



**1495 Heron Road
Transportation Impact
Assessment**

Strategy Report (DRAFT)

April 14, 2023

Prepared for:

Canada Lands Company.

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Screening Report

April 14, 2023

1.0 SCREENING

1.1 SUMMARY OF DEVELOPMENT

Municipal Address	1495 Heron Road
Description of Location	North of the Heron Road and Baycrest Drive intersection at the existing Federal Study Centre
Land Use Classification	Residential, Commercial, Elementary School, Community Center
Development Size (units)	Proposed: 788 units (90 mixed use; retail + multifamily, 80 stacked houses, 618 multi-family housing) Existing: 60 multi-family units
Development Size (m ²)	Strip retail Plaza: 139 m ² (1,496 ft ²) Community Center: 8,169 m ² (87,930 ft ²) Elementary School: approximately 600 students
Number of Accesses and Locations	Existing 1 full-movement access from the north leg of the intersection of Heron Road and Baycrest Drive, and a proposed right-in-right-out access at the eastern limit of the site
Phase of Development	4 phases (25% of development in each phase)
Buildout Year	Assumed build-out and occupancy by 2032

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

1.2 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	Triggered
Single-family homes	40 units	✘
Townhomes or apartments	90 units	✓
Office	3,500 m ²	✘
Industrial	5,000 m ²	✘
Fast-food restaurant or coffee shop	100 m ²	✘
Destination retail	1,000 m ²	✘
Gas station or convenience market	75 m ²	✘

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

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



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1.3 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).

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

1.4 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 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 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?		✗

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

1.5 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?	✓	

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



2.0 SCOPING

2.1 EXISTING AND PLANNED CONDITIONS

2.1.1 Proposed Development

Canada Lands Company (“CLC”) is preparing a development application for a Plan of Subdivision of a proposed development in the Playfair Park – Lynda Park – Guildwood Estates neighborhood of Ottawa, Ontario. The proposed development is located north of the Heron Road and Baycrest Drive intersection at the existing Federal Study Centre. The site is bound by Heron Road to the south, single-family homes to the east, an existing school to the west and parkland to the north.

Figure 1 illustrates the location of the subject development. The subject site is currently zoned as Minor Institutional Zone I1A [366] H (21) and I1A H (15); the purpose of the I1 Zone, according to the City of Ottawa Official Plan, is to:

- *permit a range of community uses, institutional accommodation and emergency service uses to locate in areas designated as General Urban Area or Central Area in the Official Plan; and*
- *minimize the impact of these minor institutional uses located in close proximity to residential uses by ensuring that such uses are of a scale and intensity that is compatible with neighbourhood character.*

The existing property is currently a heritage site on Algonquin land whose buildings will be preserved and will be upgraded instead of demolished to meet the Ottawa building code. There is currently one existing access to the 1495 Heron property at the Heron Road and Baycrest Drive intersection.

It is proposed that the development will be constructed in 4 equal phases (25% of total development in each phase). Build-out and occupancy of the proposed site are anticipated to occur in 2032.

Table 1 outlines the proposed land uses assumed for the analysis which were obtained from the City’s *TRANS Trip Generation Residential Trip Rates Study Report (October 2020)* and the *Institute of Transportation (“ITE”) Trip Generation Manual 11th Edition*.

Figure 2 illustrates the proposed plan of subdivision.



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Scoping

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Figure 1 - Site Location



Table 1 - Proposed Land Uses / Land Use Codes

Land Use	Size	Land Use Code (LUC)
LUC 221 & LUC 222 & LUC 220 (City)	Proposed: 788 units Existing: 60 units	Multi-family Housing (Mid-Rise Apartments and Stacked Townhouses)
LUC 822 (ITE)	1,496 ft ² GFA	Strip Retail Plaza
LUC 520 (ITE)	600 Students	Elementary School
LUC 495 (ITE)	87,930 ft ² GFA	Recreational Community Center

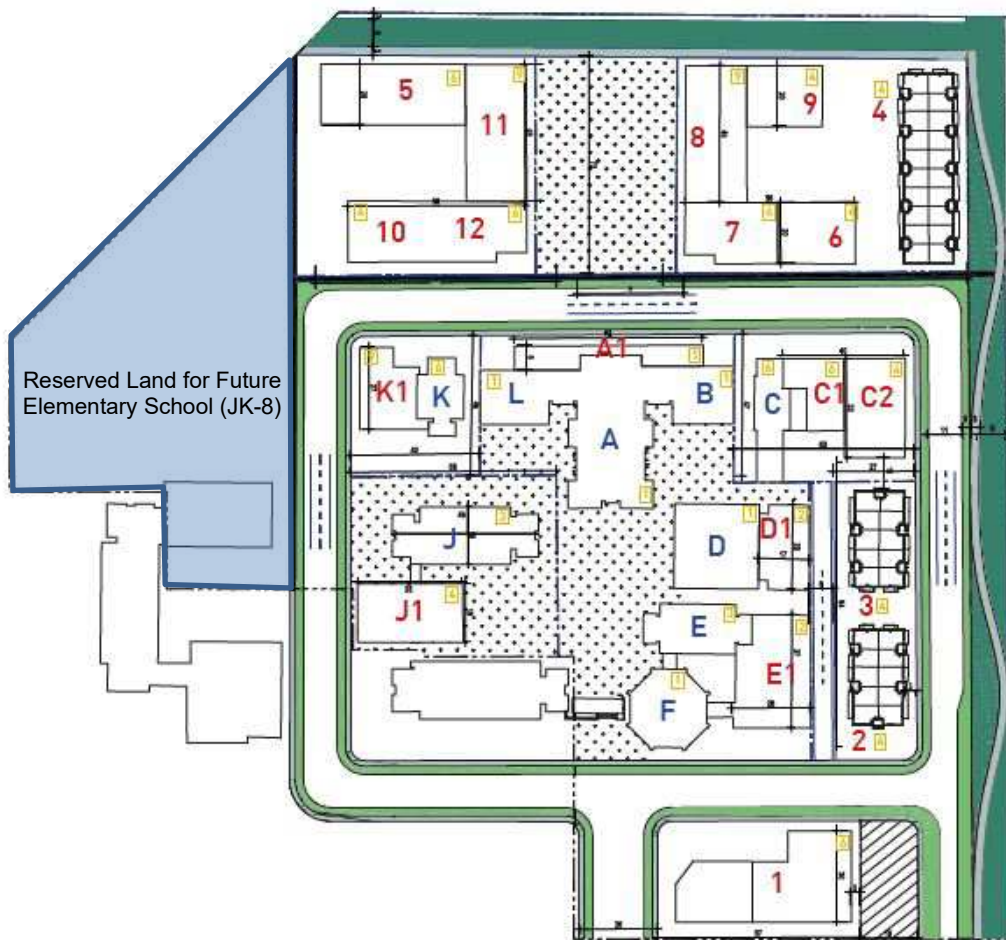


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Figure 2 - Draft Site Plan of Subdivision



BUILDING ID	STATUS	MAIN USE	HOUSING UNITS
1	New	M1	90
2	New	R1	20
3	New	R1	20
4	New	R1	40
5	New	R2	64
6	New	R2	29
7	New	R2	47
8	New	R2	109
9	New	R2	27
10	New	R2	30
11	New	R2	108
12	New	R2	47
J	Existing	R2	12
J1	New	R2	36
A	Existing	C	0
A1	New	C	0
B	Existing	C	0
L	Existing	C	0
K	Existing	R2	24
K1	New	R2	57
D	Existing	C	0
D1	New	C	0
E	Existing	C	0
E1	New	C	0
F	Existing	C	0
C	Existing	R2	24
C1	New	R2	29
C2	New	R2	35
TOTAL			847
TOTAL CIVIC AREAS			8 169 M²

New Building
Existing Building
Height (storey)

M1 - Mixed-use building (retail + multifamily)
 R1 - Stacked townhouse
 R2 - Multifamily building
 C - Civic



2.1.2 Existing Conditions

2.1.2.1 Roads and Traffic Control

The roadways under consideration in the study area are described as follows:

Heron Road

Within the vicinity of the subject site, Heron Road is a municipal four-lane divided arterial roadway. The posted speed limit along Heron Road across the frontage of the subject site is 50 km/h. Sidewalks are provided along both sides of the road and a one-way on-street bicycle lane on the south side of the road. The roadway is designated as a Spine route as per the City of Ottawa's Ultimate Cycling Plan and designated as a truck route. On-street parking on Heron Road in the vicinity of the subject site is always prohibited. The intersection with Baycrest Drive is signalized with left-turn auxiliary lanes in the eastbound, westbound, and southbound directions. The intersection with Bank Street is signalized with dual left turn lanes in the northbound direction and auxiliary left-turn lanes in the eastbound, westbound, and southbound directions. In addition, there are channelized right-turn lanes in the eastbound, northbound, and southbound directions. The intersection with Alta Vista Drive is a signalized intersection with auxiliary left-turn lanes in all directions. In addition, the Heron Road and Alta Vista Drive intersection had channelized right-turn lanes in all directions. The intersection with Sandalwood drive is signalized with left-turn auxiliary lanes in all directions. The three-legged intersection with Walkley Road is signalized with two free-flowing lanes westbound from Walkley Road to Heron Road.

Bank Street

Within the vicinity of the subject site, Bank Street is a municipal four-lane divided arterial roadway. The posted speed limit along Bank Street is 50 km/h. Sidewalks are provided along both sides of Bank Street and there are no cycling facilities 700m north and south of the intersection with Heron Road and Bank Street. The roadway is designated as a Spine route as per the City of Ottawa's Ultimate Cycling Plan. On-street parking on Bank Street in the vicinity of the subject site is always prohibited. The intersection with Walkley Road is signalized with dual left-turn lanes in all directions, except northbound left-turn movements. In addition, there are channelized right-turn lanes in all directions.

Alta Vista Drive

Within the vicinity of the subject site, Alta Vista Drive is a municipal two-lane major collector roadway. The default speed limit along Alta Vista Drive in the vicinity of the subject site is 50 km/h. Sidewalks are provided along both sides of Alta Vista Drive and bike lanes on both sides of the roadway. The roadway is designated as a Spine route as per the City of Ottawa's Ultimate Cycling Plan. On-street parking on Alta Vista Drive in the vicinity of the subject site is always prohibited.



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Baycrest Drive

Within the vicinity of the subject site, Baycrest Drive is a municipal two-lane collector roadway. The default speed limit along Baycrest Drive in the vicinity of the subject site is 50 km/h. Sidewalks are provided along both sides of Baycrest Drive and there are no cycling facilities along the roadway. On-street parking on Baycrest Drive in the vicinity of the subject site is always prohibited on the eastern side of the roadway.

Sandalwood Drive

Within the vicinity of the subject site, Sandalwood Drive is a municipal two-lane local roadway. The default speed limit along Sandalwood Drive across the frontage of the subject site is 50 km/h. Sidewalks are provided along both sides of Sandalwood Drive and there are no cycling facilities along the roadway. On-street parking on Sandalwood Drive in the vicinity of the subject site is always prohibited on the eastern side of the roadway.

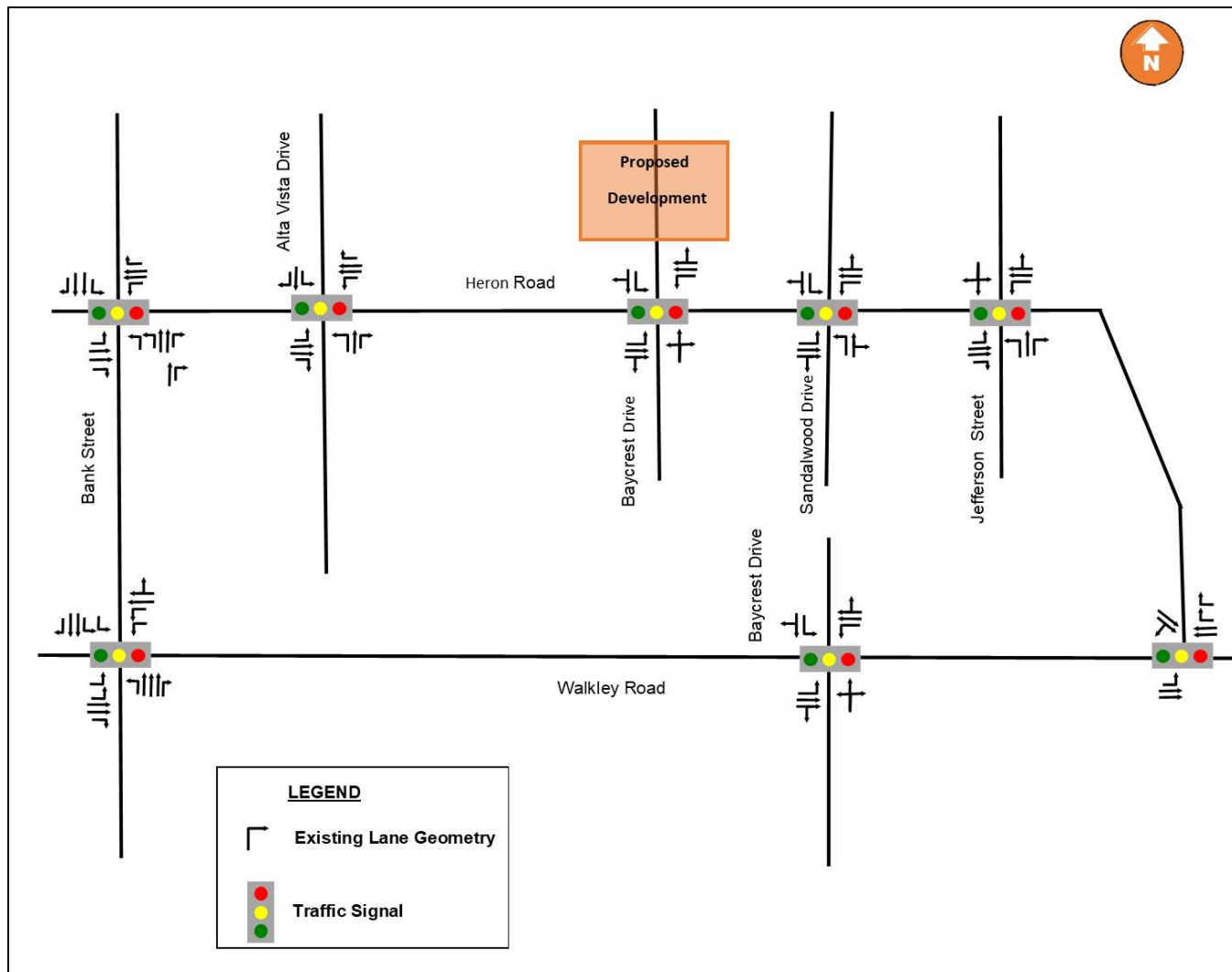
Walkley Road

Within the vicinity of the subject site, Walkley Road is a municipal four-lane divided arterial roadway. The posted speed limit along Walkley Road in the vicinity of the subject site is 50 km/h. Sidewalks are provided along both sides of Walkley Road but no cycling facilities within the vicinity of the subject site. The roadway is designated as a Spine route as per the City of Ottawa's Ultimate Cycling Plan and also designated as a truck route. On-street parking on Walkley Road in the vicinity of the subject site is always prohibited.

Figure 3 illustrates the existing lane configuration and traffic control.



Figure 3 - Existing Lane Configuration and Traffic Control



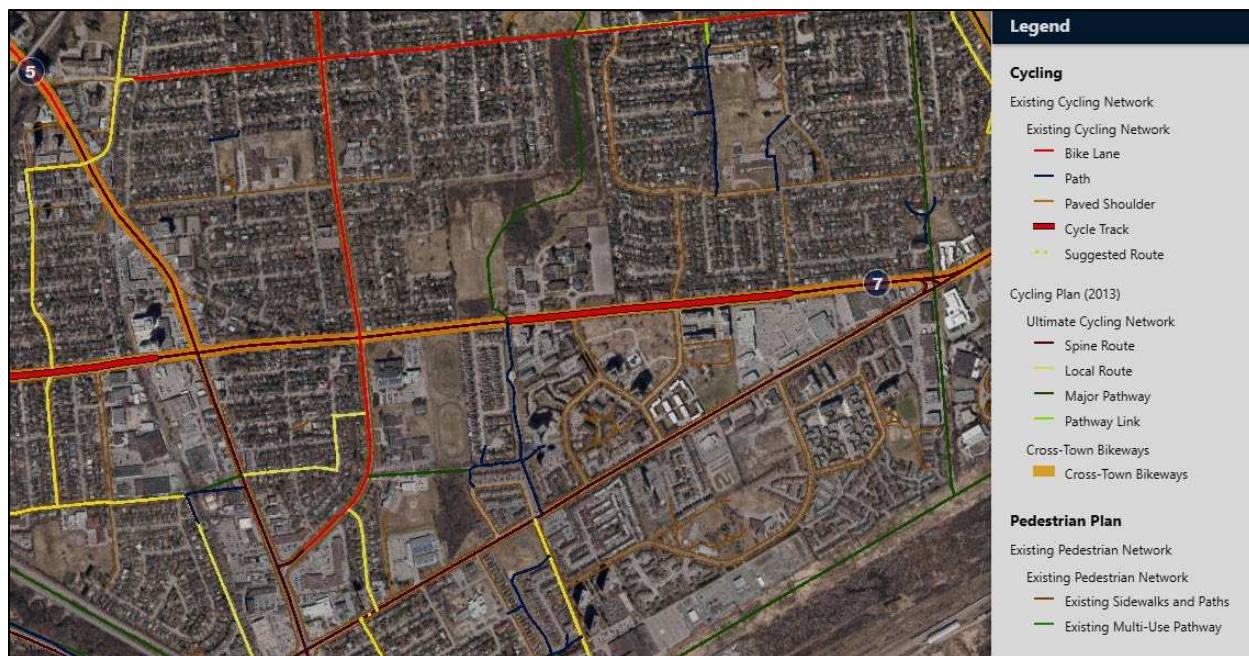
2.1.2.2 Walking and Cycling

Within the vicinity of the subject site, sidewalks are provided on both sides of Heron Road and Baycrest Drive. Across the frontage of the subject site, there is a currently cycle track on south side of Heron Road and designated as a 'spine' cycling route in the City of Ottawa's Ultimate Cycling Network.

Figure 4 illustrates the existing and planned pedestrian and cycling facilities within the vicinity of the subject site.



Figure 4 - Existing and Planned Active Modes Facilities



Source: geoOttawa, accessed August 2022

2.1.2.3 Transit

Transit service is currently provided in the immediate vicinity of the proposed development via the following routes:

- Route 44 Route 44 is a Frequent Route that runs between Billings Bridge and Hurdman. Route 44 operates with 15-minute headways during the AM and PM peak periods, respectively.
- Route 46 Route 46 is a Local Route that runs between Hurdman and Billings Bridge Station. Route 46 operates with 15-minute headways during the AM and PM peak periods, respectively.
- Route 140 Route 140 is a Local Route that runs between Heron Park and Billings Bridge with limited service with a headway of 30 minutes during the day from 9 am to 3 pm
- Route 291 Route 291 is a Connexion Route that runs between Hurdman and Herongate. It conveniently connects the O-Train during the AM and PM peak times. Route 291 operates with 25-minute headways during the AM peak hour and 30-minute headways during the PM peak periods, respectively.

There are transit stops located at the intersection of Heron Road and Baycrest Drive that are serviced by all four transit routes.

Figure 5 and Figure 6 illustrate nearby transit routes and bus stop locations.

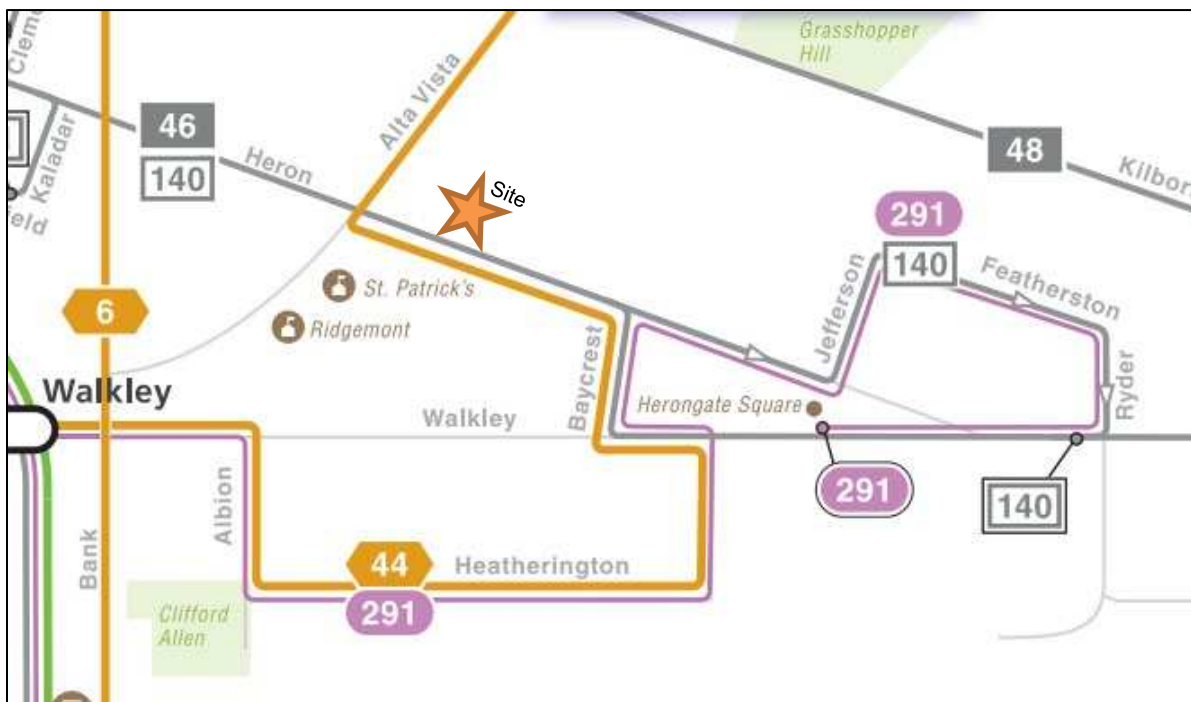


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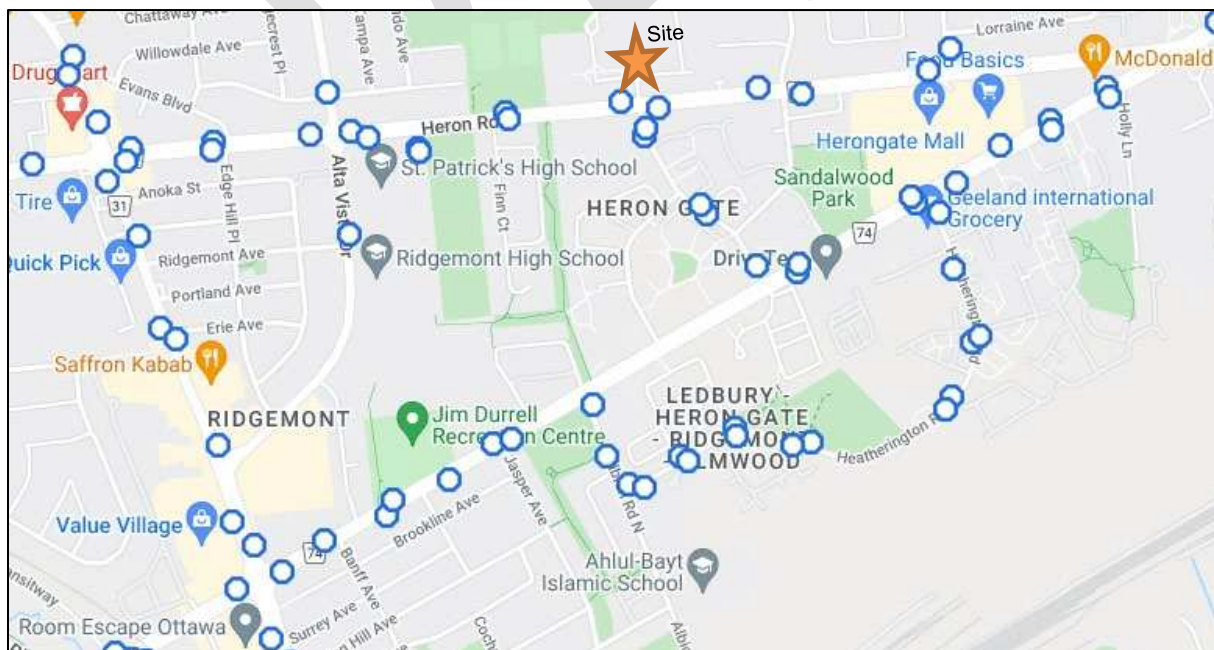
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Figure 5 - Existing Study Area Transit Service



(Source: OC Transpo System Map, accessed March 3rd, 2022)

Figure 6 - Existing Study Area Transit Stops



(Source: OC Transpo System Map, accessed March 3rd, 2022)



2.1.2.4 Traffic Management Measures

No traffic management measures are currently provided near the subject site.

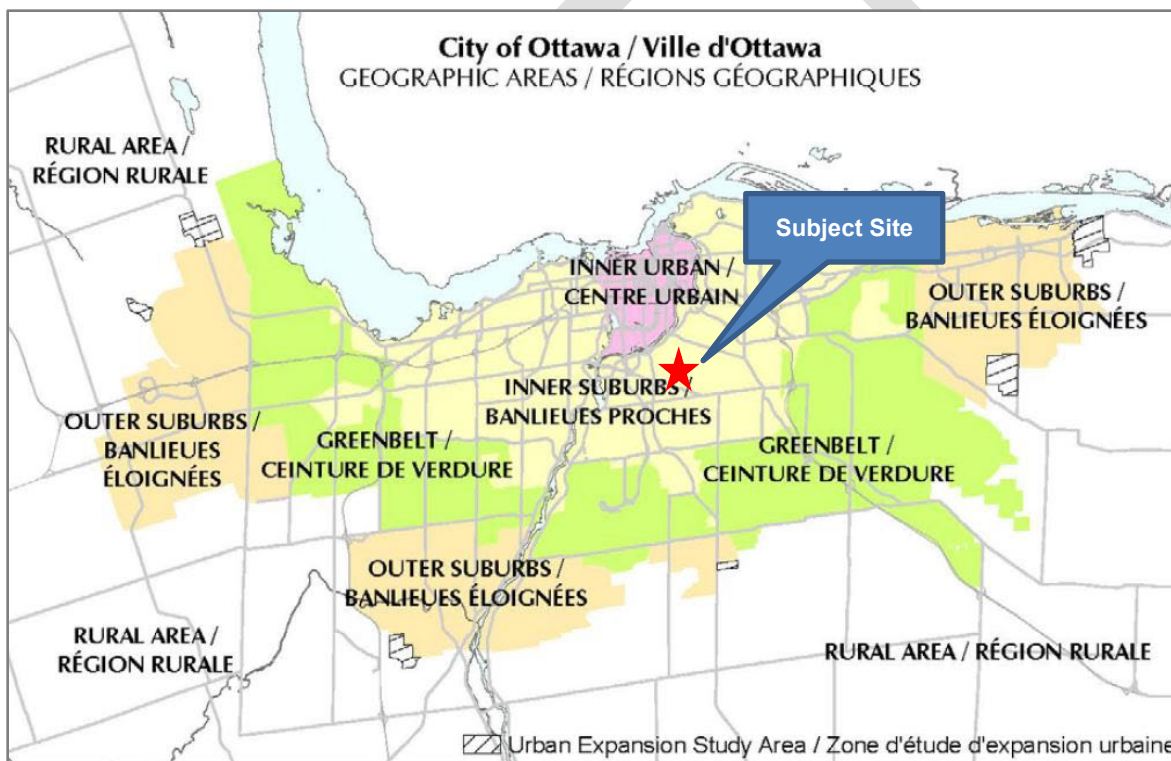
2.1.2.5 Traffic Volumes

Traffic volumes at the study area intersections were collected between 2016 and 2018.

Based on the City's TMP, the subject development site is within the "Inner Suburbs" area, as shown in **Figure 7**.

The City of Ottawa's TMP provided **Figure 8** below, which outlines the projected Growth in Key Travel Markets during the morning peak period. As illustrated in **Figure 8**, the 20-year traffic growth rates for Inner Suburbs Area were calculated and presented in **Table 2**.

Figure 7 - Location of Inner Suburbs



Source: City of Ottawa 2013 Transportation Maser Plan

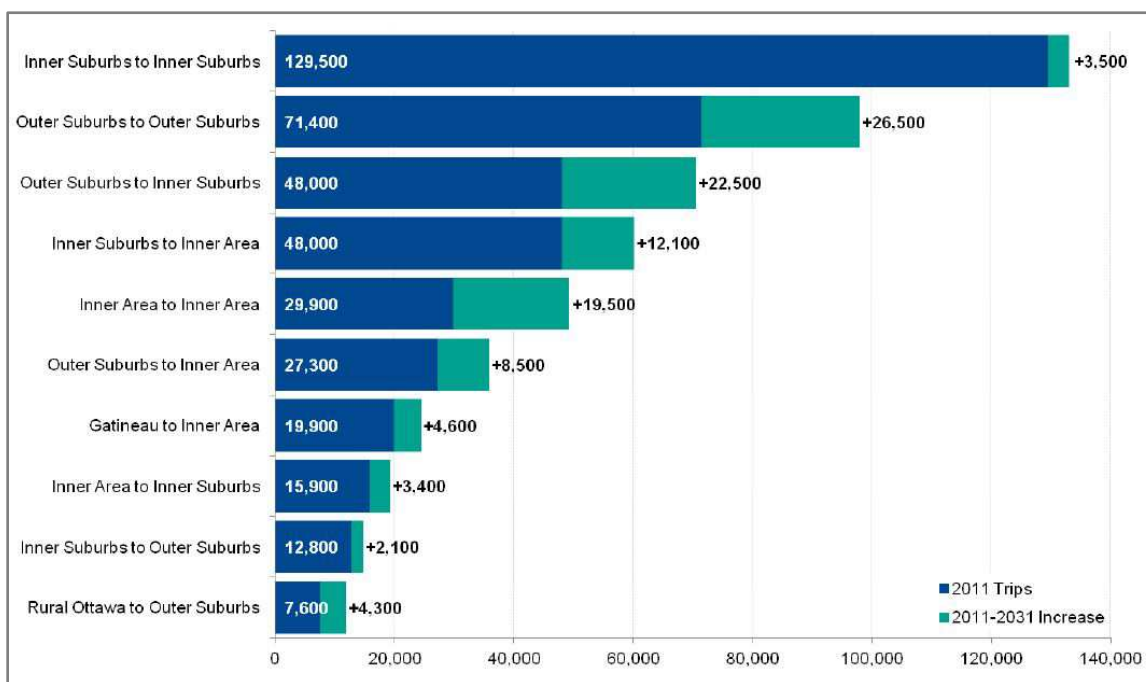


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Figure 8 - Projected growth in Key Travel Markets (morning peak period)



Source: City of Ottawa 2013 Transportation Maser Plan

Table 2 - 20 Year Growth Rate Calculation (Inner Suburbs)

Travel Markets	2011 Trips	Trip Increase	2031 Trips	20yr Growth Rate
Inner Suburbs to Inner Suburbs	129,500	3,500	133,000	3%
Outer Suburbs to Inner Suburbs	48,000	22,500	70,500	47%
Inner Suburbs to Inner Area	48,000	12,100	60,100	25%
Inner Area to Inner Suburbs	15,900	3,400	19,300	21%
Inner Suburbs to Outer Suburbs	12,800	2,100	14,900	16%

The following formula was used to calculate a weighted annual traffic growth rate for the roadway network of this study:

$$\text{Annual Traffic Growth Rate} = \frac{((3\% * 129,500 + 47\% * 48,000 + 25\% * 48,000 + 21\% * 15,900 + 16\% * 12,800))}{(129,000 + 48,000 + 48,000 + 15,900 + 12,800)} / 20 = 0.86\%$$

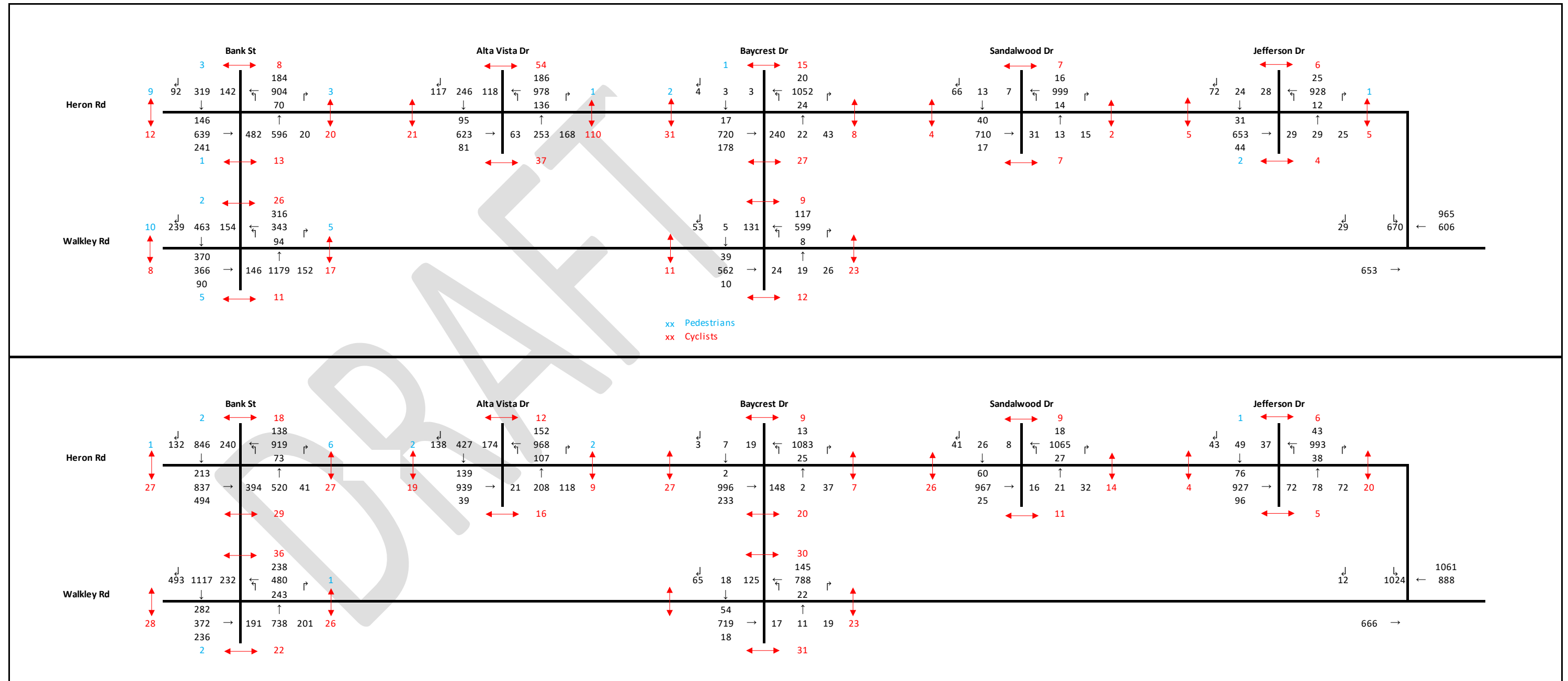
Based on the 20-year projected growth rates for the Inner Suburbs area of Ottawa, an annual growth of 0.86% was applied to historical traffic count data to Existing 2022/2023 counts. Thus, this annual traffic growth rate was applied to traffic count to project existing volumes.

Figure 9 illustrates the existing traffic volumes at the study area intersections.

Appendix A contains the traffic data and is provided for reference.



Figure 9 - Existing Traffic Volumes



2.1.2.6 Collision History

Collision data was provided by the City of Ottawa for the period 2016-2020 for the intersections and midblock locations in the vicinity of the subject site. The data was reviewed to determine if any intersections or road segments exhibited an identifiable collision pattern during the five (5) year period.

Overall, there were a total of 528 reported collisions between 2016 to 2020. It was found that 433 collisions (82%) resulted in property damage only, suggesting that they occurred at low speeds, thereby circumventing bodily harm. The analysis also found that 94 collisions (18%) resulted in non-fatal injuries, 0 collision (0%) resulted in a fatal injury, and 1 (0%) non-reportable collision. The collision statistics are shown in **Table 3 - Table 5** below.

At the intersection of Heron Road and Bank Street, a total of 129 collisions were reported, which accounts for 24% of the total collisions in the identified intersections and segments. Of these 129 collisions, 109 of them (84%) resulted in property damage only and 20 of them (16%) resulted in non-fatal injuries. Of these 129 collisions, most of them were rear-end collisions 58 (45%). These rear-end collisions were analyzed further to determine if there are any significant patterns in the rear-end collisions at this intersection, which can be seen in **Table 6** below. It was found that 33% of the rear-end collisions occurred between vehicles traveling in the eastbound direction, 31% in the northbound direction and 28% in the southbound direction.

Further analysis of the rear-end collision at this intersection under pavement conditions found that 37 collisions (64%) occurred on a dry surface and 10 collisions (17%) occurred on a wet surface.

The Walkley Road and Bank Street intersection indicated a total of 130 collisions were reported, which accounts for 25% of the total collisions in the identified intersections and segments. Of these 130 collisions, 109 of them (84%) resulted in property damage only and 21 of them (16%) resulted in non-fatal injuries. Of these 130 collisions, most of them were rear-end collisions 73 (56%). These rear-end collisions were analyzed further to determine if there are any significant patterns in the rear-end collisions at this intersection, which can be seen in **Table 7** below. It was found that 33% of the rear-end collisions occurred between vehicles traveling in the northbound direction, 32% in the southbound direction and 21% in the westbound direction.

Further analysis of the rear-end collision at this intersection under pavement conditions found that 55 collisions (75%) occurred on a dry surface and 11 collisions (15%) occurred on a wet surface.

Appendix B contains the collision data and is provided for reference.



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Table 3 - Collision Summary - Intersections

		Heron Road @ Baycrest Drive	Heron Road @ Sandalwood Drive	Heron Road @ Jefferson Street	Heron Road @ Walkley	Heron Road @ Alta Vista Drive	Heron Road @ Bank Street	Walkley Road @ Baycrest Drive Street	Walkley Road @ Bank Street
Classification	Property Damage Only	19	9	12	18	35	109	23	109
	Non-Fatal Injury	2	5	1	6	10	20	7	21
	Fatal Injury	-	-	-	-	-	-	-	-
	Non-reportable	-	-	-	-	1	-	-	-
Collision Type	Sideswipe	3	1	2	7	6	28	6	23
	Approaching	-	1	-	1	-	-	-	-
	Angle / Turning	7	8	8	3	12	34	7	24
	Rear End	9	3	3	9	24	58	15	73
	Single Motor Vehicle	2	-	-	4	4	6	2	4
	Other	-	1	-	-	-	3	-	3
	SMV unattended vehicle	-	-	-	-	-	-	-	2
Environmental Condition	Clear	17	12	8	20	37	95	26	101
	Rain		1	1	1	4	19	2	10
	Snow	4	1	4	3	5	11	2	16
	Freezing Rain	-	-	-	-	-	3	-	3
	Fog, mist, smoke, dust	-	-	-	-	-	1	-	-



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Table 4 - Collision Summary - Roadway Segments (1)

		HERON RD btwn ALTA VISTA DR & FINN CRT	HERON RD btwn BANK ST & EDGE HILL PL	HERON RD btwn BAYCREST DR & SANDALWOOD DR	HERON RD btwn EVANS BLVD & ALTA VISTA DR	HERON RD btwn FINN CRT & BAYCREST DR	HERON RD btwn JEFFERSON ST & TURN LANE	HERON RD btwn SANDALWOOD DR & JEFFERSON ST
Classification	Property Damage Only	5	10	2	2	8	11	5
	Non-Fatal Injury	1	1	1	1	3	2	1
	Fatal Injury	-	-	-	-	-	-	-
	Non-reportable	-	-	-	-	-	-	-
Collision Type	Sideswipe	3	2	2	-	-	3	2
	Approaching	-	-	-	-	-	-	-
	Angle / Turning	2	2	1	1	5	5	-
	Rear End	1	5	-	1	5	3	2
	Single Motor Vehicle	-	2	-	1	-	1	1
	Other	-	-	-	-	-	-	1
	SMV unattended vehicle	-	-	-	-	-	-	-
Environmental Condition	Clear	5	9	2	3	9	12	4
	Rain	-	-	1	-	1	-	1
	Snow	1	2	-	-	1	1	1
	Freezing Rain	-	-	-	-	-	-	-



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Table 5 - Collision Summary - Roadway Segments (2)

		WALKLEY RD btwn 152 E OF HEATHERINGTON RD & HOLLY LANE	WALKLEY RD btwn AYERS AVE & HAMPSTEAD PL	WALKLEY RD btwn BANFF AVE & AYERS AVE	WALKLEY RD btwn BANK ST & BANFF AVE	WALKLEY RD btwn BAYCREST DR & HEATHERINGTON RD	WALKLEY RD btwn COLLISTON CRES & CEDARWOOD DR	WALKLEY RD btwn COLLISTON CRES & COLLISTON CRES	WALKLEY RD btwn HAMPSTEAD PL & JASPER AVE	WALKLEY RD btwn HEATHERINGTON RD & 152 E OF HEATHERINGTON RD	WALKLEY RD btwn HERON RD & HOLLY LANE	WALKLEY RD btwn HERON RD & TURN LANE	WALKLEY RD btwn JASPER AVE & COLLISTON CRES
Classification	Property Damage Only	8	2	6	11	9	4	1	1	3	7	2	2
	Non-Fatal Injury	1	-	-	1	2	4	-	-	-	4	-	-
	Fatal Injury	-	-	-	-	-	-	-	-	-	-	-	-
Collision Type	Sideswipe	-	-	2	2	-	2	-	1	1	3	2	-
	Angle / Turning	5	1	1	5	4	1	-	-	1	3	-	1
	Rear End	4	-	3	5	6	1	1	-	-	4	-	1
	Single Motor Vehicle	-	1	-	-	1	3	-	-	1	1	-	-
	Other	-	-	-	-	-	1	-	-	-	-	-	-
Environmental Condition	Clear	6	1	4	11	11	7	1	1	2	11	1	2
	Rain	3	1	1	-	-	1	-	-	-	-	-	-
	Snow	-	-	1	1	-	-	-	-	1	-	1	-
	Freezing Rain	-	-	-	-	-	-	-	-	-	-	-	-



Table 6 - Rear End Collisions based Direction and Pavement Conditions

Heron Road @ Bank Street Rear End Collisions based on Direction and Pavement Conditions Collisions		
Vehicle 1 Direction	North	18
	South	16
	East	19
	West	5
Pavement Condition	Dry	37
	Wet	10
	Ice	2
	Slush	5
	Loose Snow	3
	Packed Snow	1

Table 7 - Rear End Collisions-based Direction and Pavement Conditions

Walkley Road @ Bank Street Rear End Collisions based on Direction and Pavement Conditions Collisions		
Vehicle 1 Direction	North	24
	South	23
	East	11
	West	15
Pavement Condition	Dry	55
	Wet	11
	Ice	2
	Slush	0
	Loose Snow	5
	Packed Snow	0

Based on the collision data summarized in **Table 3 - Table 5** above, it was found that Heron Road at Bank Street intersection and Walkley Road at Bank Street intersection experienced the highest number of collisions. It is recommended that a review of signal timing parameters be conducted by the City of Ottawa to determine if any adjustments are necessary to minimize the occurrences of rear-end collisions.



2.1.3 Planned Conditions

2.1.3.1 Road Network Modifications

Several transit improvements were outlined in the City of Ottawa’s Transportation Master Plan (“TMP”) and are summarized in **Table 8** below. All of them are included in the TMP’s network concept plan and they may be scheduled to occur within the vicinity of the subject development.

Table 8 - City of Ottawa Transportation Master Plan Projects

Project	Description	TMP Phase
Baseline / Heron / Walkley / St. Laurent	At-grade Bus Rapid Transit connecting Baseline Station to Heron Station	Affordable Network (2031)
	At-grade Bus Rapid Transit connecting Bayshore Station to St. Laurent Station	Network Concept (i.e., beyond 2031)
Bank Street	Transit signal priority between Wellington Street and Highway 417. May also include parking lane conversion in the immediate vicinity of selected intersections	Affordable Network (2031)
	Transit signal priority between Highway 417 and Billings Bridge Station, including limited to installation of queue jump lanes at selected intersections (one lane only)	Affordable Network (2031)
	Transit signal priority and queue jump lanes between Billings Bridge Station and Hunt Club Road	Network Concept (i.e., beyond 2031)
Alta Vista Drive	Transit signal priority and queue jump lanes at selected intersections	Network Concept (i.e., beyond 2031)
Alta Vista Transportation Corridor	Bus/high occupancy vehicle lanes and transit signal priority between Riverside Drive and Ottawa Health Services Centre	Network Concept (i.e., beyond 2031)
	Transit signal priority and queue jump lanes between the Ottawa Health Sciences Centre and Walkley Road	Network Concept (i.e., beyond 2031)

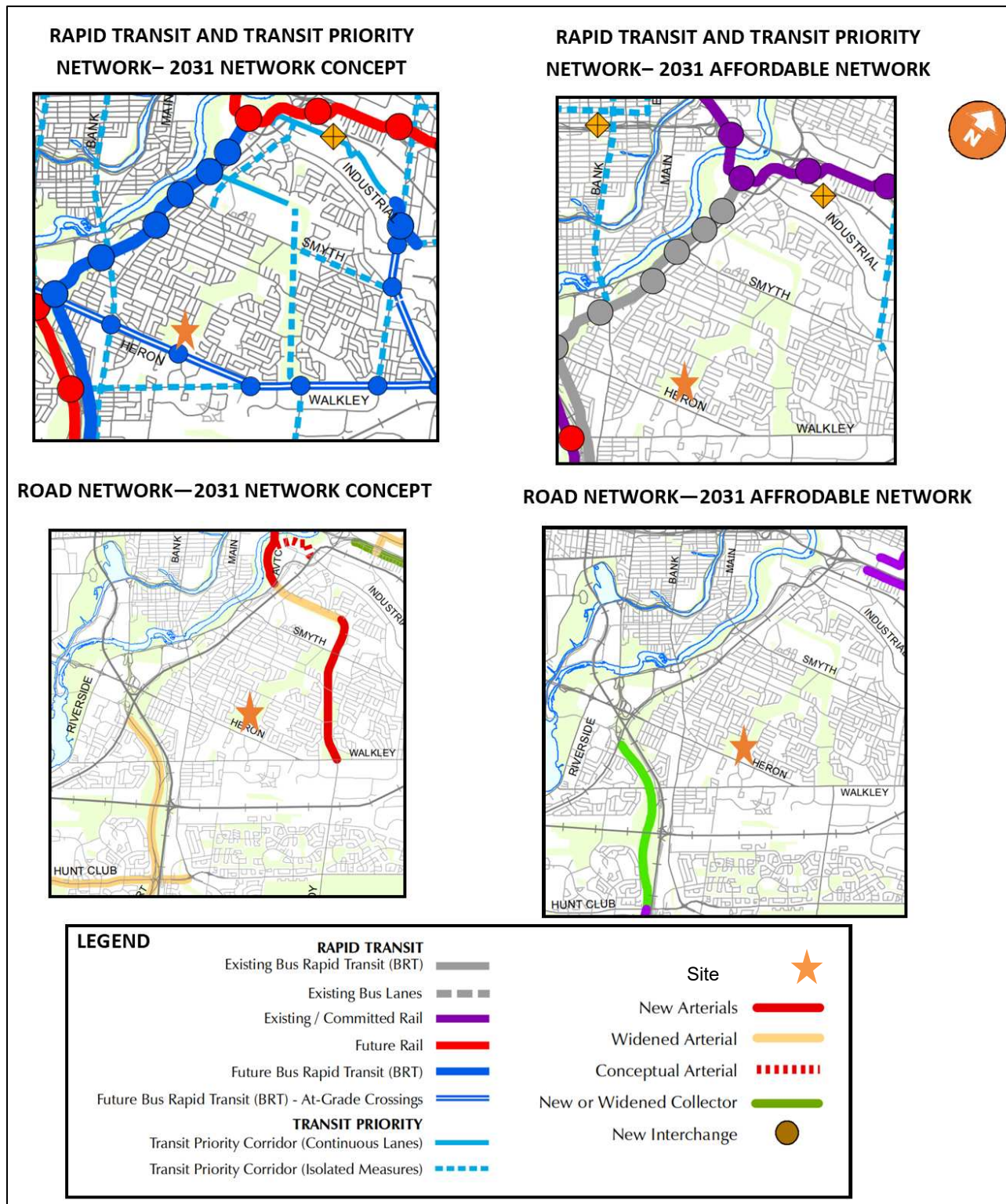


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Figure 10 - Transportation Master Plan for Roads and Transit



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2.1.3.2 Future Background Developments

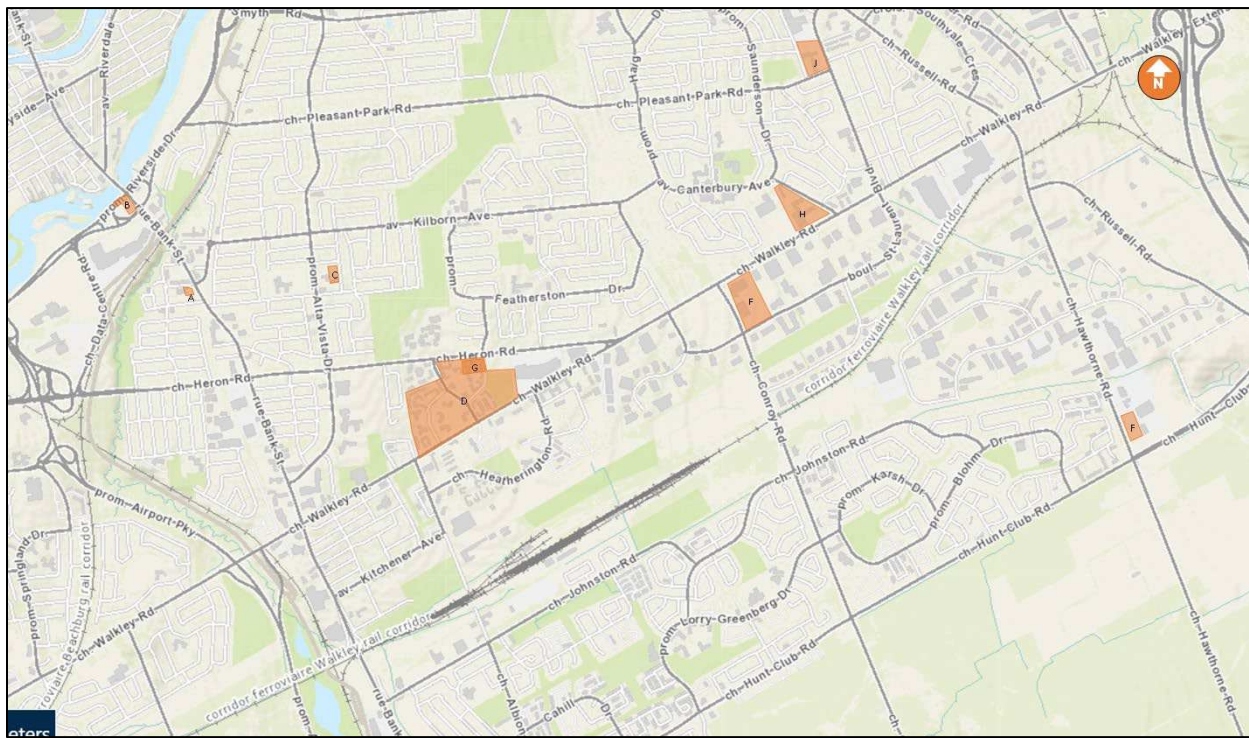
Several developments in the surrounding areas of the subject site were illustrated in **Figure 11** and described in **Table 9**. Among those developments, there are two developments (i.e., Development D and Development G in **Table 9**) scheduled to occur within the vicinity of the subject site. Specifically, Development G, the 2851 Baycrest Drive Development, is a part of Development D, the Timbercreek Heron Development.

Table 9 - Background Developments

Key Plan Reference	Development	Location	Description	Build-Out Horizon
A	1400 Bank Street	Southwest quadrant of the intersection of Belanger Avenue and Bank Street	16-storey mixed-use building with 3,791 ft ² of commercial space and 5,365 ft ² of office space. A total of 160 apartment units and 66 underground parking	2026
B	1330, 1340, 1346 Bank Street and 2211 Riverside Drive	Southwest quadrant of the intersection with Riverside Dr WB and Bank Street, between Riverside Dr. EB and Riverside Dr. WB	27-storey building, 309 residential units and 3,603 ft ² commercial space 29-storey building with 228 residential units	2023 Bank Street, 2026 Riverside
C	2262 Braeside Avenue	North of Randal Avenue between Alta Vista Drive and Braeside Avenue	38 new units and net increase of 30 parking spaces	2023
D	Timbercreek Heron	South of Heron Road, North of Walkley area surrounding Baycrest Drive	Seven separate blocks. 118 low-rise, 2,047 mid-rise and 2,874 high rise units. A total of 3,850 parking spaces.	2030 Interim and 2040 Full build out
E	2020 Walkley Road & 2935 Convoy Road	Northeast quadrant of the intersection with Conroy Road and St. Laurent Boulevard	3 single-storey warehouses of 265,836 ft ²	2023
F	3455 Hawthorne Road	Northeast quadrant of the intersection with Hunt Club Road and Hawthorne Road	13,217 m ² . 22 parking spots	2023
G	2851 Baycrest Drive	Southwest quadrant of the intersection with Heron Road and Sandalwood Drive	One 6-storey building and two 7-storey buildings with 305 residential units, 298 residential parking spaces, 58 visitor parking spaces and 153 bicycle parking spots	2024
H	2190 Halifax Drive	Northwest quadrant of the intersection with Walkley Road and Halifax Drive	202 new apartment units and 177 net new parking spots	2021
J	2025 Othello Drive	Northeast quadrant of the intersection with Pleasant Park and Othello	27-storey and 18-storey high-rise residential towers consisting of 563 units and 695 surface and underground parking	2023



Figure 11 - Background Developments



2.2 STUDY AREA AND TIME PERIODS

2.2.1 Study Area

The proposed study area is limited to the following intersections:

1. Heron Road at Bank Street
2. Heron Road at Alta Vista
3. Heron Road at Baycrest Drive
4. Heron Road at Sandalwood Drive
5. Heron Road at Jefferson Street
6. Heron Road at Walkley Road
7. Bank Street at Walkley Road
8. Walkley Road at Baycrest



2.2.2 Time Periods

The proposed scope of the transportation assessment includes the following analysis time periods:

- Weekday AM peak hour of roadway; and
- Weekday PM peak hour of roadway.

2.2.3 Horizon Years

The scope of the transportation assessment proposes the following horizon years:

- 2023 Existing conditions;
- 2032 future background conditions;
- 2032 total future conditions (site build-out); and
- 2037 total future conditions (5 years beyond build-out).

2.3 EXEMPTIONS REVIEW

Table 10 summarizes the Exemptions Review table from the City of Ottawa's *2017 Transportation Impact Assessment Guidelines*.



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Table 10 - Exemptions Review

Module	Element	Exemption Considerations	Exempted?
Design Review Component			
4.1 Development Design	4.1.2 Circulation and Access	Only required for site plans	Yes
	4.1.3 New Street Networks	Only required for plans of subdivision	No
4.2 Parking	4.2.1 Parking Supply	Only required for site plans	Yes
	4.2.2 Spillover Parking	Only required for site plans where parking supply is 15% below unconstrained demand	Yes
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	No
4.6 Neighbourhood Traffic Management	4.6.1 Adjacent Neighborhoods	Only required when the development relies on local or collector streets for access and total volumes exceed ATM capacity thresholds	Yes
4.8 Network Concept		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	No
4.9 Intersection Design	All Elements	Not required if site generation trigger is not met.	No



3.0 FORECASTING

3.1 DEVELOPMENT GENERATED TRAVEL DEMAND

3.1.1 Trip Generation and Mode Shares

The *TRANS Trip Generation Manual (October 2020)* was used to forecast auto person trip generation for the multi-family mid-rise apartment and stacked townhouse land uses. The Institute of Transportation (ITE) Trip Generation Manual (11th Edition) was used to forecast auto trip generation for the proposed strip retail plaza, elementary school, and recreational community center land use. Land use codes 221 & 222 – Multi-Unit High-Rise Dwelling (TRANS), 220 – Stacked Townhouse (Multi-Unit Low-Rise Dwelling (TRANS), 822 – Strip Retail Plaza (ITE), 520 – Elementary School (ITE), and 495 – Recreational Community Centre (ITE) were thought to be the most representative of the proposed land uses.

Table 11 outlines the assumed land uses and the trip generation rates for each land use.

Table 11 - Land Uses and Trip Generation Rates

LUC	Land Use	Size	Weekday AM Peak Hour			Weekday PM Peak Hour		
			In	Out	Rate	In	Out	Rate
221 & 222	High-Rise Multi-Family Housing	708 Units	31%	69%	0.80	58%	42%	0.90
220	Stacked Townhouse (Low-Rise Multifamily Housing)	80 Units	30%	70%	1.35	56%	44%	1.58
822	Strip Retail Plaza	1,496 ft ² GFA	60%	40%	2.36	50%	50%	6.59
520	Elementary School	600 Students	54%	46%	0.74	46%	54%	0.16
495	Recreational Community Centre	87,930 ft ² GFA	66%	34%	1.91	47%	53%	2.50

The auto trip generation rates of strip retail plaza, elementary school, and recreational community centre land uses were converted to person trips using a conversion factor of 1.28 as outlined in the *City of Ottawa's 2017 TIA Guidelines*. The person trips from the residential land uses were standardized by a peak period conversion factor for AM and PM peak periods using *Table 4 TRANS Trip Generation 2020* to adjust the residential trip generation rates from peak period to peak hour. **Table 12** outlines development-generated person trips for each land use.



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Table 12 - Person Trips Generated by Land Use

LUC	Land Use	Trip Conversion	Weekday AM Peak Hour			Weekday PM Peak Hour		
			In	Out	Total	In	Out	Total
221 & 222	Multi-Family Housing High-Rise Apartment	Person Trips (Peak Period)	175	391	566	369	268	637
		Person Trips (Peak Hour 0.50 for AM 0.44 for PM)	88	196	283	162	118	280
224	Stacked Townhouse	Person Trips (Peak Period)	32	76	108	71	55	126
		Person Trips (Peak Hour 0.50 for AM 0.44 for PM)	16	38	54	31	24	55
822	Strip Retail Plaza	Auto Trips	2	2	4	5	5	10
		Person Trip Factor	1.28					
		Person Trips	3	3	6	6	6	12
520	Elementary School	Auto Trips	240	204	444	44	52	96
		Person Trip Factor	1.28					
		Person Trips	307	261	568	57	66	123
495	Recreational Community Center	Auto Trips	111	57	168	103	117	220
		Person Trip Factor	1.28					
		Person Trips	142	73	215	132	149	281
Total		Person Trips	596	744	1,340	540	450	990

To reflect local travel characteristics, the person trips were assigned to the four primary modal shares (i.e., auto driver, auto passenger, transit, and active moves) according to the *TRANS Trip Generation 2020 for Alta Vista District*. **Table 13** outlines Alta Vista District's existing average mode shares in this district.

