26	Clear	Rear end	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle
					East	Turning right	Automobile, station wagon	Other motor vehicle
2016-Jan-16, Sat,19:03	Snow	Rear end	P.D. only	Loose snow	North	Turning right	Automobile, station wagon	Other motor vehicle
					North	Turning right	Pick-up truck	Other motor vehicle
2017-Feb-15, Wed,14:47	Clear	Turning movement	P.D. only	Wet	West	Turning left	Automobile, station wagon	Other motor vehicle
					East	Going ahead	Automobile, station wagon	Other motor vehicle

2017-Aug-12, Sat,13:45	Clear	Turning movement	Non-fatal injury	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle
					East	Going ahead	Automobile, station wagon	Other motor vehicle
2017-Sep-25, Mon,15:50	Clear	Sideswipe	P.D. only	Dry	North	Unknown	Automobile, station wagon	Other motor vehicle
					North	Unknown	Automobile, station wagon	Other motor vehicle
2017-Sep-27, Wed,12:08	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle
					East	Stopped	Automobile, station wagon	Other motor vehicle
2017-Oct-04, Wed,07:10	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle
					East	Stopped	Automobile, station wagon	Other motor vehicle
2017-Jun-24, Sat,12:30	Clear	Rear end	P.D. only	Dry	North	Turning right	Passenger van	Other motor vehicle
					North	Turning right	Pick-up truck	Other motor vehicle
2017-Oct-21, Sat,14:39	Clear	Turning movement	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle
					South	Turning left	Automobile, station wagon	Other motor vehicle
2017-Jul-04, Tue,18:37	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle
					East	Going ahead	Automobile, station wagon	Other motor vehicle

2017-Oct-15, Sun,18:04	Rain	Rear end	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Dec-23, Sat,14:16	Snow	Sideswipe	P.D. only	Loose snow	North	Going ahead	Pick-up truck	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Dec-30, Sat,17:47	Clear	Turning movement	P.D. only	Wet	West	Turning left	Automobile, station wagon	Other motor vehicle	
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Mar-20, Mon,14:02	Clear	Rear end	Non-fatal injury	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2017-Sep-08, Fri,12:22	Clear	Rear end	Non-fatal injury	Wet	North	Turning right	Automobile, station wagon	Other motor vehicle	
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2017-Jan-07, Sat,16:20	Clear	Rear end	P.D. only	Dry	East	Going ahead	Pick-up truck	Other motor vehicle	
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2014-May-29, Thu,11:29	Clear	SMV other	Non-fatal injury	Dry	North	Turning right	Truck and trailer	Curb	2

2018-Feb-21, Wed,18:26	Clear	Sideswipe	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2018-Jan-29, Mon,18:25	Clear	Rear end	Non-fatal injury	Packed snow	North	Turning right	Automobile, station wagon	Other motor vehicle	
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2018-Feb-19, Mon,09:21	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jul-18, Wed,16:21	Clear	Rear end	P.D. only	Dry	East	Stopped	Automobile, station wagon	Other motor vehicle	
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jun-27, Wed,22:33	Rain	Turning movement	P.D. only	Wet	West	Turning left	Automobile, station wagon	Other motor vehicle	
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jul-19, Thu,18:50	Clear	Sideswipe	P.D. only	Dry	North	Unknown	Unknown	Other motor vehicle	
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Sep-24, Mon,09:51	Clear	SMV other	Non-fatal injury	Dry	South	Turning left	Automobile, station wagon	Pedestrian	1
2018-Jan-03, Wed,21:45	Clear	Rear end	P.D. only	Wet	East	Stopped	Automobile, station wagon	Other motor vehicle	

					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jan-18, Thu,07:15	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	
					North	Merging	Automobile, station wagon	Other motor vehicle	
2018-Dec-07, Fri,08:04	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Nov-26, Mon,18:48	Rain	SMV other	Non-fatal injury	Wet	East	Turning right	Automobile, station wagon	Pedestrian	1
2018-Dec-26, Wed,23:06	Clear	SMV other	P.D. only	Wet	North	Turning right	Automobile, station wagon	Pole (sign, parking meter)	

Location: WOODRIDGE CRES @ 220 W OF BAYSHORE DR/BAYSHORE

Traffic Control: Traffic signal **Total Collisions:** 3

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2015-Nov-26, Thu,09:01	Clear	Angle	Non-fatal injury	Dry	South	Reversing	Automobile, station wagon	Other motor vehicle	
					West	Going ahead	Truck - closed	Other motor vehicle	
2016-Dec-29, Thu,16:05	Snow	Angle	P.D. only	Slush	North	Turning left	Automobile, station wagon	Other motor vehicle	
					East	Going ahead	Pick-up truck	Other motor vehicle	
2018-Jan-19, Fri,11:21	Clear	Rear end	P.D. only	Wet	West	Going ahead	Truck - tractor	Other motor vehicle	

					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	

Location: WOODRIDGE CRES btwn 220 W OF BAYSHORE DR/BAYSHORE SC & BAYSHORE DR

Traffic Control: No control **Total Collisions:** 9

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Mar-06, Thu,10:30	Clear	Turning movement	P.D. only	Dry	East	Turning left	Truck and trailer	Other motor vehicle	
					East	Turning left	Pick-up truck	Other motor vehicle	
2014-Jan-22, Wed,18:00	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2014-Jun-13, Fri,19:12	Clear	Sideswipe	P.D. only	Wet	West	Changing lanes	Pick-up truck	Other motor vehicle	
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2014-Nov-05, Wed,19:51	Clear	SMV other	Non-fatal injury	Dry	West	Turning right	Police vehicle	Skidding/sliding	
2014-Feb-06, Thu,13:25	Clear	Rear end	P.D. only	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2015-Oct-30, Fri,18:00	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	
					East	Going ahead	Automobile, station wagon	Other motor vehicle	

2017-Apr-23, Sun,09:53	Clear	Angle	Non-fatal injury	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	
					East	Going ahead	Pick-up truck	Other motor vehicle	
2018-Oct-26, Fri,20:17	Clear	Rear end	Non-fatal injury	Dry	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Nov-23, Fri,14:32	Clear	Angle	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	
					East	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: WOODRIDGE CRES btwn 220 W OF BAYSHORE DR/BAYSHORE SC & TRANSITWAY LINK

Traffic Control: No control

Total Collisions: 2

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Mar-01, Sat,21:01	Snow	Rear end	Non-fatal injury	Slush	West	Going ahead	Automobile, station wagon	Other motor vehicle	
					West	Turning right	Passenger van	Other motor vehicle	
2014-Dec-12, Fri,19:45	Clear	Rear end	P.D. only	Slush	West	Turning left	Automobile, station wagon	Other motor vehicle	
					West	Turning left	Automobile, station wagon	Other motor vehicle	

Location: WOODRIDGE CRES btwn BAYSHORE DR & BAYSHORE PS

Traffic Control: No control

Total Collisions: 17

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-May-26, Mon,17:38	Clear	Turning movement	P.D. only	Dry	West	Turning left	Passenger van	Other motor vehicle	

					West	Going ahead	Automobile, station wagon	Other motor vehicle
2014-May-25, Sun,17:56	Clear	Rear end	Non-fatal injury	Dry	East	Going ahead	Passenger van	Other motor vehicle
					East	Turning left	Passenger van	Other motor vehicle
2014-May-22, Thu,15:50	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle
					East	Stopped	Automobile, station wagon	Other motor vehicle
2014-Aug-27, Wed,19:35	Clear	Angle	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle
					West	Going ahead	Automobile, station wagon	Other motor vehicle
2015-Feb-05, Thu,14:49	Clear	Turning movement	P.D. only	Wet	West	Turning left	Pick-up truck	Other motor vehicle
					West	Going ahead	Automobile, station wagon	Other motor vehicle
2014-Jan-28, Tue,17:00	Clear	SMV unattended vehicle	P.D. only	Slush	Unknown	Unknown	Unknown	Unattended vehicle
2014-Jul-11, Fri,00:00	Clear	SMV unattended vehicle	P.D. only	Dry	Unknown	Unknown	Unknown	Unattended vehicle
2015-Jan-18, Sun,14:37	Rain	Angle	Non-fatal injury	Wet	South	Turning left	Automobile, station wagon	Other motor vehicle
					West	Going ahead	Automobile, station wagon	Other motor vehicle

2015-Aug-20, Thu,11:30	Clear	Angle	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle
					West	Going ahead	Pick-up truck	Other motor vehicle
2016-Jun-20, Mon,21:00	Clear	SMV unattended vehicle	P.D. only	Dry	Unknown	Unknown	Unknown	Unattended vehicle
2016-Jun-10, Fri,11:00	Clear	SMV unattended vehicle	P.D. only	Dry	Unknown	Unknown	Unknown	Unattended vehicle
2016-Aug-13, Sat,05:00	Rain	SMV unattended vehicle	P.D. only	Wet	West	Going ahead	Automobile, station wagon	Unattended vehicle
2017-Nov-22, Wed,19:30	Clear	SMV unattended vehicle	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Unattended vehicle
2017-Feb-11, Sat,16:30	Clear	Turning movement	P.D. only	Loose snow	North	Turning right	Automobile, station wagon	Other motor vehicle
					South	Turning left	Automobile, station wagon	Other motor vehicle
2018-Aug-24, Fri,00:23	Clear	SMV unattended vehicle	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Unattended vehicle
2018-Nov-03, Sat,16:58	Rain	Turning movement	P.D. only	Wet	West	Turning left	Passenger van	Other motor vehicle
					West	Turning left	Automobile, station wagon	Other motor vehicle
2018-Nov-05, Mon,17:45	Rain	Turning movement	P.D. only	Wet	West	Turning left	Automobile, station wagon	Other motor vehicle
					West	Overtaking	Automobile, station wagon	Other motor vehicle

Location: WOODRIDGE CRES btwn BAYSHORE PS & TRANSITWAY LINK

Traffic Control: No control

Total Collisions: 13

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2014-Feb-21, Fri,21:45	Freezing Rain	Approaching	P.D. only	Ice	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2014-May-30, Fri,13:08	Clear	SMV unattended vehicle	Non-fatal injury	Dry	South	Going ahead	Automobile, station wagon	Unattended vehicle	
2014-Jan-19, Sun,16:30	Snow	SMV unattended vehicle	P.D. only	Wet	Unknown	Unknown	Unknown	Unattended vehicle	
2015-Jun-02, Tue,15:12	Clear	Angle	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	
					West	Going ahead	Delivery van	Other motor vehicle	
2016-May-07, Sat,16:00	Clear	SMV other	Non-fatal injury	Dry	East	Changing lanes	Automobile, station wagon	Pedestrian	1
2016-Jun-05, Sun,14:15	Clear	Sideswipe	P.D. only	Wet	West	Changing lanes	Pick-up truck	Other motor vehicle	
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Jul-15, Fri,14:39	Clear	Sideswipe	P.D. only	Dry	South	Pulling away from shoulder or curb	Automobile, station wagon	Other motor vehicle	
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Apr-01, Sat,12:10	Clear	SMV unattended vehicle	P.D. only	Wet	West	Going ahead	Automobile, station wagon	Unattended vehicle	

2017-Oct-29, Sun,00:00	Rain	SMV unattended vehicle	P.D. only	Wet	Unknown	Unknown	Unknown	Unattended vehicle
2017-May-31, Wed,17:00	Clear	Turning movement	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle
					East	Going ahead	Automobile, station wagon	Other motor vehicle
2017-Apr-10, Mon,15:25	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle
					East	Going ahead	Automobile, station wagon	Other motor vehicle
2017-Jun-18, Sun,15:40	Clear	Angle	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle
					West	Going ahead	Pick-up truck	Other motor vehicle
2018-Jan-16, Tue,10:23	Snow	SMV other	P.D. only	Slush	West	Going ahead	Automobile, station wagon	Skidding/sliding

Appendix F – Trip Generation Data

Table 3.12: Person Trip Generation Rates – (all households with residents not older than 55 years of age)

Person Trip Generation Rates
All Households with persons 55 years of age or less
AM and PM Peak Hours

Dwelling Unit Types \ Geographic Areas		Core Area Person Trip Rate	Core Area %▽	Urban Area (Inside the greenbelt) Person Trip Rate	Urban Area (Inside the greenbelt) %▽	Suburban (Outside the greenbelt) Person Trip Rate	Suburban (Outside the greenbelt) %▽	Rural Person Trip Rate	Rural %▽	All Areas Person Trip Rate
Single detached:	AM	0.85	- 7%	0.99	+ 9%	0.94	+ 3%	0.78	- 14%	0.91
	PM	0.74	- 3%	0.75	- 1%	0.79	+ 4%	0.71	- 7%	0.76
Semi-detached:	AM	0.79	- 10%	0.97	10%	0.89	+ 1%	0.64	- 27%	0.88
	PM	0.74	- 1%	0.68	- 9%	0.82	+ 9%	0.60	- 20%	0.75
Row Townhouse:	AM	0.71	- 3%	0.78	+ 7%	0.67	- 8%	0.74	+ 1%	0.73
	PM	0.62	- 3%	0.60	- 6%	0.69	+ 8%	0.56	- 13%	0.64
Apartment:	AM	0.48	- 4%	0.51	+ 2%	0.53	+ 6%	0.36	- 28%	0.50
	PM	0.45	0%	0.42	- 7%	0.52	+ 16%	0.52	+ 16%	0.45
All Types:	AM	0.62	- 23%	0.82	+ 2%	0.86	+ 8%	0.76	- 5%	0.80
	PM	0.57	- 16%	0.63	- 7%	0.75	+ 10%	0.69	+ 1%	0.68

Note: 5 % (+ or -) represents the percentage delta change in trip rate when compared against the average trip rate across all geographic areas

Table 3.13: Mode Shares - (all households with residents not older than 55 years of age)

Reported Mode Shares
All Households with persons 55 years of age or less
AM and PM Peak Hours

Dwelling Unit Types \ Geographic Areas		Core Area Vehicle Trips	Core Area Transit Share	Core Area Non-Motorised	Urban Area (Inside the greenbelt) Vehicle Trips	Urban Area (Inside the greenbelt) Transit Share	Urban Area (Inside the greenbelt) Non-Motorised	Suburban (Outside the greenbelt) Vehicle Trips	Suburban (Outside the greenbelt) Transit Share	Suburban (Outside the greenbelt) Non-Motorised	Rural * Vehicle Trips	Rural * Transit Share	Rural * Non-Motorised	All Areas Vehicle Trips	All Areas Transit Share	All Areas Non-Motorised
Single - Detached:	AM	35%	20%	33%	51%	26%	11%	55%	25%	9%	60%	27%	4%	54%	25%	10%
	PM	45%	11%	32%	58%	19%	13%	64%	19%	6%	73%	13%	2%	63%	17%	8%
Semi-Detached:	AM	38%	30%	26%	44%	35%	10%	52%	24%	12%	64%	27%	5%	49%	28%	12%
	PM	36%	20%	34%	51%	27%	13%	62%	17%	7%	77%	12%	1%	58%	20%	10%
Row / Townhouse:	AM	33%	22%	40%	45%	34%	10%	55%	27%	8%	73%	15%	3%	49%	30%	11%
	PM	39%	15%	42%	53%	28%	8%	61%	22%	6%	74%	15%	1%	57%	24%	9%
Apartment:	AM	27%	27%	43%	37%	41%	14%	44%	34%	13%	76%	8%	16%	36%	35%	23%
	PM	23%	29%	42%	40%	37%	14%	44%	33%	9%	48%	4%	17%	35%	33%	23%
All Types:	AM	32%	24%	38%	47%	31%	11%	54%	26%	9%	61%	26%	4%	51%	27%	11%
	PM	34%	21%	38%	53%	24%	12%	62%	20%	6%	73%	13%	2%	59%	20%	10%

Note: Percentages do not necessarily sum to 100% as the proportion of automobile passengers have not been tabulated. Vehicle trips reflect the percentage of vehicle drivers.
* - Rural area sample size is extremely low and mode shares are highly influenced by school types where public transportation levels are high during the AM versus the PM peaks.

Table 6.1: Vehicle Trip Generation Rates

Vehicle Trip Generation Rates AM and PM Peak Hours						
ITE Land Use Code	Dwelling Unit Type / Data Source		Vehicle Trip Generation Rate			
			2008 Count Data	ITE	OD Survey	Blended Rate
210	Single-detached dwellings	AM	0.66	0.75	0.56	0.66
		PM	0.89	1.01	0.53	0.81
224	Semi-detached dwellings, townhouses, rowhouses	AM	0.40	0.70	0.46	0.52
		PM	0.64	0.72	0.46	0.61
231	Low-rise condominiums (1 or 2 floors)	AM	0.53	0.67	0.21	0.47
		PM	0.41	0.78	0.18	0.46
232	High-rise condominiums (3+ floors)	AM	0.53	0.34	0.21	0.36
		PM	0.41	0.38	0.18	0.32
233	Luxury condominiums	AM	0.53	0.56	0.21	0.43
		PM	0.41	0.55	0.18	0.38
221	Low-rise apartments (2 floors)	AM	0.19	0.46	0.21	0.29
		PM	0.21	0.58	0.18	0.32
223	Mid-rise apartments (3-10 floors)	AM	0.19	0.30	0.21	0.23
		PM	0.21	0.39	0.18	0.26
222	High-rise apartments (10+ floors)	AM	0.19	0.30	0.21	0.23
		PM	0.21	0.35	0.18	0.25

Table 6.2: Recommended Vehicle Trip Directional Splits

Comparison of Directional Splits (Inbound/Outbound) AM and PM Peak Hours								
ITE Land Use Code	Area Dwelling Unit Type / Data Source		2008 Count Data		ITE		Blended Rate	
			Inbound	Outbound	Inbound	Outbound	Inbound	Outbound
210	Single-detached dwellings	AM	33%	67%	25%	75%	29%	71%
		PM	60%	40%	63%	37%	62%	39%
224	Semi-detached dwellings, townhouses, rowhouses	AM	40%	60%	33%	67%	37%	64%
		PM	55%	45%	51%	49%	53%	47%
231	Low-rise condominiums (1 or 2 floors)	AM	36%	64%	25%	75%	31%	70%
		PM	54%	46%	58%	42%	56%	44%
232	High-rise condominiums (3+ floors)	AM	36%	64%	19%	81%	28%	73%
		PM	54%	46%	62%	38%	58%	42%
233	Luxury condominiums	AM	36%	64%	23%	77%	30%	71%
		PM	54%	46%	63%	37%	59%	42%
221	Low-rise apartments (2 floors)	AM	22%	78%	21%	79%	22%	79%
		PM	62%	38%	65%	35%	64%	37%
223	Mid-rise apartments (3-10 floors)	AM	22%	78%	25%	75%	24%	77%
		PM	62%	38%	61%	39%	62%	39%
222	High-rise apartments (10+ floors)	AM	22%	78%	25%	75%	24%	77%
		PM	62%	38%	61%	39%	62%	39%

Table 6.3: Recommended Vehicle Trip Generation Rates for Residential Land Uses with Transit Bonus

Recommended Vehicle Trip Generation Rates with Transit Bonus AM and PM Peak Hours									
ITE Land Use Code	Dwelling Unit Type / Geographic Area		Vehicle Trip Rate						
			Core		Urban (Inside the Greenbelt)		Suburban (Outside the Greenbelt)		Rural
			Base Rate	< 600m to Rapid Transit	Base Rate	< 600m to Rapid Transit	Base Rate	< 600m to Rapid Transit	Base Rate
210	Single-detached dwellings	AM	0.40	0.31	0.67	0.50	0.70	0.49	0.62
		PM	0.60	0.33	0.76	0.57	0.90	0.63	0.92
224	Semi-detached dwellings, townhouses, rowhouses	AM	0.34	0.34	0.51	0.50	0.54	0.39	0.62
		PM	0.39	0.38	0.51	0.51	0.71	0.51	0.67
231	Low-rise condominiums (1 or 2 floors)	AM	0.34	0.34	0.50	0.50	0.60	0.60	0.71
		PM	0.29	0.29	0.49	0.49	0.66	0.66	0.72
232	High-rise condominiums (3+ floors)	AM	0.26	0.26	0.38	0.38	0.46	0.46	0.54
		PM	0.20	0.20	0.34	0.34	0.46	0.46	0.50
233	Luxury condominiums	AM	0.31	0.31	0.45	0.45	0.55	0.55	0.65
		PM	0.24	0.24	0.40	0.40	0.55	0.55	0.59
221	Low-rise apartments (2 floors)	AM	0.21	0.21	0.31	0.31	0.37	0.37	0.44
		PM	0.20	0.20	0.34	0.34	0.46	0.46	0.50
223	Mid-rise apartments (3-10 floors)	AM	0.17	0.17	0.24	0.24	0.29	0.29	0.35
		PM	0.16	0.16	0.28	0.28	0.37	0.37	0.41
222	High-rise apartments (10+ floors)	AM	0.17	0.17	0.24	0.24	0.29	0.29	0.35
		PM	0.16	0.16	0.27	0.27	0.36	0.36	0.39

Note: The transit bonus was only applied to geographic areas and dwelling unit types where the reported transit mode shares were less than the transit mode share reported for residential development located within the 600m proximity to a rapid transit station. It is noted that condominium and apartment housing categories reported similar levels of transit mode shares independent of location to rapid transit stations.

6.5 Future Data Collection

While the rates presented in were prepared by blending the vehicle trip rates from ITE, the OD Survey and the 2008 local trip generation studies, it is important to stress the importance and need for ongoing local trip generation surveys to monitor changes in travel behaviour. The 2008 trip generation studies undertaken to support this study provide insight into local travel patterns and a well organized ongoing annual data collection program aimed at trip generation surveys of key land uses or requirement for data collection by local developers will continue to provide recent and accurate local trip generation rates. For example the high-rise apartment category of dwelling units reported the lowest peak hour vehicle trip rates.

Bayshore/Cedarview

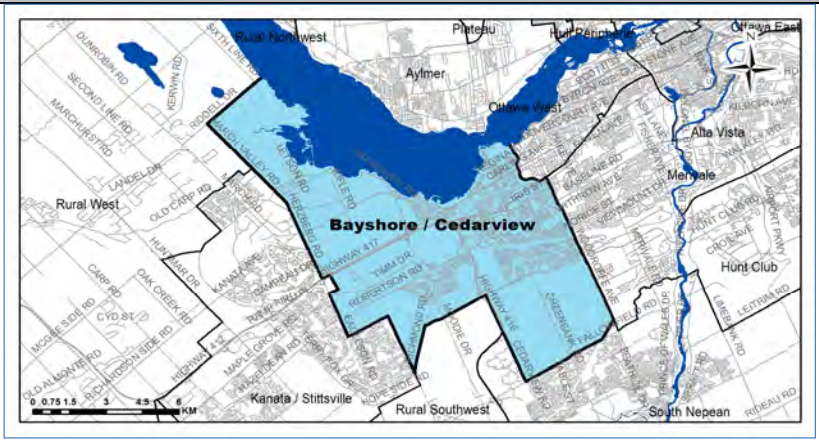
Demographic Characteristics

Population	79,250	Actively Travelled	62,250
Employed Population	35,600	Number of Vehicles	40,010
Households	32,230	Area (km^2)	113.1

Occupation Status (age 5+)	Male	Female	Total
Full Time Employed	16,910	14,100	31,010
Part Time Employed	1,630	2,960	4,590
Student	8,780	8,700	17,480
Retiree	6,350	9,710	16,050
Unemployed	1,190	1,000	2,190
Homemaker	40	2,560	2,600
Other	490	700	1,200
Total:	35,390	39,730	75,120

Traveller Characteristics	Male	Female	Total
Transit Pass Holders	6,780	8,880	15,660
Licensed Drivers	26,530	27,160	53,690
Telecommuters	200	140	330
Trips made by residents	94,770	102,970	197,750

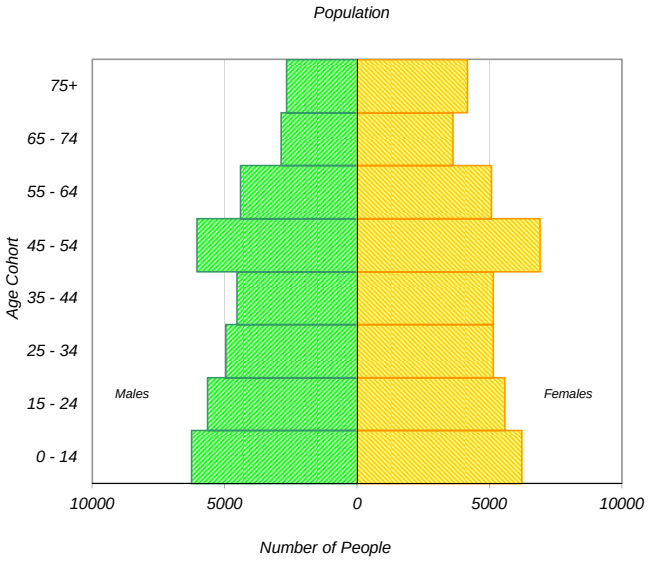
Selected Indicators	
Daily Trips per Person (age 5+)	2.63
Vehicles per Person	0.50
Number of Persons per Household	2.46
Daily Trips per Household	6.14
Vehicles per Household	1.24
Workers per Household	1.10
Population Density (Pop/km2)	700

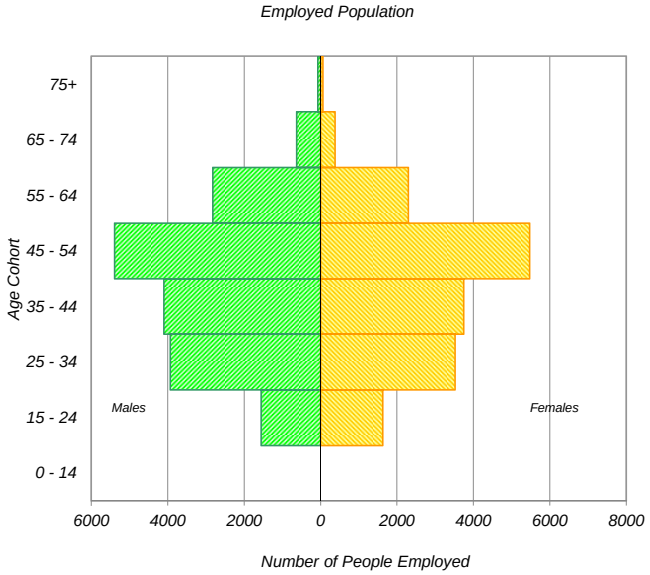


Household Size		
1 person	9,360	29%
2 persons	11,130	35%
3 persons	5,140	16%
4 persons	4,390	14%
5+ persons	2,210	7%
Total:	32,230	100%

Households by Vehicle Availability		
0 vehicles	4,670	14%
1 vehicle	17,170	53%
2 vehicles	8,710	27%
3 vehicles	1,380	4%
4+ vehicles	310	1%
Total:	32,230	100%

Households by Dwelling Type		
Single-detached	11,410	35%
Semi-detached	2,870	9%
Townhouse	7,590	24%
Apartment/Condo	10,360	32%
Total:	32,230	100%



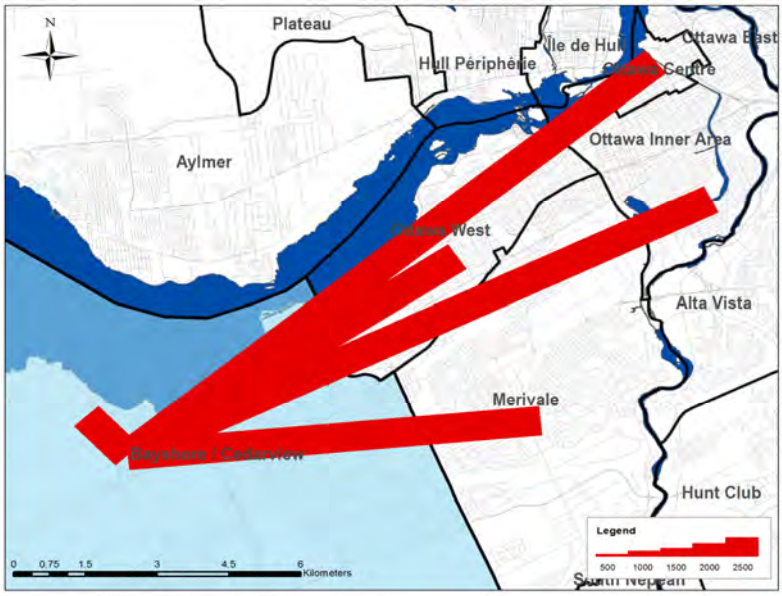


* In 2005 data was only collected for household members aged 11+ therefore these results cannot be compared to the 2011 data.

Travel Patterns

Top Five Destinations of Trips from Bayshore/Cedarview

AM Peak Period



Summary of Trips to and from Bayshore/Cedarview

AM Peak Period (6:30 - 8:59) Districts	Destinations of Trips From District	% Total	Origins of Trips To District	% Total
Ottawa Centre	3,510	9%	170	0%
Ottawa Inner Area	2,860	7%	830	2%
Ottawa East	310	1%	280	1%
Beacon Hill	550	1%	240	1%
Alta Vista	2,330	6%	830	2%
Hunt Club	230	1%	540	2%
Merivale	4,710	12%	2,850	8%
Ottawa West	4,870	12%	1,940	6%
Bayshore / Cedarview	14,570	37%	14,570	41%
Orléans	310	1%	1,210	3%
Rural East	20	0%	50	0%
Rural Southeast	40	0%	180	1%
South Gloucester / Leitrim	70	0%	170	0%
South Nepean	700	2%	3,230	9%
Rural Southwest	190	0%	810	2%
Kanata / Stittsvile	2,420	6%	5,010	14%
Rural West	380	1%	760	2%
Île de Hull	620	2%	70	0%
Hull Périphérie	220	1%	470	1%
Plateau	0	0%	110	0%
Aylmer	0	0%	470	1%
Rural Northwest	0	0%	100	0%
Pointe Gatineau	50	0%	60	0%
Gatineau Est	60	0%	130	0%
Rural Northeast	0	0%	70	0%
Buckingham / Masson-Angers	20	0%	0	0%
Ontario Sub-Total:	38,070	98%	33,670	96%
Québec Sub-Total:	970	2%	1,480	4%
Total:	39,040	100%	35,150	100%

Trips by Trip Purpose

24 Hours	From District		To District		Within District	
Work or related	25,540	22%	22,500	20%	7,290	10%
School	7,410	6%	3,270	3%	6,870	9%
Shopping	14,050	12%	14,680	13%	9,710	13%
Leisure	11,800	10%	9,490	8%	7,230	10%
Medical	2,850	2%	3,050	3%	1,840	3%
Pick-up / drive passenger	7,190	6%	7,450	6%	6,260	9%
Return Home	41,180	36%	49,600	43%	30,180	41%
Other	4,680	4%	4,750	4%	3,540	5%
Total:	114,700	100%	114,790	100%	72,920	100%

AM Peak (06:30 - 08:59)	From District		To District		Within District	
Work or related	15,460	63%	13,800	67%	3,710	25%
School	4,740	19%	2,910	14%	6,170	42%
Shopping	490	2%	310	2%	250	2%
Leisure	760	3%	320	2%	420	3%
Medical	420	2%	420	2%	310	2%
Pick-up / drive passenger	1,390	6%	1,390	7%	1,710	12%
Return Home	610	2%	730	4%	980	7%
Other	610	2%	690	3%	1,020	7%
Total:	24,480	100%	20,570	100%	14,570	100%

PM Peak (15:30 - 17:59)	From District		To District		Within District	
Work or related	890	3%	740	3%	270	2%
School	240	1%	30	0%	70	0%
Shopping	2,770	11%	3,540	12%	2,290	14%
Leisure	2,360	9%	2,140	7%	1,500	9%
Medical	480	2%	300	1%	210	1%
Pick-up / drive passenger	2,590	10%	2,420	8%	1,590	10%
Return Home	15,960	61%	19,170	66%	9,690	60%
Other	940	4%	710	2%	650	4%
Total:	26,230	100%	29,050	100%	16,270	100%

Peak Period (%)	Total:	% of 24 Hours	Within District (%)
24 Hours	302,410		24%
AM Peak Period	59,620	20%	24%
PM Peak Period	71,550	24%	23%

Trips by Primary Travel Mode

24 Hours	From District		To District		Within District	
Auto Driver	73,150	64%	73,010	64%	34,470	47%
Auto Passenger	18,520	16%	18,710	16%	10,600	15%
Transit	17,480	15%	17,570	15%	5,270	7%
Bicycle	1,200	1%	1,130	1%	1,160	2%
Walk	1,210	1%	1,120	1%	15,610	21%
Other	3,150	3%	3,270	3%	5,810	8%
Total:	114,710	100%	114,810	100%	72,920	100%

AM Peak (06:30 - 08:59)	From District		To District		Within District	
Auto Driver	12,840	52%	14,600	71%	5,130	35%
Auto Passenger	2,900	12%	2,150	10%	1,860	13%
Transit	7,070	29%	1,840	9%	1,380	9%
Bicycle	350	1%	280	1%	330	2%
Walk	170	1%	120	1%	3,120	21%
Other	1,140	5%	1,570	8%	2,750	19%
Total:	24,470	100%	20,560	100%	14,570	100%

PM Peak (15:30 - 17:59)	From District		To District		Within District	
Auto Driver	18,490	70%	16,320	56%	7,960	49%
Auto Passenger	4,030	15%	4,580	16%	2,990	18%
Transit	2,080	8%	6,750	23%	930	6%
Bicycle	420	2%	330	1%	230	1%
Walk	190	1%	390	1%	3,200	20%
Other	1,020	4%	660	2%	960	6%
Total:	26,230	100%	29,030	100%	16,270	100%

Avg Vehicle Occupancy	From District	To District	Within District
24 Hours	1.25	1.26	1.31
AM Peak Period	1.23	1.15	1.36
PM Peak Period	1.22	1.28	1.38

Transit Modal Split	From District	To District	Within District
24 Hours	16%	16%	10%
AM Peak Period	31%	10%	16%
PM Peak Period	8%	24%	8%

Appendix G – TDM Checklists

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

Legend

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

		TDM-supportive design & infrastructure measures: *Residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	1.	**WALKING & CYCLING: ROUTES**	
	1.1	**Building location & access points**	
BASIC	1.1.1	Locate building close to the street, and do not locate parking areas between the street and building entrances	☑
BASIC	1.1.2	Locate building entrances in order to minimize walking distances to sidewalks and transit stops/stations	☑
BASIC	1.1.3	Locate building doors and windows to ensure visibility of pedestrians from the building, for their security and comfort	☑
	1.2	**Facilities for walking & cycling**	
REQUIRED	1.2.1	Provide convenient, direct access to stations or major stops along rapid transit routes within 600 metres; minimize walking distances from buildings to rapid transit; provide pedestrian-friendly, weather-protected (where possible) environment between rapid transit accesses and building entrances; ensure quality linkages from sidewalks through building entrances to integrated stops/stations *(see Official Plan policy 4.3.3)*	☑ Direct connections to proposed Multi-Use Path and transit station
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)*	☑ Sidewalks to primary and secondary building entrances will be provided and appropriately illuminated.