Based on City of Ottawa Transportation Master Plan (November 2013) Future Network Concept (i.e., Beyond 2031), the subject site is located within the future Heron Road / Walkley Road at-grade Bus Rapid Transit (BRT) Corridor, with a BRT station located south of the site on Heron Road. Based on the discussion with the City, it was assumed that BRT will not be constructed along Heron Road by the future horizon years of 2032 and 2037 in this study.

As a result, the assumed modal shares did not take into account the proposed higher order transit facility on Heron Road. **Table 13** outlines the assumed modal shares used to estimate site traffic and establish site trip distribution and assignments in the following sections. The mode shares split percentages used were obtained from the TRANS Trip Generation Report 2020 as outlined for the Alta Vista region.



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Table 13 - Trip Generated by Travel Mode – Existing Alta Vista Mode Shares

LUC	Land Use	Trip Conversion		Weekday AM Peak Hour			Weekday PM Peak Hour		
				In	Out	Total	In	Out	Total
221 & 222	Multi-Family Housing (High-Rise Apartment)	Auto Driver	41%	36	80	116	66	48	114
		Auto Passenger	14%	12	27	41	23	17	40
		Transit	35%	31	69	100	57	41	98
		Cycling	2%	2	4	6	3	2	5
		Walking	8%	7	16	23	13	9	22
224	Stacked Townhouse	Auto Driver	38%	6	14	21	12	9	21
		Auto Passenger	17%	3	6	9	5	4	9
		Transit	33%	5	13	18	10	8	18
		Cycling	2%	0	1	1	1	0	1
		Walking	10%	2	4	5	3	2	6
822	Strip Retail Plaza	Auto Driver	60%	2	1	3	4	4	7
		Auto Passenger	15%	0	1	1	1	1	2
		Transit	11%	0	1	1	1	1	2
		Cycling	1%	0	0	0	0	0	0
		Walking	13%	0	1	1	1	1	2
520	Elementary School	Auto Driver	22%	68	58	125	12	15	27
		Transit/ School Bus	54%	166	141	307	31	36	66
		Active Modes / Other	24%	74	63	136	14	16	29
495	Recreational Community Center	Auto	60%	85	44	129	79	90	169
		Auto Passenger	15%	21	11	32	20	23	42
		Transit	11%	16	8	24	15	17	31
		Cycling	1%	1	1	2	1	2	3
		Walking	13%	18	9	28	17	20	37
Total	Auto Trips		197	197	394	173	165	338	
	Transit / School Bus Trips		218	232	450	113	102	215	
	Passenger / Active Mode Trips		105	99	204	53	52	105	



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3.1.2 Internal Capture and Pass-By

Internal Trips are trips between different land uses within a multi-use development that do not access the external roadway network and have both an origin and destination that is within the development. For this study, no internal trips were considered due to the walkable distances on site between any two different land uses.

In addition, a portion of the auto trips generated by the proposed retail land use will be 'pass-by' in nature. Pass-by trips are considered intermediate stops between an origin and a destination. They are site trips that are drawn from existing traffic volumes on the road network that are "passing-by" the site. While the total number of trips generated by a given development remains the same, the turning movements at study area intersections and site accesses require adjustments to reflect pass-by traffic. The rate of pass-by traffic is based on the specific land use which was obtained from the ITE Trip Generation Manual. A pass-by rate of 34% for the PM peak hour only was used for the retail land use.

Table 14 outlines the pass-by trips and net new trips anticipated for the proposed development.

Table 14 - Future Pass-by and Net New Auto Trips

LUC	Land Use	Trip Conversion		Weekday AM Peak Hour			Weekday PM Peak Hour		
				In	Out	Total	In	Out	Total
822 – Strip Retail Plaza	Auto Trips		2	1	3	4	4	8	
	Pass-By	34%				1	1	2	
	Net Auto Trips		1	1	2	3	3	6	
495 – Recreational Community Center	Auto Person Trips		85	44	129	79	90	169	
	Internal Capture	34%	29	15	44	27	31	58	
Net New Auto Trips									
223 – Multi Family Housing (Mid -Rise Apartment)			36	80	116	66	48	116	
224 – Stacked Townhouse			6	14	20	12	9	21	
822 – Strip Retail Plaza			2	1	3	3	3	6	
520 – Elementary School			68	58	125	12	15	27	
495 – Recreational Community Centre			85	44	129	79	90	169	
Total Development									
Net New Auto Trips			197	197	394	172	165	337	



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The number of trips generated by the retail component is considered negligible as compared to the traffic volumes along Heron Road and as compared to the residential, school and community center components of the subject development. The retail component is projected to generate 2 vehicle trips during the AM peak hour and 6 vehicle trips during the PM peak hour. As such, pass-by reduction was not applied in this study.

3.1.3 Trip Distribution

The distribution of traffic to / from the proposed development was determined through examination of the TRANS Committee's 2011 Origin-Destination (O-D) Survey for the Alta Vista District.

Table 15 summarizes the estimated trip distribution for the proposed development.

Table 15 - Trip Distribution Assumptions

Direction		Via (to / from)					
		Bank Street (north)	Alta Vista Drive (north)	Heron Road (west)	Bank Street (south)	Baycrest Drive (south)	Walkley Road (east)
North	28%	10%	18%				
East	14%						14%
South	5%				5%		
West	20%			20%			
Internal (Alta Vista)	33%	8%	10%			5%	10%
Total	100%	18%	28%	20%	5%	5%	24%

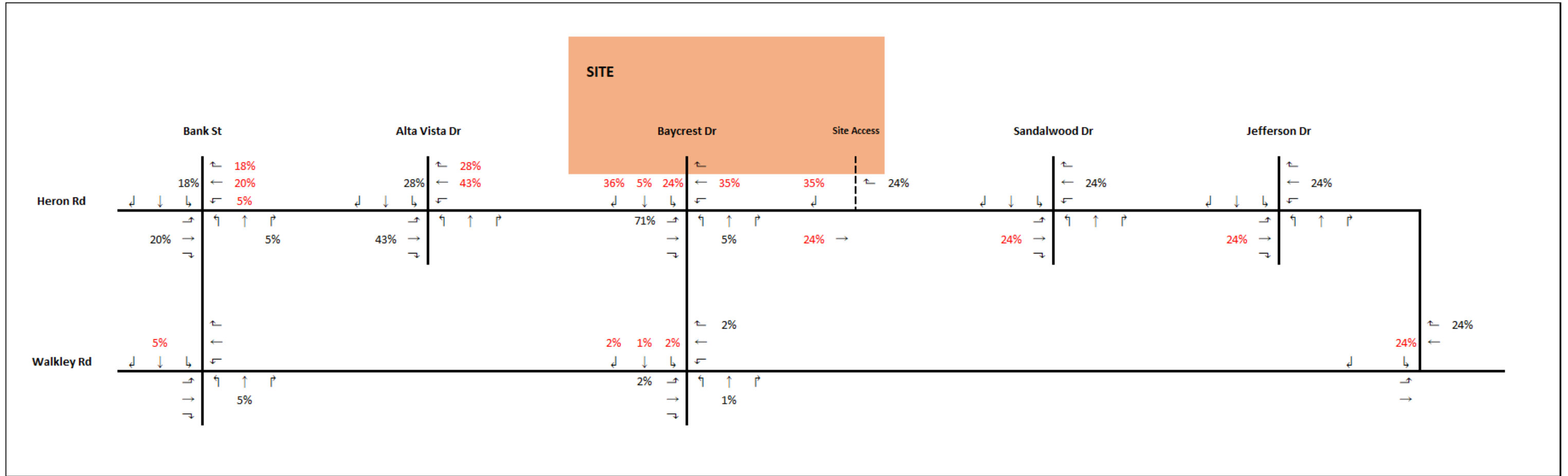
3.1.4 Trip Assignment

Site generated trips were assigned to the study area road network based on the trip distribution assumptions outlined above in **Table 15**. **Figure 12** outlines the site assignment assumptions. It should be noted that the red value represents the outbound trips, and the black values represent the inbound trips.

Figure 13 illustrates the site generated trips for the proposed development during the AM and PM peak hours.



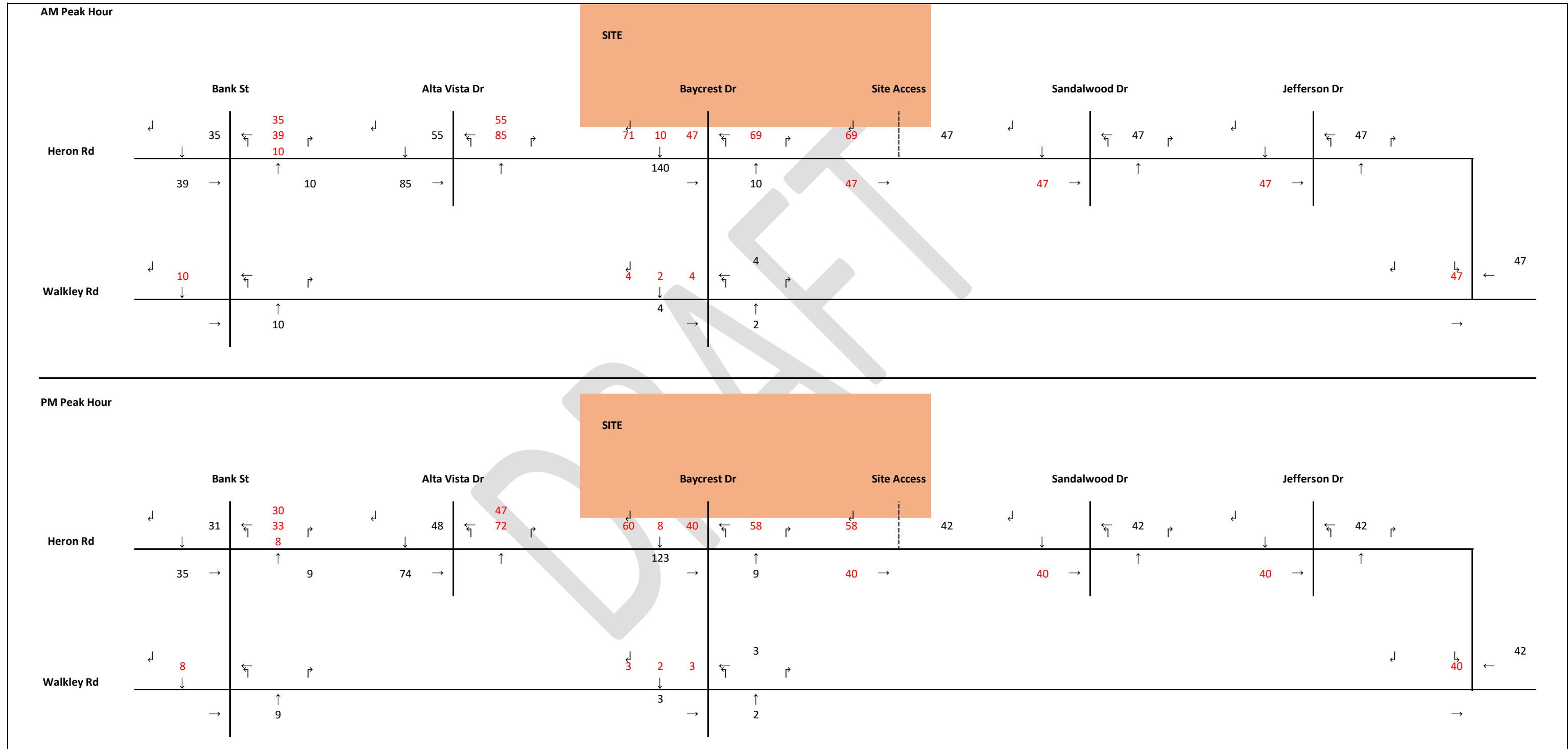
Figure 12 - Site Traffic Assignment Assumptions



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Figure 13 - Site Generated Traffic Volumes



3.2 BACKGROUND NETWORK TRAVEL DEMAND

3.2.1 Transportation Network Plans

As outlined in **Table 8** in **Section 2.1.3.1** of the screening and scoping report, the roadway infrastructure projects that is included in the City's Transportation Master Plan ("TMP") within the vicinity of the subject site are the future Heron Road / Walkley Road BRT and Transit Signal Priority for both Bank Street and Alta Vista Drive. As there are no confirmed construction timelines for the proposed BRT facility on Heron Road, or the implementation of Transit Signal Priority projects, these improvements were not considered to occur within the time horizon of this study.

In addition, the City's Bank Street Renewal is currently in the design process and its geometric design was considered in this study. The timing for the City's Alta Vista Drive renewal project was not confirmed and it was not included in this study for future conditions.

3.2.2 General Background Growth

Based on **Section 2.1.2.5** the calculated annual traffic growth rate of 0.86% was applied to the Existing traffic volumes to project future background traffic volumes for the 2032 and 2037 time horizons.

3.2.3 Other Area Development

In addition to the background growth outlined in **Section 3.2.2** above, traffic growth associated with the nearby Timbercreek Heron Development was considered (Refer to **Table 9**).

Based on the Timbercreek Heron Gate Official Plan Amendment Transportation Impact Assessment (February 2021), Phase 2, 3 and 4 of the proposed development are anticipated to be completed by 2030, with full built-out anticipated to occur by 2040.

The site trips of Timbercreek Heron Development were obtained from this TIA report and explicitly added to the transportation network as future background traffic.



3.3 DEMAND RATIONALIZATION

Based on the aforementioned sections, the forecasted volumes along Heron Road in the future horizon years are in the range of 900– 1,800 vehicles per hour per directions. No further volume reduction was considered to account for demand rationalization.

3.3.1 2032 Future Background Traffic Volumes

2032 future background traffic volumes were derived by adding anticipated future background growth derived through the application of a general growth rate and the 2032 traffic volumes generated by nearby Timbercreek Heron Development.

Figure 14 illustrates the 2032 future background traffic volumes at the study area intersections.

3.3.2 2032 Total Future Traffic Volumes

2032 total future traffic volumes represent the sum of site generated traffic volumes for the subject site, in addition to 2032 future background growth.

Figure 15 illustrates the 2032 total future traffic volumes at the study area intersections.

3.3.3 2037 Ultimate Traffic Volumes

2037 ultimate traffic volumes represent projected 2037 traffic volumes that include site generated traffic demands and future background growth derived by applying an annual traffic growth rate of 0.87%.

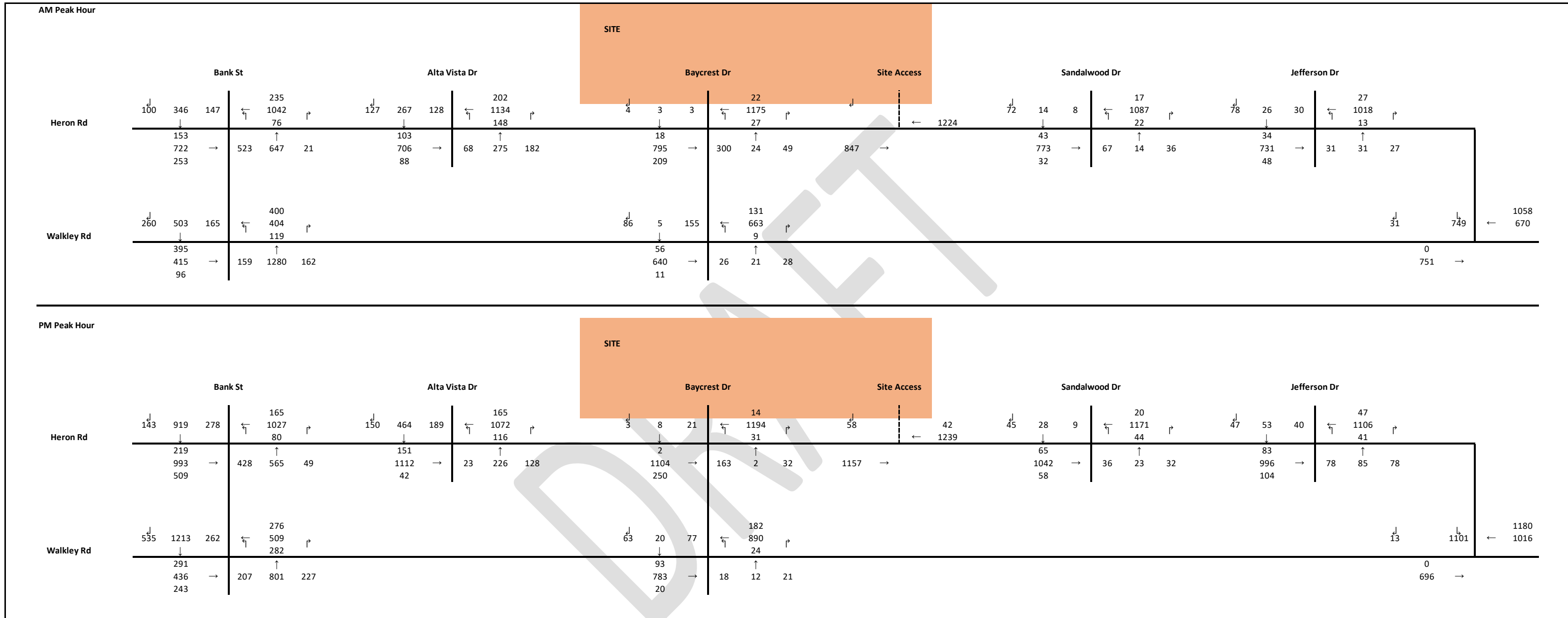
Figure 16 illustrates the 2037 ultimate traffic volumes at the study area intersections.



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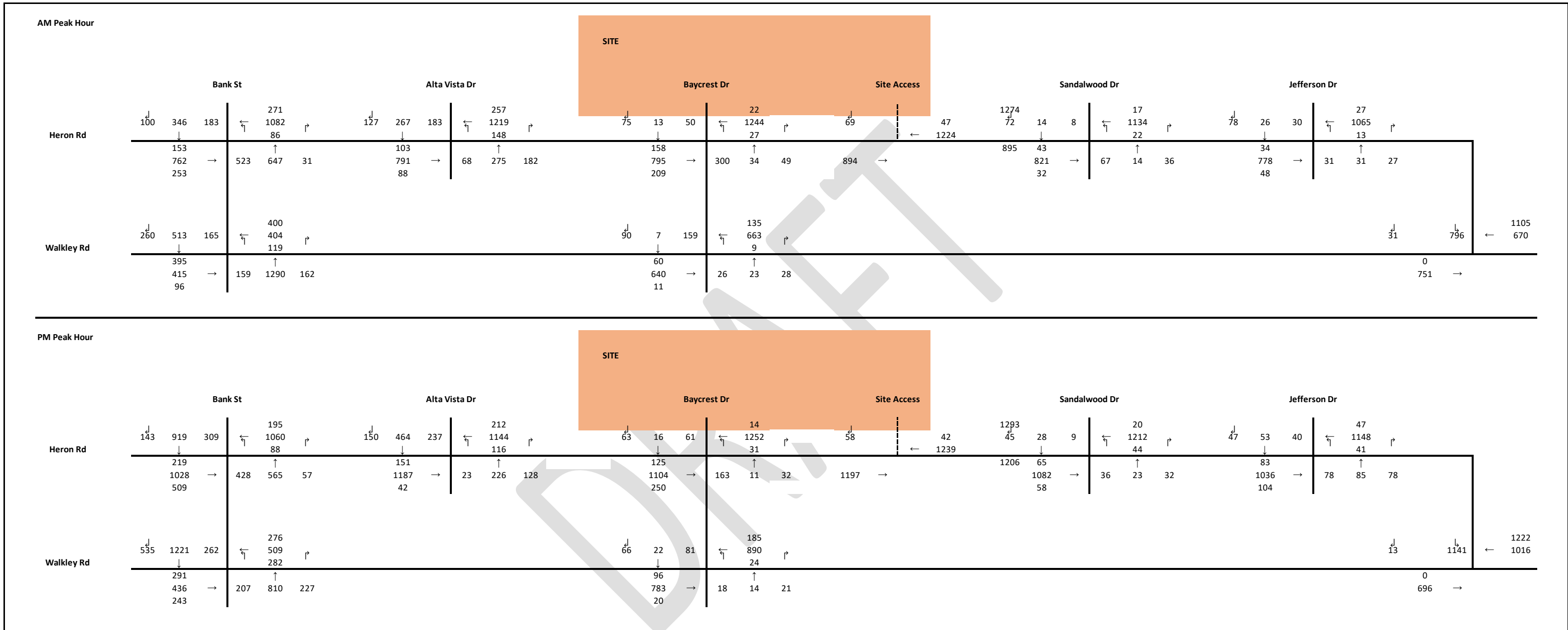
Figure 14 - 2032 Future Background Volumes



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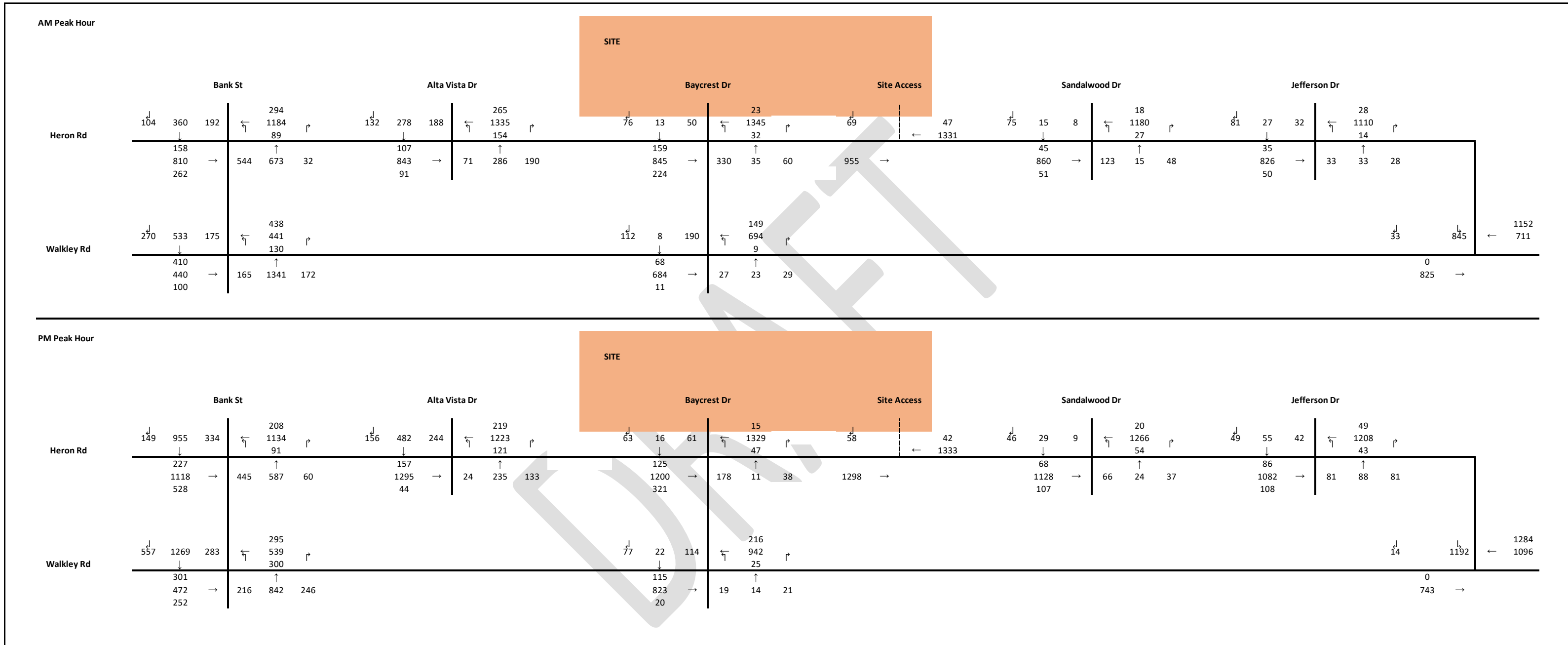
Figure 15 - 2032 Total Future Volumes



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Figure 16 - 2037 Ultimate Volumes



4.0 STRATEGY REPORT

4.1 DEVELOPMENT DESIGN

4.1.1 Design for Sustainable Modes

Pedestrian facilities: Currently, both Heron Road and Baycrest Drive include sidewalks along both sides of the roads. Based on the proposed site plan, sidewalks are provided along both sides of internal roadways on site. pedestrian connections are included to connect the proposed building to the existing sidewalks along Heron Road and Baycrest Drive.

Bicycle facilities: Currently, there is a one-way on-street bicycle lane on the south side of the Heron Road. As per Cycling Network – Primary Urban from the City of Ottawa’s 2013 Transportation Master Plan, Heron Road is designated as a spine route and a cross-town bikeway. Also, Walkley Road, Bank Street and Alta Vista Drive are all designated as spine routes. As the TIA is developed in support of a Plan of Subdivision, on-site bicycle parking facilities have not been identified. Based on the Bicycle Parking Space Rates and Provisions (Section 111) outlined in the City of Ottawa Zoning By-Law, a total of 438 bicycle parking spaces are estimated to be required. It is anticipated that parking facilities will be outlined in subsequent phases of development approvals.

Transit facilities: The subject site is presently well serviced by transit with four transit routes. There are several transit stops located at the intersection of Heron Road and Baycrest Drive that are serviced by all these four transit routes. The existing sidewalks along both sides of Heron Road and Baycrest Drive, as well as four pedestrian crosswalks at the intersection of Heron Road and Baycrest Drive, provide the access to these transit stops. As per BRT 2031 network Concept from the City of Ottawa’s 2013 Transportation Master Plan, across the frontage of the subject development, Heron Road will be updated with at-grade Bus Rapid Transit. In addition, transit priority (isolated measures) will be implemented along Bank Street and Walkley Road.

Parking areas: As the TIA is developed in support of a Plan of Subdivision, parking facilities and loading zones have not been identified. It is anticipated that parking facilities will be outlined in subsequent phases of development approvals.

4.1.2 Circulation and Access

Based on **Table 10**, This section is exempted during screening and scoping.

4.1.3 New Street Networks

Based on **Table 9**, This section is exempted during screening and scoping.

4.2 PARKING

4.2.1 Parking Supply

Based on **Table 10**, This section is exempted during screening and scoping.

4.2.2 Spillover Parking

Based on **Table 10**, This section is exempted during screening and scoping.

4.3 BOUNDARY STREET DESIGN

4.3.1 Multi-Modal Level of Service

The multi-modal level of service (“MMLOS”) was evaluated for Heron Road and Baycrest Drive to assist with developing a design concept that maximize the achievement of the MMLOS objectives.

The sections below outline the MMLOS summary for the roadway segments. **Appendix C** contains the detailed MMLOS analysis and is provided for reference.

Existing Conditions – segments intersections

Bank Street to Alta Vista Drive (Heron Rd)

Heron Road, between Bank street and Alta Vista Drive, has a sidewalk width of 1.8 meters, and has a boulevard width less than 2 meters, which indicates a good physical separation from passing traffic, therefore decreasing safety risks and increasing comfort for pedestrians. The AADT (motor vehicle traffic volume) is greater than 3000, and speeds are moderately high as they range from over 50 km/h up to 60 km/h. With no on street parking, and this segment being part of a truck route, the comfort of pedestrians is moderate to low. These factors in combination give a PLOS F.

This segment is a mixed traffic roadway with 2-3 lanes total, with a posted high speed limit of greater than or equal to 50 km/h, going up to 60 km/h. There is no dedicated biking facility present on this segment. With these factors in combination, the result is BLOS E, only very confident cyclists would be deemed safe to use this segment under its current conditions.

There is V_t/V_p ratio greater than or equal to 0.80, that is, the ratio of average transit travel speed to posted speed. This gives TLOS D.

The truck lane width of this area is less than or equal to 3.5 meters, and there is more than one travel lane in each direction. These two factors give TkLOS A.

Of all modes evaluated on the segment of Heron Road (between Alta Vista Drive to Baycrest Drive) cyclists and pedestrians have the lowest level of service. This indicates that some tradeoffs between truck and transit level of service may have to be made to accommodate for a better experience for other modes and increase PLOS and BLOS.

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Alta Vista Drive to Baycrest Drive (Heron Rd)

Heron Road, between Alta Vista Drive and Baycrest Drive, has a sidewalk width of 1.8 meters, and has a boulevard width greater than 2 meters, which indicates a good physical separation from passing traffic, therefore decreasing safety risks and increasing comfort for pedestrians. The AADT is greater than 3000, and speeds are moderately high as they range from over 50 km/h up to 60 km/h. With no on street parking, and this segment being part of a truck route, the comfort of pedestrians is moderate to low. These factors in combination give rise to PLOS D, which is below the target of PLOS A. This street is of moderate concern for pedestrians.

This segment is a mixed traffic roadway with 2-3 lanes total, with a posted high speed limit of greater than or equal to 50 km/h, going up to 60 km/h. There is no dedicated biking facility present. With these factors in combination, the result is BLOS E.

The V_t/V_p ratio greater than or equal to 0.80. This classifies the road segment as TLOS D.

The truck lane width of this area is less than or equal to 3.5 meters, and there is more than one travel lane in each direction. These two factors give a TkLOS of A.

Of all modes evaluated on the Heron Road segment (between Alta Vista Drive to Baycrest Drive), cyclists and pedestrians are facing the lowest level of service. To address this some tradeoffs between truck and transit level of service may have to be made to accommodate for a better experience for other modes and increase PLOS and BLOS to meet targets.

Baycrest Drive to Sandalwood Drive (Heron Rd)

Heron Road, between Baycrest Drive and Sandalwood Drive, has a sidewalk width of 1.8 meters, and has a boulevard width greater than 2 meters, which indicates good physical separation from passing traffic therefore decreasing safety risks and increasing comfort for pedestrians. The AADT is greater than 3000, and speeds are moderately high as they range from over 50 km/h up to 60 km/h. With no on street parking, and this segment being part of a truck route, comfort of pedestrians is moderate to low. These factors in combination give PLOS D.

The segment is a curbside bike lane with 2 lanes in each direction (median present), and a high posted speed limit greater than 50 km/h up to 70 km/h. The bike lane (and parking lane) width ranges from greater than or equal to 1.5 meters up to 1.8 meters. The presence of a bike facility allows for a safe place for cyclists to travel along a segment. Bike lane blockages are rare throughout this segment. All these factors in combination give BLOS C, which describes an experience appropriate for most experienced adult cyclists.

The V_t/V_p ratio greater than or equal to 0.80, that is, the ratio of average transit travel speed to posted speed limit. This classifies the road segment as TLOS D.

The truck lane width of this area is less than or equal to 3.5 meters, and there is more than one travel lane in each direction. These two factors give a TkLOS of A.

Of all modes evaluated on Heron Road (between Baycrest Drive and Sandalwood Drive), pedestrians are facing the lowest level of service. Some tradeoffs between bicycle, truck and transit levels of service may

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have to be made to accommodate for a better experience for other modes and increase PLOS to meet targets.

Sandalwood drive to Jefferson Street (Heron Rd)

Heron Road, between Sandalwood Drive and Jefferson Street, has a sidewalk width of 1.8 meters, and has a boulevard width greater than 2 meters, which indicates good physical separation from passing traffic, therefore decreasing safety risks and increasing comfort for pedestrians. The AADT is greater than 3000, and speeds are moderately high as they are greater than 50 km/h and reach as high as 60 km/h. With no on street parking, and this segment being part of a truck route, comfort of pedestrians moderate to low. These factors in combination give PLOS D.

The segment is a curbside bike lane with 2 lanes in each direction (median present), with a significantly high posted speed limit greater than 50 km/h up to 70 km/h. The bike lane (and parking lane) width ranges from greater than or equal to 1.5 meters, going up to 1.8 meters. The presence of a bike facility allows for a safe place for cyclists to travel along a segment. Bike lane blockages are frequent throughout this segment. All of these factors in combination give BLOS C, which is appropriate for most experienced adult cyclists.

The V_t/V_p ratio greater than or equal to 0.80, that is, the ratio of average transit travel speed to posted speed limit is greater than or equal to 0.80. This classifies the road segment as TLOS D.

The truck lane width of this area is less than or equal to 3.5 meters, and there is more than one travel lane in each direction. These two factors give TkLOS A.

Of all modes evaluated on Heron Road (between Sandalwood Drive to Jefferson Street) pedestrians are facing the lowest level of service. Some tradeoffs between bicycle, truck and transit level of service may have to be made to accommodate for a better experience for other modes and increase PLOS to meet targets.

Jefferson Street to Walkley Road (Heron Rd)

Heron Road, between Jefferson Street and Walkley Road, has a sidewalk width of 1.8 meters, and has a boulevard width greater than 2 meters, which indicates a good physical separation from passing traffic, therefore decreasing safety risks and increasing comfort for pedestrians. The AADT is greater than 3000 and speeds are moderately high as they range from greater than 50 km/h up to 60 km/h. With no on street parking, and this segment being part of a truck route, comfort of pedestrians is moderate to low. These factors in combination give PLOS D.

This segment is a mixed traffic roadway with 2-3 lanes total, with a posted high speed limit of greater or equal to 50 km/h, going up to 60 km/h. There is no dedicated biking facility present on this segment. With these factors in combination, the result in BLOS E, as only very confident cyclists would be deemed safe to use this segment under its current conditions.

The V_t/V_p ratio greater than or equal to 0.80, that is, the ratio of average transit travel speed to posted speed. This classifies the road segment as TLOS D.

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The truck lane width of this area is less than or equal to 3.5 meters, and there is more than one travel lane in each direction. These two factors give TkLOS A.

Of all modes evaluated on Heron Road (between Jefferson Street to Walkley Road), cyclists and pedestrians are facing the lowest level of service. Some tradeoffs between truck and transit level of service may have to be made to accommodate for a better experience for other modes and increase PLOS and BLOS.

Heron Road to Walkley Road (Bank St)

Bank Street, between Heron Road and Walkley Road, has a sidewalk width of 1.5 meters, which just meets accessibility standards, and has a boulevard width less than 0.5 meters, creating a lack of physical separation from vehicles, increasing safety risks, and decreasing comfort for pedestrians. The AADT is greater than 3000 and speeds are moderately high as they range from 50 km/h up to 60 km/h. With no on street parking, and this segment being part of a truck route, comfort of pedestrians is low. These factors in combination give PLOS F.

This segment is a mixed traffic roadway with 4-5 lanes total, with a posted high speed limit of greater or equal to 50 km/h, going up to 60 km/h. There is no dedicated biking facility present on this segment. With these factors in combination, the result is BLOS E, as only very confident cyclists would be deemed safe to use this segment under its current conditions.

This segment mixed traffic, and has a V_t/V_p ratio greater than or equal to 0.80, that is, the ratio of average transit travel speed to posted speed limit. This classifies the road segment as TLOS D.

The truck lane width of this area is less than or equal to 3.3 meters, and there is more than one travel lane in each direction. These two factors give TkLOS C.

Of all modes evaluated on Bank Street (between Heron Road and Walkley Road), pedestrians and cyclists are facing the lowest level of service. Some tradeoffs between truck and transit level of service may have to be made to accommodate for a better experience for other modes and increase PLOS and BLOS.

Heron Road to Walkley Road (Baycrest Drive)

Baycrest Drive, between Heron Road and Walkley Road, has a sidewalk width of 1.8 meters, and has a boulevard width between 0.5 and 2 meters, which indicates a decent physical separation from passing traffic, and therefore decreasing safety risks and increasing comfort for pedestrians. The AADT, or motor vehicle traffic volume, is less than or equal 3000 (which is significant?), and speeds are moderately slow as they range from greater than 30 km/h up to 50 km/h. With on street parking, comfort of pedestrians is moderate to high. These factors in combination give rise to PLOS B.

This segment is a mixed traffic roadway with 2-3 lanes total, with a posted high speed limit of greater than 40 km/h up to 50 km/h. There is no dedicated biking facility present on this segment. With these factors in combination, the result in BLOS D, which describes a segment that accommodates for most experienced adult bicyclists.

This segment mixed traffic, and has a V_t/V_p ratio greater than or equal to 0.40, that is, the ratio of average transit travel speed to posted speed limit. This classifies the road segment as TLOS F.

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The truck lane width of this area is less than or equal to 3.2 meters, and there is only one travel lane in each direction. These two factors give TkLOS E.

Of all modes evaluated on the Baycrest Drive, between Heron Road and Walkley Road, transit and pedestrians are facing the worst conditions. This indicates that some tradeoffs between bicycle level of service may have to be made to accommodate for a better experience for other modes and increase TLOS and PLOS.

Existing Conditions – Intersections

Intersection – Heron Road and Bank Street

North

This segment has the pedestrian travel across 7 lanes at intersections, and no median is present among any road segments in this MMLOS analysis. Left turns are protected which minimizes conflict. Under every segment of the MMLOS analysis, right turns are permissive or yield control, right turns on red are allowed and there is no pedestrian signal leading interval, all factors increasing safety risks. There is no dedicated right turn channel, and the corner radius is 10 to 15m. The crosswalk type is standard transverse markings. These factors combine to give a PESTI score of 12, which corresponds to PLOS F. The cycle length at intersections is 130 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 54 seconds, or PLOS E.

This intersection has a mixed traffic composition, therefore there is no dedicated bicycle facility. If the cyclist turns left, they must traverse greater than 2 lanes, and the operating speed ranges from 50 km/h to less than 60 km/h for all segments in this MMLOS analysis. This gives BLOS F.

The average signal delay for transit is greater than 40 seconds, giving a TLOS F.

Trucks have an effective corner radius greater than 15 meters, and the number of receiving lanes on departure from intersection is greater than or equal to 2. This demonstrates TkLOS A.

Automobiles have a volume to capacity ration greater than 1, resulting in VLOS F.

South

This segment has the pedestrian travel across 8 lanes at intersections, with no median present. Left turns are protected which minimizes conflict. There is a conventional right turn channel with a receiving lane, and the corner radius is larger at 15 to 25m. The crosswalk type is standard transverse markings. These factors combine to give a PESTI score of -5, which corresponds to PLOS F. The cycle length at intersections is 130 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 54 seconds, or PLOS E.

The same analysis for moving north also applies for southward travel for the other modes.

East

This road segment has the pedestrian travel across 7 lanes at intersections. Left turns are permissive which minimizes conflict. There is a conventional right turn channel with a receiving lane, and the corner radius is large at 10 to 15m. The crosswalk type has the standard transverse markings. These factors combine to give

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A PESTI score of 3, which corresponds to PLOS F. The cycle length at intersections is 130 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 54 seconds, or PLOS E. This intersection has a mixed traffic composition, therefore there is no dedicated bicycle facility. There is a dedicated right turning lane, where traffic moves at a speed of less than 50 km/h, and turns at a speed of less than 25 km/h. If the cyclists turns left, they have to traverse greater than 2 lanes, giving BLOS F.

The same analysis for moving north also applies for eastward travel for the other modes.

West

This segment has the pedestrian travel across 7 lanes at intersections. Left turns are protected/permissive which minimizes conflict. There is a conventional right turn channel without a receiving lane, and the corner radius is large at 10 to 15m. The crosswalk type I standard transverse markings. These factors combine to give a PESTI score of 6, which corresponds to PLOS F. The cycle length at intersections is 130 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 54 seconds, or PLOS E.

The same analysis for moving east also applies for westward travel for the other modes.

Intersection – heron road and alta vista drive

North

This segment has the pedestrian travel across 5 lanes at intersections. Left turns are protected/permissive which minimizes conflict. There is a conventional right turn channel without a receiving lane, and the corner radius is large at 15 to 25m. The crosswalk type has zebra stripe high visibility markings. These factors combine to give A PESTI score of 42, which corresponds to PLOS E. The cycle length at intersections is 130 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 54 seconds, or PLOS E.

This intersection has a pocket bike lane, so is therefore separated from traffic which creates safer conditions. If the cyclists turns left, they have to traverse more than or equal to 2 lanes, giving BLOS F.

The average signal delay for transit is greater than 40 seconds, giving a TLOS F.

Trucks have an effective corner radius greater than 15 meters, and the number of receiving lanes on departure from intersection is greater than or equal to 2. This demonstrates TkLOS A.

Automobiles have a volume to capacity between the bounds of 0.91 and 1, resulting in VLOS F.

South

This segment has the pedestrian travel across 5 lanes at intersections. Left turns are permissive which minimizes conflict. There is a conventional right turn channel without a receiving lane, and the corner radius is large at 15 to 25m. The crosswalk type has zebra stripe high visibility markings. These factors combine to give A PESTI score of 42, which corresponds to PLOS E. The cycle length at intersections is 130 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 54 seconds, of PLOS E.

This intersection has a pocket bike lane, so is therefore separated from traffic. If the cyclists turns left, they have to traverse 1 lane, giving BLOS D.

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The same analysis for moving north also applies for southward travel for the other modes.

East

This segment has the pedestrian travel across 7 lanes at intersections. Left turns are protected/permissive which minimizes conflict, however right turns are permissive or yield control. There is a conventional right turn channel with a receiving lane, and the corner radius is large at 15 to 25m. The crosswalk type has zebra stripe high visibility markings. These factors combine to give a PESTI score of 14, which corresponds to PLOS F. The cycle length at intersections is 130 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 54 seconds, or PLOS E.

This intersection is mixed traffic composition, therefore there is no dedicated bicycle facility. There is a dedicated right turning lane, where traffic moves at a speed of less than 50 km/h, and turns at a speed of less than 25 km/h. If the cyclists turns left, they have to traverse greater than 2 lanes, giving BLOS F.

The same analysis for moving north also applies for eastward travel for the other modes.

West

The same analysis for moving East also applies for westward travel for the other modes.

Intersection - Heron Road and Baycrest Drive

North

This segment has the pedestrian travel across 3 lanes at intersections. Left turns are permissive which minimizes conflict. There is no right turn channel, and the corner radius is large at 5 to 10m. The crosswalk type has the standard transverse markings. These factors combine to give a high PESTI score of 71, which corresponds to PLOS C. The cycle length at intersections is 90 seconds, with effective walk time of 19 seconds, meaning that pedestrian delay is 28 seconds, of PLOS C.

This intersection is mixed traffic composition, therefore there is no dedicated bicycle facility. If the cyclist turns left, they have to traverse 1 lane, and the posted speed limit ranges from 50 km/h to less than 60 km/h. This gives BLOS E.

The average signal delay for transit less than or equal to 30 seconds, giving a TLOS D.

Trucks have an effective corner radius less than 10 meters, and the number of receiving lanes on departure from intersection is greater than or equal to 2. This demonstrates TKLOS D.

Automobiles have a volume to capacity between the bounds of 0.61 and 0.70, resulting in VLOS F.

South

This road segment has the pedestrian travel across 0 – 2 lanes at intersections. Left turns are permissive which minimizes conflict. There is no right turn channel, and the corner radius is large at 5 to 10m. The crosswalk type has the standard transverse markings. These factors combine to give a high PESTI score of

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86, which corresponds to PLOS B. The cycle length at intersections is 90 seconds, with effective walk time of 19 seconds, meaning that pedestrian delay is 28 seconds, or PLOS C.

This intersection is mixed traffic, so there is no dedicated bicycle facility. If the cyclists turns left, they don't have to traverse any lanes, giving BLOS C.

The same analysis for moving North also applies for southward travel for the other modes.

East

This segment has the pedestrian travel across 6 lanes at intersections. Left turns are permissive which minimizes conflict. There is no right turn channel, and the corner radius is large at 5 to 10m. The crosswalk type is standard transverse markings. These factors combine to give a PESTI score of 21, which corresponds to PLOS F. The cycle length at intersections is 90 seconds, with effective walk time of 14 seconds, meaning that pedestrian delay is 32 seconds, or PLOS D.

This intersection has a Curb Bike Lane, Cycletrack of MUP, so is therefore separated from traffic. If the cyclists turns left, they have to traverse more than or equal to 2 lanes, giving BLOS F.

The average signal delay for transit is less than or equal to 20 seconds, giving a TLOS C.

Trucks have an effective corner radius less than 10 meters, and the number of receiving lanes on departure from intersection is 1 lane. This demonstrates TkLOS F.

The same analysis for moving north also applies for eastward travel for the other modes.

West

This segment has the pedestrian travel across 7 lanes at intersections. Left turns are permissive which minimizes. There is no right turn channel, and the corner radius is large at 5 to 10m. The crosswalk type is standard transverse markings. These factors combine to give a PESTI score of 5, which corresponds to PLOS F. The cycle length at intersections is 90 seconds, with effective walk time of 14 seconds, meaning that pedestrian delay is 32 seconds, or PLOS D.

The same analysis for moving east also applies for westward travel for the other modes.

Intersection – Heron Road and Sandalwood Drive

North

This segment has the pedestrian travel across 3 lanes at intersections. Left turns are permissive which minimizes conflict. There is no right turn channel, and the corner radius is large at 5 to 10m. The crosswalk type is standard transverse markings. These factors combine to give a PESTI score of 71, which corresponds to PLOS C. The cycle length at intersections is 90 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 35 seconds, or PLOS D.

This intersection is mixed traffic composition, therefore there is no dedicated bicycle facility. If the cyclists turns left, they don't have to traverse any lanes, giving BLOS C.

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The average signal delay for transit is less than or equal to 20 seconds, giving a TLOS C.

Trucks have an effective corner radius less than 10 meters, and the number of receiving lanes on departure from intersection is greater than or equal to 2. This demonstrates TkLOS D.

Automobiles have a volume to capacity between the bounds of 0.0 and 0.60, resulting in VLOS A.

South

This segment has the pedestrian travel across 3 lanes at intersections. Left turns are permissive which minimizes conflict. There is no right turn channel, and the corner radius is large at 5 to 10m. The crosswalk type has the standard transverse markings. These factors combine to give A PESTI score of 71, which corresponds to PLOS C. The cycle length at intersections is 90 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 35 seconds, of PLOS D

All conditions are the same for bicyclists as northward travel, except moving south cyclists have to traverse one lane, giving BLOS E.

The average signal delay for transit is less than or equal to 30 seconds, giving a TLOS D, below the targeted TLOS D.

Trucks have an effective corner radius of 10 to 15 meters. The other conditions remain the same for northward travel among other modes.

East

This segment has the pedestrian travel across 6 lanes at intersections, with no median present. Left turns are permissive which minimizes conflict. There is no right turn channel, and the corner radius is large at 5 to 10m. The crosswalk type has the standard transverse markings. These factors combine to give A PESTI score of 21, which corresponds to PLOS f. The cycle length at intersections is 90 seconds, with effective walk time of 12 seconds, meaning that pedestrian delay is 34 seconds, of PLOS D.

This intersection has a Curb Bike Lane, Cycletrack of MUP, so is therefore separated from traffic. If the cyclists turns left, they have to traverse more than or equal to 2 lanes, giving BLOS F.

The average signal delay for transit is less than or equal to 10 seconds, giving a TLOS D.

Trucks have an effective corner radius of 10 to 15 meters, and the number of receiving lanes on departure from intersection is 1. This demonstrates TkLOS E.

The same analysis for moving south also applies for eastward travel for the other modes.

West

This road segment has the pedestrian travel across 7 lanes at intersections. Left turns are permissive which minimizes conflict. There is no right turn channel, and the corner radius is large at 5 to 10m. The crosswalk type is standard transverse markings. These factors combine to give A PESTI score of 5, which corresponds

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to PLOS f. The cycle length at intersections is 90 seconds, with effective walk time of 12 seconds, meaning that pedestrian delay is 34 seconds, of PLOS D.

The same analysis for moving east also applies for westward travel for the other modes.

Intersection – Heron Road and Jefferson Drive

North

This road has the pedestrian travel across 0 – 2 lanes at intersections. Left turns are permissive which minimizes conflict. There is a conventional right turn channel without receiving lane, and the corner radius is large at 15 to 25m. The crosswalk type has the standard transverse markings. These factors combine to give a PESTI score of 39, which corresponds to PLOS e. The cycle length at intersections is 90 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 35 seconds, or PLOS D.

This intersection is a mixed traffic composition, so therefore there is no dedicated bicycle facility. The right turn configuration is less than or equal to 50 meters, and the dedicated right turning speed is less than or equal to 25 km/h. If the cyclists turn left, they have to traverse no lanes, giving BLOS D.

The average signal delay for transit is less than or equal to 30 seconds, giving a TLOS C.

Trucks have an effective corner radius less than 10 meters, and the number of receiving lanes on departure from intersection is greater than or equal to 2. This demonstrates TKLOS D.

Automobiles have a volume to capacity between the bounds of 0.0 and 0.60, resulting in VLOS A.

South

This segment has the pedestrian travel across 5 lanes at intersections. Left turns are permissive which minimizes conflict. There is a conventional right turn channel without receiving lane, and the corner radius is large at 15 to 25m. The crosswalk type has the standard transverse markings. These factors combine to give a PESTI score of 39, which corresponds to PLOS e. The cycle length at intersections is 90 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 35 seconds, or PLOS D.

This intersection is mixed traffic composition, therefore there is no dedicated bicycle facility. If the cyclists turn left, they have to traverse more than or equal to 2 lanes, giving BLOS F.

The average signal delay for transit is less than or equal to 20 seconds, giving a TLOS C.

Trucks have an effective corner radius between 10 to 15 meters, and the number of receiving lanes on departure from intersection is greater than or equal to 2. This demonstrates TKLOS B.

The same analysis for moving north also applies for southward travel for the other modes.

East

This segment has the pedestrian travel across 6 lanes at intersections. Left turns are permissive which minimizes conflict. There is no right turn channel and the corner radius is large at 5 to 10m. The crosswalk type has the standard transverse markings. These factors combine to give a PESTI score of 21, which

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corresponds to PLOS F. The cycle length at intersections is 90 seconds, with effective walk time of 12 seconds, meaning that pedestrian delay is 34 seconds, or PLOS D.

The average signal delay for transit is less than or equal to 10 seconds, giving a TLOS B, above the targeted TLOS D.

Trucks have an effective corner radius between 10 to 15 meters, and the number of receiving lanes on departure from intersection is 1. This demonstrates TkLOS E.

The same analysis for moving south also applies for eastward travel for the other modes.

West

This road segment has the pedestrian travel across 7 lanes at intersections. Left turns are permissive which minimizes conflict. There is a conventional right turn channel with a receiving lane, and the corner radius is large at 5 to 10m. The crosswalk type has the standard transverse markings. These factors combine to give a PESTI score of 6, which corresponds to PLOS F. The cycle length at intersections is 90 seconds, with effective walk time of 12 seconds, meaning that pedestrian delay is 34 seconds, of PLOS D.

This intersection is mixed traffic, so there is no dedicated bicycle facility. If the cyclist turns left, they have to traverse more than or equal to 2 lanes, and the posted speed limit ranges from 50 km/h to less than 60 km/h. This gives BLOS F, below the targeted BLOS D.

Trucks have an effective corner radius above 15 meters, and the number of receiving lanes on departure from intersection is 1. This demonstrates TkLOS C.

The same analysis for moving south also applies for westward travel for the other modes.

Intersection – heron road and walkely road

West

This road segment has the pedestrian travel across 6 lanes at intersections. Left turns are protected which minimizes conflict. There is a conventional right turn channel without a receiving lane, and the corner radius is large at 10m to 15m. The crosswalk type has the standard transverse markings. These factors combine to give a PESTI score of 32, which corresponds to PLOS E. The cycle length at intersections is 110 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 45 seconds, of PLOS E.

This intersection is a mixed traffic composition, therefore there is no dedicated bicycle facility. If the cyclist turns left, they have to traverse 1 lane, giving BLOS E.

The average signal delay for transit is less than or equal to 30 seconds, giving a TLOS D.

Automobiles have a volume to capacity between the bounds of 0.81 and 0.90, resulting in VLOS A.

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Intersection – Walkley Road and Bank Street

North

This segment has the pedestrian travel across 9 lanes at intersections. Left turns are protected which minimizes conflict. There is a conventional right turn channel without a receiving lane, and the corner radius is large at 15m to 25m. The crosswalk type has the standard transverse markings. These factors combine to give A PESTI score of -19, which corresponds to PLOS F. The cycle length at intersections is 132 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 55 seconds, of PLOS E.

This intersection is a mixed traffic composition, therefore there is no dedicated bicycle facility. If the cyclists turns left, they have to traverse greater than or equal to 2 lanes, giving BLOS F.

The average signal delay for transit is less than 40 seconds, giving a TLOS F.

Trucks have an effective corner radius above 15 meters, and the number of receiving lanes on departure from intersection is more than or equal to 2. This demonstrates TkLOS A.

Automobiles have a volume to capacity greater than 1, resulting in VLOS F.

South

This road segment has the pedestrian travel across 8 lanes at intersections. Left turns are protected which minimizes conflict. There is a conventional right turn channel without a receiving lane, and the corner radius is large at 15m to 25m. The crosswalk type has the standard transverse markings. These factors combine to give A PESTI score of -19, which corresponds to PLOS F. The cycle length at intersections is 132 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 55 seconds, or PLOS E.

The same analysis for moving north also applies for southward travel for the other modes.

East

This road segment has the pedestrian travel across 8 lanes at intersections. Left turns are protected which minimizes conflict. There is a conventional right turn channel without a receiving lane, and the corner radius is larger than 25m. The crosswalk type has the standard transverse markings. These factors combine to give A PESTI score of -19, which corresponds to PLOS F. The cycle length at intersections is 132 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 55 seconds, of PLOS E.

The same analysis for moving north also applies for eastward travel for the other modes.

West

This road segment has the pedestrian travel across 8 lanes at intersections. Left turns are protected which minimizes conflict. There is a conventional right turn channel with a receiving lane, and the corner radius is larger than 25 meters. The crosswalk type has the standard transverse markings. These factors combine to give A PESTI score of -19, which corresponds to PLOS F. The cycle length at intersections is 132 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 55 seconds, or PLOS E.

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The same analysis for moving north also applies for eastward travel for the other modes.

Intersection – Walkley road and baycrest drive

North

This road segment has the pedestrian travel across 3 lanes at intersections. Left turns are permissive which minimizes conflict. There is no right turn channel, and the corner radius is 10 to 15 meters. The crosswalk type is standard transverse markings. These factors combine to give A PESTI score of 70, which corresponds to PLOS C. The cycle length at intersections is 80 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 30 seconds, or PLOS D.

This intersection is a mixed traffic composition, therefore there is no dedicated bicycle facility. If the cyclists turns left, they have to traverse one lane, giving BLOS E.

The average signal delay for transit is less than or equal to 30 seconds, giving a TLOS D, meeting the target.

Trucks have an effective corner radius 10 to 15 meters, and the number of receiving lanes on departure from intersection is more than or equal to 2. This demonstrates TkLOS B.

Automobiles have a volume to capacity between the bounds of 0 to 0.60, resulting in VLOS A

South

This road segment has the pedestrian travel across 0 – 2 lanes at intersections. Left turns are permissive which minimizes conflict. There is no right turn channel, and the corner radius is 5 to 10 meters. The crosswalk type is standard transverse markings. These factors combine to give A PESTI score of 86, which corresponds to PLOS B. The cycle length at intersections is 80 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 30 seconds, of PLOS D.

This intersection is mixed traffic, so there is no dedicated bicycle facility. If the cyclists turns left, they have to traverse no lanes, giving BLOS C.

The average signal delay for transit is less than or equal to 20 seconds, giving a TLOS c, which is above the target. The same analysis for moving north also applies for southward travel for the other modes.

East

This road segment has the pedestrian travel across 5 lanes at intersections. Left turns are permissive which minimizes conflict. There is no right turn channel, and the corner radius is 10 to 15 meters. The crosswalk type has the standard transverse markings. These factors combine to give A PESTI score of 37, which corresponds to PLOS E. The cycle length at intersections is 80 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 30 seconds, of PLOS D

This intersection is mixed traffic, so there is no dedicated bicycle facility. If the cyclists turns left, they have to traverse more than or equal to two lanes, giving BLOS F.

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The average signal delay for transit is less than or equal to 10 seconds, giving a TLOS B.

The same analysis for moving north also applies for eastward travel for the other modes.

West

This road segment has the pedestrian travel across 6 lanes at intersections. Left turns are permissive which minimizes conflict. There is no right turn channel, and the corner radius is 5 to 10 meters. The crosswalk type has the standard transverse markings. These factors combine to give A PESTI score of 86, which corresponds to PLOS B. The cycle length at intersections is 80 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 30 seconds, of PLOS D.

This intersection is mixed traffic, so there is no dedicated bicycle facility. If the cyclists turns left, they have to traverse one lane, giving BLOS F.

The same analysis for moving east also applies for westward travel for the other modes.

Ultimate Conditions 2037 - Segments

All findings remain the same in the ultimate conditions segment analysis, with the exception of:

Heron Road to Walkley Road (Baycrest Drive)

the vt/vp ratio increasing from greater than or equal to 0.4, to greater than or equal to 0.8.

Ultimate Conditions 2037 – Intersections

All findings remain the same in the ultimate conditions segment analysis, with the exception of:

Heron Road and Bank Street

East

Left turns are protected/permissive.

Heron Road and Alta Vista Drive

Automobiles have volume to capacity ratio greater than 1, resulting in VLOS F.

Heron road and Baycrest Drive

North

The cycle length at intersections is 120 seconds, with effective walk time of 19 seconds, meaning that pedestrian delay is 43 seconds, or PLOS E.

South

The cycle length at intersections is 120 seconds, with effective walk time of 19 seconds, meaning that pedestrian delay is 43 seconds, or PLOS E.

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East

The cycle length at intersections is 120 seconds, with effective walk time of 14 seconds, meaning that pedestrian delay is 47 seconds, or PLOS E.

West

The cycle length at intersections is 120 seconds, with effective walk time of 14 seconds, meaning that pedestrian delay is 47 seconds, or PLOS E.

Heron road and Jefferson Drive

Automobiles have a volume to capacity between the bounds of 0.71 and 0.8, resulting in VLOS C.

Heron Road and Walkley Road

The cycle length at intersections is 120 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 50 seconds, or PLOS E

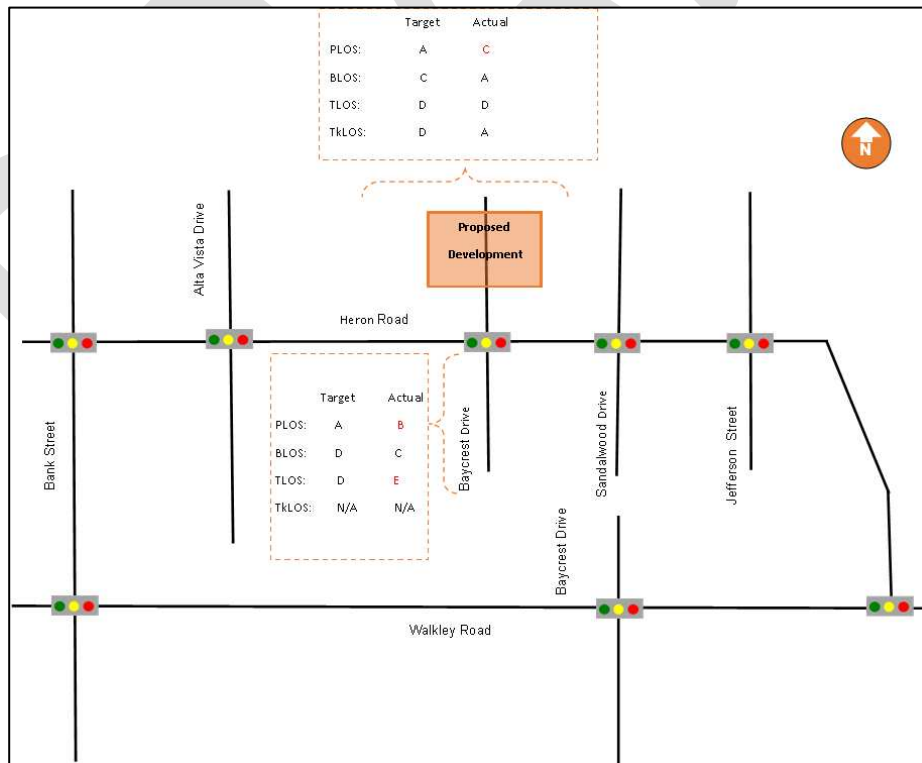
Walkley road and Bank Street

The cycle length at intersections is 130 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 54 seconds, or PLOS E.