	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)*	☑ Concrete sidewalks will be provided for pedestrians
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)*	☑ Sidewalks will be per building code and accessibility standards
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)*	☑ Direct access to Woodridge Avenue, the future Multi-use path and the rapid transit station are proposed.
BASIC	1.2.6	Provide safe, direct and attractive walking routes from building entrances to nearby transit stops	☑ See Above
BASIC	1.2.7	Ensure that walking routes to transit stops are secure, visible, lighted, shaded and wind-protected wherever possible	☑ See Above
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	☐ N/A
	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	☑ All entrances to the development will be sufficiently lit.
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)	☐ Not Required

		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)*	☑ Most bicycle parking will be sheltered/secured within parking podium. Exterior will be convenient and illuminated.
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)*	☑ Indoor bike storage rooms will be directly access from the Multi-use path.
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	☑ Proposed bicycle spaces will meet bylaw requirements
	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)*	☑ Most bicycle parking will be provided within the parking podium.
BETTER	2.2.2	Provide secure bicycle parking spaces equivalent to at least the number of units at condominiums or multi-family residential developments	☐ By-law requirements will be met.
	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	☐ N/A
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	☐ Not required due to proximity to Bayshore Station
BETTER	3.1.3	Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	☑ Direct + Enclosed connection to Bayshore Station

		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)*	☐ N/A - site will be GM zoning
	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	☑ Will be considered if service provider is available
	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	☑ Zoning permits zero to 1.75 spaces per unit.
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	☑ Sufficient visitor parking will be provided on-site. Design provisions for future resident parking supply reduction.
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)*	☐ N/A
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)*	☐ N/A - Zoning permits zero parking spaces adjacent rapid transit stations
	6.2	**Separate long-term & short-term parking areas**	
BETTER	6.2.1	Provide separate areas for short-term and long-term parking (using signage or physical barriers) to permit access controls and simplify enforcement (i.e. to discourage residents from parking in visitor spaces, and vice versa)	☐

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

Legend

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

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

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

		TDM measures: *Residential developments*	Check if proposed & add descriptions
	1.	**TDM PROGRAM MANAGEMENT**	
	1.1	**Program coordinator**	
BASIC ★	1.1.1	Designate an internal coordinator, or contract with an external coordinator	☑ Through property management office
	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)*	☐ N/A - Light Rail (LRT) expected to operate on 5-minute frequency
BETTER		3.1.2	Provide real-time arrival information display at entrances *(multi-family, condominium)*	☐ N/A - see above
		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	☑ Offered for initial lease of each unit only
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)*	☐ N/A - rapid transit presently exists
		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)	☐ N/A
		4.	**CARSHARING & BIKESHARING**	
		4.1	**Bikeshare stations & memberships**	
BETTER		4.1.1	Contract with provider to install on-site bikeshare station (*multi-family)*	☑ Can be accommodated on-site if provider is available
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	☑ Can be provided on-site if service provider is available
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)*	☐ N/A
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	☑ will be considered for new resident welcome package
	6.2	**Personalized trip planning**	
BETTER ★	6.2.1	Offer personalized trip planning to new residents	☐

Appendix H – MMLOS Analysis

Multi-Modal Level of Service
100 Bayshore Drive (Lot 'B')
Scenario: Existing & Future Conditions

December 9, 2019

IBI

INTERSECTIONS

		Richmond Road & Bayshore Drive				Bayshore Drive & Woodridge Crescent (S)				Bayshore Drive & Woodridge Crescent (N)				Woodridge Crescent & 220m W of Bayshore			
		NORTH leg	SOUTH leg	EAST leg	WEST leg	NORTH leg	SOUTH leg	EAST leg	WEST leg	NORTH leg	SOUTH leg	EAST leg	WEST leg	NORTH leg	SOUTH leg	EAST leg	WEST leg
Pedestrian	Lanes (do NOT include lanes protected by bulb-outs)	8	3	7		4	7		5	2	2	2	3	2			5
	Median	Median (>2.4m)	No Median	Median (>2.4m)		Median (>2.4m)	No Median		Median (>2.4m)	No Median	No Median	No Median	No Median	No Median			No Median
	Island Refuge																
	Conflicting Left Turns (from street to right)	Protected	No left turn/prohibited	Protected		Protected	No left turn/prohibited		Protected	Permissive	Permissive	Permissive	Permissive	Permissive			No left turn/prohibited
	Conflicting Right Turns (from street to left)	Permissive or yield control	No right turn	Permissive or yield control		No right turn	Protected		Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control			Permissive or yield control
	RTOR? (from street to left)	RTOR allowed	RTOR prohibited	RTOR allowed		RTOR prohibited	RTOR prohibited		RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed			RTOR allowed
	Ped Leading Interval? (on cross street)	No	No	No		No	No		No	No	No	No	No	No			No
	Corner Radius	Greater than 25m	> 15m to 25m	> 15m to 25m		> 5m to 10m	No right turn		Right turn channel with receiving lane	> 5m to 10m	> 5m to 10m	> 5m to 10m	> 5m to 10m	> 5m to 10m			No right turn
	Right Turn Channel	Conventional right turn channel without receiving lane	Conventional right turn channel without receiving lane	Conventional right turn channel without receiving lane		No right turn channel	No right turn		Conventional right turn channel without receiving lane	No right turn channel	No right turn channel	No right turn channel	No right turn channel	No right turn channel			No right turn
	Crosswalk Type	Standard transverse markings	Standard transverse markings	Standard transverse markings		Standard transverse markings	Standard transverse markings		Standard transverse markings	Standard transverse markings	Standard transverse markings	Standard transverse markings	Standard transverse markings	Standard transverse markings			Standard transverse markings
	LOS (PETSI)	**4 F**	**88 B**	**20 F**	**#N/A**	**72 C**	**30 E**	**#N/A**	**55 D**	**86 B**	**86 B**	**86 B**	**71 C**	**86 B**	**#N/A**	**#N/A**	**55 D**
	Cycle Length (sec)	125	125	125		80	80		80	75	75	75	75	75			75
	Pedestrian Walk Time (solid white symbol) (sec)	7	7	7		7	7		7	7	7	7	7	7			7
	LOS (Delay,seconds)	**56.8 E**	**56.8 E**	**56.8 E**	**#DIV/0!**	**34.4 D**	**34.4 D**	**#DIV/0!**	**34.4 D**	**31.9 D**	**31.9 D**	**31.9 D**	**31.9 D**	**31.9 D**	**#DIV/0!**	**#DIV/0!**	**31.9 D**
	Overall Level of Service	**F**				**E**				**D**				**D**			
Cyclist	Type of Bikeway	Mixed Traffic		Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic		Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic		Mixed Traffic	Mixed Traffic
	Turning Speed (based on corner radius & angle)	Fast		Slow					Fast								
	Right Turn Storage Length			> 50m													
	Dual Right Turn?	Yes		No					Yes								
	Shared Through-Right?	No		No		Yes			No	Yes	Yes	Yes	Yes	Yes		Yes	
	Bike Box?	No			No				No	No	No	No	No	No			No
	Number of Lanes Crossed for Left Turns	2+ Lanes Crossed			2+ Lanes Crossed				2+ Lanes Crossed	No Lanes Crossed	No Lanes Crossed	No Lanes Crossed	1 Lane Crossed	No Lanes Crossed			2+ Lanes Crossed
	Operating Speed on Approach	50km/h			≥ 60km/h				50km/h	50km/h	50km/h	50km/h	50km/h	50km/h			50km/h
	Dual Left Turn Lanes?	Yes			Yes				No	No	No	No	No	No			No
	Level of Service	**F**		**F**	**F**	**A**	**A**		**F**	**B**	**B**	**B**	**D**	**B**		**A**	**F**
		F				**F**				**D**				**F**			
Transit	Average Signal Delay	≤30 sec		≤40 sec	≤40 sec	≤20 sec	≤30 sec		≤20 sec	≤10 sec	≤10 sec	≤20 sec	≤20 sec	≤30 sec		≤20 sec	≤10 sec
	Level of Service	**D**		**E**	**E**	**C**	**D**	**A**	**C**	**B**	**B**	**C**	**C**	**D**	**A**	**C**	**B**
		E				**D**				**C**				**D**			
Truck	Turning Radius (Right Turn)	> 15m	> 15m	> 15m		< 10m			> 15m	< 10m	< 10m	< 10m	< 10m	< 10m		< 10m	
	Number of Receiving Lanes	2+	2+	2+		2+			2+	1	1	1	1	2+		1	
		A	**A**	**A**		**D**			**A**	**F**	**F**	**F**	**F**	**D**		**F**	
		A				**D**				**F**				**F**			

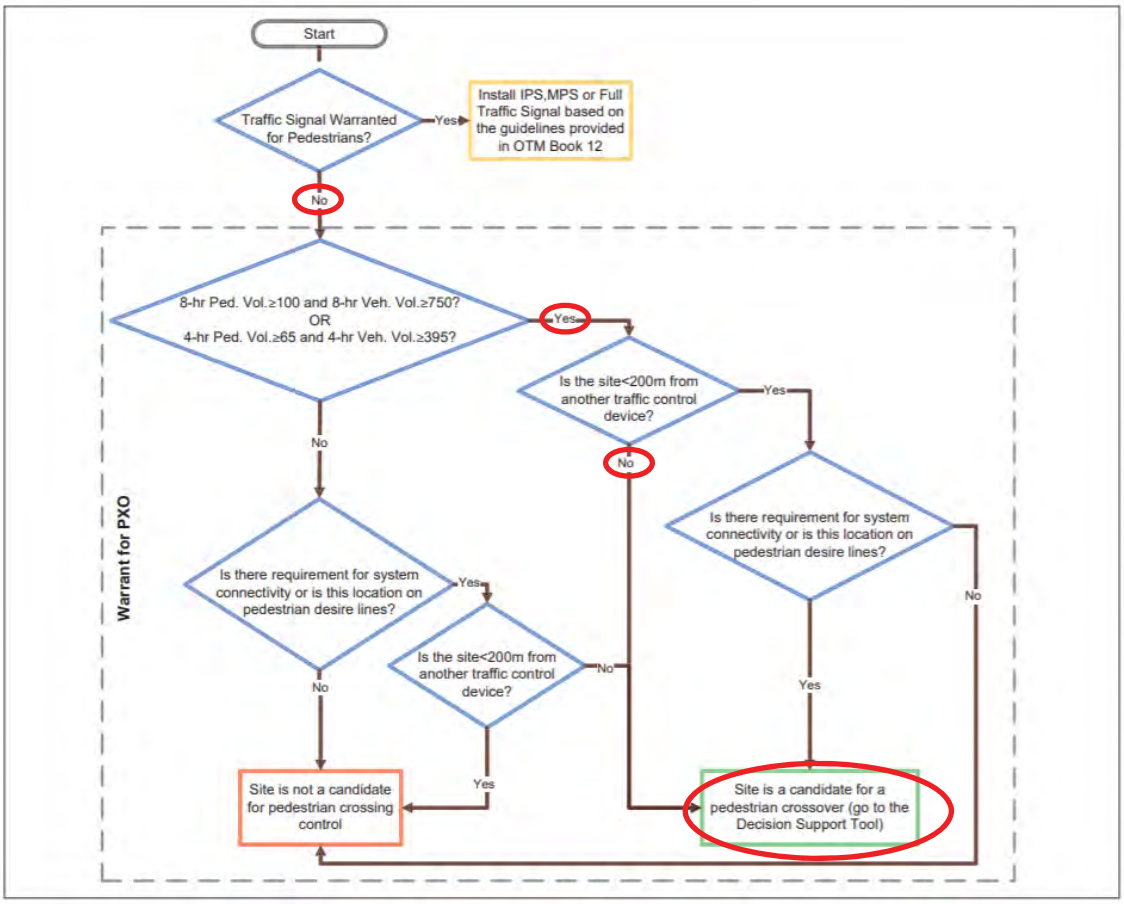
SEGMENTS

		Woodridge - Development Frontage	Section			Woodridge - Transitway Access	Section			Transitway Access - Bayshore Stn	Section			Section		
			1	2	3		1	2	3		1	2	3	1	2	3
Pedestrian	Sidewalk Width		2.0 or more				2.0 or more									
	Boulevard Width		0				0									
	AADT		< 3000				< 3000									
	On-Street Parking		N/A				N/A									
	Operating Speed		31 to 50 km/h				31 to 50 km/h									
	Level of Service		**B**				**B**									
			B				**B**				**#VALUE!**			**#VALUE!**		
Cyclist	Type of Bikeway		Mixed Traffic				Mixed Traffic									
	Number of Travel Lanes (per direction)		1 Travel Lane Per Direction				1 Travel Lane Per Direction									
	Raised Median?		No				No									
	Bike Lane Width		N/A				N/A									
	Operating Speed		50 km/h				50 km/h									
	Bike Lane Blockages (Commercial Areas)															
	Median Refuge															
	Number of Travel Lanes on Sidestreet															
	Sidestreet Operating Speed		50 km/h				50 km/h									
	Level of Service		**D**				**D**									
Transit	Facility Type		Mixed Traffic				Mixed Traffic									
	Friction		Limited parking/driveway friction				Limited parking/driveway friction									
	Level of Service		**D**				**D**				**#N/A**			**#N/A**		
Truck	Curb Lane Width		>3.7				>3.7									
	Number of Travel Lanes		2				2									
			B				**B**				**#VALUE!**			**#VALUE!**		
			B				**B**									

Appendix I – Traffic Control Warrants

PXO Warrant

OTM Book 15: Decision Support Tool – Preliminary Assessment



Source: OTM Book 15, June 2016, p.26

Traffic count data collected for the Woodridge/ Transitway Access indicates that the 8-hour vehicle link volumes on the west leg are presently in the order of 1,333 vehicles per hour, and that the corresponding pedestrian crossing volumes are approximately 113 pedestrians per hour. See the last page of this appendix for relevant turning movement data used in this evaluation.

PXO Type Selection

Pedestrian Crossover Selection Matrix (OTM Table 7, Book 15)

Two-way Vehicular Volume			Posted Speed Limit (km/h	Total Number of Lanes for the Roadway Cross Section[1]			
Time Period	Lower Bound	Upper Bound		1 or 2 Lanes	3 lanes	4 lanes w/raised refuge	4 lanes w/o raised refuge
8 Hour	750	2,250	≤50	Level 2 Type D	Level 2 Type C[3]	Level 2 Type D[2]	Level 2 Type B
4 Hour	395	1,185					
8 Hour	750	2,250	60	Level 2 Type C	Level 2 Type B	Level 2 Type C[2]	Level 2 Type B
4 Hour	395	1,185					
8 Hour	2,250	4,500	≤50	Level 2 Type D	Level 2 Type B	Level 2 Type D[2]	Level 2 Type B
4 Hour	1,185	2,370					
8 Hour	2,250	4,500	60	Level 2 Type C	Level 2 Type B	Level 2 Type C[2]	Level 2 Type B
4 Hour	1,185	2,370					
8 Hour	4,500	6,000	≤50	Level 2 Type C	Level 2 Type B	Level 2 Type C[2]	Level 2 Type B
4 Hour	2,370	3,155					
8 Hour	4,500	6,000	60	Level 2 Type B	Level 2 Type B	Level 2 Type C[2]	Level 2 Type B
4 Hour	2,370	3,155					
8 Hour	6,000	7,500	≤50	Level 2 Type B	Level 2 Type B	Level 2 Type C[2]	Level 1 Type A
4 Hour	3,155	3,950					
8 Hour	6,000	7,500	60	Level 2 Type B	Level 2 Type B		
4 Hour	3,155	3,950					
8 Hour	7,500	17,500	≤50	Level 2 Type B	Level 2 Type B		
4 Hour	3,950	9,215					
8 Hour	7,500	17,500	60	Level 2 Type B			
4 Hour	3,950	9,215					

Source: OTM Book 15, p.34

The cross-section type for Woodridge Crescent was selected as ‘4 lanes without raise refuge’, based on the OTM assumption that each vehicular travel lane is a maximum of 3.75 metres wide. If the crossing width is reduced to 11.25 metres or less through the use of curb bulb-outs, then the use of a lower-order PXO such as Level 2 Type ‘C’ could be considered.

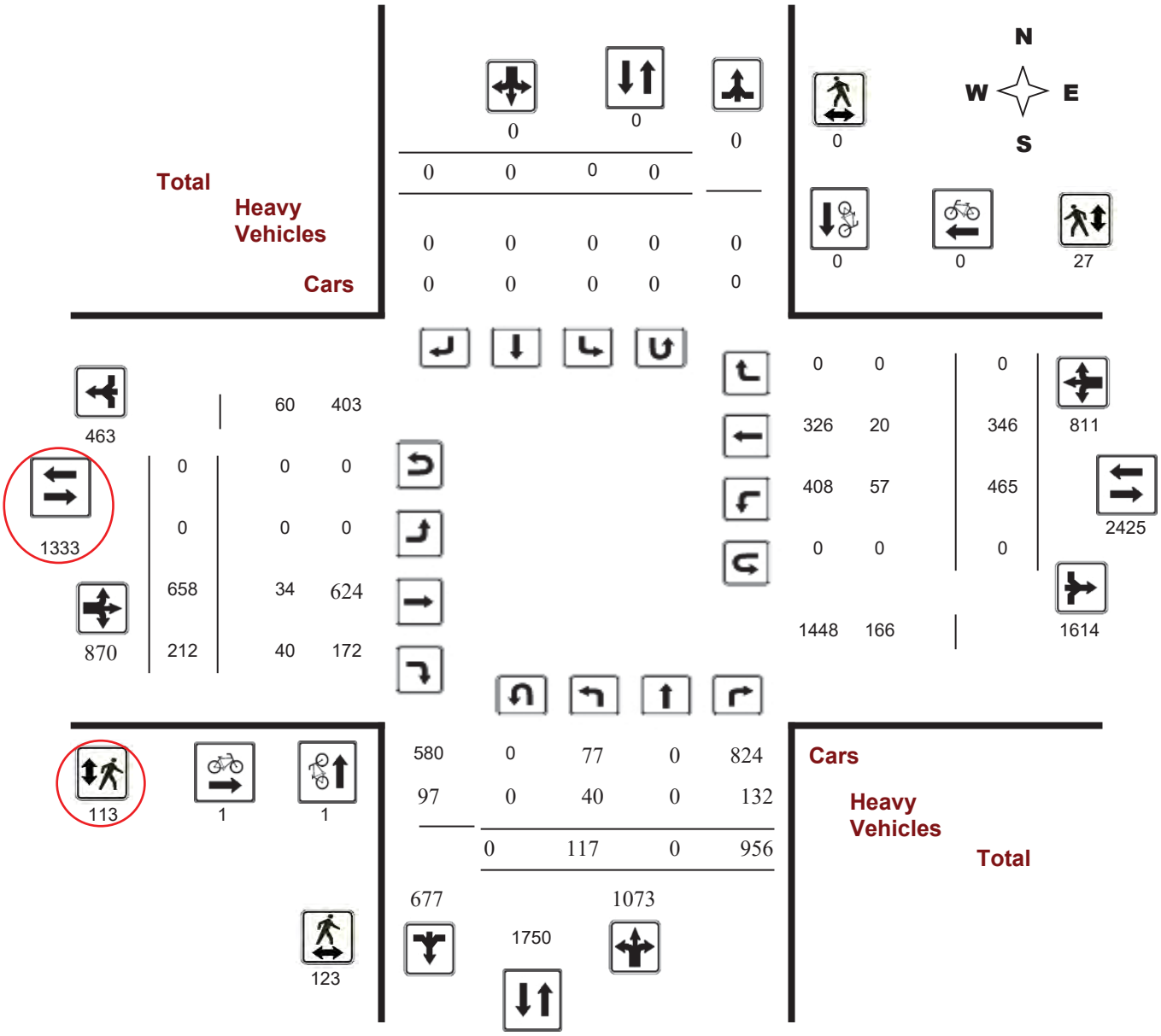
Transportation Services - Traffic Services

Turning Movement Count - Study Results

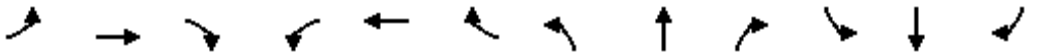
WOODRIDGE CRES @ TRANSITWAY LINK

Survey Date: Tuesday, November 05, 2019
Start Time: 07:00
WO No: 39001
Device: Miovision

Full Study Diagram



Appendix J – Intersection Capacity Analyses



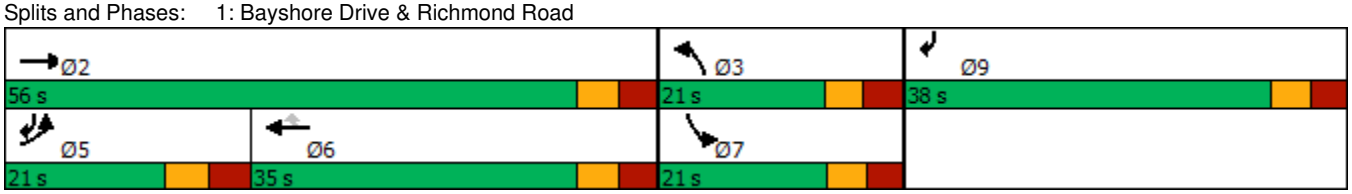
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	325	948	0	0	321	91	247	0	12	80	0	313
Future Volume (vph)	325	948	0	0	321	91	247	0	12	80	0	313
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	205.0		0.0	0.0		60.0	0.0		35.0	50.0		0.0
Storage Lanes	2		0	0		1	2		1	1		3
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	0.97	1.00	0.76
Ped Bike Factor						0.99						
Frt						0.850			0.850			0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	3321	3424	0	0	4732	1502	3257	0	1547	3022	0	3391
Flt Permitted	0.950						0.950			0.950		
Satd. Flow (perm)	3321	3424	0	0	4732	1483	3257	0	1547	3022	0	3391
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)						169			236			
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		676.3			322.3			173.9			198.6	
Travel Time (s)		34.8			16.6			12.5			14.3	
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 (%)	1%	1%	0%	0%	5%	3%	3%	0%	0%	11%	0%	4%
Adj. Flow (vph)	361	1053	0	0	357	101	274	0	13	89	0	348
Shared Lane Traffic (%)												
Lane Group Flow (vph)	361	1053	0	0	357	101	274	0	13	89	0	348
Turn Type	Prot	NA			NA	Perm	Prot		Free	Prot		pt+ov
Protected Phases	5	2			6		3			7		5 9
Permitted Phases						6			Free			
Detector Phase	5	2			6	6	3			7		5 9
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0			5.0		
Minimum Split (s)	12.3	32.1			32.1	32.1	11.9			11.6		
Total Split (s)	21.0	56.0			35.0	35.0	21.0			21.0		
Total Split (%)	18.3%	48.7%			30.4%	30.4%	18.3%			18.3%		
Maximum Green (s)	13.7	48.9			27.9	27.9	14.1			14.4		
Yellow Time (s)	3.7	3.7			3.7	3.7	3.3			3.3		
All-Red Time (s)	3.6	3.4			3.4	3.4	3.6			3.3		
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0			0.0		
Total Lost Time (s)	7.3	7.1			7.1	7.1	6.9			6.6		
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		
Recall Mode	None	Max			Max	Max	None			None		
Walk Time (s)		7.0			7.0	7.0						
Flash Dont Walk (s)		18.0			18.0	18.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	13.5	49.0			28.1	28.1	12.4		94.6	12.0		32.7
Actuated g/C Ratio	0.14	0.52			0.30	0.30	0.13		1.00	0.13		0.35
v/c Ratio	0.76	0.59			0.25	0.18	0.64		0.01	0.23		0.30

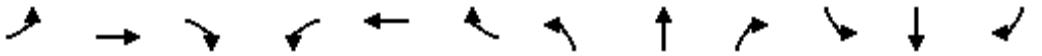
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	51.2	18.2			26.6	1.2	46.7		0.0	38.6		23.4
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	51.2	18.2			26.6	1.2	46.7		0.0	38.6		23.4
LOS	D	B			C	A	D		A	D		C
Approach Delay		26.6			21.0			44.6			26.5	
Approach LOS		C			C			D			C	
Queue Length 50th (m)	33.3	68.3			18.3	0.0	24.7		0.0	7.5		20.2
Queue Length 95th (m)	#55.2	96.1			27.7	1.6	38.7		0.0	14.9		29.6
Internal Link Dist (m)		652.3			298.3			149.9			174.6	
Turn Bay Length (m)	205.0					60.0			35.0	50.0		
Base Capacity (vph)	481	1772			1406	559	485		1547	460		1185
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	0.75	0.59			0.25	0.18	0.56		0.01	0.19		0.29

Intersection Summary			
Area Type:	Other		
Cycle Length: 115			
Actuated Cycle Length: 94.6			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 27.6		Intersection LOS: C	
Intersection Capacity Utilization 46.8%		ICU Level of Service A	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Bayshore Drive & Richmond Road



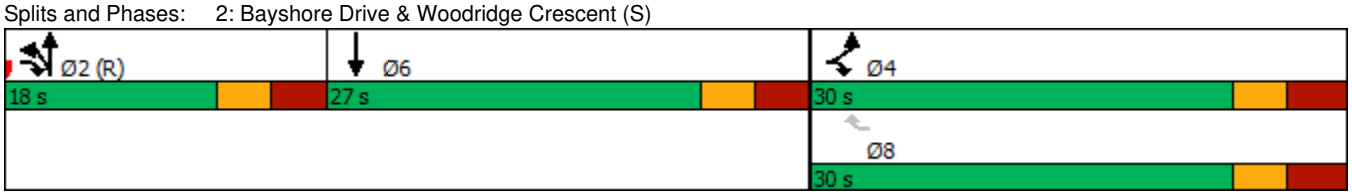


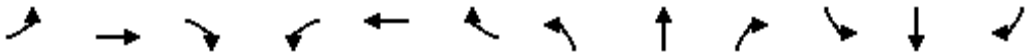
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	0	155	0	0	0	136	33	0	0	201	83
Future Volume (vph)	44	0	155	0	0	0	136	33	0	0	201	83
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor	0.97						0.98	0.99			0.99	
Frt			0.850								0.956	
Flt Protected	0.950						0.950	0.971				
Satd. Flow (prot)	1491	0	2545	0	0	1820	1626	1643	0	0	3177	0
Flt Permitted	0.950						0.950	0.971				
Satd. Flow (perm)	1447	0	2545	0	0	1820	1598	1626	0	0	3177	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											83	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		150.9			229.8			179.2			394.4	
Travel Time (s)		13.6			20.7			12.9			28.4	
Confl. Peds. (#/hr)	18		44	44		18	24		4	4		24
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 (%)	16%	0%	7%	0%	0%	0%	1%	4%	0%	0%	2%	5%
Adj. Flow (vph)	49	0	172	0	0	0	151	37	0	0	223	92
Shared Lane Traffic (%)							38%					
Lane Group Flow (vph)	49	0	172	0	0	0	94	94	0	0	315	0
Turn Type	Prot		pt+ov			Perm	Split	NA			NA	
Protected Phases	4		4 2				2	2			6	
Permitted Phases						8						
Detector Phase	4		4 2			8	2	2			6	
Switch Phase												
Minimum Initial (s)	5.0					5.0	5.0	5.0			5.0	
Minimum Split (s)	29.5					11.5	11.2	11.2			26.2	
Total Split (s)	30.0					30.0	18.0	18.0			27.0	
Total Split (%)	40.0%					40.0%	24.0%	24.0%			36.0%	
Maximum Green (s)	23.5					23.5	11.8	11.8			20.8	
Yellow Time (s)	3.0					3.0	3.0	3.0			3.0	
All-Red Time (s)	3.5					3.5	3.2	3.2			3.2	
Lost Time Adjust (s)	0.0					0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.5					6.5	6.2	6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0					3.0	3.0	3.0			3.0	
Recall Mode	None					None	C-Max	C-Max			Max	
Walk Time (s)	7.0										7.0	
Flash Dont Walk (s)	16.0										13.0	
Pedestrian Calls (#/hr)	0										0	
Act Effct Green (s)	8.2		41.5				27.1	27.1			20.8	
Actuated g/C Ratio	0.11		0.55				0.36	0.36			0.28	
v/c Ratio	0.30		0.12				0.16	0.16			0.33	
Control Delay	34.9		8.3				18.0	18.0			16.8	
Queue Delay	0.0		0.0				0.0	0.0			0.0	
Total Delay	34.9		8.3				18.0	18.0			16.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C		A				B	B			B	
Approach Delay		14.2						18.0			16.8	
Approach LOS		B						B			B	
Queue Length 50th (m)	6.5		6.0				9.2	9.2			13.4	
Queue Length 95th (m)	15.5		10.7				20.5	20.5			23.3	
Internal Link Dist (m)		126.9			205.8			155.2			370.4	
Turn Bay Length (m)												
Base Capacity (vph)	467		1408				586	592			941	
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	0.10		0.12				0.16	0.16			0.33	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.33			
Intersection Signal Delay: 16.3		Intersection LOS: B	
Intersection Capacity Utilization 44.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Bayshore Drive & Woodridge Crescent (S)



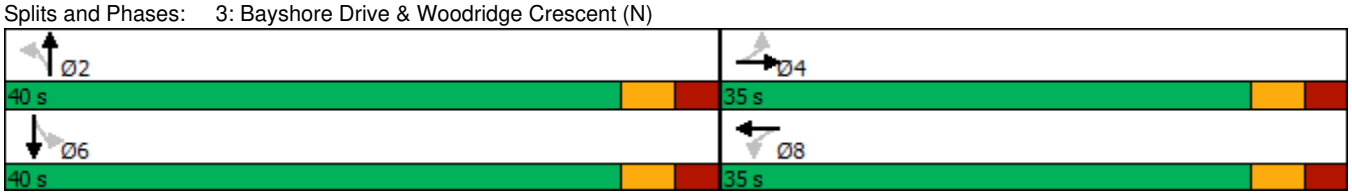


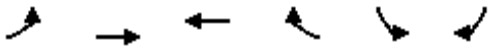
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	1	98	20	1	12	94	263	9	3	154	95
Future Volume (vph)	152	1	98	20	1	12	94	263	9	3	154	95
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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			0.98			0.99			0.98	
Frt		0.851			0.951			0.997			0.949	
Flt Protected	0.950				0.970			0.987			0.999	
Satd. Flow (prot)	1679	1469	0	0	1658	0	0	1725	0	0	1584	0
Flt Permitted	0.734				0.805			0.847			0.997	
Satd. Flow (perm)	1269	1469	0	0	1361	0	0	1471	0	0	1580	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		109			13			2			54	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		186.3			207.9			394.4			121.4	
Travel Time (s)		13.4			15.0			28.4			8.7	
Confl. Peds. (#/hr)	21		20	20		21	23		21	21		23
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	0%	2%	0%	0%	0%	6%	3%	0%	0%	5%	9%
Adj. Flow (vph)	169	1	109	22	1	13	104	292	10	3	171	106
Shared Lane Traffic (%)												
Lane Group Flow (vph)	169	110	0	0	36	0	0	406	0	0	280	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)	26.5	26.5		26.5	26.5		26.6	26.6		26.6	26.6	
Total Split (s)	35.0	35.0		35.0	35.0		40.0	40.0		40.0	40.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	29.5	29.5		29.5	29.5		34.4	34.4		34.4	34.4	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.5	5.5			5.5			5.6			5.6	
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		Max	Max		Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	13.5	13.5			13.5			37.3			37.3	
Actuated g/C Ratio	0.22	0.22			0.22			0.60			0.60	
v/c Ratio	0.61	0.27			0.12			0.46			0.29	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	30.6	6.1			13.7			10.0			6.6	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	30.6	6.1			13.7			10.0			6.6	
LOS	C	A			B			A			A	
Approach Delay		21.0			13.7			10.0			6.6	
Approach LOS		C			B			A			A	
Queue Length 50th (m)	16.3	0.1			2.0			21.1			10.0	
Queue Length 95th (m)	31.9	9.4			7.6			52.1			27.4	
Internal Link Dist (m)		162.3			183.9			370.4			97.4	
Turn Bay Length (m)	60.0											
Base Capacity (vph)	607	760			658			886			972	
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	0.14			0.05			0.46			0.29	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 62			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.61			
Intersection Signal Delay: 12.2		Intersection LOS: B	
Intersection Capacity Utilization 67.4%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Bayshore Drive & Woodridge Crescent (N)



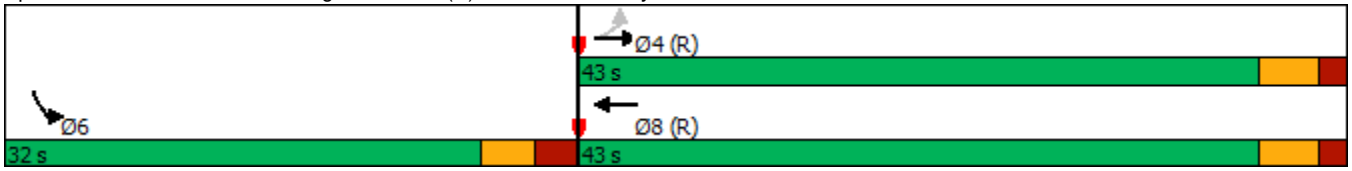


Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	19	140	120	2	34	19
Future Volume (vph)	19	140	120	2	34	19
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor	0.94		1.00		0.99	
Frt			0.998		0.952	
Flt Protected	0.950				0.969	
Satd. Flow (prot)	1729	3033	3224	0	1569	0
Flt Permitted	0.666				0.969	
Satd. Flow (perm)	1143	3033	3224	0	1569	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			2		21	
Link Speed (k/h)		40	40		50	
Link Distance (m)		172.9	23.2		196.3	
Travel Time (s)		15.6	2.1		14.1	
Confl. Peds. (#/hr)	22			22		25
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	0%	14%	7%	0%	0%	16%
Adj. Flow (vph)	21	156	133	2	38	21
Shared Lane Traffic (%)						
Lane Group Flow (vph)	21	156	135	0	59	0
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	10.0	10.0	17.0		29.4	
Total Split (s)	43.0	43.0	43.0		32.0	
Total Split (%)	57.3%	57.3%	57.3%		42.7%	
Maximum Green (s)	38.0	38.0	38.0		26.6	
Yellow Time (s)	3.3	3.3	3.3		3.0	
All-Red Time (s)	1.7	1.7	1.7		2.4	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.4	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	C-Max	C-Max	C-Max		None	
Walk Time (s)			7.0		7.0	
Flash Dont Walk (s)			5.0		17.0	
Pedestrian Calls (#/hr)			0		0	
Act Effct Green (s)	63.5	63.5	63.5		7.5	
Actuated g/C Ratio	0.85	0.85	0.85		0.10	
v/c Ratio	0.02	0.06	0.05		0.34	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Control Delay	2.7	2.2	2.2		27.1	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	2.7	2.2	2.2		27.1	
LOS	A	A	A		C	
Approach Delay		2.3	2.2		27.1	
Approach LOS		A	A		C	
Queue Length 50th (m)	0.5	2.1	1.7		5.1	
Queue Length 95th (m)	2.2	4.8	4.2		14.8	
Internal Link Dist (m)		148.9	0.1		172.3	
Turn Bay Length (m)	40.0					
Base Capacity (vph)	967	2568	2730		570	
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	0.02	0.06	0.05		0.10	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.34			
Intersection Signal Delay: 6.2		Intersection LOS: A	
Intersection Capacity Utilization 38.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Woodridge Crescent (S) & 220m W of Bayshore



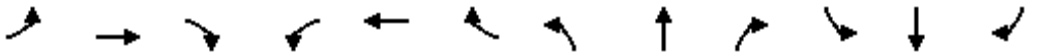
Intersection	
Int Delay, s/veh	2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	95	15	33	52	14	28
Future Vol, veh/h	95	15	33	52	14	28
Conflicting Peds, #/hr	0	25	25	0	15	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	6	53	18	10	29	46
Mvmt Flow	106	17	37	58	16	31

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	148	0	287	144
Stage 1	-	-	-	-	140	-
Stage 2	-	-	-	-	147	-
Critical Hdwy	-	-	4.28	-	6.69	6.66
Critical Hdwy Stg 1	-	-	-	-	5.69	-
Critical Hdwy Stg 2	-	-	-	-	5.69	-
Follow-up Hdwy	-	-	2.362	-	3.761	3.714
Pot Cap-1 Maneuver	-	-	1341	-	650	799
Stage 1	-	-	-	-	825	-
Stage 2	-	-	-	-	818	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1310	-	608	778
Mov Cap-2 Maneuver	-	-	-	-	608	-
Stage 1	-	-	-	-	806	-
Stage 2	-	-	-	-	784	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	608	778	-	-	1310	-
HCM Lane V/C Ratio	0.026	0.04	-	-	0.028	-
HCM Control Delay (s)	11.1	9.8	-	-	7.8	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0.1	-

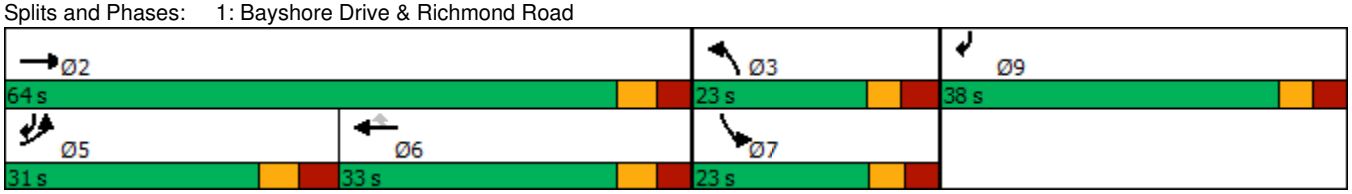


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	384	492	0	0	625	108	162	0	40	127	0	829
Future Volume (vph)	384	492	0	0	625	108	162	0	40	127	0	829
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	205.0		0.0	0.0		60.0	0.0		35.0	50.0		0.0
Storage Lanes	2		0	0		1	2		1	1		3
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	0.97	1.00	0.76
Ped Bike Factor	1.00					0.99			0.99	1.00		
Frt						0.850			0.850			0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	3354	3424	0	0	4871	1547	3321	0	1473	3077	0	3492
Flt Permitted	0.950						0.950			0.950		
Satd. Flow (perm)	3350	3424	0	0	4871	1524	3321	0	1455	3066	0	3492
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)						155			217			
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		676.3			322.3			173.9			198.6	
Travel Time (s)		34.8			16.6			12.5			14.3	
Confl. Peds. (#/hr)	2					2			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 (%)	0%	1%	0%	0%	2%	0%	1%	0%	5%	9%	0%	1%
Adj. Flow (vph)	427	547	0	0	694	120	180	0	44	141	0	921
Shared Lane Traffic (%)												
Lane Group Flow (vph)	427	547	0	0	694	120	180	0	44	141	0	921
Turn Type	Prot	NA			NA	Perm	Prot		Free	Prot		pt+ov
Protected Phases	5	2			6		3			7		5 9
Permitted Phases						6			Free			
Detector Phase	5	2			6	6	3			7		5 9
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0			5.0		
Minimum Split (s)	12.3	32.1			32.1	32.1	11.9			11.6		
Total Split (s)	31.0	64.0			33.0	33.0	23.0			23.0		
Total Split (%)	24.8%	51.2%			26.4%	26.4%	18.4%			18.4%		
Maximum Green (s)	23.7	56.9			25.9	25.9	16.1			16.4		
Yellow Time (s)	3.7	3.7			3.7	3.7	3.3			3.3		
All-Red Time (s)	3.6	3.4			3.4	3.4	3.6			3.3		
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0			0.0		
Total Lost Time (s)	7.3	7.1			7.1	7.1	6.9			6.6		
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		
Recall Mode	None	Max			Max	Max	None			None		
Walk Time (s)		7.0			7.0	7.0						
Flash Dont Walk (s)		18.0			18.0	18.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	20.7	57.0			29.0	29.0	11.6		116.8	11.9		54.8
Actuated g/C Ratio	0.18	0.49			0.25	0.25	0.10		1.00	0.10		0.47
v/c Ratio	0.72	0.33			0.57	0.24	0.55		0.03	0.45		0.56

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	53.1	19.7			42.2	3.9	57.0		0.1	54.6		23.6
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	53.1	19.7			42.2	3.9	57.0		0.1	54.6		23.6
LOS	D	B			D	A	E		A	D		C
Approach Delay		34.3			36.6			45.8			27.7	
Approach LOS		C			D			D			C	
Queue Length 50th (m)	47.2	39.2			52.5	0.0	20.6		0.0	15.9		62.7
Queue Length 95th (m)	67.5	57.7			71.9	8.0	32.7		0.0	26.5		80.9
Internal Link Dist (m)		652.3			298.3			149.9			174.6	
Turn Bay Length (m)	205.0					60.0			35.0	50.0		
Base Capacity (vph)	682	1672			1210	495	458		1455	432		1657
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	0.63	0.33			0.57	0.24	0.39		0.03	0.33		0.56

Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 116.8			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 33.5		Intersection LOS: C	
Intersection Capacity Utilization 61.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Bayshore Drive & Richmond Road

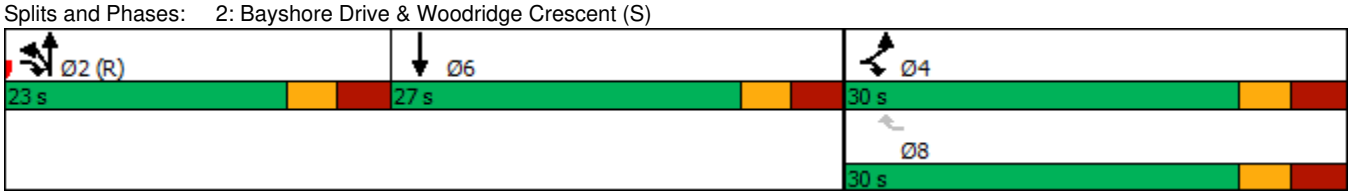


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	149	0	589	0	0	0	226	64	0	0	237	168
Future Volume (vph)	149	0	589	0	0	0	226	64	0	0	237	168
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor	0.95						0.99	0.99			0.98	
Frt			0.850								0.938	
Flt Protected	0.950						0.950	0.972				
Satd. Flow (prot)	1662	0	2643	0	0	1820	1643	1673	0	0	3103	0
Flt Permitted	0.950						0.950	0.972				
Satd. Flow (perm)	1584	0	2643	0	0	1820	1618	1659	0	0	3103	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											187	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		150.9			229.8			179.2			394.4	
Travel Time (s)		13.6			20.7			12.9			28.4	
Confl. Peds. (#/hr)	27		66	66		27	23		4	4		23
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 (%)	4%	0%	3%	0%	0%	0%	0%	1%	0%	0%	2%	4%
Adj. Flow (vph)	166	0	654	0	0	0	251	71	0	0	263	187
Shared Lane Traffic (%)							37%					
Lane Group Flow (vph)	166	0	654	0	0	0	158	164	0	0	450	0
Turn Type	Prot		pt+ov			Perm	Split	NA			NA	
Protected Phases	4		4 2				2	2			6	
Permitted Phases						8						
Detector Phase	4		4 2			8	2	2			6	
Switch Phase												
Minimum Initial (s)	5.0					5.0	5.0	5.0			5.0	
Minimum Split (s)	29.5					11.5	11.2	11.2			26.2	
Total Split (s)	30.0					30.0	23.0	23.0			27.0	
Total Split (%)	37.5%					37.5%	28.8%	28.8%			33.8%	
Maximum Green (s)	23.5					23.5	16.8	16.8			20.8	
Yellow Time (s)	3.0					3.0	3.0	3.0			3.0	
All-Red Time (s)	3.5					3.5	3.2	3.2			3.2	
Lost Time Adjust (s)	0.0					0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.5					6.5	6.2	6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0					3.0	3.0	3.0			3.0	
Recall Mode	None					None	C-Max	C-Max			Max	
Walk Time (s)	7.0										7.0	
Flash Dont Walk (s)	16.0										13.0	
Pedestrian Calls (#/hr)	0										0	
Act Effct Green (s)	17.4		46.5				22.9	22.9			20.8	
Actuated g/C Ratio	0.22		0.58				0.29	0.29			0.26	
v/c Ratio	0.46		0.43				0.34	0.34			0.48	
Control Delay	30.4		10.4				26.8	26.9			16.1	
Queue Delay	0.0		0.0				0.0	0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	30.4		10.4				26.8	26.9			16.1	
LOS	C		B				C	C			B	
Approach Delay		14.4						26.8			16.1	
Approach LOS		B						C			B	
Queue Length 50th (m)	22.0		28.7				19.8	20.7			17.0	
Queue Length 95th (m)	35.4		40.7				40.5	41.8			30.1	
Internal Link Dist (m)		126.9			205.8			155.2			370.4	
Turn Bay Length (m)												
Base Capacity (vph)	488		1515				470	478			945	
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	0.34		0.43				0.34	0.34			0.48	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.48			
Intersection Signal Delay: 17.4		Intersection LOS: B	
Intersection Capacity Utilization 53.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Bayshore Drive & Woodridge Crescent (S)

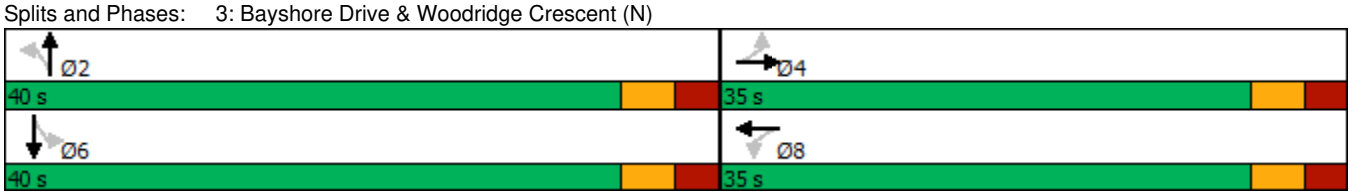


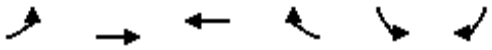
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	0	71	6	0	5	89	246	14	24	321	156
Future Volume (vph)	98	0	71	6	0	5	89	246	14	24	321	156
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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	0.96			0.98			0.99			0.98	
Frt		0.850			0.938			0.994			0.958	
Flt Protected	0.950				0.974			0.987			0.998	
Satd. Flow (prot)	1558	1429	0	0	1646	0	0	1717	0	0	1648	0
Flt Permitted	0.749				0.831			0.777			0.973	
Satd. Flow (perm)	1215	1429	0	0	1385	0	0	1347	0	0	1604	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		345			38			4			40	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		186.3			207.9			394.4			121.4	
Travel Time (s)		13.4			15.0			28.4			8.7	
Confl. Peds. (#/hr)	10		26	26		10	25		41	41		25
Confl. Bikes (#/hr)												2
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 (%)	11%	0%	4%	0%	0%	0%	3%	4%	0%	0%	2%	7%
Adj. Flow (vph)	109	0	79	7	0	6	99	273	16	27	357	173
Shared Lane Traffic (%)												
Lane Group Flow (vph)	109	79	0	0	13	0	0	388	0	0	557	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)	26.5	26.5		26.5	26.5		26.6	26.6		26.6	26.6	
Total Split (s)	35.0	35.0		35.0	35.0		40.0	40.0		40.0	40.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	29.5	29.5		29.5	29.5		34.4	34.4		34.4	34.4	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.5	5.5			5.5			5.6			5.6	
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		Max	Max		Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	10.4	10.4			10.2			39.6			39.6	
Actuated g/C Ratio	0.18	0.18			0.18			0.69			0.69	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.50	0.15			0.05			0.42			0.50	
Control Delay	28.7	0.6			2.4			7.9			8.0	
Queue Delay	0.0	0.0			0.0			0.0			0.2	
Total Delay	28.7	0.6			2.4			7.9			8.3	
LOS	C	A			A			A			A	
Approach Delay		16.9			2.4			7.9			8.3	
Approach LOS		B			A			A			A	
Queue Length 50th (m)	10.0	0.0			0.0			17.4			25.0	
Queue Length 95th (m)	22.0	0.0			1.3			42.1			58.7	
Internal Link Dist (m)		162.3			183.9			370.4			97.4	
Turn Bay Length (m)	60.0											
Base Capacity (vph)	624	902			730			929			1117	
Starvation Cap Reductn	0	0			0			0			127	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.17	0.09			0.02			0.42			0.56	

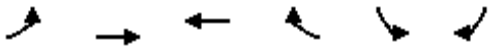
Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 57.5			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.50			
Intersection Signal Delay: 9.5		Intersection LOS: A	
Intersection Capacity Utilization 76.6%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Bayshore Drive & Woodridge Crescent (N)





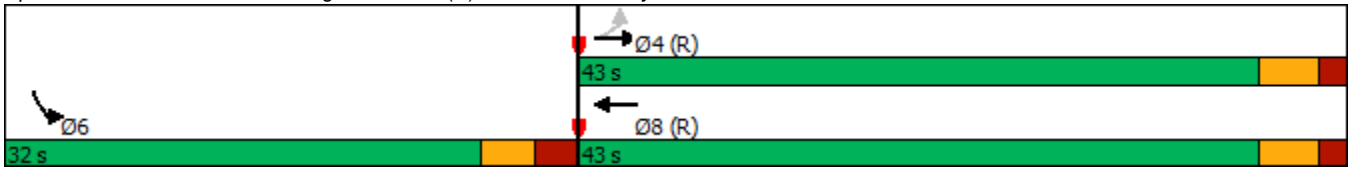
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	17	446	190	7	13	19
Future Volume (vph)	17	446	190	7	13	19
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor	0.91		1.00		0.96	
Frt			0.995		0.919	
Flt Protected	0.950				0.980	
Satd. Flow (prot)	1631	3293	3251	0	1529	0
Flt Permitted	0.615				0.980	
Satd. Flow (perm)	966	3293	3251	0	1529	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			7		21	
Link Speed (k/h)		40	40		50	
Link Distance (m)		172.9	23.2		196.3	
Travel Time (s)		15.6	2.1		14.1	
Confl. Peds. (#/hr)	37			37		58
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	6%	5%	5%	14%	0%	5%
Adj. Flow (vph)	19	496	211	8	14	21
Shared Lane Traffic (%)						
Lane Group Flow (vph)	19	496	219	0	35	0
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	10.0	10.0	17.0		29.4	
Total Split (s)	43.0	43.0	43.0		32.0	
Total Split (%)	57.3%	57.3%	57.3%		42.7%	
Maximum Green (s)	38.0	38.0	38.0		26.6	
Yellow Time (s)	3.3	3.3	3.3		3.0	
All-Red Time (s)	1.7	1.7	1.7		2.4	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.4	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	C-Max	C-Max	C-Max		None	
Walk Time (s)			7.0		7.0	
Flash Dont Walk (s)			5.0		17.0	
Pedestrian Calls (#/hr)			0		0	
Act Effct Green (s)	67.7	67.7	67.7		6.6	
Actuated g/C Ratio	0.90	0.90	0.90		0.09	
v/c Ratio	0.02	0.17	0.07		0.23	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Control Delay	2.0	1.6	1.4		22.2	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	2.0	1.6	1.4		22.2	
LOS	A	A	A		C	
Approach Delay		1.6	1.4		22.3	
Approach LOS		A	A		C	
Queue Length 50th (m)	0.0	0.0	0.0		1.9	
Queue Length 95th (m)	1.8	12.4	5.5		9.5	
Internal Link Dist (m)		148.9	0.1		172.3	
Turn Bay Length (m)	40.0					
Base Capacity (vph)	871	2971	2933		555	
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	0.02	0.17	0.07		0.06	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.23			
Intersection Signal Delay: 2.5		Intersection LOS: A	
Intersection Capacity Utilization 41.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Woodridge Crescent (S) & 220m W of Bayshore



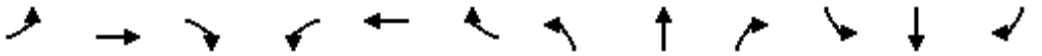
Intersection	
Int Delay, s/veh	5.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	106	38	73	62	18	172
Future Vol, veh/h	106	38	73	62	18	172
Conflicting Peds, #/hr	0	27	27	0	25	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	11	21	11	6	44	12
Mvmt Flow	118	42	81	69	20	191

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	187	0	422	169
Stage 1	-	-	-	-	166	-
Stage 2	-	-	-	-	256	-
Critical Hdwy	-	-	4.21	-	6.84	6.32
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.299	-	3.896	3.408
Pot Cap-1 Maneuver	-	-	1335	-	516	850
Stage 1	-	-	-	-	771	-
Stage 2	-	-	-	-	698	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1302	-	461	827
Mov Cap-2 Maneuver	-	-	-	-	461	-
Stage 1	-	-	-	-	752	-
Stage 2	-	-	-	-	639	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.3	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	461	827	-	-	1302	-
HCM Lane V/C Ratio	0.043	0.231	-	-	0.062	-
HCM Control Delay (s)	13.2	10.7	-	-	7.9	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.9	-	-	0.2	-



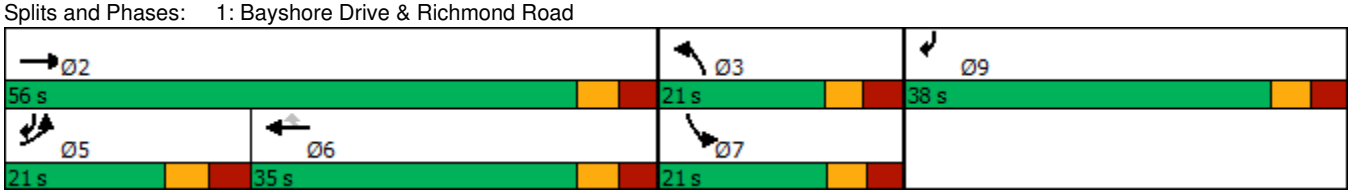
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	333	972	0	0	329	93	253	0	12	82	0	321
Future Volume (vph)	333	972	0	0	329	93	253	0	12	82	0	321
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	205.0		0.0	0.0		60.0	0.0		35.0	50.0		0.0
Storage Lanes	2		0	0		1	2		1	1		3
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	0.97	1.00	0.76
Ped Bike Factor						0.99						
Frt						0.850			0.850			0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	3321	3424	0	0	4732	1502	3257	0	1547	3022	0	3391
Flt Permitted	0.950						0.950			0.950		
Satd. Flow (perm)	3321	3424	0	0	4732	1483	3257	0	1547	3022	0	3391
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)						169			236			
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		676.3			322.3			173.9			198.6	
Travel Time (s)		34.8			16.6			12.5			14.3	
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 (%)	1%	1%	0%	0%	5%	3%	3%	0%	0%	11%	0%	4%
Adj. Flow (vph)	333	972	0	0	329	93	253	0	12	82	0	321
Shared Lane Traffic (%)												
Lane Group Flow (vph)	333	972	0	0	329	93	253	0	12	82	0	321
Turn Type	Prot	NA			NA	Perm	Prot		Free	Prot		pt+ov
Protected Phases	5	2			6		3			7		5 9
Permitted Phases						6			Free			
Detector Phase	5	2			6	6	3			7		5 9
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0			5.0		
Minimum Split (s)	12.3	32.1			32.1	32.1	11.9			11.6		
Total Split (s)	21.0	56.0			35.0	35.0	21.0			21.0		
Total Split (%)	18.3%	48.7%			30.4%	30.4%	18.3%			18.3%		
Maximum Green (s)	13.7	48.9			27.9	27.9	14.1			14.4		
Yellow Time (s)	3.7	3.7			3.7	3.7	3.3			3.3		
All-Red Time (s)	3.6	3.4			3.4	3.4	3.6			3.3		
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0			0.0		
Total Lost Time (s)	7.3	7.1			7.1	7.1	6.9			6.6		
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		
Recall Mode	None	Max			Max	Max	None			None		
Walk Time (s)		7.0			7.0	7.0						
Flash Dont Walk (s)		18.0			18.0	18.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	13.2	49.0			28.5	28.5	12.1		93.7	11.7		31.8
Actuated g/C Ratio	0.14	0.52			0.30	0.30	0.13		1.00	0.12		0.34
v/c Ratio	0.71	0.54			0.23	0.16	0.60		0.01	0.22		0.28

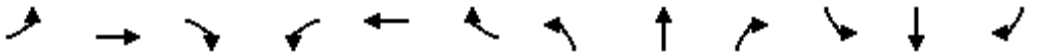
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	48.2	16.9			25.8	0.6	45.2		0.0	38.1		23.3
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	48.2	16.9			25.8	0.6	45.2		0.0	38.1		23.3
LOS	D	B			C	A	D		A	D		C
Approach Delay		24.9			20.2			43.2			26.4	
Approach LOS		C			C			D			C	
Queue Length 50th (m)	29.8	58.9			16.4	0.0	22.5		0.0	6.9		18.2
Queue Length 95th (m)	#46.5	84.8			25.4	0.1	35.7		0.0	13.9		27.4
Internal Link Dist (m)		652.3			298.3			149.9			174.6	
Turn Bay Length (m)	205.0					60.0			35.0	50.0		
Base Capacity (vph)	486	1790			1437	568	491		1547	465		1178
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	0.69	0.54			0.23	0.16	0.52		0.01	0.18		0.27

Intersection Summary			
Area Type:	Other		
Cycle Length: 115			
Actuated Cycle Length: 93.7			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 26.3		Intersection LOS: C	
Intersection Capacity Utilization 47.6%		ICU Level of Service A	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Bayshore Drive & Richmond Road



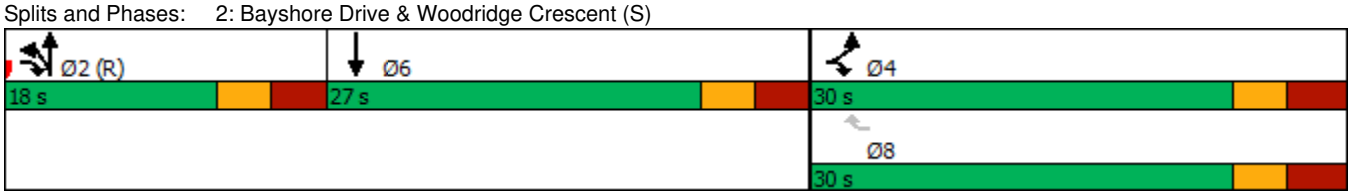


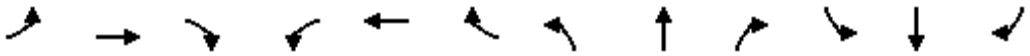
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	0	155	0	0	0	136	34	0	0	206	83
Future Volume (vph)	44	0	155	0	0	0	136	34	0	0	206	83
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor	0.97						0.98	0.99			0.99	
Frt			0.850								0.957	
Flt Protected	0.950						0.950	0.971				
Satd. Flow (prot)	1491	0	2545	0	0	1820	1626	1643	0	0	3182	0
Flt Permitted	0.950						0.950	0.971				
Satd. Flow (perm)	1447	0	2545	0	0	1820	1597	1625	0	0	3182	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											80	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		150.9			229.8			179.2			394.4	
Travel Time (s)		13.6			20.7			12.9			28.4	
Confl. Peds. (#/hr)	18		44	44		18	24		4	4		24
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 (%)	16%	0%	7%	0%	0%	0%	1%	4%	0%	0%	2%	5%
Adj. Flow (vph)	44	0	155	0	0	0	136	34	0	0	206	83
Shared Lane Traffic (%)							38%					
Lane Group Flow (vph)	44	0	155	0	0	0	84	86	0	0	289	0
Turn Type	Prot		pt+ov			Perm	Split	NA			NA	
Protected Phases	4		4 2				2	2			6	
Permitted Phases						8						
Detector Phase	4		4 2			8	2	2			6	
Switch Phase												
Minimum Initial (s)	5.0					5.0	5.0	5.0			5.0	
Minimum Split (s)	29.5					11.5	11.2	11.2			26.2	
Total Split (s)	30.0					30.0	18.0	18.0			27.0	
Total Split (%)	40.0%					40.0%	24.0%	24.0%			36.0%	
Maximum Green (s)	23.5					23.5	11.8	11.8			20.8	
Yellow Time (s)	3.0					3.0	3.0	3.0			3.0	
All-Red Time (s)	3.5					3.5	3.2	3.2			3.2	
Lost Time Adjust (s)	0.0					0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.5					6.5	6.2	6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0					3.0	3.0	3.0			3.0	
Recall Mode	None					None	C-Max	C-Max			Max	
Walk Time (s)	7.0										7.0	
Flash Dont Walk (s)	16.0										13.0	
Pedestrian Calls (#/hr)	0										0	
Act Effct Green (s)	8.0		41.5				27.3	27.3			20.8	
Actuated g/C Ratio	0.11		0.55				0.36	0.36			0.28	
v/c Ratio	0.28		0.11				0.14	0.14			0.31	
Control Delay	34.7		8.2				17.6	17.6			16.3	
Queue Delay	0.0		0.0				0.0	0.0			0.0	
Total Delay	34.7		8.2				17.6	17.6			16.3	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C		A				B	B			B	
Approach Delay		14.1						17.6			16.3	
Approach LOS		B						B			B	
Queue Length 50th (m)	5.9		5.4				8.1	8.3			12.0	
Queue Length 95th (m)	14.4		9.8				18.5	19.0			21.4	
Internal Link Dist (m)		126.9			205.8			155.2			370.4	
Turn Bay Length (m)												
Base Capacity (vph)	467		1408				592	598			940	
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	0.09		0.11				0.14	0.14			0.31	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.31			
Intersection Signal Delay: 16.0		Intersection LOS: B	
Intersection Capacity Utilization 44.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Bayshore Drive & Woodridge Crescent (S)



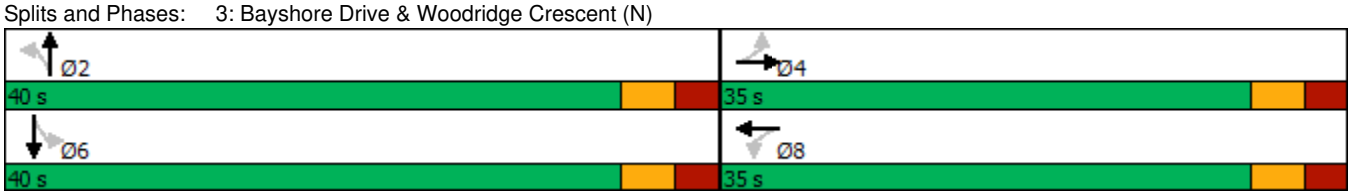


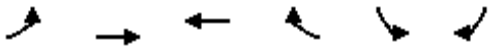
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	1	98	20	1	12	94	270	9	3	158	95
Future Volume (vph)	152	1	98	20	1	12	94	270	9	3	158	95
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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			0.98			0.99			0.98	
Frt		0.852			0.951			0.997			0.950	
Flt Protected	0.950				0.971			0.988			0.999	
Satd. Flow (prot)	1679	1471	0	0	1660	0	0	1727	0	0	1587	0
Flt Permitted	0.736				0.807			0.860			0.997	
Satd. Flow (perm)	1273	1471	0	0	1364	0	0	1493	0	0	1583	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		98			12			2			52	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		186.3			207.9			394.4			121.4	
Travel Time (s)		13.4			15.0			28.4			8.7	
Confl. Peds. (#/hr)	21		20	20		21	23		21	21		23
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	0%	2%	0%	0%	0%	6%	3%	0%	0%	5%	9%
Adj. Flow (vph)	152	1	98	20	1	12	94	270	9	3	158	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	99	0	0	33	0	0	373	0	0	256	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)	26.5	26.5		26.5	26.5		26.6	26.6		26.6	26.6	
Total Split (s)	35.0	35.0		35.0	35.0		40.0	40.0		40.0	40.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	29.5	29.5		29.5	29.5		34.4	34.4		34.4	34.4	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.5	5.5			5.5			5.6			5.6	
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		Max	Max		Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	12.4	12.4			12.4			37.3			37.3	
Actuated g/C Ratio	0.20	0.20			0.20			0.61			0.61	
v/c Ratio	0.59	0.26			0.11			0.41			0.26	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	30.3	6.7			14.2			8.6			5.8	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	30.3	6.7			14.2			8.6			5.8	
LOS	C	A			B			A			A	
Approach Delay		21.0			14.2			8.6			5.8	
Approach LOS		C			B			A			A	
Queue Length 50th (m)	14.4	0.1			1.8			17.8			8.5	
Queue Length 95th (m)	29.3	9.1			7.3			42.3			22.5	
Internal Link Dist (m)		162.3			183.9			370.4			97.4	
Turn Bay Length (m)	60.0											
Base Capacity (vph)	620	767			671			915			989	
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	0.25	0.13			0.05			0.41			0.26	

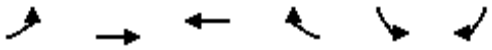
Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 60.8			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 11.4		Intersection LOS: B	
Intersection Capacity Utilization 67.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Bayshore Drive & Woodridge Crescent (N)





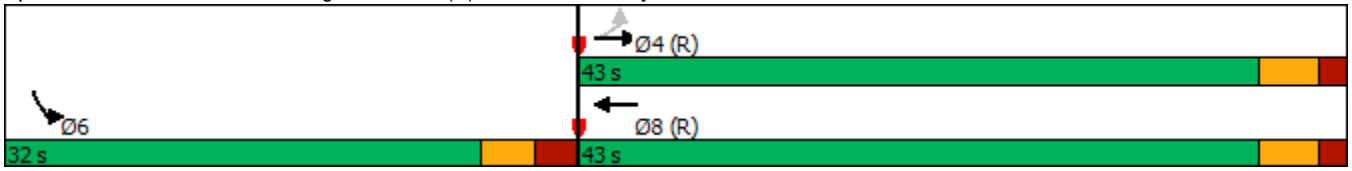
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	19	140	120	2	34	19
Future Volume (vph)	19	140	120	2	34	19
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor	0.94		1.00		0.99	
Frt			0.998		0.952	
Flt Protected	0.950				0.969	
Satd. Flow (prot)	1729	3033	3224	0	1568	0
Flt Permitted	0.675				0.969	
Satd. Flow (perm)	1157	3033	3224	0	1568	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			2		19	
Link Speed (k/h)		40	40		50	
Link Distance (m)		172.9	23.2		196.3	
Travel Time (s)		15.6	2.1		14.1	
Confl. Peds. (#/hr)	22			22		25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	14%	7%	0%	0%	16%
Adj. Flow (vph)	19	140	120	2	34	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	19	140	122	0	53	0
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	10.0	10.0	17.0		29.4	
Total Split (s)	43.0	43.0	43.0		32.0	
Total Split (%)	57.3%	57.3%	57.3%		42.7%	
Maximum Green (s)	38.0	38.0	38.0		26.6	
Yellow Time (s)	3.3	3.3	3.3		3.0	
All-Red Time (s)	1.7	1.7	1.7		2.4	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.4	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	C-Max	C-Max	C-Max		None	
Walk Time (s)			7.0		7.0	
Flash Dont Walk (s)			5.0		17.0	
Pedestrian Calls (#/hr)			0		0	
Act Effct Green (s)	63.7	63.7	63.7		7.3	
Actuated g/C Ratio	0.85	0.85	0.85		0.10	
v/c Ratio	0.02	0.05	0.04		0.31	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Control Delay	2.6	2.2	2.2		26.9	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	2.6	2.2	2.2		26.9	
LOS	A	A	A		C	
Approach Delay		2.2	2.2		26.9	
Approach LOS		A	A		C	
Queue Length 50th (m)	0.5	1.8	1.5		4.6	
Queue Length 95th (m)	2.0	4.3	3.8		13.7	
Internal Link Dist (m)		148.9	0.1		172.3	
Turn Bay Length (m)	40.0					
Base Capacity (vph)	982	2575	2737		568	
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	0.02	0.05	0.04		0.09	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.31			
Intersection Signal Delay: 6.1		Intersection LOS: A	
Intersection Capacity Utilization 38.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Woodridge Crescent (S) & 220m W of Bayshore



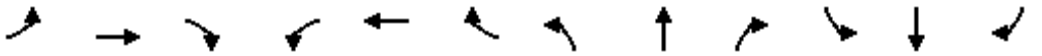
Intersection	
Int Delay, s/veh	2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	95	15	33	52	14	28
Future Vol, veh/h	95	15	33	52	14	28
Conflicting Peds, #/hr	0	25	25	0	15	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	6	53	18	10	29	46
Mvmt Flow	95	15	33	52	14	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	135	0	261	132
Stage 1	-	-	-	-	128	-
Stage 2	-	-	-	-	133	-
Critical Hdwy	-	-	4.28	-	6.69	6.66
Critical Hdwy Stg 1	-	-	-	-	5.69	-
Critical Hdwy Stg 2	-	-	-	-	5.69	-
Follow-up Hdwy	-	-	2.362	-	3.761	3.714
Pot Cap-1 Maneuver	-	-	1356	-	673	812
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	831	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1325	-	632	790
Mov Cap-2 Maneuver	-	-	-	-	632	-
Stage 1	-	-	-	-	816	-
Stage 2	-	-	-	-	799	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	632	790	-	-	1325	-
HCM Lane V/C Ratio	0.022	0.035	-	-	0.025	-
HCM Control Delay (s)	10.8	9.7	-	-	7.8	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0.1	-

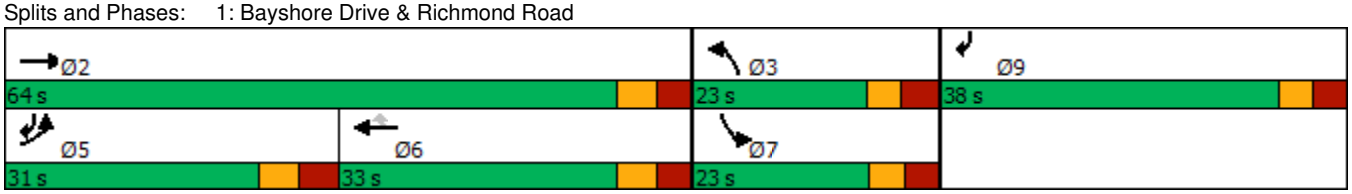


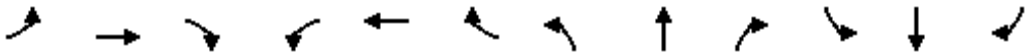
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	394	504	0	0	641	111	166	0	41	130	0	850
Future Volume (vph)	394	504	0	0	641	111	166	0	41	130	0	850
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	205.0		0.0	0.0		60.0	0.0		35.0	50.0		0.0
Storage Lanes	2		0	0		1	2		1	1		3
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	0.97	1.00	0.76
Ped Bike Factor	1.00					0.99			0.99	1.00		
Frt						0.850			0.850			0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	3354	3424	0	0	4871	1547	3321	0	1473	3077	0	3492
Flt Permitted	0.950						0.950			0.950		
Satd. Flow (perm)	3350	3424	0	0	4871	1524	3321	0	1455	3066	0	3492
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)						155			217			
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		676.3			322.3			173.9			198.6	
Travel Time (s)		34.8			16.6			12.5			14.3	
Confl. Peds. (#/hr)	2					2			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 (%)	0%	1%	0%	0%	2%	0%	1%	0%	5%	9%	0%	1%
Adj. Flow (vph)	394	504	0	0	641	111	166	0	41	130	0	850
Shared Lane Traffic (%)												
Lane Group Flow (vph)	394	504	0	0	641	111	166	0	41	130	0	850
Turn Type	Prot	NA			NA	Perm	Prot		Free	Prot		pt+ov
Protected Phases	5	2			6		3			7		5 9
Permitted Phases						6			Free			
Detector Phase	5	2			6	6	3			7		5 9
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0			5.0		
Minimum Split (s)	12.3	32.1			32.1	32.1	11.9			11.6		
Total Split (s)	31.0	64.0			33.0	33.0	23.0			23.0		
Total Split (%)	24.8%	51.2%			26.4%	26.4%	18.4%			18.4%		
Maximum Green (s)	23.7	56.9			25.9	25.9	16.1			16.4		
Yellow Time (s)	3.7	3.7			3.7	3.7	3.3			3.3		
All-Red Time (s)	3.6	3.4			3.4	3.4	3.6			3.3		
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0			0.0		
Total Lost Time (s)	7.3	7.1			7.1	7.1	6.9			6.6		
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		
Recall Mode	None	Max			Max	Max	None			None		
Walk Time (s)		7.0			7.0	7.0						
Flash Dont Walk (s)		18.0			18.0	18.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	19.7	57.1			30.0	30.0	11.0		114.7	11.3		52.3
Actuated g/C Ratio	0.17	0.50			0.26	0.26	0.10		1.00	0.10		0.46
v/c Ratio	0.68	0.30			0.50	0.22	0.52		0.03	0.43		0.53

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	51.3	18.4			39.4	3.1	55.9		0.0	53.7		23.5
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	51.3	18.4			39.4	3.1	55.9		0.0	53.7		23.5
LOS	D	B			D	A	E		A	D		C
Approach Delay		32.8			34.0			44.9			27.5	
Approach LOS		C			C			D			C	
Queue Length 50th (m)	43.1	34.0			45.2	0.0	18.6		0.0	14.3		58.0
Queue Length 95th (m)	61.9	52.4			65.7	5.9	30.5		0.0	24.8		72.3
Internal Link Dist (m)		652.3			298.3			149.9			174.6	
Turn Bay Length (m)	205.0					60.0			35.0	50.0		
Base Capacity (vph)	695	1703			1275	513	467		1455	441		1676
Starvation Cap Reductn	0	0			0	0	0		0	0		0
Spillback Cap Reductn	0	0			0	0	0		0	0		0
Storage Cap Reductn	0	0			0	0	0		0	0		0
Reduced v/c Ratio	0.57	0.30			0.50	0.22	0.36		0.03	0.29		0.51

Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 114.7			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 32.2		Intersection LOS: C	
Intersection Capacity Utilization 62.4%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Bayshore Drive & Richmond Road



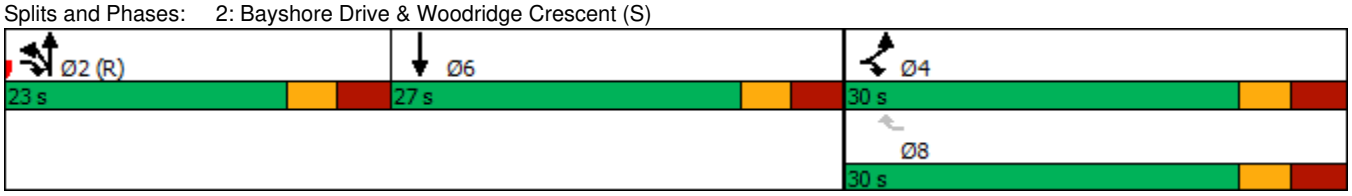


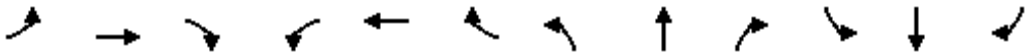
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	149	0	589	0	0	0	226	66	0	0	243	168
Future Volume (vph)	149	0	589	0	0	0	226	66	0	0	243	168
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor	0.95						0.98	0.99			0.98	
Frt			0.850								0.939	
Flt Protected	0.950						0.950	0.973				
Satd. Flow (prot)	1662	0	2643	0	0	1820	1643	1675	0	0	3108	0
Flt Permitted	0.950						0.950	0.973				
Satd. Flow (perm)	1584	0	2643	0	0	1820	1617	1660	0	0	3108	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											168	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		150.9			229.8			179.2			394.4	
Travel Time (s)		13.6			20.7			12.9			28.4	
Confl. Peds. (#/hr)	27		66	66		27	23		4	4		23
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 (%)	4%	0%	3%	0%	0%	0%	0%	1%	0%	0%	2%	4%
Adj. Flow (vph)	149	0	589	0	0	0	226	66	0	0	243	168
Shared Lane Traffic (%)							36%					
Lane Group Flow (vph)	149	0	589	0	0	0	145	147	0	0	411	0
Turn Type	Prot		pt+ov			Perm	Split	NA			NA	
Protected Phases	4		4 2				2	2			6	
Permitted Phases						8						
Detector Phase	4		4 2			8	2	2			6	
Switch Phase												
Minimum Initial (s)	5.0					5.0	5.0	5.0			5.0	
Minimum Split (s)	29.5					11.5	11.2	11.2			26.2	
Total Split (s)	30.0					30.0	23.0	23.0			27.0	
Total Split (%)	37.5%					37.5%	28.8%	28.8%			33.8%	
Maximum Green (s)	23.5					23.5	16.8	16.8			20.8	
Yellow Time (s)	3.0					3.0	3.0	3.0			3.0	
All-Red Time (s)	3.5					3.5	3.2	3.2			3.2	
Lost Time Adjust (s)	0.0					0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.5					6.5	6.2	6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0					3.0	3.0	3.0			3.0	
Recall Mode	None					None	C-Max	C-Max			Max	
Walk Time (s)	7.0										7.0	
Flash Dont Walk (s)	16.0										13.0	
Pedestrian Calls (#/hr)	0										0	
Act Effct Green (s)	16.1		46.5				24.2	24.2			20.8	
Actuated g/C Ratio	0.20		0.58				0.30	0.30			0.26	
v/c Ratio	0.45		0.38				0.29	0.29			0.44	
Control Delay	31.4		9.9				25.0	24.9			15.9	
Queue Delay	0.0		0.0				0.0	0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	31.4		9.9				25.0	24.9			15.9	
LOS	C		A				C	C			B	
Approach Delay		14.3						24.9			15.9	
Approach LOS		B						C			B	
Queue Length 50th (m)	20.0		25.0				17.5	17.7			15.5	
Queue Length 95th (m)	33.3		35.9				36.4	36.8			27.9	
Internal Link Dist (m)		126.9			205.8			155.2			370.4	
Turn Bay Length (m)												
Base Capacity (vph)	488		1498				497	507			932	
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	0.31		0.39				0.29	0.29			0.44	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.45			
Intersection Signal Delay: 16.9		Intersection LOS: B	
Intersection Capacity Utilization 53.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Bayshore Drive & Woodridge Crescent (S)