Walkley road and Baycrest Drive

The cycle length at intersections is 70 seconds, with effective walk time of 11 seconds, meaning that pedestrian delay is 25 seconds, or PLOS C.

Figure 17: Existing Conditions MMLOS Targets and Results



4.4 ACCESS INTERSECTION DESIGN

4.4.1 Access Location and Design of Access

As mentioned in **Section 4.1.2**, the main site access is located at the intersection of Heron Road and Baycrest Drive. This access is from the north leg of this intersection, and it is a full access without any turning restrictions. The minor site access is a right-in-right-out access located on Heron Road, approximately 125m east of the main access intersection.

4.4.2 Intersection Control

The existing intersection at Heron Road and Baycrest Drive, which will provide the main access to the site, is a four-way signalized intersection. This intersection contains four crosswalks with pedestrian signal heads and pedestrian push buttons for all directions.

The minor site access is a low-volume driveway and is anticipated to be a One Way Stop Control (OWSC) access.

4.4.3 Intersection Design

Section 4.3.1 contains the detailed intersection and MMLOS analyses under all horizons.

4.5 TRANSPORTATION DEMAND MANAGEMENT

4.5.1 Context of TDM

The proposed development site is currently owned by Canada Lands Company. The proposed development consists of mid-rise apartment units, stacked townhouses, strip retail plaza, elementary school, and recreational community centre, which are all expected to be built out by the year 2032. The tenants for the retail component are not known yet. As outlined in **Section 3.1.1**, based on the TRANS Committee's 2011 Origin-Destination (O-D) Survey for the Alta Vista District, the subject area has an auto mode share of 60% and a transit share of 20%. However, after the implementation of the BRT corridor improvements along Heron Road, the auto modal share is expected to decrease to 35%, while the transit modal share is expected to increase to 35%. The proposed transit modal share was discussed and confirmed with City of Ottawa staff during the preparation of the Step 3 – Forecasting Report assumes that the Heron Road BRT would not be in place by the 2032 horizon. It is anticipated that the Heron BRT project will be implemented shortly after the horizon year of this study and will provide high-frequency service with a 5-6 minute headway during the AM peak, and a 7-8 minute headway during the PM peak, which is supportive of an increased transit modal share in the future.

To support the future pedestrian and bicycle modal share, the development is planned to include ample sidewalk connections from the proposed buildings onsite to the existing and future pedestrian and cycling network along both Heron Road and Baycrest Drive. It is anticipated that the Heron Road BRT will feature improved pedestrian and cycling facilities.

4.5.2 Need and Opportunity

In order to support the transit and active modal share targets outlined in **Table 8**, walking, cycling and transit modes will need to be supported. This includes the provision of bicycle parking as well as ensuring convenient pedestrian connections are provided to sidewalk facilities leading to bus stop locations. These facilities are expected to be identified on a future site plan as part of subsequent phases of development approvals.

4.5.3 TDM Program

The City of Ottawa's TDM Checklists is used to determine what TDM measures could be implemented based on the available information. As this TIA is developed in support of a Plan of Subdivision, a detailed site plan is currently not available. TDM measures will be identified and agreed upon with the developer(s) at subsequent phases of site design and development approvals.

4.6 NEIGHBOURHOOD TRAFFIC MANAGEMENT

Based on **Table 9**, This section is exempted during screening and scoping.

4.7 TRANSIT

4.7.1 Route Capacity

Assumed transit modal shares for the various land uses were adopted from the 2020 TRANS Trip Generation Manual based. Modal shares ranged from 33%-35% for residential land uses, 11% for commercial retail, and 54% for the proposed elementary school (i.e. school bus trips). The 2032 forecasted transit / school bus trips for the proposed development is 450 (predominately elementary school bus trips) and 215 total transit trips during the AM and PM peak hours, respectively.

There are four OC Transpo transit routes provided in the immediate vicinity of the proposed site; routes 44, 46, 140 and 291. Route 44 is a frequent route that runs during peak periods between Billings Bridge and Hurdman with 15-minute headways. Route 46 is a local route that runs during peak periods with 15-minute headways between Hurdman and Billings Bridge Station. Route 140 is a local route that runs from 9am to 3pm with limited service between Heron Park and Billings Bridge. Route 291 is a frequent route that runs during peak periods with 25- to 30-minute headways between Hurdman and Herongate.

Standard and articulated buses have seated capacities of 40 and 70 people; respectively. Based on the current transit routes in the vicinity of the subject site, the hourly transit capacity is estimated between 400 and 700 people during the weekday AM and PM peak hours.

Once the BRT upgrades along Heron Road are implemented, the subject development's transit trips are expected to increase. Based on the Baseline Road Bus Rapid Transit Corridor Transit and Traffic Operations Assessment (2016) (which is Appendix B of the Baseline Road Bus Rapid Transit Planning and Environmental Assessment Study), the anticipated headways of the BRT corridor are approximately 5 minutes during the AM peak hour and approximately 7 minutes during PM peak hours. It has been assumed

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that once the BRT is operational, transit route 50 will continue to run with the same schedule as existing, whereas, transit routes 81 and 88 will operate under the BRT headways, as previously described.

The anticipated capacity of the BRT corridor is 480 to 840 people during the weekday AM peak hour and 340 to 600 people during the weekday PM peak. The anticipated capacity of transit route 50 is expected to remain at 80 to 140 people during both the weekday AM and PM peak hours. The total transit capacity in the study area is therefore anticipated to be 560 to 920 people during the weekday AM peak hour and 480 to 745 people during the weekday PM peak hour. The proposed development is therefore anticipated to occupy between 8% to 13% of the transit capacity during the weekday AM peak hour and 12% to 18% during the weekday PM peak hour once the Baseline Road BRT is operational.

4.7.2 Transit Priority

Prior to the implementation of the BRT corridor upgrades along Heron Road, the proposed development will utilize the existing transit stops abutting the subject site and is therefore not expected to significantly impact the transit travel times of the existing routes or trigger the need for transit priority measures. It is anticipated that the east-west transit service will run at a dedicated BRT Transitway on Heron Road with TSP measures implemented at intersections, these however are anticipated to occur beyond the study horizon year and therefore were not accounted for as part of this study.

4.8 REVIEW OF NETWORK CONCEPT

Based on **Table 9**, This section is exempted during screening and scoping.

4.9 INTERSECTION DESIGN

4.9.1 Intersection Control

The existing intersection control will be maintained as the default control for all study area intersections for existing and future horizon year assessments. It should be noted that the ultimate intersection design for intersections along the future Heron Road BRT corridor are not available, and as a result the existing intersection geometry was adopted as part of this study. Any intersection improvements triggered through the intersection level of service analysis will be highlighted and adopted accordingly.

4.9.2 Intersection Design

An assessment of the study area intersections was undertaken to determine the operational characteristics of the study area intersections under the horizons identified in the Screening and Scoping report. Intersection operational analysis was facilitated by Synchro 10.0™ software package and the MMLOS analysis was completed for the signalized intersection for all modes and compared against the City of Ottawa's MMLOS targets. The Highway Capacity Manual (HCM) 6th edition analysis method in Synchro was used to assess the study intersections. It should be noted that this method has some limitations which were addressed as follows:

- Unsignalized Movement Delays (Channelized Right turns with yield control): The HCM method does not report on unsignalized movements delays. Rather these movements were analyzed and reported

on using Synchro's percentile method as a mean to approximate delays and queues experienced by right turning traffic.

- RTOR: HCM's implementation of right turns on red is conservative and assumes no vehicles performing RTOR. RTOR influence on signal operations was incorporated using the equations provided by Trafficware's white paper on HCM 6th edition implementation in Synchro2.

4.9.2.1 Existing Conditions

Figure 9 illustrates Existing AM and PM Peak hour traffic volumes at the study area intersections.

Intersection capacity Analysis

Table 16 summarizes the results of the Synchro analysis under Existing conditions. The intersection of Heron Road at Bank Street is currently operating at or above capacity with several individual movements operating at LOS F during the PM peak hour. No improvements are recommended as implementing intersection treatments to address vehicular operations is expected to negatively impact the multi-modal traffic operations for other modes (transit, cycling, and pedestrian).

The intersection of Walkey Road at Bank Street is currently operating with an overall v/c ratio about 1.00 during the PM peak hour. No improvements are recommended as implementing intersection treatments to address vehicular operations is expected to negatively impact the multi-modal traffic operations for other modes (transit, cycling, and pedestrian).

While the overall performance of the intersection of Heron Road at Alta Vista is performing acceptably, several movements are currently operating at or above theoretical capacity. No improvements are recommended as implementing intersection treatments to address vehicular operations is expected to negatively impact the multi-modal traffic operations for other modes (transit, cycling, and pedestrian).

All other study area intersections are currently operating acceptably.

Intersection MMLOS Analysis

Table 17 summarizes the results of the MMLOS analysis under Existing conditions. All intersections are currently operating with LOS F for pedestrians (PLOS) and bicycling (BLOS) during the AM and PM peak hour. All other modes including transit (TLOS), trucks (TKLOS), and vehicular traffic (VLOS) generally operate acceptably with a few exceptions. As part of the Heron Road BRT project, opportunities to improve intersection treatments for pedestrians and cyclists should be explored and prioritized in the future.

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Table 16 - Existing Conditions Intersection Level of Service

Intersection	Intersection Control	Approach / Movement	LOS	V/C	Delay (s)	Queue 95 th (m)		
Heron Road @ Bank Street	Traffic Signals	EB	Left	F (F)	1.07 (1.01)	122.8 (98.6)	#70 (#100)	
			Through	A (B)	0.52 (0.69)	27.3 (33.5)	83 (126)	
			Right	A (A)	0.19 (0.45)	23.2 (28.7)	16 (44)	
		WB	Left	A (B)	0.38 (0.61)	33.1 (60.0)	29 (m23)	
			Through	E (F)	0.97 (1.13)	61.8 (128.8)	#166 (m#184)	
			Right	A (A)	0.14 (0.13)	29.7 (138.9)	16 (m26)	
		NB	Left	D (C)	0.85 (0.78)	42.3 (58.9)	m63 (72)	
			Through / Right	A (B)	0.58 (0.70)	19.3 (47.5)	m69 (98)	
		SB	Left	F (D)	1.17 (0.87)	185.7 (74.6)	#86 (#107)	
			Through / Right	A (F)	0.58 (1.17)	43.9 (136.7)	66 (#229)	
Overall Intersection			D (F)	0.89 (1.09)	47.3 (83.9)	-- ()		
Heron Road @ Alta Vista	Traffic Signals	EB	Left	C (D)	0.75 (0.88)	59.4 (114.1)	#44 (m#70)	
			Through	C (E)	0.76 (0.91)	32.9 (33.7)	84 (#95)	
		WB	Left	F (D)	1.06 (0.86)	136.3 (97.9)	M#62 (#65)	
			Through	F (E)	1.04 (0.95)	50.9 (59.4)	#143 (#185)	
		NB	Right	A (A)	0.17 (0.15)	5.8 (30.7)	M4 (19)	
			Left	A (A)	0.30 (0.17)	29.1 (36.4)	21 (12)	
		SB	Through/Right	F (B)	1.03 (0.69)	83.3 (48.0)	#141 (114)	
			Left	A (B)	0.58 (0.61)	23.5 (29.3)	25 (48)	
		Overall Intersection			E (E)	0.99 (0.93)	47.7 (49.0)	-- ()
		Heron Road @ Baycrest Drive	Traffic Signals	EB	Left	A (A)	0.11 (0.02)	5.5 (6.5)
Through/Right	A (B)				0.51 (0.66)	6.0 (12.2)	M23 (112)	
WB	Left			A (A)	0.13 (0.18)	14.8 (14.4)	M0 (m9)	
	Through/Right			B (A)	0.62 (0.57)	19.3 (18.4)	137 (136)	
NB	Left/Through/Right			D (B)	0.88 (0.64)	50.8 (34.5)	#97 (48)	
SB	Left			A (A)	0.01 (0.07)	22.5 (26.0)	2 (8)	
	Through/Right			A (A)	0.01 (0.02)	22.5 (25.5)	3 (5)	
Overall Intersection			C (B)	0.71 (0.66)	18.2 (16.6)	-- ()		
Heron Road @ Sandalwood Drive	Traffic Signals	EB	Left	A (A)	0.15 (0.25)	2.2 (5.9)	M1 (m6)	
			Through/Right	A (A)	0.33 (0.45)	2.1 (7.2)	13 (66)	
		WB	Left	A (A)	0.04 (0.10)	6.0 (3.9)	M2.5 (4)	
			Through/Right	A (A)	0.48 (0.49)	7.8 (5.4)	77 (53)	
		NB	Left	A (A)	0.22 (0.10)	34.5 (33.5)	13 (8)	
			Through/Right	A (A)	0.07 (0.12)	33.3 (33.6)	9 (13)	
		SB	Left	A (A)	0.04 (0.05)	33.1 (33.1)	5 (5)	
			Through/Right	A (A)	0.11 (0.16)	33.5 (3.39)	14 (15)	
Overall Intersection			A (A)	0.43 (0.44)	7.5 (7.9)	-- ()		
Heron Road @ Jefferson Street	Traffic Signals	EB	Left	A (A)	0.18 (0.12)	3.2 (2.9)	1 (3)	
			Through	A (A)	0.38 (0.54)	2.4 (4.5)	5 (13)	
			Right	A (A)	0.04 (0.07)	0.1 (0.2)	0 (0)	
		WB	Left	A (A)	0.05 (0.19)	9.0 (11.3)	4 (9)	
			Through/Right	A (A)	0.57 (0.02)	13.7 (8.6)	76 (0)	
		NB	Left	A (A)	0.09 (0.22)	22.6 (23.8)	10 (21)	
			Through	A (A)	0.06 (0.16)	22.3 (23.1)	10 (22)	
		SB	Right	A (A)	0.02 (0.05)	22.1 (22.3)	5 (10)	
			Left/Through/Right	A (A)	0.18 (0.27)	23.4 (24.2)	20 (29)	
Overall Intersection			A (A)	0.43 (0.45)	10.3 (8.8)	--()		
Heron Road @ Walkley	Traffic Signals	EB	Through			#202 ()		
		WB	Left/Through/Right			63 ()		
		NB	Through/Right			58 ()		



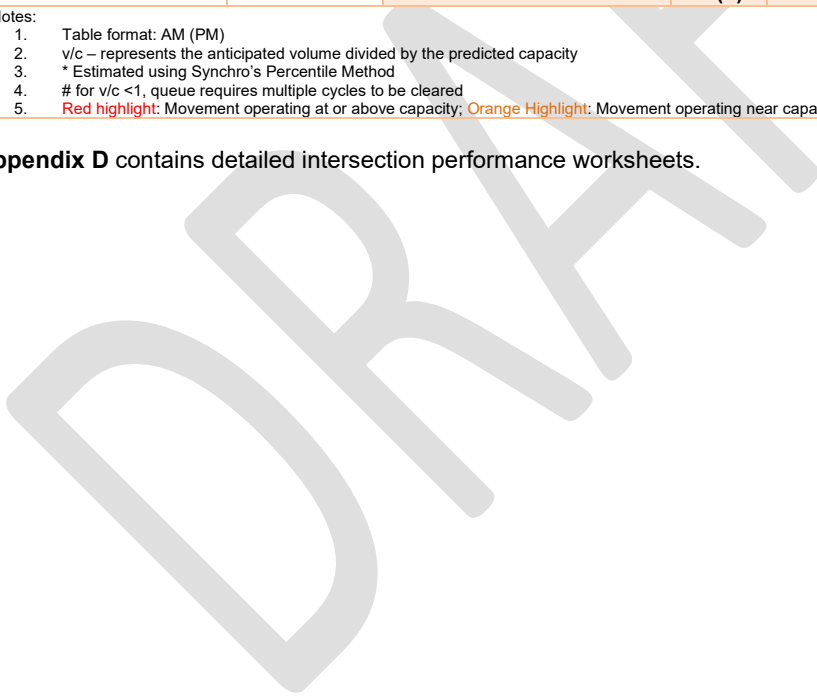
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							11 ()
		Overall Intersection					-- ()
Walkley Road @ Baycrest Drive	Traffic Signals	EB	Left	A (A)	0.13 (0.22)	5.8 (7.4)	9 (56)
			Through/Right	A (A)	0.31 (0.38)	6.2 (7.0)	39 (64)
		WB	Left	A (A)	0.02 (0.06)	4.8 (5.4)	3 (27)
			Through/Right	A (A)	0.38 (0.48)	6.7 (7.9)	49 (49)
		NB	Left/Through/Right	A (A)	0.19 (0.12)	24 (26.5)	12 (#132)
		SB	Left	B (B)	0.65 (0.60)	32.8 (33.6)	28 (#119)
			Through/Right	A (A)	0.06 (0.12)	23.1 (26.5)	7 (86)
		Overall Intersection		A (A)	0.45 (0.51)	10.0 (10.3)	-- ()
Walkley Road @ Bank Street	Traffic Signals	EB	Left	F (C)	1.23 (0.75)	181.1 (62.6)	#93 (56)
			Through	A (A)	0.43 (0.46)	35.5 (40.0)	56 (64)
			Right	A (A)	0.07 (0.22)	31.6 (37.2)	0 (27)
		WB	Left	A (B)	0.41 (0.69)	53.9 (61.1)	21 (49)
			Through/Right	C (D)	0.76 (0.88)	45.4 (56.9)	86 (#132)
		NB	Left	C (F)	0.72 (1.16)	60.2 (174.4)	58 (#119)
			Through	C (A)	0.79 (0.58)	39.3 (41.5)	121 (86)
		SB	Right	A (A)	0.13 (0.16)	27.6 (35.6)	16 (20)
			Left	B (A)	0.65 (0.66)	53.2 (59.8)	#36 (46)
		SB	Through	A (F)	0.52 (1.21)	49.1 (148.1)	82 (#248)
			Right	A (C)	0.18 (0.71)	116.4 (50.0)	38 (105)
		Overall Intersection		D (F)	0.86 (1.02)	60.3 (77.1)	-- ()
Notes: 1. Table format: AM (PM) 2. v/c – represents the anticipated volume divided by the predicted capacity 3. * Estimated using Synchro's Percentile Method 4. # for v/c <1, queue requires multiple cycles to be cleared 5. Red highlight: Movement operating at or above capacity; Orange Highlight: Movement operating near capacity.							

Appendix D contains detailed intersection performance worksheets.



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Table 17 - Existing MMLOS (Signalized Intersections)

Intersection		PLOS	BLOS	TLOS	TkLOS	VLOS
Heron Road @ Bank Street	Existing	F	F	F	A	F
	Target	C	C	D	D	D
Heron Road @ Alta Vista Drive	Existing	F	F	F	C	E
	Target	C	C	D	D	D
Heron Road @ Baycrest Drive	Existing	F	F	E	F	B
	Target	C	C	D	D	D
Heron Road @ Sandalwood Drive	Existing	F	F	D	F	A
	Target	C	C	D	D	D
Heron Road @ Jefferson Drive	Existing	F	F	D	E	A
	Target	C	C	D	D	D
Heron Road @ Walkley Road	Existing	F	F	D	N/A	C
	Target	C	C	D	D	D
Walkley Road @ Bank Street	Existing	F	F	F	A	F
	Target	A	C	D	D	E
Walkley Road @ Baycrest Drive	Existing	F	F	D	F	A
	Target	C	C	D	E	D



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4.9.2.2 2032 Future Background Conditions

Figure 14 illustrates 2032 Future Background AM and PM Peak hour traffic volumes at the study area intersections.

Intersection capacity Analysis

Table 18 summarizes the results of the Synchro analysis under 2032 Future Background conditions.

The intersection of Heron Road at Bank Street is projected to continue to operate at or above capacity with several individual movements operating at LOS F during the AM and PM peak hour. No improvements are recommended as implementing intersection treatments to address vehicular operations is expected to negatively impact the multi-modal traffic operations for other modes (transit, cycling, and pedestrian).

The intersection of Walkey Road at Bank Street is projected to continue to operate at or above capacity with several individual movements operating at LOS F during the AM and PM peak hour. No improvements are recommended as implementing intersection treatments to address vehicular operations is expected to negatively impact the multi-modal traffic operations for other modes (transit, cycling, and pedestrian).

The intersection of Heron Road at Alta Vista is projected to continue to operate at or above capacity with several individual movements operating at LOS F during the AM and PM peak hour. No improvements are recommended as this as implementing intersection treatments to address vehicular operations is expected to negatively impact the multi-modal traffic operations for other modes (transit, cycling, and pedestrian).

All other study area intersections are projected to operate acceptably.

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Table 18 - 2032 Future Background Conditions Intersection Level of Service

Intersection	Intersection Control	Approach / Movement	LOS	V/C	Delay (s)	Queue 95 th (m)		
Heron Road @ Bank Street	Traffic Signals	EB	Left	F (F)	1 (1.26)	97 (195)	#70.4 (#115.5)	
			Through	C (E)	0.54 (0.99)	26.6 (68.9)	90.7 (#194.8)	
			Right	A (C)	0.36 (0.83)	3.8 (28.3)	15.2 (#128.7)	
		WB	Left	D (D)	0.41 (0.75)	38.1 (48.7)	30.8 (m9.9)	
			Through	E (F)	1.04 (1.2)	77.3 (120.2)	#197.0 (m#196.2)	
			Right	B (A)	0.42 (0.33)	10.4 (3.1)	31.5 (m4.5)	
		NB	Left	F (F)	0.98 (1.24)	81 (166.3)	#106.5 (m#95.0)	
			Through / Right	D (D)	0.83 (0.8)	50.5 (47.7)	110 (m98.5)	
		SB	Left	E (F)	0.72 (0.96)	68.9 (93.2)	#67.3 (#135.0)	
			Through / Right	D (F)	0.71 (1.13)	47.6 (109.2)	73.2 (#225.2)	
Overall Intersection			D (F)	1.04 (1.26)	53.5 (92.2)	-		
Heron Road @ Alta Vista	Traffic Signals	EB	Left	F (E)	0.86 (0.94)	90.7 (63.5)	#49.6 (m42.9)	
			Through	D (D)	0.89 (0.98)	42.1 (38.9)	#109.6 (m187.8)	
		WB	Left	E (F)	0.85 (0.91)	77.2 (113.2)	m#43.0 (#70.7)	
			Through	F (D)	1.12 (0.95)	91.1 (54.9)	#170.2 (#199.6)	
		NB	Right	A (A)	0.4 (0.35)	8 (7.8)	m13.9 (20.4)	
			Left	C (E)	0.34 (0.5)	31.7 (76.4)	23.1 (#19.7)	
		SB	Through/Right	F (E)	1.13 (0.95)	114.3 (79.7)	#157.8 (#157.6)	
			Left	C (E)	0.67 (0.85)	34.9 (59)	#33.1 (#72.1)	
		Overall Intersection			E (E)	1.13 (1.02)	66.5 (56.8)	-
		Heron Road @ Baycrest Drive	Traffic Signals	EB	Left	B (A)	0.2 (0.01)	10.6 (8.5)
Through/Right	A (B)				0.67 (0.74)	8.8 (14.7)	m30.8 (134.4)	
WB	Left			B (B)	0.23 (0.33)	15.4 (17.4)	m5.3 (m6.2)	
	Through/Right			B (B)	0.78 (0.65)	18.1 (10.9)	142.7 (105.6)	
NB	Left/Through/Right			D (D)	0.89 (0.68)	47.8 (39.5)	#107.5 (51.2)	
SB	Left			B (C)	0.01 (0.07)	16 (24.5)	1.9 (8.1)	
	Through/Right			B (C)	0.01 (0.03)	12.2 (20.5)	2.8 (4.8)	
Overall Intersection			B (B)	0.89 (0.74)	18.7 (14.9)	-		
Heron Road @ Sandalwood Drive	Traffic Signals	EB	Left	A (B)	0.18 (0.3)	5.7 (13.9)	m4.4 (m13.2)	
			Through/Right	A (A)	0.36 (0.49)	6.2 (10)	66.4 (100.7)	
		WB	Left	A (A)	0.06 (0.19)	6.4 (8.2)	m3.0 (m5.4)	
			Through/Right	A (A)	0.5 (0.54)	6.6 (7)	63.3 (70.6)	
		NB	Left	C (C)	0.2 (0.2)	33.9 (33.9)	14.5 (14.5)	
			Through/Right	B (B)	0.18 (0.2)	15.7 (18.1)	11.9 (14)	
		SB	Left	C (C)	0.03 (0.04)	30.2 (30.4)	4.6 (5.6)	
			Through/Right	B (B)	0.27 (0.24)	12.2 (18.7)	14.6 (17.1)	
Overall Intersection			A (A)	0.50 (0.54)	7.9 (9.5)	-		
Heron Road @ Jefferson Street	Traffic Signals	EB	Left	A (D)	0.23 (0.7)	5 (44.3)	1.4 (#40.7)	
			Through	A (B)	0.43 (0.58)	3 (15.4)	8 (40.2)	
			Right	A (A)	0.07 (0.14)	0.2 (3.9)	0.1 (4.3)	
		WB	Left	A (B)	0.06 (0.29)	9.7 (16.5)	3.9 (12)	
			Through/Right	B (B)	0.62 (0.69)	15 (16.3)	87.5 (102.1)	
		NB	Left	C (C)	0.1 (0.25)	23.4 (25.9)	11 (22.9)	
			Through	C (C)	0.06 (0.17)	22.6 (24.1)	10.7 (23.1)	
		SB	Right	A (A)	0.07 (0.19)	8.1 (8.7)	5.6 (11.8)	
			Left/Through/Right	B (C)	0.3 (0.33)	15.8 (21.7)	25.2 (32)	
Overall Intersection			B (B)	0.62 (0.70)	10.4 (16.9)	-		



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Heron Road @ Walkley	Traffic Signals	EB	Through	C (C)	0.67 (0.84)	28 (33.2)	90.2 (146.9)
		WB	Left/Through/Right	B (C)	0.46 (0.77)	18.9 (31.2)	64.5 (132.7)
		NB	Through/Right	B (C)	0.52 (0.53)	19.8 (24.7)	74.2 (80.9)
		Overall Intersection		B (C)	0.67 (0.84)	16.0 (22.4)	-
Walkley Road @ Baycrest Drive	Traffic Signals	EB	Left	B (B)	0.22 (0.42)	11.7 (16.3)	13.1 (#33.5)
			Through/Right	A (A)	0.37 (0.38)	9.2 (6.7)	45 (57)
		WB	Left	A (A)	0.03 (0.08)	8.9 (7.2)	3 (5.9)
			Through/Right	A (A)	0.46 (0.51)	9.6 (7.8)	55.9 (84.2)
		NB	Left/Through/Right	B (B)	0.22 (0.21)	14.5 (18.7)	12.7 (11.4)
			SB	Left	C (C)	0.63 (0.42)	33.7 (34)
		Through/Right		A (A)	0.24 (0.28)	6.2 (11.6)	9.1 (12)
		Overall Intersection		B (A)	0.63 (0.51)	11.6 (9.1)	-
Walkley Road @ Bank Street	Traffic Signals	EB	Left	F (F)	0.94 (1.14)	81.2 (149.1)	#83.8 (#79.3)
			Through	C (D)	0.4 (0.55)	31.8 (44.1)	58.1 (73.9)
			Right	A (A)	0.17 (0.48)	0.6 (9.5)	0 (27.9)
		WB	Left	E (F)	0.55 (1.22)	62.4 (177.1)	25.8 (#79.5)
			Through/Right	D (E)	0.93 (1.02)	51 (78.9)	#126.7 (#157.0)
		NB	Left	E (F)	0.81 (1.21)	78 (181.3)	#73.4 (#122.3)
			Through	E (D)	0.96 (0.55)	57.7 (37.2)	#153.5 (83.9)
			Right	A (A)	0.3 (0.39)	3.5 (5.6)	9.6 (18.4)
		SB	Left	F (E)	0.83 (0.71)	84.6 (64)	#42.8 (m42.3)
			Through	D (F)	0.68 (1.15)	46.9 (124.3)	84.4 (m#216.8)
			Right	A (D)	0.5 (0.9)	7.7 (49.8)	22.4 (m118.5)
		Overall Intersection		D (F)	0.96 (1.22)	50.5 (83.2)	-
Notes:							
1. Table format: AM (PM)							
2. v/c – represents the anticipated volume divided by the predicted capacity							
3. * Estimated using Synchro's Percentile Method							
4. # for v/c <1, queue requires multiple cycles to be cleared							
5. Red highlight: Movement operating at or above capacity; Orange Highlight: Movement operating near capacity.							

Appendix D contains detailed intersection performance worksheets.



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4.9.2.3 2032 Total Future Conditions

Figure 15 illustrates 2032 Future Background AM and PM Peak hour traffic volumes at the study area intersections.

Intersection capacity Analysis

Table 19 summarizes the results of the Synchro analysis under 2032 Total Future conditions.

The intersection of Heron Road at Bank Street is projected to continue to operate at or above capacity with several individual movements operating at LOS F during the AM and PM peak hour. No improvements are recommended as implementing intersection treatments to address vehicular operations is expected to negatively impact the multi-modal traffic operations for other modes (transit, cycling, and pedestrian).

The intersection of Walkey Road at Bank Street is projected to continue to operate at or above capacity with several individual movements operating at LOS F during the AM and PM peak hour. No improvements are recommended as implementing intersection treatments to address vehicular operations is expected to negatively impact the multi-modal traffic operations for other modes (transit, cycling, and pedestrian).

The intersection of Heron Road at Alta Vista is projected to continue to operate at or above capacity with several individual movements operating at LOS F during the AM and PM peak hour. No improvements are recommended as implementing intersection treatments to address vehicular operations is expected to negatively impact the multi-modal traffic operations for other modes (transit, cycling, and pedestrian).

All other study area intersections are projected to operate acceptably.

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Table 19 - 2032 Total Future Conditions Intersection Level of Service

Intersection	Intersection Control	Approach / Movement	LOS	V/C	Delay (s)	Queue 95 th (m)			
Heron Road @ Bank Street	Traffic Signals	EB	Left	F (F)	0.99 (1.35)	95.2 (217.1)	#70.0 (#119.0)		
			Through	C (E)	0.57 (1.03)	27 (76.8)	96.4 (#206.0)		
			Right	A (C)	0.36 (0.83)	3.7 (28.6)	15.1 (#129.6)		
		WB	Left	C (E)	0.51 (0.84)	29.2 (59.3)	m11.0 (m12.0)		
			Through	E (F)	1.08 (1.20)	69.4 (115.5)	m#150.7 (m#195.1)		
			Right	A (A)	0.48 (0.39)	7.2 (2.1)	m13.5 (m6.2)		
		NB	Left	F (F)	1.06 (1.24)	83.9 (166)	m#86.1 (m#96.2)		
			Through / Right	C (D)	0.84 (0.84)	32.4 (50.3)	m90.7 (m101.0)		
		SB	Left	F (F)	0.92 (1.01)	94.7 (104.2)	#91.8 (#151.0)		
			Through / Right	D (F)	0.67 (1.13)	45 (109.2)	71.6 (#225.2)		
		Overall Intersection			D (F)	1.08 (1.35)	49.3 (94.1)	-	
		Heron Road @ Alta Vista	Traffic Signals	EB	Left	F (E)	0.96 (0.97)	115.1 (58.1)	m#54.7 (m42.8)
Through	D (E)				0.87 (1.01)	41.2 (55.4)	m#106.6 (m190.5)		
WB	Left			E (F)	0.89 (0.93)	67.4 (120)	m44.7 (#71.8)		
	Through			F (E)	1.06 (0.98)	80.4 (60.8)	m#219.7 (#217.3)		
	Right			B (A)	0.49 (0.42)	18.3 (8.5)	m38.4 (26.4)		
NB	Left			D (F)	0.35 (0.51)	39.3 (80.2)	28.8 (#19.9)		
	Through/Right			F (F)	1.09 (1.07)	106.1 (113.2)	#195.6 (#170.3)		
SB	Left			F (F)	1.06 (1.04)	111.6 (103.2)	#84.9 (#111.7)		
	Through/Right			C (F)	0.63 (1.05)	31.8 (86.6)	111.8 (#260.4)		
Overall Intersection				E (E)	1.09 (1.07)	66.0 (69.0)	-		
Heron Road @ Baycrest Drive	Traffic Signals			EB	Left	C (D)	0.72 (0.74)	34.8 (38.8)	m37.9 (#64.5)
					Through/Right	C (B)	0.58 (0.66)	30.5 (11.4)	m124.6 (126.8)
		WB	Left	C (B)	0.17 (0.24)	23.6 (12.5)	11.5 (9.2)		
			Through/Right	D (B)	0.93 (0.6)	42.5 (10.6)	#224.3 (112.7)		
		NB	Left/Through/Right	B (B)	0.21 (0.14)	18.1 (16.7)	19.1 (11.8)		
			Left	C (D)	0.18 (0.26)	29.6 (41.9)	17.2 (25.5)		
		SB	Through/Right	B (B)	0.28 (0.25)	13.2 (15.6)	16 (17.6)		
			Overall Intersection			D (B)	0.93 (0.77)	38.4 (15.9)	-
Heron Road @ Sandalwood Drive	Traffic Signals	EB	Left	A (B)	0.19 (0.32)	7.4 (10.8)	7.9 (13.8)		
			Through/Right	A (A)	0.38 (0.51)	5.8 (7)	44.8 (68.6)		
		WB	Left	A (B)	0.07 (0.21)	6.8 (13.2)	m3.0 (m8.8)		
			Through/Right	A (B)	0.52 (0.56)	7.1 (16.7)	69.6 (145.8)		
		NB	Left	D (C)	0.38 (0.2)	38.6 (33.9)	23.8 (14.5)		
			Through/Right	B (B)	0.18 (0.2)	15.7 (18.1)	11.9 (14)		
		SB	Left	C (C)	0.04 (0.04)	30.4 (30.4)	5.2 (5.6)		
			Through/Right	B (B)	0.28 (0.24)	12.9 (16.8)	15 (16.1)		
		Overall Intersection			A (B)	0.52 (0.56)	8.0 (12.7)	-	
		Heron Road @ Jefferson Street	Traffic Signals	EB	Left	B (D)	0.26 (0.77)	12.2 (52.9)	5.1 (#37.5)
Through	A (B)				0.45 (0.61)	9.3 (11.5)	30.6 (95.8)		
Right	A (A)				0.07 (0.14)	2 (2.3)	2.4 (6.4)		
WB	Left			A (B)	0.06 (0.32)	9.8 (17.8)	3.9 (12.6)		
	Through/Right			B (B)	0.65 (0.72)	15.5 (17)	93.6 (108.1)		
NB	Left			C (C)	0.1 (0.25)	23.4 (25.9)	11 (22.9)		
	Through			C (C)	0.06 (0.17)	22.6 (24.1)	10.7 (23.1)		
		Right	A (A)	0.07 (0.19)	8.1 (9.6)	5.6 (12.5)			



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		SB	Left/Through/Right	B (C)	0.31 (0.33)	16.5 (21.8)	26 (32.2)
		Overall Intersection		B (B)	0.65 (0.77)	13.1 (16.0)	-
Heron Road @ Walkley	Traffic Signals	EB	Through	C (C)	0.71 (0.85)	29.1 (33.3)	97.3 (152.7)
		WB	Left/Through/Right	B (C)	0.46 (0.79)	18.9 (32.5)	64.5 (135.2)
		NB	Through/Right	B (C)	0.52 (0.54)	19.8 (25.6)	74.2 (82.3)
		Overall Intersection		B (C)	0.71 (0.85)	16.3 (22.9)	-
Walkley Road @ Baycrest Drive	Traffic Signals	EB	Left	B (B)	0.25 (0.44)	12.3 (17.5)	14.3 (#35.4)
			Through/Right	A (A)	0.38 (0.38)	9.3 (6.8)	45 (57)
		WB	Left	A (A)	0.03 (0.08)	8.9 (7.3)	3 (5.9)
			Through/Right	A (A)	0.47 (0.51)	9.7 (7.9)	56.1 (84.4)
		NB	Left/Through/Right	B (B)	0.23 (0.21)	14.6 (19.2)	13.3 (12)
			SB	Left	C (C)	0.65 (0.44)	34.1 (34.5)
		Through/Right		A (B)	0.24 (0.29)	6.3 (11.7)	9.6 (12.5)
		Overall Intersection		B (A)	0.65 (0.51)	11.8 (9.3)	-
Walkley Road @ Bank Street	Traffic Signals	EB	Left	F (F)	0.99 (1.14)	92.6 (149.1)	#86.6 (#79.3)
			Through	C (D)	0.41 (0.55)	32.4 (44.1)	58.6 (73.9)
			Right	A (A)	0.18 (0.48)	2.2 (9.5)	4.6 (27.9)
		WB	Left	E (F)	0.55 (1.22)	62.4 (177.1)	25.8 (#79.5)
			Through/Right	D (E)	0.94 (1.02)	51.9 (78.9)	#128.4 (#157.0)
		NB	Left	F (F)	0.92 (1.21)	99.6 (181.3)	#84.1 (#122.3)
			Through	D (D)	0.95 (0.55)	54.7 (37.3)	#151.5 (85.1)
			Right	A (A)	0.3 (0.39)	3.4 (5.6)	9.5 (18.4)
		SB	Left	F (D)	0.85 (0.71)	87.2 (54.7)	m#43.4 (m42.2)
			Through	D (F)	0.64 (1.16)	53.4 (122.8)	85.4 (m#225.0)
			Right	B (D)	0.48 (0.9)	16.2 (44.1)	31.5 (m126.3)
		Overall Intersection		D (F)	0.99 (1.22)	53.1 (81.8)	-
Notes:							
1. Table format: AM (PM)							
2. v/c – represents the anticipated volume divided by the predicted capacity							
3. * Estimated using Synchro's Percentile Method							
4. # for v/c <1, queue requires multiple cycles to be cleared							
5. Red highlight: Movement operating at or above capacity; Orange Highlight: Movement operating near capacity.							

Appendix D contains detailed intersection performance worksheets.



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4.9.2.4 2037 Ultimate Conditions

Figure 16 illustrates 2032 Future Background AM and PM Peak hour traffic volumes at the study area intersections.

Intersection capacity Analysis

Table 20 summarizes the results of the Synchro analysis under 2032 Total Future conditions.

The intersection of Heron Road at Bank Street is projected to continue to operate at or above capacity with several individual movements operating at LOS F during the AM and PM peak hour. No improvements are recommended as implementing intersection treatments to address vehicular operations is expected to negatively impact the multi-modal traffic operations for other modes (transit, cycling, and pedestrian).

The intersection of Walkey Road at Bank Street is projected to continue to operate at or above capacity with several individual movements operating at LOS F during the AM and PM peak hour. No improvements are recommended as implementing intersection treatments to address vehicular operations is expected to negatively impact the multi-modal traffic operations for other modes (transit, cycling, and pedestrian).

The intersection of Heron Road at Alta Vista is projected to continue to operate at or above capacity with several individual movements operating at LOS F during the AM and PM peak hour. No improvements are recommended as implementing intersection treatments to address vehicular operations is expected to negatively impact the multi-modal traffic operations for other modes (transit, cycling, and pedestrian).

The intersection of Heron Road at Baycrest is projected to operate at capacity during the AM peak hour with only the westbound movement (on Heron Road) operating at LOS E during the AM hour (v.c. ratio of 1.02).

No improvements are recommended as implementing intersection treatments to address vehicular operations is expected to negatively impact the multi-modal traffic operations for other modes (transit, cycling, and pedestrian).

All other study area intersections are projected to operate acceptably.

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Table 20 - 2037 Ultimate Conditions Intersection Level of Service

Intersection	Intersection Control	Approach / Movement	LOS	V/C	Delay (s)	Queue 95 th (m)		
Heron Road @ Bank Street	Traffic Signals	EB	Left	F (F)	1.1 (1.31)	126.7 (198.6)	#76.8 (#120.8)	
			Through	C (F)	0.61 (1.07)	27.6 (87)	103.8 (#226.7)	
			Right	A (C)	0.37 (0.86)	3.7 (32.4)	15.4 (#145.5)	
		WB	Left	D (D)	0.57 (0.86)	54.8 (51)	m24.5 (m9.4)	
			Through	F (F)	1.15 (1.25)	120.5 (143.1)	m#180.5 (m#214.1)	
			Right	C (A)	0.51 (0.41)	31.1 (5.3)	m47.6 (m15.6)	
		NB	Left	F (F)	1.15 (1.38)	113.7 (219.7)	m#83.0 (m#99.5)	
			Through / Right	C (D)	0.88 (0.78)	29.5 (45)	m85.7 (m100.1)	
		SB	Left	F (F)	0.96 (1.45)	104.3 (261.8)	#97.7 (#189.3)	
			Through / Right	D (F)	0.68 (1.2)	44.8 (137.4)	74.4 (#242.4)	
		Overall Intersection			E (F)	1.15 (1.45)	68.8 (118.8)	-
Heron Road @ Alta Vista	Traffic Signals	EB	Left	F (F)	1.1 (1.05)	167.4 (83.6)	m#63.5 (m37.3)	
			Through	C (E)	0.88 (1.05)	29.6 (58.3)	m49.9 (m189.0)	
		WB	Left	E (F)	0.92 (1.07)	62.3 (156.9)	m41.5 (#79.0)	
			Through	F (E)	1.09 (1)	96.2 (63)	m#210.3 (#232.8)	
		NB	Right	C (A)	0.48 (0.42)	22.7 (8.6)	m33.7 (27.5)	
			Left	D (F)	0.42 (0.53)	44.1 (82.5)	31 (#20.9)	
		SB	Through/Right	F (F)	1.18 (1.12)	139.4 (126.5)	#211.3 (#179.5)	
			Left	F (F)	1.17 (1.19)	149.8 (153.7)	#91.7 (#124.0)	
		Overall Intersection			E (F)	1.18 (1.19)	76.6 (80.5)	-
		Heron Road @ Baycrest Drive	Traffic Signals	EB	Left	C (C)	0.69 (0.62)	33.6 (24)
Through/Right	C (B)				0.62 (0.75)	31.9 (14.3)	m130.7 (161.2)	
WB	Left			C (D)	0.23 (0.53)	25.9 (41)	13.9 (#28.9)	
	Through/Right			E (C)	1.02 (0.77)	61.9 (22.5)	#251.3 (177.4)	
NB	Left/Through/Right			B (B)	0.24 (0.15)	16.7 (15.4)	20.2 (12.4)	
	Left			C (D)	0.18 (0.25)	29.6 (40.8)	17.2 (25.5)	
Overall Intersection				D (C)	1.02 (0.81)	49.1 (21.6)	-	
Heron Road @ Sandalwood Drive	Traffic Signals	EB	Left	B (B)	0.26 (0.37)	11.4 (12.7)	11.3 (16.4)	
			Through/Right	A (A)	0.46 (0.56)	8.4 (7.6)	61.7 (78.8)	
		WB	Left	B (B)	0.11 (0.29)	10.7 (10.3)	m4.4 (11.6)	
			Through/Right	B (A)	0.61 (0.58)	11.5 (8)	86.2 (85.7)	
		NB	Left	D (D)	0.63 (0.37)	45.2 (38.2)	37.9 (23.5)	
			Through/Right	B (B)	0.2 (0.22)	12.6 (17.5)	11.9 (14.6)	
		SB	Left	C (C)	0.03 (0.04)	26.8 (30.4)	4.7 (5.6)	
			Through/Right	B (B)	0.27 (0.24)	15.5 (16.9)	17.3 (16.3)	
Overall Intersection			B (A)	0.63 (0.58)	12.2 (9.2)	-		
Heron Road @ Jefferson Street	Traffic Signals	EB	Left	B (E)	0.29 (0.76)	12.5 (55.8)	m4.3 (#45.3)	
			Through	A (B)	0.48 (0.59)	8.4 (13.4)	29.1 (89.2)	
			Right	A (A)	0.07 (0.14)	1.6 (2)	2 (6.5)	
		WB	Left	B (B)	0.08 (0.31)	10.2 (16.2)	4.3 (12.6)	
			Through/Right	B (B)	0.68 (0.7)	16.1 (15.6)	100.1 (115.5)	
		NB	Left	C (C)	0.11 (0.3)	23.6 (32.1)	11.5 (27.3)	
			Through	C (C)	0.07 (0.2)	22.7 (29.2)	11.2 (27.2)	
			Right	A (B)	0.07 (0.21)	8.3 (10.2)	5.9 (13.6)	



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		SB	Left/Through/Right	B (C)	0.33 (0.39)	18 (28)	28.5 (39.2)
		Overall Intersection		B (B)	0.68 (0.76)	13.2 (16.8)	-
		EB	Through	C (D)	0.74 (0.9)	29.3 (39.8)	103.9 (#182.7)
Heron Road @ Walkley	Traffic Signals	WB	Left/Through/Right	C (D)	0.5 (0.82)	20.1 (35.5)	70.7 (159.1)
		NB	Through/Right	C (C)	0.58 (0.56)	21.6 (27)	85.5 (93.9)
		Overall Intersection		B (C)	0.74 (0.90)	17.1 (26.3)	-()
		EB	Left	B (D)	0.31 (0.68)	14.8 (37.5)	17 (#47.3)
Walkley Road @ Baycrest Drive	Traffic Signals		Through/Right	B (A)	0.41 (0.42)	10.2 (8.4)	48.8 (62.4)
		WB	Left	A (A)	0.03 (0.09)	9.4 (9)	3 (6.5)
			Through/Right	B (B)	0.51 (0.59)	10.8 (10.6)	60.3 (#100.8)
		NB	Left/Through/Right	B (B)	0.22 (0.18)	13.8 (14.9)	13.4 (10.1)
			Left	D (C)	0.72 (0.51)	37.1 (30.5)	40.5 (24)
		SB	Through/Right	A (B)	0.28 (0.29)	6.2 (13.8)	11 (14.5)
		Overall Intersection		B (B)	0.72 (0.68)	13.1 (12.3)	-
			Left	F (F)	0.99 (1.18)	91.6 (161.7)	#89.1 (#82.6)
Walkley Road @ Bank Street	Traffic Signals	EB	Through	C (D)	0.43 (0.61)	32.5 (46.4)	62.5 (81.3)
			Right	A (B)	0.19 (0.5)	2.4 (10.9)	5.5 (31.9)
			Left	E (F)	0.56 (1.18)	61.8 (160.5)	27.5 (#82.4)
		WB	Through/Right	E (F)	1 (1.08)	65.3 (96.3)	#149.9 (#172.6)
			Left	F (F)	0.93 (1.26)	100.9 (199.4)	#86.3 (#128.7)
		NB	Through	E (D)	1.01 (0.59)	68.8 (38.6)	#164.9 (89.9)
			Right	A (A)	0.35 (0.42)	10 (7)	24.1 (23.2)
			Left	F (D)	0.92 (0.73)	95.5 (53)	m#46.1 (m44.0)
		SB	Through	E (F)	0.7 (1.21)	57.4 (137.7)	93.2 (m#229.2)
			Right	B (D)	0.51 (0.93)	19.7 (43.2)	41 (m100.6)
		Overall Intersection		E (F)	1.01 (1.26)	60.8 (88.4)	-
		Notes:					
1. Table format: AM (PM)							
2. v/c – represents the anticipated volume divided by the predicted capacity							
3. * Estimated using Synchro's Percentile Method							
4. # for v/c <1, queue requires multiple cycles to be cleared							
5. Red highlight: Movement operating at or above capacity; Orange Highlight: Movement operating near capacity.							

Appendix D contains detailed intersection performance worksheets.



1495 HERON ROAD TRANSPORTATION IMPACT ASSESSMENT

Summary and Conclusions

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5.0 SUMMARY AND CONCLUSIONS

This Transportation Impact Assessment (TIA) was prepared in support of a Plan of Subdivision for the proposed development at 1495 Heron Road in the Playfair Park – Lynda Park – Guildwood Estates neighborhood of Ottawa, Ontario. The proposed development is located north of the Heron Road and Baycrest Drive intersection at the existing Federal Study Centre. The site is bound by Heron Road to the south, single-family homes to the east, an existing school to the west and parkland to the north.

Primary access to the development is planned to be achieved via the existing signalized intersection of Heron Road and Baycrest Drive at the existing Federal Study Center. This primary access will be shared with the proposed Timbercreek redevelopment on the south side of Heron Road. A secondary right-in/right-out only access off of Heron Road is also. The development is planned to be built out by the year 2032.

The proposed development is anticipated to generate 394 and 337 net new auto trips (two-way) during the AM and PM peak hours, respectively. The trip generation accounted for transit modal shares were obtained from the TRANS 2020 Trip Generation Manual.

The City of Ottawa Transportation Master Plan identifies a number of transit improvements on key arterial and collector roadways within the vicinity of the study area:

- At-Grade Bus Rapid Transit (BRT) corridor on Heron Road, connecting Bayshore Station to St. Laurent Station (Network Concept, anticipated to occur beyond the 2031 horizon)
- Transit Signal Priority and queue jump lanes on Bank Street, between Billings Bridge Station and Hunt Club Road (Network Concept, anticipated to occur beyond the 2031 horizon)
- Transit Signal Priority and queue jump lanes between the Ottawa Health Sciences Centre and Walkley Road (Network Concept, anticipated to occur beyond the 2031 horizon)

As these improvements are identified within the TMP Network Concept, which is anticipated to occur beyond the 2031 horizon year, none of these improvements were accounted for within this TIA. However, it is anticipated that these improvements are likely be implemented at some point beyond the full-build out of the proposed development, thereby improving transit connectivity and increasing the transit modal share.

Intersection level of service analyses were completed as part of this study. The analysis of the study area intersections under Existing Conditions found that the following intersections are currently operating at or close to theoretical capacity:

- Heron Road at Bank Street (PM peak); and
- Walkley Road at Bank Street (PM peak).

No improvements are recommended to address existing operating conditions as implementing intersection treatments to address vehicular operations is expected to negatively impact the multi-modal traffic operations for other modes (transit, cycling, and pedestrian).

1495 HERON ROAD TRANSPORTATION IMPACT ASSESSMENT

Summary and Conclusions

April 14, 2023

Under 2032 Future Background conditions, all study area intersections are projected to operate with acceptable levels of service with the exception of the following intersections:

- Heron Road at Bank Street (AM and PM peaks);
- Heron Road at Alta Vista Drive (AM and PM peaks); and
- Walkley Road at Bank Street (PM peak).

Under 2032 Total Future conditions, all study area intersections are projected to operate with acceptable levels of service with the exception of the following intersections:

- Heron Road at Bank Street (AM and PM peaks);
- Heron Road at Alta Vista Drive (AM and PM peaks); and
- Walkley Road at Bank Street (PM peak).

Intersection operations under 2032 Total Future conditions are projected to be similar to Future Background conditions with no additional traffic impacts attributed to site generated traffic. Specifically, the primary site access intersection of Heron Road and Baycrest Drive is projected to operate with overall acceptable levels of service.

Under the 2037 Ultimate traffic conditions, which represents five (5) years beyond the anticipated total build-out of the subject site, all study area intersections are projected to operate with acceptable levels of service with the exception of the following intersections:

- Heron Road at Bank Street (AM and PM peaks);
- Heron Road at Alta Vista Drive (AM and PM peaks);
- Heron Road at Baycrest Drive (AM peak)
- Walkley Road at Bank Street (AM and PM peak).

The primary access points at Heron Road and Baycrest Drive is projected to operate at or close to theoretical capacity under the 2037 Ultimate horizon. This is attributed to the westbound (WB) movement on Heron Road during the AM peak period. Intersection operations under the 2037 Ultimate horizon can be achieved by improving the intersection geometry of the Heron Road and Baycrest Drive intersection by modifying the south leg of the intersection, which currently features a single lane approach, to a two-lane approach featuring a dedicated northbound left-turn lane and a shared northbound thru-right turn lane (i.e. to mirror and balance the existing north leg).

It is recommended that intersection design improvements for the Heron Road and Baycrest intersection to address future 2037 conditions should be explored and coordinated with the planning and design efforts of the proposed Heron Road BRT corridor project.

Based on the findings of this study, the proposed Plan of Subdivision for the proposed development can be supported from a transportation perspective and should proceed.



Appendix A

Traffic Data



Transportation Services - Traffic Services

Work Order
36600

Turning Movement Count - 15 Min U-Turn Total Report ALBION RD/COLLISTON CRES E @ WALKLEY RD

Survey Date: Wednesday, December 07, 2016

Time Period	Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00 - 07:15	0	0	0	0	0
07:15 - 07:30	0	0	0	0	0
07:30 - 07:45	0	0	0	0	0
07:45 - 08:00	0	0	0	0	0
08:00 - 08:15	0	0	1	0	1
08:15 - 08:30	0	0	0	0	0
08:30 - 08:45	0	0	0	0	0
08:45 - 09:00	0	0	0	0	0
09:00 - 09:15	0	0	0	0	0
09:15 - 09:30	0	0	0	0	0
09:30 - 09:45	0	0	0	1	1
09:45 - 10:00	0	0	1	0	1
11:30 - 11:45	0	0	0	0	0
11:45 - 12:00	0	0	1	0	1
12:00 - 12:15	0	0	0	0	0
12:15 - 12:30	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0
13:15 - 13:30	0	0	0	1	1
15:00 - 15:15	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0
15:45 - 16:00	0	0	2	0	2
16:00 - 16:15	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0
16:30 - 16:45	0	0	1	0	1
16:45 - 17:00	0	0	0	1	1
17:00 - 17:15	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0
17:45 - 18:00	0	0	0	1	1
Total	0	0	6	4	10



Transportation Services - Traffic Services

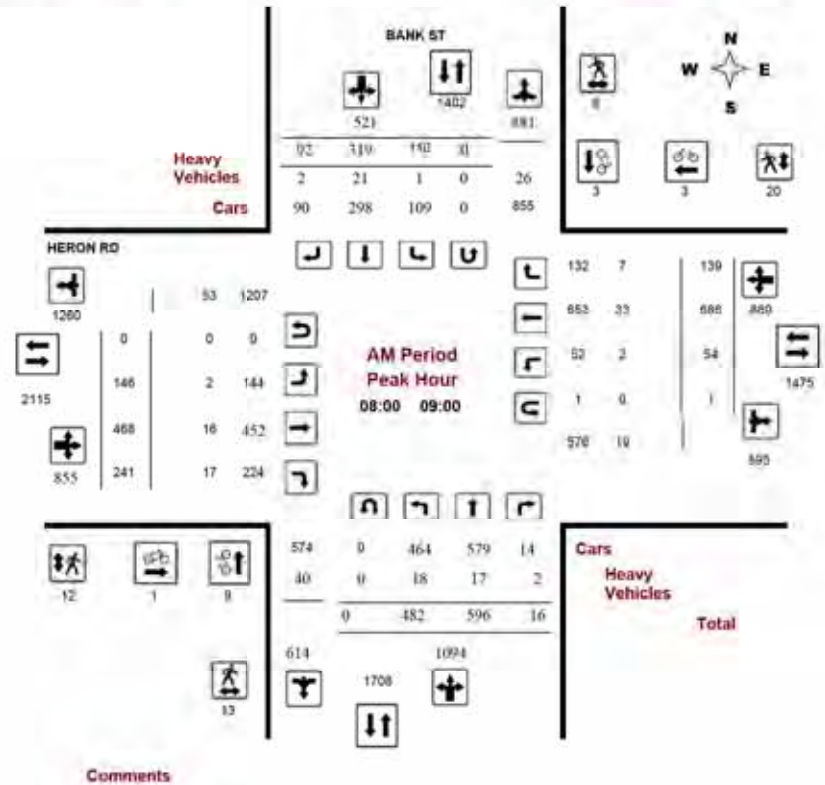
Turning Movement Count - Peak Hour Diagram BANK ST @ HERON RD

Survey Date: Wednesday, August 03, 2016

Start Time: 07:00

WO No: 36117

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

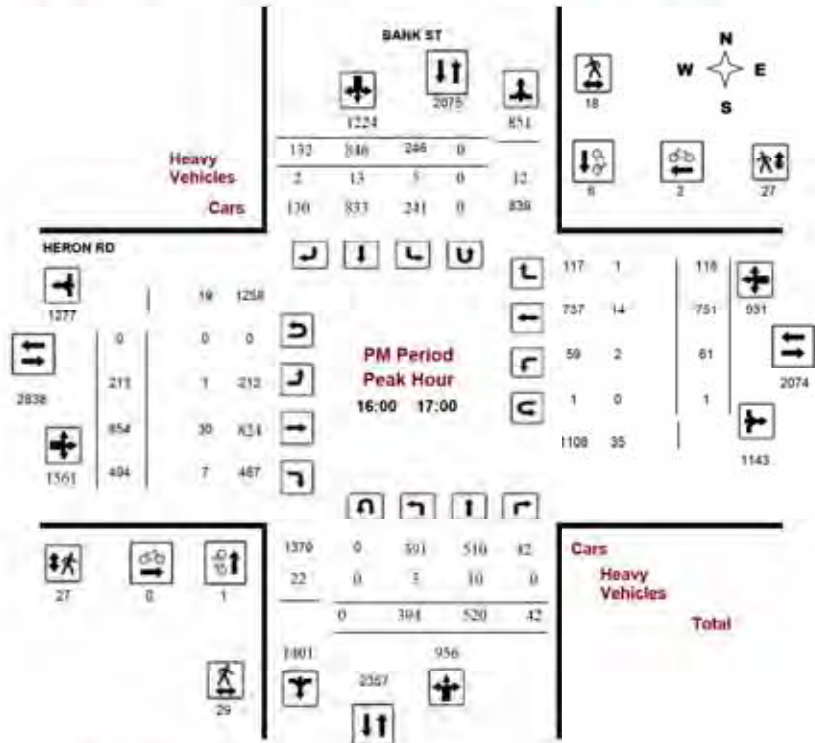
BANK ST @ HERON RD

Survey Date: Wednesday, August 03, 2016

Start Time: 07:00

WO No: 36117

Device: Miovision



Comments



Transportation Services - Traffic Services

Work Order 36117

Turning Movement Count - Full Study Summary Report

BANK ST @ HERON RD

Survey Date: Wednesday, August 03, 2016

Total Observed U-Turns

AADT Factor

Northbound: 1 Southbound: 2
 Eastbound: 3 Westbound: 0

(0)

Full Study

Period	BANK ST Northbound				BANK ST Southbound				HERON RD Eastbound				HERON RD Westbound				WB TOT	STR TOT	Grand Total
	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT			
07:00-08:00	424	457	9	890	75	225	67	367	1257	134	496	204	834	34	635	113	782	1616	2673
08:00-09:00	482	596	16	1094	110	319	92	521	1615	148	488	241	855	54	686	139	879	1734	3349
09:00-10:00	318	523	21	862	114	413	115	642	1504	170	413	252	835	42	502	136	680	1515	3019
11:30-12:30	364	624	51	1039	149	632	148	929	1968	200	451	337	994	59	407	138	604	1598	3566
12:30-13:30	332	609	51	992	175	685	169	1029	2012	212	436	342	990	46	407	185	618	1686	3620
15:00-16:00	366	537	45	948	203	745	171	1119	2097	200	635	422	1257	50	643	141	834	2091	4168
16:00-17:00	384	520	43	947	246	846	132	1224	2180	213	854	494	1561	61	751	118	930	2491	4671
17:00-18:00	381	502	40	923	202	768	155	1125	2053	206	642	448	1296	53	580	135	768	2064	4117
Sub Total	3091	4359	280	7730	1274	4633	1049	6956	14686	1487	4305	2740	8625	399	4611	1065	6164	14729	29418
U Turns				1				2	3				3				9	12	15
Total	3091	4359	280	7731	1274	4633	1049	6958	14689	1487	4305	2740	8625	399	4611	1065	6164	14729	29418
EQ 12hr	4296	6059	389	10744	1771	6440	1458	9672	20418	2067	6109	3809	11989	555	6408	1508	8485	20474	40892

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

AVG 12hr 3867 5453 350 9671 1564 5796 1312 8704 18375 1860 5498 3428 10790 499 5768 1357 7636 18426 36801

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

AVG 24hr 3086 7144 459 12679 2088 7393 1719 11403 24073 2437 7203 4490 14135 854 7557 1778 10903 24138 48211

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

Comments:

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



Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ WALKLEY RD

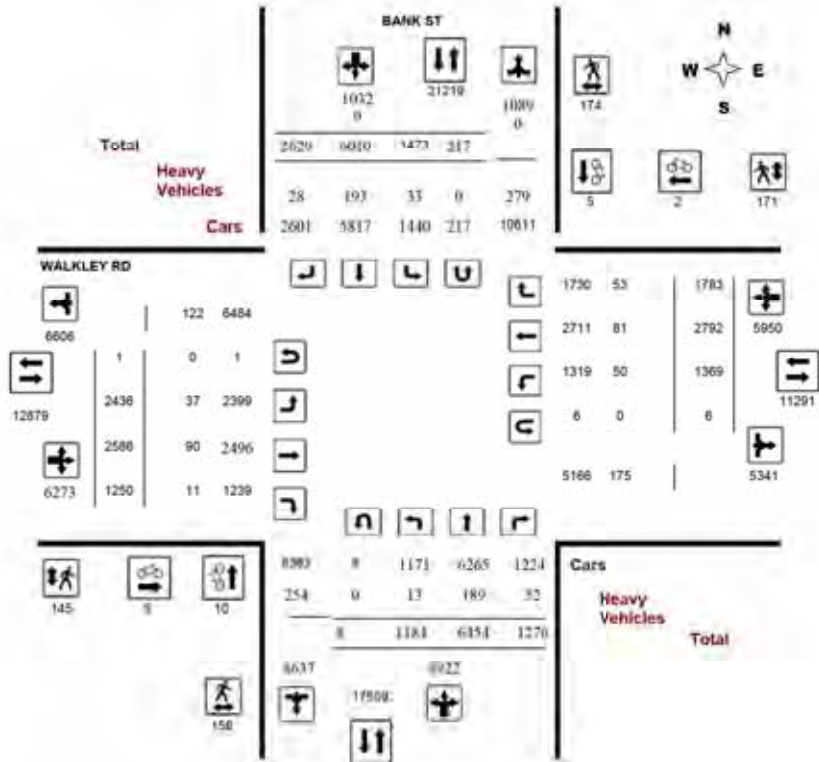
Survey Date: Thursday, February 22, 2018

WO No: 37563

Start Time: 07:00

Device: Miovision

Full Study Diagram



Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ WALKLEY RD

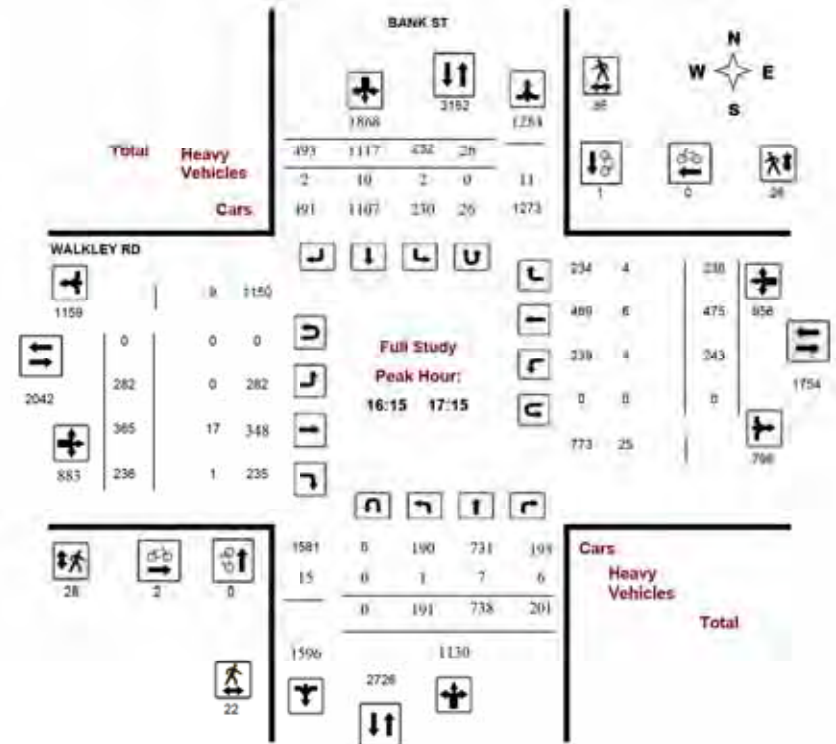
Survey Date: Thursday, February 22, 2018

WO No: 37563

Start Time: 07:00

Device: Miovision

Full Study Peak Hour Diagram





Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ WALKLEY RD

Survey Date: Thursday, February 22, 2018

WO No: 37563

Start Time: 07:00

Device: Miovision

Full Study Summary (8 HR Standard)

Survey Date: Thursday, February 22, 2018

Total Observed U-Turns AADT Factor
Northbound: 11, Southbound: 11, Eastbound: 1, Westbound: 1, 1.29

Table with columns for Time Period, Bank St (Northbound, Southbound, Eastbound, Westbound), Walkley Rd (Eastbound, Westbound), and Grand Total.

Summary table for U-Turns and Total counts.

EQ 12hr 1481 8074 1596 11161 1843 7519 3289 12922 24083 3047 3235 1564 7948 1713 3483 2231 7443 15291 39374

AVG 12hr 1481 8074 1596 11161 1843 7519 3289 12922 24083 3047 3235 1564 7948 1713 3483 2231 7443 15291 39374

AVG 24hr 1940 10577 2091 14621 2414 9848 4308 16927 31548 3992 4238 2049 10280 2244 4578 2922 9751 20031 51579

Note: These values are calculated by multiplying the totals by the appropriate expansion factor. 1.31

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



Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ WALKLEY RD

Survey Date: Thursday, February 22, 2018

WO No: 37563

Start Time: 07:00

Device: Miovision

Full Study 15 Minute Increments

Large table showing 15-minute increments for Bank St and Walkley Rd with columns for Northbound, Southbound, Eastbound, Westbound, and Grand Total.

Note: U-Turns are included in Totals.



Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ WALKLEY RD

Survey Date: Thursday, February 22, 2018

WO No: 37563

Start Time: 07:00

Device: Miovision

Full Study Cyclist Volume

Time Period	BANK ST			WALKLEY RD			Grand Total
	Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	
07:00-07:15	0	0	0	0	0	0	0
07:15-07:30	1	0	1	0	0	0	1
07:30-07:45	1	0	1	0	0	0	1
07:45-08:00	0	0	0	0	0	0	0
08:00-08:15	0	0	0	0	0	0	0
08:15-08:30	2	0	2	0	1	1	3
08:30-08:45	0	0	0	0	0	0	0
08:45-09:00	0	0	0	0	0	0	0
09:00-09:15	0	0	0	0	0	0	0
09:15-09:30	0	0	0	0	0	0	0
09:30-09:45	1	0	1	0	0	0	1
09:45-10:00	0	0	0	0	0	0	0
11:30-11:45	0	0	0	0	0	0	0
11:45-12:00	0	0	0	0	0	0	0
12:00-12:15	0	1	1	0	0	0	1
12:15-12:30	1	0	1	0	0	0	1
12:30-12:45	0	0	0	1	0	1	1
12:45-13:00	0	0	0	0	0	0	0
13:00-13:15	0	0	0	0	0	0	0
13:15-13:30	0	1	1	0	0	0	1
15:00-15:15	1	0	1	0	0	0	1
15:15-15:30	0	2	2	1	0	1	3
15:30-15:45	3	0	3	0	1	1	4
15:45-16:00	0	0	0	1	0	1	1
16:00-16:15	0	0	0	0	0	0	0
16:15-16:30	0	1	1	0	0	0	1
16:30-16:45	0	0	0	0	0	0	0
16:45-17:00	0	0	0	2	0	2	2
17:00-17:15	0	0	0	0	0	0	0
17:15-17:30	0	0	0	0	0	0	0
17:30-17:45	0	0	0	0	0	0	0
17:45-18:00	0	0	0	0	0	0	0
Total	10	5	15	5	2	7	22



Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ WALKLEY RD

Survey Date: Thursday, February 22, 2018

WO No: 37563

Start Time: 07:00

Device: Miovision

Full Study Pedestrian Volume

Time Period	BANK ST			WALKLEY RD			Grand Total
	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	
07:00-07:15	0	4	4	0	3	3	7
07:15-07:30	2	3	5	0	3	3	8
07:30-07:45	2	5	7	1	2	3	10
07:45-08:00	3	4	7	2	2	4	11
08:00-08:15	5	4	9	2	5	7	16
08:15-08:30	3	5	8	2	1	3	11
08:30-08:45	1	12	13	4	4	8	21
08:45-09:00	2	5	7	0	7	7	14
09:00-09:15	5	8	13	2	3	5	18
09:15-09:30	7	3	10	1	2	3	13
09:30-09:45	3	2	5	2	4	6	11
09:45-10:00	3	4	7	1	3	4	11
11:30-11:45	6	3	9	3	10	13	22
11:45-12:00	4	3	7	7	3	10	17
12:00-12:15	4	2	6	5	4	9	15
12:15-12:30	4	1	5	1	6	7	12
12:30-12:45	3	0	3	3	8	11	14
12:45-13:00	2	5	7	4	1	5	12
13:00-13:15	6	3	9	6	7	13	22
13:15-13:30	5	4	9	11	3	14	23
15:00-15:15	9	6	15	9	10	19	34
15:15-15:30	7	6	13	12	7	19	32
15:30-15:45	8	8	16	9	6	15	31
15:45-16:00	12	7	19	10	11	21	40
16:00-16:15	7	9	16	3	13	16	32
16:15-16:30	10	11	21	5	7	12	33
16:30-16:45	5	14	19	7	6	13	32
16:45-17:00	6	2	8	6	6	12	20
17:00-17:15	1	9	10	10	7	17	27
17:15-17:30	10	8	18	7	4	11	29
17:30-17:45	4	7	11	5	3	8	19
17:45-18:00	9	1	10	5	10	15	31
Total	158	114	322	145	171	316	638



Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ WALKLEY RD

Survey Date: Thursday, February 22, 2018

WO No: 37563

Start Time: 07:00

Device: Microvision

Full Study Heavy Vehicles

		BANK ST				WALKLEY RD															
		Northbound		Southbound		Eastbound		Westbound													
Time Period		LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total	
07:00	07:15	0	5	2	15	3	6	0	16	31	0	2	0	8	2	6	2	17	25	28	
07:15	07:30	0	8	0	20	0	9	0	22	42	1	1	0	5	3	3	4	11	16	29	
07:30	07:45	1	8	2	20	1	7	1	18	38	0	4	1	10	1	3	1	12	22	30	
07:45	08:00	0	11	4	23	0	5	1	21	44	3	5	0	11	3	2	1	15	26	35	
08:00	08:15	1	10	1	21	0	7	1	26	47	3	5	0	15	2	5	5	18	33	40	
08:15	08:30	0	10	4	23	2	3	1	20	43	1	2	1	9	5	4	3	20	29	36	
08:30	08:45	0	8	0	15	1	7	1	22	37	4	5	0	12	2	2	3	13	25	31	
08:45	09:00	2	12	3	25	1	5	1	24	49	2	1	2	11	1	3	3	12	23	36	
09:00	09:15	0	5	0	24	0	17	0	27	51	2	4	0	8	2	2	3	11	19	35	
09:15	09:30	1	7	0	15	0	5	2	17	32	2	4	0	11	2	2	1	9	20	28	
09:30	09:45	0	4	0	18	1	13	1	21	39	1	2	0	5	1	1	1	6	11	25	
09:45	10:00	0	6	1	13	2	5	2	18	31	3	2	1	11	0	3	0	8	19	25	
11:30	11:45	0	4	1	12	1	5	1	15	27	1	3	0	8	2	3	3	13	21	24	
11:45	12:00	0	7	5	24	3	8	0	20	44	0	1	1	5	3	3	2	17	22	33	
12:00	12:15	0	4	1	16	0	10	1	19	35	1	1	0	6	1	3	3	9	15	25	
12:15	12:30	1	8	2	17	3	2	0	14	31	0	2	1	5	3	1	1	12	17	24	
12:30	12:45	0	8	2	20	2	8	0	20	40	0	4	0	6	2	2	2	14	20	30	
12:45	13:00	0	8	1	17	0	7	2	20	37	1	2	0	7	1	2	2	8	15	26	
13:00	13:15	0	7	2	19	2	7	0	17	36	1	1	2	7	1	3	0	9	16	26	
13:15	13:30	0	5	3	19	0	7	2	17	36	1	3	1	11	3	4	2	15	26	31	
15:00	15:15	0	10	3	20	2	7	0	26	46	5	3	0	9	0	1	2	11	20	33	
15:15	15:30	2	6	2	16	3	6	5	21	37	1	3	0	11	0	0	0	8	19	29	
15:30	15:45	3	6	0	16	1	6	1	15	31	1	3	0	12	1	4	0	9	21	28	
15:45	16:00	0	3	3	16	3	7	1	17	33	2	6	0	12	3	3	1	19	31	32	
16:00	16:15	0	8	2	14	0	4	2	16	30	1	1	0	9	0	5	1	9	18	24	
16:15	16:30	1	3	2	11	2	4	1	10	21	0	4	1	7	0	0	0	8	15	18	
16:30	16:45	0	1	1	5	0	3	1	6	11	0	5	0	9	0	3	1	10	19	15	
16:45	17:00	0	2	0	3	0	0	0	4	7	0	5	0	6	1	1	2	9	15	11	
17:00	17:15	0	1	3	10	0	3	0	5	15	0	3	0	5	3	2	1	12	17	16	
17:15	17:30	0	3	1	6	0	2	0	6	12	0	0	0	1	0	1	1	3	4	8	
17:30	17:45	1	1	1	8	0	4	0	7	15	0	2	0	6	1	3	2	9	15	15	
17:45	18:00	0	2	0	7	0	4	0	6	13	0	1	0	2	1	1	0	3	5	9	
Total:	None	13	189	52	508	33	193	28	533	1041	37	90	11	260	50	81	53	359	619	830	



Transportation Services - Traffic Services

Turning Movement Count - Study Results

BANK ST @ WALKLEY RD

Survey Date: Thursday, February 22, 2018

WO No: 37563

Start Time: 07:00

Device: Microvision

Full Study 15 Minute U-Turn Total

		BANK ST		WALKLEY RD							
		Northbound		Southbound		Eastbound		Westbound			
Time Period		U-Turn Total	U-Turn Total	U-Turn Total	U-Turn Total	U-Turn Total	U-Turn Total	U-Turn Total	U-Turn Total	Total	
07:00	07:15	0	0	0	0	0	0	0	0	0	
07:15	07:30	0	2	0	0	0	0	0	1	3	
07:30	07:45	0	1	0	0	0	0	0	0	1	
07:45	08:00	0	3	0	0	0	0	0	0	3	
08:00	08:15	0	4	0	0	0	0	0	0	4	
08:15	08:30	1	1	0	0	0	0	0	0	2	
08:30	08:45	0	6	0	0	0	0	0	0	6	
08:45	09:00	0	6	0	0	0	0	0	0	6	
09:00	09:15	0	8	0	0	0	0	0	0	8	
09:15	09:30	0	7	0	0	0	0	0	0	7	
09:30	09:45	0	6	0	0	0	0	0	0	6	
09:45	10:00	0	4	0	0	0	0	0	0	4	
11:30	11:45	1	6	0	0	0	0	0	1	8	
11:45	12:00	1	5	0	0	0	0	0	2	8	
12:00	12:15	0	16	0	0	0	0	0	0	16	
12:15	12:30	1	12	0	0	0	0	0	0	13	
12:30	12:45	0	9	0	0	0	0	0	0	9	
12:45	13:00	1	11	0	0	0	0	0	0	12	
13:00	13:15	1	10	0	0	0	0	0	0	11	
13:15	13:30	0	5	0	0	0	0	0	0	5	
15:00	15:15	0	7	0	0	0	0	0	2	9	
15:15	15:30	0	7	0	0	0	0	0	2	9	
15:30	15:45	0	10	0	0	0	0	0	0	10	
15:45	16:00	1	9	0	0	0	0	0	0	10	
16:00	16:15	0	9	0	0	0	0	0	0	9	
16:15	16:30	0	7	0	0	0	0	0	0	7	
16:30	16:45	0	6	0	0	0	0	0	0	6	
16:45	17:00	0	3	0	0	0	0	0	0	3	
17:00	17:15	0	6	0	0	0	0	0	0	6	
17:15	17:30	0	11	0	0	0	0	0	0	11	
17:30	17:45	0	8	0	0	0	0	0	0	8	
17:45	18:00	1	11	0	0	0	0	0	0	12	
Total	Total	8	217	1	0	0	0	0	4	232	



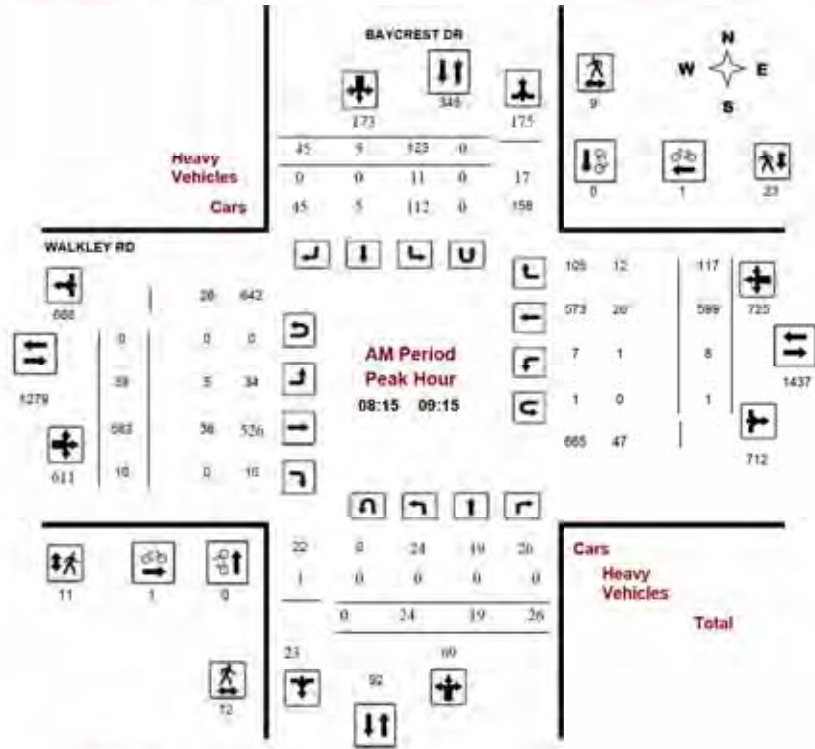
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BAYCREST DR @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016
Start Time: 07:00

WO No: 36488
Device: Miovision



Comments



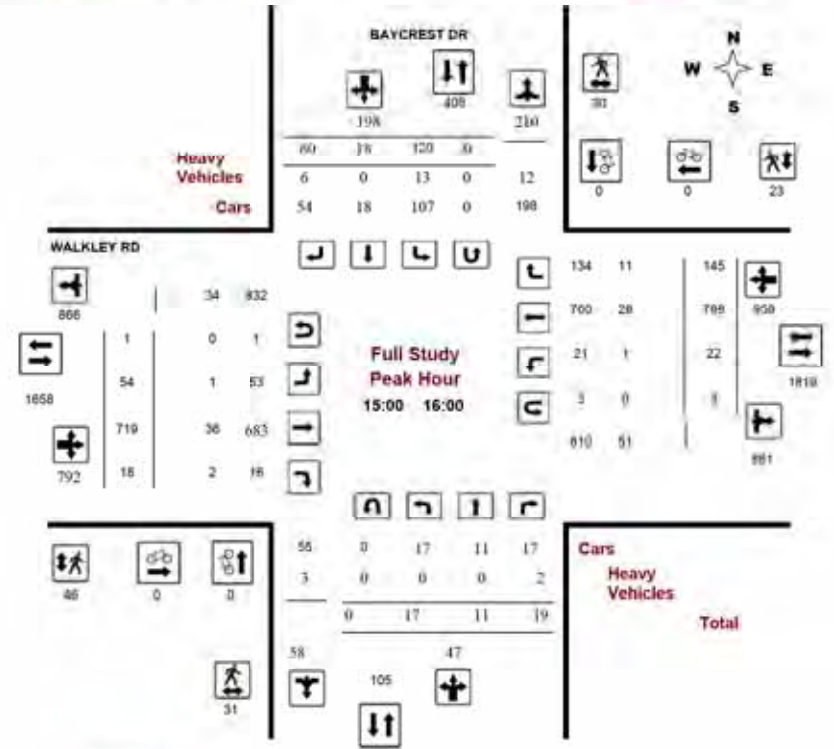
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BAYCREST DR @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016
Start Time: 07:00

WO No: 36488
Device: Miovision



Comments



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

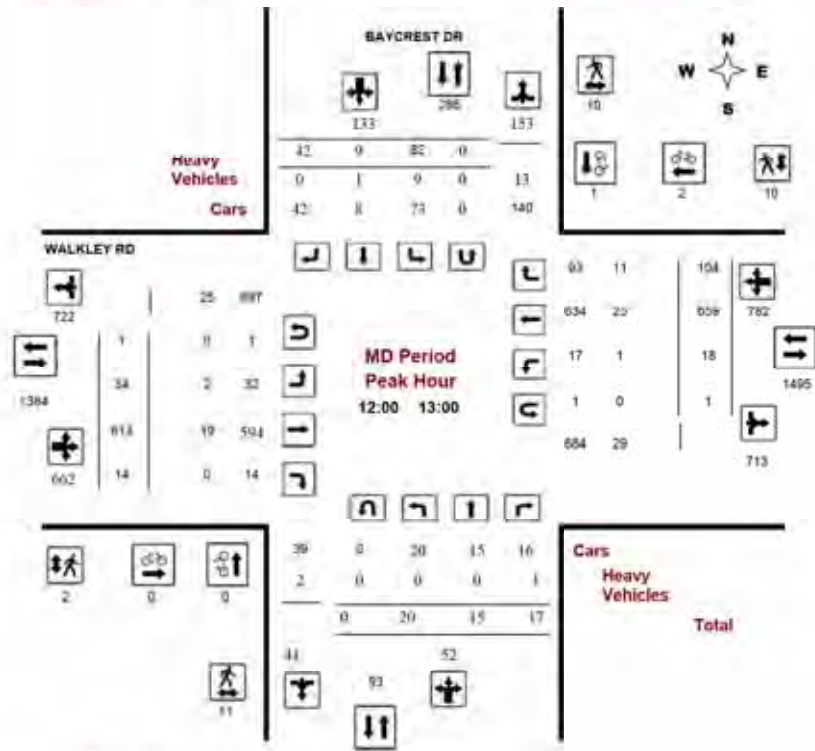
BAYCREST DR @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016

Start Time: 07:00

WO No: 36488

Device: Miovision



Comments



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

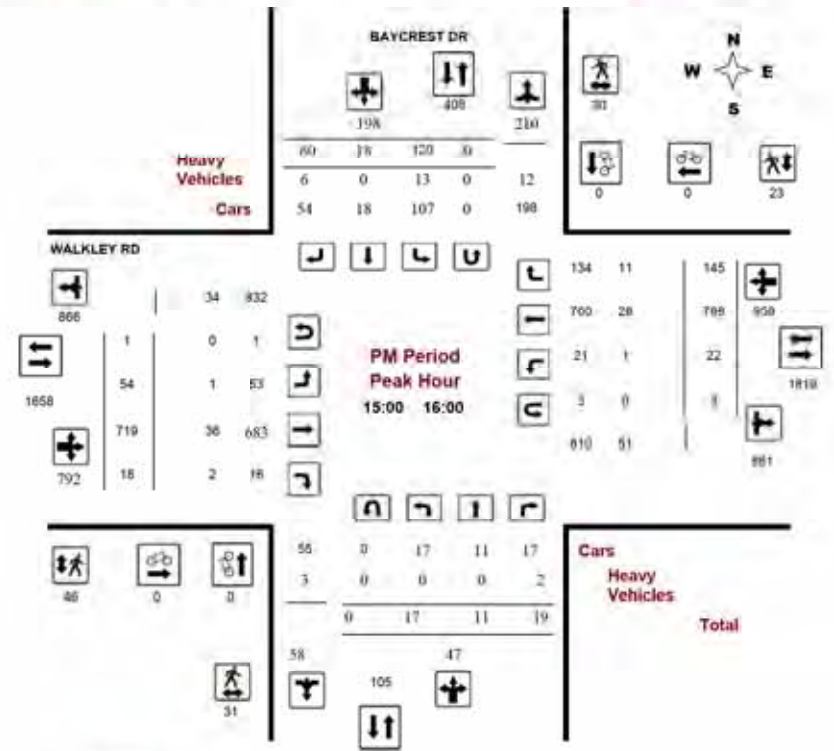
BAYCREST DR @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016

Start Time: 07:00

WO No: 36488

Device: Miovision



Comments

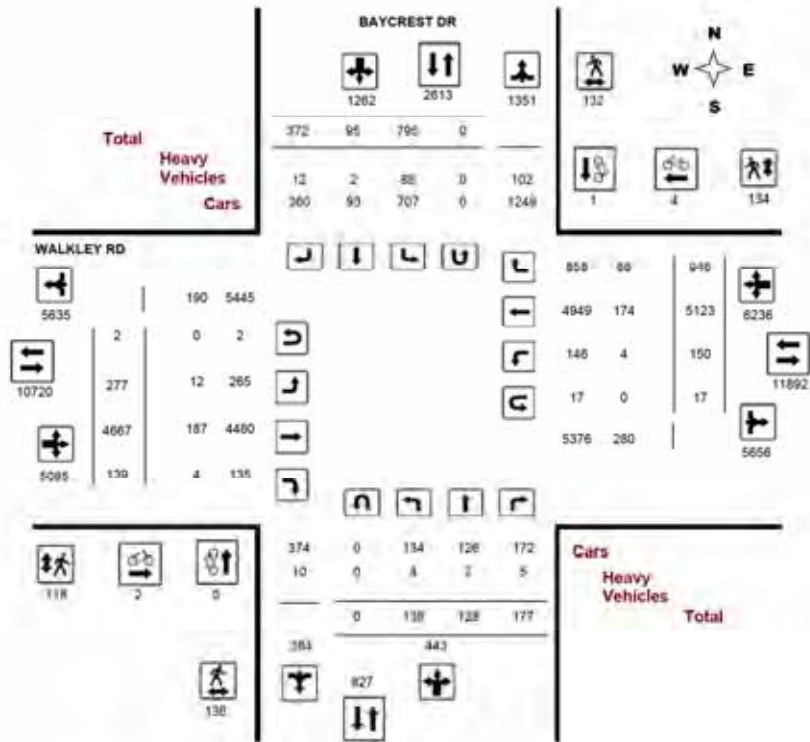


Transportation Services - Traffic Services
Turning Movement Count - Full Study Diagram

BAYCREST DR @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016

WO#: 36488
 Device: Movision



Comments:



Transportation Services - Traffic Services

Work Order
36488

Turning Movement Count - Full Study Summary Report

BAYCREST DR @ WALKLEY RD

Survey Date: Wednesday, November 15, 2016

Total Observed U-Turns

AADT Factor

Northbound: 0 Southbound: 0
 Eastbound: 2 Westbound: 17

Full Study

Period	BAYCREST DR					WALKLEY RD					Grand Total								
	Northbound		Southbound		NB TOT	Eastbound		Westbound		WB TOT									
	LT	ST	RT	STR		LT	ST	RT	STR		LT	ST	RT	STR					
07:00-08:00	19	24	31	74	93	5	38	136	219	14	454	5	473	9	513	107	629	1982	1312
08:00-09:00	26	22	29	72	116	8	51	167	239	34	578	9	619	7	587	119	713	1332	1571
09:00-10:00	13	17	20	50	82	2	38	120	179	28	518	11	555	11	529	129	669	1224	1284
11:00-12:00	10	11	16	37	61	4	48	133	179	32	594	11	637	22	645	119	786	1423	1593
12:30-13:30	16	14	14	44	100	13	40	153	197	34	587	15	616	14	604	92	710	1326	1523
15:00-16:00	17	11	19	47	120	18	60	198	245	54	719	18	791	22	788	145	955	1746	1991
16:00-17:00	22	10	26	58	103	22	55	180	238	34	642	31	787	35	795	115	945	1652	1890
17:00-18:00	16	18	26	61	106	25	44	175	236	49	597	30	685	30	662	120	812	1497	1733
Sub Total	138	128	177	443	795	95	372	1262	1785	277	4957	139	5085	150	5123	946	6219	11302	13007
U-Turns	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	17	19	19
Total	138	128	177	443	795	95	372	1262	1785	277	4957	139	5085	150	5123	946	6236	11321	13026
EQ 12hr	192	178	246	616	1105	132	517	1754	2379	385	6487	193	7068	208	7121	1315	8668	15736	18106
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													1.39						
AVG 12hr	173	160	221	554	995	119	485	1579	2133	347	5838	174	6361	188	6409	1183	7801	14562	16295
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													.90						
AVG 24hr	220	210	290	726	1303	156	610	2068	2794	454	7948	228	8333	246	8298	1560	10220	18953	21347
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.													1.31						

Comments:

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



Turning Movement Count - 15 Minute Summary Report

BAYCREST DR @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016

Total Observed U-Turns

Northbound: 0 Southbound: 0
Eastbound: 2 Westbound: 17

Time Period	BAYCREST DR										WALKLEY RD										Grand Total
	Northbound					Southbound					Eastbound					Westbound					
	LT	ST	RT	TOT	U-TURN	LT	ST	RT	TOT	U-TURN	LT	ST	RT	TOT	U-TURN	LT	ST	RT	TOT	U-TURN	
07:00 07:15	2	3	4	9	0	20	2	8	30	39	0	84	2	86	2	96	20	118	204	243	
07:15 07:30	5	9	6	20	0	26	1	5	32	52	5	116	0	121	0	130	27	157	278	330	
07:30 07:45	5	7	10	22	0	24	0	15	39	61	2	110	3	115	5	132	27	164	279	340	
07:45 08:00	7	5	11	23	0	23	2	10	35	58	7	144	0	151	2	155	33	190	341	399	
08:00 08:15	4	5	8	17	0	23	1	17	41	58	5	141	4	150	1	133	37	172	322	380	
08:15 08:30	9	5	8	20	0	24	3	16	43	63	5	130	2	137	2	139	26	167	304	367	
08:30 08:45	6	8	3	17	0	29	1	8	38	55	15	127	2	144	1	170	27	198	342	397	
08:45 09:00	6	4	8	18	0	34	1	10	45	63	9	178	1	188	5	145	29	178	366	429	
09:00 09:15	3	2	9	14	0	36	0	11	47	61	10	127	5	142	2	145	55	162	324	385	
09:15 09:30	3	5	2	10	0	22	0	11	33	43	2	150	3	155	5	113	33	149	304	347	
09:30 09:45	1	8	5	14	0	6	1	7	14	28	6	118	2	126	5	144	34	184	310	338	
09:45 10:00	6	2	4	12	0	18	1	7	26	38	8	123	1	132	1	127	27	157	289	327	
11:30 11:45	1	1	5	7	0	24	1	16	41	48	9	135	2	146	3	149	30	184	330	378	
11:45 12:00	0	4	3	7	0	20	3	0	31	38	7	146	2	157	5	146	32	185	342	380	
12:00 12:15	4	2	4	10	0	22	0	14	36	46	10	134	4	148	7	175	24	206	354	400	
12:15 12:30	5	4	4	13	0	15	0	10	25	38	6	177	3	186	7	175	33	216	402	440	
12:30 12:45	4	8	4	16	0	25	5	7	37	53	9	143	4	157	2	155	24	181	338	391	
12:45 13:00	7	1	5	13	0	20	4	11	35	48	9	159	3	171	2	154	23	179	350	398	
13:00 13:15	0	3	2	5	0	23	1	11	35	40	7	126	7	142	5	142	19	166	308	348	
13:15 13:30	5	2	3	10	0	32	3	11	46	56	9	137	1	147	5	153	26	184	331	387	
15:00 15:15	2	2	4	8	0	29	5	12	46	54	14	175	3	192	5	190	39	244	436	490	
15:15 15:30	2	3	7	12	0	31	4	20	55	67	11	187	2	200	4	185	34	225	425	492	
15:30 15:45	6	1	4	11	0	34	4	10	48	59	11	175	6	193	4	207	33	244	437	496	
15:45 16:00	7	5	4	16	0	26	5	18	49	65	18	162	7	207	9	197	39	245	452	517	
16:00 16:15	5	2	6	13	0	25	5	14	44	57	7	168	3	178	5	201	40	246	424	481	
16:15 16:30	8	4	8	20	0	25	5	13	43	63	4	154	12	170	11	203	27	241	411	474	
16:30 16:45	2	3	8	13	0	20	4	15	39	52	11	167	7	185	11	208	20	239	424	476	
16:45 17:00	7	1	4	12	0	33	8	13	54	66	12	153	9	174	8	183	28	221	395	461	
17:00 17:15	4	5	6	15	0	34	10	15	59	74	10	167	7	184	10	191	26	228	412	486	
17:15 17:30	7	3	3	13	0	23	6	8	37	50	7	138	10	155	5	192	42	239	394	444	
17:30 17:45	4	6	5	15	0	28	5	14	47	62	11	147	15	173	8	170	26	204	377	439	
17:45 18:00	1	5	12	18	0	21	4	7	32	50	21	145	7	173	7	109	26	143	316	366	
TOTAL	138	128	177	443	0	796	85	372	1262	1705	277	4987	139	5085	150	5123	946	6236	11321	13026	

Note: U-Turns are included in Totals.

Comment:



BAYCREST DR @ WALKLEY RD

Count Date: Wednesday, November 16, 2016

Start Time: 07:00

Time Period	BAYCREST DR			WALKLEY RD			Grand Total
	Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	
07:00 08:00	0	0	0	0	0	0	0
08:00 09:00	0	0	0	1	1	2	2
09:00 10:00	0	0	0	0	0	0	0
11:30 12:30	0	0	0	0	2	2	2
12:30 13:30	0	1	1	0	1	1	2
15:00 16:00	0	0	0	0	0	0	0
16:00 17:00	0	0	0	0	0	0	0
17:00 18:00	0	0	0	1	0	1	1
Total	0	1	1	2	4	6	7

Comment:

Note: These volumes consists of bicycles only (no mopeds or motorcycles) and ARE NOT included in the Turning Movement Count Summary.



Transportation Services - Traffic Services

W.O.
36488

Turning Movement Count - Heavy Vehicle Report

BAYCREST DR @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016

BAYCREST DR										WALKLEY RD										Grand Total
Northbound					Southbound					Eastbound					Westbound					
Time Period	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT		
07:00 08:00	0	0	0	0	13	0	1	14	14	0	31	0	31	0	36	12	48	79	93	
08:00 09:00	0	0	0	0	13	0	1	14	14	6	30	0	36	1	30	11	42	78	82	
09:00 10:00	1	0	0	1	9	1	0	10	11	3	33	0	36	0	18	11	29	65	76	
11:30 12:30	0	0	0	0	9	0	1	10	10	1	19	0	20	0	20	8	35	55	65	
12:30 13:30	1	1	1	3	9	1	1	11	14	1	16	0	17	2	25	10	37	54	68	
15:00 16:00	0	0	2	2	13	0	6	19	21	1	36	2	39	1	28	11	40	79	100	
16:00 17:00	2	0	2	4	11	0	2	13	17	0	15	2	17	0	7	12	19	36	53	
17:00 18:00	0	1	0	1	11	0	0	11	12	0	7	0	7	0	4	12	16	23	35	
Sub Total	4	2	5	11	88	2	12	102	113	12	187	4	203	4	174	88	266	469	582	
U-Turns (Heavy Vehicles)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total	4	2	5	11	88	2	12	102	113	12	187	4	203	4	174	88	266	469	582	

Heavy Vehicles include Buses, Single-Unit Trucks and Articulated Trucks. Further, they ARE included in the Turning Movement Count Summary.



Transportation Services - Traffic Services

Work Order
36488

Turning Movement Count - Pedestrian Volume Report

BAYCREST DR @ WALKLEY RD

Count Date: Wednesday, November 16, 2016

Start Time: 07:00

Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	1	2	3	1	2	3	6
07:15 07:30	2	0	2	0	2	2	4
07:30 07:45	0	3	3	1	6	9	12
07:45 08:00	1	8	9	20	0	20	29
07:00 08:00	4	13	17	22	12	34	51
08:00 08:15	10	10	20	10	9	19	39
08:15 08:30	2	4	6	1	5	6	12
08:30 08:45	5	1	6	5	5	11	17
08:45 09:00	0	3	3	4	6	10	13
08:00 09:00	17	18	35	20	26	46	81
09:00 09:15	5	1	6	1	6	7	13
09:15 09:30	3	3	6	0	3	3	9
09:30 09:45	4	2	6	4	2	6	12
09:45 10:00	4	0	4	2	1	3	7
09:00 10:00	18	6	22	7	12	19	41
11:30 11:45	4	3	7	1	1	2	9
11:45 12:00	4	2	6	1	7	8	14
12:00 12:15	1	5	6	0	4	4	10
12:15 12:30	3	1	4	0	0	0	4
11:30 12:30	12	11	23	2	12	14	37
12:30 12:45	2	2	4	1	4	5	9
12:45 13:00	5	2	7	1	2	3	10
13:00 13:15	4	2	6	0	2	2	8
13:15 13:30	6	2	8	2	3	5	13
12:30 13:30	17	6	25	4	11	15	40
13:00 13:15	6	15	21	30	4	34	55
13:15 13:30	8	1	9	7	7	14	23
13:30 13:45	8	5	13	9	3	12	25
13:45 16:00	9	9	18	0	9	9	27
15:00 16:00	31	30	61	46	23	69	130
16:00 16:15	5	9	14	4	9	13	27
16:15 16:30	6	6	12	0	3	3	15
16:30 16:45	2	3	5	2	5	7	12
16:45 17:00	8	5	13	6	4	10	23
16:00 17:00	21	23	44	12	21	33	77
17:00 17:15	3	5	8	3	6	8	16
17:15 17:30	7	11	18	1	3	4	22
17:30 17:45	3	3	6	1	3	4	10
17:45 18:00	5	4	9	1	5	6	15
17:00 18:00	18	23	41	5	17	22	63
Total	136	132	268	118	134	252	520

Comment:



Transportation Services - Traffic Services

Work Order
36488

Turning Movement Count - 15 Min U-Turn Total Report

BAYCREST DR @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016

Time Period	Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00 - 07:15	0	0	0	0	0
07:15 - 07:30	0	0	0	0	0
07:30 - 07:45	0	0	0	0	0
07:45 - 08:00	0	0	0	0	0
08:00 - 08:15	0	0	0	1	1
08:15 - 08:30	0	0	0	0	0
08:30 - 08:45	0	0	0	0	0
08:45 - 09:00	0	0	0	1	1
09:00 - 09:15	0	0	0	0	0
09:15 - 09:30	0	0	0	0	0
09:30 - 09:45	0	0	0	1	1
09:45 - 10:00	0	0	0	2	2
11:30 - 11:45	0	0	0	2	2
11:45 - 12:00	0	0	0	2	2
12:00 - 12:15	0	0	0	0	0
12:15 - 12:30	0	0	0	1	1
12:30 - 12:45	0	0	1	0	1
12:45 - 13:00	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0
15:00 - 15:15	0	0	0	1	1
15:15 - 15:30	0	0	0	2	2
15:30 - 15:45	0	0	1	0	1
15:45 - 16:00	0	0	0	0	0
16:00 - 16:15	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0
16:45 - 17:00	0	0	0	2	2
17:00 - 17:15	0	0	0	1	1
17:15 - 17:30	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0
17:45 - 18:00	0	0	0	1	1
Total	0	0	2	17	19



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

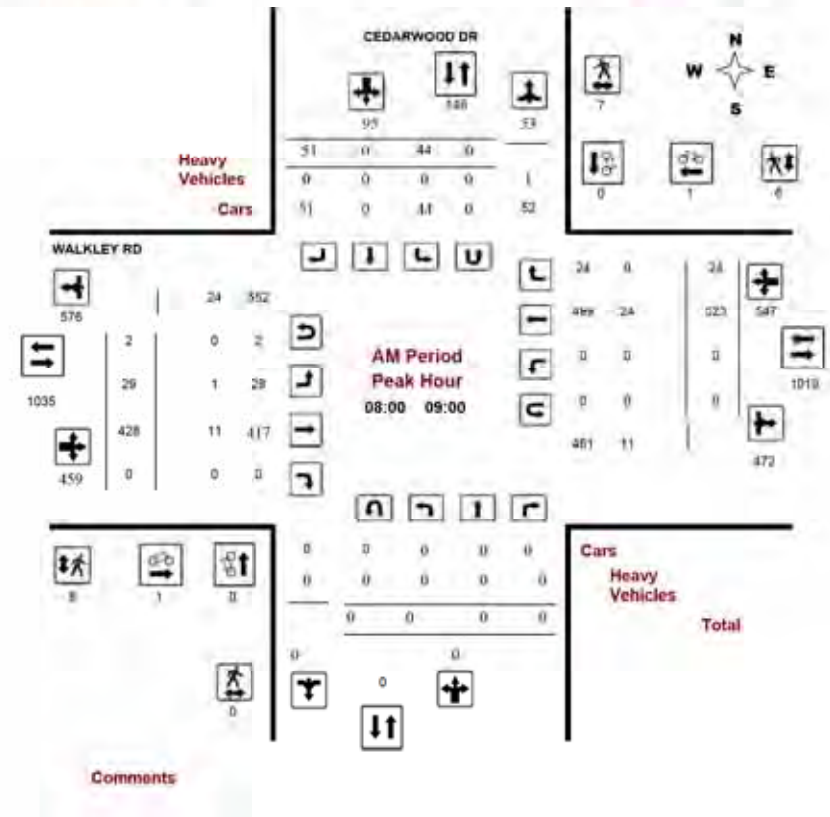
CEDARWOOD DR @ WALKLEY RD

Survey Date: Wednesday, August 03, 2016

Start Time: 07:00

WO No: 36123

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

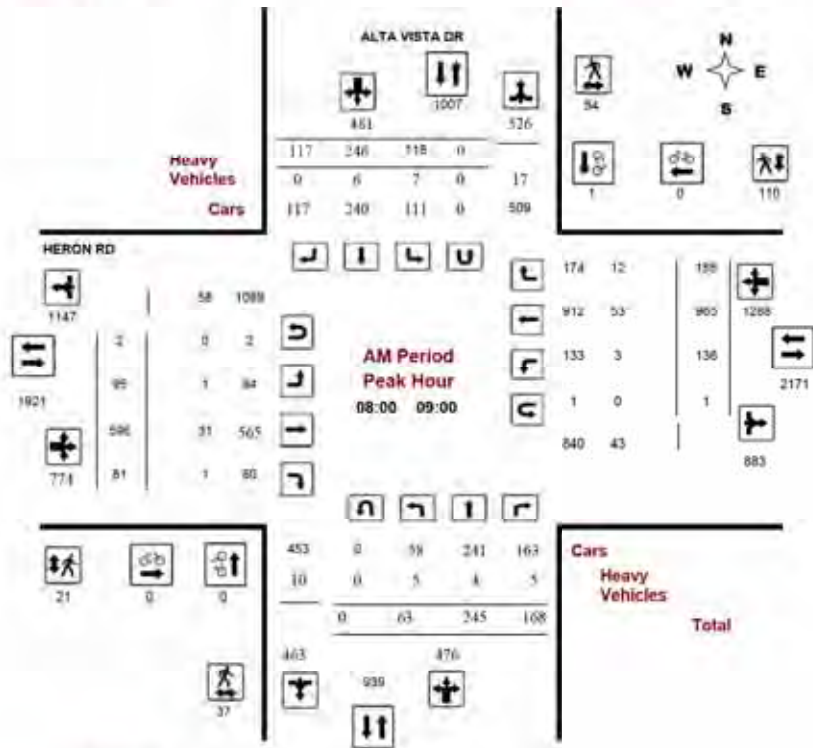
HERON RD @ ALTA VISTA DR

Survey Date: Tuesday, December 04, 2018

Start Time: 07:00

WO No: 38190

Device: Miovision



Comments



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

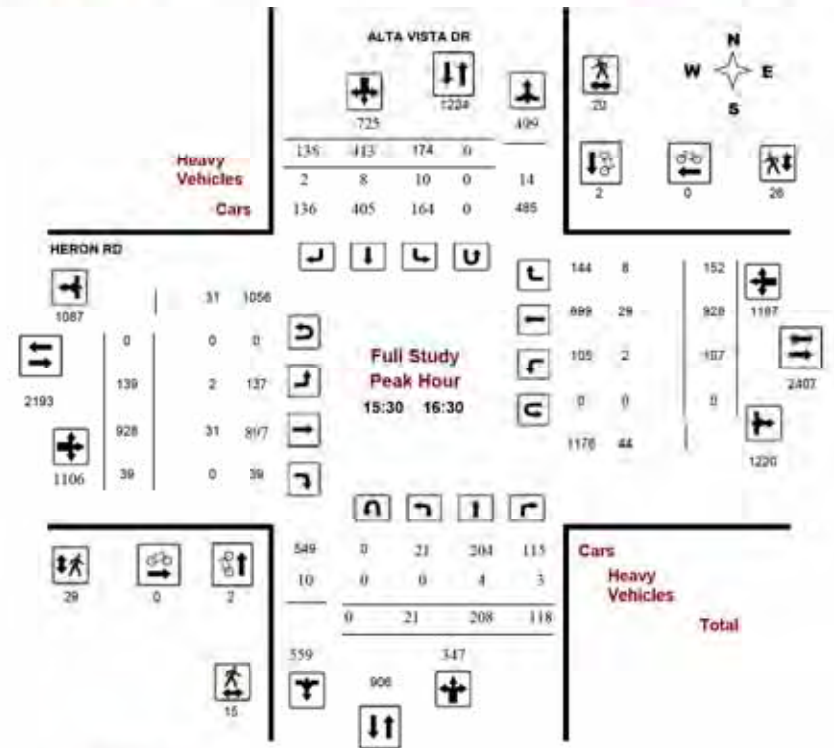
HERON RD @ ALTA VISTA DR

Survey Date: Tuesday, December 04, 2018

Start Time: 07:00

WO No: 38190

Device: Miovision



Comments



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

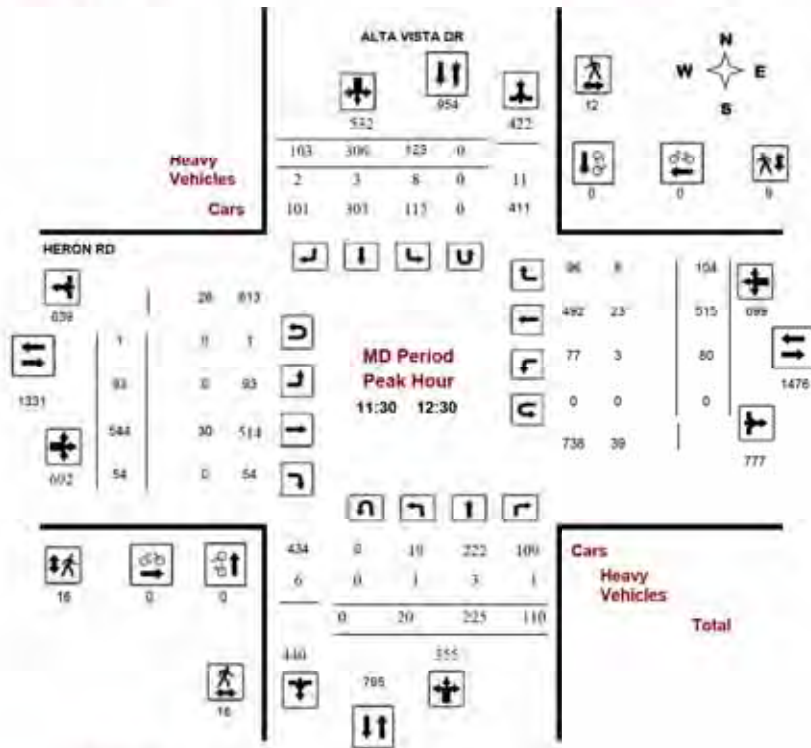
HERON RD @ ALTA VISTA DR

Survey Date: Tuesday, December 04, 2018

Start Time: 07:00

WO No: 38190

Device: Miovision



Comments



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

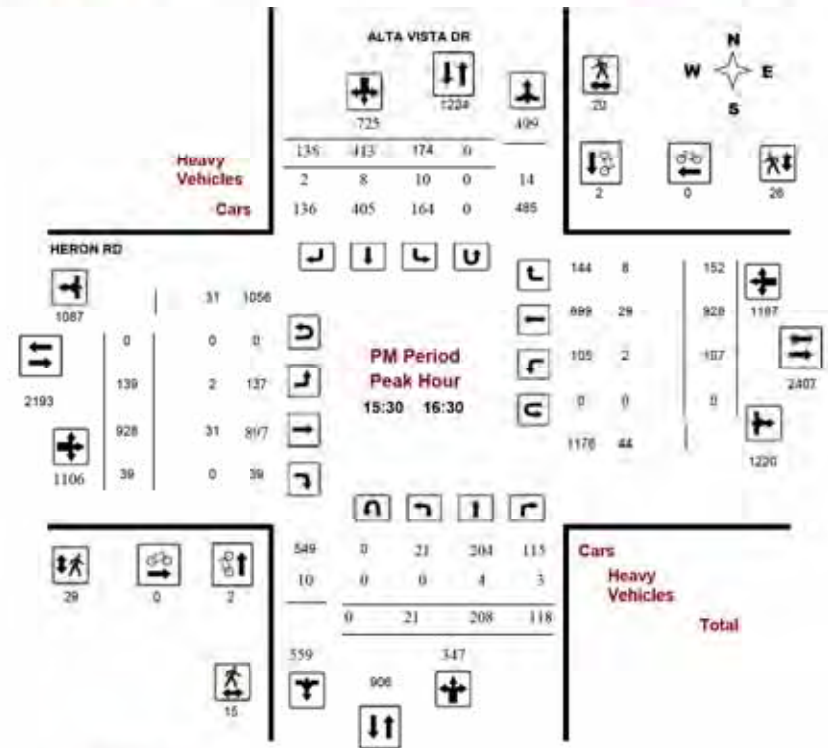
HERON RD @ ALTA VISTA DR

Survey Date: Tuesday, December 04, 2018

Start Time: 07:00

WO No: 38190

Device: Miovision



Comments

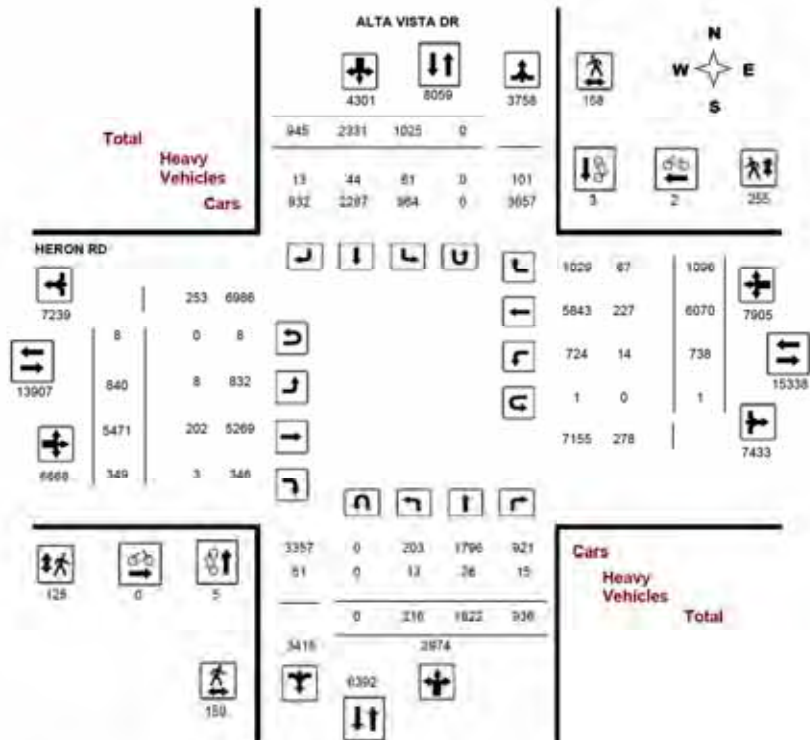


Transportation Services - Traffic Services
Turning Movement Count - Full Study Diagram

HERON RD @ ALTA VISTA DR

Survey Date: Tuesday, December 04, 2018

WO#: 38190
 Device: Movision



Comments:



Transportation Services - Traffic Services

Work Order
38190

Turning Movement Count - Full Study Summary Report

HERON RD @ ALTA VISTA DR

Survey Date: Tuesday, December 04, 2018

Total Observed U-Turns:

AA DT Factor

Northbound:	0	Southbound:	0	1.30
Eastbound:	8	Westbound:	1	

Full Study

Period	ALTA VISTA DR								HERON RD								WB TOT	STR TOT	Grand Total	
	Northbound				Southbound				Eastbound				Westbound							
	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT				WB TOT
07:00-08:00	15	245	40	306	89	128	116	333	643	107	545	36	688	58	934	151	1143	1831	2474	
08:00-09:00	83	245	186	475	118	246	117	481	957	95	596	81	772	136	965	186	1287	2059	3016	
09:00-10:00	11	183	77	271	111	229	138	476	747	101	496	32	629	84	668	128	880	1509	2256	
11:30-12:30	20	225	110	356	123	306	103	532	887	83	544	54	691	80	515	104	699	1390	2277	
12:30-13:30	19	194	120	333	111	263	89	463	796	107	532	25	664	71	517	121	709	1373	2169	
15:00-16:00	48	270	157	475	185	408	138	711	1186	141	789	35	965	107	853	161	1121	2086	3272	
16:00-17:00	21	230	154	385	157	413	139	709	1094	108	976	47	1131	104	860	135	1069	2230	3324	
17:00-18:00	16	230	124	371	147	338	107	592	965	88	993	39	1120	98	758	110	966	2086	3051	
Sub Total	216	1822	936	2974	1025	2331	945	4301	7275	840	5471	349	6660	738	6070	1096	7904	14564	21639	
U-Turns	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	9	9
Total	216	1822	936	2974	1025	2331	945	4301	7275	840	5471	349	6668	738	6070	1096	7905	14573	21848	
EQ 12hr	300	2533	1301	4134	1425	3240	1314	5978	10112	1168	7805	485	9269	1026	8437	1523	10988	20257	30369	
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													1.39							
AVG 12hr	390	3292	1691	5374	1852	4212	1708	7772	13146	1518	9886	631	12049	1334	10968	1980	14284	26333	39479	
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													1.30							
AVG 24hr	511	4313	2216	7040	2426	5518	2237	10181	17221	1988	12951	828	15784	1747	14369	2594	18712	34496	51717	
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.													1.31							

Comments:

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



Turning Movement Count - 15 Minute Summary Report

HERON RD @ ALTA VISTA DR

Survey Date: Tuesday, December 04, 2018

Total Observed U-Turns

Northbound: 0 Southbound: 0
Eastbound: 8 Westbound: 1

ALTA VISTA DR

HERON RD

Time Period	Northbound			Southbound			Eastbound			Westbound			Grand Total						
	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT		E TOT	LT	ST	RT	W TOT	STR TOT
07:00 07:15	1	46	12	59	27	22	23	72	131	26	120	2	148	8	168	23	199	347	478
07:15 07:30	3	64	5	72	24	25	31	80	152	25	129	8	162	15	234	36	285	447	599
07:30 07:45	5	53	12	70	20	35	30	85	155	27	139	7	174	9	282	42	333	507	662
07:45 08:00	6	82	17	105	22	46	32	100	205	29	157	19	205	26	250	50	326	531	736
08:00 08:15	16	60	32	108	20	52	35	113	221	18	136	26	178	30	242	47	319	497	718
08:15 08:30	17	63	49	129	33	60	36	119	248	24	150	22	196	40	268	54	393	589	837
08:30 08:45	23	52	40	115	22	62	26	110	225	27	145	19	192	35	210	40	285	477	702
08:45 09:00	7	70	47	124	37	72	30	139	263	28	165	14	208	31	215	45	291	499	762
09:00 09:15	3	53	25	81	34	60	35	129	210	23	137	8	160	19	152	30	201	369	579
09:15 09:30	2	37	22	61	36	46	34	116	177	26	113	3	142	22	167	33	222	364	541
09:30 09:45	2	45	17	64	23	57	38	118	182	26	132	10	168	23	159	36	218	386	568
09:45 10:00	4	48	13	65	18	66	29	113	178	26	114	11	151	20	190	29	239	390	568
11:30 11:45	5	56	29	90	27	79	28	134	224	24	143	12	179	15	139	23	177	356	580
11:45 12:00	9	55	24	88	37	69	23	129	217	25	125	13	163	25	126	25	176	339	556
12:00 12:15	3	57	27	87	24	77	29	130	217	20	136	14	171	18	126	30	174	345	562
12:15 12:30	3	57	30	90	35	81	23	139	229	24	140	15	179	22	124	26	172	351	580
12:30 12:45	5	55	34	94	30	73	28	131	225	27	123	4	156	22	120	37	179	335	560
12:45 13:00	5	52	27	84	26	68	21	115	199	29	139	7	175	14	149	34	197	372	571
13:00 13:15	8	35	30	73	22	62	20	104	177	27	127	10	164	19	138	21	178	342	519
13:15 13:30	1	52	29	82	33	60	20	113	195	24	143	4	171	16	110	29	155	326	521
15:00 15:15	16	99	49	164	34	92	46	172	336	24	168	10	200	29	190	37	265	465	801
15:15 15:30	21	67	57	145	37	102	38	177	322	39	181	8	228	31	178	48	257	485	807
15:30 15:45	5	55	23	83	41	92	32	165	248	37	219	9	265	25	252	32	309	574	822
15:45 16:00	6	49	28	83	53	122	22	197	280	41	223	8	272	22	224	44	290	562	842
16:00 16:15	5	49	29	83	37	106	41	184	267	28	229	15	272	39	233	38	310	582	849
16:15 16:30	5	55	38	98	43	93	43	179	277	33	257	7	297	21	219	38	278	575	852
16:30 16:45	6	67	34	97	34	117	25	176	273	17	246	11	276	17	209	24	250	526	799
16:45 17:00	5	59	43	107	43	97	30	170	277	30	244	14	288	27	199	35	261	549	826
17:00 17:15	7	60	33	100	46	83	17	146	246	32	262	11	325	26	192	28	246	571	817
17:15 17:30	6	58	40	104	29	97	33	159	263	24	267	11	302	25	222	27	274	576	839
17:30 17:45	4	51	22	77	38	77	29	144	221	16	253	10	279	28	188	23	239	518	739
17:45 18:00	2	61	25	82	34	81	28	143	235	16	161	7	214	19	156	32	207	421	656
TOTAL	218	1622	936	2974	1025	2331	945	4301	7275	840	5471	348	6668	738	6070	1096	7905	14573	21848

Note: U-Turns are included in Totals.