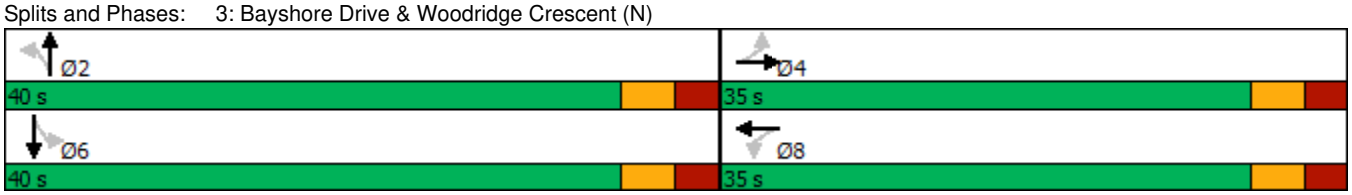
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	0	71	6	0	5	89	252	14	24	329	156
Future Volume (vph)	98	0	71	6	0	5	89	252	14	24	329	156
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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	0.96			0.98			0.99			0.98	
Frt		0.850			0.939			0.995			0.959	
Flt Protected	0.950				0.973			0.988			0.998	
Satd. Flow (prot)	1558	1429	0	0	1646	0	0	1721	0	0	1650	0
Flt Permitted	0.750				0.829			0.800			0.977	
Satd. Flow (perm)	1217	1429	0	0	1383	0	0	1388	0	0	1613	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		374			38			4			39	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		186.3			207.9			394.4			121.4	
Travel Time (s)		13.4			15.0			28.4			8.7	
Confl. Peds. (#/hr)	10		26	26		10	25		41	41		25
Confl. Bikes (#/hr)												2
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 (%)	11%	0%	4%	0%	0%	0%	3%	4%	0%	0%	2%	7%
Adj. Flow (vph)	98	0	71	6	0	5	89	252	14	24	329	156
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	71	0	0	11	0	0	355	0	0	509	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)	26.5	26.5		26.5	26.5		26.6	26.6		26.6	26.6	
Total Split (s)	35.0	35.0		35.0	35.0		40.0	40.0		40.0	40.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	29.5	29.5		29.5	29.5		34.4	34.4		34.4	34.4	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.5	5.5			5.5			5.6			5.6	
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		Max	Max		Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	9.9	9.9			9.8			40.3			40.3	
Actuated g/C Ratio	0.17	0.17			0.17			0.70			0.70	

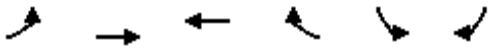
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.47	0.13			0.04			0.37			0.45	
Control Delay	28.5	0.5			1.6			6.9			7.1	
Queue Delay	0.0	0.0			0.0			0.0			0.2	
Total Delay	28.5	0.5			1.6			6.9			7.2	
LOS	C	A			A			A			A	
Approach Delay		16.7			1.6			6.9			7.2	
Approach LOS		B			A			A			A	
Queue Length 50th (m)	8.9	0.0			0.0			14.7			20.8	
Queue Length 95th (m)	20.3	0.0			0.8			35.2			48.7	
Internal Link Dist (m)		162.3			183.9			370.4			97.4	
Turn Bay Length (m)	60.0											
Base Capacity (vph)	623	914			727			969			1137	
Starvation Cap Reductn	0	0			0			0			138	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.16	0.08			0.02			0.37			0.51	

Intersection Summary

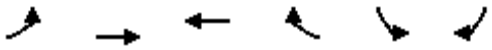
Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 57.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.47
Intersection Signal Delay: 8.6 Intersection LOS: A
Intersection Capacity Utilization 77.2% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Bayshore Drive & Woodridge Crescent (N)





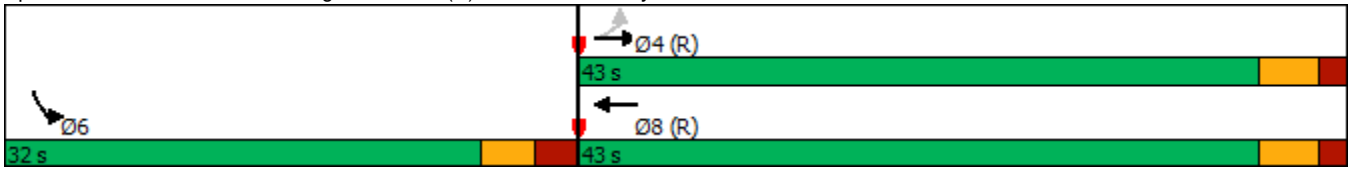
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	17	446	190	7	13	19
Future Volume (vph)	17	446	190	7	13	19
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor	0.91		1.00		0.96	
Frt			0.995		0.920	
Flt Protected	0.950				0.980	
Satd. Flow (prot)	1631	3293	3251	0	1532	0
Flt Permitted	0.628				0.980	
Satd. Flow (perm)	983	3293	3251	0	1532	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			7		19	
Link Speed (k/h)		40	40		50	
Link Distance (m)		172.9	23.2		196.3	
Travel Time (s)		15.6	2.1		14.1	
Confl. Peds. (#/hr)	37			37		58
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	6%	5%	5%	14%	0%	5%
Adj. Flow (vph)	17	446	190	7	13	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	446	197	0	32	0
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	10.0	10.0	17.0		29.4	
Total Split (s)	43.0	43.0	43.0		32.0	
Total Split (%)	57.3%	57.3%	57.3%		42.7%	
Maximum Green (s)	38.0	38.0	38.0		26.6	
Yellow Time (s)	3.3	3.3	3.3		3.0	
All-Red Time (s)	1.7	1.7	1.7		2.4	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.4	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	C-Max	C-Max	C-Max		None	
Walk Time (s)			7.0		7.0	
Flash Dont Walk (s)			5.0		17.0	
Pedestrian Calls (#/hr)			0		0	
Act Effct Green (s)	67.7	67.7	67.7		6.5	
Actuated g/C Ratio	0.90	0.90	0.90		0.09	
v/c Ratio	0.02	0.15	0.07		0.21	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Control Delay	1.9	1.5	1.4		22.4	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	1.9	1.5	1.4		22.4	
LOS	A	A	A		C	
Approach Delay		1.5	1.4		22.4	
Approach LOS		A	A		C	
Queue Length 50th (m)	0.0	0.0	0.0		1.8	
Queue Length 95th (m)	1.7	10.9	5.0		9.0	
Internal Link Dist (m)		148.9	0.1		172.3	
Turn Bay Length (m)	40.0					
Base Capacity (vph)	887	2973	2936		555	
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	0.02	0.15	0.07		0.06	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.21			
Intersection Signal Delay: 2.5		Intersection LOS: A	
Intersection Capacity Utilization 41.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Woodridge Crescent (S) & 220m W of Bayshore



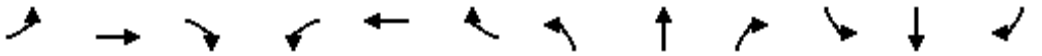
Intersection	
Int Delay, s/veh	5.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	106	38	73	62	18	172
Future Vol, veh/h	106	38	73	62	18	172
Conflicting Peds, #/hr	0	27	27	0	25	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	11	21	11	6	44	12
Mvmt Flow	106	38	73	62	18	172

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	171	0	385	155
Stage 1	-	-	-	-	152	-
Stage 2	-	-	-	-	233	-
Critical Hdwy	-	-	4.21	-	6.84	6.32
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.299	-	3.896	3.408
Pot Cap-1 Maneuver	-	-	1353	-	544	865
Stage 1	-	-	-	-	783	-
Stage 2	-	-	-	-	716	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1319	-	490	841
Mov Cap-2 Maneuver	-	-	-	-	490	-
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	661	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.3	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	490	841	-	-	1319	-
HCM Lane V/C Ratio	0.037	0.205	-	-	0.055	-
HCM Control Delay (s)	12.6	10.4	-	-	7.9	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.8	-	-	0.2	-



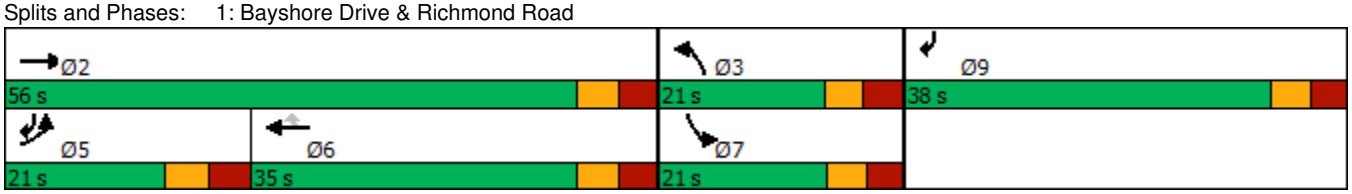
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	336	981	0	0	332	94	256	0	12	83	0	324
Future Volume (vph)	336	981	0	0	332	94	256	0	12	83	0	324
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	205.0		0.0	0.0		60.0	0.0		35.0	50.0		0.0
Storage Lanes	2		0	0		1	2		1	1		3
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	0.97	1.00	0.76
Ped Bike Factor						0.99						
Frt						0.850			0.850			0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	3321	3424	0	0	4732	1502	3257	0	1547	3022	0	3391
Flt Permitted	0.950						0.950			0.950		
Satd. Flow (perm)	3321	3424	0	0	4732	1483	3257	0	1547	3022	0	3391
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)						169			236			
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		676.3			322.3			173.9			198.6	
Travel Time (s)		34.8			16.6			12.5			14.3	
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 (%)	1%	1%	0%	0%	5%	3%	3%	0%	0%	11%	0%	4%
Adj. Flow (vph)	336	981	0	0	332	94	256	0	12	83	0	324
Shared Lane Traffic (%)												
Lane Group Flow (vph)	336	981	0	0	332	94	256	0	12	83	0	324
Turn Type	Prot	NA			NA	Perm	Prot		Free	Prot		pt+ov
Protected Phases	5	2			6		3			7		5 9
Permitted Phases						6			Free			
Detector Phase	5	2			6	6	3			7		5 9
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0			5.0		
Minimum Split (s)	12.3	32.1			32.1	32.1	11.9			11.6		
Total Split (s)	21.0	56.0			35.0	35.0	21.0			21.0		
Total Split (%)	18.3%	48.7%			30.4%	30.4%	18.3%			18.3%		
Maximum Green (s)	13.7	48.9			27.9	27.9	14.1			14.4		
Yellow Time (s)	3.7	3.7			3.7	3.7	3.3			3.3		
All-Red Time (s)	3.6	3.4			3.4	3.4	3.6			3.3		
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0			0.0		
Total Lost Time (s)	7.3	7.1			7.1	7.1	6.9			6.6		
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		
Recall Mode	None	Max			Max	Max	None			None		
Walk Time (s)		7.0			7.0	7.0						
Flash Dont Walk (s)		18.0			18.0	18.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	13.2	49.0			28.4	28.4	12.1		93.8	11.7		31.9
Actuated g/C Ratio	0.14	0.52			0.30	0.30	0.13		1.00	0.12		0.34
v/c Ratio	0.72	0.55			0.23	0.17	0.61		0.01	0.22		0.28

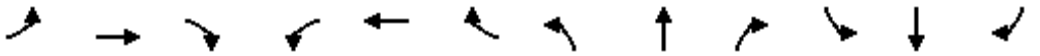
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	48.6	17.0			25.9	0.6	45.4		0.0	38.2		23.4
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	48.6	17.0			25.9	0.6	45.4		0.0	38.2		23.4
LOS	D	B			C	A	D		A	D		C
Approach Delay		25.1			20.3			43.4			26.4	
Approach LOS		C			C			D			C	
Queue Length 50th (m)	30.2	59.8			16.6	0.0	22.8		0.0	6.9		18.5
Queue Length 95th (m)	#47.3	86.0			25.7	0.3	36.1		0.0	14.0		27.7
Internal Link Dist (m)		652.3			298.3			149.9			174.6	
Turn Bay Length (m)	205.0					60.0			35.0	50.0		
Base Capacity (vph)	486	1788			1435	567	490		1547	464		1179
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	0.69	0.55			0.23	0.17	0.52		0.01	0.18		0.27

Intersection Summary			
Area Type:	Other		
Cycle Length: 115			
Actuated Cycle Length: 93.8			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 26.5		Intersection LOS: C	
Intersection Capacity Utilization 48.0%		ICU Level of Service A	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Bayshore Drive & Richmond Road



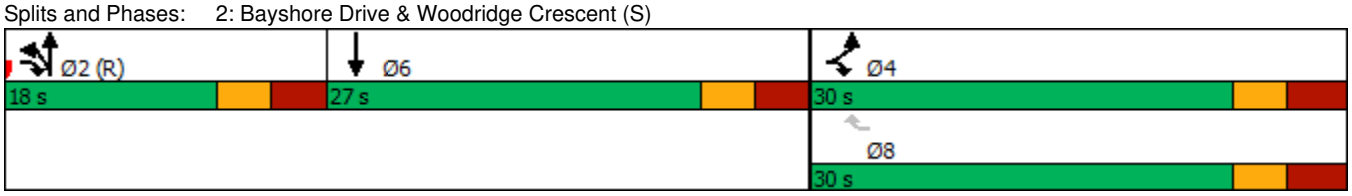


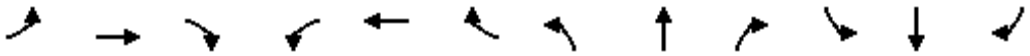
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	0	155	0	0	0	136	34	0	0	208	83
Future Volume (vph)	44	0	155	0	0	0	136	34	0	0	208	83
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor	0.97						0.98	0.99			0.99	
Frt			0.850								0.957	
Flt Protected	0.950						0.950	0.971				
Satd. Flow (prot)	1491	0	2545	0	0	1820	1626	1643	0	0	3182	0
Flt Permitted	0.950						0.950	0.971				
Satd. Flow (perm)	1447	0	2545	0	0	1820	1597	1625	0	0	3182	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											79	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		150.9			229.8			179.2			394.4	
Travel Time (s)		13.6			20.7			12.9			28.4	
Confl. Peds. (#/hr)	18		44	44		18	24		4	4		24
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 (%)	16%	0%	7%	0%	0%	0%	1%	4%	0%	0%	2%	5%
Adj. Flow (vph)	44	0	155	0	0	0	136	34	0	0	208	83
Shared Lane Traffic (%)							38%					
Lane Group Flow (vph)	44	0	155	0	0	0	84	86	0	0	291	0
Turn Type	Prot		pt+ov			Perm	Split	NA			NA	
Protected Phases	4		4 2				2	2			6	
Permitted Phases						8						
Detector Phase	4		4 2			8	2	2			6	
Switch Phase												
Minimum Initial (s)	5.0					5.0	5.0	5.0			5.0	
Minimum Split (s)	29.5					11.5	11.2	11.2			26.2	
Total Split (s)	30.0					30.0	18.0	18.0			27.0	
Total Split (%)	40.0%					40.0%	24.0%	24.0%			36.0%	
Maximum Green (s)	23.5					23.5	11.8	11.8			20.8	
Yellow Time (s)	3.0					3.0	3.0	3.0			3.0	
All-Red Time (s)	3.5					3.5	3.2	3.2			3.2	
Lost Time Adjust (s)	0.0					0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.5					6.5	6.2	6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0					3.0	3.0	3.0			3.0	
Recall Mode	None					None	C-Max	C-Max			Max	
Walk Time (s)	7.0										7.0	
Flash Dont Walk (s)	16.0										13.0	
Pedestrian Calls (#/hr)	0										0	
Act Effct Green (s)	8.0		41.5				27.3	27.3			20.8	
Actuated g/C Ratio	0.11		0.55				0.36	0.36			0.28	
v/c Ratio	0.28		0.11				0.14	0.14			0.31	
Control Delay	34.7		8.2				17.6	17.6			16.5	
Queue Delay	0.0		0.0				0.0	0.0			0.0	
Total Delay	34.7		8.2				17.6	17.6			16.5	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C		A				B	B			B	
Approach Delay		14.1						17.6			16.5	
Approach LOS		B						B			B	
Queue Length 50th (m)	5.9		5.4				8.1	8.3			12.1	
Queue Length 95th (m)	14.4		9.8				18.5	19.0			21.6	
Internal Link Dist (m)		126.9			205.8			155.2			370.4	
Turn Bay Length (m)												
Base Capacity (vph)	467		1408				592	598			939	
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	0.09		0.11				0.14	0.14			0.31	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.31			
Intersection Signal Delay: 16.0		Intersection LOS: B	
Intersection Capacity Utilization 44.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Bayshore Drive & Woodridge Crescent (S)



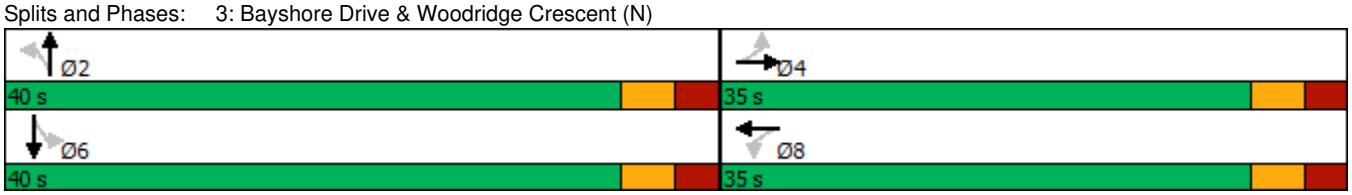


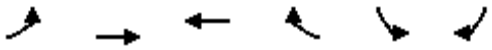
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	1	98	20	1	12	94	272	9	3	159	95
Future Volume (vph)	152	1	98	20	1	12	94	272	9	3	159	95
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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			0.98			0.99			0.98	
Frt		0.852			0.951			0.997			0.950	
Flt Protected	0.950				0.971			0.988			0.999	
Satd. Flow (prot)	1679	1471	0	0	1660	0	0	1727	0	0	1587	0
Flt Permitted	0.736				0.807			0.861			0.997	
Satd. Flow (perm)	1273	1471	0	0	1364	0	0	1495	0	0	1583	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		98			12			2			52	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		186.3			207.9			394.4			121.4	
Travel Time (s)		13.4			15.0			28.4			8.7	
Confl. Peds. (#/hr)	21		20	20		21	23		21	21		23
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	0%	2%	0%	0%	0%	6%	3%	0%	0%	5%	9%
Adj. Flow (vph)	152	1	98	20	1	12	94	272	9	3	159	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	99	0	0	33	0	0	375	0	0	257	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)	26.5	26.5		26.5	26.5		26.6	26.6		26.6	26.6	
Total Split (s)	35.0	35.0		35.0	35.0		40.0	40.0		40.0	40.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	29.5	29.5		29.5	29.5		34.4	34.4		34.4	34.4	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.5	5.5			5.5			5.6			5.6	
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		Max	Max		Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	12.4	12.4			12.4			37.3			37.3	
Actuated g/C Ratio	0.20	0.20			0.20			0.61			0.61	
v/c Ratio	0.59	0.26			0.11			0.41			0.26	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	30.3	6.7			14.2			8.7			5.9	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	30.3	6.7			14.2			8.7			5.9	
LOS	C	A			B			A			A	
Approach Delay		21.0			14.2			8.7			5.9	
Approach LOS		C			B			A			A	
Queue Length 50th (m)	14.4	0.1			1.8			17.9			8.5	
Queue Length 95th (m)	29.3	9.1			7.3			42.6			22.6	
Internal Link Dist (m)		162.3			183.9			370.4			97.4	
Turn Bay Length (m)	60.0											
Base Capacity (vph)	620	767			671			917			989	
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	0.25	0.13			0.05			0.41			0.26	

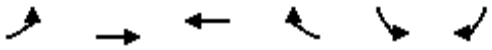
Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 60.8			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 11.4		Intersection LOS: B	
Intersection Capacity Utilization 67.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Bayshore Drive & Woodridge Crescent (N)





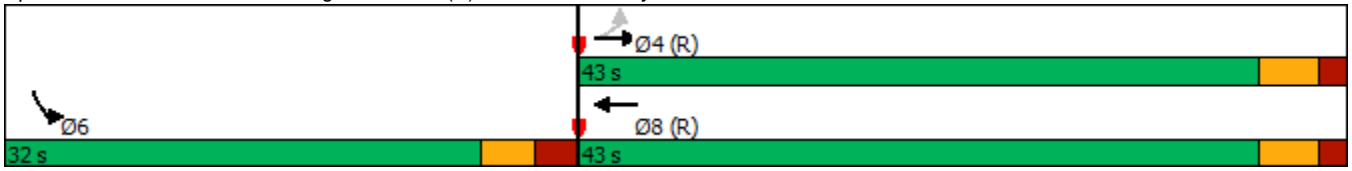
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	19	140	120	2	34	19
Future Volume (vph)	19	140	120	2	34	19
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor	0.94		1.00		0.99	
Frt			0.998		0.952	
Flt Protected	0.950				0.969	
Satd. Flow (prot)	1729	3033	3224	0	1568	0
Flt Permitted	0.675				0.969	
Satd. Flow (perm)	1157	3033	3224	0	1568	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			2		19	
Link Speed (k/h)		40	40		50	
Link Distance (m)		172.9	23.2		196.3	
Travel Time (s)		15.6	2.1		14.1	
Confl. Peds. (#/hr)	22			22		25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	14%	7%	0%	0%	16%
Adj. Flow (vph)	19	140	120	2	34	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	19	140	122	0	53	0
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	10.0	10.0	17.0		29.4	
Total Split (s)	43.0	43.0	43.0		32.0	
Total Split (%)	57.3%	57.3%	57.3%		42.7%	
Maximum Green (s)	38.0	38.0	38.0		26.6	
Yellow Time (s)	3.3	3.3	3.3		3.0	
All-Red Time (s)	1.7	1.7	1.7		2.4	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.4	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	C-Max	C-Max	C-Max		None	
Walk Time (s)			7.0		7.0	
Flash Dont Walk (s)			5.0		17.0	
Pedestrian Calls (#/hr)			0		0	
Act Effct Green (s)	63.7	63.7	63.7		7.3	
Actuated g/C Ratio	0.85	0.85	0.85		0.10	
v/c Ratio	0.02	0.05	0.04		0.31	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Control Delay	2.6	2.2	2.2		26.9	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	2.6	2.2	2.2		26.9	
LOS	A	A	A		C	
Approach Delay		2.2	2.2		26.9	
Approach LOS		A	A		C	
Queue Length 50th (m)	0.5	1.8	1.5		4.6	
Queue Length 95th (m)	2.0	4.3	3.8		13.7	
Internal Link Dist (m)		148.9	0.1		172.3	
Turn Bay Length (m)	40.0					
Base Capacity (vph)	982	2575	2737		568	
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	0.02	0.05	0.04		0.09	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.31			
Intersection Signal Delay: 6.1		Intersection LOS: A	
Intersection Capacity Utilization 38.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Woodridge Crescent (S) & 220m W of Bayshore



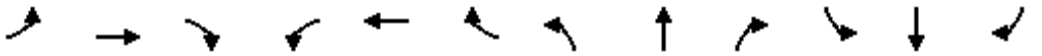
Intersection	
Int Delay, s/veh	2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	95	15	33	52	14	28
Future Vol, veh/h	95	15	33	52	14	28
Conflicting Peds, #/hr	0	25	25	0	15	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	6	53	18	10	29	46
Mvmt Flow	95	15	33	52	14	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	135	0	261	132
Stage 1	-	-	-	-	128	-
Stage 2	-	-	-	-	133	-
Critical Hdwy	-	-	4.28	-	6.69	6.66
Critical Hdwy Stg 1	-	-	-	-	5.69	-
Critical Hdwy Stg 2	-	-	-	-	5.69	-
Follow-up Hdwy	-	-	2.362	-	3.761	3.714
Pot Cap-1 Maneuver	-	-	1356	-	673	812
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	831	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1325	-	632	790
Mov Cap-2 Maneuver	-	-	-	-	632	-
Stage 1	-	-	-	-	816	-
Stage 2	-	-	-	-	799	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	632	790	-	-	1325	-
HCM Lane V/C Ratio	0.022	0.035	-	-	0.025	-
HCM Control Delay (s)	10.8	9.7	-	-	7.8	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0.1	-

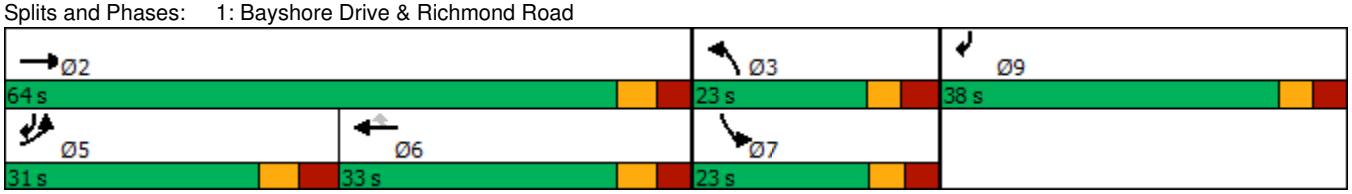


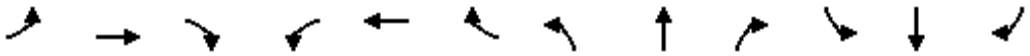
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	397	509	0	0	647	112	168	0	41	131	0	858
Future Volume (vph)	397	509	0	0	647	112	168	0	41	131	0	858
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	205.0		0.0	0.0		60.0	0.0		35.0	50.0		0.0
Storage Lanes	2		0	0		1	2		1	1		3
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	0.97	1.00	0.76
Ped Bike Factor	1.00					0.99			0.99	1.00		
Frt						0.850			0.850			0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	3354	3424	0	0	4871	1547	3321	0	1473	3077	0	3492
Flt Permitted	0.950						0.950			0.950		
Satd. Flow (perm)	3350	3424	0	0	4871	1524	3321	0	1455	3066	0	3492
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)						155			217			
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		676.3			322.3			173.9			198.6	
Travel Time (s)		34.8			16.6			12.5			14.3	
Confl. Peds. (#/hr)	2					2			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 (%)	0%	1%	0%	0%	2%	0%	1%	0%	5%	9%	0%	1%
Adj. Flow (vph)	397	509	0	0	647	112	168	0	41	131	0	858
Shared Lane Traffic (%)												
Lane Group Flow (vph)	397	509	0	0	647	112	168	0	41	131	0	858
Turn Type	Prot	NA			NA	Perm	Prot		Free	Prot		pt+ov
Protected Phases	5	2			6		3			7		5 9
Permitted Phases						6			Free			
Detector Phase	5	2			6	6	3			7		5 9
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0			5.0		
Minimum Split (s)	12.3	32.1			32.1	32.1	11.9			11.6		
Total Split (s)	31.0	64.0			33.0	33.0	23.0			23.0		
Total Split (%)	24.8%	51.2%			26.4%	26.4%	18.4%			18.4%		
Maximum Green (s)	23.7	56.9			25.9	25.9	16.1			16.4		
Yellow Time (s)	3.7	3.7			3.7	3.7	3.3			3.3		
All-Red Time (s)	3.6	3.4			3.4	3.4	3.6			3.3		
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0			0.0		
Total Lost Time (s)	7.3	7.1			7.1	7.1	6.9			6.6		
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		
Recall Mode	None	Max			Max	Max	None			None		
Walk Time (s)		7.0			7.0	7.0						
Flash Dont Walk (s)		18.0			18.0	18.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	20.0	57.1			29.8	29.8	11.1		114.9	11.4		52.7
Actuated g/C Ratio	0.17	0.50			0.26	0.26	0.10		1.00	0.10		0.46
v/c Ratio	0.68	0.30			0.51	0.22	0.53		0.03	0.43		0.54

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	51.0	18.5			39.8	3.1	56.0		0.0	53.8		23.4
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	51.0	18.5			39.8	3.1	56.0		0.0	53.8		23.4
LOS	D	B			D	A	E		A	D		C
Approach Delay		32.8			34.4			45.0			27.4	
Approach LOS		C			C			D			C	
Queue Length 50th (m)	43.0	34.5			46.4	0.0	18.8		0.0	14.5		57.8
Queue Length 95th (m)	62.5	52.9			66.5	5.9	30.9		0.0	25.1		73.2
Internal Link Dist (m)		652.3			298.3			149.9			174.6	
Turn Bay Length (m)	205.0					60.0			35.0	50.0		
Base Capacity (vph)	693	1700			1261	509	466		1455	440		1674
Starvation Cap Reductn	0	0			0	0	0		0	0		0
Spillback Cap Reductn	0	0			0	0	0		0	0		0
Storage Cap Reductn	0	0			0	0	0		0	0		0
Reduced v/c Ratio	0.57	0.30			0.51	0.22	0.36		0.03	0.30		0.51

Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 114.9			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 32.2		Intersection LOS: C	
Intersection Capacity Utilization 62.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Bayshore Drive & Richmond Road



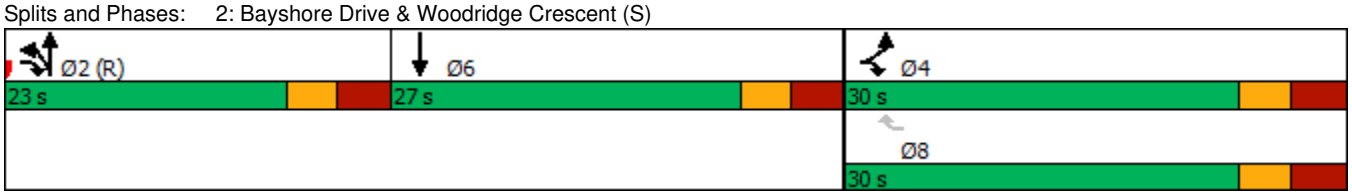


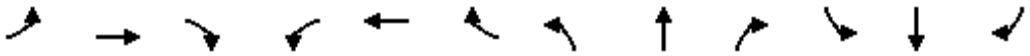
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	149	0	589	0	0	0	226	66	0	0	245	168
Future Volume (vph)	149	0	589	0	0	0	226	66	0	0	245	168
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor	0.95						0.98	0.99			0.98	
Frt			0.850								0.939	
Flt Protected	0.950						0.950	0.973				
Satd. Flow (prot)	1662	0	2643	0	0	1820	1643	1675	0	0	3108	0
Flt Permitted	0.950						0.950	0.973				
Satd. Flow (perm)	1584	0	2643	0	0	1820	1617	1660	0	0	3108	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											168	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		150.9			229.8			179.2			394.4	
Travel Time (s)		13.6			20.7			12.9			28.4	
Confl. Peds. (#/hr)	27		66	66		27	23		4	4		23
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 (%)	4%	0%	3%	0%	0%	0%	0%	1%	0%	0%	2%	4%
Adj. Flow (vph)	149	0	589	0	0	0	226	66	0	0	245	168
Shared Lane Traffic (%)							36%					
Lane Group Flow (vph)	149	0	589	0	0	0	145	147	0	0	413	0
Turn Type	Prot		pt+ov			Perm	Split	NA			NA	
Protected Phases	4		4 2				2	2			6	
Permitted Phases						8						
Detector Phase	4		4 2			8	2	2			6	
Switch Phase												
Minimum Initial (s)	5.0					5.0	5.0	5.0			5.0	
Minimum Split (s)	29.5					11.5	11.2	11.2			26.2	
Total Split (s)	30.0					30.0	23.0	23.0			27.0	
Total Split (%)	37.5%					37.5%	28.8%	28.8%			33.8%	
Maximum Green (s)	23.5					23.5	16.8	16.8			20.8	
Yellow Time (s)	3.0					3.0	3.0	3.0			3.0	
All-Red Time (s)	3.5					3.5	3.2	3.2			3.2	
Lost Time Adjust (s)	0.0					0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.5					6.5	6.2	6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0					3.0	3.0	3.0			3.0	
Recall Mode	None					None	C-Max	C-Max			Max	
Walk Time (s)	7.0										7.0	
Flash Dont Walk (s)	16.0										13.0	
Pedestrian Calls (#/hr)	0										0	
Act Effct Green (s)	16.1		46.5				24.2	24.2			20.8	
Actuated g/C Ratio	0.20		0.58				0.30	0.30			0.26	
v/c Ratio	0.45		0.38				0.29	0.29			0.44	
Control Delay	31.4		9.9				25.0	24.9			16.0	
Queue Delay	0.0		0.0				0.0	0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	31.4		9.9				25.0	24.9			16.0	
LOS	C		A				C	C			B	
Approach Delay		14.3						24.9			16.0	
Approach LOS		B						C			B	
Queue Length 50th (m)	20.0		25.0				17.5	17.7			15.7	
Queue Length 95th (m)	33.3		35.9				36.4	36.8			28.0	
Internal Link Dist (m)		126.9			205.8			155.2			370.4	
Turn Bay Length (m)												
Base Capacity (vph)	488		1498				497	507			932	
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	0.31		0.39				0.29	0.29			0.44	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.45			
Intersection Signal Delay: 16.9		Intersection LOS: B	
Intersection Capacity Utilization 53.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Bayshore Drive & Woodridge Crescent (S)





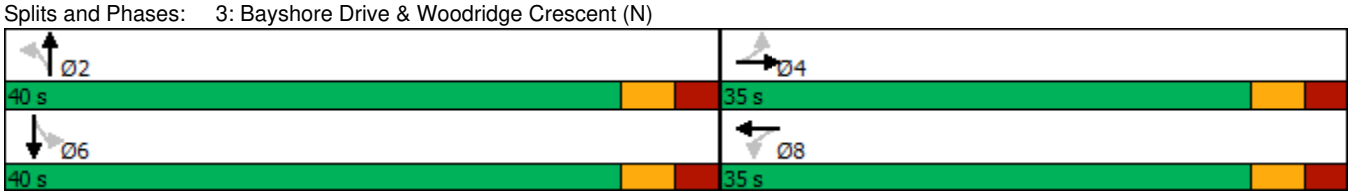
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	0	71	6	0	5	89	255	14	24	332	156
Future Volume (vph)	98	0	71	6	0	5	89	255	14	24	332	156
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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	0.96			0.98			0.99			0.98	
Frt		0.850			0.939			0.995			0.959	
Flt Protected	0.950				0.973			0.988			0.998	
Satd. Flow (prot)	1558	1429	0	0	1646	0	0	1721	0	0	1651	0
Flt Permitted	0.750				0.829			0.800			0.977	
Satd. Flow (perm)	1217	1429	0	0	1383	0	0	1388	0	0	1613	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		371			38			4			39	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		186.3			207.9			394.4			121.4	
Travel Time (s)		13.4			15.0			28.4			8.7	
Confl. Peds. (#/hr)	10		26	26		10	25		41	41		25
Confl. Bikes (#/hr)												2
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 (%)	11%	0%	4%	0%	0%	0%	3%	4%	0%	0%	2%	7%
Adj. Flow (vph)	98	0	71	6	0	5	89	255	14	24	332	156
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	71	0	0	11	0	0	358	0	0	512	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)	26.5	26.5		26.5	26.5		26.6	26.6		26.6	26.6	
Total Split (s)	35.0	35.0		35.0	35.0		40.0	40.0		40.0	40.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	29.5	29.5		29.5	29.5		34.4	34.4		34.4	34.4	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.5	5.5			5.5			5.6			5.6	
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		Max	Max		Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	9.9	9.9			9.8			40.3			40.3	
Actuated g/C Ratio	0.17	0.17			0.17			0.70			0.70	

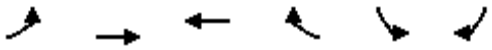
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.47	0.13			0.04			0.37			0.45	
Control Delay	28.5	0.5			1.6			7.0			7.1	
Queue Delay	0.0	0.0			0.0			0.0			0.2	
Total Delay	28.5	0.5			1.6			7.0			7.3	
LOS	C	A			A			A			A	
Approach Delay		16.7			1.6			7.0			7.3	
Approach LOS		B			A			A			A	
Queue Length 50th (m)	8.9	0.0			0.0			14.9			21.0	
Queue Length 95th (m)	20.3	0.0			0.8			35.5			49.1	
Internal Link Dist (m)		162.3			183.9			370.4			97.4	
Turn Bay Length (m)	60.0											
Base Capacity (vph)	623	913			727			969			1137	
Starvation Cap Reductn	0	0			0			0			138	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.16	0.08			0.02			0.37			0.51	

Intersection Summary

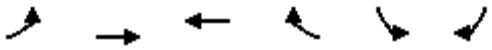
Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 57.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.47
Intersection Signal Delay: 8.6 Intersection LOS: A
Intersection Capacity Utilization 77.4% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Bayshore Drive & Woodridge Crescent (N)





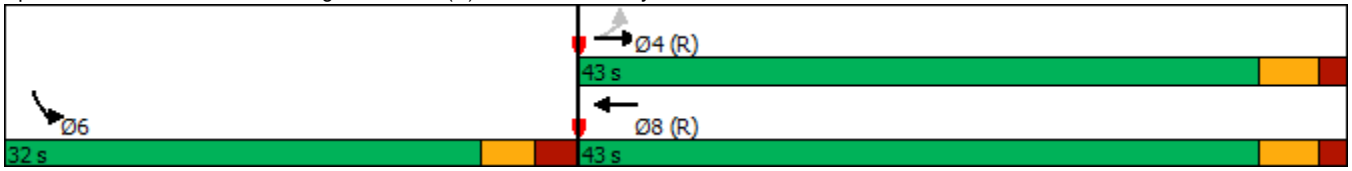
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	17	446	190	7	13	19
Future Volume (vph)	17	446	190	7	13	19
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor	0.91		1.00		0.96	
Frt			0.995		0.920	
Flt Protected	0.950				0.980	
Satd. Flow (prot)	1631	3293	3251	0	1532	0
Flt Permitted	0.628				0.980	
Satd. Flow (perm)	983	3293	3251	0	1532	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			7		19	
Link Speed (k/h)		40	40		50	
Link Distance (m)		172.9	23.2		196.3	
Travel Time (s)		15.6	2.1		14.1	
Confl. Peds. (#/hr)	37			37		58
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	6%	5%	5%	14%	0%	5%
Adj. Flow (vph)	17	446	190	7	13	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	446	197	0	32	0
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	10.0	10.0	17.0		29.4	
Total Split (s)	43.0	43.0	43.0		32.0	
Total Split (%)	57.3%	57.3%	57.3%		42.7%	
Maximum Green (s)	38.0	38.0	38.0		26.6	
Yellow Time (s)	3.3	3.3	3.3		3.0	
All-Red Time (s)	1.7	1.7	1.7		2.4	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.4	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	C-Max	C-Max	C-Max		None	
Walk Time (s)			7.0		7.0	
Flash Dont Walk (s)			5.0		17.0	
Pedestrian Calls (#/hr)			0		0	
Act Effct Green (s)	67.7	67.7	67.7		6.5	
Actuated g/C Ratio	0.90	0.90	0.90		0.09	
v/c Ratio	0.02	0.15	0.07		0.21	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Control Delay	1.9	1.5	1.4		22.4	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	1.9	1.5	1.4		22.4	
LOS	A	A	A		C	
Approach Delay		1.5	1.4		22.4	
Approach LOS		A	A		C	
Queue Length 50th (m)	0.0	0.0	0.0		1.8	
Queue Length 95th (m)	1.7	10.9	5.0		9.0	
Internal Link Dist (m)		148.9	0.1		172.3	
Turn Bay Length (m)	40.0					
Base Capacity (vph)	887	2973	2936		555	
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	0.02	0.15	0.07		0.06	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.21			
Intersection Signal Delay: 2.5		Intersection LOS: A	
Intersection Capacity Utilization 41.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Woodridge Crescent (S) & 220m W of Bayshore