Comment:



HERON RD @ ALTA VISTA DR

Count Date: Tuesday, December 04, 2018

Start Time: 07:00

Time Period	ALTA VISTA DR			HERON RD			Grand Total
	Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	
07:00 08:00	1	0	1	0	2	2	3
08:00 09:00	0	1	1	0	0	0	1
09:00 10:00	0	0	0	0	0	0	0
11:30 12:30	0	0	0	0	0	0	0
12:30 13:30	0	0	0	0	0	0	0
15:00 16:00	3	0	3	0	0	0	3
16:00 17:00	1	2	3	0	0	0	3
17:00 18:00	0	0	0	0	0	0	0
Total	5	3	8	0	2	2	10

Comment:

Note: These volumes consists of bicycles only (no mopeds or motorcycles) and ARE NOT included in the Turning Movement Count Summary.



Transportation Services - Traffic Services

W.O.
38190

Turning Movement Count - Heavy Vehicle Report

HERON RD @ ALTA VISTA DR

Survey Date: Tuesday, December 04, 2018

Time Period	ALTA VISTA DR								HERON RD								Grand Total		
	Northbound				Southbound				Eastbound				Westbound						
	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT		W TOT	STR TOT
07:00 08:00	0	1	2	3	4	1	0	5	8	1	14	0	15	2	35	16	53	68	76
08:00 09:00	5	4	5	14	7	6	0	13	27	1	31	1	33	3	53	12	66	101	128
09:00 10:00	1	4	0	5	6	12	3	21	26	2	22	0	24	1	34	6	41	65	81
11:30 12:30	1	3	1	5	8	3	2	13	18	0	30	0	30	3	23	8	34	64	82
12:30 13:30	1	3	1	5	4	7	3	14	19	0	22	0	22	2	23	5	30	52	71
15:00 16:00	4	7	3	14	11	7	0	18	32	3	29	0	32	2	27	11	40	72	104
16:00 17:00	1	2	2	5	9	6	2	17	22	1	36	1	38	1	21	4	26	64	86
17:00 18:00	0	2	1	3	12	2	3	17	20	0	18	1	19	0	11	5	16	35	55
Sub Total	13	26	15	54	61	44	13	118	172	5	202	3	213	14	227	67	308	521	693
U-Turns (Heavy Vehicles)	0								0								0		
Total	13	26	15	54	61	44	13	118	172	5	202	3	213	14	227	67	308	521	693

Heavy Vehicles include Buses, Single-Unit Trucks and Articulated Trucks. Further, they ARE included in the Turning Movement Count Summary.



Transportation Services - Traffic Services

Work Order
38190

Turning Movement Count - Pedestrian Volume Report

HERON RD @ ALTA VISTA DR

Count Date: Tuesday, December 04, 2018

Start Time: 07:00

Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	0	2	2	1	0	1	3
07:15 07:30	2	4	11	2	3	5	16
07:30 07:45	4	7	11	1	4	5	16
07:45 08:00	18	7	25	3	16	19	44
07:00 08:00	29	20	49	7	23	30	79
08:00 08:15	6	22	28	4	38	42	70
08:15 08:30	20	14	34	4	24	28	62
08:30 08:45	8	12	20	9	16	25	45
08:45 09:00	2	6	8	4	32	36	45
08:00 09:00	37	54	91	21	110	131	222
09:00 09:15	0	2	2	3	7	10	12
09:15 09:30	3	1	4	6	3	9	13
09:30 09:45	3	1	4	0	0	0	4
09:45 10:00	4	1	5	7	3	10	15
09:00 10:00	10	5	15	16	13	29	44
11:30 11:45	4	4	8	7	3	10	18
11:45 12:00	4	1	5	3	1	4	9
12:00 12:15	2	5	7	0	1	1	8
12:15 12:30	8	2	8	6	4	10	18
11:30 12:30	16	12	28	16	6	25	53
12:30 12:45	2	1	3	0	0	0	3
12:45 13:00	5	0	5	0	0	0	5
13:00 13:15	7	4	11	3	3	6	17
13:15 13:30	3	1	4	3	4	7	11
12:30 13:30	17	6	23	6	7	13	36
13:00 13:15	7	12	20	4	16	20	40
13:15 13:30	10	8	18	15	24	39	55
13:30 13:45	4	3	7	11	5	16	23
13:45 14:00	5	8	13	8	13	21	34
13:00 14:00	29	30	59	38	38	76	135
14:00 14:15	2	4	6	4	5	9	15
14:15 14:30	4	5	9	6	3	9	18
14:30 14:45	5	0	13	1	7	8	21
14:45 17:00	1	4	5	2	4	6	11
16:00 17:00	10	21	33	13	19	32	65
17:00 17:15	7	3	10	3	7	10	20
17:15 17:30	1	4	5	1	3	4	9
17:30 17:45	3	2	5	3	4	7	12
17:45 18:00	1	1	2	1	2	3	5
17:00 18:00	12	10	22	8	16	24	46
Total	159	158	317	125	255	380	697

Comment:



Transportation Services - Traffic Services

Work Order
38190

Turning Movement Count - 15 Min U-Turn Total Report

HERON RD @ ALTA VISTA DR

Survey Date: Tuesday, December 04, 2018

Time Period	Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00 - 07:15	0	0	0	0	0
07:15 - 07:30	0	0	0	0	0
07:30 - 07:45	0	0	1	0	1
07:45 - 08:00	0	0	0	0	0
08:00 - 08:15	0	0	0	0	0
08:15 - 08:30	0	0	0	1	1
08:30 - 08:45	0	0	1	0	1
08:45 - 09:00	0	0	1	0	1
09:00 - 09:15	0	0	0	0	0
09:15 - 09:30	0	0	0	0	0
09:30 - 09:45	0	0	0	0	0
09:45 - 10:00	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0
11:45 - 12:00	0	0	0	0	0
12:00 - 12:15	0	0	1	0	1
12:15 - 12:30	0	0	0	0	0
12:30 - 12:45	0	0	2	0	2
12:45 - 13:00	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0
16:00 - 16:15	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0
16:30 - 16:45	0	0	2	0	2
16:45 - 17:00	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0
Total	0	0	8	1	9



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

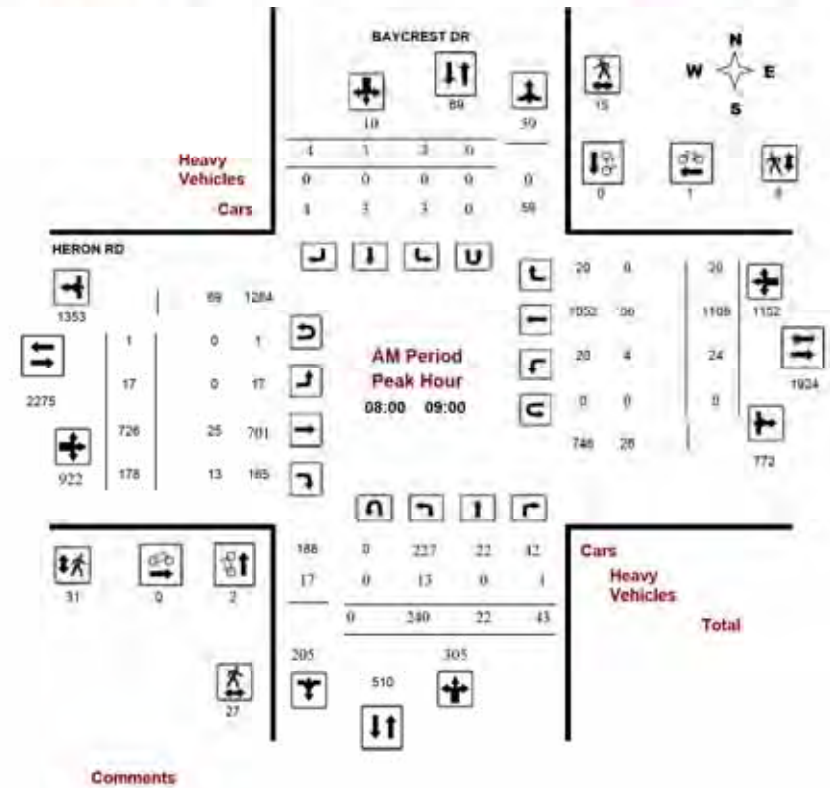
HERON RD @ BAYCREST DR

Survey Date: Wednesday, November 16, 2016

Start Time: 07:00

WO No: 36544

Devices: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

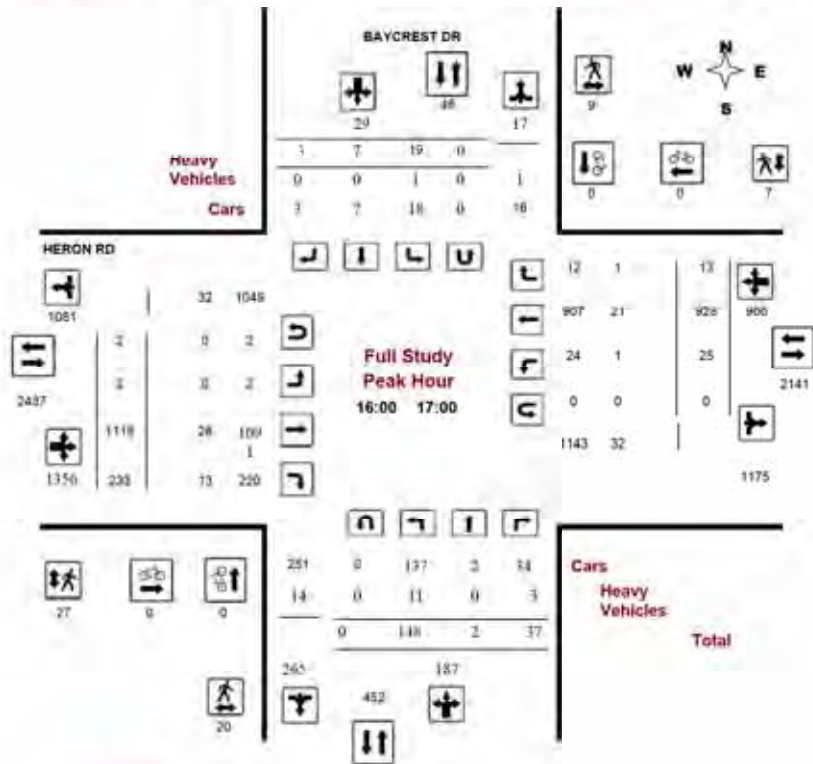
HERON RD @ BAYCREST DR

Survey Date: Wednesday, November 16, 2016

Start Time: 07:00

WO No: 36544

Device: Miovision



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

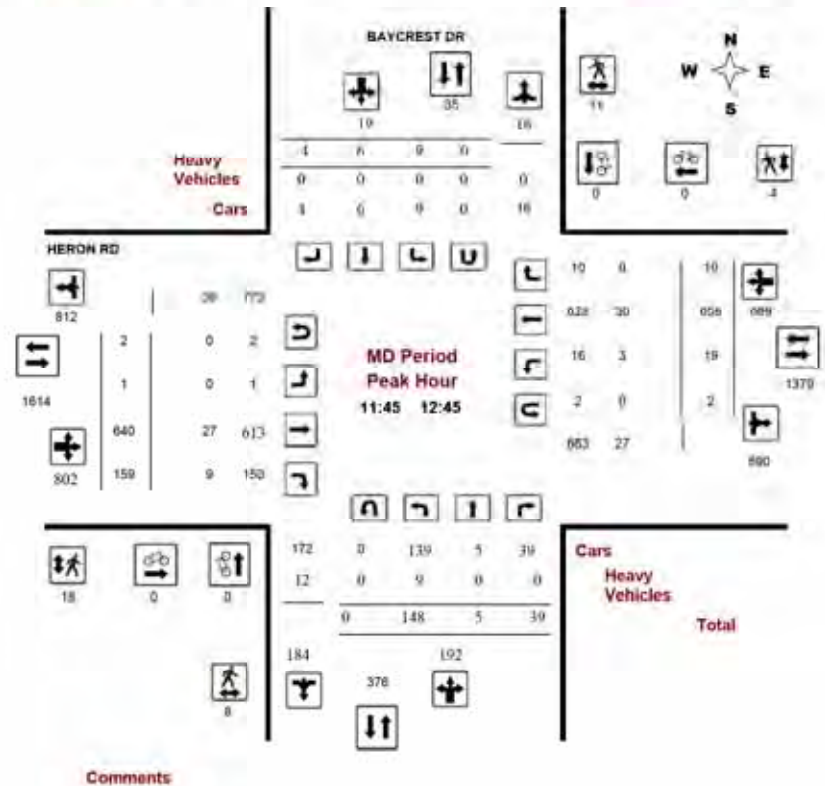
HERON RD @ BAYCREST DR

Survey Date: Wednesday, November 16, 2016

Start Time: 07:00

WO No: 36544

Device: Miovision

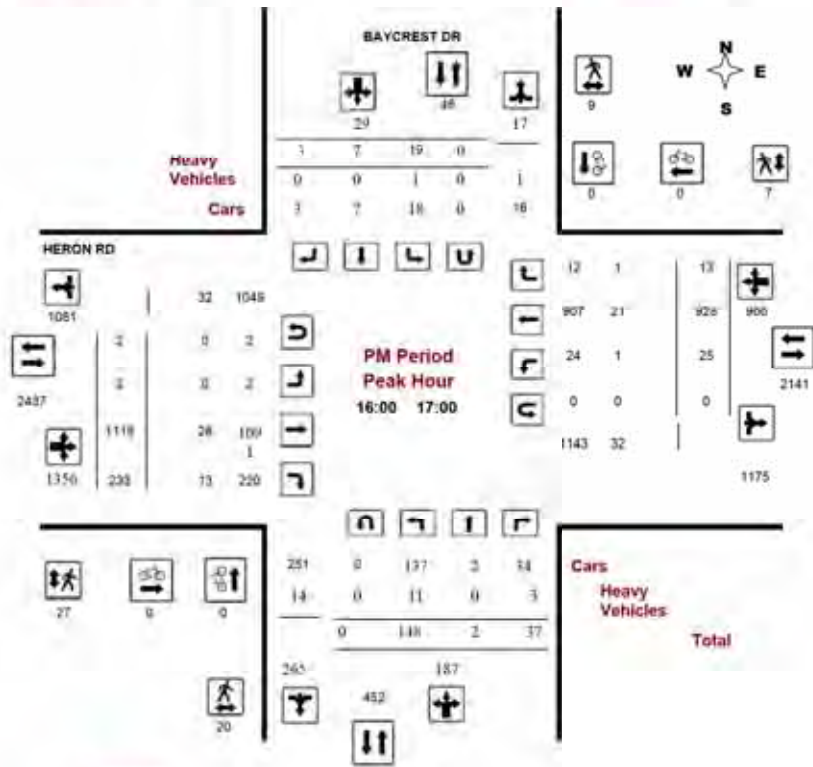




Transportation Services - Traffic Services
Turning Movement Count - Peak Hour Diagram
HERON RD @ BAYCREST DR

Survey Date: Wednesday, November 16, 2016
 Start Time: 07:00

WO No: 36544
 Device: Miovision



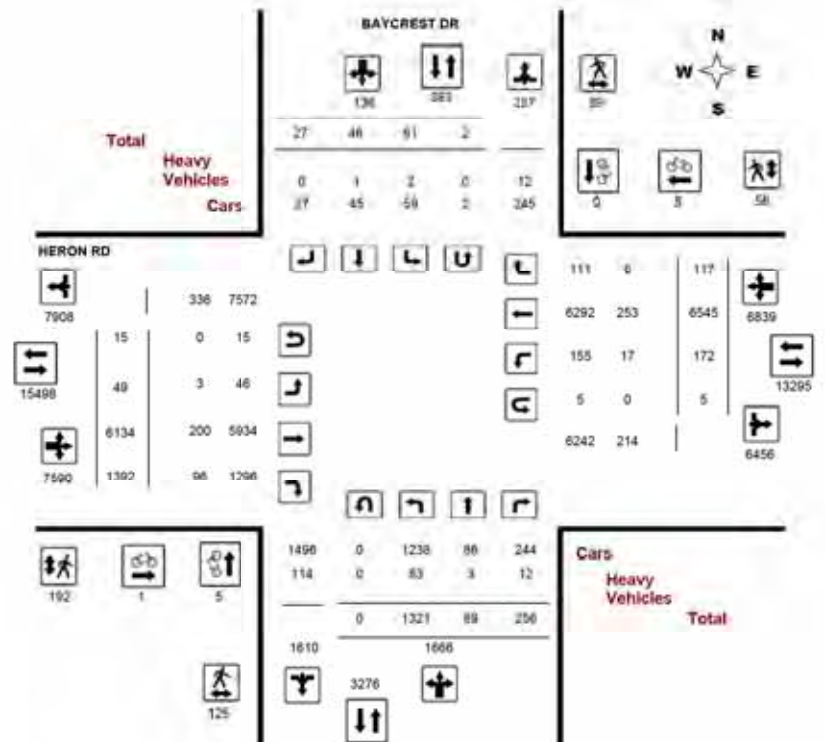
Comments



Transportation Services - Traffic Services
Turning Movement Count - Full Study Diagram
HERON RD @ BAYCREST DR

Survey Date: Wednesday, November 16, 2016

WO#: 36544
 Device: Miovision



Comments



Transportation Services - Traffic Services

Work Order
36544

Turning Movement Count - Full Study Summary Report

HERON RD @ BAYCREST DR

Survey Date: Wednesday, November 16, 2016

Total Observed U-Turns

AADT Factor

Northbound: 0 Southbound: 1
Eastbound: 15 Westbound: 3 (0)

Full Study

Period	BAYCREST DR								HERON RD								Grand Total		
	Northbound				Southbound				Eastbound				Westbound						
	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT		WB TOT	STR TOT
07:00-08:00	178	24	14	216	13	12	6	31	247	5	597	95	697	16	984	31	1031	1728	1975
08:00-09:00	240	22	43	305	3	3	4	10	315	17	728	178	921	24	1108	20	1152	2073	2388
09:00-10:00	189	27	28	244	2	8	6	16	233	9	931	128	666	18	949	27	682	1308	1581
11:30-12:30	130	4	39	173	10	13	6	29	202	2	640	150	792	18	669	9	696	1488	1690
12:30-13:30	138	2	12	152	2	2	1	5	157	0	568	159	727	18	608	9	635	1362	1519
15:00-16:00	151	7	40	198	11	4	0	15	213	10	986	241	1237	36	837	7	880	2117	2330
16:00-17:00	148	2	37	187	19	7	3	29	216	2	1119	233	1354	25	928	13	966	2320	2536
17:00-18:00	187	1	48	236	1	0	2	3	217	4	967	210	1181	19	782	1	782	1963	2180
Sub Total	1321	89	256	1666	61	46	27	134	1800	49	6134	1392	7575	172	6545	117	6834	14409	16209
U-Turns				0				2	2				15				5	20	22
Total	1321	89	256	1666	61	46	27	136	1802	49	6134	1392	7590	172	6545	117	6839	14429	16231

EQ 12hr 1838 124 356 2316 85 64 38 189 2505 66 8526 1935 16550 239 9098 163 9506 20056 22561

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

AVG 12hr 1653 111 320 2084 76 56 34 179 2254 61 7674 1741 9495 215 8188 146 8556 18051 20305

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

AVG 24hr 2185 148 420 2739 100 75 44 223 2953 80 10952 2281 12439 282 10728 192 11208 23647 26680

Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 1.2 to 24 expansion factor.

Comments:

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



Transportation Services - Traffic Services

W.O. 36544

Turning Movement Count - 15 Minute Summary Report

HERON RD @ BAYCREST DR

Survey Date: Wednesday, November 16, 2016

Total Observed U-Turns

Northbound: 0 Southbound: 2
Eastbound: 15 Westbound: 5

Time Period	BAYCREST DR								HERON RD								Grand Total		
	Northbound				Southbound				Eastbound				Westbound						
	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT		W TOT	STR TOT
07:00-07:15	34	3	4	41	2	1	0	3	44	0	91	23	114	6	196	2	204	318	362
07:15-07:30	48	4	4	56	0	1	1	2	58	0	141	25	166	4	219	5	228	394	452
07:30-07:45	58	10	3	71	1	5	2	8	79	2	174	23	199	3	270	11	284	483	562
07:45-08:00	38	7	3	48	10	5	3	18	66	3	191	24	218	3	299	13	315	533	599
08:00-08:15	63	1	12	76	0	0	1	1	77	0	171	31	202	5	288	1	294	496	573
08:15-08:30	75	1	5	81	1	0	0	1	82	5	174	52	232	3	290	2	295	527	609
08:30-08:45	59	9	15	83	1	1	2	4	87	3	170	41	214	8	252	5	265	479	566
08:45-09:00	43	11	11	65	1	2	1	4	69	9	211	54	274	8	278	12	298	572	641
09:00-09:15	45	15	5	65	1	3	2	6	71	7	165	35	207	9	194	15	218	425	496
09:15-09:30	36	10	8	54	1	1	3	5	59	0	138	37	175	3	155	4	162	337	396
09:30-09:45	47	2	7	56	0	1	0	1	57	1	120	25	147	1	167	2	170	317	374
09:45-10:00	41	0	5	46	0	0	0	0	46	1	108	29	138	3	133	6	143	281	327
11:30-11:45	28	1	9	38	2	8	2	12	50	1	156	28	186	5	162	2	169	355	405
11:45-12:00	37	2	10	49	7	4	2	13	62	0	153	44	198	6	150	1	157	355	417
12:00-12:15	24	1	8	33	0	1	2	3	36	0	160	39	199	4	175	2	181	380	416
12:15-12:30	41	0	12	53	1	0	0	1	54	1	171	39	212	3	182	4	190	402	456
12:30-12:45	46	2	9	57	1	1	0	2	59	0	156	37	193	6	151	3	161	354	413
12:45-13:00	30	0	2	32	1	0	0	1	33	0	148	35	184	6	160	3	169	353	386
13:00-13:15	30	0	0	30	0	1	1	2	32	0	134	36	170	2	179	1	182	352	384
13:15-13:30	32	0	1	33	0	0	0	0	33	0	130	51	184	4	118	2	124	308	341
15:00-15:15	42	1	5	48	1	0	0	1	49	2	224	50	276	9	204	2	215	491	540
15:15-15:30	30	2	13	45	3	1	0	4	49	3	250	69	322	4	184	0	188	510	559
15:30-15:45	35	2	8	45	2	1	0	3	48	4	236	63	304	12	233	3	248	562	606
15:45-16:00	44	2	14	60	5	2	0	7	67	1	276	59	336	11	216	2	230	566	633
16:00-16:15	45	1	5	51	5	4	0	9	60	0	288	59	347	9	257	6	272	619	679
16:15-16:30	46	0	9	55	4	0	0	4	59	1	276	55	332	5	200	3	208	540	599
16:30-16:45	24	1	11	36	0	0	0	0	36	1	282	54	339	5	229	0	234	573	609
16:45-17:00	33	0	12	45	10	3	3	16	61	0	273	65	338	6	242	4	252	590	651
17:00-17:15	30	0	10	40	1	0	0	2	42	1	257	55	314	4	231	0	235	548	591
17:15-17:30	50	0	14	64	0	0	1	2	66	0	261	53	314	5	204	1	210	524	590
17:30-17:45	55	0	13	68	0	0	0	0	68	1	234	60	296	6	177	0	184	480	548
17:45-18:00	32	1	9	42	0	0	1	1	43	2	215	42	260	4	150	0	154	414	457
TOTAL:	1321	89	256	1666	61	46	27	136	1802	49	6134	1392	7590	172	6545	117	6839	14429	16231

Note: U-Turns are included in Totals.

Comment:



Transportation Services - Traffic Services
Turning Movement Count - Cyclist Volume Report

Work Order
36544

HERON RD @ BAYCREST DR

Count Date: Wednesday, November 16, 2016

Start Time: 07:00

Time Period	BAYCREST DR			HERON RD			Grand Total
	Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	
07:00 08:00	1	0	1	1	2	3	4
08:00 09:00	2	0	2	0	1	1	3
09:00 10:00	2	0	2	0	0	0	2
11:30 12:30	0	0	0	0	1	1	1
12:30 13:30	0	0	0	0	0	0	0
15:00 16:00	0	0	0	0	1	1	1
16:00 17:00	0	0	0	0	0	0	0
18:00 18:00	0	0	0	0	0	0	0
Total	5	0	5	1	5	6	11

Comment:



Transportation Services - Traffic Services
Turning Movement Count - Heavy Vehicle Report

W.O.
36544

HERON RD @ BAYCREST DR

Survey Date: Wednesday, November 16, 2016

Time Period	BAYCREST DR							HERON RD							W TOT	STR TOT	Grand Total			
	Northbound			N TOT	Southbound			S TOT	Eastbound			E TOT	Westbound							
	LT	ST	RT		LT	ST	RT		LT	ST	RT		LT	ST				RT		
07:00 08:00	8	3	0	11	1	1	0	2	13	1	8	11	20	5	51	4	60	80	93	
08:00 09:00	13	0	1	14	0	0	0	0	14	0	25	13	38	4	56	0	60	98	112	
09:00 10:00	13	0	1	14	0	0	0	0	14	1	25	11	37	1	32	1	34	71	85	
11:30 12:30	5	0	0	5	0	0	0	0	5	0	25	7	32	2	28	0	30	62	67	
12:30 13:30	14	0	0	14	0	0	0	0	14	0	30	14	44	1	24	0	25	69	83	
15:00 16:00	9	0	4	13	0	0	0	0	13	1	30	15	46	3	30	0	33	79	92	
16:00 17:00	11	0	3	14	1	0	0	1	15	0	28	13	41	1	21	1	23	64	79	
17:00 18:00	10	0	3	13	0	0	0	0	13	0	29	12	41	0	11	0	11	52	65	
Sub Total	83	3	12	98	2	1	0	3	101	3	200	96	299	17	253	6	276	575	676	
U-Turns (Heavy Vehicles)				0				0				0				0	0	0	0	0
Total	83	3	12	98	2	1	0	3	101	3	200	96	299	17	253	6	276	575	676	

Heavy Vehicles include Buses, Single-Unit Trucks and Articulated Trucks. Further, they ARE included in the Turning Movement Count Summary.

Note: These volumes consists of bicycles only (no mopeds or motorcycles) and ARE NOT included in the Turning Movement Count Summary.



Transportation Services - Traffic Services

Work Order
36544

Turning Movement Count - Pedestrian Volume Report

HERON RD @ BAYCREST DR

Count Date: Wednesday, November 16, 2016

Start Time: 07:00

Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	2	0	2	1	0	1	3
07:15 07:30	2	2	4	3	2	5	9
07:30 07:45	2	4	6	6	3	9	15
07:45 08:00	3	0	3	15	1	16	19
08:00 08:15	9	5	15	25	0	31	46
08:15 08:30	2	3	5	2	0	2	7
08:30 08:45	7	3	10	3	0	3	13
08:45 09:00	4	4	8	14	4	18	26
08:00 09:00	14	5	19	12	4	16	35
09:00 09:15	27	15	42	31	8	39	81
09:00 09:15	14	3	17	15	0	15	32
09:15 09:30	3	3	6	4	3	7	13
09:30 09:45	1	2	3	4	2	6	9
09:45 10:00	0	3	3	2	1	3	6
09:00 10:00	18	11	29	25	3	31	60
11:30 11:45	2	5	7	19	3	22	29
11:45 12:00	1	3	4	9	1	10	14
12:00 12:15	1	3	4	1	1	2	6
12:15 12:30	3	3	6	5	0	5	11
11:30 12:30	7	14	21	34	5	39	60
12:30 12:45	3	2	5	3	2	5	10
12:45 13:00	7	2	9	2	2	4	13
13:00 13:15	1	2	3	5	1	6	9
13:15 13:30	1	2	3	2	2	4	7
12:30 13:30	12	6	20	12	7	19	39
13:00 13:15	0	3	3	9	5	14	17
13:15 13:30	4	7	11	6	2	8	19
13:30 13:45	1	7	8	9	4	13	21
13:45 14:00	2	4	6	9	0	9	15
13:00 14:00	7	21	28	33	11	44	72
14:00 14:15	3	1	4	13	0	13	17
14:15 14:30	9	2	11	2	4	6	17
14:30 14:45	3	1	4	2	1	3	7
14:45 15:00	5	5	10	10	2	12	22
14:00 15:00	30	9	39	27	7	34	73
17:00 17:15	6	3	9	4	1	5	14
17:15 17:30	6	2	10	1	3	4	14
17:30 17:45	6	0	6	0	1	1	7
17:45 18:00	5	0	5	0	1	1	6
17:00 18:00	25	5	30	5	5	11	41
Total	125	88	214	182	56	248	462

Comment:



Transportation Services - Traffic Services

Work Order
36544

Turning Movement Count - 15 Min U-Turn Total Report

HERON RD @ BAYCREST DR

Survey Date: Wednesday, November 16, 2016

Time Period	Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00 07:15	0	0	0	0	0
07:15 07:30	0	0	0	0	0
07:30 07:45	0	0	0	0	0
07:45 08:00	0	0	0	0	0
08:00 08:15	0	0	0	0	0
08:15 08:30	0	0	1	0	1
08:30 08:45	0	0	0	0	0
08:45 09:00	0	0	0	0	0
09:00 09:15	0	0	0	0	0
09:15 09:30	0	0	0	0	0
09:30 09:45	0	0	1	0	1
09:45 10:00	0	0	0	1	1
11:30 11:45	0	0	1	0	1
11:45 12:00	0	0	1	0	1
12:00 12:15	0	0	0	0	0
12:15 12:30	0	0	1	1	2
12:30 12:45	0	0	0	1	1
12:45 13:00	0	0	1	0	1
13:00 13:15	0	0	0	0	0
13:15 13:30	0	0	3	0	3
15:00 15:15	0	0	0	0	0
15:15 15:30	0	0	0	0	0
15:30 15:45	0	0	1	0	1
15:45 16:00	0	0	0	1	1
16:00 16:15	0	0	0	0	0
16:15 16:30	0	0	0	0	0
16:30 16:45	0	0	2	0	2
16:45 17:00	0	0	0	0	0
17:00 17:15	0	1	1	0	2
17:15 17:30	0	1	0	0	1
17:30 17:45	0	0	1	1	2
17:45 18:00	0	0	1	0	1
Total	0	2	15	5	22



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

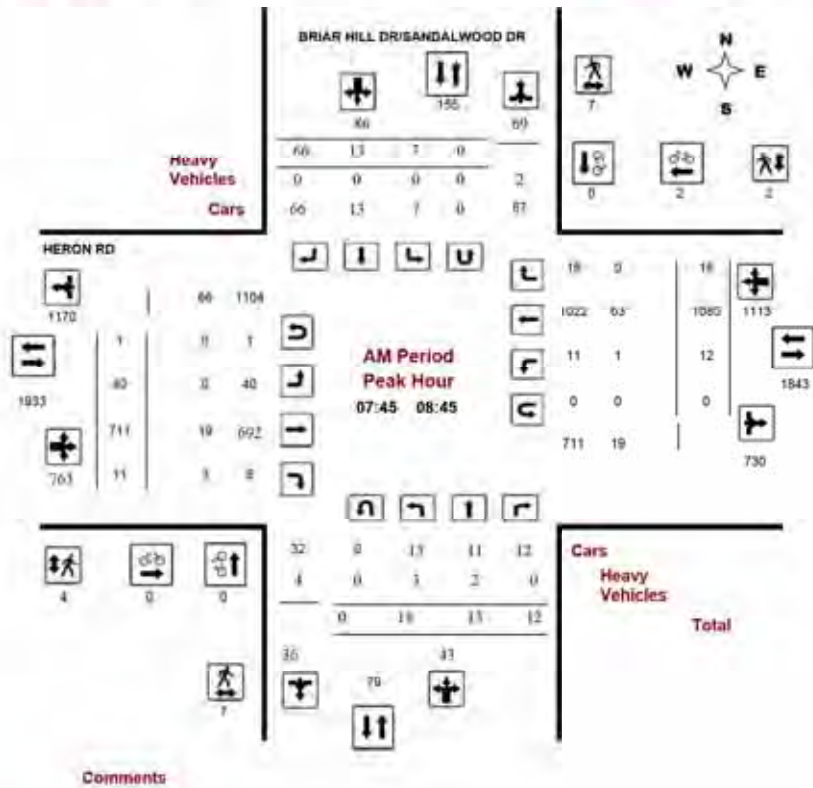
HERON RD @ BRIAR HILL DR/SANDALWOOD DR

Survey Date: Wednesday, November 16, 2016

Start Time: 07:00

WO No: 36492

Device: Miovision



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

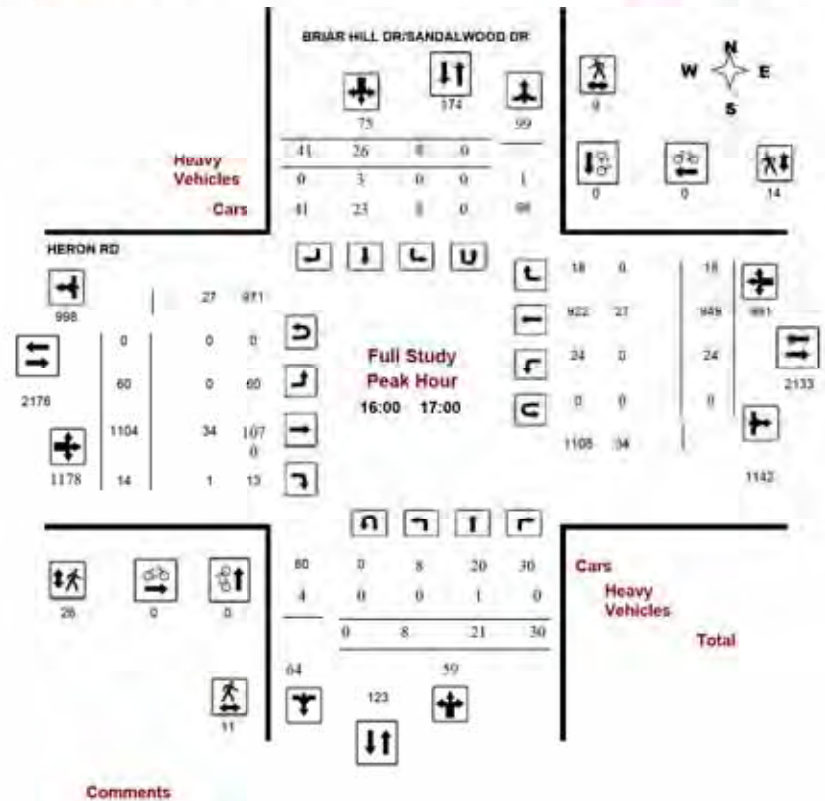
HERON RD @ BRIAR HILL DR/SANDALWOOD DR

Survey Date: Wednesday, November 16, 2016

Start Time: 07:00

WO No: 36492

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

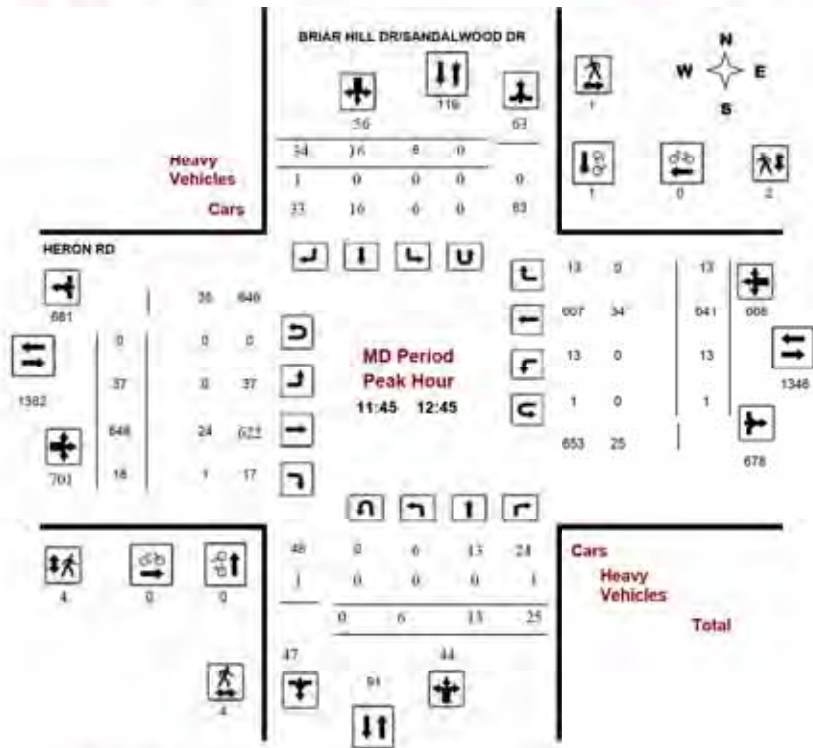
HERON RD @ BRIAR HILL DR/SANDALWOOD DR

Survey Date: Wednesday, November 16, 2016

Start Time: 07:00

WO No: 36492

Device: Miovision



Comments



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

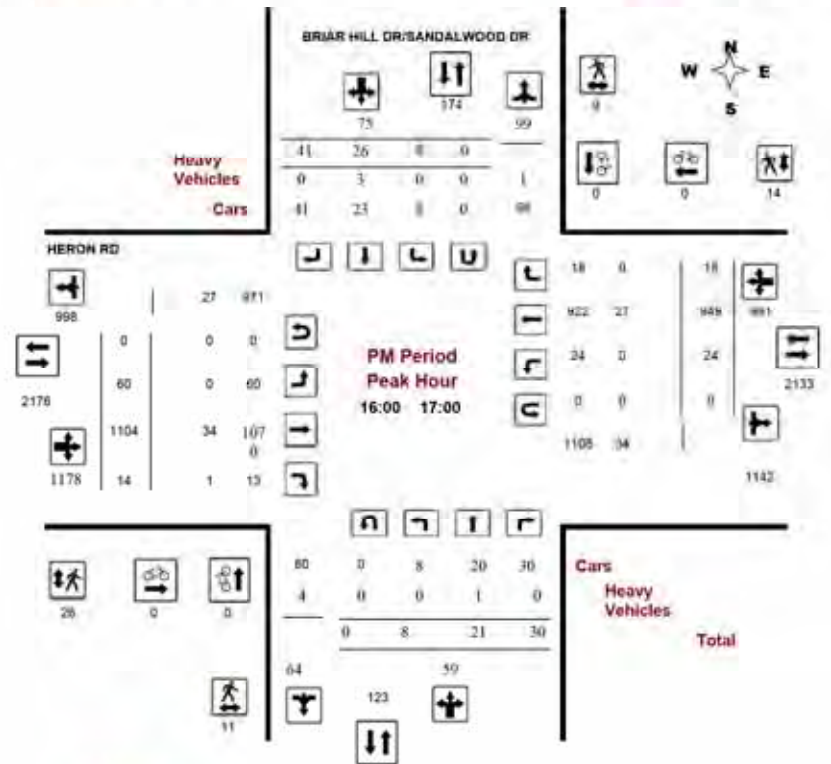
HERON RD @ BRIAR HILL DR/SANDALWOOD DR

Survey Date: Wednesday, November 16, 2016

Start Time: 07:00

WO No: 36492

Device: Miovision



Comments

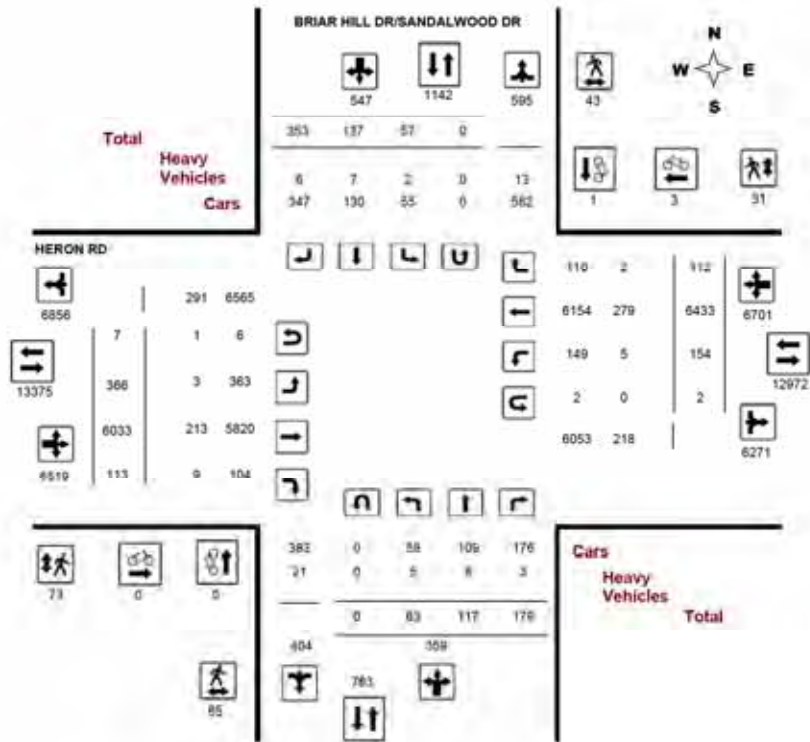


Transportation Services - Traffic Services
Turning Movement Count - Full Study Diagram

HERON RD @ BRIAR HILL DR/SANDALWOOD DR

Survey Date: Wednesday, November 16, 2016

WO#: 36492
 Device: Movision



Comments:



Transportation Services - Traffic Services

Work Order
36492

Turning Movement Count - Full Study Summary Report

HERON RD @ BRIAR HILL DR/SANDALWOOD DR

Survey Date: Wednesday, November 15, 2016

Total Observed U-Turns:

AADT Factor:

Northbound: (0) Southbound: (1) (0)
 Eastbound: (7) Westbound: (2)

Full Study

Period	BRIAR HILL DR/SANDALWOOD DR					HERON RD					Grand Total								
	LT	ST	RT	NB TOT	STR TOT	LT	ST	RT	EB TOT	WB TOT		STR TOT							
07:00-08:00	8	1	13	25	8	5	51	64	93	19	592	7	618	8	946	9	963	1581	1674
08:00-09:00	15	19	18	52	8	17	63	86	136	43	891	12	746	18	1069	13	1088	1844	1980
09:00-10:00	9	14	26	48	8	21	47	76	121	39	613	12	594	18	888	9	713	1387	1428
11:00-12:00	9	12	18	39	8	15	27	48	87	38	841	15	692	14	850	12	676	1368	1455
12:30-13:30	9	12	21	42	8	11	40	57	99	42	562	12	616	20	548	13	579	1195	1294
15:00-16:00	4	17	34	55	8	25	50	83	138	50	925	24	999	23	806	19	848	1847	1985
16:00-17:00	8	21	30	59	8	26	41	75	134	60	1104	14	1178	24	949	18	991	2169	2303
17:00-18:00	4	15	31	50	2	17	34	58	98	77	975	17	1069	31	781	19	831	1900	1990
Sub Total	63	117	179	359	57	137	353	547	996	366	6033	113	6512	154	6433	112	6699	13211	14117
U-Turns	0	0	0	0	0	0	0	0	0	0	7	0	0	0	0	0	2	9	9
Total	63	117	179	359	57	137	353	547	996	366	6033	113	6519	154	6433	112	6701	13220	14126
EQ 12hr	88	163	249	499	79	190	491	760	1259	509	8388	157	9061	214	8942	156	9314	18375	19634
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													1.39						
AVG 12hr	79	148	224	449	71	171	442	684	1133	458	7547	141	8155	193	8048	140	8383	16338	17671
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													.90						
AVG 24hr	103	192	293	589	93	225	578	896	1484	600	8887	185	10683	252	10542	184	10962	21665	23149
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.													1.31						

Comments:

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



Transportation Services - Traffic Services W.O. 36492

Turning Movement Count - 15 Minute Summary Report

HERON RD @ BRIAR HILL DR/SANDALWOOD DR

Survey Date: Wednesday, November 16, 2016

Total Observed U-Turns

Northbound: 0 Southbound: 0
Eastbound: 7 Westbound: 1

BRIAR HILL DR/SANDALWOOD DR

HERON RD

Time Period	Northbound			Southbound			Eastbound			Westbound			Grand Total						
	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT		E TOT	LT	ST	RT	W TOT	STR TOT
07:00 07:15	1	0	4	5	0	0	7	7	12	2	108	1	111	3	191	1	195	306	318
07:15 07:30	1	0	3	4	4	0	10	14	18	2	130	2	134	1	216	3	220	354	372
07:30 07:45	2	2	4	8	1	1	13	15	23	6	163	1	170	3	275	0	278	448	471
07:45 08:00	5	5	2	12	3	4	21	28	40	9	191	3	203	1	264	5	270	473	513
08:00 08:15	3	3	5	11	0	4	24	28	39	4	177	5	186	3	281	4	288	474	513
08:15 08:30	5	1	3	9	2	1	11	14	23	10	162	1	174	5	284	4	293	467	490
08:30 08:45	5	4	2	11	2	4	10	16	27	17	181	2	200	3	256	3	262	462	489
08:45 09:00	2	11	6	19	2	8	18	28	47	12	171	4	188	5	248	2	255	443	490
09:00 09:15	1	8	15	24	0	10	16	26	50	15	181	4	200	5	220	4	229	429	479
09:15 09:30	0	3	5	8	4	7	14	25	33	15	130	5	151	7	160	0	167	318	351
09:30 09:45	2	1	5	8	1	2	11	14	22	4	129	1	135	2	188	3	193	308	330
09:45 10:00	3	2	0	5	3	2	8	11	16	5	103	2	110	4	138	2	144	254	270
11:30 11:45	2	1	3	6	1	0	7	8	14	10	158	3	173	5	156	1	162	335	349
11:45 12:00	2	2	6	10	3	6	4	13	23	8	154	4	166	1	154	4	159	325	348
12:00 12:15	4	6	5	15	1	5	7	13	28	9	159	6	174	4	176	5	186	360	388
12:15 12:30	0	3	5	8	1	4	9	14	22	9	170	2	181	4	164	2	170	351	373
12:30 12:45	0	2	9	11	1	1	14	16	27	11	183	6	180	4	147	2	153	333	360
12:45 13:00	2	1	3	6	1	3	10	14	20	10	142	4	157	6	148	5	159	316	336
13:00 13:15	4	7	4	15	0	4	5	9	24	13	114	0	127	5	133	2	140	267	291
13:15 13:30	3	2	5	10	4	3	11	18	28	8	143	2	153	5	118	4	127	280	308
15:00 15:15	0	7	9	16	2	0	7	9	25	8	218	4	228	2	191	7	200	428	453
15:15 15:30	1	4	6	11	1	3	10	14	25	10	236	8	254	4	187	2	193	447	472
15:30 15:45	1	3	9	13	1	5	15	21	34	17	212	5	234	11	203	8	222	456	490
15:45 16:00	2	3	10	15	4	17	18	39	54	15	261	7	283	6	225	2	233	516	570
16:00 16:15	0	6	7	13	2	11	16	29	42	9	286	4	299	7	264	0	271	570	612
16:15 16:30	2	5	6	13	1	5	10	16	29	14	266	1	281	6	213	6	225	506	535
16:30 16:45	4	2	7	13	4	3	6	13	26	9	281	6	296	6	223	7	236	532	558
16:45 17:00	2	8	10	20	1	7	9	17	37	28	271	3	302	5	249	5	259	561	598
17:00 17:15	1	6	5	12	2	5	5	12	24	22	274	6	302	10	245	5	260	562	586
17:15 17:30	2	1	3	6	0	3	9	12	18	20	264	6	290	11	202	4	217	507	525
17:30 17:45	1	3	6	10	4	8	12	24	34	21	220	3	244	6	172	7	186	430	464
17:45 18:00	0	5	7	12	1	1	8	10	22	14	217	2	233	4	162	3	169	402	424
TOTAL	63	117	178	358	57	137	350	547	896	866	8033	113	8519	154	6433	112	6701	13220	14126

Note: U-Turns are included in Totals.

Comment:



Transportation Services - Traffic Services
Turning Movement Count - Cyclist Volume Report

Work Order
36492

HERON RD @ BRIAR HILL DR/SANDALWOOD DR

Count Date: Wednesday, November 16, 2016

Start Time: 07:00

Time Period	BRIAR HILL DR/SANDALWOOD DR			HERON RD			Grand Total
	Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	
07:00 08:00	0	0	0	0	1	1	1
08:00 09:00	0	0	0	0	2	2	2
09:00 10:00	0	0	0	0	0	0	0
11:30 12:30	0	1	1	0	0	0	1
12:30 13:30	0	0	0	0	0	0	0
15:00 16:00	0	0	0	0	0	0	0
16:00 17:00	0	0	0	0	0	0	0
17:00 18:00	0	0	0	0	0	0	0
Total	0	1	1	0	3	3	4

Comment:

Note: These volumes consists of bicycles only (no mopeds or motorcycles) and ARE NOT included in the Turning Movement Count Summary.



Transportation Services - Traffic Services

W.O.
36492

Turning Movement Count - Heavy Vehicle Report

HERON RD @ BRIAR HILL DR/SANDALWOOD DR

Survey Date: Wednesday, November 16, 2016

BRIAR HILL DR/SANDALWOOD DR										HERON RD										Grand Total
Northbound					Southbound					Eastbound					Westbound					
Time Period	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT		
07:00-08:00	0	0	0	0	0	0	0	1	1	1	0	9	1	10	1	64	0	65	75	76
08:00-09:00	3	5	1	9	0	0	1	1	10	0	19	3	22	1	55	1	60	82	82	
09:00-10:00	0	1	0	1	0	0	0	0	1	0	28	1	29	0	33	0	33	62	63	
11:30-12:30	0	0	1	1	0	0	1	1	2	0	26	1	28	0	26	0	28	56	58	
12:30-13:30	1	0	0	1	1	0	1	2	3	0	33	0	33	1	29	1	31	64	67	
15:00-16:00	1	1	0	2	1	4	2	7	9	3	35	2	40	2	28	0	30	70	79	
16:00-17:00	0	1	0	1	0	3	0	3	4	0	34	1	35	0	27	0	27	62	66	
17:00-18:00	0	0	1	1	0	0	0	0	1	0	29	0	29	0	12	0	12	41	42	
Sub Total	5	8	3	16	2	7	6	15	31	3	213	0	226	5	279	2	286	512	543	
U-Turns (Heavy Vehicles)	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1	
Total	5	8	3	16	2	7	6	15	31	3	213	0	227	5	279	2	286	513	544	

Heavy Vehicles include Buses, Single-Unit Trucks and Articulated Trucks. Further, they ARE included in the Turning Movement Count Summary.