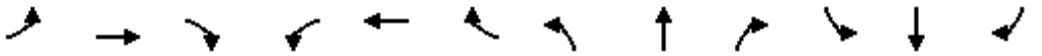
Intersection	
Int Delay, s/veh	5.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	106	38	73	62	18	172
Future Vol, veh/h	106	38	73	62	18	172
Conflicting Peds, #/hr	0	27	27	0	25	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	11	21	11	6	44	12
Mvmt Flow	106	38	73	62	18	172

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	171	0	385	155
Stage 1	-	-	-	-	152	-
Stage 2	-	-	-	-	233	-
Critical Hdwy	-	-	4.21	-	6.84	6.32
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.299	-	3.896	3.408
Pot Cap-1 Maneuver	-	-	1353	-	544	865
Stage 1	-	-	-	-	783	-
Stage 2	-	-	-	-	716	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1319	-	490	841
Mov Cap-2 Maneuver	-	-	-	-	490	-
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	661	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.3	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	490	841	-	-	1319	-
HCM Lane V/C Ratio	0.037	0.205	-	-	0.055	-
HCM Control Delay (s)	12.6	10.4	-	-	7.9	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.8	-	-	0.2	-

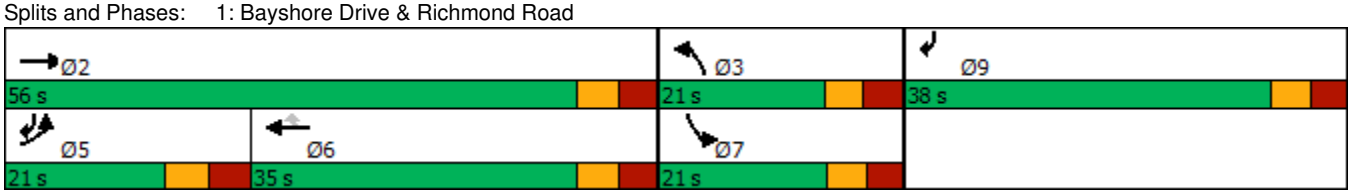


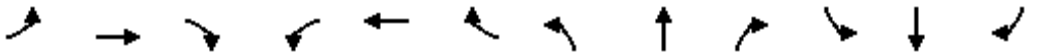
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	344	1005	0	0	340	96	262	0	13	85	0	332
Future Volume (vph)	344	1005	0	0	340	96	262	0	13	85	0	332
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	205.0		0.0	0.0		60.0	0.0		35.0	50.0		0.0
Storage Lanes	2		0	0		1	2		1	1		3
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	0.97	1.00	0.76
Ped Bike Factor						0.99						
Frt						0.850			0.850			0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	3321	3424	0	0	4732	1502	3257	0	1547	3022	0	3391
Flt Permitted	0.950						0.950			0.950		
Satd. Flow (perm)	3321	3424	0	0	4732	1483	3257	0	1547	3022	0	3391
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)						169			236			
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		676.3			322.3			173.9			198.6	
Travel Time (s)		34.8			16.6			12.5			14.3	
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 (%)	1%	1%	0%	0%	5%	3%	3%	0%	0%	11%	0%	4%
Adj. Flow (vph)	344	1005	0	0	340	96	262	0	13	85	0	332
Shared Lane Traffic (%)												
Lane Group Flow (vph)	344	1005	0	0	340	96	262	0	13	85	0	332
Turn Type	Prot	NA			NA	Perm	Prot		Free	Prot		pt+ov
Protected Phases	5	2			6		3			7		5 9
Permitted Phases						6			Free			
Detector Phase	5	2			6	6	3			7		5 9
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0			5.0		
Minimum Split (s)	12.3	32.1			32.1	32.1	11.9			11.6		
Total Split (s)	21.0	56.0			35.0	35.0	21.0			21.0		
Total Split (%)	18.3%	48.7%			30.4%	30.4%	18.3%			18.3%		
Maximum Green (s)	13.7	48.9			27.9	27.9	14.1			14.4		
Yellow Time (s)	3.7	3.7			3.7	3.7	3.3			3.3		
All-Red Time (s)	3.6	3.4			3.4	3.4	3.6			3.3		
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0			0.0		
Total Lost Time (s)	7.3	7.1			7.1	7.1	6.9			6.6		
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		
Recall Mode	None	Max			Max	Max	None			None		
Walk Time (s)		7.0			7.0	7.0						
Flash Dont Walk (s)		18.0			18.0	18.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	13.3	49.0			28.3	28.3	12.3		94.1	11.8		32.2
Actuated g/C Ratio	0.14	0.52			0.30	0.30	0.13		1.00	0.13		0.34
v/c Ratio	0.73	0.56			0.24	0.17	0.62		0.01	0.22		0.29

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	49.5	17.4			26.1	0.8	45.8		0.0	38.4		23.4
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	49.5	17.4			26.1	0.8	45.8		0.0	38.4		23.4
LOS	D	B			C	A	D		A	D		C
Approach Delay		25.6			20.5			43.6			26.4	
Approach LOS		C			C			D			C	
Queue Length 50th (m)	31.2	62.6			17.1	0.0	23.5		0.0	7.1		19.1
Queue Length 95th (m)	#50.8	89.2			26.3	0.7	37.0		0.0	14.2		28.3
Internal Link Dist (m)		652.3			298.3			149.9			174.6	
Turn Bay Length (m)	205.0					60.0			35.0	50.0		
Base Capacity (vph)	484	1781			1425	564	488		1547	463		1181
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	0.71	0.56			0.24	0.17	0.54		0.01	0.18		0.28

Intersection Summary			
Area Type:	Other		
Cycle Length: 115			
Actuated Cycle Length: 94.1			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 26.9		Intersection LOS: C	
Intersection Capacity Utilization 48.9%		ICU Level of Service A	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 1: Bayshore Drive & Richmond Road



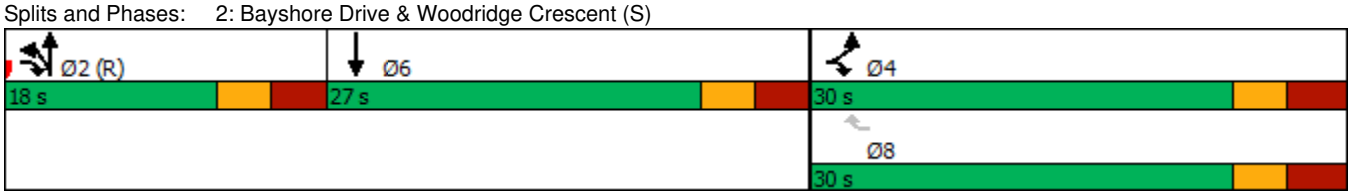


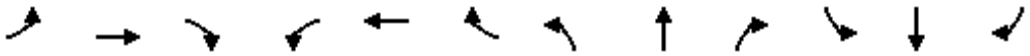
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	0	155	0	0	0	136	35	0	0	213	83
Future Volume (vph)	44	0	155	0	0	0	136	35	0	0	213	83
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor	0.97						0.98	0.99			0.99	
Frt			0.850								0.958	
Flt Protected	0.950						0.950	0.971				
Satd. Flow (prot)	1491	0	2545	0	0	1820	1626	1643	0	0	3187	0
Flt Permitted	0.950						0.950	0.971				
Satd. Flow (perm)	1447	0	2545	0	0	1820	1597	1625	0	0	3187	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											76	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		150.9			229.8			179.2			394.4	
Travel Time (s)		13.6			20.7			12.9			28.4	
Confl. Peds. (#/hr)	18		44	44		18	24		4	4		24
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 (%)	16%	0%	7%	0%	0%	0%	1%	4%	0%	0%	2%	5%
Adj. Flow (vph)	44	0	155	0	0	0	136	35	0	0	213	83
Shared Lane Traffic (%)							38%					
Lane Group Flow (vph)	44	0	155	0	0	0	84	87	0	0	296	0
Turn Type	Prot		pt+ov			Perm	Split	NA			NA	
Protected Phases	4		4 2				2	2			6	
Permitted Phases						8						
Detector Phase	4		4 2			8	2	2			6	
Switch Phase												
Minimum Initial (s)	5.0					5.0	5.0	5.0			5.0	
Minimum Split (s)	29.5					11.5	11.2	11.2			26.2	
Total Split (s)	30.0					30.0	18.0	18.0			27.0	
Total Split (%)	40.0%					40.0%	24.0%	24.0%			36.0%	
Maximum Green (s)	23.5					23.5	11.8	11.8			20.8	
Yellow Time (s)	3.0					3.0	3.0	3.0			3.0	
All-Red Time (s)	3.5					3.5	3.2	3.2			3.2	
Lost Time Adjust (s)	0.0					0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.5					6.5	6.2	6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0					3.0	3.0	3.0			3.0	
Recall Mode	None					None	C-Max	C-Max			Max	
Walk Time (s)	7.0										7.0	
Flash Dont Walk (s)	16.0										13.0	
Pedestrian Calls (#/hr)	0										0	
Act Effct Green (s)	8.0		41.5				27.3	27.3			20.8	
Actuated g/C Ratio	0.11		0.55				0.36	0.36			0.28	
v/c Ratio	0.28		0.11				0.14	0.15			0.32	
Control Delay	34.7		8.2				17.6	17.6			16.8	
Queue Delay	0.0		0.0				0.0	0.0			0.0	
Total Delay	34.7		8.2				17.6	17.6			16.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	C		A				B	B			B	
Approach Delay		14.1						17.6			16.8	
Approach LOS		B						B			B	
Queue Length 50th (m)	5.9		5.4				8.1	8.4			12.6	
Queue Length 95th (m)	14.4		9.8				18.5	19.1			22.2	
Internal Link Dist (m)		126.9			205.8			155.2			370.4	
Turn Bay Length (m)												
Base Capacity (vph)	467		1408				592	598			938	
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	0.09		0.11				0.14	0.15			0.32	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.32			
Intersection Signal Delay: 16.2		Intersection LOS: B	
Intersection Capacity Utilization 44.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Bayshore Drive & Woodridge Crescent (S)



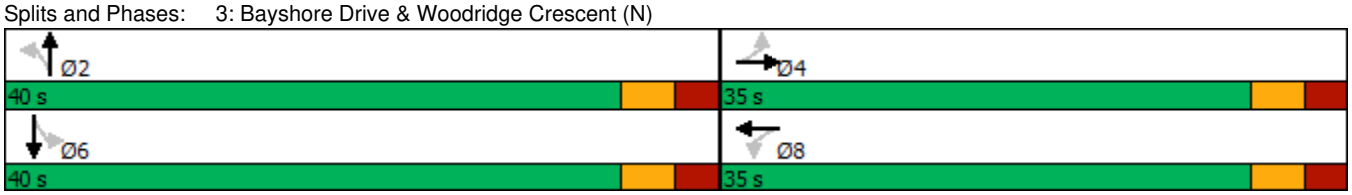


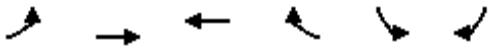
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	1	98	20	1	12	94	279	9	3	163	95
Future Volume (vph)	152	1	98	20	1	12	94	279	9	3	163	95
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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			0.98			0.99			0.98	
Frt		0.852			0.951			0.997			0.951	
Flt Protected	0.950				0.971			0.988			0.999	
Satd. Flow (prot)	1679	1471	0	0	1660	0	0	1727	0	0	1589	0
Flt Permitted	0.736				0.807			0.862			0.997	
Satd. Flow (perm)	1273	1471	0	0	1364	0	0	1497	0	0	1586	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		98			12			2			51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		186.3			207.9			394.4			121.4	
Travel Time (s)		13.4			15.0			28.4			8.7	
Confl. Peds. (#/hr)	21		20	20		21	23		21	21		23
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	0%	2%	0%	0%	0%	6%	3%	0%	0%	5%	9%
Adj. Flow (vph)	152	1	98	20	1	12	94	279	9	3	163	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	99	0	0	33	0	0	382	0	0	261	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)	26.5	26.5		26.5	26.5		26.6	26.6		26.6	26.6	
Total Split (s)	35.0	35.0		35.0	35.0		40.0	40.0		40.0	40.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	29.5	29.5		29.5	29.5		34.4	34.4		34.4	34.4	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.5	5.5			5.5			5.6			5.6	
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		Max	Max		Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	12.4	12.4			12.4			37.3			37.3	
Actuated g/C Ratio	0.20	0.20			0.20			0.61			0.61	
v/c Ratio	0.59	0.26			0.11			0.42			0.26	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	30.3	6.7			14.2			8.7			5.9	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	30.3	6.7			14.2			8.7			5.9	
LOS	C	A			B			A			A	
Approach Delay		21.0			14.2			8.7			5.9	
Approach LOS		C			B			A			A	
Queue Length 50th (m)	14.4	0.1			1.8			18.4			8.8	
Queue Length 95th (m)	29.3	9.1			7.3			43.5			23.1	
Internal Link Dist (m)		162.3			183.9			370.4			97.4	
Turn Bay Length (m)	60.0											
Base Capacity (vph)	620	767			671			918			991	
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	0.25	0.13			0.05			0.42			0.26	

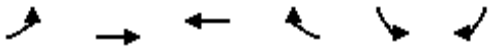
Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 60.8			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 11.5		Intersection LOS: B	
Intersection Capacity Utilization 68.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Bayshore Drive & Woodridge Crescent (N)





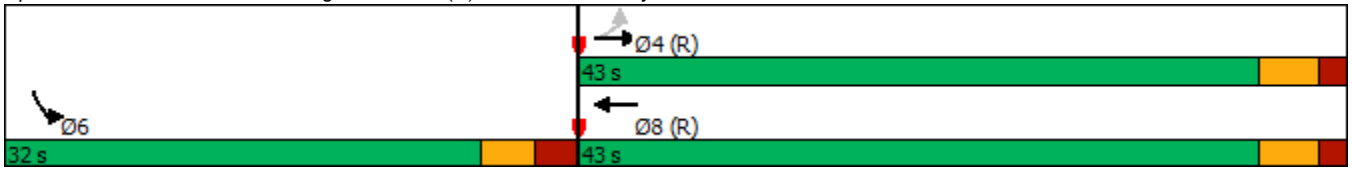
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	19	140	120	2	34	19
Future Volume (vph)	19	140	120	2	34	19
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor	0.94		1.00		0.99	
Frt			0.998		0.952	
Flt Protected	0.950				0.969	
Satd. Flow (prot)	1729	3033	3224	0	1568	0
Flt Permitted	0.675				0.969	
Satd. Flow (perm)	1157	3033	3224	0	1568	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			2		19	
Link Speed (k/h)		40	40		50	
Link Distance (m)		172.9	23.2		196.3	
Travel Time (s)		15.6	2.1		14.1	
Confl. Peds. (#/hr)	22			22		25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	14%	7%	0%	0%	16%
Adj. Flow (vph)	19	140	120	2	34	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	19	140	122	0	53	0
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	10.0	10.0	17.0		29.4	
Total Split (s)	43.0	43.0	43.0		32.0	
Total Split (%)	57.3%	57.3%	57.3%		42.7%	
Maximum Green (s)	38.0	38.0	38.0		26.6	
Yellow Time (s)	3.3	3.3	3.3		3.0	
All-Red Time (s)	1.7	1.7	1.7		2.4	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.4	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	C-Max	C-Max	C-Max		None	
Walk Time (s)			7.0		7.0	
Flash Dont Walk (s)			5.0		17.0	
Pedestrian Calls (#/hr)			0		0	
Act Effct Green (s)	63.7	63.7	63.7		7.3	
Actuated g/C Ratio	0.85	0.85	0.85		0.10	
v/c Ratio	0.02	0.05	0.04		0.31	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Control Delay	2.6	2.2	2.2		26.9	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	2.6	2.2	2.2		26.9	
LOS	A	A	A		C	
Approach Delay		2.2	2.2		26.9	
Approach LOS		A	A		C	
Queue Length 50th (m)	0.5	1.8	1.5		4.6	
Queue Length 95th (m)	2.0	4.3	3.8		13.7	
Internal Link Dist (m)		148.9	0.1		172.3	
Turn Bay Length (m)	40.0					
Base Capacity (vph)	982	2575	2737		568	
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	0.02	0.05	0.04		0.09	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.31			
Intersection Signal Delay: 6.1		Intersection LOS: A	
Intersection Capacity Utilization 38.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Woodridge Crescent (S) & 220m W of Bayshore



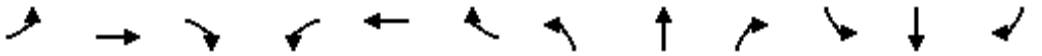
Intersection	
Int Delay, s/veh	2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	95	15	33	52	14	28
Future Vol, veh/h	95	15	33	52	14	28
Conflicting Peds, #/hr	0	25	25	0	15	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	6	53	18	10	29	46
Mvmt Flow	95	15	33	52	14	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	135	0	261	132
Stage 1	-	-	-	-	128	-
Stage 2	-	-	-	-	133	-
Critical Hdwy	-	-	4.28	-	6.69	6.66
Critical Hdwy Stg 1	-	-	-	-	5.69	-
Critical Hdwy Stg 2	-	-	-	-	5.69	-
Follow-up Hdwy	-	-	2.362	-	3.761	3.714
Pot Cap-1 Maneuver	-	-	1356	-	673	812
Stage 1	-	-	-	-	835	-
Stage 2	-	-	-	-	831	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1325	-	632	790
Mov Cap-2 Maneuver	-	-	-	-	632	-
Stage 1	-	-	-	-	816	-
Stage 2	-	-	-	-	799	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3	10.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	632	790	-	-	1325	-
HCM Lane V/C Ratio	0.022	0.035	-	-	0.025	-
HCM Control Delay (s)	10.8	9.7	-	-	7.8	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0.1	-

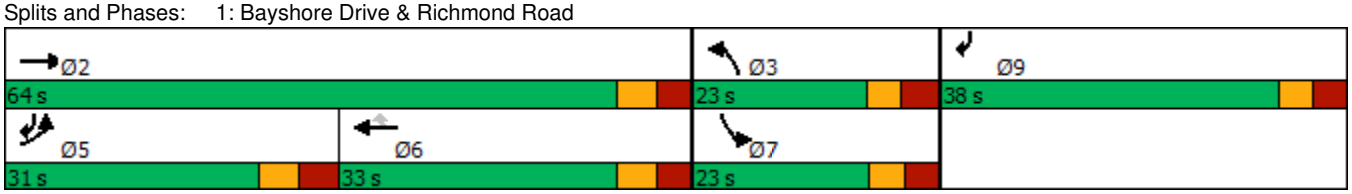


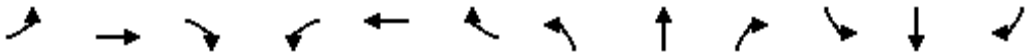
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	407	522	0	0	662	114	172	0	42	135	0	879
Future Volume (vph)	407	522	0	0	662	114	172	0	42	135	0	879
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	205.0		0.0	0.0		60.0	0.0		35.0	50.0		0.0
Storage Lanes	2		0	0		1	2		1	1		3
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	0.97	1.00	0.76
Ped Bike Factor	1.00					0.99			0.99	1.00		
Frt						0.850			0.850			0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	3354	3424	0	0	4871	1547	3321	0	1473	3077	0	3492
Flt Permitted	0.950						0.950			0.950		
Satd. Flow (perm)	3350	3424	0	0	4871	1524	3321	0	1455	3066	0	3492
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)						155			217			
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		676.3			322.3			173.9			198.6	
Travel Time (s)		34.8			16.6			12.5			14.3	
Confl. Peds. (#/hr)	2					2			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 (%)	0%	1%	0%	0%	2%	0%	1%	0%	5%	9%	0%	1%
Adj. Flow (vph)	407	522	0	0	662	114	172	0	42	135	0	879
Shared Lane Traffic (%)												
Lane Group Flow (vph)	407	522	0	0	662	114	172	0	42	135	0	879
Turn Type	Prot	NA			NA	Perm	Prot		Free	Prot		pt+ov
Protected Phases	5	2			6		3			7		5 9
Permitted Phases						6			Free			
Detector Phase	5	2			6	6	3			7		5 9
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0			5.0		
Minimum Split (s)	12.3	32.1			32.1	32.1	11.9			11.6		
Total Split (s)	31.0	64.0			33.0	33.0	23.0			23.0		
Total Split (%)	24.8%	51.2%			26.4%	26.4%	18.4%			18.4%		
Maximum Green (s)	23.7	56.9			25.9	25.9	16.1			16.4		
Yellow Time (s)	3.7	3.7			3.7	3.7	3.3			3.3		
All-Red Time (s)	3.6	3.4			3.4	3.4	3.6			3.3		
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0			0.0		
Total Lost Time (s)	7.3	7.1			7.1	7.1	6.9			6.6		
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		
Recall Mode	None	Max			Max	Max	None			None		
Walk Time (s)		7.0			7.0	7.0						
Flash Dont Walk (s)		18.0			18.0	18.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	20.2	57.1			29.5	29.5	11.3		115.5	11.6		53.4
Actuated g/C Ratio	0.17	0.49			0.26	0.26	0.10		1.00	0.10		0.46
v/c Ratio	0.69	0.31			0.53	0.23	0.53		0.03	0.44		0.54

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	51.6	18.9			40.6	3.4	56.4		0.0	54.1		23.4
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	51.6	18.9			40.6	3.4	56.4		0.0	54.1		23.4
LOS	D	B			D	A	E		A	D		C
Approach Delay		33.2			35.1			45.3			27.5	
Approach LOS		C			D			D			C	
Queue Length 50th (m)	44.3	36.0			48.3	0.0	19.3		0.0	15.0		59.3
Queue Length 95th (m)	64.0	54.6			68.1	6.6	31.4		0.0	25.7		75.8
Internal Link Dist (m)		652.3			298.3			149.9			174.6	
Turn Bay Length (m)	205.0					60.0			35.0	50.0		
Base Capacity (vph)	690	1691			1244	504	464		1455	438		1669
Starvation Cap Reductn	0	0			0	0	0		0	0		0
Spillback Cap Reductn	0	0			0	0	0		0	0		0
Storage Cap Reductn	0	0			0	0	0		0	0		0
Reduced v/c Ratio	0.59	0.31			0.53	0.23	0.37		0.03	0.31		0.53

Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 115.5			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 32.6		Intersection LOS: C	
Intersection Capacity Utilization 63.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Bayshore Drive & Richmond Road



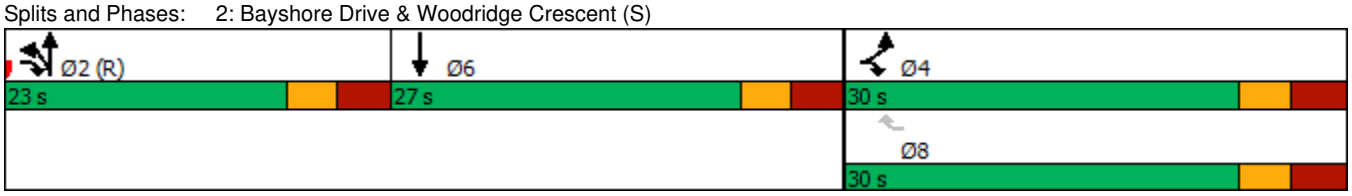


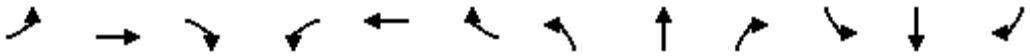
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	149	0	589	0	0	0	226	68	0	0	251	168
Future Volume (vph)	149	0	589	0	0	0	226	68	0	0	251	168
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor	0.95						0.98	0.99			0.98	
Frt			0.850								0.940	
Flt Protected	0.950						0.950	0.974				
Satd. Flow (prot)	1662	0	2643	0	0	1820	1643	1676	0	0	3112	0
Flt Permitted	0.950						0.950	0.974				
Satd. Flow (perm)	1584	0	2643	0	0	1820	1617	1662	0	0	3112	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											168	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		150.9			229.8			179.2			394.4	
Travel Time (s)		13.6			20.7			12.9			28.4	
Confl. Peds. (#/hr)	27		66	66		27	23		4	4		23
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 (%)	4%	0%	3%	0%	0%	0%	0%	1%	0%	0%	2%	4%
Adj. Flow (vph)	149	0	589	0	0	0	226	68	0	0	251	168
Shared Lane Traffic (%)							36%					
Lane Group Flow (vph)	149	0	589	0	0	0	145	149	0	0	419	0
Turn Type	Prot		pt+ov			Perm	Split	NA			NA	
Protected Phases	4		4 2				2	2			6	
Permitted Phases						8						
Detector Phase	4		4 2			8	2	2			6	
Switch Phase												
Minimum Initial (s)	5.0					5.0	5.0	5.0			5.0	
Minimum Split (s)	29.5					11.5	11.2	11.2			26.2	
Total Split (s)	30.0					30.0	23.0	23.0			27.0	
Total Split (%)	37.5%					37.5%	28.8%	28.8%			33.8%	
Maximum Green (s)	23.5					23.5	16.8	16.8			20.8	
Yellow Time (s)	3.0					3.0	3.0	3.0			3.0	
All-Red Time (s)	3.5					3.5	3.2	3.2			3.2	
Lost Time Adjust (s)	0.0					0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.5					6.5	6.2	6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0					3.0	3.0	3.0			3.0	
Recall Mode	None					None	C-Max	C-Max			Max	
Walk Time (s)	7.0										7.0	
Flash Dont Walk (s)	16.0										13.0	
Pedestrian Calls (#/hr)	0										0	
Act Effct Green (s)	16.1		46.5				24.2	24.2			20.8	
Actuated g/C Ratio	0.20		0.58				0.30	0.30			0.26	
v/c Ratio	0.45		0.38				0.29	0.29			0.45	
Control Delay	31.4		9.9				25.0	24.9			16.2	
Queue Delay	0.0		0.0				0.0	0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	31.4		9.9				25.0	24.9			16.2	
LOS	C		A				C	C			B	
Approach Delay		14.3						25.0			16.2	
Approach LOS		B						C			B	
Queue Length 50th (m)	20.0		25.0				17.5	18.1			16.1	
Queue Length 95th (m)	33.3		35.9				36.4	37.3			28.6	
Internal Link Dist (m)		126.9			205.8			155.2			370.4	
Turn Bay Length (m)												
Base Capacity (vph)	488		1498				497	507			933	
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	0.31		0.39				0.29	0.29			0.45	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.45			
Intersection Signal Delay: 17.0		Intersection LOS: B	
Intersection Capacity Utilization 53.8%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Bayshore Drive & Woodridge Crescent (S)



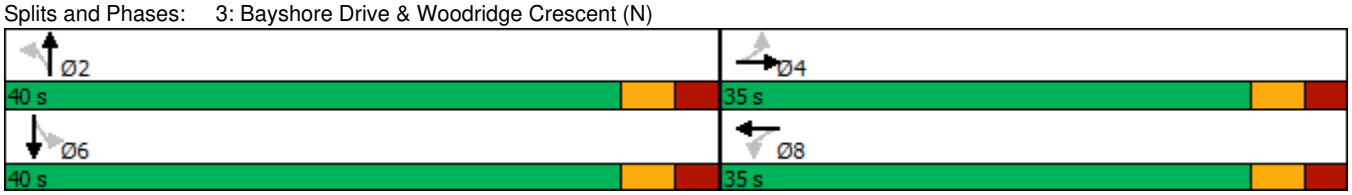


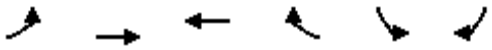
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	0	71	6	0	5	89	261	14	24	340	156
Future Volume (vph)	98	0	71	6	0	5	89	261	14	24	340	156
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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	0.96			0.98			0.99			0.98	
Frt		0.850			0.939			0.995			0.959	
Flt Protected	0.950				0.973			0.988			0.998	
Satd. Flow (prot)	1558	1429	0	0	1646	0	0	1721	0	0	1651	0
Flt Permitted	0.750				0.829			0.800			0.977	
Satd. Flow (perm)	1217	1429	0	0	1383	0	0	1388	0	0	1614	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		362			38			4			38	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		186.3			207.9			394.4			121.4	
Travel Time (s)		13.4			15.0			28.4			8.7	
Confl. Peds. (#/hr)	10		26	26		10	25		41	41		25
Confl. Bikes (#/hr)												2
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 (%)	11%	0%	4%	0%	0%	0%	3%	4%	0%	0%	2%	7%
Adj. Flow (vph)	98	0	71	6	0	5	89	261	14	24	340	156
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	71	0	0	11	0	0	364	0	0	520	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)	26.5	26.5		26.5	26.5		26.6	26.6		26.6	26.6	
Total Split (s)	35.0	35.0		35.0	35.0		40.0	40.0		40.0	40.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	29.5	29.5		29.5	29.5		34.4	34.4		34.4	34.4	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.5	5.5			5.5			5.6			5.6	
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		Max	Max		Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	9.9	9.9			9.8			40.3			40.3	
Actuated g/C Ratio	0.17	0.17			0.17			0.70			0.70	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.47	0.13			0.04			0.38			0.46	
Control Delay	28.5	0.5			1.6			7.0			7.2	
Queue Delay	0.0	0.0			0.0			0.0			0.2	
Total Delay	28.5	0.5			1.6			7.0			7.4	
LOS	C	A			A			A			A	
Approach Delay		16.7			1.6			7.0			7.4	
Approach LOS		B			A			A			A	
Queue Length 50th (m)	8.9	0.0			0.0			15.3			21.5	
Queue Length 95th (m)	20.3	0.0			0.8			36.3			50.5	
Internal Link Dist (m)		162.3			183.9			370.4			97.4	
Turn Bay Length (m)	60.0											
Base Capacity (vph)	623	909			727			969			1137	
Starvation Cap Reductn	0	0			0			0			137	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.16	0.08			0.02			0.38			0.52	

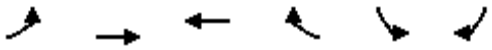
Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 57.7			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay: 8.7		Intersection LOS: A	
Intersection Capacity Utilization 77.9%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Bayshore Drive & Woodridge Crescent (N)





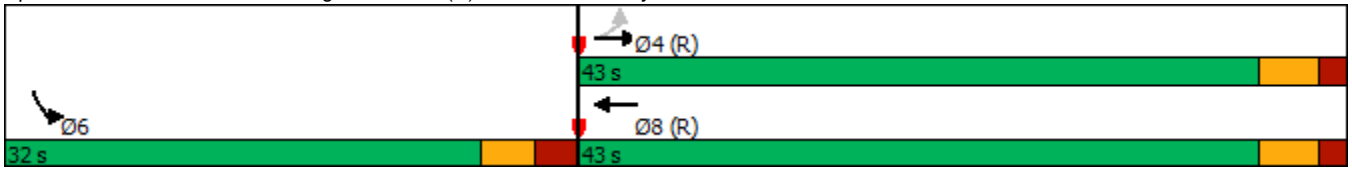
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	17	446	190	7	13	19
Future Volume (vph)	17	446	190	7	13	19
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor	0.91		1.00		0.96	
Frt			0.995		0.920	
Flt Protected	0.950				0.980	
Satd. Flow (prot)	1631	3293	3251	0	1532	0
Flt Permitted	0.628				0.980	
Satd. Flow (perm)	983	3293	3251	0	1532	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			7		19	
Link Speed (k/h)		40	40		50	
Link Distance (m)		172.9	23.2		196.3	
Travel Time (s)		15.6	2.1		14.1	
Confl. Peds. (#/hr)	37			37		58
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	6%	5%	5%	14%	0%	5%
Adj. Flow (vph)	17	446	190	7	13	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	446	197	0	32	0
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	10.0	10.0	17.0		29.4	
Total Split (s)	43.0	43.0	43.0		32.0	
Total Split (%)	57.3%	57.3%	57.3%		42.7%	
Maximum Green (s)	38.0	38.0	38.0		26.6	
Yellow Time (s)	3.3	3.3	3.3		3.0	
All-Red Time (s)	1.7	1.7	1.7		2.4	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.4	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	C-Max	C-Max	C-Max		None	
Walk Time (s)			7.0		7.0	
Flash Dont Walk (s)			5.0		17.0	
Pedestrian Calls (#/hr)			0		0	
Act Effct Green (s)	67.7	67.7	67.7		6.5	
Actuated g/C Ratio	0.90	0.90	0.90		0.09	
v/c Ratio	0.02	0.15	0.07		0.21	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Control Delay	1.9	1.5	1.4		22.4	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	1.9	1.5	1.4		22.4	
LOS	A	A	A		C	
Approach Delay		1.5	1.4		22.4	
Approach LOS		A	A		C	
Queue Length 50th (m)	0.0	0.0	0.0		1.8	
Queue Length 95th (m)	1.7	10.9	5.0		9.0	
Internal Link Dist (m)		148.9	0.1		172.3	
Turn Bay Length (m)	40.0					
Base Capacity (vph)	887	2973	2936		555	
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	0.02	0.15	0.07		0.06	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.21			
Intersection Signal Delay: 2.5		Intersection LOS: A	
Intersection Capacity Utilization 41.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Woodridge Crescent (S) & 220m W of Bayshore



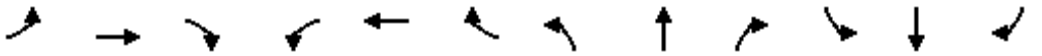
Intersection	
Int Delay, s/veh	5.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	106	38	73	62	18	172
Future Vol, veh/h	106	38	73	62	18	172
Conflicting Peds, #/hr	0	27	27	0	25	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	11	21	11	6	44	12
Mvmt Flow	106	38	73	62	18	172

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	171	0	385	155
Stage 1	-	-	-	-	152	-
Stage 2	-	-	-	-	233	-
Critical Hdwy	-	-	4.21	-	6.84	6.32
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.299	-	3.896	3.408
Pot Cap-1 Maneuver	-	-	1353	-	544	865
Stage 1	-	-	-	-	783	-
Stage 2	-	-	-	-	716	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1319	-	490	841
Mov Cap-2 Maneuver	-	-	-	-	490	-
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	661	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.3	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	490	841	-	-	1319	-
HCM Lane V/C Ratio	0.037	0.205	-	-	0.055	-
HCM Control Delay (s)	12.6	10.4	-	-	7.9	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.8	-	-	0.2	-



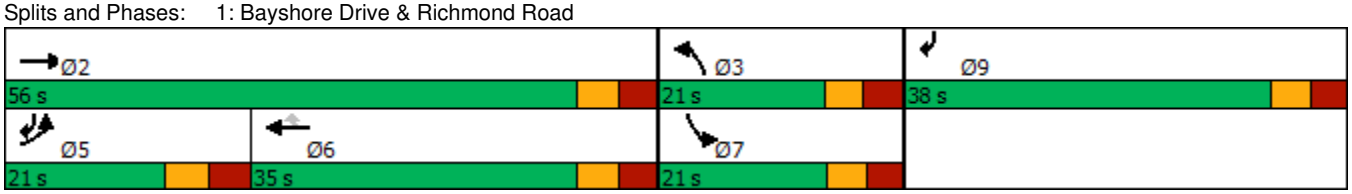
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	336	972	0	0	329	95	253	0	12	87	0	346
Future Volume (vph)	336	972	0	0	329	95	253	0	12	87	0	346
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	205.0		0.0	0.0		60.0	0.0		35.0	50.0		0.0
Storage Lanes	2		0	0		1	2		1	1		3
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	0.97	1.00	0.76
Ped Bike Factor						0.99						
Frt						0.850			0.850			0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	3321	3424	0	0	4732	1502	3257	0	1547	3022	0	3391
Flt Permitted	0.950						0.950			0.950		
Satd. Flow (perm)	3321	3424	0	0	4732	1483	3257	0	1547	3022	0	3391
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)						169			236			
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		676.3			322.3			173.9			198.6	
Travel Time (s)		34.8			16.6			12.5			14.3	
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 (%)	1%	1%	0%	0%	5%	3%	3%	0%	0%	11%	0%	4%
Adj. Flow (vph)	336	972	0	0	329	95	253	0	12	87	0	346
Shared Lane Traffic (%)												
Lane Group Flow (vph)	336	972	0	0	329	95	253	0	12	87	0	346
Turn Type	Prot	NA			NA	Perm	Prot		Free	Prot		pt+ov
Protected Phases	5	2			6		3			7		5 9
Permitted Phases						6			Free			
Detector Phase	5	2			6	6	3			7		5 9
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0			5.0		
Minimum Split (s)	12.3	32.1			32.1	32.1	11.9			11.6		
Total Split (s)	21.0	56.0			35.0	35.0	21.0			21.0		
Total Split (%)	18.3%	48.7%			30.4%	30.4%	18.3%			18.3%		
Maximum Green (s)	13.7	48.9			27.9	27.9	14.1			14.4		
Yellow Time (s)	3.7	3.7			3.7	3.7	3.3			3.3		
All-Red Time (s)	3.6	3.4			3.4	3.4	3.6			3.3		
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0			0.0		
Total Lost Time (s)	7.3	7.1			7.1	7.1	6.9			6.6		
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		
Recall Mode	None	Max			Max	Max	None			None		
Walk Time (s)		7.0			7.0	7.0						
Flash Dont Walk (s)		18.0			18.0	18.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	13.2	49.0			28.5	28.5	12.1		94.3	11.7		32.4
Actuated g/C Ratio	0.14	0.52			0.30	0.30	0.13		1.00	0.12		0.34
v/c Ratio	0.72	0.55			0.23	0.17	0.60		0.01	0.23		0.30

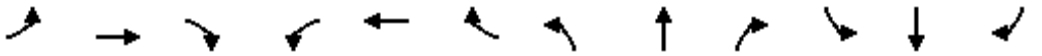
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	49.1	17.2			26.1	0.7	45.6		0.0	38.7		23.4
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	49.1	17.2			26.1	0.7	45.6		0.0	38.7		23.4
LOS	D	B			C	A	D		A	D		C
Approach Delay		25.4			20.4			43.5			26.5	
Approach LOS		C			C			D			C	
Queue Length 50th (m)	30.4	60.0			16.5	0.0	22.6		0.0	7.3		19.9
Queue Length 95th (m)	#47.9	86.1			25.6	0.4	35.9		0.0	14.6		29.4
Internal Link Dist (m)		652.3			298.3			149.9			174.6	
Turn Bay Length (m)	205.0					60.0			35.0	50.0		
Base Capacity (vph)	483	1779			1427	565	488		1547	462		1188
Starvation Cap Reductn	0	0			0	0	0		0	0		0
Spillback Cap Reductn	0	0			0	0	0		0	0		0
Storage Cap Reductn	0	0			0	0	0		0	0		0
Reduced v/c Ratio	0.70	0.55			0.23	0.17	0.52		0.01	0.19		0.29

Intersection Summary			
Area Type:	Other		
Cycle Length: 115			
Actuated Cycle Length: 94.3			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 26.7		Intersection LOS: C	
Intersection Capacity Utilization 47.6%		ICU Level of Service A	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Bayshore Drive & Richmond Road



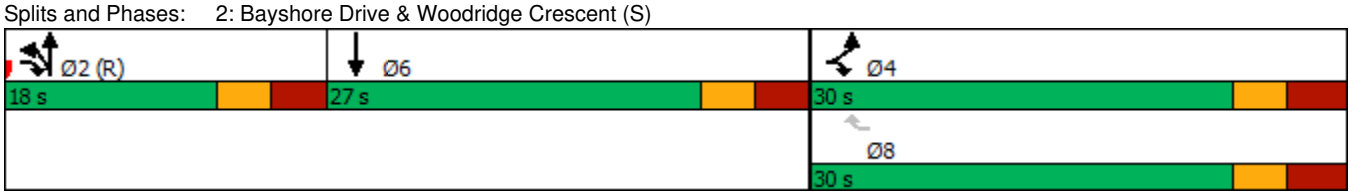


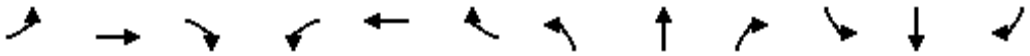
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	0	186	0	0	0	142	34	0	0	206	89
Future Volume (vph)	64	0	186	0	0	0	142	34	0	0	206	89
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor	0.97						0.98	0.99			0.99	
Frt			0.850								0.955	
Flt Protected	0.950						0.950	0.970				
Satd. Flow (prot)	1491	0	2545	0	0	1820	1626	1642	0	0	3172	0
Flt Permitted	0.950						0.950	0.970				
Satd. Flow (perm)	1447	0	2545	0	0	1820	1597	1624	0	0	3172	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											89	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		150.9			229.8			179.2			394.4	
Travel Time (s)		13.6			20.7			12.9			28.4	
Confl. Peds. (#/hr)	18		44	44		18	24		4	4		24
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 (%)	16%	0%	7%	0%	0%	0%	1%	4%	0%	0%	2%	5%
Adj. Flow (vph)	64	0	186	0	0	0	142	34	0	0	206	89
Shared Lane Traffic (%)							39%					
Lane Group Flow (vph)	64	0	186	0	0	0	87	89	0	0	295	0
Turn Type	Prot		pt+ov			Perm	Split	NA			NA	
Protected Phases	4		4 2				2	2			6	
Permitted Phases						8						
Detector Phase	4		4 2			8	2	2			6	
Switch Phase												
Minimum Initial (s)	5.0					5.0	5.0	5.0			5.0	
Minimum Split (s)	29.5					11.5	11.2	11.2			26.2	
Total Split (s)	30.0					30.0	18.0	18.0			27.0	
Total Split (%)	40.0%					40.0%	24.0%	24.0%			36.0%	
Maximum Green (s)	23.5					23.5	11.8	11.8			20.8	
Yellow Time (s)	3.0					3.0	3.0	3.0			3.0	
All-Red Time (s)	3.5					3.5	3.2	3.2			3.2	
Lost Time Adjust (s)	0.0					0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.5					6.5	6.2	6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0					3.0	3.0	3.0			3.0	
Recall Mode	None					None	C-Max	C-Max			Max	
Walk Time (s)	7.0										7.0	
Flash Dont Walk (s)	16.0										13.0	
Pedestrian Calls (#/hr)	0										0	
Act Effct Green (s)	8.9		41.5				26.4	26.4			20.8	
Actuated g/C Ratio	0.12		0.55				0.35	0.35			0.28	
v/c Ratio	0.36		0.13				0.15	0.15			0.31	
Control Delay	35.6		8.4				18.6	18.6			15.8	
Queue Delay	0.0		0.0				0.0	0.0			0.0	
Total Delay	35.6		8.4				18.6	18.6			15.8	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D		A				B	B			B	
Approach Delay		15.4						18.6			15.8	
Approach LOS		B						B			B	
Queue Length 50th (m)	8.5		6.6				8.6	8.8			11.7	
Queue Length 95th (m)	18.6		11.5				19.8	20.2			21.2	
Internal Link Dist (m)		126.9			205.8			155.2			370.4	
Turn Bay Length (m)												
Base Capacity (vph)	467		1408				573	578			944	
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	0.14		0.13				0.15	0.15			0.31	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.36			
Intersection Signal Delay: 16.3		Intersection LOS: B	
Intersection Capacity Utilization 44.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Bayshore Drive & Woodridge Crescent (S)



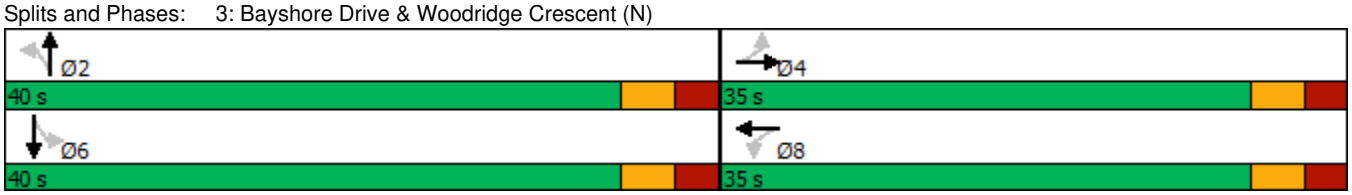


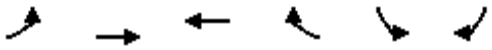
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	1	98	20	1	12	98	279	9	3	164	95
Future Volume (vph)	152	1	98	20	1	12	98	279	9	3	164	95
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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			0.98			0.99			0.98	
Frt		0.852			0.951			0.997			0.951	
Flt Protected	0.950				0.971			0.987			0.999	
Satd. Flow (prot)	1679	1471	0	0	1660	0	0	1725	0	0	1590	0
Flt Permitted	0.736				0.807			0.856			0.997	
Satd. Flow (perm)	1273	1471	0	0	1364	0	0	1486	0	0	1586	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		98			12			2			50	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		186.3			207.9			394.4			121.4	
Travel Time (s)		13.4			15.0			28.4			8.7	
Confl. Peds. (#/hr)	21		20	20		21	23		21	21		23
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	0%	2%	0%	0%	0%	6%	3%	0%	0%	5%	9%
Adj. Flow (vph)	152	1	98	20	1	12	98	279	9	3	164	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	99	0	0	33	0	0	386	0	0	262	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)	26.5	26.5		26.5	26.5		26.6	26.6		26.6	26.6	
Total Split (s)	35.0	35.0		35.0	35.0		40.0	40.0		40.0	40.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	29.5	29.5		29.5	29.5		34.4	34.4		34.4	34.4	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.5	5.5			5.5			5.6			5.6	
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		Max	Max		Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	12.4	12.4			12.4			37.3			37.3	
Actuated g/C Ratio	0.20	0.20			0.20			0.61			0.61	
v/c Ratio	0.59	0.26			0.11			0.42			0.26	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	30.3	6.7			14.2			8.8			5.9	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	30.3	6.7			14.2			8.8			5.9	
LOS	C	A			B			A			A	
Approach Delay		21.0			14.2			8.8			5.9	
Approach LOS		C			B			A			A	
Queue Length 50th (m)	14.4	0.1			1.8			18.7			8.8	
Queue Length 95th (m)	29.3	9.1			7.3			44.3			23.4	
Internal Link Dist (m)		162.3			183.9			370.4			97.4	
Turn Bay Length (m)	60.0											
Base Capacity (vph)	620	767			671			911			991	
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	0.25	0.13			0.05			0.42			0.26	

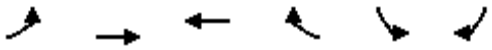
Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 60.8			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 11.5		Intersection LOS: B	
Intersection Capacity Utilization 68.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Bayshore Drive & Woodridge Crescent (N)





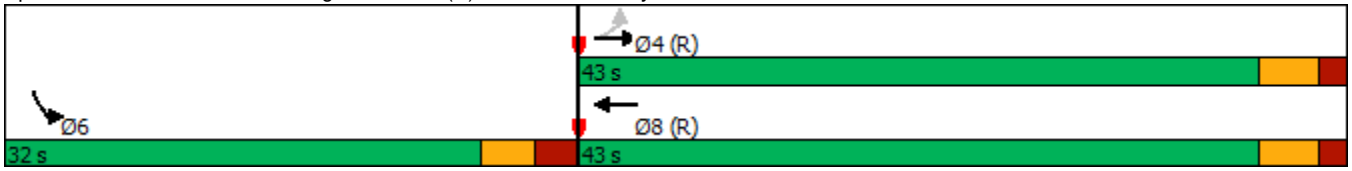
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	19	195	132	2	34	19
Future Volume (vph)	19	195	132	2	34	19
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor	0.94		1.00		0.99	
Frt			0.998		0.952	
Flt Protected	0.950				0.969	
Satd. Flow (prot)	1729	3033	3224	0	1568	0
Flt Permitted	0.667				0.969	
Satd. Flow (perm)	1144	3033	3224	0	1568	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			2		19	
Link Speed (k/h)		40	40		50	
Link Distance (m)		172.9	23.2		196.3	
Travel Time (s)		15.6	2.1		14.1	
Confl. Peds. (#/hr)	22			22		25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	14%	7%	0%	0%	16%
Adj. Flow (vph)	19	195	132	2	34	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	19	195	134	0	53	0
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	10.0	10.0	17.0		29.4	
Total Split (s)	43.0	43.0	43.0		32.0	
Total Split (%)	57.3%	57.3%	57.3%		42.7%	
Maximum Green (s)	38.0	38.0	38.0		26.6	
Yellow Time (s)	3.3	3.3	3.3		3.0	
All-Red Time (s)	1.7	1.7	1.7		2.4	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.4	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	C-Max	C-Max	C-Max		None	
Walk Time (s)			7.0		7.0	
Flash Dont Walk (s)			5.0		17.0	
Pedestrian Calls (#/hr)			0		0	
Act Effct Green (s)	63.7	63.7	63.7		7.3	
Actuated g/C Ratio	0.85	0.85	0.85		0.10	
v/c Ratio	0.02	0.08	0.05		0.31	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Control Delay	2.6	2.1	2.1		26.9	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	2.6	2.1	2.1		26.9	
LOS	A	A	A		C	
Approach Delay		2.2	2.1		26.9	
Approach LOS		A	A		C	
Queue Length 50th (m)	0.5	2.6	1.7		4.6	
Queue Length 95th (m)	2.0	5.7	4.1		13.7	
Internal Link Dist (m)		148.9	0.1		172.3	
Turn Bay Length (m)	40.0					
Base Capacity (vph)	971	2575	2737		568	
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	0.02	0.08	0.05		0.09	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.31			
Intersection Signal Delay: 5.4		Intersection LOS: A	
Intersection Capacity Utilization 38.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Woodridge Crescent (S) & 220m W of Bayshore



Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	150	15	33	64	15	28
Future Vol, veh/h	150	15	33	64	15	28
Conflicting Peds, #/hr	0	25	25	0	15	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	6	53	18	10	29	46
Mvmt Flow	150	15	33	64	15	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	190	0	328	187
Stage 1	-	-	-	-	183	-
Stage 2	-	-	-	-	145	-
Critical Hdwy	-	-	4.28	-	6.69	6.66
Critical Hdwy Stg 1	-	-	-	-	5.69	-
Critical Hdwy Stg 2	-	-	-	-	5.69	-
Follow-up Hdwy	-	-	2.362	-	3.761	3.714
Pot Cap-1 Maneuver	-	-	1293	-	615	754
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	820	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1263	-	577	734
Mov Cap-2 Maneuver	-	-	-	-	577	-
Stage 1	-	-	-	-	769	-
Stage 2	-	-	-	-	788	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	577	734	-	-	1263	-
HCM Lane V/C Ratio	0.026	0.038	-	-	0.026	-
HCM Control Delay (s)	11.4	10.1	-	-	7.9	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0.1	-

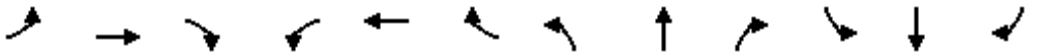
Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	110	4	13	66	0	55
Future Vol, veh/h	110	4	13	66	0	55
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	122	4	14	73	0	61

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	126	0	225	124
Stage 1	-	-	-	-	124	-
Stage 2	-	-	-	-	101	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1473	-	768	932
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	928	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1473	-	760	932
Mov Cap-2 Maneuver	-	-	-	-	760	-
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	919	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	932	-	-	1473	-
HCM Lane V/C Ratio	0.066	-	-	0.01	-
HCM Control Delay (s)	9.1	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

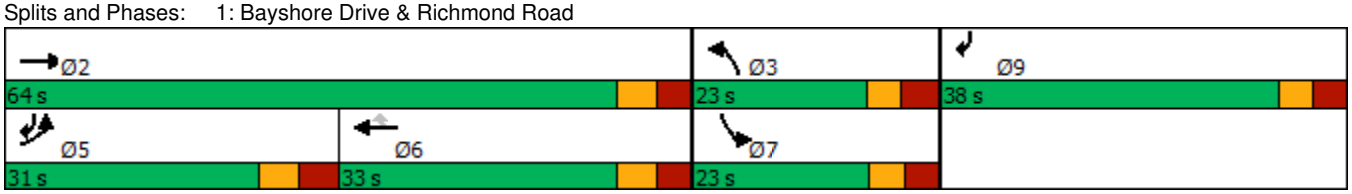


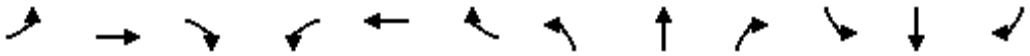
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	400	504	0	0	641	115	166	0	41	133	0	863
Future Volume (vph)	400	504	0	0	641	115	166	0	41	133	0	863
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	205.0		0.0	0.0		60.0	0.0		35.0	50.0		0.0
Storage Lanes	2		0	0		1	2		1	1		3
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	0.97	1.00	0.76
Ped Bike Factor	1.00					0.99			0.99	1.00		
Frt						0.850			0.850			0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	3354	3424	0	0	4871	1547	3321	0	1473	3077	0	3492
Flt Permitted	0.950						0.950			0.950		
Satd. Flow (perm)	3350	3424	0	0	4871	1524	3321	0	1455	3066	0	3492
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)						155			217			
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		676.3			322.3			173.9			198.6	
Travel Time (s)		34.8			16.6			12.5			14.3	
Confl. Peds. (#/hr)	2					2			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 (%)	0%	1%	0%	0%	2%	0%	1%	0%	5%	9%	0%	1%
Adj. Flow (vph)	400	504	0	0	641	115	166	0	41	133	0	863
Shared Lane Traffic (%)												
Lane Group Flow (vph)	400	504	0	0	641	115	166	0	41	133	0	863
Turn Type	Prot	NA			NA	Perm	Prot		Free	Prot		pt+ov
Protected Phases	5	2			6		3			7		5 9
Permitted Phases						6			Free			
Detector Phase	5	2			6	6	3			7		5 9
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0			5.0		
Minimum Split (s)	12.3	32.1			32.1	32.1	11.9			11.6		
Total Split (s)	31.0	64.0			33.0	33.0	23.0			23.0		
Total Split (%)	24.8%	51.2%			26.4%	26.4%	18.4%			18.4%		
Maximum Green (s)	23.7	56.9			25.9	25.9	16.1			16.4		
Yellow Time (s)	3.7	3.7			3.7	3.7	3.3			3.3		
All-Red Time (s)	3.6	3.4			3.4	3.4	3.6			3.3		
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0			0.0		
Total Lost Time (s)	7.3	7.1			7.1	7.1	6.9			6.6		
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		
Recall Mode	None	Max			Max	Max	None			None		
Walk Time (s)		7.0			7.0	7.0						
Flash Dont Walk (s)		18.0			18.0	18.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	20.1	57.1			29.7	29.7	11.0		114.9	11.3		52.8
Actuated g/C Ratio	0.17	0.50			0.26	0.26	0.10		1.00	0.10		0.46
v/c Ratio	0.68	0.30			0.51	0.23	0.52		0.03	0.44		0.54

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	51.1	18.5			39.8	3.4	56.1		0.0	54.1		23.3
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	51.1	18.5			39.8	3.4	56.1		0.0	54.1		23.3
LOS	D	B			D	A	E		A	D		C
Approach Delay		32.9			34.3			45.0			27.4	
Approach LOS		C			C			D			C	
Queue Length 50th (m)	43.3	34.2			45.9	0.0	18.6		0.0	14.7		58.1
Queue Length 95th (m)	62.8	52.4			65.7	6.7	30.5		0.0	25.4		73.7
Internal Link Dist (m)		652.3			298.3			149.9			174.6	
Turn Bay Length (m)	205.0					60.0			35.0	50.0		
Base Capacity (vph)	693	1700			1258	508	466		1455	440		1675
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	0.58	0.30			0.51	0.23	0.36		0.03	0.30		0.52

Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 114.9			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 32.2		Intersection LOS: C	
Intersection Capacity Utilization 62.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Bayshore Drive & Richmond Road



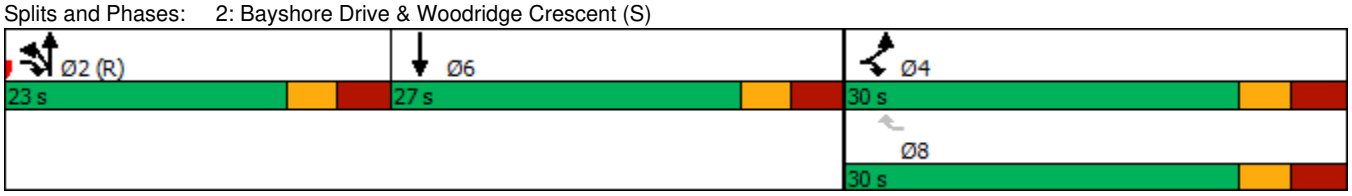


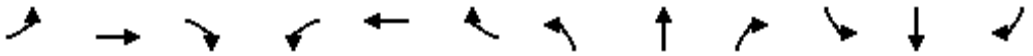
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	0	605	0	0	0	241	66	0	0	243	185
Future Volume (vph)	160	0	605	0	0	0	241	66	0	0	243	185
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor	0.95						0.98	0.99			0.98	
Frt			0.850								0.935	
Flt Protected	0.950						0.950	0.972				
Satd. Flow (prot)	1662	0	2643	0	0	1820	1643	1673	0	0	3090	0
Flt Permitted	0.950						0.950	0.972				
Satd. Flow (perm)	1584	0	2643	0	0	1820	1617	1659	0	0	3090	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											185	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		150.9			229.8			179.2			394.4	
Travel Time (s)		13.6			20.7			12.9			28.4	
Confl. Peds. (#/hr)	27		66	66		27	23		4	4		23
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 (%)	4%	0%	3%	0%	0%	0%	0%	1%	0%	0%	2%	4%
Adj. Flow (vph)	160	0	605	0	0	0	241	66	0	0	243	185
Shared Lane Traffic (%)							37%					
Lane Group Flow (vph)	160	0	605	0	0	0	152	155	0	0	428	0
Turn Type	Prot		pt+ov			Perm	Split	NA			NA	
Protected Phases	4		4 2				2	2			6	
Permitted Phases						8						
Detector Phase	4		4 2			8	2	2			6	
Switch Phase												
Minimum Initial (s)	5.0					5.0	5.0	5.0			5.0	
Minimum Split (s)	29.5					11.5	11.2	11.2			26.2	
Total Split (s)	30.0					30.0	23.0	23.0			27.0	
Total Split (%)	37.5%					37.5%	28.8%	28.8%			33.8%	
Maximum Green (s)	23.5					23.5	16.8	16.8			20.8	
Yellow Time (s)	3.0					3.0	3.0	3.0			3.0	
All-Red Time (s)	3.5					3.5	3.2	3.2			3.2	
Lost Time Adjust (s)	0.0					0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.5					6.5	6.2	6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0					3.0	3.0	3.0			3.0	
Recall Mode	None					None	C-Max	C-Max			Max	
Walk Time (s)	7.0										7.0	
Flash Dont Walk (s)	16.0										13.0	
Pedestrian Calls (#/hr)	0										0	
Act Effct Green (s)	16.4		46.5				23.9	23.9			20.8	
Actuated g/C Ratio	0.20		0.58				0.30	0.30			0.26	
v/c Ratio	0.47		0.39				0.31	0.31			0.46	
Control Delay	31.6		10.0				25.5	25.5			15.5	
Queue Delay	0.0		0.0				0.0	0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	31.6		10.0				25.5	25.5			15.5	
LOS	C		B				C	C			B	
Approach Delay		14.6						25.5			15.5	
Approach LOS		B						C			B	
Queue Length 50th (m)	21.6		25.8				18.6	19.0			15.5	
Queue Length 95th (m)	35.1		37.1				38.4	38.9			28.0	
Internal Link Dist (m)		126.9			205.8			155.2			370.4	
Turn Bay Length (m)												
Base Capacity (vph)	488		1492				490	499			940	
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	0.33		0.41				0.31	0.31			0.46	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay: 17.1		Intersection LOS: B	
Intersection Capacity Utilization 54.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Bayshore Drive & Woodridge Crescent (S)





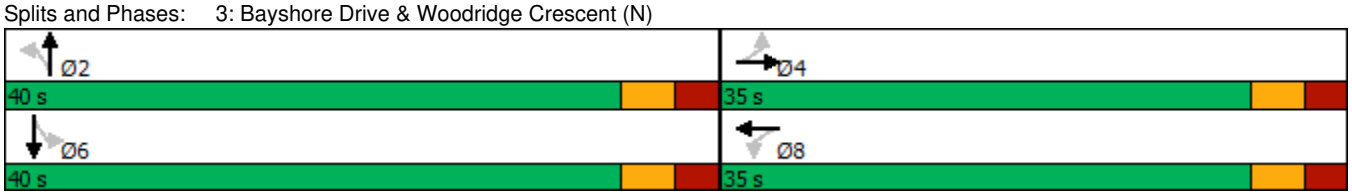
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	0	71	6	0	5	100	257	14	24	346	156
Future Volume (vph)	98	0	71	6	0	5	100	257	14	24	346	156
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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	0.96			0.98			0.99			0.98	
Frt		0.850			0.939			0.995			0.960	
Flt Protected	0.950				0.973			0.987			0.998	
Satd. Flow (prot)	1558	1429	0	0	1646	0	0	1720	0	0	1654	0
Flt Permitted	0.750				0.829			0.777			0.977	
Satd. Flow (perm)	1217	1429	0	0	1383	0	0	1348	0	0	1616	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		356			38			3			37	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		186.3			207.9			394.4			121.4	
Travel Time (s)		13.4			15.0			28.4			8.7	
Confl. Peds. (#/hr)	10		26	26		10	25		41	41		25
Confl. Bikes (#/hr)												2
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 (%)	11%	0%	4%	0%	0%	0%	3%	4%	0%	0%	2%	7%
Adj. Flow (vph)	98	0	71	6	0	5	100	257	14	24	346	156
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	71	0	0	11	0	0	371	0	0	526	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)	26.5	26.5		26.5	26.5		26.6	26.6		26.6	26.6	
Total Split (s)	35.0	35.0		35.0	35.0		40.0	40.0		40.0	40.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	29.5	29.5		29.5	29.5		34.4	34.4		34.4	34.4	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.5	5.5			5.5			5.6			5.6	
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		Max	Max		Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	9.9	9.9			9.8			40.3			40.3	
Actuated g/C Ratio	0.17	0.17			0.17			0.70			0.70	

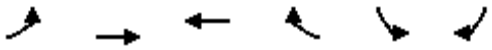
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.47	0.13			0.04			0.39			0.46	
Control Delay	28.5	0.5			1.6			7.3			7.3	
Queue Delay	0.0	0.0			0.0			0.0			0.2	
Total Delay	28.5	0.5			1.6			7.3			7.5	
LOS	C	A			A			A			A	
Approach Delay		16.7			1.6			7.3			7.5	
Approach LOS		B			A			A			A	
Queue Length 50th (m)	8.9	0.0			0.0			15.8			22.0	
Queue Length 95th (m)	20.3	0.0			0.8			38.1			51.5	
Internal Link Dist (m)		162.3			183.9			370.4			97.4	
Turn Bay Length (m)	60.0											
Base Capacity (vph)	623	906			727			941			1138	
Starvation Cap Reductn	0	0			0			0			138	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.16	0.08			0.02			0.39			0.53	

Intersection Summary

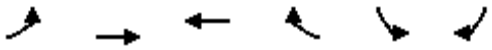
Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 57.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.47
Intersection Signal Delay: 8.8 Intersection LOS: A
Intersection Capacity Utilization 80.5% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Bayshore Drive & Woodridge Crescent (N)





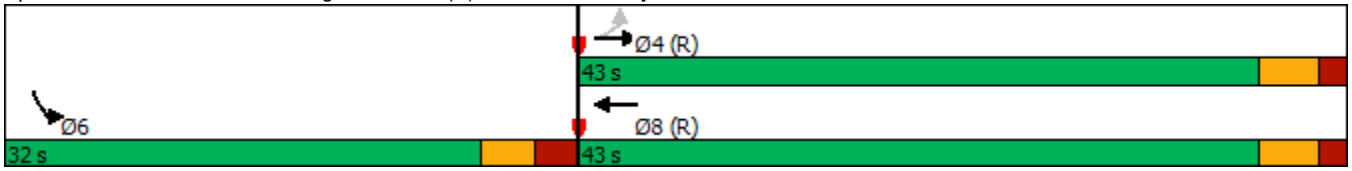
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	17	475	222	7	13	19
Future Volume (vph)	17	475	222	7	13	19
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor	0.92		1.00		0.96	
Frt			0.995		0.920	
Flt Protected	0.950				0.980	
Satd. Flow (prot)	1631	3293	3255	0	1532	0
Flt Permitted	0.609				0.980	
Satd. Flow (perm)	957	3293	3255	0	1532	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			6		19	
Link Speed (k/h)		40	40		50	
Link Distance (m)		172.9	23.2		196.3	
Travel Time (s)		15.6	2.1		14.1	
Confl. Peds. (#/hr)	37			37		58
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	6%	5%	5%	14%	0%	5%
Adj. Flow (vph)	17	475	222	7	13	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	475	229	0	32	0
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	10.0	10.0	17.0		29.4	
Total Split (s)	43.0	43.0	43.0		32.0	
Total Split (%)	57.3%	57.3%	57.3%		42.7%	
Maximum Green (s)	38.0	38.0	38.0		26.6	
Yellow Time (s)	3.3	3.3	3.3		3.0	
All-Red Time (s)	1.7	1.7	1.7		2.4	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.4	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	C-Max	C-Max	C-Max		None	
Walk Time (s)			7.0		7.0	
Flash Dont Walk (s)			5.0		17.0	
Pedestrian Calls (#/hr)			0		0	
Act Effct Green (s)	67.7	67.7	67.7		6.5	
Actuated g/C Ratio	0.90	0.90	0.90		0.09	
v/c Ratio	0.02	0.16	0.08		0.21	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Control Delay	2.0	1.5	1.4		22.4	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	2.0	1.5	1.4		22.4	
LOS	A	A	A		C	
Approach Delay		1.5	1.4		22.4	
Approach LOS		A	A		C	
Queue Length 50th (m)	0.0	0.0	0.0		1.8	
Queue Length 95th (m)	1.7	11.6	5.7		9.0	
Internal Link Dist (m)		148.9	0.1		172.3	
Turn Bay Length (m)	40.0					
Base Capacity (vph)	864	2973	2939		555	
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	0.02	0.16	0.08		0.06	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.21			
Intersection Signal Delay: 2.4		Intersection LOS: A	
Intersection Capacity Utilization 41.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Woodridge Crescent (S) & 220m W of Bayshore



Intersection	
Int Delay, s/veh	5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	135	38	73	94	21	172
Future Vol, veh/h	135	38	73	94	21	172
Conflicting Peds, #/hr	0	27	27	0	25	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	11	21	11	6	44	12
Mvmt Flow	135	38	73	94	21	172

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	200	0	446	184
Stage 1	-	-	-	-	181	-
Stage 2	-	-	-	-	265	-
Critical Hdwy	-	-	4.21	-	6.84	6.32
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.299	-	3.896	3.408
Pot Cap-1 Maneuver	-	-	1320	-	499	833
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	691	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1287	-	448	810
Mov Cap-2 Maneuver	-	-	-	-	448	-
Stage 1	-	-	-	-	740	-
Stage 2	-	-	-	-	636	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.5	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	448	810	-	-	1287	-
HCM Lane V/C Ratio	0.047	0.212	-	-	0.057	-
HCM Control Delay (s)	13.4	10.6	-	-	8	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.8	-	-	0.2	-

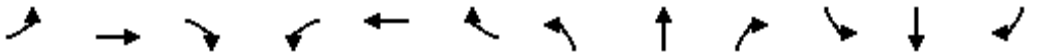
Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	144	11	35	80	0	29
Future Vol, veh/h	144	11	35	80	0	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	160	12	39	89	0	32

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	172	0	333	166
Stage 1	-	-	-	-	166	-
Stage 2	-	-	-	-	167	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1417	-	666	884
Stage 1	-	-	-	-	868	-
Stage 2	-	-	-	-	867	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1417	-	647	884
Mov Cap-2 Maneuver	-	-	-	-	647	-
Stage 1	-	-	-	-	868	-
Stage 2	-	-	-	-	842	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.3	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	884	-	-	1417	-
HCM Lane V/C Ratio	0.036	-	-	0.027	-
HCM Control Delay (s)	9.2	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-



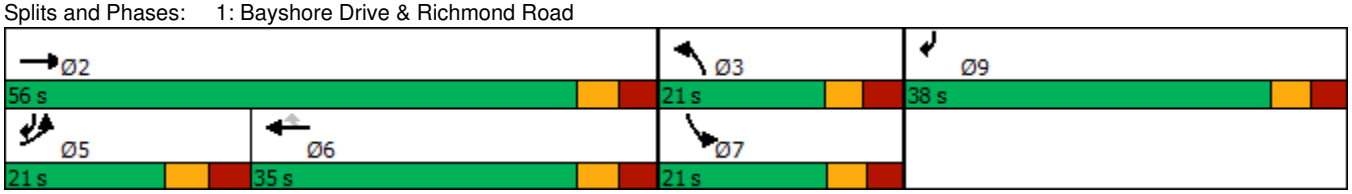
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	338	981	0	0	332	95	256	0	12	86	0	341
Future Volume (vph)	338	981	0	0	332	95	256	0	12	86	0	341
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	205.0		0.0	0.0		60.0	0.0		35.0	50.0		0.0
Storage Lanes	2		0	0		1	2		1	1		3
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	0.97	1.00	0.76
Ped Bike Factor						0.99						
Frt						0.850			0.850			0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	3321	3424	0	0	4732	1502	3257	0	1547	3022	0	3391
Flt Permitted	0.950						0.950			0.950		
Satd. Flow (perm)	3321	3424	0	0	4732	1483	3257	0	1547	3022	0	3391
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)						169			236			
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		676.3			322.3			173.9			198.6	
Travel Time (s)		34.8			16.6			12.5			14.3	
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 (%)	1%	1%	0%	0%	5%	3%	3%	0%	0%	11%	0%	4%
Adj. Flow (vph)	338	981	0	0	332	95	256	0	12	86	0	341
Shared Lane Traffic (%)												
Lane Group Flow (vph)	338	981	0	0	332	95	256	0	12	86	0	341
Turn Type	Prot	NA			NA	Perm	Prot		Free	Prot		pt+ov
Protected Phases	5	2			6		3			7		5 9
Permitted Phases						6			Free			
Detector Phase	5	2			6	6	3			7		5 9
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0			5.0		
Minimum Split (s)	12.3	32.1			32.1	32.1	11.9			11.6		
Total Split (s)	21.0	56.0			35.0	35.0	21.0			21.0		
Total Split (%)	18.3%	48.7%			30.4%	30.4%	18.3%			18.3%		
Maximum Green (s)	13.7	48.9			27.9	27.9	14.1			14.4		
Yellow Time (s)	3.7	3.7			3.7	3.7	3.3			3.3		
All-Red Time (s)	3.6	3.4			3.4	3.4	3.6			3.3		
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0			0.0		
Total Lost Time (s)	7.3	7.1			7.1	7.1	6.9			6.6		
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		
Recall Mode	None	Max			Max	Max	None			None		
Walk Time (s)		7.0			7.0	7.0						
Flash Dont Walk (s)		18.0			18.0	18.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	13.3	49.0			28.4	28.4	12.2		94.2	11.8		32.3
Actuated g/C Ratio	0.14	0.52			0.30	0.30	0.13		1.00	0.13		0.34
v/c Ratio	0.72	0.55			0.23	0.17	0.61		0.01	0.23		0.29

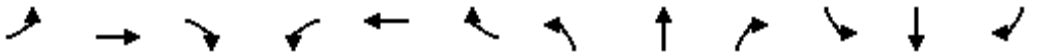
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	49.1	17.3			26.1	0.7	45.7		0.0	38.5		23.4
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	49.1	17.3			26.1	0.7	45.7		0.0	38.5		23.4
LOS	D	B			C	A	D		A	D		C
Approach Delay		25.4			20.4			43.6			26.5	
Approach LOS		C			C			D			C	
Queue Length 50th (m)	30.6	60.6			16.7	0.0	22.9		0.0	7.2		19.6
Queue Length 95th (m)	#48.4	86.8			25.8	0.6	36.3		0.0	14.5		29.0
Internal Link Dist (m)		652.3			298.3			149.9			174.6	
Turn Bay Length (m)	205.0					60.0			35.0	50.0		
Base Capacity (vph)	484	1780			1427	565	488		1547	462		1185
Starvation Cap Reductn	0	0			0	0	0		0	0		0
Spillback Cap Reductn	0	0			0	0	0		0	0		0
Storage Cap Reductn	0	0			0	0	0		0	0		0
Reduced v/c Ratio	0.70	0.55			0.23	0.17	0.52		0.01	0.19		0.29

Intersection Summary			
Area Type:	Other		
Cycle Length: 115			
Actuated Cycle Length: 94.2			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 26.7		Intersection LOS: C	
Intersection Capacity Utilization 48.0%		ICU Level of Service A	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Bayshore Drive & Richmond Road