Transportation Services - Traffic Services

Work Order
36492

Turning Movement Count - Pedestrian Volume Report

HERON RD @ BRIAR HILL DR/SANDALWOOD DR

Count Date: Wednesday, November 16, 2016

Start Time: 07:00

Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00-07:15	0	2	2	0	0	0	2
07:15-07:30	0	2	2	0	0	0	2
07:30-07:45	0	2	2	1	0	1	3
07:45-08:00	2	1	3	0	0	0	3
07:00-08:00	2	7	9	1	0	1	10
08:00-08:15	1	1	2	0	1	1	3
08:15-08:30	0	3	3	1	0	1	4
08:30-08:45	4	2	6	3	1	4	10
08:45-09:00	1	0	1	10	3	13	14
08:00-09:00	5	5	12	14	5	19	31
09:00-09:15	0	1	1	3	3	6	13
09:15-09:30	1	5	6	1	0	1	7
09:30-09:45	1	1	2	0	0	0	2
09:45-10:00	5	0	5	4	0	4	9
09:00-10:00	13	7	20	8	3	11	31
11:30-11:45	6	0	6	0	0	0	6
11:45-12:00	1	0	1	3	1	4	5
12:00-12:15	0	1	1	1	1	2	3
12:15-12:30	2	0	2	0	0	0	2
11:30-12:30	9	1	10	4	2	6	16
12:30-12:45	1	0	1	0	0	0	1
12:45-13:00	3	2	5	0	1	1	6
13:00-13:15	0	0	0	1	0	1	1
13:15-13:30	0	1	1	0	0	0	1
12:30-13:30	4	3	7	1	1	2	9
13:00-13:15	0	3	3	0	2	2	5
13:15-13:30	3	2	5	1	0	1	6
13:30-13:45	2	2	4	1	2	3	7
13:45-14:00	1	2	3	0	0	0	3
13:00-14:00	5	9	15	10	4	14	29
14:00-14:15	5	2	7	21	12	33	40
14:15-14:30	4	2	6	5	2	7	13
14:30-14:45	0	1	1	0	0	0	1
14:45-15:00	2	4	6	0	0	0	6
14:00-15:00	11	9	20	26	14	40	60
15:00-15:15	3	1	4	3	1	4	8
15:15-15:30	3	0	3	1	0	1	4
15:30-15:45	7	0	7	4	1	5	12
15:45-16:00	1	0	1	1	0	1	2
15:00-16:00	14	1	15	8	2	11	26
Total	65	43	108	73	31	104	212

Comment:



Transportation Services - Traffic Services

Work Order
36492

Turning Movement Count - 15 Min U-Turn Total Report

HERON RD @ BRIAR HILL DR/SANDALWOOD DR

Survey Date: Wednesday, November 16, 2016

Time Period	Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00 - 07:15	0	0	0	0	0
07:15 - 07:30	0	0	0	0	0
07:30 - 07:45	0	0	0	0	0
07:45 - 08:00	0	0	0	0	0
08:00 - 08:15	0	0	0	0	0
08:15 - 08:30	0	0	1	0	1
08:30 - 08:45	0	0	0	0	0
08:45 - 09:00	0	0	1	0	1
09:00 - 09:15	0	0	0	0	0
09:15 - 09:30	0	0	1	0	1
09:30 - 09:45	0	0	1	0	1
09:45 - 10:00	0	0	0	0	0
11:30 - 11:45	0	0	2	0	2
11:45 - 12:00	0	0	0	0	0
12:00 - 12:15	0	0	0	1	1
12:15 - 12:30	0	0	0	0	0
12:30 - 12:45	0	0	0	0	0
12:45 - 13:00	0	0	1	0	1
13:00 - 13:15	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0
15:30 - 15:45	0	0	0	0	0
15:45 - 16:00	0	0	0	0	0
16:00 - 16:15	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0
16:30 - 16:45	0	0	0	0	0
16:45 - 17:00	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0
17:30 - 17:45	0	0	0	1	1
17:45 - 18:00	0	0	0	0	0
Total	0	0	7	2	9



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

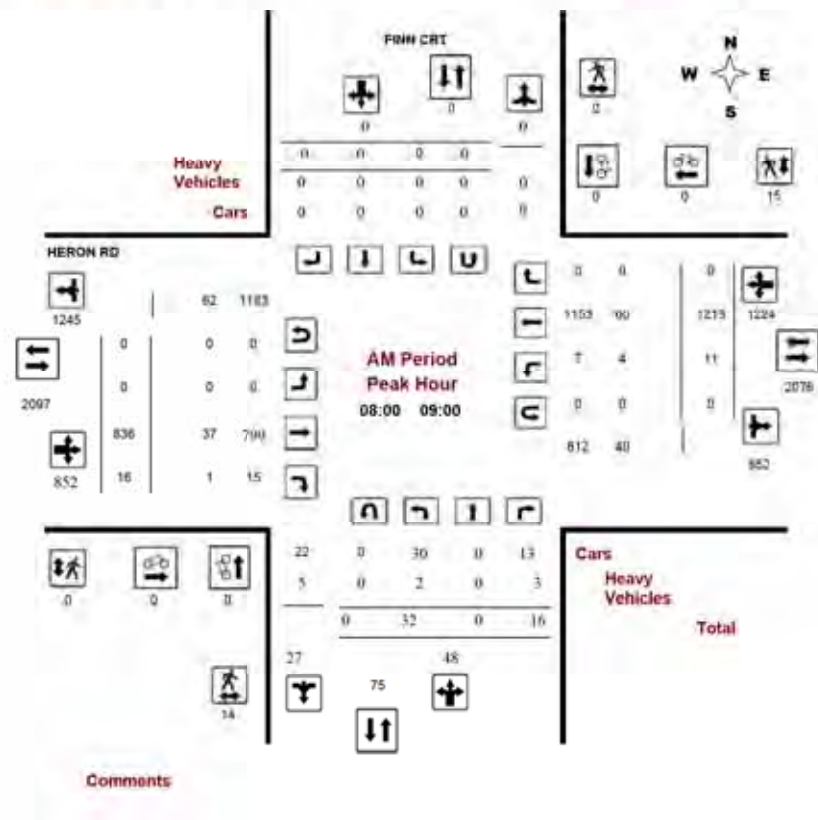
HERON RD @ FINN CRT

Survey Date: Thursday, February 07, 2019

Start Time: 07:00

WO No: 38309

Device: Miovision





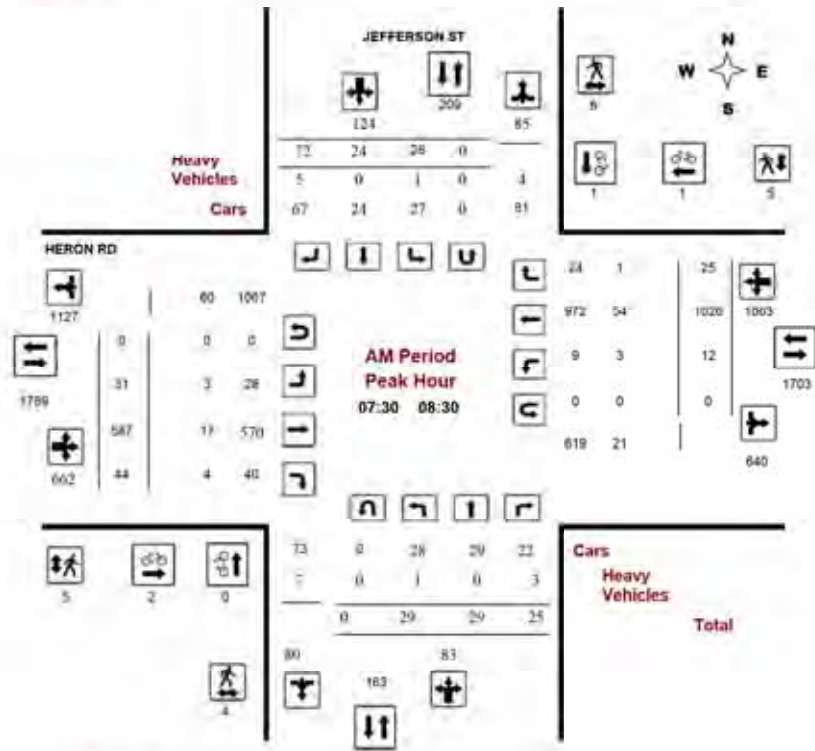
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HERON RD @ JEFFERSON ST

Survey Date: Thursday, November 17, 2016
Start Time: 07:00

WO No: 36494
Device: Miovision



Comments



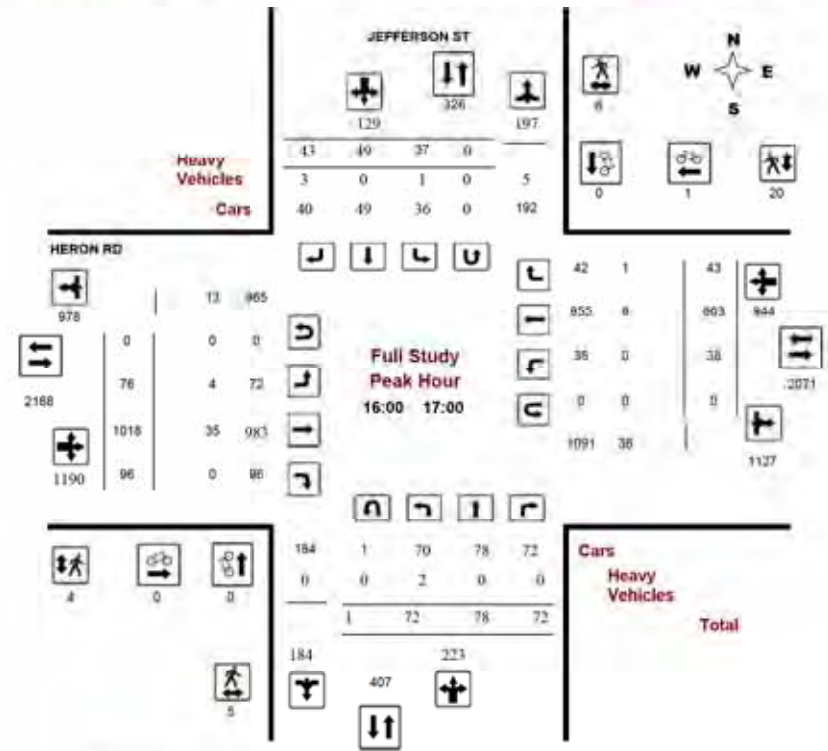
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HERON RD @ JEFFERSON ST

Survey Date: Thursday, November 17, 2016
Start Time: 07:00

WO No: 36494
Device: Miovision



Comments



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

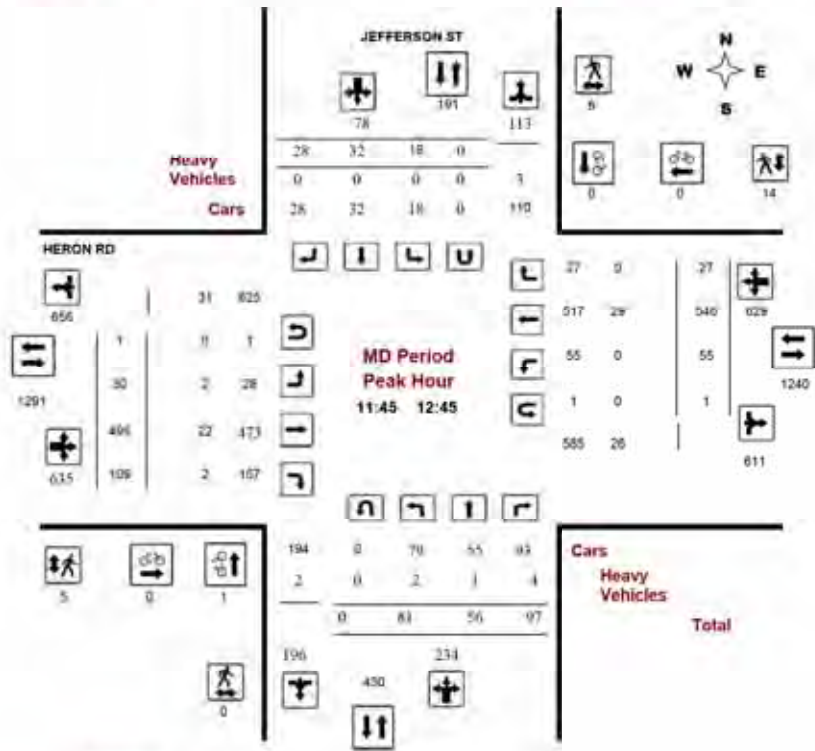
HERON RD @ JEFFERSON ST

Survey Date: Thursday, November 17, 2016

Start Time: 07:00

WO No: 36494

Device: Miovision



Comments



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

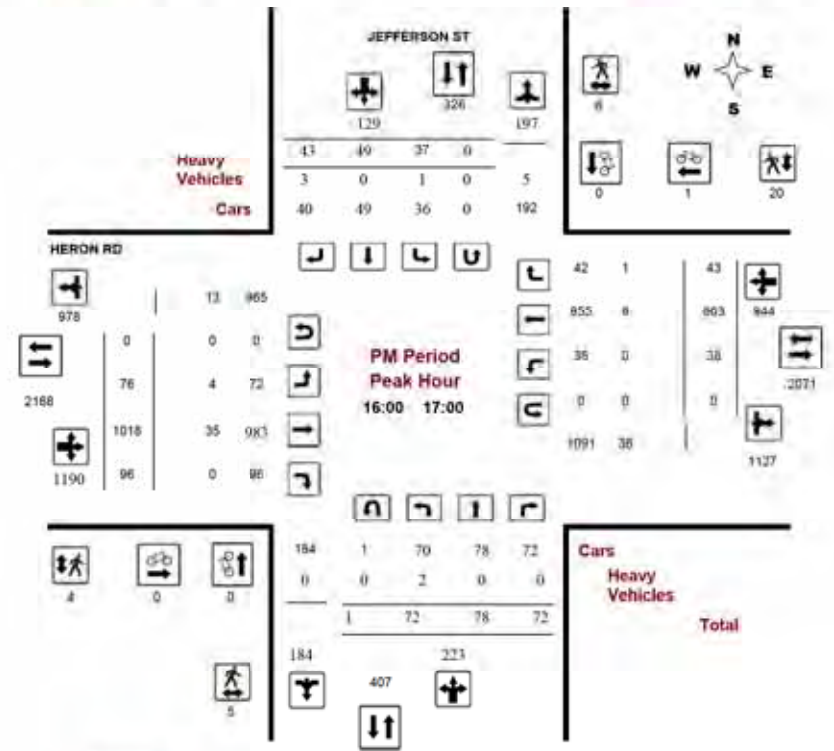
HERON RD @ JEFFERSON ST

Survey Date: Thursday, November 17, 2016

Start Time: 07:00

WO No: 36494

Device: Miovision



Comments

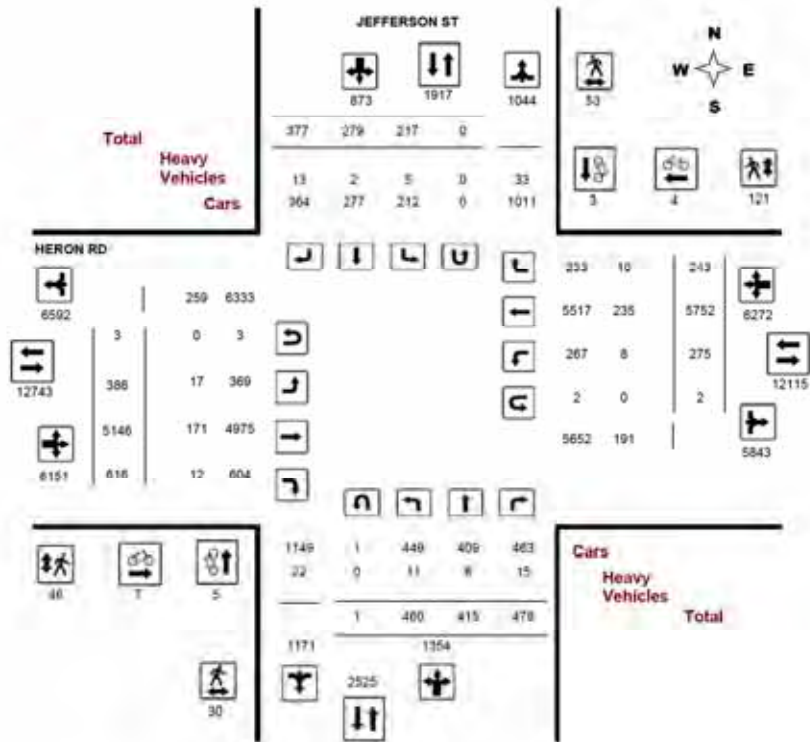


Transportation Services - Traffic Services
Turning Movement Count - Full Study Diagram

HERON RD @ JEFFERSON ST

Survey Date: Thursday, November 17, 2016

WO#: 36494
 Device: Miovision



Comments:



Transportation Services - Traffic Services

Work Order
36494

Turning Movement Count - Full Study Summary Report

HERON RD @ JEFFERSON ST

Survey Date: Thursday, November 17, 2016

Total Observed U-Turns

AADT Factor

Northbound: 1 Southbound: 0
 Eastbound: 3 Westbound: 2
 (0)

Full Study

Period	JEFFERSON ST				HERON RD				Grand Total										
	LT	ST	RT	NR TOT	LT	ST	RT	SB TOT		STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT
01:00-03:00	15	25	15	55	20	17	58	95	158	17	560	24	601	16	938	26	980	1581	1731
03:00-05:00	38	41	26	106	16	26	64	126	232	39	610	53	702	19	935	34	988	1698	1922
05:00-07:00	45	48	43	134	25	38	57	121	255	36	479	70	585	34	538	32	685	1198	1445
07:00-09:00	78	45	46	219	18	31	35	79	289	28	502	116	646	49	547	23	619	1265	1554
09:00-11:00	82	54	81	217	34	40	33	107	324	39	393	63	495	45	477	27	549	1044	1368
11:00-13:00	75	88	74	235	31	44	37	112	347	77	785	95	957	50	755	28	833	1798	2137
13:00-15:00	72	78	72	222	37	48	43	129	351	76	1018	96	1198	38	863	43	944	2134	2485
15:00-17:00	58	40	78	174	21	33	50	104	278	74	799	99	972	24	688	30	752	1724	2002
Sub Total	480	415	478	1354	217	279	377	873	2227	388	5146	618	6148	275	5752	243	6272	12423	14644
U-Turns	1			1				1					3				2	5	6
Total	480	415	478	1354	217	279	377	873	2227	388	5146	618	6151	275	5752	243	6272	12423	14650
EQ 12hr	639	577	664	1882	302	388	524	1213	3095	537	7153	856	8558	382	7995	338	8718	17268	20383
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.																	1.39		
AVG 12hr	575	519	588	1694	271	349	472	1092	2786	483	6438	771	7895	344	7198	304	7846	15541	18327
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.																	.90		
AVG 24hr	754	680	783	2219	358	457	618	1431	3658	633	8433	1010	10088	451	9428	398	10279	20359	24009
Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.																	1.31		

Comments:

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



Turning Movement Count - 15 Minute Summary Report

HERON RD @ JEFFERSON ST

Survey Date: Thursday, November 17, 2016

Total Observed U-Turns

Northbound: 1 Southbound: 0
Eastbound: 3 Westbound: 1

Time Period	JEFFERSON ST										HERON RD										Grand Total
	Northbound					Southbound					Eastbound					Westbound					
	LT	ST	RT	TOT	U	LT	ST	RT	TOT	U	LT	ST	RT	TOT	U	LT	ST	RT	TOT	U	
07:00 07:15	1	4	1	6	0	4	1	11	16	22	1	118	1	120	6	188	3	195	315	337	
07:15 07:30	4	6	4	14	3	5	14	22	36	2	149	8	159	7	230	10	247	406	442		
07:30 07:45	7	6	6	19	8	2	14	24	43	5	154	4	163	3	263	7	273	436	479		
07:45 08:00	3	9	4	16	5	9	19	33	49	9	139	11	159	0	259	6	265	424	473		
08:00 08:15	10	6	4	20	8	6	22	36	56	8	155	16	179	3	240	7	250	429	485		
08:15 08:30	9	8	11	28	7	7	17	31	59	9	139	13	161	6	264	5	275	436	495		
08:30 08:45	9	13	5	27	8	4	13	25	52	10	157	10	177	4	231	13	248	425	477		
08:45 09:00	11	14	6	31	13	9	12	34	65	12	159	14	185	8	200	9	215	400	465		
09:00 09:15	12	16	9	37	8	12	20	40	77	14	131	14	159	9	150	10	169	328	405		
09:15 09:30	10	11	9	30	9	13	11	33	63	11	111	13	135	10	141	7	158	293	356		
09:30 09:45	12	9	8	29	2	4	14	20	49	6	114	16	130	10	129	10	150	286	335		
09:45 10:00	11	10	17	38	8	10	12	28	66	5	123	27	155	5	119	5	129	284	350		
11:30 11:45	18	8	17	43	3	10	12	25	68	4	110	30	144	11	125	5	141	285	353		
11:45 12:00	19	15	21	55	3	4	5	12	67	7	131	26	164	14	136	4	155	319	386		
12:00 12:15	17	8	21	46	2	6	6	14	60	6	135	34	175	15	134	5	154	329	389		
12:15 12:30	22	14	30	66	5	11	12	28	94	11	126	26	164	9	152	9	170	334	426		
12:30 12:45	23	19	25	67	8	11	5	24	91	8	103	23	132	17	124	9	150	282	373		
12:45 13:00	20	13	21	54	10	7	6	23	77	12	123	23	158	7	109	3	119	277	354		
13:00 13:15	15	13	23	51	10	13	14	37	88	6	106	14	126	6	143	5	154	280	368		
13:15 13:30	24	9	12	45	6	9	8	23	68	15	81	3	79	15	101	10	126	205	273		
15:00 15:15	17	13	20	50	8	11	8	27	77	16	162	22	200	14	176	8	198	398	475		
15:15 15:30	21	26	20	67	3	10	3	16	83	19	212	20	251	17	200	4	221	472	555		
15:30 15:45	18	28	11	57	11	8	11	30	87	22	196	26	246	9	209	8	226	472	559		
15:45 16:00	19	19	23	61	9	15	15	39	100	20	215	27	262	10	170	8	188	450	550		
16:00 16:15	13	26	15	54	10	12	13	35	89	20	271	26	317	11	247	12	270	587	676		
16:15 16:30	20	20	28	68	10	14	14	38	106	19	237	25	281	14	184	9	207	488	594		
16:30 16:45	20	23	13	57	5	9	10	24	81	18	255	26	297	8	234	10	252	549	630		
16:45 17:00	19	9	16	44	12	14	6	32	76	21	255	19	295	5	198	12	215	510	586		
17:00 17:15	13	13	16	42	6	6	11	23	65	24	237	22	283	6	227	16	249	532	597		
17:15 17:30	13	14	20	47	3	8	17	28	75	17	208	36	261	10	187	6	203	464	539		
17:30 17:45	14	8	25	47	5	10	10	25	72	15	207	25	241	5	152	7	164	405	477		
17:45 18:00	16	5	17	38	7	9	12	28	66	18	153	16	187	3	132	1	136	323	389		
TOTAL	460	415	478	1354	217	279	377	873	2227	386	5146	816	8151	275	5752	243	6272	12423	14650		

Note: U-Turns are included in Totals.

Comment:



HERON RD @ JEFFERSON ST

Count Date: Thursday, November 17, 2016

Start Time: 07:00

Time Period	JEFFERSON ST			HERON RD			Grand Total
	Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	
07:00 08:00	0	1	1	1	1	2	3
08:00 09:00	0	1	1	1	0	1	2
09:00 10:00	0	1	1	0	0	0	1
11:30 12:30	1	0	1	0	0	0	1
12:30 13:30	2	0	2	4	1	5	7
15:00 16:00	2	0	2	1	1	2	4
16:00 17:00	0	0	0	0	1	1	1
17:00 18:00	0	0	0	0	0	0	0
Total	5	3	8	7	4	11	19

Comment:

Note: These volumes consists of bicycles only (no mopeds or motorcycles) and ARE NOT included in the Turning Movement Count Summary.



Transportation Services - Traffic Services

W.O.
36494

Turning Movement Count - Heavy Vehicle Report

HERON RD @ JEFFERSON ST

Survey Date: Thursday, November 17, 2016

JEFFERSON ST										HERON RD										Grand Total
Northbound					Southbound					Eastbound					Westbound					
Time Period	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT		
07:00 08:00	1	0	2	3	0	0	4	4	7	0	11	2	13	5	47	1	53	66	73	
08:00 09:00	1	1	1	3	1	0	3	4	7	5	14	3	22	5	52	3	58	78	85	
09:00 10:00	1	2	3	6	1	0	0	1	7	2	23	3	28	1	31	3	34	62	69	
11:30 12:30	2	0	4	6	0	0	0	0	6	2	21	2	25	0	25	0	25	50	58	
12:30 13:30	2	1	2	5	1	0	0	1	6	2	18	1	21	0	34	1	35	56	62	
15:00 16:00	1	1	3	5	1	1	3	5	10	0	32	1	33	0	24	3	27	60	70	
16:00 17:00	2	0	0	2	1	0	3	4	6	4	35	0	39	0	8	1	9	48	54	
17:00 18:00	1	1	0	2	0	1	0	1	3	2	17	0	19	0	14	0	14	33	36	
Sub Total	11	6	15	32	5	2	13	20	52	17	171	12	200	8	235	10	253	453	595	
U-Turns (Heavy Vehicles)	0				0				0				0				0			
Total	11	6	15	32	5	2	13	20	52	17	171	12	200	8	235	10	253	453	595	

Heavy Vehicles include Buses, Single-Unit Trucks and Articulated Trucks. Further, they ARE included in the Turning Movement Count Summary.



Transportation Services - Traffic Services

Work Order
36494

Turning Movement Count - Pedestrian Volume Report

HERON RD @ JEFFERSON ST

Count Date: Thursday, November 17, 2016

Start Time: 07:00

Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	0	1	1	0	5	3	4
07:15 07:30	2	3	5	1	1	2	7
07:30 07:45	2	2	4	0	0	0	4
07:45 08:00	0	0	0	0	3	3	3
07:00 08:00	4	6	10	1	7	8	18
08:00 08:15	0	3	3	3	0	3	6
08:15 08:30	2	1	3	2	2	4	7
08:30 08:45	1	3	3	1	1	2	5
08:45 09:00	2	1	4	1	8	9	13
08:00 09:00	5	7	13	7	11	18	31
09:00 09:15	0	1	1	0	7	7	8
09:15 09:30	2	1	3	1	2	3	6
09:30 09:45	0	3	3	3	6	9	12
09:45 10:00	1	1	2	1	8	9	11
09:00 10:00	3	6	9	5	23	28	37
11:30 11:45	0	4	4	0	4	4	8
11:45 12:00	0	4	4	2	9	11	15
12:00 12:15	0	2	2	1	1	2	4
12:15 12:30	0	0	0	1	4	5	5
11:30 12:30	0	10	10	4	18	22	32
12:30 12:45	0	0	0	1	0	1	1
12:45 13:00	0	2	2	2	2	4	6
13:00 13:15	1	1	2	2	1	3	5
13:15 13:30	0	6	6	3	0	3	9
12:30 13:30	1	8	10	8	3	11	21
13:00 13:15	2	0	2	1	2	3	5
13:15 13:30	0	2	2	1	8	9	11
13:30 13:45	6	1	7	3	2	5	12
13:45 16:00	3	2	5	6	18	24	29
15:00 16:00	11	5	16	11	30	41	57
16:00 16:15	3	3	6	1	6	7	13
16:15 16:30	0	3	3	2	1	3	6
16:30 16:45	0	0	0	0	6	6	6
16:45 17:00	2	0	2	1	7	8	10
16:00 17:00	5	6	11	4	20	24	35
17:00 17:15	0	0	0	3	1	3	3
17:15 17:30	0	2	2	0	1	1	3
17:30 17:45	0	0	0	2	3	5	5
17:45 18:00	0	2	2	2	4	6	8
17:00 18:00	0	4	4	6	9	15	19
Total	30	53	83	40	121	167	250

Comment:



Transportation Services - Traffic Services

Work Order
36494

Turning Movement Count - 15 Min U-Turn Total Report

HERON RD @ JEFFERSON ST

Survey Date: Thursday, November 17, 2016

Time Period	Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00 - 07:15	0	0	0	0	0
07:15 - 07:30	0	0	0	0	0
07:30 - 07:45	0	0	0	0	0
07:45 - 08:00	0	0	0	0	0
08:00 - 08:15	0	0	0	0	0
08:15 - 08:30	0	0	0	0	0
08:30 - 08:45	0	0	0	0	0
08:45 - 09:00	0	0	0	0	0
09:00 - 09:15	0	0	0	0	0
09:15 - 09:30	0	0	0	0	0
09:30 - 09:45	0	0	0	1	1
09:45 - 10:00	0	0	0	0	0
11:30 - 11:45	0	0	0	0	0
11:45 - 12:00	0	0	0	1	1
12:00 - 12:15	0	0	0	0	0
12:15 - 12:30	0	0	1	0	1
12:30 - 12:45	0	0	0	0	0
12:45 - 13:00	0	0	0	0	0
13:00 - 13:15	0	0	0	0	0
13:15 - 13:30	0	0	0	0	0
15:00 - 15:15	0	0	0	0	0
15:15 - 15:30	0	0	0	0	0
15:30 - 15:45	0	0	2	0	2
15:45 - 16:00	0	0	0	0	0
16:00 - 16:15	0	0	0	0	0
16:15 - 16:30	0	0	0	0	0
16:30 - 16:45	1	0	0	0	1
16:45 - 17:00	0	0	0	0	0
17:00 - 17:15	0	0	0	0	0
17:15 - 17:30	0	0	0	0	0
17:30 - 17:45	0	0	0	0	0
17:45 - 18:00	0	0	0	0	0
Total	1	0	3	2	6

Commercial Development
1850 Walkley Road, Ottawa
Transportation Impact Assessment

EXHIBIT 2 2018 PEAK AM HOUR TRAFFIC COUNTS – Heron/Walkley

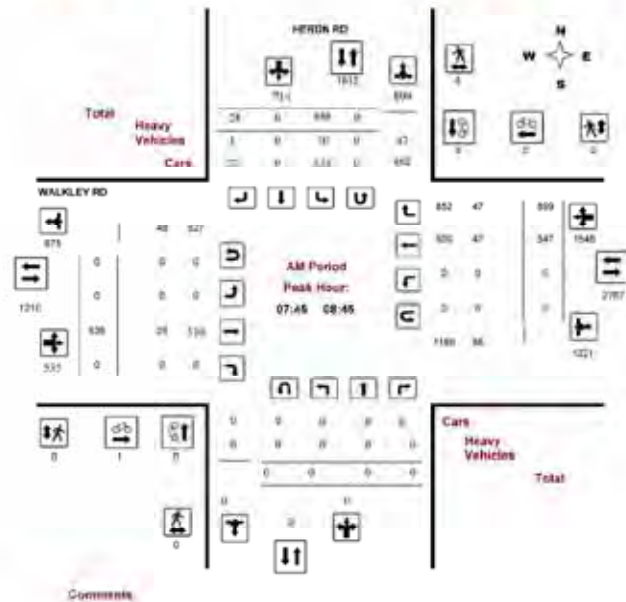


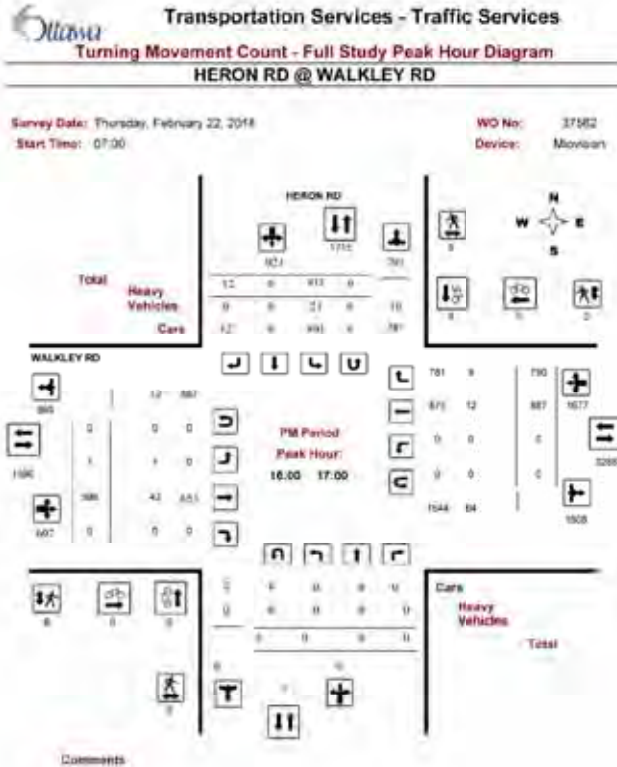
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram HERON RD @ WALKLEY RD

Survey Date: Thursday, February 22, 2018
Start Time: 07:30

WO No: 37562
Device: Motion

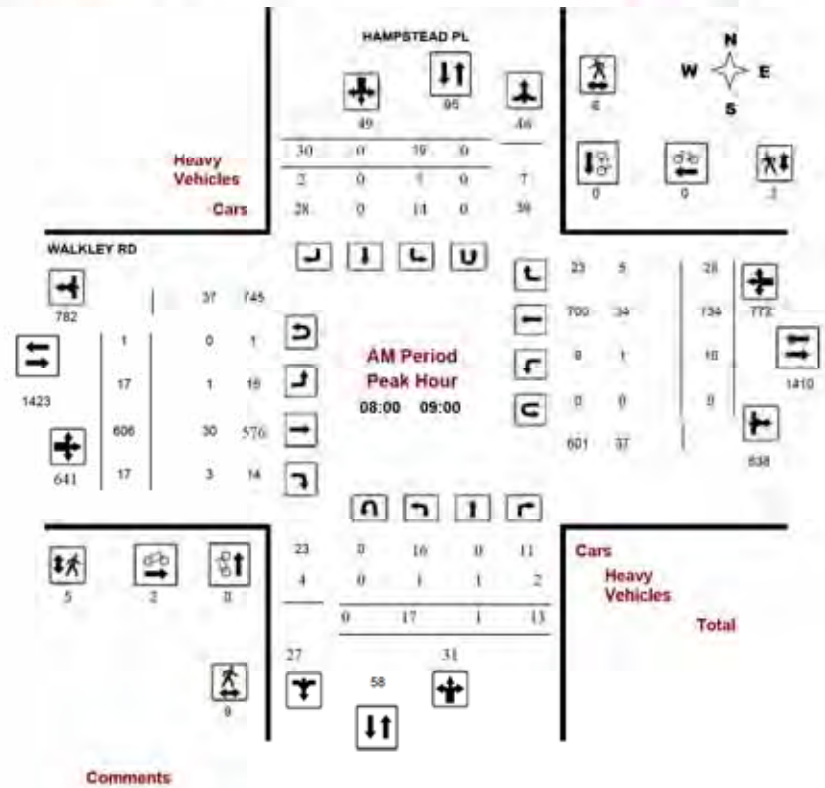




Transportation Services - Traffic Services
 Turning Movement Count - Peak Hour Diagram
 HAMPSTEAD PL @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016
 Start Time: 07:00

WO No: 36485
 Device: Miovision



Appendix B

Collision Data



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 **To:** December 31, 2020

Location: BANK ST @ HERON RD

Traffic Control: Traffic signal

Total Collisions: 129

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Jan-08, Fri,13:37	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2016-Feb-17, Wed,11:40	Clear	Turning movement	P.D. only	Wet	South	Turning right	Passenger van	Other motor vehicle	0
					South	Going ahead	Municipal transit bus	Other motor vehicle	
2016-Feb-25, Thu,07:35	Freezing Rain	Rear end	P.D. only	Ice	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Feb-25, Thu,17:44	Rain	Rear end	P.D. only	Slush	West	Slowing or stopping	Pick-up truck	Skidding/sliding	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Mar-05, Sat,11:49	Clear	Turning movement	P.D. only	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Apr-04, Mon,08:52	Clear	Rear end	P.D. only	Dry	East	Unknown	Unknown	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Apr-23, Sat,14:38	Clear	Turning movement	P.D. only	Dry	West	Turning left	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-May-03, Tue,07:57	Fog, mist, smoke, Rear end dust	Rear end	P.D. only	Dry	North	Slowing or stopping	Passenger van	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2016-May-04, Wed,11:03	Clear	Rear end	P.D. only	Dry	North	Turning left	Truck - closed	Other motor vehicle	0
					North	Turning left	Passenger van	Other motor vehicle	
2016-May-05, Thu,12:10	Clear	Turning movement	P.D. only	Dry	West	Turning left	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-May-30, Mon,09:07	Clear	Turning movement	P.D. only	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Municipal transit bus	Other motor vehicle	



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From: January 1, 2016 To: December 31, 2020

Location: BANK ST @ HERON RD

Traffic Control: Traffic signal

Total Collisions: 129

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2016-May-30, Mon,11:23	Clear	Rear end	P.D. only	Dry	South	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Jun-22, Wed,12:30	Clear	Sideswipe	P.D. only	Dry	North	Turning left	Pick-up truck	Other motor vehicle	0
					North	Turning left	Pick-up truck	Other motor vehicle	
2016-Jul-09, Sat,21:11	Rain	Rear end	Non-fatal injury	Wet	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2016-Aug-06, Sat,14:49	Clear	Rear end	P.D. only	Dry	East	Turning right	Pick-up truck	Other motor vehicle	0
					East	Turning right	Pick-up truck	Other motor vehicle	
2016-Aug-19, Fri,15:40	Clear	Turning movement	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Pick-up truck	Other motor vehicle	
2016-Aug-22, Mon,14:59	Clear	Rear end	P.D. only	Dry	East	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2016-Aug-23, Tue,14:47	Clear	Rear end	P.D. only	Dry	North	Turning left	Pick-up truck	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2016-Aug-28, Sun,16:59	Rain	Rear end	P.D. only	Wet	South	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Sep-13, Tue,12:46	Clear	Rear end	P.D. only	Dry	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Passenger van	Other motor vehicle	
2016-Nov-20, Sun,21:31	Snow	SMV other	P.D. only	Slush	South	Going ahead	Automobile, station wagon	Ran off road	0
2016-Dec-01, Thu,13:11	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	
2016-Dec-06, Tue,14:54	Clear	Rear end	P.D. only	Wet	North	Slowing or stopping	Truck - tractor	Other motor vehicle	0
					North	Stopped	Pick-up truck	Other motor vehicle	



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Location: BANK ST @ HERON RD

Traffic Control: Traffic signal

Total Collisions: 129

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2016-Dec-22, Thu,14:26	Snow	Rear end	P.D. only	Loose snow	South	Stopped	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Dec-23, Fri,19:46	Clear	Rear end	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Passenger van	Other motor vehicle	
2017-Jan-27, Fri,17:05	Clear	Turning movement	P.D. only	Wet	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Feb-02, Thu,16:57	Clear	Rear end	P.D. only	Wet	East	Unknown	Automobile, station wagon	Other motor vehicle	0
					East	Unknown	Pick-up truck	Other motor vehicle	
2017-Feb-09, Thu,16:55	Clear	Turning movement	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Pick-up truck	Other motor vehicle	
2017-Feb-22, Wed,03:05	Clear	SMV other	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Pole (sign, parking meter)	0
2017-Apr-07, Fri,23:13	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-May-02, Tue,23:17	Clear	Angle	Non-fatal injury	Wet	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2017-May-05, Fri,12:31	Rain	Sideswipe	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Truck and trailer	Other motor vehicle	
2017-May-12, Fri,07:58	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2017-May-20, Sat,16:10	Clear	Rear end	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Pick-up truck	Other motor vehicle	



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Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2017-May-31, Wed,17:19	Clear	Sideswipe	P.D. only	Dry	South	Going ahead	Unknown	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Jul-04, Tue,12:34	Clear	Angle	Non-fatal injury	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Jul-23, Sun,19:05	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Tow truck	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Sep-07, Thu,20:34	Rain	Angle	Non-fatal injury	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Police vehicle	Other motor vehicle	
2017-Oct-13, Fri,14:35	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Nov-17, Fri,21:45	Clear	Rear end	Non-fatal injury	Dry	East	Turning right	Pick-up truck	Other motor vehicle	0
					East	Turning right	Passenger van	Other motor vehicle	
2017-Dec-01, Fri,18:33	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Pick-up truck	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Dec-11, Mon,09:25	Clear	Angle	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Dec-11, Mon,11:50	Clear	Rear end	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2017-Dec-15, Fri,08:18	Clear	Angle	P.D. only	Wet	North	Turning right	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
2017-Dec-26, Tue,13:15	Clear	Sideswipe	P.D. only	Wet	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	



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Traffic Control: Traffic signal

Total Collisions: 129

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Jan-12, Fri,17:13	Freezing Rain	Other	P.D. only	Slush	North	Turning left	Automobile, station wagon	Skidding/sliding	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Jan-16, Tue,00:47	Snow	Rear end	P.D. only	Loose snow	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Feb-07, Wed,14:58	Snow	Turning movement	P.D. only	Packed snow	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Feb-21, Wed,22:41	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Feb-24, Sat,10:35	Clear	Rear end	Non-fatal injury	Dry	South	Turning right	Pick-up truck	Other motor vehicle	0
					South	Turning right	Automobile, station wagon	Other motor vehicle	
2018-Mar-03, Sat,10:44	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Unknown	Other motor vehicle	
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2018-Mar-05, Mon,01:05	Clear	Angle	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Mar-10, Sat,12:45	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2018-Mar-12, Mon,06:07	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Apr-14, Sat,16:45	Clear	Rear end	P.D. only	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Turning left	Automobile, station wagon	Other motor vehicle	



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Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Apr-24, Tue,15:07	Clear	Rear end	P.D. only	Dry	East	Turning right	Delivery van	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2018-May-11, Fri,22:28	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-May-17, Thu,18:46	Clear	Turning movement	P.D. only	Dry	West	Turning left	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-May-24, Thu,14:27	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Jun-01, Fri,14:27	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jul-05, Thu,12:49	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2018-Jul-12, Thu,16:33	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Aug-02, Thu,09:16	Clear	Angle	Non-fatal injury	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
					East	Going ahead	Passenger van	Other motor vehicle	
2018-Aug-04, Sat,13:13	Clear	Rear end	P.D. only	Dry	East	Unknown	Unknown	Other motor vehicle	0
					East	Slowing or stopping	Passenger van	Other motor vehicle	
2018-Aug-05, Sun,09:30	Clear	Sideswipe	P.D. only	Dry	North	Going ahead	Unknown	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Aug-20, Mon,14:40	Clear	Angle	Non-fatal injury	Dry	West	Going ahead	Bicycle	Other motor vehicle	0
					North	Turning left	Pick-up truck	Cyclist	



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Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Aug-20, Mon,14:53	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Sep-13, Thu,21:38	Clear	Turning movement	P.D. only	Dry	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Sep-19, Wed,07:40	Clear	SMV other	Non-fatal injury	Dry	South	Turning right	Automobile, station wagon	Pedestrian	1
2018-Sep-30, Sun,19:30	Clear	Rear end	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2018-Oct-05, Fri,18:14	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Oct-13, Sat,18:30	Clear	Other	P.D. only	Dry	North	Reversing	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Oct-15, Mon,09:45	Rain	Rear end	P.D. only	Wet	North	Going ahead	Unknown	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Oct-15, Mon,16:01	Rain	Turning movement	P.D. only	Wet	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Delivery van	Other motor vehicle	
2018-Oct-18, Thu,16:42	Clear	Sideswipe	P.D. only	Dry	North	Turning left	Construction equipment	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Oct-31, Wed,13:15	Clear	Rear end	P.D. only	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2018-Nov-12, Mon,07:05	Snow	SMV other	P.D. only	Loose snow	West	Going ahead	Automobile, station wagon	Pole (utility, power)	0
2018-Nov-19, Mon,15:49	Snow	Rear end	P.D. only	Wet	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Automobile, station wagon	Other motor vehicle	



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Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Nov-26, Mon,18:39	Clear	Sideswipe	P.D. only	Dry	West	Unknown	Unknown	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2018-Dec-02, Sun,13:40	Rain	Sideswipe	P.D. only	Wet	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Jan-08, Tue,09:38	Clear	Angle	Non-fatal injury	Dry	West	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Passenger van	Other motor vehicle	
2019-Jan-18, Fri,06:20	Snow	Rear end	P.D. only	Slush	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jan-24, Thu,06:44	Freezing Rain	Rear end	P.D. only	Packed snow	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jan-27, Sun,17:19	Clear	Turning movement	P.D. only	Slush	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Feb-15, Fri,13:08	Clear	Rear end	P.D. only	Slush	West	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Turning right	Unknown	Other motor vehicle	
2019-Mar-04, Mon,14:00	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Changing lanes	Automobile, station wagon	Other motor vehicle	
2019-Mar-19, Tue,13:40	Clear	Rear end	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Mar-20, Wed,18:43	Clear	Rear end	Non-fatal injury	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2019-Mar-31, Sun,14:12	Rain	Rear end	Non-fatal injury	Ice	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	



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2019-Apr-09, Tue,10:30	Snow	Angle	P.D. only	Wet	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Apr-14, Sun,21:03	Rain	Turning movement	P.D. only	Wet	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-May-08, Wed,13:30	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Jun-17, Mon,11:38	Clear	Rear end	Non-fatal injury	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jun-26, Wed,14:42	Clear	Rear end	Non-fatal injury	Dry	North	Going ahead	Passenger van	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jul-12, Fri,08:54	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Aug-08, Thu,16:27	Rain	Rear end	Non-fatal injury	Wet	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Aug-14, Wed,12:00	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Aug-22, Thu,15:20	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Sep-09, Mon,15:30	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Pick-up truck	Other motor vehicle	
2019-Sep-19, Thu,17:30	Clear	Rear end	P.D. only	Dry	North	Going ahead	Delivery van	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	



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2019-Sep-22, Sun,11:35	Clear	Turning movement	P.D. only	Dry	West	Turning left	Passenger van	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Sep-24, Tue,16:40	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Unknown	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Oct-10, Thu,16:27	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Oct-16, Wed,19:58	Rain	SMV other	Non-fatal injury	Wet	East	Going ahead	Automobile, station wagon	Pedestrian	1
2019-Nov-02, Sat,08:52	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Nov-02, Sat,19:45	Rain	Sideswipe	P.D. only	Wet	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Unknown	Other motor vehicle	
2019-Nov-02, Sat,19:45	Rain	Sideswipe	P.D. only	Wet	North	Changing lanes	Automobile, station wagon	Skidding/sliding	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Nov-03, Sun,17:40	Rain	Rear end	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Nov-24, Sun,21:12	Clear	Turning movement	Non-fatal injury	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Dec-06, Fri,17:30	Clear	Turning movement	P.D. only	Wet	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Jan-14, Tue,11:35	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Jan-19, Sun,02:39	Snow	Other	P.D. only	Loose snow	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Reversing	Truck - open	Other motor vehicle	



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2020-Jan-22, Wed,07:43	Clear	Turning movement	P.D. only	Wet	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Municipal transit bus	Other motor vehicle	
2020-Jan-23, Thu,22:00	Clear	Turning movement	P.D. only	Wet	West	Making "U" turn	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Feb-07, Fri,14:47	Snow	Rear end	P.D. only	Loose snow	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Mar-08, Sun,00:04	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2020-May-14, Thu,14:25	Rain	Turning movement	P.D. only	Wet	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Jun-17, Wed,15:42	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Jul-31, Fri,11:16	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2020-Aug-02, Sun,02:30	Rain	Angle	P.D. only	Wet	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	
2020-Aug-13, Thu,07:20	Clear	Rear end	P.D. only	Dry	North	Changing lanes	Passenger van	Other motor vehicle	0
					North	Turning left	Delivery van	Other motor vehicle	
2020-Sep-23, Wed,19:40	Clear	Rear end	P.D. only	Dry	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Turning right	Unknown	Other motor vehicle	
2020-Sep-23, Wed,20:40	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: BANK ST @ HERON RD

Traffic Control: Traffic signal

Total Collisions: 129

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2020-Oct-02, Fri,17:52	Clear	SMV other	Non-fatal injury	Wet	West	Turning right	Automobile, station wagon	Pedestrian	1
2020-Oct-10, Sat,18:03	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Oct-21, Wed,14:45	Rain	Sideswipe	P.D. only	Wet	North	Changing lanes	Passenger van	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Oct-29, Thu,11:06	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2020-Dec-04, Fri,13:55	Rain	Turning movement	P.D. only	Wet	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Dec-23, Wed,10:51	Snow	Sideswipe	P.D. only	Loose snow	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Passenger van	Other motor vehicle	
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	

Location: BANK ST @ WALKLEY RD

Traffic Control: Traffic signal

Total Collisions: 130

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Jan-20, Wed,10:54	Clear	Rear end	P.D. only	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Slowing or stopping	Passenger van	Other motor vehicle	
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2016-Jan-29, Fri,17:18	Clear	Rear end	P.D. only	Wet	North	Turning right	Passenger van	Other motor vehicle	0
					North	Turning right	Passenger van	Other motor vehicle	
2016-Feb-16, Tue,16:28	Snow	Sideswipe	P.D. only	Loose snow	North	Changing lanes	Unknown	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	



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From: January 1, 2016 **To:** December 31, 2020

Location: BANK ST @ WALKLEY RD

Traffic Control: Traffic signal

Total Collisions: 130

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Feb-22, Mon,17:05	Clear	Rear end	Non-fatal injury	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Pick-up truck	Other motor vehicle	
2016-Mar-25, Fri,18:28	Clear	Angle	P.D. only	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Apr-16, Sat,10:20	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Apr-16, Sat,19:10	Clear	Rear end	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2016-Apr-19, Tue,15:00	Clear	Turning movement	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Passenger van	Other motor vehicle	
2016-Jun-14, Tue,13:48	Clear	Angle	Non-fatal injury	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Jun-19, Sun,23:23	Clear	Angle	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Jul-16, Sat,08:54	Clear	Sideswipe	Non-fatal injury	Dry	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2016-Sep-13, Tue,08:24	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Sep-19, Mon,13:23	Clear	Rear end	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2016-Sep-26, Mon,16:03	Clear	Rear end	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	



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Collision Details Report - Public Version

From: January 1, 2016 **To:** December 31, 2020

Location: BANK ST @ WALKLEY RD

Traffic Control: Traffic signal

Total Collisions: 130

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2016-Sep-27, Tue,08:59	Clear	Rear end	Non-fatal injury	Dry	North	Going ahead	Passenger van	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					North	Slowing or stopping	Other school vehicle/bus	Other motor vehicle	
2016-Oct-06, Thu,21:34	Clear	Angle	Non-fatal injury	Dry	East	Turning right	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Oct-12, Wed,16:22	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Nov-02, Wed,08:01	Clear	Rear end	Non-fatal injury	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2016-Nov-02, Wed,18:40	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Nov-04, Fri,22:41	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Nov-18, Fri,18:00	Clear	Rear end	P.D. only	Dry	West	Turning left	Pick-up truck	Other motor vehicle	0
					West	Turning left	Pick-up truck	Other motor vehicle	
2016-Nov-28, Mon,10:52	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2016-Dec-08, Thu,20:22	Snow	Rear end	P.D. only	Ice	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Turning right	Automobile, station wagon	Other motor vehicle	
2016-Dec-08, Thu,21:13	Snow	Angle	Non-fatal injury	Ice	West	Slowing or stopping	Truck - closed	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2017-Jan-02, Mon,16:50	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Passenger van	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	



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From: January 1, 2016 To: December 31, 2020

Location: BANK ST @ WALKLEY RD

Traffic Control: Traffic signal

Total Collisions: 130

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2017-Jan-04, Wed,10:48	Snow	Rear end	P.D. only	Loose snow	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2017-Jan-05, Thu,16:50	Clear	Angle	P.D. only	Ice	East	Making "U" turn	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Jan-14, Sat,14:17	Clear	Rear end	Non-fatal injury	Dry	North	Turning right	Passenger van	Other motor vehicle	0
					North	Turning right	Pick-up truck	Other motor vehicle	
2017-Jan-15, Sun,14:30	Clear	Rear end	P.D. only	Dry	West	Going ahead	Unknown	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Jan-17, Tue,16:15	Clear	Rear end	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Mar-03, Fri,19:14	Clear	Rear end	P.D. only	Dry	North	Turning right	Pick-up truck	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2017-Mar-21, Tue,15:22	Clear	Rear end	Non-fatal injury	Dry	West	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Other motor vehicle	
2017-Mar-24, Fri,14:55	Rain	Angle	P.D. only	Wet	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Apr-01, Sat,00:18	Snow	Angle	P.D. only	Loose snow	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Apr-07, Fri,01:46	Rain	SMV other	Non-fatal injury	Wet	West	Turning left	Automobile, station wagon	Pole (utility, power)	0
2017-Apr-07, Fri,13:35	Rain	Rear end	Non-fatal injury	Wet	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-May-24, Wed,13:21	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Passenger van	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	



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Collision Details Report - Public Version

From: January 1, 2016 **To:** December 31, 2020

Location: BANK ST @ WALKLEY RD

Traffic Control: Traffic signal

Total Collisions: 130

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2017-May-25, Thu,13:29	Clear	Rear end	P.D. only	Dry	South	Going ahead	Passenger van	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
					South	Stopped	Pick-up truck	Other motor vehicle	
2017-Jun-08, Thu,15:22	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Aug-28, Mon,21:40	Clear	Rear end	P.D. only	Dry	East	Going ahead	Unknown	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2017-Aug-30, Wed,12:28	Clear	Rear end	P.D. only	Dry	North	Going ahead	Pick-up truck	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Aug-31, Thu,21:03	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Sep-05, Tue,21:43	Clear	Turning movement	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2017-Sep-14, Thu,17:30	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Sep-26, Tue,08:20	Clear	Angle	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Oct-21, Sat,19:39	Clear	Other	Non-fatal injury	Dry	West	Reversing	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Motorcycle	Other motor vehicle	
2017-Oct-24, Tue,08:23	Rain	Sideswipe	P.D. only	Wet	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Nov-17, Fri,14:12	Clear	Sideswipe	P.D. only	Dry	North	Changing lanes	Unknown	Other motor vehicle	0
					North	Going ahead	Truck - dump	Other motor vehicle	



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From: January 1, 2016 To: December 31, 2020

Location: BANK ST @ WALKLEY RD

Traffic Control: Traffic signal

Total Collisions: 130

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Dec-04, Mon,16:47	Clear	SMV other	Non-fatal injury	Dry	South	Turning right	Automobile, station wagon	Pedestrian	1
2017-Dec-10, Sun,12:21	Clear	Angle	P.D. only	Wet	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Dec-24, Sun,11:11	Clear	Rear end	P.D. only	Dry	West	Turning right	Unknown	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Other motor vehicle	
2017-Dec-30, Sat,17:03	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jan-10, Wed,13:28	Clear	Rear end	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2018-Feb-03, Sat,18:44	Snow	Rear end	Non-fatal injury	Wet	North	Merging	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Feb-22, Thu,08:49	Clear	Rear end	P.D. only	Dry	South	Going ahead	Unknown	Other motor vehicle	0
					South	Stopped	Truck - closed	Other motor vehicle	
2018-Jun-06, Wed,21:49	Clear	Rear end	P.D. only	Dry	East	Merging	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jun-16, Sat,12:06	Clear	Rear end	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jun-20, Wed,20:23	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Unknown	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jul-18, Wed,16:29	Clear	Rear end	Non-fatal injury	Dry	West	Merging	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Automobile, station wagon	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: BANK ST @ WALKLEY RD

Traffic Control: Traffic signal

Total Collisions: 130

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Jul-25, Wed,14:40	Rain	Sideswipe	P.D. only	Wet	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jul-30, Mon,15:40	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jul-31, Tue,13:19	Clear	Rear end	P.D. only	Dry	West	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Aug-04, Sat,13:47	Clear	Angle	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Aug-08, Wed,11:19	Clear	SMV unattended vehicle	P.D. only	Dry	West	Stopped	Automobile, station wagon	Unattended vehicle	0
2018-Aug-26, Sun,22:37	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Sep-13, Thu,19:08	Clear	Turning movement	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Oct-14, Sun,13:38	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2018-Oct-17, Wed,17:05	Clear	Turning movement	Non-fatal injury	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Oct-31, Wed,17:06	Rain	Rear end	P.D. only	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Nov-16, Fri,15:13	Snow	Rear end	Non-fatal injury	Loose snow	South	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	



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From: January 1, 2016 To: December 31, 2020

Location: BANK ST @ WALKLEY RD

Traffic Control: Traffic signal

Total Collisions: 130

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Nov-20, Tue,13:45	Snow	Rear end	P.D. only	Loose snow	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Nov-21, Wed,13:45	Snow	Angle	P.D. only	Wet	East	Unknown	Unknown	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Dec-05, Wed,13:01	Snow	Turning movement	Non-fatal injury	Wet	North	Going ahead	Truck - closed	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Pick-up truck	Other motor vehicle	
2018-Dec-05, Wed,17:30	Snow	Rear end	P.D. only	Loose snow	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2018-Dec-20, Thu,16:29	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2018-Dec-27, Thu,15:15	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Delivery van	Other motor vehicle	
2018-Dec-29, Sat,10:59	Clear	Rear end	P.D. only	Wet	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Jan-02, Wed,08:30	Clear	Approaching	P.D. only	Ice	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jan-03, Thu,20:00	Rain	Rear end	P.D. only	Wet	West	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Jan-06, Sun,02:52	Clear	SMV other	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Pole (utility, power)	0
2019-Jan-19, Sat,17:30	Snow	Sideswipe	P.D. only	Loose snow	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	



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Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: BANK ST @ WALKLEY RD

Traffic Control: Traffic signal

Total Collisions: 130

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Jan-24, Thu,17:30	Clear	Sideswipe	P.D. only	Slush	East	Unknown	Unknown	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jan-28, Mon,15:25	Clear	Rear end	P.D. only	Wet	West	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Feb-05, Tue,15:30	Clear	Rear end	P.D. only	Dry	West	Unknown	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Feb-14, Thu,16:00	Clear	Rear end	P.D. only	Wet	South	Turning left	Passenger van	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Feb-22, Fri,10:36	Snow	Rear end	P.D. only	Wet	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Apr-02, Tue,08:45	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Apr-08, Mon,16:20	Clear	Rear end	P.D. only	Dry	South	Turning right	Unknown	Other motor vehicle	0
					South	Turning right	Pick-up truck	Other motor vehicle	
2019-May-06, Mon,21:59	Clear	Other	P.D. only	Dry	West	Reversing	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jun-06, Thu,11:35	Clear	Sideswipe	P.D. only	Dry	North	Turning left	Unknown	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Jun-20, Thu,18:10	Clear	Rear end	P.D. only	Dry	South	Turning right	Passenger van	Other motor vehicle	0
					South	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Jun-23, Sun,21:06	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jun-30, Sun,23:20	Clear	Rear end	P.D. only	Dry	North	Unknown	Unknown	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	



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From: January 1, 2016 To: December 31, 2020

Location: BANK ST @ WALKLEY RD

Traffic Control: Traffic signal

Total Collisions: 130

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2019-Jul-22, Mon,16:10	Clear	Rear end	P.D. only	Dry	South	Changing lanes	Passenger van	Other motor vehicle	0
					South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2019-Jul-25, Thu,20:05	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Unknown	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Aug-08, Thu,13:59	Clear	Rear end	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Pick-up truck	Other motor vehicle	
2019-Sep-21, Sat,17:16	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Sep-25, Wed,15:00	Clear	Sideswipe	P.D. only	Dry	South	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Sep-29, Sun,12:13	Clear	Rear end	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Nov-28, Thu,11:28	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Nov-30, Sat,20:30	Clear	Angle	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Dec-12, Thu,17:52	Clear	Turning movement	P.D. only	Dry	South	Making "U" turn	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Dec-13, Fri,21:30	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Dec-27, Fri,10:05	Freezing Rain	Rear end	P.D. only	Ice	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					West	Slowing or stopping	Passenger van	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: BANK ST @ WALKLEY RD

Traffic Control: Traffic signal

Total Collisions: 130

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2019-Dec-27, Fri,10:54	Freezing Rain	Rear end	P.D. only	Ice	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Dec-29, Sun,19:30	Freezing Rain	Sideswipe	P.D. only	Ice	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Jan-16, Thu,11:22	Clear	Sideswipe	P.D. only	Wet	North	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Jan-27, Mon,11:20	Clear	SMV unattended vehicle	P.D. only	Wet	West	Turning left	Automobile, station wagon	Unattended vehicle	0
2020-Feb-24, Mon,20:00	Clear	Rear end	P.D. only	Dry	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Feb-27, Thu,13:15	Snow	SMV other	P.D. only	Packed snow	South	Turning right	Automobile, station wagon	Pole (sign, parking meter)	0
2020-Feb-27, Thu,15:10	Snow	Rear end	P.D. only	Loose snow	West	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Other motor vehicle	
2020-Feb-29, Sat,22:12	Clear	Angle	P.D. only	Loose snow	East	Turning right	Unknown	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Mar-11, Wed,08:30	Clear	Angle	P.D. only	Dry	South	Turning right	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-May-25, Mon,17:40	Clear	Angle	Non-fatal injury	Dry	South	Going ahead	Bicycle	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Cyclist	
2020-Jul-02, Thu,17:03	Rain	Sideswipe	P.D. only	Wet	South	Changing lanes	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Jul-13, Mon,10:54	Clear	Rear end	P.D. only	Dry	North	Unknown	Pick-up truck	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: BANK ST @ WALKLEY RD

Traffic Control: Traffic signal

Total Collisions: 130

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2020-Jul-17, Fri,19:40	Clear	Angle	Non-fatal injury	Dry	East	Going ahead	Bicycle	Other motor vehicle	0
					South	Turning right	Automobile, station wagon	Cyclist	
2020-Aug-05, Wed,16:50	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Slowing or stopping	Pick-up truck	Other motor vehicle	
2020-Aug-08, Sat,11:30	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Aug-20, Thu,19:22	Clear	Turning movement	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2020-Oct-15, Thu,17:08	Rain	Rear end	P.D. only	Wet	North	Turning left	Truck - closed	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2020-Oct-23, Fri,11:38	Clear	Rear end	P.D. only	Dry	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					South	Turning right	Pick-up truck	Other motor vehicle	
2020-Oct-29, Thu,12:29	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Oct-31, Sat,12:17	Clear	Rear end	P.D. only	Dry	South	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Stopped	Pick-up truck	Other motor vehicle	
2020-Nov-06, Fri,08:43	Clear	Other	P.D. only	Dry	South	Stopped	Pick-up truck	Debris falling off vehicle	0
					South	Stopped	Pick-up truck	Debris falling off vehicle	
					West	Going ahead	Truck and trailer	Other	
2020-Nov-28, Sat,05:25	Rain	Sideswipe	P.D. only	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Nov-29, Sun,00:18	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: BANK ST @ WALKLEY RD

Traffic Control: Traffic signal

Total Collisions: 130

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2020-Dec-07, Mon,09:40	Clear	Rear end	Non-fatal injury	Dry	East	Unknown	Pick-up truck	Other motor vehicle	0
					East	Unknown	Automobile, station wagon	Other motor vehicle	
2020-Dec-09, Wed,07:45	Snow	Sideswipe	P.D. only	Loose snow	South	Changing lanes	Truck - closed	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Dec-22, Tue,17:30	Clear	Rear end	P.D. only	Dry	North	Turning right	Unknown	Other motor vehicle	0
					North	Turning right	Pick-up truck	Other motor vehicle	

Location: BAYCREST DR @ WALKLEY RD

Traffic Control: Traffic signal

Total Collisions: 30

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2016-Mar-22, Tue,08:49	Clear	Rear end	P.D. only	Dry	North	Turning left	Pick-up truck	Other motor vehicle	0
					North	Turning left	Pick-up truck	Other motor vehicle	
2016-May-13, Fri,20:24	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2016-May-17, Tue,11:19	Clear	Angle	Non-fatal injury	Dry	West	Turning right	Automobile, station wagon	Cyclist	0
					South	Going ahead	Bicycle	Other motor vehicle	
2016-Jun-09, Thu,13:07	Clear	Turning movement	Non-fatal injury	Dry	West	Turning right	Automobile, station wagon	Cyclist	0
					West	Going ahead	Bicycle	Other motor vehicle	
2016-Jun-15, Wed,07:30	Clear	Angle	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Sep-01, Thu,21:27	Clear	Sideswipe	P.D. only	Dry	East	Going ahead	Unknown	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2016-Sep-23, Fri,16:46	Clear	Angle	P.D. only	Dry	East	Going ahead	Passenger van	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: BAYCREST DR @ WALKLEY RD

Traffic Control: Traffic signal

Total Collisions: 30

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2016-Oct-27, Thu,10:40	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Pick-up truck	Other motor vehicle	
2016-Nov-04, Fri,12:42	Clear	Rear end	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Truck - tractor	Other motor vehicle	
2017-Mar-19, Sun,17:41	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Jul-01, Sat,23:17	Rain	Rear end	Non-fatal injury	Wet	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Jul-05, Wed,07:39	Clear	Rear end	Non-fatal injury	Dry	West	Going ahead	Truck - dump	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2017-Dec-13, Wed,07:30	Snow	Rear end	P.D. only	Ice	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Dec-27, Wed,14:25	Clear	Rear end	Non-fatal injury	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Dec-28, Thu,18:57	Clear	Rear end	P.D. only	Packed snow	East	Going ahead	Automobile, station wagon	Skidding/sliding	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jan-26, Fri,08:51	Clear	Rear end	P.D. only	Dry	South	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Feb-09, Fri,14:46	Clear	Sideswipe	P.D. only	Packed snow	East	Overtaking	Unknown	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Feb-12, Mon,15:55	Clear	Turning movement	P.D. only	Slush	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: BAYCREST DR @ WALKLEY RD

Traffic Control: Traffic signal

Total Collisions: 30

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Apr-07, Sat,16:20	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Sep-07, Fri,08:03	Clear	Rear end	P.D. only	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jan-27, Sun,01:15	Snow	SMV other	P.D. only	Loose snow	South	Turning left	Automobile, station wagon	Pole (utility, power)	0
2019-Apr-03, Wed,17:55	Clear	Sideswipe	P.D. only	Dry	West	Unknown	Unknown	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Jul-18, Thu,08:53	Clear	Angle	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Oct-08, Tue,15:24	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2019-Oct-08, Tue,17:24	Clear	Sideswipe	P.D. only	Dry	West	Unknown	Unknown	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Oct-10, Thu,14:20	Clear	Rear end	Non-fatal injury	Dry	East	Slowing or stopping	Delivery van	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2019-Nov-14, Thu,08:10	Rain	Rear end	P.D. only	Loose snow	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Nov-17, Sun,20:12	Clear	Sideswipe	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Municipal transit bus	Other motor vehicle	
2019-Nov-23, Sat,17:23	Clear	Turning movement	Non-fatal injury	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Turning right	Automobile, station wagon	Other motor vehicle	
2020-Aug-08, Sat,14:32	Clear	SMV other	P.D. only	Dry	South	Turning right	Automobile, station wagon	Building or wall	0



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: HERON RD @ ALTA VISTA DR

Traffic Control: Traffic signal

Total Collisions: 46

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2016-Jan-15, Fri,14:49	Clear	Sideswipe	P.D. only	Packed snow	North	Overtaking	Pick-up truck	Other motor vehicle	0
					North	Stopped	Municipal transit bus	Other motor vehicle	
2016-Feb-02, Tue,15:15	Clear	Rear end	P.D. only	Dry	East	Turning right	Passenger van	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2016-Feb-28, Sun,12:08	Snow	Angle	P.D. only	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Pick-up truck	Other motor vehicle	
2016-May-03, Tue,23:14	Clear	Angle	Non-fatal injury	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-May-31, Tue,12:38	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
2016-Jul-02, Sat,16:37	Clear	Angle	Non-fatal injury	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Aug-24, Wed,18:21	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Passenger van	Other motor vehicle	
2016-Sep-01, Thu,13:56	Clear	Rear end	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Passenger van	Other motor vehicle	
2016-Sep-24, Sat,23:09	Clear	Rear end	P.D. only	Dry	South	Unknown	Unknown	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Dec-05, Mon,14:00	Clear	Turning movement	P.D. only	Packed snow	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Passenger van	Other motor vehicle	
2017-Jan-05, Thu,17:23	Snow	Rear end	P.D. only	Ice	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Pick-up truck	Other motor vehicle	
2017-Mar-08, Wed,04:00	Rain	SMV other	Non-fatal injury	Wet	West	Going ahead	Automobile, station wagon	Pole (sign, parking meter) 0	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: HERON RD @ ALTA VISTA DR

Traffic Control: Traffic signal

Total Collisions: 46

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2017-May-11, Thu,09:50	Clear	Rear end	P.D. only	Dry	West	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Pick-up truck	Other motor vehicle	
2017-May-21, Sun,15:46	Clear	SMV other	P.D. only	Dry	West	Slowing or stopping	Passenger van	Ran off road	0
2017-Jun-24, Sat,12:08	Clear	Rear end	P.D. only	Dry	East	Turning left	Pick-up truck	Other motor vehicle	0
					East	Turning left	Passenger van	Other motor vehicle	
2017-Jul-01, Sat,21:34	Clear	Turning movement	Non-fatal injury	Wet	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Aug-15, Tue,06:43	Rain	Rear end	P.D. only	Wet	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2017-Aug-30, Wed,09:43	Clear	Sideswipe	Non-fatal injury	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Oct-04, Wed,16:16	Clear	Rear end	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					North	Turning right	Automobile, station wagon	Other motor vehicle	
2017-Dec-16, Sat,16:46	Clear	Rear end	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Dec-21, Thu,15:27	Clear	Rear end	P.D. only	Ice	North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jan-19, Fri,17:21	Clear	Turning movement	P.D. only	Wet	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Feb-02, Fri,14:42	Clear	Sideswipe	Non-reportable	Dry	North	Overtaking	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Intercity bus	Other motor vehicle	
2018-Mar-14, Wed,09:44	Snow	Rear end	P.D. only	Loose snow	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: HERON RD @ ALTA VISTA DR

Traffic Control: Traffic signal

Total Collisions: 46

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Apr-22, Sun,15:47	Clear	Angle	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Apr-25, Wed,12:45	Rain	Turning movement	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	
2018-May-14, Mon,00:30	Clear	Turning movement	Non-fatal injury	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jul-31, Tue,17:31	Clear	Sideswipe	Non-fatal injury	Dry	West	Going ahead	Unknown	Cyclist	0
					West	Going ahead	Bicycle	Other motor vehicle	
2018-Oct-09, Tue,11:45	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jan-22, Tue,07:00	Clear	Sideswipe	P.D. only	Packed snow	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jan-26, Sat,09:50	Clear	SMV other	P.D. only	Dry	West	Turning left	Automobile, station wagon	Pole (utility, power)	0
2019-Feb-14, Thu,08:20	Clear	Rear end	P.D. only	Loose snow	East	Unknown	Unknown	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Mar-20, Wed,09:26	Clear	Rear end	P.D. only	Dry	North	Going ahead	School bus	Other motor vehicle	0
					North	Stopped	Passenger van	Other motor vehicle	
2019-Mar-25, Mon,15:15	Clear	Rear end	Non-fatal injury	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jul-16, Tue,16:50	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Aug-05, Mon,14:30	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: HERON RD @ ALTA VISTA DR

Traffic Control: Traffic signal

Total Collisions: 46

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Oct-16, Wed,23:04	Rain	Turning movement	P.D. only	Wet	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Dec-04, Wed,09:03	Snow	Rear end	P.D. only	Wet	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Municipal transit bus	Other motor vehicle	
2019-Dec-08, Sun,17:50	Clear	Rear end	P.D. only	Dry	North	Stopped	Passenger van	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Dec-21, Sat,18:55	Clear	Turning movement	P.D. only	Dry	South	Turning left	Passenger van	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Jan-25, Sat,18:51	Clear	Rear end	P.D. only	Loose snow	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Feb-18, Tue,15:59	Snow	Rear end	P.D. only	Loose snow	East	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Apr-17, Fri,19:28	Clear	SMV other	P.D. only	Dry	North	Turning left	Automobile, station wagon	Curb	0
2020-Jun-19, Fri,02:00	Clear	Rear end	Non-fatal injury	Dry	West	Unknown	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Pick-up truck	Other motor vehicle	
2020-Sep-03, Thu,12:34	Clear	Rear end	P.D. only	Dry	West	Slowing or stopping	Truck - closed	Other motor vehicle	0
					West	Slowing or stopping	Pick-up truck	Other motor vehicle	
					West	Slowing or stopping	Pick-up truck	Other motor vehicle	
2020-Sep-30, Wed,19:10	Clear	Turning movement	P.D. only	Dry	South	Turning left	Unknown	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: HERON RD @ BAYCREST DR

Traffic Control: Traffic signal

Total Collisions: 21

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

Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: HERON RD @ BAYCREST DR

Traffic Control: Traffic signal

Total Collisions: 21

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2016-Jan-06, Wed,13:34	Clear	Rear end	P.D. only	Wet	East	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Feb-01, Mon,10:40	Clear	Angle	P.D. only	Dry	West	Unknown	Unknown	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	
2016-Mar-16, Wed,12:08	Clear	Rear end	P.D. only	Dry	North	Going ahead	Passenger van	Other motor vehicle	0
					North	Stopped	Intercity bus	Other motor vehicle	
2016-Apr-25, Mon,15:14	Clear	Angle	P.D. only	Dry	East	Slowing or stopping	Construction equipment	Other motor vehicle	0
					North	Turning left	Automobile, station wagon	Other motor vehicle	
2016-May-31, Tue,16:28	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2016-Nov-16, Wed,10:49	Clear	Rear end	P.D. only	Wet	East	Turning left	Truck - dump	Other motor vehicle	0
					East	Turning left	Automobile, station wagon	Other motor vehicle	
2016-Nov-25, Fri,09:07	Snow	SMV other	Non-fatal injury	Slush	North	Turning right	School bus	Pedestrian	1
2017-Jan-05, Thu,19:10	Clear	Rear end	P.D. only	Ice	South	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Feb-13, Mon,15:36	Snow	Rear end	P.D. only	Ice	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Aug-21, Mon,16:00	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Oct-03, Tue,08:25	Clear	Turning movement	Non-fatal injury	Dry	East	Turning right	Automobile, station wagon	Cyclist	0
					East	Going ahead	Bicycle	Other motor vehicle	
2017-Nov-08, Wed,16:49	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	



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Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: HERON RD @ BAYCREST DR

Traffic Control: Traffic signal

Total Collisions: 21

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Jan-13, Sat,10:32	Clear	Rear end	P.D. only	Loose snow	West	Unknown	Unknown	Other motor vehicle	0
					West	Stopped	Intercity bus	Other motor vehicle	
2018-Jan-15, Mon,09:03	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2018-Nov-04, Sun,17:30	Clear	Turning movement	P.D. only	Dry	East	Making "U" turn	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jun-06, Thu,12:47	Clear	Sideswipe	P.D. only	Dry	West	Unknown	Automobile, station wagon	Other motor vehicle	0
					West	Unknown	Automobile, station wagon	Other motor vehicle	
2019-Jun-23, Sun,18:28	Clear	Angle	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Dec-11, Wed,18:30	Snow	Rear end	P.D. only	Ice	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Jan-23, Thu,20:53	Clear	Sideswipe	P.D. only	Loose snow	East	Overtaking	Ambulance	Other motor vehicle	0
					East	Going ahead	Truck and trailer	Other motor vehicle	
2020-Feb-02, Sun,11:35	Snow	Angle	P.D. only	Loose snow	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Pick-up truck	Other motor vehicle	
2020-Nov-20, Fri,11:58	Clear	SMV other	P.D. only	Wet	East	Going ahead	Automobile, station wagon	Ran off road	0

Location: HERON RD @ BRIAR HILL DR/SANDALWOOD DR

Traffic Control: Traffic signal

Total Collisions: 14

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2016-Jan-06, Wed,14:48	Clear	Turning movement	P.D. only	Wet	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	



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Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: HERON RD @ BRIAR HILL DR/SANDALWOOD DR

Traffic Control: Traffic signal

Total Collisions: 14

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2016-Feb-18, Thu,12:57	Clear	Angle	P.D. only	Wet	North	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Feb-15, Wed,18:05	Snow	Rear end	P.D. only	Slush	East	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Stopped	Tow truck	Other motor vehicle	
2017-Dec-31, Sun,18:33	Clear	Rear end	P.D. only	Wet	East	Slowing or stopping	Passenger van	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Feb-13, Tue,21:18	Clear	Turning movement	Non-fatal injury	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Mar-17, Sat,18:40	Clear	Angle	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					North	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Apr-14, Sat,08:30	Clear	Angle	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Aug-11, Sat,17:14	Clear	Turning movement	Non-fatal injury	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Oct-11, Thu,15:29	Clear	Turning movement	Non-fatal injury	Wet	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Apr-29, Mon,14:52	Clear	Angle	P.D. only	Dry	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Aug-30, Fri,08:42	Clear	Rear end	Non-fatal injury	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2019-Oct-25, Fri,09:00	Clear	Other	P.D. only	Dry	West	Reversing	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	



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Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: HERON RD @ BRIAR HILL DR/SANDALWOOD DR

Traffic Control: Traffic signal

Total Collisions: 14

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2020-Mar-28, Sat,20:49	Clear	Approaching	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Jul-22, Wed,15:30	Rain	Sideswipe	P.D. only	Wet	South	Unknown	Unknown	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	

Location: HERON RD @ JEFFERSON ST

Traffic Control: Traffic signal

Total Collisions: 13

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Jan-28, Thu,14:55	Clear	Rear end	P.D. only	Dry	West	Going ahead	Delivery van	Other motor vehicle	0
					West	Stopped	Pick-up truck	Other motor vehicle	
2016-Mar-01, Tue,12:04	Clear	Angle	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Jun-18, Sat,20:20	Clear	Angle	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Jul-03, Sun,18:41	Clear	Angle	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Sep-01, Thu,19:09	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jan-08, Mon,17:22	Snow	Sideswipe	P.D. only	Loose snow	West	Going ahead	Automobile, station wagon	Curb	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Fire vehicle	Other motor vehicle	
2018-May-10, Thu,17:03	Clear	Angle	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Going ahead	Automobile, station wagon	Other motor vehicle	
					West	Unknown	Unknown	Other	



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Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: HERON RD @ JEFFERSON ST

Traffic Control: Traffic signal

Total Collisions: 13

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2019-Jan-03, Thu,07:56	Snow	Rear end	P.D. only	Loose snow	West	Slowing or stopping	Truck - closed	Other motor vehicle	0
					West	Turning right	Passenger van	Other motor vehicle	
2019-Jan-11, Fri,13:13	Clear	Turning movement	P.D. only	Dry	East	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Apr-18, Thu,12:56	Rain	Angle	P.D. only	Wet	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Jul-18, Thu,16:09	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Dec-15, Sun,11:08	Snow	Angle	P.D. only	Slush	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Feb-28, Fri,10:00	Snow	Angle	P.D. only	Slush	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	

Location: HERON RD @ WALKLEY RD

Traffic Control: Traffic signal

Total Collisions: 24

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Jan-11, Mon,15:36	Clear	Rear end	P.D. only	Dry	North	Going ahead	Passenger van	Other motor vehicle	0
					North	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2016-Apr-02, Sat,18:27	Clear	Rear end	Non-fatal injury	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Jul-04, Mon,09:34	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Turning left	Passenger van	Other motor vehicle	
2016-Sep-28, Wed,18:47	Clear	Sideswipe	P.D. only	Dry	South	Unknown	Unknown	Other motor vehicle	0
					South	Stopped	Delivery van	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: HERON RD @ WALKLEY RD

Traffic Control: Traffic signal

Total Collisions: 24

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Nov-05, Sat,17:07	Clear	Angle	Non-fatal injury	Dry	West	Turning left	Pick-up truck	Other motor vehicle	0
					South	Going ahead	Pick-up truck	Other motor vehicle	
2016-Nov-11, Fri,12:41	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Unknown	Other motor vehicle	0
					West	Going ahead	Pick-up truck	Other motor vehicle	
2016-Dec-16, Fri,10:26	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2016-Dec-31, Sat,14:09	Snow	Approaching	P.D. only	Loose snow	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Jan-05, Thu,09:15	Clear	Rear end	Non-fatal injury	Ice	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Apr-15, Sat,04:47	Clear	SMV other	Non-fatal injury	Dry	South	Turning left	Automobile, station wagon	Curb	0
2017-Jun-25, Sun,02:48	Clear	SMV other	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Curb	0
2017-Oct-08, Sun,12:33	Clear	Angle	P.D. only	Dry	West	Going ahead	Pick-up truck	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Mar-01, Thu,14:53	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Apr-11, Wed,08:41	Clear	Rear end	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2018-Apr-16, Mon,13:43	Rain	Rear end	P.D. only	Wet	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jun-19, Tue,23:00	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Unknown	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
					East	Going ahead	Unknown	Other motor vehicle	



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Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: HERON RD @ WALKLEY RD

Traffic Control: Traffic signal

Total Collisions: 24

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Sep-11, Tue,15:20	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jan-12, Sat,01:43	Clear	Rear end	P.D. only	Dry	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jan-21, Mon,09:10	Snow	Rear end	Non-fatal injury	Ice	East	Slowing or stopping	School bus	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Feb-03, Sun,20:00	Clear	Angle	P.D. only	Packed snow	South	Stopped	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Nov-07, Thu,11:12	Snow	SMV other	P.D. only	Loose snow	South	Turning left	Truck - closed	Skidding/sliding	0
2019-Dec-04, Wed,12:50	Clear	Sideswipe	P.D. only	Ice	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Jan-06, Mon,16:30	Clear	Rear end	P.D. only	Wet	South	Slowing or stopping	Snow plow	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2020-May-22, Fri,00:27	Clear	SMV other	P.D. only	Dry	West	Turning right	Passenger van	Pole (utility, power)	0

Location: HERON RD btwn ALTA VISTA DR & FINN CRT

Traffic Control: No control

Total Collisions: 6

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2016-May-03, Tue,07:28	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Jun-21, Tue,06:57	Clear	Angle	Non-fatal injury	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Aug-04, Thu,13:17	Clear	Turning movement	P.D. only	Dry	East	Making "U" turn	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	



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Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: HERON RD btwn ALTA VISTA DR & FINN CRT

Traffic Control: No control

Total Collisions: 6

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Dec-17, Sat,17:27	Snow	Sideswipe	P.D. only	Slush	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jun-27, Thu,17:39	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2019-Jul-18, Thu,11:40	Clear	Sideswipe	P.D. only	Dry	East	Unknown	Unknown	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: HERON RD btwn BANK ST & EDGE HILL PL

Traffic Control: No control

Total Collisions: 11

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Jan-24, Tue,08:56	Snow	SMV other	P.D. only	Ice	West	Turning right	Automobile, station wagon	Pole (utility, power)	0
2017-Aug-24, Thu,22:12	Clear	Rear end	Non-fatal injury	Dry	East	Slowing or stopping	Delivery van	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Apr-17, Tue,22:06	Clear	Rear end	P.D. only	Wet	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Oct-12, Fri,16:47	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2018-Nov-11, Sun,01:48	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Nov-16, Fri,17:08	Snow	SMV other	P.D. only	Slush	West	Going ahead	Automobile, station wagon	Skidding/sliding	0



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Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: HERON RD btwn BANK ST & EDGE HILL PL

Traffic Control: No control

Total Collisions: 11

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Nov-30, Fri,17:30	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Unknown	Other motor vehicle	
2019-Jan-19, Sat,21:29	Clear	Rear end	P.D. only	Loose snow	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2019-Feb-04, Mon,10:26	Clear	Rear end	P.D. only	Wet	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Slowing or stopping	Delivery van	Other motor vehicle	
2019-Jun-11, Tue,11:00	Clear	Turning movement	P.D. only	Dry	East	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Oct-07, Mon,13:56	Clear	Angle	P.D. only	Dry	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	School bus	Other motor vehicle	

Location: HERON RD btwn BAYCREST DR & SANDALWOOD DR

Traffic Control: No control

Total Collisions: 3

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2016-Sep-14, Wed,21:37	Clear	Sideswipe	Non-fatal injury	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Nov-01, Wed,09:02	Rain	Turning movement	P.D. only	Wet	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jul-10, Wed,12:25	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: HERON RD btwn EVANS BLVD & ALTA VISTA DR

Traffic Control: No control

Total Collisions: 3

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
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Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: HERON RD btwn EVANS BLVD & ALTA VISTA DR

Traffic Control: No control

Total Collisions: 3

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Sep-29, Fri,08:47	Clear	SMV other	Non-fatal injury	Dry	West	Merging	Pick-up truck	Pedestrian	1
2019-Feb-04, Mon,10:02	Clear	Rear end	P.D. only	Loose snow	East	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Feb-05, Wed,00:50	Clear	Turning movement	P.D. only	Dry	East	Making "U" turn	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: HERON RD btwn FINN CRT & BAYCREST DR

Traffic Control: No control

Total Collisions: 11

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Feb-27, Sat,10:11	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Mar-30, Wed,11:33	Clear	Rear end	P.D. only	Dry	West	Changing lanes	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Pick-up truck	Other motor vehicle	
2016-Apr-04, Mon,18:17	Clear	Angle	P.D. only	Dry	North	Turning left	Passenger van	Other motor vehicle	0
					East	Going ahead	Ambulance	Other motor vehicle	
2016-Apr-06, Wed,17:57	Snow	Angle	P.D. only	Loose snow	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Municipal transit bus	Other motor vehicle	
2017-May-02, Tue,18:02	Rain	Turning movement	P.D. only	Wet	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Nov-20, Tue,11:10	Clear	Approaching	Non-fatal injury	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					South	Turning left	Automobile, station wagon	Other motor vehicle	
2019-Jul-28, Sun,06:05	Clear	Rear end	Non-fatal injury	Dry	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	



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Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: HERON RD btwn FINN CRT & BAYCREST DR

Traffic Control: No control

Total Collisions: 11

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2019-Oct-21, Mon,11:52	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Dec-31, Tue,08:43	Clear	Rear end	P.D. only	Loose snow	East	Going ahead	Municipal transit bus	Other motor vehicle	0
					East	Turning right	Snow plow	Other motor vehicle	
2020-Aug-14, Fri,11:30	Clear	Rear end	P.D. only	Dry	West	Unknown	Unknown	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Sep-29, Tue,18:09	Clear	Rear end	Non-fatal injury	Dry	West	Going ahead	Passenger van	Other motor vehicle	0
					West	Going ahead	Passenger van	Other motor vehicle	

Location: HERON RD btwn JEFFERSON ST & TURN LANE

Traffic Control: No control

Total Collisions: 13

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2016-Mar-26, Sat,12:11	Clear	Approaching	P.D. only	Dry	West	Pulling away from shoulder or curb	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Oct-07, Fri,08:04	Clear	Angle	P.D. only	Dry	North	Turning left	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Oct-23, Sun,22:55	Clear	Sideswipe	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Nov-04, Fri,07:45	Clear	Sideswipe	Non-fatal injury	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Pick-up truck	Other motor vehicle	
2018-Jan-08, Mon,17:41	Snow	Rear end	P.D. only	Loose snow	South	Going ahead	Automobile, station wagon	Other motor vehicle	0
					South	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jan-10, Wed,18:46	Clear	Angle	P.D. only	Wet	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: HERON RD btwn JEFFERSON ST & TURN LANE

Traffic Control: No control

Total Collisions: 13

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Sep-18, Tue,11:07	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2018-Oct-30, Tue,10:45	Clear	Angle	P.D. only	Dry	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Nov-16, Fri,10:47	Clear	Rear end	P.D. only	Dry	West	Unknown	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2019-May-28, Tue,17:46	Clear	Angle	P.D. only	Dry	South	Reversing	Pick-up truck	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-May-21, Thu,05:46	Clear	Angle	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Truck - closed	Other motor vehicle	
2020-Jul-28, Tue,12:57	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Pick-up truck	Other motor vehicle	0
					East	Going ahead	Passenger van	Other motor vehicle	
					East	Slowing or stopping	Pick-up truck	Other motor vehicle	
2020-Nov-26, Thu,22:25	Clear	SMV other	Non-fatal injury	Dry	West	Going ahead	Tow truck	Pole (utility, power)	1

Location: HERON RD btwn SANDALWOOD DR & JEFFERSON ST

Traffic Control: No control

Total Collisions: 6

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2017-Dec-09, Sat,23:22	Snow	SMV other	P.D. only	Loose snow	East	Going ahead	Automobile, station wagon	Curb	0
2018-May-29, Tue,09:07	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	



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Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: HERON RD btwn SANDALWOOD DR & JEFFERSON ST

Traffic Control: No control

Total Collisions: 6

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2018-Jul-24, Tue,15:16	Rain	Rear end	Non-fatal injury	Wet	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Slowing or stopping	Passenger van	Other motor vehicle	
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2019-Mar-11, Mon,14:05	Clear	Sideswipe	P.D. only	Wet	West	Changing lanes	Passenger van	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Jan-17, Fri,16:30	Clear	Other	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other	
2020-Jul-30, Thu,14:57	Clear	Rear end	P.D. only	Dry	West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Pick-up truck	Other motor vehicle	

Location: WALKLEY RD btwn 152 E OF HEATHERINGTON RD & HOLLY LANE

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
2016-Jan-09, Sat,17:48	Rain	Rear end	P.D. only	Ice	West	Slowing or stopping	Delivery van	Other motor vehicle	0
					West	Slowing or stopping	Pick-up truck	Other motor vehicle	
					West	Going ahead	Delivery van	Other motor vehicle	
2016-Jan-21, Thu,11:50	Clear	Rear end	Non-fatal injury	Loose snow	West	Going ahead	Passenger van	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2016-Jun-21, Tue,20:09	Clear	Angle	P.D. only	Dry	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Aug-18, Thu,11:35	Clear	Angle	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Passenger van	Other motor vehicle	



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Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: WALKLEY RD btwn 152 E OF HEATHERINGTON RD & HOLLY LANE

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
2018-Oct-04, Thu,17:55	Clear	Rear end	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jan-14, Mon,15:10	Clear	Angle	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Feb-11, Mon,10:00	Clear	Rear end	P.D. only	Dry	East	Overtaking	Unknown	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Jun-15, Sat,15:10	Rain	Angle	P.D. only	Wet	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Oct-12, Sat,14:57	Rain	Angle	P.D. only	Wet	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: WALKLEY RD btwn AYERS AVE & HAMPSTEAD PL

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
2018-Jan-31, Wed,19:16	Rain	SMV other	P.D. only	Loose snow	East	Pulling onto shoulder or toward curb	Automobile, station wagon	Ran off road	0
2019-Jun-11, Tue,21:48	Clear	Angle	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: WALKLEY RD btwn BANFF AVE & AYERS AVE

Traffic Control: No control

Total Collisions: 6

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Mar-01, Tue,12:09	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Snow plow	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	



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Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: WALKLEY RD btwn BANFF AVE & AYERS AVE

Traffic Control: No control

Total Collisions: 6

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2018-Dec-11, Tue,09:14	Snow	Rear end	P.D. only	Loose snow	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	
2019-Jan-29, Tue,15:45	Clear	Rear end	P.D. only	Loose snow	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
2019-Jun-20, Thu,10:13	Rain	Rear end	P.D. only	Wet	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Oct-12, Sat,11:37	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-May-31, Sun,17:00	Clear	Turning movement	P.D. only	Dry	East	Turning left	Unknown	Other motor vehicle	0
					East	Going ahead	Passenger van	Other motor vehicle	

Location: WALKLEY RD btwn BANK ST & BANFF AVE

Traffic Control: No control

Total Collisions: 12

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2016-Feb-09, Tue,10:19	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Passenger van	Other motor vehicle	0
					East	Turning right	Pick-up truck	Other motor vehicle	
2016-Nov-14, Mon,16:56	Clear	Turning movement	P.D. only	Dry	East	Going ahead	Unknown	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2017-Oct-08, Sun,14:20	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Passenger van	Other motor vehicle	
					West	Stopped	Unknown	Other motor vehicle	
2018-Dec-15, Sat,15:41	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	



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Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: WALKLEY RD btwn BANK ST & BANFF AVE

Traffic Control: No control

Total Collisions: 12

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2019-Mar-06, Wed,07:59	Clear	Rear end	P.D. only	Wet	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Mar-22, Fri,18:45	Clear	Rear end	P.D. only	Dry	East	Unknown	Unknown	Other motor vehicle	0
					East	Turning right	Automobile, station wagon	Other motor vehicle	
2019-Aug-08, Thu,17:00	Clear	Turning movement	P.D. only	Dry	West	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Making "U" turn	Automobile, station wagon	Other motor vehicle	
2019-Sep-09, Mon,15:00	Clear	Rear end	P.D. only	Dry	West	Going ahead	Unknown	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Unknown	Other motor vehicle	
2020-Feb-18, Tue,10:55	Snow	Angle	Non-fatal injury	Loose snow	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Mar-09, Mon,14:15	Clear	Angle	P.D. only	Dry	South	Turning right	Unknown	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Mar-11, Wed,08:20	Clear	Turning movement	P.D. only	Dry	East	Making "U" turn	Pick-up truck	Other motor vehicle	0
					East	Making "U" turn	Automobile, station wagon	Other motor vehicle	
2020-Aug-08, Sat,11:05	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Unknown	Other motor vehicle	

Location: WALKLEY RD btwn BAYCREST DR & HEATHERINGTON RD

Traffic Control: No control

Total Collisions: 11

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2016-Feb-12, Fri,12:27	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	



Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: WALKLEY RD btwn BAYCREST DR & HEATHERINGTON RD

Traffic Control: No control

Total Collisions: 11

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-Jul-12, Tue,15:17	Clear	Angle	Non-fatal injury	Dry	South	Going ahead	Motorcycle	Other motor vehicle	0
					East	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Jan-05, Thu,15:17	Clear	Angle	P.D. only	Wet	North	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Pick-up truck	Other motor vehicle	
2017-Jul-31, Mon,09:52	Clear	Rear end	P.D. only	Dry	West	Slowing or stopping	Pick-up truck	Other motor vehicle	0
					West	Turning left	Automobile, station wagon	Other motor vehicle	
2017-Oct-02, Mon,02:26	Clear	SMV other	P.D. only	Dry	East	Going ahead	Automobile, station wagon	Pole (utility, power)	0
2017-Oct-18, Wed,17:31	Clear	Rear end	P.D. only	Dry	East	Slowing or stopping	Automobile, station wagon	Other motor vehicle	0
					East	Slowing or stopping	Passenger van	Other motor vehicle	
2018-Jul-20, Fri,14:20	Clear	Angle	P.D. only	Dry	North	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Motorcycle	Other motor vehicle	
2018-Sep-04, Tue,13:07	Clear	Rear end	Non-fatal injury	Dry	East	Slowing or stopping	Passenger van	Other motor vehicle	0
					East	Going ahead	Passenger van	Other motor vehicle	
2018-Oct-15, Mon,07:09	Clear	Angle	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Nov-30, Fri,17:24	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Dec-01, Sat,11:12	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: WALKLEY RD btwn COLLISTON CRES & CEDARWOOD DR

Traffic Control: No control

Total Collisions: 8

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

Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: WALKLEY RD btwn COLLISTON CRES & CEDARWOOD DR

Traffic Control: No control

Total Collisions: 8

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2016-May-07, Sat,00:05	Clear	SMV other	P.D. only	Dry	North	Turning left	Automobile, station wagon	Curb	0
2016-Jul-23, Sat,20:30	Clear	Sideswipe	Non-fatal injury	Dry	East	Going ahead	Pick-up truck	Cyclist	0
					East	Going ahead	Bicycle	Other motor vehicle	
2016-Nov-18, Fri,14:15	Clear	Other	Non-fatal injury	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Mar-20, Mon,12:15	Clear	Rear end	Non-fatal injury	Dry	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Turning right	Pick-up truck	Other motor vehicle	
					North	Stopped	Automobile, station wagon	Other motor vehicle	
2018-Jun-08, Fri,08:36	Clear	Angle	P.D. only	Dry	North	Turning right	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Dec-03, Mon,10:28	Rain	SMV other	Non-fatal injury	Wet	East	Going ahead	Automobile, station wagon	Curb	0
2019-Jun-03, Mon,23:08	Clear	SMV other	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Debris on road	0
2019-Jun-25, Tue,15:53	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Bicycle	Other motor vehicle	0
					East	Going ahead	Passenger van	Cyclist	

Location: WALKLEY RD btwn COLLISTON CRES & COLLISTON CRES

Traffic Control: No control

Total Collisions: 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Oct-24, Tue,19:23	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Slowing or stopping	Automobile, station wagon	Other motor vehicle	

Location: WALKLEY RD btwn HAMPSTEAD PL & JASPER AVE

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
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Transportation Services - Traffic Services

Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: WALKLEY RD btwn HAMPSTEAD PL & JASPER AVE

Traffic Control: No control

Total Collisions: 1

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2016-May-19, Thu,11:41	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	

Location: WALKLEY RD btwn HEATHERINGTON RD & 152 E OF HEATHERINGTON RD

Traffic Control: No control

Total Collisions: 3

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2017-Jul-05, Wed,18:37	Clear	Angle	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Jan-13, Sat,13:45	Clear	Sideswipe	P.D. only	Ice	East	Going ahead	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2020-Jan-04, Sat,20:46	Snow	SMV other	P.D. only	Ice	East	Going ahead	Automobile, station wagon	Pole (utility, power)	0

Location: WALKLEY RD btwn HERON RD & HOLLY LANE

Traffic Control: No control

Total Collisions: 11

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2016-Jan-12, Tue,16:22	Clear	SMV other	Non-fatal injury	Loose snow	West	Turning right	Pick-up truck	Skidding/sliding	0
2016-Jun-07, Tue,17:23	Clear	Angle	P.D. only	Dry	South	Turning left	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2016-Oct-06, Thu,17:24	Clear	Sideswipe	P.D. only	Dry	West	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Feb-28, Tue,15:30	Clear	Turning movement	P.D. only	Dry	West	Turning left	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2017-Feb-28, Tue,18:15	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Turning right	Delivery van	Other motor vehicle	



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Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: WALKLEY RD btwn HERON RD & HOLLY LANE

Traffic Control: No control

Total Collisions: 11

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuver	Vehicle type	First Event	No. Ped
2017-Apr-28, Fri,15:25	Clear	Angle	Non-fatal injury	Dry	South	Turning right	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Motorcycle	Other motor vehicle	
2017-Jul-14, Fri,16:39	Clear	Rear end	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2017-Oct-21, Sat,13:53	Clear	Sideswipe	Non-fatal injury	Dry	East	Going ahead	Bicycle	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Cyclist	
2019-Nov-04, Mon,15:03	Clear	Sideswipe	P.D. only	Dry	East	Changing lanes	Automobile, station wagon	Other motor vehicle	0
					East	Going ahead	Automobile, station wagon	Other motor vehicle	
2019-Nov-18, Mon,17:02	Clear	Rear end	Non-fatal injury	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Stopped	Automobile, station wagon	Other motor vehicle	
					West	Stopped	Automobile, station wagon	Other motor vehicle	
2020-Dec-08, Tue,09:12	Clear	Rear end	P.D. only	Dry	West	Going ahead	Truck - closed	Other motor vehicle	0
					West	Stopped	Truck - closed	Other motor vehicle	

Location: WALKLEY RD btwn HERON RD & TURN LANE

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
2016-Jul-26, Tue,14:00	Clear	Sideswipe	P.D. only	Dry	West	Going ahead	Automobile, station wagon	Other motor vehicle	0
					West	Going ahead	Automobile, station wagon	Other motor vehicle	
2018-Apr-17, Tue,12:15	Snow	Sideswipe	P.D. only	Wet	East	Changing lanes	Pick-up truck	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	

Location: WALKLEY RD btwn JASPER AVE & COLLISTON CRES

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
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Collision Details Report - Public Version

From: January 1, 2016 To: December 31, 2020

Location: WALKLEY RD btwn JASPER AVE & COLLISTON CRES

Traffic Control: No control

Total Collisions: 2

Date/Day/Time	Environment	Impact Type	Classification	Surface Cond'n	Veh. Dir	Vehicle Manoeuvre	Vehicle type	First Event	No. Ped
2017-Apr-17, Mon,01:07	Clear	Turning movement	P.D. only	Dry	West	Making "U" turn	Passenger van	Other motor vehicle	0
					West	Going ahead	Passenger van	Other motor vehicle	
2020-Sep-28, Mon,17:38	Clear	Rear end	P.D. only	Dry	East	Going ahead	Pick-up truck	Other motor vehicle	0
					East	Stopped	Automobile, station wagon	Other motor vehicle	
					East	Stopped	Automobile, station wagon	Other motor vehicle	

Appendix C
MMLOS Summary

Multi-Modal Level of Service - Intersections Form

Consultant
Scenario
Comments

STANTEC
Existing

Project
Date

1495 Heron Road
1-Feb-2023

INTERSECTIONS														
Crossing Side		Heron Rd and Bank St				Heron Rd and Alta Vista Dr				Heron Rd and BaycrestDr				
		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	
Pedestrian	Lanes	7	8	7	7	5	5	7	7	3	0 - 2	6	7	
	Median	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	
	Conflicting Left Turns	Protected	Protected	Permissive	Protected/ Permissive	Protected/ Permissive	Permissive	Protected	Protected	Permissive	Permissive	Permissive	Permissive	
	Conflicting Right Turns	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	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	
	Right Turns on Red (RTOR) ?	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	
	Ped Signal Leading Interval?	No	No	No	No	No	No	No	No	No	No	No	No	
	Right Turn Channel	No Channel	Conventional with Receiving Lane	Conventional with Receiving Lane	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	Conventional with Receiving Lane	Conventional with Receiving Lane	No Channel	No Channel	No Channel	No Channel	
	Corner Radius	10-15m	15-25m	15-25m	15-25m	15-25m	15-25m	15-25m	15-25m	15-25m	5-10m	5-10m	5-10m	5-10m
	Crosswalk Type	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	
	PETSI Score	12	-5	3	6	42	42	14	14	71	86	21	5	
	Ped. Exposure to Traffic LoS	F	F	F	F	E	E	F	F	C	B	F	F	
	Cycle Length	130	130	130	130	130	130	130	130	90	90	90	90	
	Effective Walk Time	11	11	11	11	11	11	11	11	19	19	14	14	
	Average Pedestrian Delay	54	54	54	54	54	54	54	54	28	28	32	32	
Pedestrian Delay LoS	E	E	E	E	E	E	E	E	C	C	D	D		
Level of Service	F	F	F	F	E	E	F	F	C	C	F	F		
Approach From		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	
Bicycle	Bicycle Lane Arrangement on Approach	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Pocket Bike Lane	Pocket Bike Lane	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Curb Bike Lane, Cycletrack or MUP	Curb Bike Lane, Cycletrack or MUP	
	IF Dedicated Right Turn Lane, THEN Right Turn Configuration, ELSE <blank>			> 50 m	> 50 m									
	Dedicated Right Turning Speed			>25 km/h	>25 km/h									
	Cyclist Through Movement			F	F							Not Applicable	Not Applicable	
	Separated or Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Separated	Separated	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Separated	Separated	
	Left Turn Approach	≥ 2 lanes crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	1 lane crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	One lane crossed	No lane crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	
	Operating Speed	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	
Left Turning Cyclist	F	F	F	F	F	D	F	F	E	C	F	F		
Level of Service	F	F	F	F	F	D	F	F	E	C	F	F		
Level of Service		F				F				F				
Transit	Average Signal Delay	> 40 sec	> 40 sec	> 40 sec	≤ 40 sec	> 40 sec	> 40 sec	> 40 sec	> 40 sec	≤ 30 sec	≤ 40 sec	≤ 20 sec	≤ 20 sec	
	Level of Service	F	F	F	E	F	F	F	F	D	E	C	C	
Level of Service		F				F				E				
Truck	Effective Corner Radius	> 15 m	> 15 m	> 15 m	> 15 m	> 15 m	> 15 m	> 15 m	> 15 m	< 10 m	< 10 m	< 10 m	< 10 m	
	Number of Receiving Lanes on Departure from Intersection	≥ 2	≥ 2	≥ 2	≥ 2	≥ 2	≥ 2	1	1	≥ 2	≥ 2	1	1	
Level of Service	A	A	A	A	A	A	C	C	D	D	F	F		
Level of Service		A				C				F				
Auto	Volume to Capacity Ratio	> 1.00				0.91 - 1.00				0.61 - 0.70				
	Level of Service	F				E				B				

Multi-Modal Level of Service - Segments Form

Consultant	STANTEC
Scenario	Existing
Comments	

Project	1495 Heron Road
Date	1-Feb-23

SEGMENTS	LOS	Heron Road	Heron Road	Heron Road	Heron Road	Heron Road	Bank St	Baycrest Dr	
		Bank St - Alta Vista Dr	Alta Vista Dr-Baycrest Dr	Baycrest Dr-Sandalwood Dr	Sandalwood Dr-Jefferson St	Jefferson St-Walkley Rd	Heron Rd-Walkley Rd	Heron Rd-Walkley Rd	
Pedestrian	Sidewalk Width	1.8 m	1.8 m	1.8 m	1.8 m	1.8 m	1.5 m	1.8 m	
	Boulevard Width	< 0.5 m	> 2 m	> 2 m	> 2 m	> 2 m	< 0.5 m	0.5 - 2 m	
	Avg Daily Curb Lane Traffic Volume	> 3000	> 3000	> 3000	> 3000	> 3000	> 3000	≤ 3000	
	Operating Speed	> 50 to 60 km/h	> 50 to 60 km/h	> 50 to 60 km/h	> 50 to 60 km/h	> 50 to 60 km/h	> 50 to 60 km/h	> 30 to 50 km/h	
	On-Street Parking	no	no	no	no	no	no	yes	
	Exposure to Traffic PLoS	F	D	D	D	D	F	B	
	Level of Service	F	D	D	D	D	F	B	
Bicycle	Type of Cycling Facility	Mixed Traffic	Mixed Traffic	Curbside Bike Lane	Curbside Bike Lane	Mixed Traffic	Mixed Traffic	Mixed Traffic	
	Number of Travel Lanes	2-3 lanes total	2-3 lanes total	2 ea. dir. (w median)	2 ea. dir. (w median)	2-3 lanes total	4-5 lanes total	2-3 lanes total	
	Operating Speed	≥ 50 to 60 km/h	≥ 50 to 60 km/h	>50 to 70 km/h	>50 to 70 km/h	≥ 50 to 60 km/h	≥ 50 to 60 km/h	>40 to <50 km/h	
		# of Lanes & Operating Speed LoS	E	E	C	C	E	E	D
	Bike Lane (+ Parking Lane) Width			≥1.5 to <1.8 m	≥1.5 to <1.8 m				
		Bike Lane Width LoS	-	-	B	B	-	-	-
	Bike Lane Blockages			Rare	Frequent				
	Blockage LoS	-	-	A	C	-	-	-	
	Level of Service	E	E	C	C	E	E	D	
Transit	Facility Type	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	
	Friction or Ratio Transit:Posted Speed	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	Vt/Vp ≤ 0.4	
		Level of Service	D	D	D	D	D	F	
Truck	Truck Lane Width	≤ 3.5 m	≤ 3.5 m	≤ 3.5 m	≤ 3.5 m	≤ 3.5 m	≤ 3.3 m	≤ 3.2 m	
	Travel Lanes per Direction	> 1	> 1	> 1	> 1	> 1	> 1	1	
		Level of Service	A	A	A	A	A	C	E

Multi-Modal Level of Service - Intersections Form

Consultant
Scenario
Comments

STANTEC
2032 Full Background

Project
Date

1495 Heron Road
1-Feb-2023

INTERSECTIONS														
Crossing Side		Heron Rd and Bank St				Heron Rd and Alta Vista Dr				Heron Rd and BaycrestDr				
		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	
Pedestrian	Lanes	7	8	7	7	5	5	7	7	3	0 - 2	6	7	
	Median	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	
	Conflicting Left Turns	Protected	Protected	Protected/ Permissive	Protected/ Permissive	Protected/ Permissive	Permissive	Protected	Protected	Permissive	Permissive	Permissive	Permissive	
	Conflicting Right Turns	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	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	
	Right Turns on Red (RTOR) ?	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	
	Ped Signal Leading Interval?	No	No	No	No	No	No	No	No	No	No	No	No	
	Right Turn Channel	No Channel	Conventional with Receiving Lane	Conventional with Receiving Lane	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	Conventional with Receiving Lane	Conventional with Receiving Lane	No Channel	No Channel	No Channel	No Channel
	Corner Radius	10-15m	15-25m	15-25m	15-25m	15-25m	15-25m	15-25m	15-25m	15-25m	5-10m	5-10m	5-10m	5-10m
	Crosswalk Type	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings
	PETSI Score	12	-5	3	6	42	42	14	14	71	86	21	5	
	Ped. Exposure to Traffic LoS	F	F	F	F	E	E	F	F	C	B	F	F	
	Cycle Length	130	130	130	130	130	130	130	130	90	90	90	90	
	Effective Walk Time	11	11	11	11	11	11	11	11	19	19	14	14	
	Average Pedestrian Delay	54	54	54	54	54	54	54	54	28	28	32	32	
Pedestrian Delay LoS	E	E	E	E	E	E	E	E	C	C	D	D		
Level of Service	F	F	F	F	E	E	F	F	C	C	F	F		
Approach From		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	
Bicycle	Bicycle Lane Arrangement on Approach	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Pocket Bike Lane	Pocket Bike Lane	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Curb Bike Lane, Cycletrack or MUP	Curb Bike Lane, Cycletrack or MUP	
	IF Dedicated Right Turn Lane, THEN Right Turn Configuration, ELSE <blank>			> 50 m	> 50 m									
	Dedicated Right Turning Speed			>25 km/h	>25 km/h									
	Cyclist Through Movement			F	F							Not Applicable	Not Applicable	
	Separated or Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Separated	Separated	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Separated	Separated	
	Left Turn Approach	≥ 2 lanes crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	1 lane crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	One lane crossed	No lane crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	
	Operating Speed	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	
Left Turning Cyclist	F	F	F	F	F	D	F	F	E	C	F	F		
Level of Service	F	F	F	F	F	D	F	F	E	C	F	F		
Level of Service		F				F				F				
Transit	Average Signal Delay	> 40 sec	> 40 sec	> 40 sec	> 40 sec	> 40 sec	> 40 sec	> 40 sec	> 40 sec	≤ 30 sec	≤ 40 sec	≤ 20 sec	≤ 20 sec	
	Level of Service	F	F	F	F	F	F	F	F	D	E	C	C	
Level of Service		F				F				E				
Truck	Effective Corner Radius	> 15 m	> 15 m	> 15 m	> 15 m	> 15 m	> 15 m	> 15 m	> 15 m	< 10 m	< 10 m	< 10 m	< 10 m	
	Number of Receiving Lanes on Departure from Intersection	≥ 2	≥ 2	≥ 2	≥ 2	≥ 2	≥ 2	1	1	≥ 2	≥ 2	1	1	
Level of Service	A	A	A	A	A	A	C	C	D	D	F	F		
Level of Service		A				C				F				
Auto	Volume to Capacity Ratio	> 1.00				> 1.00				0.71 - 0.80				
	Level of Service	F				F				C				

Multi-Modal Level of Service - Segments Form

Consultant	STANTEC
Scenario	2032 Full Background
Comments	

Project	1495 Heron Road
Date	1-Feb-2023

SEGMENTS	LOS	Heron Road	Heron Road	Heron Road	Heron Road	Heron Road	Bank St	Baycrest Dr	
		Bank St - Alta Vista Dr	Alta Vista Dr-Baycrest Dr	Baycrest Dr-Sandalwood Dr	Sandalwood Dr-Jefferson St	Jefferson St-Walkley Rd	Heron Rd-Walkley Rd	Heron Rd-Walkley Rd	
Pedestrian	Sidewalk Width	1.8 m	1.8 m	1.8 m	1.8 m	1.8 m	1.5 m	1.8 m	
	Boulevard Width	< 0.5 m	> 2 m	> 2 m	> 2 m	> 2 m	< 0.5 m	0.5 - 2 m	
	Avg Daily Curb Lane Traffic Volume	> 3000	> 3000	> 3000	> 3000	> 3000	> 3000	≤ 3000	
	Operating Speed	> 50 to 60 km/h	> 50 to 60 km/h	> 50 to 60 km/h	> 50 to 60 km/h	> 50 to 60 km/h	> 50 to 60 km/h	> 30 to 50 km/h	
	On-Street Parking	no	no	no	no	no	no	yes	
	Exposure to Traffic PLoS	F	D	D	D	D	F	B	
	Level of Service	F	D	D	D	D	F	B	
Bicycle	Type of Cycling Facility	Mixed Traffic	Mixed Traffic	Curbside Bike Lane	Curbside Bike Lane	Mixed Traffic	Mixed Traffic	Mixed Traffic	
	Number of Travel Lanes	2-3 lanes total	2-3 lanes total	2 ea. dir. (w median)	2 ea. dir. (w median)	2-3 lanes total	4-5 lanes total	2-3 lanes total	
	Operating Speed	≥ 50 to 60 km/h	≥ 50 to 60 km/h	>50 to 70 km/h	>50 to 70 km/h	≥ 50 to 60 km/h	≥ 50 to 60 km/h	>40 to <50 km/h	
		# of Lanes & Operating Speed LoS	E	E	C	C	E	E	D
	Bike Lane (+ Parking Lane) Width			≥1.5 to <1.8 m	≥1.5 to <1.8 m				
		Bike Lane Width LoS	-	-	B	B	-	-	-
	Bike Lane Blockages			Rare	Frequent				
	Blockage LoS	-	-	A	C	-	-	-	
	Level of Service	E	E	C	C	E	E	D	
Transit	Facility Type	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	
	Friction or Ratio Transit:Posted Speed	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	
		Level of Service	D	D	D	D	D	D	
Truck	Truck Lane Width	≤ 3.5 m	≤ 3.5 m	≤ 3.5 m	≤ 3.5 m	≤ 3.5 m	≤ 3.3 m	≤ 3.2 m	
	Travel Lanes per Direction	> 1	> 1	> 1	> 1	> 1	> 1	1	
		Level of Service	A	A	A	A	A	C	E

Multi-Modal Level of Service - Intersections Form

Consultant
Scenario
Comments

STANTEC
2032 Total Future

Project
Date

1495 Heron Road
1-Feb-2023

INTERSECTIONS														
Crossing Side		Heron Rd and Bank St				Heron Rd and Alta Vista Dr				Heron Rd and BaycrestDr				
		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	
Pedestrian	Lanes	7	8	7	7	5	5	7	7	3	0 - 2	6	7	
	Median	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	
	Conflicting Left Turns	Protected	Protected	Protected/ Permissive	Protected/ Permissive	Protected/ Permissive	Permissive	Protected	Protected	Permissive	Permissive	Permissive	Permissive	
	Conflicting Right Turns	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	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	
	Right Turns on Red (RTOR) ?	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	
	Ped Signal Leading Interval?	No	No	No	No	No	No	No	No	No	No	No	No	
	Right Turn Channel	No Channel	Conventional with Receiving Lane	Conventional with Receiving Lane	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	Conventional with Receiving Lane	Conventional with Receiving Lane	No Channel	No Channel	No Channel	No Channel
	Corner Radius	10-15m	15-25m	15-25m	15-25m	15-25m	15-25m	15-25m	15-25m	15-25m	5-10m	5-10m	5-10m	5-10m
	Crosswalk Type	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings
	PETSI Score	12	-5	3	6	42	42	14	14	71	86	21	5	
	Ped. Exposure to Traffic LoS	F	F	F	F	E	E	F	F	C	B	F	F	
	Cycle Length	130	130	130	130	130	130	130	130	120	120	120	120	
	Effective Walk Time	11	11	11	11	11	11	11	11	19	19	14	14	
	Average Pedestrian Delay	54	54	54	54	54	54	54	54	43	43	47	47	
Pedestrian Delay LoS	E	E	E	E	E	E	E	E	E	E	E	E		
Level of Service	F	F	F	F	E	E	F	F	E	E	F	F		
Approach From		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	
Bicycle	Bicycle Lane Arrangement on Approach	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Pocket Bike Lane	Pocket Bike Lane	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Curb Bike Lane, Cycletrack or MUP	Curb Bike Lane, Cycletrack or MUP	
	IF Dedicated Right Turn Lane, THEN Right Turn Configuration, ELSE <blank>			> 50 m	> 50 m									
	Dedicated Right Turning Speed			>25 km/h	>25 km/h									
	Cyclist Through Movement			F	F							Not Applicable	Not Applicable	
	Separated or Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Separated	Separated	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Separated	Separated	
	Left Turn Approach	≥ 2 lanes crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	1 lane crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	One lane crossed	No lane crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	
	Operating Speed	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	
Left Turning Cyclist	F	F	F	F	F	D	F	F	E	C	F	F		
Level of Service	F	F	F	F	F	D	F	F	E	C	F	F		
Level of Service		F				F				F				
Transit	Average Signal Delay	> 40 sec	> 40 sec	> 40 sec	> 40 sec	> 40 sec	> 40 sec	> 40 sec	> 40 sec	≤ 30 sec	> 40 sec	≤ 20 sec	≤ 20 sec	
	Level of Service	F	F	F	F	F	F	F	F	D	F	C	C	
Level of Service		F				F				F				
Truck	Effective Corner Radius	> 15 m	> 15 m	> 15 m	> 15 m	> 15 m	> 15 m	> 15 m	> 15 m	< 10 m	< 10 m	< 10 m	< 10 m	
	Number of Receiving Lanes on Departure from Intersection	≥ 2	≥ 2	≥ 2	≥ 2	≥ 2	≥ 2	1	1	≥ 2	≥ 2	1	1	
Level of Service	A	A	A	A	A	A	C	C	D	D	F	F		
Level of Service		A				C				F				
Auto	Volume to Capacity Ratio	> 1.00				> 1.00				0.71 - 0.80				
	Level of Service	F				F				C				

Multi-Modal Level of Service - Segments Form

Consultant	STANTEC
Scenario	2032 Total Future
Comments	

Project	1495 Heron Road
Date	1-Feb-2023

SEGMENTS	LOS	Heron Road	Heron Road	Heron Road	Heron Road	Heron Road	Bank St	Baycrest Dr	
		Bank St - Alta Vista Dr	Alta Vista Dr-Baycrest Dr	Baycrest Dr-Sandalwood Dr	Sandalwood Dr-Jefferson St	Jefferson St-Walkley Rd	Heron Rd-Walkley Rd	Heron Rd-Walkley Rd	
Pedestrian	Sidewalk Width	1.8 m	1.8 m	1.8 m	1.8 m	1.8 m	1.5 m	1.8 m	
	Boulevard Width	< 0.5 m	> 2 m	> 2 m	> 2 m	> 2 m	< 0.5 m	0.5 - 2 m	
	Avg Daily Curb Lane Traffic Volume	> 3000	> 3000	> 3000	> 3000	> 3000	> 3000	≤ 3000	
	Operating Speed	> 50 to 60 km/h	> 50 to 60 km/h	> 50 to 60 km/h	> 50 to 60 km/h	> 50 to 60 km/h	> 50 to 60 km/h	> 30 to 50 km/h	
	On-Street Parking	no	no	no	no	no	no	yes	
	Exposure to Traffic PLoS	F	D	D	D	D	F	B	
	Level of Service	F	D	D	D	D	F	B	
Bicycle	Type of Cycling Facility	Mixed Traffic	Mixed Traffic	Curbside Bike Lane	Curbside Bike Lane	Mixed Traffic	Mixed Traffic	Mixed Traffic	
	Number of Travel Lanes	2-3 lanes total	2-3 lanes total	2 ea. dir. (w median)	2 ea. dir. (w median)	2-3 lanes total	4-5 lanes total	2-3 lanes total	
	Operating Speed	≥ 50 to 60 km/h	≥ 50 to 60 km/h	>50 to 70 km/h	>50 to 70 km/h	≥ 50 to 60 km/h	≥ 50 to 60 km/h	>40 to <50 km/h	
		# of Lanes & Operating Speed LoS	E	E	C	C	E	E	D
	Bike Lane (+ Parking Lane) Width			≥1.5 to <1.8 m	≥1.5 to <1.8 m				
		Bike Lane Width LoS	-	-	B	B	-	-	-
	Bike Lane Blockages			Rare	Frequent				
	Blockage LoS	-	-	A	C	-	-	-	
	Level of Service	E	E	C	C	E	E	D	
Transit	Facility Type	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	
	Friction or Ratio Transit:Posted Speed	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	
		Level of Service	D	D	D	D	D	D	
Truck	Truck Lane Width	≤ 3.5 m	≤ 3.5 m	≤ 3.5 m	≤ 3.5 m	≤ 3.5 m	≤ 3.3 m	≤ 3.2 m	
	Travel Lanes per Direction	> 1	> 1	> 1	> 1	> 1	> 1	1	
		Level of Service	A	A	A	A	A	C	E

Multi-Modal Level of Service - Intersections Form

Consultant
Scenario
Comments

STANTEC
2037 Ultimate

Project
Date

1495 Heron Road
1-Feb-2023

INTERSECTIONS		Heron Rd and Bank St				Heron Rd and Alta Vista Dr				Heron Rd and BaycrestDr				
Crossing Side		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	
Pedestrian	Lanes	7	8	7	7	5	5	7	7	3	0 - 2	6	7	
	Median	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	
	Conflicting Left Turns	Protected	Protected	Protected/ Permissive	Protected/ Permissive	Protected/ Permissive	Permissive	Protected	Protected	Permissive	Permissive	Permissive	Permissive	
	Conflicting Right Turns	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	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control	
	Right Turns on Red (RTOR) ?	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed	
	Ped Signal Leading Interval?	No	No	No	No	No	No	No	No	No	No	No	No	
	Right Turn Channel	No Channel	Conventional with Receiving Lane	Conventional with Receiving Lane	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	Conv'tl without Receiving Lane	Conventional with Receiving Lane	Conventional with Receiving Lane	No Channel	No Channel	No Channel	No Channel
	Corner Radius	10-15m	15-25m	15-25m	15-25m	15-25m	15-25m	15-25m	15-25m	15-25m	5-10m	5-10m	5-10m	5-10m
	Crosswalk Type	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Zebra stripe hi-vis markings	Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings
	PETSI Score	12	-5	3	6	42	42	14	14	71	86	21	5	
	Ped. Exposure to Traffic LoS	F	F	F	F	E	E	F	F	C	B	F	F	
	Cycle Length	130	130	130	130	130	130	130	130	120	120	120	120	
	Effective Walk Time	11	11	11	11	11	11	11	11	19	19	14	14	
	Average Pedestrian Delay	54	54	54	54	54	54	54	54	43	43	47	47	
Pedestrian Delay LoS	E	E	E	E	E	E	E	E	E	E	E	E		
Level of Service	F	F	F	F	E	E	F	F	E	E	F	F		
Approach From		NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	
Bicycle	Bicycle Lane Arrangement on Approach	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Pocket Bike Lane	Pocket Bike Lane	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Curb Bike Lane, Cycletrack or MUP	Curb Bike Lane, Cycletrack or MUP	
	IF Dedicated Right Turn Lane, THEN Right Turn Configuration, ELSE <blank>			> 50 m	> 50 m									
	Dedicated Right Turning Speed			>25 km/h	>25 km/h									
	Cyclist Through Movement			F	F							Not Applicable	Not Applicable	
	Separated or Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Separated	Separated	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Separated	Separated	
	Left Turn Approach	≥ 2 lanes crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	1 lane crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	One lane crossed	No lane crossed	≥ 2 lanes crossed	≥ 2 lanes crossed	
	Operating Speed	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	> 50 to < 60 km/h	
Left Turning Cyclist	F	F	F	F	F	D	F	F	E	C	F	F		
Level of Service	F	F	F	F	F	D	F	F	E	C	F	F		
Level of Service		F				F				F				
Transit	Average Signal Delay	> 40 sec	> 40 sec	> 40 sec	> 40 sec	> 40 sec	> 40 sec	> 40 sec	> 40 sec	≤ 30 sec	> 40 sec	≤ 30 sec	≤ 20 sec	
	Level of Service	F	F	F	F	F	F	F	F	D	F	D	C	
Level of Service		F				F				F				
Truck	Effective Corner Radius	> 15 m	> 15 m	> 15 m	> 15 m	> 15 m	> 15 m	> 15 m	> 15 m	< 10 m	< 10 m	< 10 m	< 10 m	
	Number of Receiving Lanes on Departure from Intersection	≥ 2	≥ 2	≥ 2	≥ 2	≥ 2	≥ 2	1	1	≥ 2	≥ 2	1	1	
Level of Service	A	A	A	A	A	A	C	C	D	D	F	F		
Level of Service		A				C				F				
Auto	Volume to Capacity Ratio	> 1.00				> 1.00				0.81 - 0.90				
	Level of Service	F				F				D				