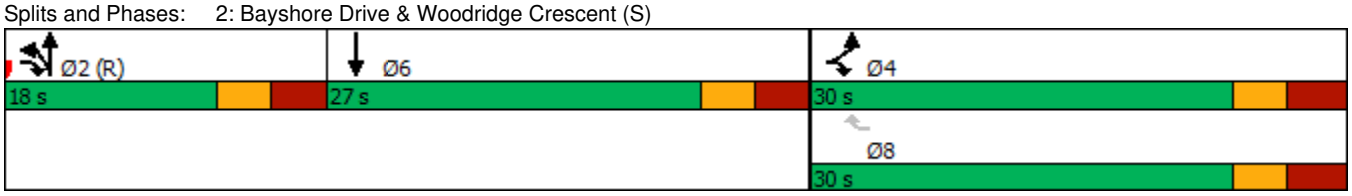


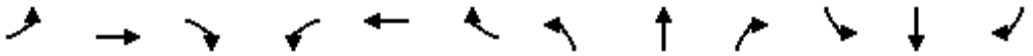
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	0	176	0	0	0	140	34	0	0	208	87
Future Volume (vph)	58	0	176	0	0	0	140	34	0	0	208	87
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor	0.97						0.98	0.99			0.99	
Frt			0.850								0.956	
Flt Protected	0.950						0.950	0.970				
Satd. Flow (prot)	1491	0	2545	0	0	1820	1626	1641	0	0	3177	0
Flt Permitted	0.950						0.950	0.970				
Satd. Flow (perm)	1447	0	2545	0	0	1820	1597	1624	0	0	3177	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											85	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		150.9			229.8			179.2			394.4	
Travel Time (s)		13.6			20.7			12.9			28.4	
Confl. Peds. (#/hr)	18		44	44		18	24		4	4		24
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 (%)	16%	0%	7%	0%	0%	0%	1%	4%	0%	0%	2%	5%
Adj. Flow (vph)	58	0	176	0	0	0	140	34	0	0	208	87
Shared Lane Traffic (%)							38%					
Lane Group Flow (vph)	58	0	176	0	0	0	87	87	0	0	295	0
Turn Type	Prot		pt+ov			Perm	Split	NA			NA	
Protected Phases	4		4 2				2	2			6	
Permitted Phases						8						
Detector Phase	4		4 2			8	2	2			6	
Switch Phase												
Minimum Initial (s)	5.0					5.0	5.0	5.0			5.0	
Minimum Split (s)	29.5					11.5	11.2	11.2			26.2	
Total Split (s)	30.0					30.0	18.0	18.0			27.0	
Total Split (%)	40.0%					40.0%	24.0%	24.0%			36.0%	
Maximum Green (s)	23.5					23.5	11.8	11.8			20.8	
Yellow Time (s)	3.0					3.0	3.0	3.0			3.0	
All-Red Time (s)	3.5					3.5	3.2	3.2			3.2	
Lost Time Adjust (s)	0.0					0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.5					6.5	6.2	6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0					3.0	3.0	3.0			3.0	
Recall Mode	None					None	C-Max	C-Max			Max	
Walk Time (s)	7.0										7.0	
Flash Dont Walk (s)	16.0										13.0	
Pedestrian Calls (#/hr)	0										0	
Act Effct Green (s)	8.6		41.5				26.7	26.7			20.8	
Actuated g/C Ratio	0.11		0.55				0.36	0.36			0.28	
v/c Ratio	0.34		0.12				0.15	0.15			0.31	
Control Delay	35.3		8.3				18.3	18.3			16.1	
Queue Delay	0.0		0.0				0.0	0.0			0.0	
Total Delay	35.3		8.3				18.3	18.3			16.1	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D		A				B	B			B	
Approach Delay		15.0						18.3			16.1	
Approach LOS		B						B			B	
Queue Length 50th (m)	7.7		6.2				8.6	8.6			12.0	
Queue Length 95th (m)	17.4		10.9				19.6	19.5			21.5	
Internal Link Dist (m)		126.9			205.8			155.2			370.4	
Turn Bay Length (m)												
Base Capacity (vph)	467		1408				578	584			942	
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	0.12		0.13				0.15	0.15			0.31	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.34			
Intersection Signal Delay: 16.3		Intersection LOS: B	
Intersection Capacity Utilization 44.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Bayshore Drive & Woodridge Crescent (S)



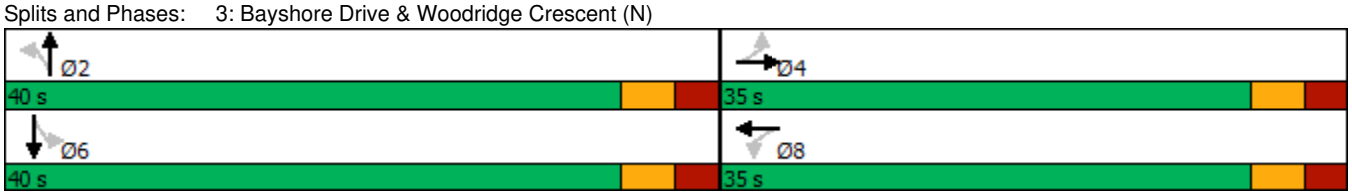


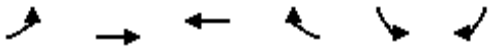
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	1	98	20	1	12	97	279	9	3	164	95
Future Volume (vph)	152	1	98	20	1	12	97	279	9	3	164	95
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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			0.98			0.99			0.98	
Frt		0.852			0.951			0.997			0.951	
Flt Protected	0.950				0.971			0.988			0.999	
Satd. Flow (prot)	1679	1471	0	0	1660	0	0	1727	0	0	1590	0
Flt Permitted	0.736				0.807			0.857			0.997	
Satd. Flow (perm)	1273	1471	0	0	1364	0	0	1488	0	0	1586	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		98			12			2			50	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		186.3			207.9			394.4			121.4	
Travel Time (s)		13.4			15.0			28.4			8.7	
Confl. Peds. (#/hr)	21		20	20		21	23		21	21		23
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	0%	2%	0%	0%	0%	6%	3%	0%	0%	5%	9%
Adj. Flow (vph)	152	1	98	20	1	12	97	279	9	3	164	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	99	0	0	33	0	0	385	0	0	262	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)	26.5	26.5		26.5	26.5		26.6	26.6		26.6	26.6	
Total Split (s)	35.0	35.0		35.0	35.0		40.0	40.0		40.0	40.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	29.5	29.5		29.5	29.5		34.4	34.4		34.4	34.4	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.5	5.5			5.5			5.6			5.6	
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		Max	Max		Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	12.4	12.4			12.4			37.3			37.3	
Actuated g/C Ratio	0.20	0.20			0.20			0.61			0.61	
v/c Ratio	0.59	0.26			0.11			0.42			0.26	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	30.3	6.7			14.2			8.8			5.9	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	30.3	6.7			14.2			8.8			5.9	
LOS	C	A			B			A			A	
Approach Delay		21.0			14.2			8.8			5.9	
Approach LOS		C			B			A			A	
Queue Length 50th (m)	14.4	0.1			1.8			18.7			8.8	
Queue Length 95th (m)	29.3	9.1			7.3			44.1			23.4	
Internal Link Dist (m)		162.3			183.9			370.4			97.4	
Turn Bay Length (m)	60.0											
Base Capacity (vph)	620	767			671			912			991	
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	0.25	0.13			0.05			0.42			0.26	

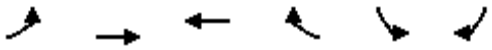
Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 60.8			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 11.5		Intersection LOS: B	
Intersection Capacity Utilization 68.5%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Bayshore Drive & Woodridge Crescent (N)





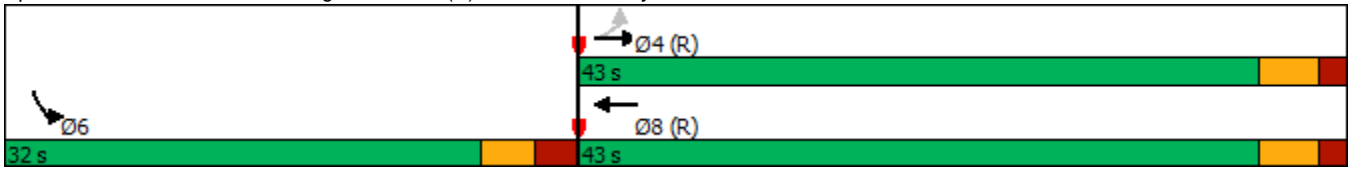
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	19	177	128	2	34	19
Future Volume (vph)	19	177	128	2	34	19
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor	0.94		1.00		0.99	
Frt			0.998		0.952	
Flt Protected	0.950				0.969	
Satd. Flow (prot)	1729	3033	3224	0	1568	0
Flt Permitted	0.670				0.969	
Satd. Flow (perm)	1149	3033	3224	0	1568	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			2		19	
Link Speed (k/h)		40	40		50	
Link Distance (m)		172.9	23.2		196.3	
Travel Time (s)		15.6	2.1		14.1	
Confl. Peds. (#/hr)	22			22		25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	14%	7%	0%	0%	16%
Adj. Flow (vph)	19	177	128	2	34	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	19	177	130	0	53	0
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	10.0	10.0	17.0		29.4	
Total Split (s)	43.0	43.0	43.0		32.0	
Total Split (%)	57.3%	57.3%	57.3%		42.7%	
Maximum Green (s)	38.0	38.0	38.0		26.6	
Yellow Time (s)	3.3	3.3	3.3		3.0	
All-Red Time (s)	1.7	1.7	1.7		2.4	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.4	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	C-Max	C-Max	C-Max		None	
Walk Time (s)			7.0		7.0	
Flash Dont Walk (s)			5.0		17.0	
Pedestrian Calls (#/hr)			0		0	
Act Effct Green (s)	63.7	63.7	63.7		7.3	
Actuated g/C Ratio	0.85	0.85	0.85		0.10	
v/c Ratio	0.02	0.07	0.05		0.31	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Control Delay	2.6	2.2	2.1		26.9	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	2.6	2.2	2.1		26.9	
LOS	A	A	A		C	
Approach Delay		2.2	2.1		26.9	
Approach LOS		A	A		C	
Queue Length 50th (m)	0.5	2.4	1.6		4.6	
Queue Length 95th (m)	2.0	5.3	4.0		13.7	
Internal Link Dist (m)		148.9	0.1		172.3	
Turn Bay Length (m)	40.0					
Base Capacity (vph)	975	2575	2737		568	
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	0.02	0.07	0.05		0.09	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.31			
Intersection Signal Delay: 5.6		Intersection LOS: A	
Intersection Capacity Utilization 38.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Woodridge Crescent (S) & 220m W of Bayshore



Intersection	
Int Delay, s/veh	2.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	132	15	33	60	15	28
Future Vol, veh/h	132	15	33	60	15	28
Conflicting Peds, #/hr	0	25	25	0	15	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	6	53	18	10	29	46
Mvmt Flow	132	15	33	60	15	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	172	0	306	169
Stage 1	-	-	-	-	165	-
Stage 2	-	-	-	-	141	-
Critical Hdwy	-	-	4.28	-	6.69	6.66
Critical Hdwy Stg 1	-	-	-	-	5.69	-
Critical Hdwy Stg 2	-	-	-	-	5.69	-
Follow-up Hdwy	-	-	2.362	-	3.761	3.714
Pot Cap-1 Maneuver	-	-	1314	-	633	773
Stage 1	-	-	-	-	803	-
Stage 2	-	-	-	-	824	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1284	-	594	752
Mov Cap-2 Maneuver	-	-	-	-	594	-
Stage 1	-	-	-	-	785	-
Stage 2	-	-	-	-	792	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.8	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	594	752	-	-	1284	-
HCM Lane V/C Ratio	0.025	0.037	-	-	0.026	-
HCM Control Delay (s)	11.2	10	-	-	7.9	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0.1	-

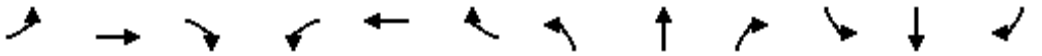
Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	110	3	9	66	0	37
Future Vol, veh/h	110	3	9	66	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	122	3	10	73	0	41

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	125	0	217	124
Stage 1	-	-	-	-	124	-
Stage 2	-	-	-	-	93	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1474	-	776	932
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	936	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1474	-	771	932
Mov Cap-2 Maneuver	-	-	-	-	771	-
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	929	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	932	-	-	1474	-
HCM Lane V/C Ratio	0.044	-	-	0.007	-
HCM Control Delay (s)	9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

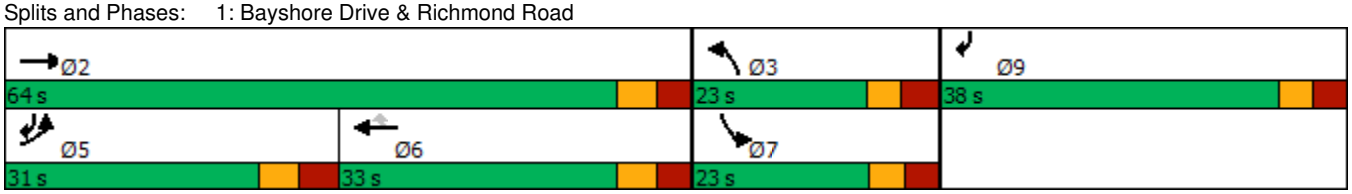


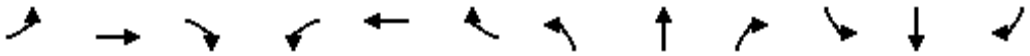
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	402	509	0	0	647	115	168	0	41	133	0	867
Future Volume (vph)	402	509	0	0	647	115	168	0	41	133	0	867
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	205.0		0.0	0.0		60.0	0.0		35.0	50.0		0.0
Storage Lanes	2		0	0		1	2		1	1		3
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	0.97	1.00	0.76
Ped Bike Factor	1.00					0.99			0.99	1.00		
Frt						0.850			0.850			0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	3354	3424	0	0	4871	1547	3321	0	1473	3077	0	3492
Flt Permitted	0.950						0.950			0.950		
Satd. Flow (perm)	3350	3424	0	0	4871	1524	3321	0	1455	3066	0	3492
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)						155			217			
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		676.3			322.3			173.9			198.6	
Travel Time (s)		34.8			16.6			12.5			14.3	
Confl. Peds. (#/hr)	2					2			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 (%)	0%	1%	0%	0%	2%	0%	1%	0%	5%	9%	0%	1%
Adj. Flow (vph)	402	509	0	0	647	115	168	0	41	133	0	867
Shared Lane Traffic (%)												
Lane Group Flow (vph)	402	509	0	0	647	115	168	0	41	133	0	867
Turn Type	Prot	NA			NA	Perm	Prot		Free	Prot		pt+ov
Protected Phases	5	2			6		3			7		5 9
Permitted Phases						6			Free			
Detector Phase	5	2			6	6	3			7		5 9
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0			5.0		
Minimum Split (s)	12.3	32.1			32.1	32.1	11.9			11.6		
Total Split (s)	31.0	64.0			33.0	33.0	23.0			23.0		
Total Split (%)	24.8%	51.2%			26.4%	26.4%	18.4%			18.4%		
Maximum Green (s)	23.7	56.9			25.9	25.9	16.1			16.4		
Yellow Time (s)	3.7	3.7			3.7	3.7	3.3			3.3		
All-Red Time (s)	3.6	3.4			3.4	3.4	3.6			3.3		
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0			0.0		
Total Lost Time (s)	7.3	7.1			7.1	7.1	6.9			6.6		
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		
Recall Mode	None	Max			Max	Max	None			None		
Walk Time (s)		7.0			7.0	7.0						
Flash Dont Walk (s)		18.0			18.0	18.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	20.1	57.1			29.6	29.6	11.1		115.1	11.4		53.0
Actuated g/C Ratio	0.17	0.50			0.26	0.26	0.10		1.00	0.10		0.46
v/c Ratio	0.69	0.30			0.52	0.23	0.52		0.03	0.44		0.54

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	51.3	18.6			40.0	3.4	56.1		0.0	54.0		23.4
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	51.3	18.6			40.0	3.4	56.1		0.0	54.0		23.4
LOS	D	B			D	A	E		A	D		C
Approach Delay		33.0			34.5			45.1			27.4	
Approach LOS		C			C			D			C	
Queue Length 50th (m)	43.6	34.6			46.5	0.0	18.8		0.0	14.7		58.4
Queue Length 95th (m)	63.2	52.9			66.5	6.8	30.9		0.0	25.4		74.2
Internal Link Dist (m)		652.3			298.3			149.9			174.6	
Turn Bay Length (m)	205.0					60.0			35.0	50.0		
Base Capacity (vph)	692	1697			1254	507	465		1455	439		1673
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	0.58	0.30			0.52	0.23	0.36		0.03	0.30		0.52

Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 115.1			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 32.3		Intersection LOS: C	
Intersection Capacity Utilization 62.8%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Bayshore Drive & Richmond Road



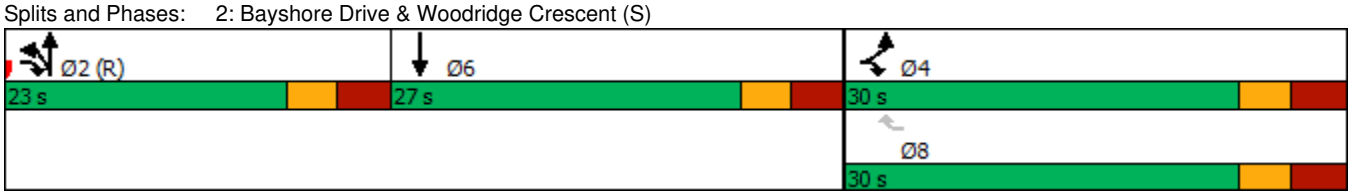


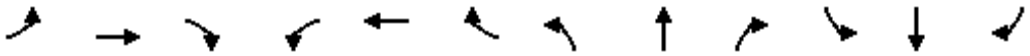
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	156	0	600	0	0	0	236	66	0	0	245	179
Future Volume (vph)	156	0	600	0	0	0	236	66	0	0	245	179
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor	0.95						0.98	0.99			0.98	
Frt			0.850								0.937	
Flt Protected	0.950						0.950	0.972				
Satd. Flow (prot)	1662	0	2643	0	0	1820	1643	1673	0	0	3099	0
Flt Permitted	0.950						0.950	0.972				
Satd. Flow (perm)	1584	0	2643	0	0	1820	1617	1659	0	0	3099	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											179	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		150.9			229.8			179.2			394.4	
Travel Time (s)		13.6			20.7			12.9			28.4	
Confl. Peds. (#/hr)	27		66	66		27	23		4	4		23
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 (%)	4%	0%	3%	0%	0%	0%	0%	1%	0%	0%	2%	4%
Adj. Flow (vph)	156	0	600	0	0	0	236	66	0	0	245	179
Shared Lane Traffic (%)							37%					
Lane Group Flow (vph)	156	0	600	0	0	0	149	153	0	0	424	0
Turn Type	Prot		pt+ov			Perm	Split	NA			NA	
Protected Phases	4		4 2				2	2			6	
Permitted Phases						8						
Detector Phase	4		4 2			8	2	2			6	
Switch Phase												
Minimum Initial (s)	5.0					5.0	5.0	5.0			5.0	
Minimum Split (s)	29.5					11.5	11.2	11.2			26.2	
Total Split (s)	30.0					30.0	23.0	23.0			27.0	
Total Split (%)	37.5%					37.5%	28.8%	28.8%			33.8%	
Maximum Green (s)	23.5					23.5	16.8	16.8			20.8	
Yellow Time (s)	3.0					3.0	3.0	3.0			3.0	
All-Red Time (s)	3.5					3.5	3.2	3.2			3.2	
Lost Time Adjust (s)	0.0					0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.5					6.5	6.2	6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0					3.0	3.0	3.0			3.0	
Recall Mode	None					None	C-Max	C-Max			Max	
Walk Time (s)	7.0										7.0	
Flash Dont Walk (s)	16.0										13.0	
Pedestrian Calls (#/hr)	0										0	
Act Effct Green (s)	16.3		46.5				24.0	24.0			20.8	
Actuated g/C Ratio	0.20		0.58				0.30	0.30			0.26	
v/c Ratio	0.46		0.39				0.30	0.31			0.45	
Control Delay	31.5		10.0				25.3	25.3			15.7	
Queue Delay	0.0		0.0				0.0	0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	31.5		10.0				25.3	25.3			15.7	
LOS	C		B				C	C			B	
Approach Delay		14.4						25.3			15.7	
Approach LOS		B						C			B	
Queue Length 50th (m)	21.0		25.6				18.2	18.7			15.7	
Queue Length 95th (m)	34.4		36.7				37.7	38.3			28.1	
Internal Link Dist (m)		126.9			205.8			155.2			370.4	
Turn Bay Length (m)												
Base Capacity (vph)	488		1493				492	501			938	
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		0.40				0.30	0.31			0.45	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 17.0		Intersection LOS: B	
Intersection Capacity Utilization 54.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Bayshore Drive & Woodridge Crescent (S)



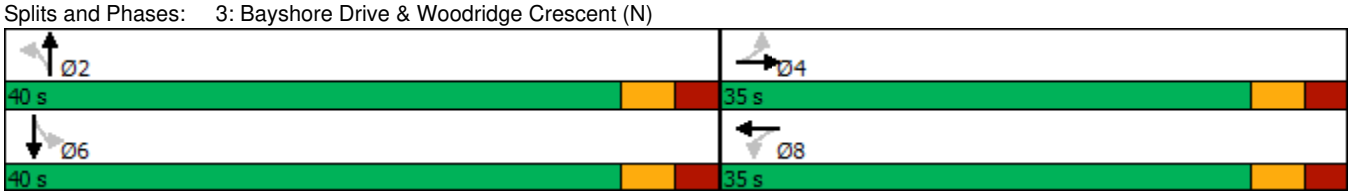


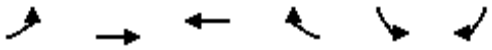
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	0	71	6	0	5	97	258	14	24	344	156
Future Volume (vph)	98	0	71	6	0	5	97	258	14	24	344	156
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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	0.96			0.98			0.99			0.98	
Frt		0.850			0.939			0.995			0.960	
Flt Protected	0.950				0.973			0.987			0.998	
Satd. Flow (prot)	1558	1429	0	0	1646	0	0	1719	0	0	1654	0
Flt Permitted	0.750				0.829			0.783			0.977	
Satd. Flow (perm)	1217	1429	0	0	1383	0	0	1358	0	0	1616	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		359			38			3			38	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		186.3			207.9			394.4			121.4	
Travel Time (s)		13.4			15.0			28.4			8.7	
Confl. Peds. (#/hr)	10		26	26		10	25		41	41		25
Confl. Bikes (#/hr)												2
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 (%)	11%	0%	4%	0%	0%	0%	3%	4%	0%	0%	2%	7%
Adj. Flow (vph)	98	0	71	6	0	5	97	258	14	24	344	156
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	71	0	0	11	0	0	369	0	0	524	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)	26.5	26.5		26.5	26.5		26.6	26.6		26.6	26.6	
Total Split (s)	35.0	35.0		35.0	35.0		40.0	40.0		40.0	40.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	29.5	29.5		29.5	29.5		34.4	34.4		34.4	34.4	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.5	5.5			5.5			5.6			5.6	
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		Max	Max		Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	9.9	9.9			9.8			40.3			40.3	
Actuated g/C Ratio	0.17	0.17			0.17			0.70			0.70	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.47	0.13			0.04			0.39			0.46	
Control Delay	28.5	0.5			1.6			7.2			7.2	
Queue Delay	0.0	0.0			0.0			0.0			0.2	
Total Delay	28.5	0.5			1.6			7.2			7.4	
LOS	C	A			A			A			A	
Approach Delay		16.7			1.6			7.2			7.4	
Approach LOS		B			A			A			A	
Queue Length 50th (m)	8.9	0.0			0.0			15.7			21.8	
Queue Length 95th (m)	20.3	0.0			0.8			37.7			51.1	
Internal Link Dist (m)		162.3			183.9			370.4			97.4	
Turn Bay Length (m)	60.0											
Base Capacity (vph)	623	907			727			948			1139	
Starvation Cap Reductn	0	0			0			0			138	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.16	0.08			0.02			0.39			0.52	

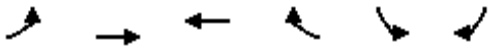
Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 57.7			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.47			
Intersection Signal Delay: 8.8		Intersection LOS: A	
Intersection Capacity Utilization 80.3%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 3: Bayshore Drive & Woodridge Crescent (N)





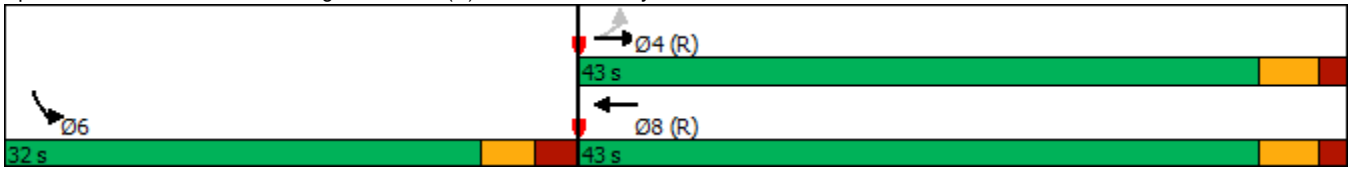
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	17	466	211	7	13	19
Future Volume (vph)	17	466	211	7	13	19
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor	0.91		1.00		0.96	
Frt			0.995		0.920	
Flt Protected	0.950				0.980	
Satd. Flow (prot)	1631	3293	3254	0	1532	0
Flt Permitted	0.615				0.980	
Satd. Flow (perm)	966	3293	3254	0	1532	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			6		19	
Link Speed (k/h)		40	40		50	
Link Distance (m)		172.9	23.2		196.3	
Travel Time (s)		15.6	2.1		14.1	
Confl. Peds. (#/hr)	37			37		58
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	6%	5%	5%	14%	0%	5%
Adj. Flow (vph)	17	466	211	7	13	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	466	218	0	32	0
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	10.0	10.0	17.0		29.4	
Total Split (s)	43.0	43.0	43.0		32.0	
Total Split (%)	57.3%	57.3%	57.3%		42.7%	
Maximum Green (s)	38.0	38.0	38.0		26.6	
Yellow Time (s)	3.3	3.3	3.3		3.0	
All-Red Time (s)	1.7	1.7	1.7		2.4	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.4	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	C-Max	C-Max	C-Max		None	
Walk Time (s)			7.0		7.0	
Flash Dont Walk (s)			5.0		17.0	
Pedestrian Calls (#/hr)			0		0	
Act Effct Green (s)	67.7	67.7	67.7		6.5	
Actuated g/C Ratio	0.90	0.90	0.90		0.09	
v/c Ratio	0.02	0.16	0.07		0.21	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Control Delay	2.0	1.5	1.4		22.4	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	2.0	1.5	1.4		22.4	
LOS	A	A	A		C	
Approach Delay		1.5	1.4		22.4	
Approach LOS		A	A		C	
Queue Length 50th (m)	0.0	0.0	0.0		1.8	
Queue Length 95th (m)	1.7	11.4	5.4		9.0	
Internal Link Dist (m)		148.9	0.1		172.3	
Turn Bay Length (m)	40.0					
Base Capacity (vph)	872	2973	2939		555	
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	0.02	0.16	0.07		0.06	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.21			
Intersection Signal Delay: 2.4		Intersection LOS: A	
Intersection Capacity Utilization 41.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Woodridge Crescent (S) & 220m W of Bayshore



Intersection	
Int Delay, s/veh	5.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	126	38	73	83	20	172
Future Vol, veh/h	126	38	73	83	20	172
Conflicting Peds, #/hr	0	27	27	0	25	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	11	21	11	6	44	12
Mvmt Flow	126	38	73	83	20	172

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	191	0	426	175
Stage 1	-	-	-	-	172	-
Stage 2	-	-	-	-	254	-
Critical Hdwy	-	-	4.21	-	6.84	6.32
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.299	-	3.896	3.408
Pot Cap-1 Maneuver	-	-	1330	-	513	843
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	700	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1297	-	461	820
Mov Cap-2 Maneuver	-	-	-	-	461	-
Stage 1	-	-	-	-	747	-
Stage 2	-	-	-	-	645	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.7	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	461	820	-	-	1297	-
HCM Lane V/C Ratio	0.043	0.21	-	-	0.056	-
HCM Control Delay (s)	13.2	10.6	-	-	7.9	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.8	-	-	0.2	-

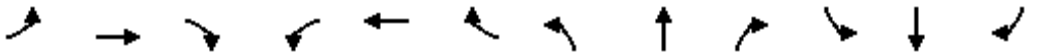
Intersection	
Int Delay, s/veh	1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	144	8	24	80	0	20
Future Vol, veh/h	144	8	24	80	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	160	9	27	89	0	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	169	0	308	165
Stage 1	-	-	-	-	165	-
Stage 2	-	-	-	-	143	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1421	-	688	885
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	889	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1421	-	674	885
Mov Cap-2 Maneuver	-	-	-	-	674	-
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	871	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	885	-	-	1421	-
HCM Lane V/C Ratio	0.025	-	-	0.019	-
HCM Control Delay (s)	9.2	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-



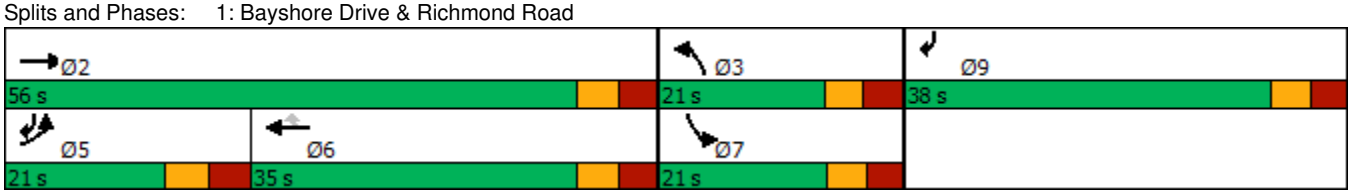
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	346	1005	0	0	340	98	262	0	13	88	0	349
Future Volume (vph)	346	1005	0	0	340	98	262	0	13	88	0	349
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	205.0		0.0	0.0		60.0	0.0		35.0	50.0		0.0
Storage Lanes	2		0	0		1	2		1	1		3
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	0.97	1.00	0.76
Ped Bike Factor						0.99						
Frt						0.850			0.850			0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	3321	3424	0	0	4732	1502	3257	0	1547	3022	0	3391
Flt Permitted	0.950						0.950			0.950		
Satd. Flow (perm)	3321	3424	0	0	4732	1483	3257	0	1547	3022	0	3391
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)						169			236			
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		676.3			322.3			173.9			198.6	
Travel Time (s)		34.8			16.6			12.5			14.3	
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 (%)	1%	1%	0%	0%	5%	3%	3%	0%	0%	11%	0%	4%
Adj. Flow (vph)	346	1005	0	0	340	98	262	0	13	88	0	349
Shared Lane Traffic (%)												
Lane Group Flow (vph)	346	1005	0	0	340	98	262	0	13	88	0	349
Turn Type	Prot	NA			NA	Perm	Prot		Free	Prot		pt+ov
Protected Phases	5	2			6		3			7		5 9
Permitted Phases						6			Free			
Detector Phase	5	2			6	6	3			7		5 9
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0			5.0		
Minimum Split (s)	12.3	32.1			32.1	32.1	11.9			11.6		
Total Split (s)	21.0	56.0			35.0	35.0	21.0			21.0		
Total Split (%)	18.3%	48.7%			30.4%	30.4%	18.3%			18.3%		
Maximum Green (s)	13.7	48.9			27.9	27.9	14.1			14.4		
Yellow Time (s)	3.7	3.7			3.7	3.7	3.3			3.3		
All-Red Time (s)	3.6	3.4			3.4	3.4	3.6			3.3		
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0			0.0		
Total Lost Time (s)	7.3	7.1			7.1	7.1	6.9			6.6		
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		
Recall Mode	None	Max			Max	Max	None			None		
Walk Time (s)		7.0			7.0	7.0						
Flash Dont Walk (s)		18.0			18.0	18.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	13.3	49.0			28.3	28.3	12.3		94.5	11.8		32.5
Actuated g/C Ratio	0.14	0.52			0.30	0.30	0.13		1.00	0.12		0.34
v/c Ratio	0.74	0.57			0.24	0.17	0.62		0.01	0.23		0.30

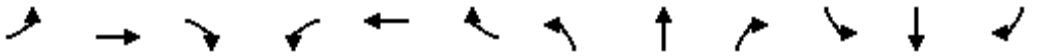
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	50.0	17.7			26.3	0.9	46.1		0.0	38.7		23.5
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	50.0	17.7			26.3	0.9	46.1		0.0	38.7		23.5
LOS	D	B			C	A	D		A	D		C
Approach Delay		25.9			20.7			43.9			26.5	
Approach LOS		C			C			D			C	
Queue Length 50th (m)	31.6	63.4			17.3	0.0	23.6		0.0	7.4		20.2
Queue Length 95th (m)	#51.7	90.2			26.5	1.0	37.2		0.0	14.8		29.7
Internal Link Dist (m)		652.3			298.3			149.9			174.6	
Turn Bay Length (m)	205.0					60.0			35.0	50.0		
Base Capacity (vph)	482	1775			1418	562	487		1547	461		1188
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	0.72	0.57			0.24	0.17	0.54		0.01	0.19		0.29

Intersection Summary			
Area Type:	Other		
Cycle Length: 115			
Actuated Cycle Length: 94.5			
Natural Cycle: 75			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 27.1		Intersection LOS: C	
Intersection Capacity Utilization 48.9%		ICU Level of Service A	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: Bayshore Drive & Richmond Road



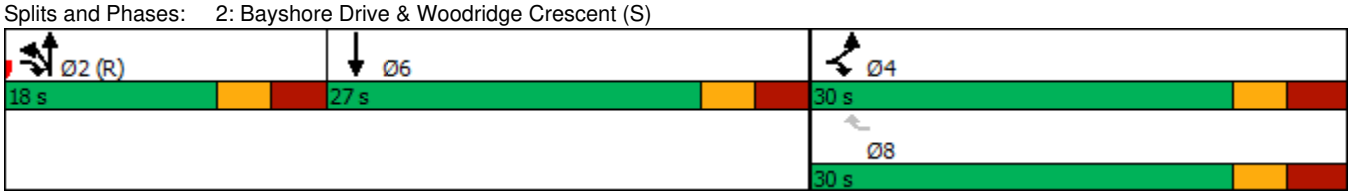


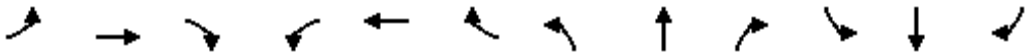
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	0	176	0	0	0	140	35	0	0	213	87
Future Volume (vph)	58	0	176	0	0	0	140	35	0	0	213	87
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor	0.97						0.98	0.99			0.99	
Frt			0.850								0.956	
Flt Protected	0.950						0.950	0.971				
Satd. Flow (prot)	1491	0	2545	0	0	1820	1626	1643	0	0	3178	0
Flt Permitted	0.950						0.950	0.971				
Satd. Flow (perm)	1447	0	2545	0	0	1820	1597	1625	0	0	3178	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											81	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		150.9			229.8			179.2			394.4	
Travel Time (s)		13.6			20.7			12.9			28.4	
Confl. Peds. (#/hr)	18		44	44		18	24		4	4		24
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 (%)	16%	0%	7%	0%	0%	0%	1%	4%	0%	0%	2%	5%
Adj. Flow (vph)	58	0	176	0	0	0	140	35	0	0	213	87
Shared Lane Traffic (%)							38%					
Lane Group Flow (vph)	58	0	176	0	0	0	87	88	0	0	300	0
Turn Type	Prot		pt+ov			Perm	Split	NA			NA	
Protected Phases	4		4 2				2	2			6	
Permitted Phases						8						
Detector Phase	4		4 2			8	2	2			6	
Switch Phase												
Minimum Initial (s)	5.0					5.0	5.0	5.0			5.0	
Minimum Split (s)	29.5					11.5	11.2	11.2			26.2	
Total Split (s)	30.0					30.0	18.0	18.0			27.0	
Total Split (%)	40.0%					40.0%	24.0%	24.0%			36.0%	
Maximum Green (s)	23.5					23.5	11.8	11.8			20.8	
Yellow Time (s)	3.0					3.0	3.0	3.0			3.0	
All-Red Time (s)	3.5					3.5	3.2	3.2			3.2	
Lost Time Adjust (s)	0.0					0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.5					6.5	6.2	6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0					3.0	3.0	3.0			3.0	
Recall Mode	None					None	C-Max	C-Max			Max	
Walk Time (s)	7.0										7.0	
Flash Dont Walk (s)	16.0										13.0	
Pedestrian Calls (#/hr)	0										0	
Act Effct Green (s)	8.6		41.5				26.7	26.7			20.8	
Actuated g/C Ratio	0.11		0.55				0.36	0.36			0.28	
v/c Ratio	0.34		0.12				0.15	0.15			0.32	
Control Delay	35.3		8.3				18.3	18.3			16.6	
Queue Delay	0.0		0.0				0.0	0.0			0.0	
Total Delay	35.3		8.3				18.3	18.3			16.6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
LOS	D		A				B	B			B	
Approach Delay		15.0						18.3			16.6	
Approach LOS		B						B			B	
Queue Length 50th (m)	7.7		6.2				8.6	8.7			12.6	
Queue Length 95th (m)	17.4		10.9				19.6	19.8			22.1	
Internal Link Dist (m)		126.9			205.8			155.2			370.4	
Turn Bay Length (m)												
Base Capacity (vph)	467		1408				578	584			939	
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	0.12		0.13				0.15	0.15			0.32	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.34			
Intersection Signal Delay: 16.5		Intersection LOS: B	
Intersection Capacity Utilization 44.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Bayshore Drive & Woodridge Crescent (S)



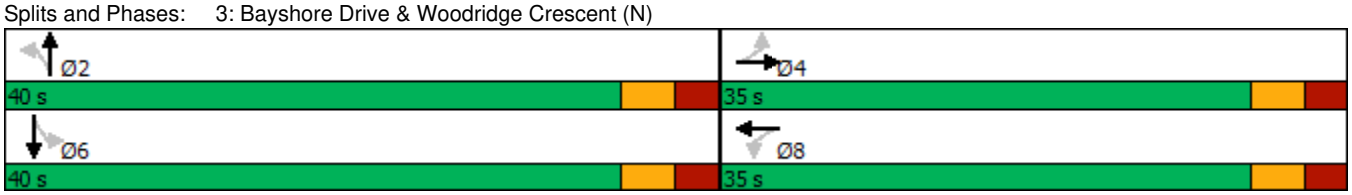


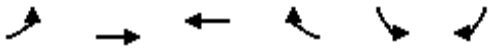
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	1	98	20	1	12	97	285	9	3	167	95
Future Volume (vph)	152	1	98	20	1	12	97	285	9	3	167	95
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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			0.98			0.99			0.98	
Frt		0.852			0.951			0.997			0.952	
Flt Protected	0.950				0.971			0.988			0.999	
Satd. Flow (prot)	1679	1471	0	0	1660	0	0	1727	0	0	1592	0
Flt Permitted	0.736				0.807			0.859			0.997	
Satd. Flow (perm)	1273	1471	0	0	1364	0	0	1492	0	0	1588	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		98			12			2			50	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		186.3			207.9			394.4			121.4	
Travel Time (s)		13.4			15.0			28.4			8.7	
Confl. Peds. (#/hr)	21		20	20		21	23		21	21		23
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	3%	0%	2%	0%	0%	0%	6%	3%	0%	0%	5%	9%
Adj. Flow (vph)	152	1	98	20	1	12	97	285	9	3	167	95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	152	99	0	0	33	0	0	391	0	0	265	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)	26.5	26.5		26.5	26.5		26.6	26.6		26.6	26.6	
Total Split (s)	35.0	35.0		35.0	35.0		40.0	40.0		40.0	40.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	29.5	29.5		29.5	29.5		34.4	34.4		34.4	34.4	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.5	5.5			5.5			5.6			5.6	
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		Max	Max		Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	12.4	12.4			12.4			37.3			37.3	
Actuated g/C Ratio	0.20	0.20			0.20			0.61			0.61	
v/c Ratio	0.59	0.26			0.11			0.43			0.27	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	30.3	6.7			14.2			8.9			6.0	
Queue Delay	0.0	0.0			0.0			0.0			0.0	
Total Delay	30.3	6.7			14.2			8.9			6.0	
LOS	C	A			B			A			A	
Approach Delay		21.0			14.2			8.9			6.0	
Approach LOS		C			B			A			A	
Queue Length 50th (m)	14.4	0.1			1.8			19.0			9.0	
Queue Length 95th (m)	29.3	9.1			7.3			44.9			23.6	
Internal Link Dist (m)		162.3			183.9			370.4			97.4	
Turn Bay Length (m)	60.0											
Base Capacity (vph)	620	767			671			914			992	
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	0.25	0.13			0.05			0.43			0.27	

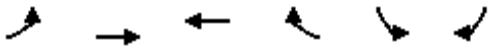
Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 60.8			
Natural Cycle: 55			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.59			
Intersection Signal Delay: 11.5		Intersection LOS: B	
Intersection Capacity Utilization 68.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 3: Bayshore Drive & Woodridge Crescent (N)





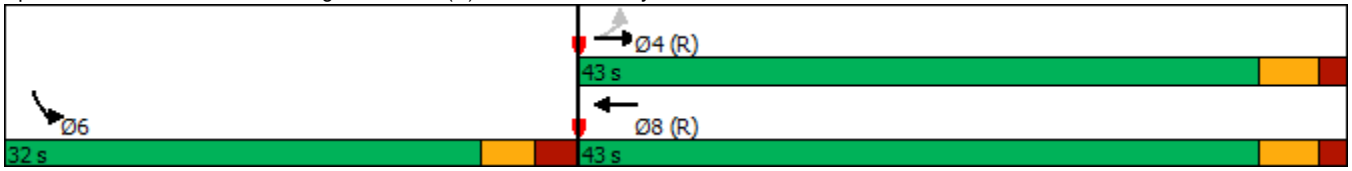
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	19	177	128	2	34	19
Future Volume (vph)	19	177	128	2	34	19
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor	0.94		1.00		0.99	
Frt			0.998		0.952	
Flt Protected	0.950				0.969	
Satd. Flow (prot)	1729	3033	3224	0	1568	0
Flt Permitted	0.670				0.969	
Satd. Flow (perm)	1149	3033	3224	0	1568	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			2		19	
Link Speed (k/h)		40	40		50	
Link Distance (m)		172.9	23.2		196.3	
Travel Time (s)		15.6	2.1		14.1	
Confl. Peds. (#/hr)	22			22		25
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	0%	14%	7%	0%	0%	16%
Adj. Flow (vph)	19	177	128	2	34	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	19	177	130	0	53	0
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	10.0	10.0	17.0		29.4	
Total Split (s)	43.0	43.0	43.0		32.0	
Total Split (%)	57.3%	57.3%	57.3%		42.7%	
Maximum Green (s)	38.0	38.0	38.0		26.6	
Yellow Time (s)	3.3	3.3	3.3		3.0	
All-Red Time (s)	1.7	1.7	1.7		2.4	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.4	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	C-Max	C-Max	C-Max		None	
Walk Time (s)			7.0		7.0	
Flash Dont Walk (s)			5.0		17.0	
Pedestrian Calls (#/hr)			0		0	
Act Effct Green (s)	63.7	63.7	63.7		7.3	
Actuated g/C Ratio	0.85	0.85	0.85		0.10	
v/c Ratio	0.02	0.07	0.05		0.31	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Control Delay	2.6	2.2	2.1		26.9	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	2.6	2.2	2.1		26.9	
LOS	A	A	A		C	
Approach Delay		2.2	2.1		26.9	
Approach LOS		A	A		C	
Queue Length 50th (m)	0.5	2.4	1.6		4.6	
Queue Length 95th (m)	2.0	5.3	4.0		13.7	
Internal Link Dist (m)		148.9	0.1		172.3	
Turn Bay Length (m)	40.0					
Base Capacity (vph)	975	2575	2737		568	
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	0.02	0.07	0.05		0.09	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.31			
Intersection Signal Delay: 5.6		Intersection LOS: A	
Intersection Capacity Utilization 38.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Woodridge Crescent (S) & 220m W of Bayshore



Intersection	
Int Delay, s/veh	2.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	132	15	33	60	15	28
Future Vol, veh/h	132	15	33	60	15	28
Conflicting Peds, #/hr	0	25	25	0	15	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	6	53	18	10	29	46
Mvmt Flow	132	15	33	60	15	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	172	0	306	169
Stage 1	-	-	-	-	165	-
Stage 2	-	-	-	-	141	-
Critical Hdwy	-	-	4.28	-	6.69	6.66
Critical Hdwy Stg 1	-	-	-	-	5.69	-
Critical Hdwy Stg 2	-	-	-	-	5.69	-
Follow-up Hdwy	-	-	2.362	-	3.761	3.714
Pot Cap-1 Maneuver	-	-	1314	-	633	773
Stage 1	-	-	-	-	803	-
Stage 2	-	-	-	-	824	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1284	-	594	752
Mov Cap-2 Maneuver	-	-	-	-	594	-
Stage 1	-	-	-	-	785	-
Stage 2	-	-	-	-	792	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.8	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	594	752	-	-	1284	-
HCM Lane V/C Ratio	0.025	0.037	-	-	0.026	-
HCM Control Delay (s)	11.2	10	-	-	7.9	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0.1	-

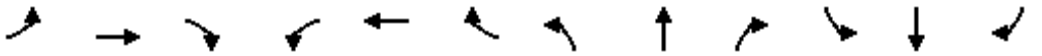
Intersection	
Int Delay, s/veh	1.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	110	3	9	66	0	37
Future Vol, veh/h	110	3	9	66	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	122	3	10	73	0	41

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	125	0	217	124
Stage 1	-	-	-	-	124	-
Stage 2	-	-	-	-	93	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1474	-	776	932
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	936	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1474	-	771	932
Mov Cap-2 Maneuver	-	-	-	-	771	-
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	929	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	932	-	-	1474	-
HCM Lane V/C Ratio	0.044	-	-	0.007	-
HCM Control Delay (s)	9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

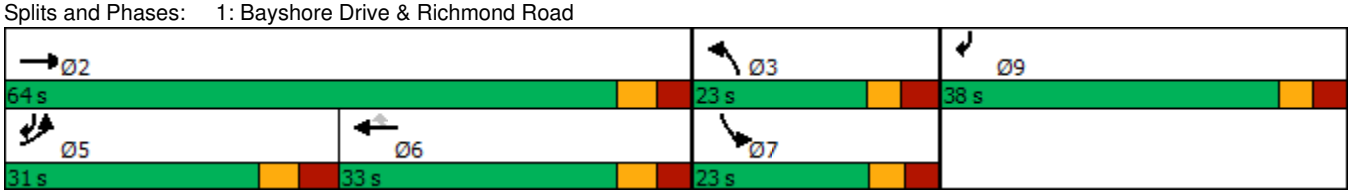


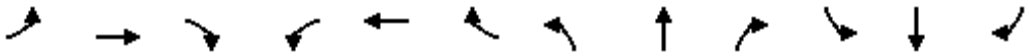
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	412	522	0	0	662	118	172	0	42	137	0	888
Future Volume (vph)	412	522	0	0	662	118	172	0	42	137	0	888
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	205.0		0.0	0.0		60.0	0.0		35.0	50.0		0.0
Storage Lanes	2		0	0		1	2		1	1		3
Taper Length (m)	2.5			2.5			2.5			2.5		
Lane Util. Factor	0.97	0.95	1.00	1.00	0.91	1.00	0.97	1.00	1.00	0.97	1.00	0.76
Ped Bike Factor	1.00					0.99			0.99	1.00		
Frt						0.850			0.850			0.850
Flt Protected	0.950						0.950			0.950		
Satd. Flow (prot)	3354	3424	0	0	4871	1547	3321	0	1473	3077	0	3492
Flt Permitted	0.950						0.950			0.950		
Satd. Flow (perm)	3350	3424	0	0	4871	1524	3321	0	1455	3066	0	3492
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)						155			217			
Link Speed (k/h)		70			70			50			50	
Link Distance (m)		676.3			322.3			173.9			198.6	
Travel Time (s)		34.8			16.6			12.5			14.3	
Confl. Peds. (#/hr)	2					2			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 (%)	0%	1%	0%	0%	2%	0%	1%	0%	5%	9%	0%	1%
Adj. Flow (vph)	412	522	0	0	662	118	172	0	42	137	0	888
Shared Lane Traffic (%)												
Lane Group Flow (vph)	412	522	0	0	662	118	172	0	42	137	0	888
Turn Type	Prot	NA			NA	Perm	Prot		Free	Prot		pt+ov
Protected Phases	5	2			6		3			7		5 9
Permitted Phases						6			Free			
Detector Phase	5	2			6	6	3			7		5 9
Switch Phase												
Minimum Initial (s)	5.0	5.0			5.0	5.0	5.0			5.0		
Minimum Split (s)	12.3	32.1			32.1	32.1	11.9			11.6		
Total Split (s)	31.0	64.0			33.0	33.0	23.0			23.0		
Total Split (%)	24.8%	51.2%			26.4%	26.4%	18.4%			18.4%		
Maximum Green (s)	23.7	56.9			25.9	25.9	16.1			16.4		
Yellow Time (s)	3.7	3.7			3.7	3.7	3.3			3.3		
All-Red Time (s)	3.6	3.4			3.4	3.4	3.6			3.3		
Lost Time Adjust (s)	0.0	0.0			0.0	0.0	0.0			0.0		
Total Lost Time (s)	7.3	7.1			7.1	7.1	6.9			6.6		
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		
Recall Mode	None	Max			Max	Max	None			None		
Walk Time (s)		7.0			7.0	7.0						
Flash Dont Walk (s)		18.0			18.0	18.0						
Pedestrian Calls (#/hr)		0			0	0						
Act Effct Green (s)	20.3	57.1			29.4	29.4	11.3		115.7	11.6		53.7
Actuated g/C Ratio	0.18	0.49			0.25	0.25	0.10		1.00	0.10		0.46
v/c Ratio	0.70	0.31			0.54	0.24	0.53		0.03	0.44		0.55

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Control Delay	51.9	19.0			40.8	3.7	56.4		0.0	54.3		23.4
Queue Delay	0.0	0.0			0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	51.9	19.0			40.8	3.7	56.4		0.0	54.3		23.4
LOS	D	B			D	A	E		A	D		C
Approach Delay		33.5			35.2			45.4			27.6	
Approach LOS		C			D			D			C	
Queue Length 50th (m)	45.0	36.1			48.6	0.0	19.4		0.0	15.3		60.0
Queue Length 95th (m)	65.0	54.6			68.1	7.6	31.4		0.0	26.0		76.7
Internal Link Dist (m)		652.3			298.3			149.9			174.6	
Turn Bay Length (m)	205.0					60.0			35.0	50.0		
Base Capacity (vph)	688	1688			1237	502	463		1455	437		1667
Starvation Cap Reductn	0	0			0	0	0		0	0		0
Spillback Cap Reductn	0	0			0	0	0		0	0		0
Storage Cap Reductn	0	0			0	0	0		0	0		0
Reduced v/c Ratio	0.60	0.31			0.54	0.24	0.37		0.03	0.31		0.53

Intersection Summary			
Area Type:	Other		
Cycle Length: 125			
Actuated Cycle Length: 115.7			
Natural Cycle: 85			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.70			
Intersection Signal Delay: 32.7		Intersection LOS: C	
Intersection Capacity Utilization 63.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 1: Bayshore Drive & Richmond Road



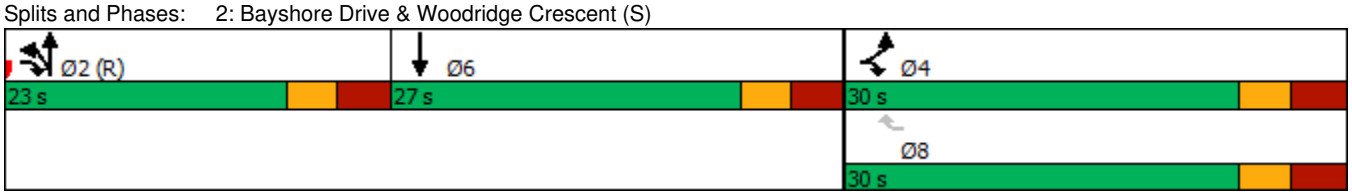


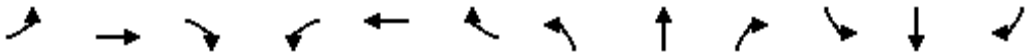
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	156	0	600	0	0	0	236	68	0	0	251	179
Future Volume (vph)	156	0	600	0	0	0	236	68	0	0	251	179
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.95	0.95	1.00	1.00	0.95	0.95
Ped Bike Factor	0.95						0.98	0.99			0.98	
Frt			0.850								0.938	
Flt Protected	0.950						0.950	0.973				
Satd. Flow (prot)	1662	0	2643	0	0	1820	1643	1675	0	0	3103	0
Flt Permitted	0.950						0.950	0.973				
Satd. Flow (perm)	1584	0	2643	0	0	1820	1618	1661	0	0	3103	0
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)											179	
Link Speed (k/h)		40			40			50			50	
Link Distance (m)		150.9			229.8			179.2			394.4	
Travel Time (s)		13.6			20.7			12.9			28.4	
Confl. Peds. (#/hr)	27		66	66		27	23		4	4		23
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 (%)	4%	0%	3%	0%	0%	0%	0%	1%	0%	0%	2%	4%
Adj. Flow (vph)	156	0	600	0	0	0	236	68	0	0	251	179
Shared Lane Traffic (%)							36%					
Lane Group Flow (vph)	156	0	600	0	0	0	151	153	0	0	430	0
Turn Type	Prot		pt+ov			Perm	Split	NA			NA	
Protected Phases	4		4 2				2	2			6	
Permitted Phases						8						
Detector Phase	4		4 2			8	2	2			6	
Switch Phase												
Minimum Initial (s)	5.0					5.0	5.0	5.0			5.0	
Minimum Split (s)	29.5					11.5	11.2	11.2			26.2	
Total Split (s)	30.0					30.0	23.0	23.0			27.0	
Total Split (%)	37.5%					37.5%	28.8%	28.8%			33.8%	
Maximum Green (s)	23.5					23.5	16.8	16.8			20.8	
Yellow Time (s)	3.0					3.0	3.0	3.0			3.0	
All-Red Time (s)	3.5					3.5	3.2	3.2			3.2	
Lost Time Adjust (s)	0.0					0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.5					6.5	6.2	6.2			6.2	
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0					3.0	3.0	3.0			3.0	
Recall Mode	None					None	C-Max	C-Max			Max	
Walk Time (s)	7.0										7.0	
Flash Dont Walk (s)	16.0										13.0	
Pedestrian Calls (#/hr)	0										0	
Act Effct Green (s)	16.3		46.5				24.0	24.0			20.8	
Actuated g/C Ratio	0.20		0.58				0.30	0.30			0.26	
v/c Ratio	0.46		0.39				0.31	0.30			0.46	
Control Delay	31.5		10.0				25.4	25.3			15.9	
Queue Delay	0.0		0.0				0.0	0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay	31.5		10.0				25.4	25.3			15.9	
LOS	C		B				C	C			B	
Approach Delay		14.4						25.4			15.9	
Approach LOS		B						C			B	
Queue Length 50th (m)	21.0		25.6				18.5	18.7			16.1	
Queue Length 95th (m)	34.4		36.7				38.1	38.3			28.7	
Internal Link Dist (m)		126.9			205.8			155.2			370.4	
Turn Bay Length (m)												
Base Capacity (vph)	488		1493				492	502			939	
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		0.40				0.31	0.30			0.46	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 0 (0%), Referenced to phase 2:NBTL, Start of Green			
Natural Cycle: 70			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.46			
Intersection Signal Delay: 17.1		Intersection LOS: B	
Intersection Capacity Utilization 54.2%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Bayshore Drive & Woodridge Crescent (S)





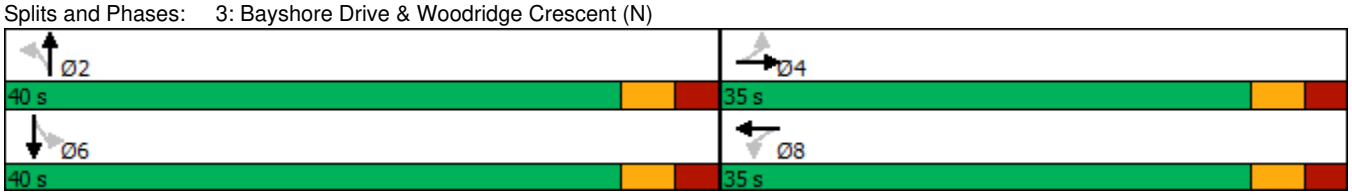
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	98	0	71	6	0	5	97	264	14	24	352	156
Future Volume (vph)	98	0	71	6	0	5	97	264	14	24	352	156
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Storage Length (m)	60.0		0.0	0.0		0.0	0.0		0.0	0.0		0.0
Storage Lanes	1		0	0		0	0		0	0		0
Taper Length (m)	2.5			2.5			2.5			2.5		
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	0.96			0.98			0.99			0.98	
Frt		0.850			0.939			0.995			0.960	
Flt Protected	0.950				0.973			0.987			0.998	
Satd. Flow (prot)	1558	1429	0	0	1646	0	0	1719	0	0	1654	0
Flt Permitted	0.750				0.829			0.783			0.977	
Satd. Flow (perm)	1217	1429	0	0	1383	0	0	1358	0	0	1617	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		350			38			3			37	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		186.3			207.9			394.4			121.4	
Travel Time (s)		13.4			15.0			28.4			8.7	
Confl. Peds. (#/hr)	10		26	26		10	25		41	41		25
Confl. Bikes (#/hr)												2
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 (%)	11%	0%	4%	0%	0%	0%	3%	4%	0%	0%	2%	7%
Adj. Flow (vph)	98	0	71	6	0	5	97	264	14	24	352	156
Shared Lane Traffic (%)												
Lane Group Flow (vph)	98	71	0	0	11	0	0	375	0	0	532	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)	26.5	26.5		26.5	26.5		26.6	26.6		26.6	26.6	
Total Split (s)	35.0	35.0		35.0	35.0		40.0	40.0		40.0	40.0	
Total Split (%)	46.7%	46.7%		46.7%	46.7%		53.3%	53.3%		53.3%	53.3%	
Maximum Green (s)	29.5	29.5		29.5	29.5		34.4	34.4		34.4	34.4	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.5	2.5		2.5	2.5		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0			0.0			0.0			0.0	
Total Lost Time (s)	5.5	5.5			5.5			5.6			5.6	
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		Max	Max		Max	Max	
Walk Time (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0		0	0		0	0	
Act Effct Green (s)	9.9	9.9			9.8			40.3			40.3	
Actuated g/C Ratio	0.17	0.17			0.17			0.70			0.70	

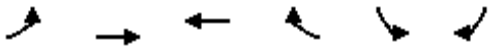
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.47	0.13			0.04			0.40			0.47	
Control Delay	28.5	0.5			1.6			7.3			7.3	
Queue Delay	0.0	0.0			0.0			0.0			0.2	
Total Delay	28.5	0.5			1.6			7.3			7.5	
LOS	C	A			A			A			A	
Approach Delay		16.7			1.6			7.3			7.5	
Approach LOS		B			A			A			A	
Queue Length 50th (m)	8.9	0.0			0.0			16.1			22.4	
Queue Length 95th (m)	20.3	0.0			0.8			38.5			52.3	
Internal Link Dist (m)		162.3			183.9			370.4			97.4	
Turn Bay Length (m)	60.0											
Base Capacity (vph)	623	903			727			948			1139	
Starvation Cap Reductn	0	0			0			0			137	
Spillback Cap Reductn	0	0			0			0			0	
Storage Cap Reductn	0	0			0			0			0	
Reduced v/c Ratio	0.16	0.08			0.02			0.40			0.53	

Intersection Summary

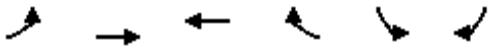
Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 57.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.47
Intersection Signal Delay: 8.8 Intersection LOS: A
Intersection Capacity Utilization 81.0% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Bayshore Drive & Woodridge Crescent (N)





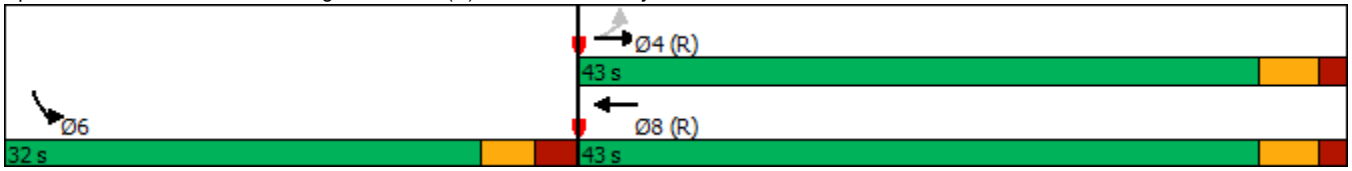
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	17	466	211	7	13	19
Future Volume (vph)	17	466	211	7	13	19
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Storage Length (m)	40.0			0.0	0.0	0.0
Storage Lanes	1			0	1	0
Taper Length (m)	2.5				2.5	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor	0.91		1.00		0.96	
Frt			0.995		0.920	
Flt Protected	0.950				0.980	
Satd. Flow (prot)	1631	3293	3254	0	1532	0
Flt Permitted	0.615				0.980	
Satd. Flow (perm)	966	3293	3254	0	1532	0
Right Turn on Red				Yes		Yes
Satd. Flow (RTOR)			6		19	
Link Speed (k/h)		40	40		50	
Link Distance (m)		172.9	23.2		196.3	
Travel Time (s)		15.6	2.1		14.1	
Confl. Peds. (#/hr)	37			37		58
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles (%)	6%	5%	5%	14%	0%	5%
Adj. Flow (vph)	17	466	211	7	13	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	17	466	218	0	32	0
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	8		6	
Permitted Phases	4					
Detector Phase	4	4	8		6	
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0		5.0	
Minimum Split (s)	10.0	10.0	17.0		29.4	
Total Split (s)	43.0	43.0	43.0		32.0	
Total Split (%)	57.3%	57.3%	57.3%		42.7%	
Maximum Green (s)	38.0	38.0	38.0		26.6	
Yellow Time (s)	3.3	3.3	3.3		3.0	
All-Red Time (s)	1.7	1.7	1.7		2.4	
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	
Total Lost Time (s)	5.0	5.0	5.0		5.4	
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	C-Max	C-Max	C-Max		None	
Walk Time (s)			7.0		7.0	
Flash Dont Walk (s)			5.0		17.0	
Pedestrian Calls (#/hr)			0		0	
Act Effct Green (s)	67.7	67.7	67.7		6.5	
Actuated g/C Ratio	0.90	0.90	0.90		0.09	
v/c Ratio	0.02	0.16	0.07		0.21	



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Control Delay	2.0	1.5	1.4		22.4	
Queue Delay	0.0	0.0	0.0		0.0	
Total Delay	2.0	1.5	1.4		22.4	
LOS	A	A	A		C	
Approach Delay		1.5	1.4		22.4	
Approach LOS		A	A		C	
Queue Length 50th (m)	0.0	0.0	0.0		1.8	
Queue Length 95th (m)	1.7	11.4	5.4		9.0	
Internal Link Dist (m)		148.9	0.1		172.3	
Turn Bay Length (m)	40.0					
Base Capacity (vph)	872	2973	2939		555	
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	0.02	0.16	0.07		0.06	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 75			
Offset: 0 (0%), Referenced to phase 4:EBTL and 8:WBT, Start of Green			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.21			
Intersection Signal Delay: 2.4		Intersection LOS: A	
Intersection Capacity Utilization 41.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: Woodridge Crescent (S) & 220m W of Bayshore



Intersection	
Int Delay, s/veh	5.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	126	38	73	83	20	172
Future Vol, veh/h	126	38	73	83	20	172
Conflicting Peds, #/hr	0	27	27	0	25	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	500	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	11	21	11	6	44	12
Mvmt Flow	126	38	73	83	20	172

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	191	0	426	175
Stage 1	-	-	-	-	172	-
Stage 2	-	-	-	-	254	-
Critical Hdwy	-	-	4.21	-	6.84	6.32
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.299	-	3.896	3.408
Pot Cap-1 Maneuver	-	-	1330	-	513	843
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	700	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1297	-	461	820
Mov Cap-2 Maneuver	-	-	-	-	461	-
Stage 1	-	-	-	-	747	-
Stage 2	-	-	-	-	645	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.7	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	461	820	-	-	1297	-
HCM Lane V/C Ratio	0.043	0.21	-	-	0.056	-
HCM Control Delay (s)	13.2	10.6	-	-	7.9	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.8	-	-	0.2	-

Intersection	
Int Delay, s/veh	1.3

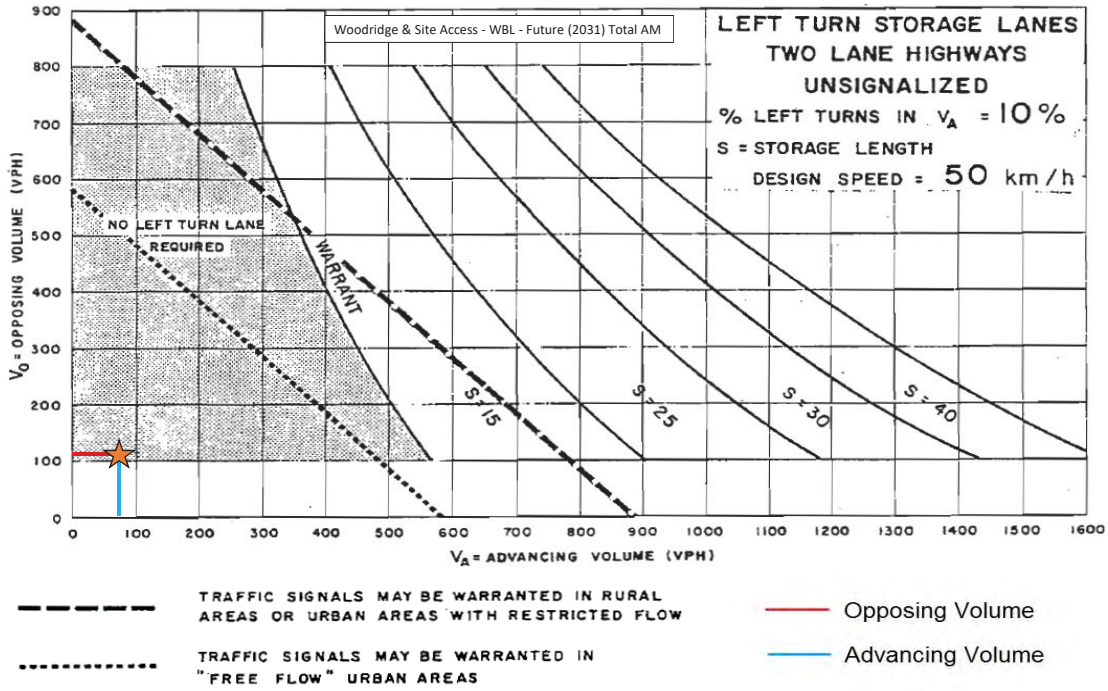
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	144	8	24	80	0	20
Future Vol, veh/h	144	8	24	80	0	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	160	9	27	89	0	22

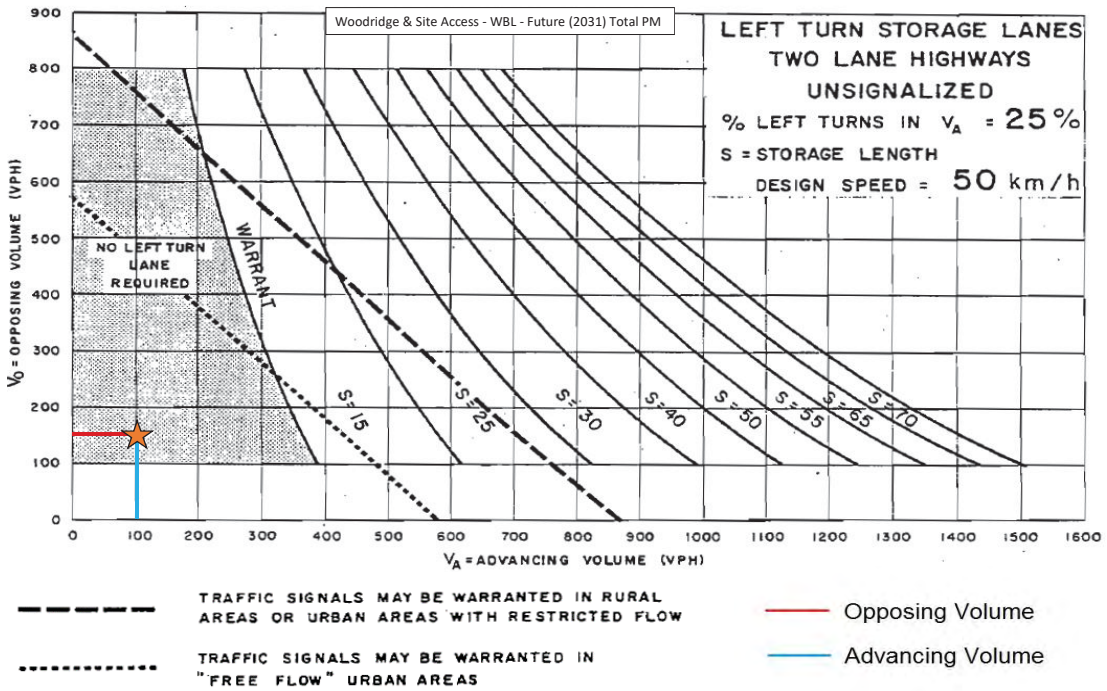
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	169	0	308	165
Stage 1	-	-	-	-	165	-
Stage 2	-	-	-	-	143	-
Critical Hdwy	-	-	4.1	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1421	-	688	885
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	889	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1421	-	674	885
Mov Cap-2 Maneuver	-	-	-	-	674	-
Stage 1	-	-	-	-	869	-
Stage 2	-	-	-	-	871	-

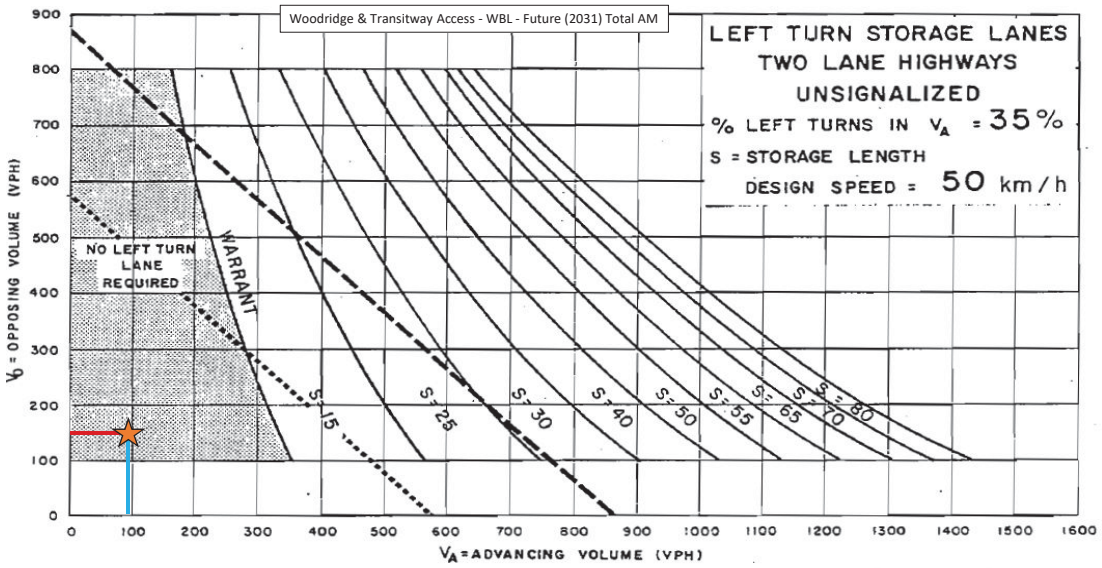
Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	9.2
HCM LOS			A

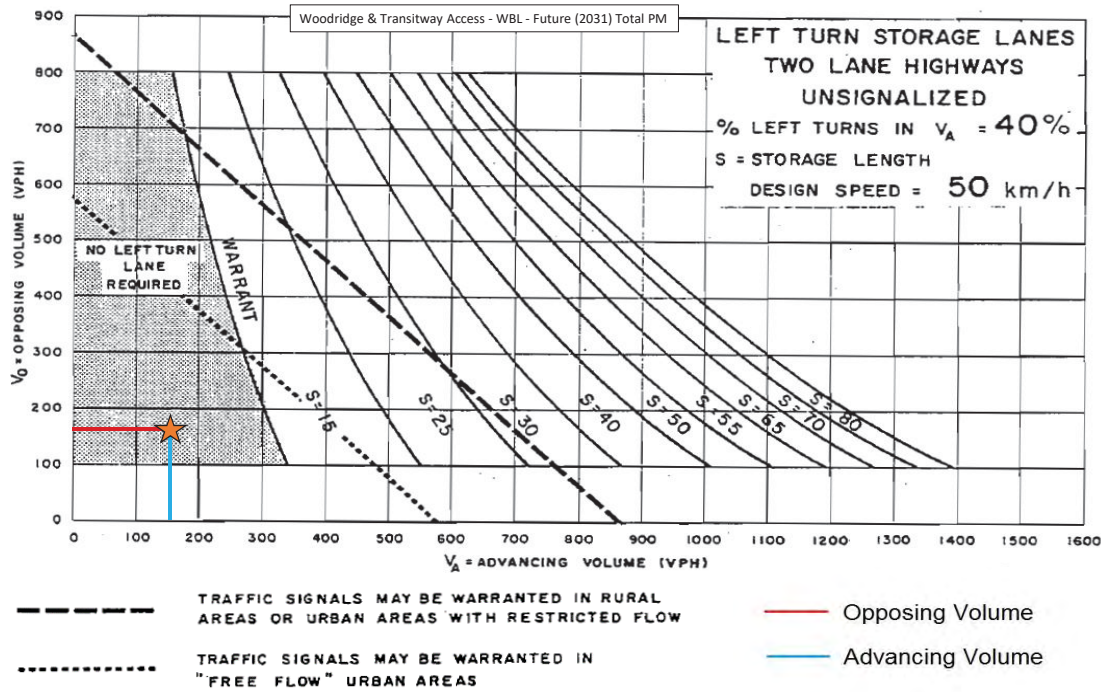
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	885	-	-	1421	-
HCM Lane V/C Ratio	0.025	-	-	0.019	-
HCM Control Delay (s)	9.2	-	-	7.6	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0.1	-

Appendix K – Auxiliary Lane Analyses


Woodridge & Site Access - WBL - Future (2031) Total AM
LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 10 %
S = STORAGE LENGTH
DESIGN SPEED = 50 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S=15
S=25
S=30
S=40
V_O = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)
TRAFFIC SIGNALS MAY BE WARRANTED IN RURAL AREAS OR URBAN AREAS WITH RESTRICTED FLOW
TRAFFIC SIGNALS MAY BE WARRANTED IN "FREE FLOW" URBAN AREAS
Opposing Volume
Advancing Volume


Woodridge & Site Access - WBL - Future (2031) Total PM
LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 25 %
S = STORAGE LENGTH
DESIGN SPEED = 50 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S=15
S=25
S=30
S=40
S=50
S=55
S=65
S=70
V_O = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)
TRAFFIC SIGNALS MAY BE WARRANTED IN RURAL AREAS OR URBAN AREAS WITH RESTRICTED FLOW
TRAFFIC SIGNALS MAY BE WARRANTED IN "FREE FLOW" URBAN AREAS
Opposing Volume
Advancing Volume


Woodridge & Transitway Access - WBL - Future (2031) Total AM
LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 35%
S = STORAGE LENGTH
DESIGN SPEED = 50 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S=15
S=25
S=30
S=40
S=50
S=55
S=65
S=70
S=80
V_O = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)
TRAFFIC SIGNALS MAY BE WARRANTED IN RURAL AREAS OR URBAN AREAS WITH RESTRICTED FLOW
TRAFFIC SIGNALS MAY BE WARRANTED IN "FREE FLOW" URBAN AREAS
Opposing Volume
Advancing Volume


Woodridge & Transitway Access - WBL - Future (2031) Total PM
LEFT TURN STORAGE LANES
TWO LANE HIGHWAYS
UNSIGNALIZED
% LEFT TURNS IN V_A = 40%
S = STORAGE LENGTH
DESIGN SPEED = 50 km/h
NO LEFT TURN LANE REQUIRED
WARRANT
S=15
S=25
S=30
S=40
S=50
S=55
S=65
S=70
S=80
V_O = OPPOSING VOLUME (VPH)
V_A = ADVANCING VOLUME (VPH)
TRAFFIC SIGNALS MAY BE WARRANTED IN RURAL AREAS OR URBAN AREAS WITH RESTRICTED FLOW
TRAFFIC SIGNALS MAY BE WARRANTED IN "FREE FLOW" URBAN AREAS
Opposing Volume
Advancing Volume