Multi-Modal Level of Service - Segments Form

Consultant	STANTEC
Scenario	2032 Total Future
Comments	

Project	1495 Heron Road
Date	1-Feb-2023

SEGMENTS	LOS	Heron Road	Heron Road	Heron Road	Heron Road	Heron Road	Bank St	Baycrest Dr
		Bank St - Alta Vista Dr	Alta Vista Dr-Baycrest Dr	Baycrest Dr-Sandalwood Dr	Sandalwood Dr-Jefferson St	Jefferson St-Walkley Rd	Heron Rd-Walkley Rd	Heron Rd-Walkley Rd
Pedestrian	Sidewalk Width	1.8 m	1.8 m	1.8 m	1.8 m	1.8 m	1.5 m	1.8 m
	Boulevard Width	< 0.5 m	> 2 m	> 2 m	> 2 m	> 2 m	< 0.5 m	0.5 - 2 m
	Avg Daily Curb Lane Traffic Volume	> 3000	> 3000	> 3000	> 3000	> 3000	> 3000	≤ 3000
	Operating Speed	> 50 to 60 km/h	> 50 to 60 km/h	> 50 to 60 km/h	> 50 to 60 km/h	> 50 to 60 km/h	> 50 to 60 km/h	> 30 to 50 km/h
	On-Street Parking	no	no	no	no	no	no	yes
Exposure to Traffic PLoS	F	D	D	D	D	F	B	
Level of Service	F	D	D	D	D	F	B	
Bicycle	Type of Cycling Facility	Mixed Traffic	Mixed Traffic	Curbside Bike Lane	Curbside Bike Lane	Mixed Traffic	Mixed Traffic	Mixed Traffic
	Number of Travel Lanes	2-3 lanes total	2-3 lanes total	2 ea. dir. (w median)	2 ea. dir. (w median)	2-3 lanes total	4-5 lanes total	2-3 lanes total
	Operating Speed	≥ 50 to 60 km/h	≥ 50 to 60 km/h	>50 to 70 km/h	>50 to 70 km/h	≥ 50 to 60 km/h	≥ 50 to 60 km/h	>40 to <50 km/h
	# of Lanes & Operating Speed LoS	E	E	C	C	E	E	D
	Bike Lane (+ Parking Lane) Width			≥1.5 to <1.8 m	≥1.5 to <1.8 m			
	Bike Lane Width LoS	-	-	B	B	-	-	-
	Bike Lane Blockages			Rare	Frequent			
Blockage LoS	-	-	A	C	-	-	-	
Level of Service	E	E	C	C	E	E	D	
Transit	Facility Type	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic
	Friction or Ratio Transit:Posted Speed	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8	Vt/Vp ≥ 0.8
	Level of Service	D	D	D	D	D	D	D
Truck	Truck Lane Width	≤ 3.5 m	≤ 3.5 m	≤ 3.5 m	≤ 3.5 m	≤ 3.5 m	≤ 3.3 m	≤ 3.2 m
	Travel Lanes per Direction	> 1	> 1	> 1	> 1	> 1	> 1	1
	Level of Service	A	A	A	A	A	C	E

Appendix D
Synchro LOS Summary

Lanes, Volumes, Timings

1: Bank St & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	146	639	241	70	904	184	482	596	20	142	319	92
Future Volume (vph)	146	639	241	70	904	184	482	596	20	142	319	92
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	73.0		85.0	50.0		70.0	110.0		0.0	70.0		0.0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (m)	20.0			30.0			0.0			0.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.97	0.99		0.98	0.99	1.00		0.99	0.99	
Frt			0.850			0.850		0.995			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	3357	1446	1662	3293	1473	3225	3326	0	1712	3129	0
Flt Permitted	0.095			0.382			0.950			0.950		
Satd. Flow (perm)	171	3357	1404	664	3293	1438	3178	3326	0	1694	3129	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			268			208		3			28	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		381.8			492.5			121.2			274.8	
Travel Time (s)		27.5			35.5			8.7			19.8	
Confl. Peds. (#/hr)	8		13	13		8	12		20	20		12
Confl. Bikes (#/hr)			1			3			3			9
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	3%	7%	4%	5%	5%	4%	3%	13%	1%	7%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	162	710	268	78	1004	204	536	662	22	158	354	102
Shared Lane Traffic (%)												
Lane Group Flow (vph)	162	710	268	78	1004	204	536	684	0	158	456	0
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Detector Phase	7	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	13.5	34.4	34.4	32.5	32.5	32.5	13.5	32.4		13.5	32.4	
Total Split (s)	13.0	55.0	55.0	42.0	42.0	42.0	32.0	49.0		16.0	33.0	
Total Split (%)	10.8%	45.8%	45.8%	35.0%	35.0%	35.0%	26.7%	40.8%		13.3%	27.5%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	3.2	3.1	3.1	1.0	1.0	1.0	3.2	3.1		3.2	3.1	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.4	6.4	4.3	4.3	4.3	6.5	6.4		6.5	6.4	
Lead/Lag	Lead			Lag	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effect Green (s)	48.5	48.6	48.6	37.7	37.7	37.7	23.6	42.6		9.5	28.5	

Lanes, Volumes, Timings

1: Bank St & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Actuated g/C Ratio	0.40	0.40	0.40	0.31	0.31	0.31	0.20	0.36		0.08	0.24		
v/c Ratio	1.07	0.52	0.37	0.38	0.97	0.34	0.85	0.58		1.17	0.60		
Control Delay	120.4	28.7	4.2	38.5	62.8	5.5	43.9	19.4		178.4	42.3		
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		
Total Delay	120.4	28.7	4.2	38.5	62.8	5.5	43.9	19.4		178.4	42.3		
LOS	F	C	A	D	E	A	D	B		F	D		
Approach Delay		36.0				52.2				30.2			77.3
Approach LOS		D				D				C			E
Queue Length 50th (m)	~26.8	65.4	0.0	14.2	122.4	0.0	44.2	67.6		~44.2	48.2		
Queue Length 95th (m)	#70.3	83.3	15.9	29.1	#165.7	15.9	m63.1	m69.2		#86.4	66.0		
Internal Link Dist (m)		357.8				468.5				97.2			250.8
Turn Bay Length (m)	73.0		85.0	50.0		70.0	110.0			70.0			
Base Capacity (vph)	152	1359	728	208	1034	594	685	1182		135	764		
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0		
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0		
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0		
Reduced v/c Ratio	1.07	0.52	0.37	0.38	0.97	0.34	0.78	0.58		1.17	0.60		

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 52 (43%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.17
 Intersection Signal Delay: 45.2 Intersection LOS: D
 Intersection Capacity Utilization 90.8% ICU Level of Service E
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Bank St & Heron Rd



Lanes, Volumes, Timings
2: Alta Vista Dr & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	623	81	136	978	186	63	253	168	118	246	117
Future Volume (vph)	95	623	81	136	978	186	63	253	168	118	246	117
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	65.0		0.0	57.0		85.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	30.0			24.0			2.5			48.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97	0.99		0.96		0.83	0.99	0.95		0.96	0.99	
Frt		0.983				0.850		0.940			0.952	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	3206	0	1695	3293	1459	1601	1582	0	1631	1690	0
Flt Permitted	0.950			0.950			0.525			0.139		
Satd. Flow (perm)	1654	3206	0	1636	3293	1213	873	1582	0	230	1690	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		16				207		36			32	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		492.5			657.5			201.9			270.3	
Travel Time (s)		35.5			47.3			14.5			19.5	
Confl. Peds. (#/hr)	54		37	37		54	21		110	110		21
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	5%	1%	2%	5%	6%	8%	2%	3%	6%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	106	692	90	151	1087	207	70	281	187	131	273	130
Shared Lane Traffic (%)												
Lane Group Flow (vph)	106	782	0	151	1087	207	70	468	0	131	403	0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases						6	8			4		
Detector Phase	5	2		1	6	6	8	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	10.0	10.0		7.0	10.0	
Minimum Split (s)	12.4	23.4		12.4	23.4	23.4	29.9	29.9		11.5	29.9	
Total Split (s)	13.0	34.0		13.0	34.0	34.0	30.0	30.0		13.0	43.0	
Total Split (%)	14.4%	37.8%		14.4%	37.8%	37.8%	33.3%	33.3%		14.4%	47.8%	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.1	2.1		2.1	2.1	2.1	2.6	2.6		1.0	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.4	5.4		5.4	5.4	5.4	5.9	5.9		4.3	5.9	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes		
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max		None	Max	
Act Effect Green (s)	7.5	28.6		7.6	28.7	28.7	24.5	24.5		38.7	37.1	

Lanes, Volumes, Timings
2: Alta Vista Dr & Heron Rd

04/13/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.08	0.32		0.08	0.32	0.32	0.27	0.27		0.43	0.41	
v/c Ratio	0.74	0.76		1.06	1.04	0.39	0.30	1.03		0.57	0.56	
Control Delay	71.2	32.7		134.0	54.3	2.5	30.5	81.6		26.3	22.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	71.2	32.7		134.0	54.3	2.5	30.5	81.6		26.3	22.2	
LOS	E	C		F	D	A	C	F		C	C	
Approach Delay		37.3			55.2			74.9			23.3	
Approach LOS		D			E			E			C	
Queue Length 50th (m)	18.2	62.3		~30.1	~74.6	0.0	9.6	~83.4		13.6	47.7	
Queue Length 95th (m)	#43.5	83.5		m#61.5	#142.5	m3.9	21.3	#141.4		25.0	75.7	
Internal Link Dist (m)		468.5			633.5			177.9			246.3	
Turn Bay Length (m)	65.0			57.0		85.0				30.0		
Base Capacity (vph)	144	1029		143	1048	527	237	455		234	715	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.74	0.76		1.06	1.04	0.39	0.30	1.03		0.56	0.56	

Intersection Summary




















Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 10 (11%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.06
 Intersection Signal Delay: 48.7 Intersection LOS: D
 Intersection Capacity Utilization 86.1% ICU Level of Service E
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Alta Vista Dr & Heron Rd























Lanes, Volumes, Timings
3: Baycrest Dr & Heron Rd

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	705	178	24	1052	20	240	22	43	3	3	4
Future Volume (vph)	17	705	178	24	1052	20	240	22	43	3	3	4
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	43.0		0.0	55.0		0.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	70.0			25.0			2.5			0.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	0.99		0.99	1.00			0.97		1.00	0.98	
Fr _t		0.970			0.997			0.981			0.914	
Fl _t Protected	0.950			0.950				0.962		0.950		
Satd. Flow (prot)	1729	3187	0	1478	3283	0	0	1644	0	1729	1624	0
Fl _t Permitted	0.169			0.235				0.767		0.656		
Satd. Flow (perm)	307	3187	0	362	3283	0	0	1281	0	1189	1624	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		56			3			10				4
Link Speed (k/h)		50			50			50				50
Link Distance (m)		657.5			314.4			216.5				60.0
Travel Time (s)		47.3			22.6			15.6				4.3
Confl. Peds. (#/hr)	15		27	27		15	31		8	8		31
Confl. Bikes (#/hr)						1						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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	7%	17%	5%	0%	5%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	19	783	198	27	1169	22	267	24	48	3	3	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	19	981	0	27	1191	0	0	339	0	3	7	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	29.7	29.7		29.7	29.7		35.0	35.0		35.0	35.0	
Total Split (s)	55.0	55.0		55.0	55.0		35.0	35.0		35.0	35.0	
Total Split (%)	61.1%	61.1%		61.1%	61.1%		38.9%	38.9%		38.9%	38.9%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.4	1.4		1.4	1.4		2.7	2.7		2.7	2.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	4.7	4.7		4.7	4.7			6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	52.8	52.8		52.8	52.8			26.5		26.5	26.5	

























Lanes, Volumes, Timings
4: Sandalwood Dr & Heron Rd

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	710	17	14	999	16	31	13	15	7	13	66
Future Volume (vph)	40	710	17	14	999	16	31	13	15	7	13	66
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	55.0		0.0	55.0		0.0	32.0		0.0	37.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	25.0			25.0			12.0			37.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		0.99	0.99		0.99	0.98	
Frt		0.996			0.998			0.918			0.874	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	3323	0	1601	3257	0	1478	1548	0	1729	1565	0
Flt Permitted	0.226			0.334			0.701			0.737		
Satd. Flow (perm)	410	3323	0	560	3257	0	1083	1548	0	1332	1565	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4			3			17			72	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		314.4			354.9			199.1			258.5	
Travel Time (s)		22.6			25.6			14.3			18.6	
Confl. Peds. (#/hr)	7		7	7		7	5		5	5		5
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	27%	8%	6%	0%	17%	15%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	44	789	19	16	1110	18	34	14	17	8	14	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	44	808	0	16	1128	0	34	31	0	8	87	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		16.0	16.0		16.0	16.0	
Minimum Split (s)	24.3	24.3		24.3	24.3		24.1	24.1		24.1	24.1	
Total Split (s)	55.0	55.0		55.0	55.0		35.0	35.0		35.0	35.0	
Total Split (%)	61.1%	61.1%		61.1%	61.1%		38.9%	38.9%		38.9%	38.9%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.8	2.8		2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		6.1	6.1		6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	67.7	67.7		67.7	67.7		16.4	16.4		16.4	16.4	

Lanes, Volumes, Timings
5: Heron Rd & Jefferson St

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	653	44	12	928	25	29	29	25	28	24	72
Future Volume (vph)	31	653	44	12	928	25	29	29	25	28	24	72
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%				0%
Storage Length (m)	58.0		62.0	55.0		0.0	18.0		15.0	0.0		0.0
Storage Lanes	1		1	1		0	1		1	0		0
Taper Length (m)	27.0			17.0			10.0			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97	1.00	1.00		1.00		0.98		0.99	
Frt			0.850		0.996				0.850		0.922	
Flt Protected	0.950			0.950			0.950				0.989	
Satd. Flow (prot)	1572	3357	1419	1383	3278	0	1679	1820	1381	0	1566	0
Flt Permitted	0.207			0.340			0.684				0.935	
Satd. Flow (perm)	342	3357	1379	494	3278	0	1204	1820	1357	0	1479	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			49		5				32			80
Link Speed (k/h)		50			50			50				50
Link Distance (m)		354.9			465.1			176.5				237.6
Travel Time (s)		25.6			33.5			12.7				17.1
Confl. Peds. (#/hr)	6		4	4		6	5		5	5		5
Confl. Bikes (#/hr)			2						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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	3%	9%	25%	5%	4%	3%	0%	12%	4%	0%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	34	726	49	13	1031	28	32	32	28	31	27	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	726	49	13	1059	0	32	32	28	0	138	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2		2	6			8		8	4		
Detector Phase	2	2	2	6	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		27.0	27.0	27.0	27.0	27.0	
Minimum Split (s)	30.6	30.6	30.6	30.6	30.6		34.2	34.2	34.2	34.2	34.2	
Total Split (s)	55.0	55.0	55.0	55.0	55.0		35.0	35.0	35.0	35.0	35.0	
Total Split (%)	61.1%	61.1%	61.1%	61.1%	61.1%		38.9%	38.9%	38.9%	38.9%	38.9%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3		2.9	2.9	2.9	2.9	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.6	5.6	5.6	5.6	5.6		6.2	6.2	6.2	6.2	6.2	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max		None	None	None	None	None	
Act Effect Green (s)	51.0	51.0	51.0	51.0	51.0		27.2	27.2	27.2		27.2	

Lanes, Volumes, Timings
5: Heron Rd & Jefferson St

04/13/2023

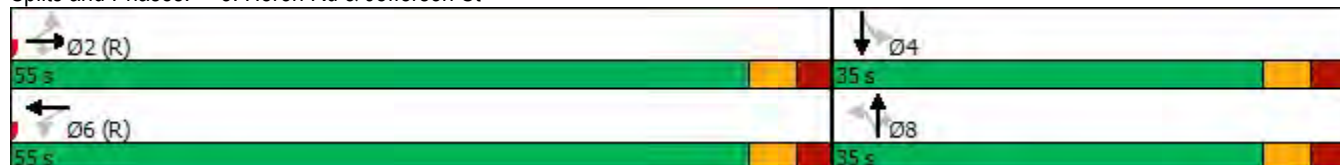


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.57	0.57	0.57	0.57	0.57		0.30	0.30	0.30		0.30	
v/c Ratio	0.18	0.38	0.06	0.05	0.57		0.09	0.06	0.06		0.27	
Control Delay	3.3	2.4	0.1	9.5	14.0		23.3	22.6	7.8		12.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	3.3	2.4	0.1	9.5	14.0		23.3	22.6	7.8		12.5	
LOS	A	A	A	A	B		C	C	A		B	
Approach Delay		2.3			13.9			18.4			12.5	
Approach LOS		A			B			B			B	
Queue Length 50th (m)	0.0	4.1	0.0	0.9	56.7		4.0	3.9	0.0		7.3	
Queue Length 95th (m)	0.9	4.8	0.0	3.6	76.3		10.4	10.2	5.3		20.4	
Internal Link Dist (m)		330.9			441.1			152.5			213.6	
Turn Bay Length (m)	58.0		62.0	55.0			18.0		15.0			
Base Capacity (vph)	193	1902	802	280	1859		385	582	456		527	
Starvation Cap Reductn	0	0	0	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.18	0.38	0.06	0.05	0.57		0.08	0.05	0.06		0.26	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	10 (11%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.57
Intersection Signal Delay:	9.6
Intersection LOS:	A
Intersection Capacity Utilization:	81.1%
ICU Level of Service:	D
Analysis Period (min):	15

Splits and Phases: 5: Heron Rd & Jefferson St



Lanes, Volumes, Timings

6: Walkley Rd & Heron Rd

04/13/2023



Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	665	670	0	653	606	965
Future Volume (vph)	665	670	0	653	606	965
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			65.0
Storage Lanes	2	0	0			1
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	0.95	1.00	0.95	0.95	0.88
Ped Bike Factor						
Flt	0.925					0.850
Flt Protected	0.976					
Satd. Flow (prot)	3125	0	0	3390	3390	2669
Flt Permitted	0.976					
Satd. Flow (perm)	3125	0	0	3390	3390	2669
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	169					1072
Link Speed (k/h)	50			50	50	
Link Distance (m)	465.1			393.2	359.8	
Travel Time (s)	33.5			28.3	25.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	739	744	0	726	673	1072
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1483	0	0	726	673	1072
Turn Type	Prot			NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases						6
Detector Phase	4			2	6	6
Switch Phase						
Minimum Initial (s)	10.0			10.0	10.0	10.0
Minimum Split (s)	33.7			16.6	16.6	16.6
Total Split (s)	46.0			54.0	54.0	54.0
Total Split (%)	46.0%			54.0%	54.0%	54.0%
Yellow Time (s)	3.3			3.3	3.3	3.3
All-Red Time (s)	3.4			3.3	3.3	3.3
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.7			6.6	6.6	6.6
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max			C-Max	C-Max	C-Max
Act Effect Green (s)	39.3			47.4	47.4	47.4

Lanes, Volumes, Timings

6: Walkley Rd & Heron Rd

04/13/2023



Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Actuated g/C Ratio	0.39			0.47	0.47	0.47
v/c Ratio	1.12			0.45	0.42	0.59
Control Delay	89.7			18.7	18.3	2.4
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	89.7			18.7	18.3	2.4
LOS	F			B	B	A
Approach Delay	89.7			18.7	8.5	
Approach LOS	F			B	A	
Queue Length 50th (m)	~160.4			47.8	43.4	0.0
Queue Length 95th (m)	#201.8			62.8	57.5	11.0
Internal Link Dist (m)	441.1			369.2	335.8	
Turn Bay Length (m)						65.0
Base Capacity (vph)	1330			1606	1606	1828
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	1.12			0.45	0.42	0.59

Intersection Summary
































Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	23 (23%), Referenced to phase 2:NET and 6:SWT, Start of Green
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	1.12
Intersection Signal Delay:	40.9
Intersection LOS:	D
Intersection Capacity Utilization:	72.5%
ICU Level of Service:	C
Analysis Period (min):	15
~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 6: Walkley Rd & Heron Rd



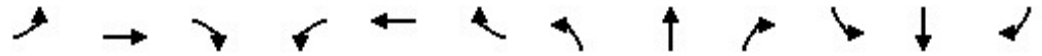
Lanes, Volumes, Timings
7: Bank St & Wakley Rd

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 			  		 	 	
Traffic Volume (vph)	370	366	90	94	343	316	146	1179	152	154	463	239
Future Volume (vph)	370	366	90	94	343	316	146	1179	152	154	463	239
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	60.0		50.0	78.0		0.0	208.0		70.0	156.0		0.0
Storage Lanes	2		1	2		0	1		1	2		1
Taper Length (m)	27.0			24.0			0.0			24.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.91	1.00	0.97	0.95	1.00
Ped Bike Factor	0.98		0.97	0.99	0.98		0.99		0.96	0.99		0.97
Frt			0.850		0.928				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3390	1517	3288	3084	0	1695	4871	1517	3288	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3232	3390	1475	3251	3084	0	1686	4871	1460	3268	3390	1469
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			209		177				161			266
Link Speed (k/h)		50			50			50				50
Link Distance (m)		154.1			197.3			245.1				260.6
Travel Time (s)		11.1			14.2			17.6				18.8
Confl. Peds. (#/hr)	26		11	11		26	8		17	17		8
Confl. Bikes (#/hr)			5			2			5			10
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	411	407	100	104	381	351	162	1310	169	171	514	266
Shared Lane Traffic (%)												
Lane Group Flow (vph)	411	407	100	104	732	0	162	1310	169	171	514	266
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	29.0	29.0	7.0	29.0		7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	13.8	39.7	39.7	13.8	39.7		13.4	33.4	33.4	13.4	33.4	33.4
Total Split (s)	19.0	40.0	40.0	19.0	40.0		26.0	46.0	46.0	15.0	35.0	35.0
Total Split (%)	15.8%	33.3%	33.3%	15.8%	33.3%		21.7%	38.3%	38.3%	12.5%	29.2%	29.2%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.4	3.4	3.5	3.4		3.1	3.1	3.1	3.1	3.1	3.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.7	6.7	6.8	6.7		6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	12.2	33.8	33.8	9.2	30.8		16.0	41.1	41.1	9.6	34.7	34.7

Lanes, Volumes, Timings
7: Bank St & Walkley Rd

04/13/2023

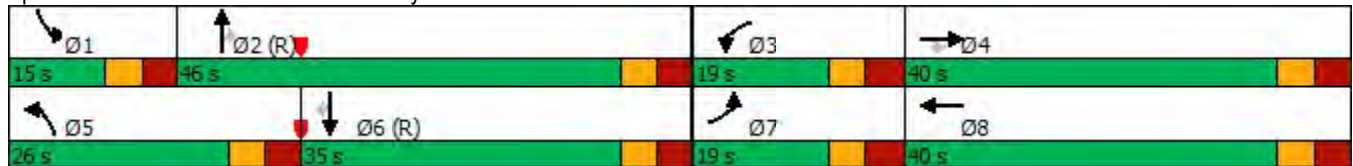


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.10	0.28	0.28	0.08	0.26		0.13	0.34	0.34	0.08	0.29	0.29
v/c Ratio	1.23	0.43	0.18	0.41	0.79		0.72	0.79	0.28	0.65	0.53	0.43
Control Delay	171.9	36.9	0.7	57.3	38.1		67.1	39.9	6.3	59.9	51.1	18.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	171.9	36.9	0.7	57.3	38.1		67.1	39.9	6.3	59.9	51.1	18.7
LOS	F	D	A	E	D		E	D	A	E	D	B
Approach Delay		93.4			40.5			39.1			43.6	
Approach LOS		F			D			D			D	
Queue Length 50th (m)	~61.5	41.8	0.0	12.2	66.8		36.8	102.2	1.3	19.7	60.3	17.1
Queue Length 95th (m)	#92.9	56.0	0.0	20.7	86.3		58.2	121.3	16.2	#36.0	81.7	37.9
Internal Link Dist (m)		130.1			173.3			221.1			236.6	
Turn Bay Length (m)	60.0		50.0	78.0			208.0		70.0	156.0		
Base Capacity (vph)	334	959	567	334	983		276	1668	605	262	979	613
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.23	0.42	0.18	0.31	0.74		0.59	0.79	0.28	0.65	0.53	0.43

Intersection Summary




















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 79 (66%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 105
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.23
 Intersection Signal Delay: 51.8
 Intersection LOS: D
 Intersection Capacity Utilization 90.2%
 ICU Level of Service E
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 7: Bank St & Walkley Rd



Lanes, Volumes, Timings
8: Walkley Rd & Baycrest Dr

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	562	10	8	599	117	24	19	26	131	5	53
Future Volume (vph)	39	562	10	8	599	117	24	19	26	131	5	53
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	50.0		0.0	33.0		0.0	0.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	22.0			27.0			2.5			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	0.99			0.99		0.98	0.98	
Frt		0.997			0.976			0.949			0.864	
Flt Protected	0.950			0.950				0.983		0.950		
Satd. Flow (prot)	1530	3253	0	1530	3196	0	0	1678	0	1586	1542	0
Flt Permitted	0.336			0.411				0.873		0.707		
Satd. Flow (perm)	539	3253	0	657	3196	0	0	1486	0	1160	1542	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			43			29			59	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		360.2			304.5			74.0			276.3	
Travel Time (s)		25.9			21.9			5.3			19.9	
Confl. Peds. (#/hr)	9		12	12		9	11		23	23		11
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	6%	0%	13%	4%	10%	0%	0%	0%	9%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	43	624	11	9	666	130	27	21	29	146	6	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	43	635	0	9	796	0	0	77	0	146	65	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.9	25.9		25.9	25.9		31.1	31.1		31.1	31.1	
Total Split (s)	38.0	38.0		38.0	38.0		32.0	32.0		32.0	32.0	
Total Split (%)	54.3%	54.3%		54.3%	54.3%		45.7%	45.7%		45.7%	45.7%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.8	2.8		2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		5.9	5.9			6.1		6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	46.9	46.9		46.9	46.9			15.5		15.5	15.5	

Lanes, Volumes, Timings
8: Walkley Rd & Baycrest Dr

04/13/2023

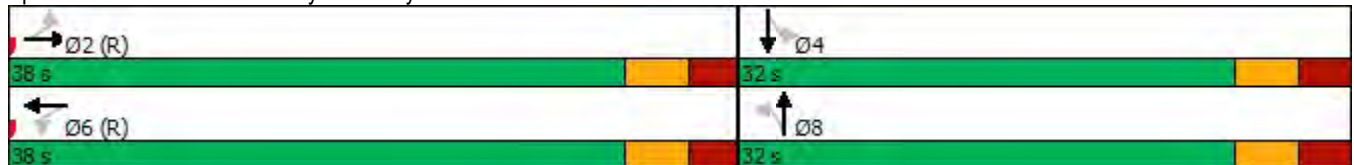


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.67	0.67		0.67	0.67			0.22		0.22	0.22	
v/c Ratio	0.12	0.29		0.02	0.37			0.22		0.57	0.17	
Control Delay	9.3	7.7		8.4	7.9			14.9		31.8	7.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	9.3	7.7		8.4	7.9			14.9		31.8	7.2	
LOS	A	A		A	A			B		C	A	
Approach Delay		7.8			7.9			14.9			24.3	
Approach LOS		A			A			B			C	
Queue Length 50th (m)	2.0	17.5		0.4	22.0			5.3		17.6	0.7	
Queue Length 95th (m)	8.8	38.7		2.8	48.7			12.1		27.7	7.4	
Internal Link Dist (m)		336.2			280.5			50.0			252.3	
Turn Bay Length (m)	50.0			33.0						20.0		
Base Capacity (vph)	361	2181		440	2156			568		429	607	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.12	0.29		0.02	0.37			0.14		0.34	0.11	

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 17 (24%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.57
 Intersection Signal Delay: 10.1
 Intersection LOS: B
 Intersection Capacity Utilization 60.8%
 ICU Level of Service B
 Analysis Period (min) 15

Splits and Phases: 8: Walkley Rd & Baycrest Dr



Lanes, Volumes, Timings

1: Bank St & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	213	837	494	73	919	138	394	520	41	240	846	132
Future Volume (vph)	213	837	494	73	919	138	394	520	41	240	846	132
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	73.0		85.0	50.0		70.0	110.0		0.0	70.0		0.0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (m)	20.0			30.0			0.0			0.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.95	0.99		0.96	0.99	1.00		0.98	0.99	
Frt			0.850			0.850		0.989			0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	3325	1532	1679	3390	1532	3321	3345	0	1695	3299	0
Flt Permitted	0.102			0.285			0.950			0.950		
Satd. Flow (perm)	186	3325	1453	498	3390	1476	3272	3345	0	1666	3299	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			481			138		6			13	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		381.8			492.5			121.2			274.8	
Travel Time (s)		27.5			35.5			8.7			19.8	
Confl. Peds. (#/hr)	18		29	29		18	27		27	27		27
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	4%	1%	3%	2%	1%	1%	2%	0%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	237	930	549	81	1021	153	438	578	46	267	940	147
Shared Lane Traffic (%)												
Lane Group Flow (vph)	237	930	549	81	1021	153	438	624	0	267	1087	0
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Detector Phase	7	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	13.5	34.4	34.4	32.5	32.5	32.5	13.5	32.4		13.5	32.4	
Total Split (s)	20.0	59.0	59.0	39.0	39.0	39.0	32.0	39.0		32.0	39.0	
Total Split (%)	15.4%	45.4%	45.4%	30.0%	30.0%	30.0%	24.6%	30.0%		24.6%	30.0%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	3.2	3.1	3.1	1.0	1.0	1.0	3.2	3.1		3.2	3.1	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.4	6.4	4.3	4.3	4.3	6.5	6.4		6.5	6.4	
Lead/Lag	Lead			Lag	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effect Green (s)	52.5	52.6	52.6	34.7	34.7	34.7	21.9	34.6		23.5	36.2	

Lanes, Volumes, Timings

1: Bank St & Heron Rd

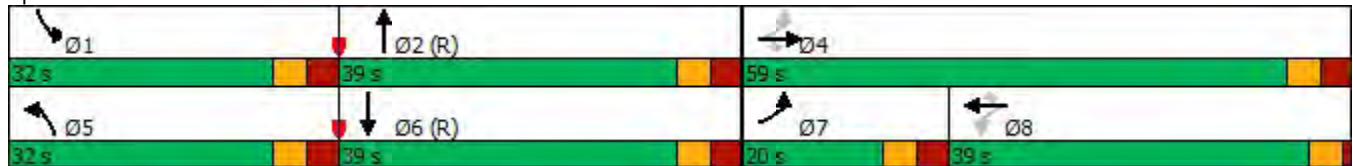
04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.40	0.40	0.40	0.27	0.27	0.27	0.17	0.27		0.18	0.28	
v/c Ratio	1.01	0.69	0.63	0.61	1.13	0.31	0.78	0.70		0.87	1.17	
Control Delay	95.6	35.3	7.8	67.3	120.5	30.7	62.2	48.0		78.8	129.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	95.6	35.3	7.8	67.3	120.5	30.7	62.2	48.0		78.8	129.4	
LOS	F	D	A	E	F	C	E	D		E	F	
Approach Delay		34.8			106.1			53.8			119.4	
Approach LOS		C			F			D			F	
Queue Length 50th (m)	~46.9	102.4	10.8	21.8	~164.3	23.8	55.8	77.1		65.9	~175.3	
Queue Length 95th (m)	#100.1	126.1	44.0	m23.3 m	#183.7	m26.2	71.7	98.4		#106.9	#229.0	
Internal Link Dist (m)		357.8			468.5			97.2			250.8	
Turn Bay Length (m)	73.0		85.0	50.0		70.0	110.0			70.0		
Base Capacity (vph)	235	1345	874	132	904	495	651	893		332	929	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	1.01	0.69	0.63	0.61	1.13	0.31	0.67	0.70		0.80	1.17	

Intersection Summary






















Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 57 (44%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.17
 Intersection Signal Delay: 76.4 Intersection LOS: E
 Intersection Capacity Utilization 100.3% ICU Level of Service G
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Bank St & Heron Rd



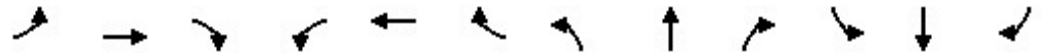
Lanes, Volumes, Timings
2: Alta Vista Dr & Heron Rd

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	939	39	107	968	152	21	208	118	174	427	138
Future Volume (vph)	139	939	39	107	968	152	21	208	118	174	427	138
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	65.0		0.0	57.0		85.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	30.0			24.0			2.5			48.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		0.99		0.93	0.99	0.99		1.00	0.99	
Frt		0.994				0.850		0.946			0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	3330	0	1695	3357	1473	1729	1666	0	1631	1705	0
Flt Permitted	0.950			0.950			0.246			0.277		
Satd. Flow (perm)	1693	3330	0	1671	3357	1373	444	1666	0	473	1705	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		4				152		22			16	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		492.5			657.5			201.9			270.3	
Travel Time (s)		35.5			47.3			14.5			19.5	
Confl. Peds. (#/hr)	12		16	16		12	19		9	9		19
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	3%	0%	2%	3%	5%	0%	2%	3%	6%	2%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	154	1043	43	119	1076	169	23	231	131	193	474	153
Shared Lane Traffic (%)												
Lane Group Flow (vph)	154	1086	0	119	1076	169	23	362	0	193	627	0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases						6	8			4		
Detector Phase	5	2		1	6	6	8	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	10.0	10.0		7.0	10.0	
Minimum Split (s)	12.4	23.4		12.4	23.4	23.4	29.9	29.9		11.5	29.9	
Total Split (s)	19.0	52.0		16.0	49.0	49.0	44.0	44.0		18.0	62.0	
Total Split (%)	14.6%	40.0%		12.3%	37.7%	37.7%	33.8%	33.8%		13.8%	47.7%	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.1	2.1		2.1	2.1	2.1	2.6	2.6		1.0	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.4	5.4		5.4	5.4	5.4	5.9	5.9		4.3	5.9	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes		
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max		None	Max	
Act Effect Green (s)	13.4	46.6		10.6	43.8	43.8	39.0	39.0		57.7	56.1	

Lanes, Volumes, Timings
2: Alta Vista Dr & Heron Rd

04/13/2023

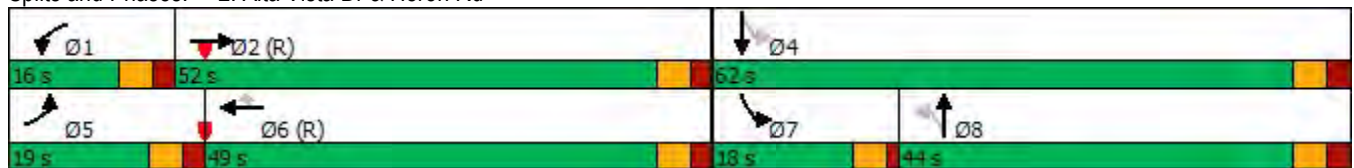


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.10	0.36		0.08	0.34	0.34	0.30	0.30		0.44	0.43	
v/c Ratio	0.88	0.91		0.86	0.95	0.30	0.17	0.70		0.60	0.84	
Control Delay	116.6	34.2		105.7	59.6	7.7	38.5	46.7		31.2	44.1	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	116.6	34.2		105.7	59.6	7.7	38.5	46.7		31.2	44.1	
LOS	F	C		F	E	A	D	D		C	D	
Approach Delay		44.5			57.2			46.2			41.1	
Approach LOS		D			E			D			D	
Queue Length 50th (m)	42.3	43.2		30.7	141.4	2.9	4.4	78.5		30.7	138.2	
Queue Length 95th (m)	m#69.6	#94.5		#65.4	#185.1	18.9	12.3	114.2		47.8	#203.9	
Internal Link Dist (m)		468.5			633.5			177.9			246.3	
Turn Bay Length (m)	65.0			57.0		85.0				30.0		
Base Capacity (vph)	179	1196		138	1131	563	133	514		331	744	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.86	0.91		0.86	0.95	0.30	0.17	0.70		0.58	0.84	

Intersection Summary




















Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 6 (5%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 48.5 Intersection LOS: D
 Intersection Capacity Utilization 96.6% ICU Level of Service F
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Alta Vista Dr & Heron Rd



Lanes, Volumes, Timings
3: Baycrest Dr & Heron Rd

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	996	233	25	1083	13	148	2	37	19	7	3
Future Volume (vph)	2	996	233	25	1083	13	148	2	37	19	7	3
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	43.0		0.0	55.0		0.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	70.0			25.0			2.5			0.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	0.99		1.00	1.00			0.98		1.00	0.99	
Frt		0.972			0.998			0.973			0.959	
Flt Protected	0.950			0.950				0.962		0.950		
Satd. Flow (prot)	864	3211	0	1662	3380	0	0	1584	0	1647	1728	0
Flt Permitted	0.176			0.138				0.763		0.679		
Satd. Flow (perm)	160	3211	0	241	3380	0	0	1232	0	1172	1728	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		51			2			15			3	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		657.5			314.4			216.5			60.0	
Travel Time (s)		47.3			22.6			15.6			4.3	
Confl. Peds. (#/hr)	9		20	20		9	27		7	7		27
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	100%	3%	6%	4%	2%	8%	7%	0%	8%	5%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	2	1107	259	28	1203	14	164	2	41	21	8	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	1366	0	28	1217	0	0	207	0	21	11	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	29.7	29.7		29.7	29.7		35.0	35.0		35.0	35.0	
Total Split (s)	55.0	55.0		55.0	55.0		35.0	35.0		35.0	35.0	
Total Split (%)	61.1%	61.1%		61.1%	61.1%		38.9%	38.9%		38.9%	38.9%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.4	1.4		1.4	1.4		2.7	2.7		2.7	2.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	4.7	4.7		4.7	4.7			6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	56.9	56.9		56.9	56.9			22.4		22.4	22.4	























Lanes, Volumes, Timings
4: Sandalwood Dr & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	967	25	27	1065	18	16	21	32	8	26	41
Future Volume (vph)	60	967	25	27	1065	18	16	21	32	8	26	41
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	55.0		0.0	55.0		0.0	32.0		0.0	37.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	25.0			25.0			12.0			37.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		0.96	0.98		0.98	0.97	
Fr _t		0.996			0.998			0.908			0.908	
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	3337	0	1729	3350	0	1729	1589	0	1729	1531	0
Fl _t Permitted	0.205			0.234			0.708			0.719		
Satd. Flow (perm)	372	3337	0	424	3350	0	1243	1589	0	1283	1531	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			3			36			46	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		314.4			354.9			199.1			258.5	
Travel Time (s)		22.6			25.6			14.3			18.6	
Confl. Peds. (#/hr)	9		11	11		9	26		14	14		26
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	7%	0%	3%	0%	0%	5%	0%	0%	12%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	67	1074	28	30	1183	20	18	23	36	9	29	46
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	1102	0	30	1203	0	18	59	0	9	75	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		16.0	16.0		16.0	16.0	
Minimum Split (s)	24.3	24.3		24.3	24.3		24.1	24.1		24.1	24.1	
Total Split (s)	55.0	55.0		55.0	55.0		35.0	35.0		35.0	35.0	
Total Split (%)	61.1%	61.1%		61.1%	61.1%		38.9%	38.9%		38.9%	38.9%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.8	2.8		2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		6.1	6.1		6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	67.7	67.7		67.7	67.7		16.4	16.4		16.4	16.4	

Lanes, Volumes, Timings
5: Heron Rd & Jefferson St

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	927	96	38	3	43	72	78	72	37	49	43
Future Volume (vph)	76	927	96	38	3	43	72	78	72	37	49	43
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	58.0		62.0	55.0		0.0	18.0		15.0	0.0		0.0
Storage Lanes	1		1	1		0	1		1	0		0
Taper Length (m)	27.0			17.0			10.0			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99		0.97	1.00	0.97		1.00		0.97		0.99	
Frt			0.850		0.859				0.850		0.955	
Flt Protected	0.950			0.950			0.950				0.986	
Satd. Flow (prot)	1647	3357	1547	1729	2830	0	1679	1820	1547	0	1652	0
Flt Permitted	0.722			0.217			0.677				0.897	
Satd. Flow (perm)	1239	3357	1502	394	2830	0	1193	1820	1499	0	1495	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			107		656				80		30	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		354.9			465.1			176.5			237.6	
Travel Time (s)		25.6			33.5			12.7			17.1	
Confl. Peds. (#/hr)	6		5	5		6	4		20	20		4
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	3%	0%	0%	1%	2%	3%	0%	0%	3%	0%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	84	1030	107	42	3	48	80	87	80	41	54	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	1030	107	42	51	0	80	87	80	0	143	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8		8	4		
Detector Phase	2	2	2	6	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		27.0	27.0	27.0	27.0	27.0	
Minimum Split (s)	30.6	30.6	30.6	30.6	30.6		34.2	34.2	34.2	34.2	34.2	
Total Split (s)	55.0	55.0	55.0	55.0	55.0		35.0	35.0	35.0	35.0	35.0	
Total Split (%)	61.1%	61.1%	61.1%	61.1%	61.1%		38.9%	38.9%	38.9%	38.9%	38.9%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3		2.9	2.9	2.9	2.9	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.6	5.6	5.6	5.6	5.6		6.2	6.2	6.2	6.2	6.2	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max		None	None	None	None	None	
Act Effect Green (s)	51.0	51.0	51.0	51.0	51.0		27.2	27.2	27.2		27.2	

Lanes, Volumes, Timings
5: Heron Rd & Jefferson St

04/13/2023

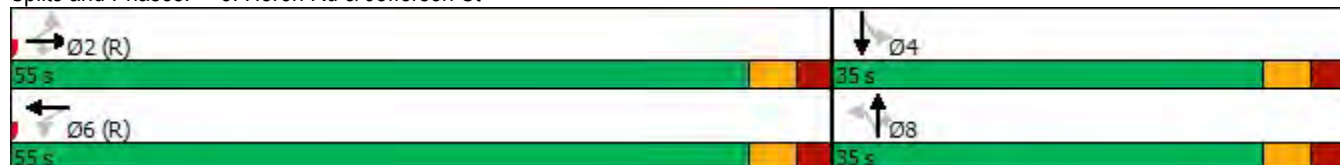


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.57	0.57	0.57	0.57	0.57		0.30	0.30	0.30		0.30	
v/c Ratio	0.12	0.54	0.12	0.19	0.03		0.22	0.16	0.16		0.30	
Control Delay	12.3	21.4	7.0	12.3	0.0		25.4	23.9	6.5		20.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	12.3	21.4	7.0	12.3	0.0		25.4	23.9	6.5		20.9	
LOS	B	C	A	B	A		C	C	A		C	
Approach Delay		19.5			5.6			18.8			20.9	
Approach LOS		B			A			B			C	
Queue Length 50th (m)	11.7	92.7	7.6	3.3	0.0		10.3	11.0	0.0		14.7	
Queue Length 95th (m)	21.0	114.5	16.6	9.3	0.0		21.2	21.6	9.5		29.1	
Internal Link Dist (m)		330.9			441.1			152.5			213.6	
Turn Bay Length (m)	58.0		62.0	55.0			18.0		15.0			
Base Capacity (vph)	701	1902	897	223	1887		381	582	534		498	
Starvation Cap Reductn	0	0	0	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.12	0.54	0.12	0.19	0.03		0.21	0.15	0.15		0.29	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	10 (11%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.54
Intersection Signal Delay:	18.8
Intersection LOS:	B
Intersection Capacity Utilization	87.6%
ICU Level of Service	E
Analysis Period (min)	15

Splits and Phases: 5: Heron Rd & Jefferson St



Lanes, Volumes, Timings
6: Walkley Rd & Heron Rd

04/13/2023



Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	1024	12	0	666	1061	1055
Future Volume (vph)	1024	12	0	666	1061	1055
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			65.0
Storage Lanes	2	0	0			1
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	0.95	1.00	0.95	0.95	0.88
Ped Bike Factor						
Flt	0.998					0.850
Flt Protected	0.953					
Satd. Flow (prot)	3292	0	0	3390	3390	2669
Flt Permitted	0.953					
Satd. Flow (perm)	3292	0	0	3390	3390	2669
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	1					1172
Link Speed (k/h)	50			50	50	
Link Distance (m)	465.1			393.2	359.8	
Travel Time (s)	33.5			28.3	25.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	1138	13	0	740	1179	1172
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1151	0	0	740	1179	1172
Turn Type	Prot			NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases						6
Detector Phase	4			2	6	6
Switch Phase						
Minimum Initial (s)	10.0			10.0	10.0	10.0
Minimum Split (s)	33.7			16.6	16.6	16.6
Total Split (s)	51.0			59.0	59.0	59.0
Total Split (%)	46.4%			53.6%	53.6%	53.6%
Yellow Time (s)	3.3			3.3	3.3	3.3
All-Red Time (s)	3.4			3.3	3.3	3.3
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.7			6.6	6.6	6.6
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max			C-Max	C-Max	C-Max
Act Effect Green (s)	44.3			52.4	52.4	52.4

Lanes, Volumes, Timings
6: Walkley Rd & Heron Rd

04/13/2023



Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Actuated g/C Ratio	0.40			0.48	0.48	0.48
v/c Ratio	0.87			0.46	0.73	0.62
Control Delay	38.6			20.5	26.5	2.6
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	38.6			20.5	26.5	2.6
LOS	D			C	C	A
Approach Delay	38.6			20.5	14.6	
Approach LOS	D			C	B	
Queue Length 50th (m)	114.8			54.3	103.6	0.0
Queue Length 95th (m)	143.6			69.8	128.9	11.4
Internal Link Dist (m)	441.1			369.2	335.8	
Turn Bay Length (m)						65.0
Base Capacity (vph)	1326			1614	1614	1885
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	0.87			0.46	0.73	0.62

Intersection Summary
































Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	110
Offset:	53 (48%), Referenced to phase 2:NET and 6:SWT, Start of Green
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.87
Intersection Signal Delay:	22.1
Intersection LOS:	C
Intersection Capacity Utilization	73.3%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 6: Walkley Rd & Heron Rd



Lanes, Volumes, Timings
7: Bank St & Wakley Rd

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 			  		 	 	
Traffic Volume (vph)	282	372	236	243	480	238	191	738	201	232	1117	493
Future Volume (vph)	282	372	236	243	480	238	191	738	201	232	1117	493
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	60.0		50.0	78.0		0.0	208.0		70.0	156.0		0.0
Storage Lanes	2		1	2		0	1		1	2		1
Taper Length (m)	27.0			24.0			0.0			24.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.91	1.00	0.97	0.95	1.00
Ped Bike Factor	0.98		0.96	0.98	0.98		0.99		0.95	0.98		0.95
Frt			0.850		0.950				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3354	3293	1547	3288	3184	0	1712	4919	1502	3321	3424	1547
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3275	3293	1489	3207	3184	0	1699	4919	1428	3254	3424	1466
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			239		63				223			340
Link Speed (k/h)		50			50			50				50
Link Distance (m)		154.1			197.3			245.1				260.6
Travel Time (s)		11.1			14.2			17.6				18.8
Confl. Peds. (#/hr)	36		22	22		36	28		26	26		28
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	5%	0%	2%	1%	2%	1%	1%	3%	1%	1%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	313	413	262	270	533	264	212	820	223	258	1241	548
Shared Lane Traffic (%)												
Lane Group Flow (vph)	313	413	262	270	797	0	212	820	223	258	1241	548
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	35.0	35.0	7.0	35.0		7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	13.8	41.7	41.7	13.8	41.7		13.4	33.4	33.4	13.4	33.4	33.4
Total Split (s)	25.0	41.7	41.7	25.0	41.7		19.0	38.0	38.0	27.0	46.0	46.0
Total Split (%)	19.0%	31.7%	31.7%	19.0%	31.7%		14.4%	28.9%	28.9%	20.5%	34.9%	34.9%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.4	3.4	3.5	3.4		3.1	3.1	3.1	3.1	3.1	3.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.7	6.7	6.8	6.7		6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	16.5	36.1	36.1	15.6	35.2		14.1	38.2	38.2	15.5	39.6	39.6

Lanes, Volumes, Timings
8: Walkley Rd & Baycrest Dr

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	719	18	22	788	145	17	11	19	125	18	65
Future Volume (vph)	54	719	18	22	788	145	17	11	19	125	18	65
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	50.0		0.0	33.0		0.0	0.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	22.0			27.0			2.5			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	1.00		0.98	0.99			0.99		0.98		
Fr _t		0.996			0.977			0.945			0.883	
Fl _t Protected	0.950			0.950				0.982		0.950		
Satd. Flow (prot)	1695	3269	0	1729	3242	0	0	1595	0	1558	1490	0
Fl _t Permitted	0.243			0.324				0.877		0.723		
Satd. Flow (perm)	429	3269	0	580	3242	0	0	1425	0	1161	1490	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			40			21			72	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		360.2			304.5			74.0			276.3	
Travel Time (s)		25.9			21.9			5.3			19.9	
Confl. Peds. (#/hr)	30		31	31		30			23	23		
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	5%	11%	0%	0%	19%	0%	0%	11%	11%	0%	10%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	60	799	20	24	876	161	19	12	21	139	20	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	60	819	0	24	1037	0	0	52	0	139	92	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.9	25.9		25.9	25.9		31.1	31.1		31.1	31.1	
Total Split (s)	48.0	48.0		48.0	48.0		32.0	32.0		32.0	32.0	
Total Split (%)	60.0%	60.0%		60.0%	60.0%		40.0%	40.0%		40.0%	40.0%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.8	2.8		2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		5.9	5.9			6.1		6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	52.1	52.1		52.1	52.1			15.9		15.9	15.9	

Lanes, Volumes, Timings
8: Walkley Rd & Baycrest Dr

04/13/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.65	0.65		0.65	0.65			0.20		0.20	0.20	
v/c Ratio	0.22	0.38		0.06	0.49			0.17		0.60	0.26	
Control Delay	10.2	8.0		7.7	8.8			17.2		38.9	10.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	10.2	8.0		7.7	8.8			17.2		38.9	10.4	
LOS	B	A		A	A			B		D	B	
Approach Delay		8.2			8.7			17.2			27.6	
Approach LOS		A			A			B			C	
Queue Length 50th (m)	3.1	25.2		1.1	33.6			4.0		19.7	2.5	
Queue Length 95th (m)	12.3	50.9		5.2	67.6			10.9		31.6	11.8	
Internal Link Dist (m)		336.2			280.5			50.0			252.3	
Turn Bay Length (m)	50.0			33.0						20.0		
Base Capacity (vph)	279	2129		377	2123			475		375	531	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.22	0.38		0.06	0.49			0.11		0.37	0.17	

Intersection Summary

Area Type:	Other
Cycle Length:	80
Actuated Cycle Length:	80
Offset:	0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.60
Intersection Signal Delay:	10.7
Intersection LOS:	B
Intersection Capacity Utilization	67.5%
ICU Level of Service	C
Analysis Period (min)	15

























Splits and Phases: 8: Walkley Rd & Baycrest Dr



Lanes, Volumes, Timings

1: Bank St & Heron Rd

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	153	722	253	76	1042	235	523	647	21	147	346	100
Future Volume (vph)	153	722	253	76	1042	235	523	647	21	147	346	100
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	73.0		85.0	50.0		70.0	110.0		0.0	70.0		0.0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (m)	20.0			30.0			0.0			0.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.97	0.99		0.98	0.99	1.00		0.99	0.99	
Frt			0.850			0.850		0.995			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	3357	1446	1662	3293	1473	3225	3326	0	1712	3129	0
Flt Permitted	0.089			0.349			0.950			0.950		
Satd. Flow (perm)	160	3357	1404	607	3293	1438	3180	3326	0	1695	3129	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			281			198		3			28	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		381.8			492.5			121.2			274.8	
Travel Time (s)		27.5			35.5			8.7			19.8	
Confl. Peds. (#/hr)	8		13	13		8	12		20	20		12
Confl. Bikes (#/hr)			1			3			3			9
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	3%	7%	4%	5%	5%	4%	3%	13%	1%	7%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	170	802	281	84	1158	261	581	719	23	163	384	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	170	802	281	84	1158	261	581	742	0	163	495	0
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Detector Phase	7	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	13.5	34.4	34.4	32.5	32.5	32.5	13.5	32.4		13.5	32.4	
Total Split (s)	14.3	59.3	59.3	45.0	45.0	45.0	28.7	38.7		22.0	32.4	
Total Split (%)	11.9%	49.3%	49.3%	37.4%	37.4%	37.4%	23.8%	32.1%		18.3%	26.9%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	3.2	3.1	3.1	1.0	1.0	1.0	3.2	3.1		3.2	3.1	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.4	6.4	4.3	4.3	4.3	6.5	6.4		6.5	6.4	
Lead/Lag	Lead			Lag	Lag	Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	52.8	52.9	52.9	40.7	40.7	40.7	22.2	32.3		15.9	26.0	

Lanes, Volumes, Timings

1: Bank St & Heron Rd

04/13/2023

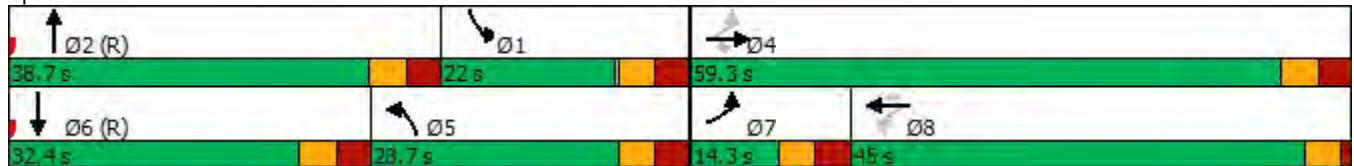


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.44	0.44	0.44	0.34	0.34	0.34	0.18	0.27		0.13	0.22	
v/c Ratio	1.00	0.54	0.36	0.41	1.04	0.42	0.98	0.83		0.72	0.71	
Control Delay	97.0	26.6	3.8	38.1	77.3	10.4	81.0	50.5		68.9	47.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	97.0	26.6	3.8	38.1	77.3	10.4	81.0	50.5		68.9	47.6	
LOS	F	C	A	D	E	B	F	D		E	D	
Approach Delay		31.0			63.5			63.9			52.9	
Approach LOS		C			E			E			D	
Queue Length 50th (m)	25.6	71.9	0.0	15.2	~155.6	10.3	71.0	86.7		37.5	54.3	
Queue Length 95th (m)	#70.4	90.7	15.2	30.8	#197.0	31.5	#106.5	110.0		#67.3	73.2	
Internal Link Dist (m)		357.8			468.5			97.2			250.8	
Turn Bay Length (m)	73.0		85.0	50.0		70.0	110.0			70.0		
Base Capacity (vph)	170	1474	774	205	1113	617	594	894		226	697	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	1.00	0.54	0.36	0.41	1.04	0.42	0.98	0.83		0.72	0.71	

Intersection Summary

Area Type: Other
 Cycle Length: 120.4
 Actuated Cycle Length: 120.4
 Offset: 52 (43%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 53.5 Intersection LOS: D
 Intersection Capacity Utilization 96.5% ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 1: Bank St & Heron Rd



Lanes, Volumes, Timings
2: Alta Vista Dr & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	706	88	148	1134	202	68	275	182	128	267	127
Future Volume (vph)	103	706	88	148	1134	202	68	275	182	128	267	127
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	65.0		0.0	57.0		85.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	30.0			24.0			2.5			48.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97	0.99		0.97		0.83	0.99	0.95			0.99	
Frt		0.983				0.850		0.940			0.952	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	3207	0	1695	3293	1459	1601	1582	0	1631	1690	0
Flt Permitted	0.950			0.950			0.506			0.141		
Satd. Flow (perm)	1667	3207	0	1643	3293	1213	842	1582	0	242	1690	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15				224		36			31	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		492.5			657.5			201.9			270.3	
Travel Time (s)		35.5			47.3			14.5			19.5	
Confl. Peds. (#/hr)	54		37	37		54	21		110	110		21
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	5%	1%	2%	5%	6%	8%	2%	3%	6%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	114	784	98	164	1260	224	76	306	202	142	297	141
Shared Lane Traffic (%)												
Lane Group Flow (vph)	114	882	0	164	1260	224	76	508	0	142	438	0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases						6	8			4		
Detector Phase	5	2		1	6	6	8	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	10.0	10.0		7.0	10.0	
Minimum Split (s)	12.4	23.4		12.4	23.4	23.4	29.9	29.9		11.5	29.9	
Total Split (s)	12.4	32.9		15.6	36.1	36.1	30.0	30.0		11.5	41.5	
Total Split (%)	13.8%	36.6%		17.3%	40.1%	40.1%	33.3%	33.3%		12.8%	46.1%	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.1	2.1		2.1	2.1	2.1	2.6	2.6		1.0	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.4	5.4		5.4	5.4	5.4	5.9	5.9		4.3	5.9	
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes		
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max		None	Max	
Act Effect Green (s)	7.0	27.5		10.2	30.7	30.7	24.1	24.1		37.2	35.6	

Lanes, Volumes, Timings
2: Alta Vista Dr & Heron Rd

04/13/2023

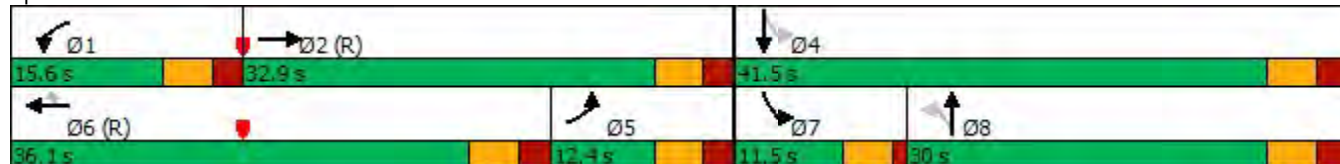


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.08	0.31		0.11	0.34	0.34	0.27	0.27		0.41	0.40	
v/c Ratio	0.86	0.89		0.85	1.12	0.40	0.34	1.13		0.67	0.64	
Control Delay	90.7	42.1		77.2	91.1	8.0	31.7	114.3		34.9	25.4	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	90.7	42.1		77.2	91.1	8.0	31.7	114.3		34.9	25.4	
LOS	F	D		E	F	A	C	F		C	C	
Approach Delay		47.7			78.4			103.5				27.8
Approach LOS		D			E			F				C
Queue Length 50th (m)	19.9	75.0		30.9	~128.9	5.0	10.6	~98.3		15.4	55.6	
Queue Length 95th (m)	#49.6	#109.6		m#43.0	#170.2	m13.9	23.1	#157.8		#33.1	87.2	
Internal Link Dist (m)		468.5			633.5			177.9			246.3	
Turn Bay Length (m)	65.0			57.0		85.0				30.0		
Base Capacity (vph)	133	990		192	1123	561	225	449		211	687	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.86	0.89		0.85	1.12	0.40	0.34	1.13		0.67	0.64	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 10 (11%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.13
 Intersection Signal Delay: 66.5
 Intersection LOS: E
 Intersection Capacity Utilization 93.6%
 ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Alta Vista Dr & Heron Rd



Lanes, Volumes, Timings
3: Baycrest Dr & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	795	209	27	1175	22	300	24	49	3	3	4
Future Volume (vph)	18	795	209	27	1175	22	300	24	49	3	3	4
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	43.0		0.0	55.0		0.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	70.0			25.0			2.5			0.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99		0.99	1.00			0.97		1.00	0.98	
Frt		0.969			0.997			0.982			0.914	
Flt Protected	0.950			0.950				0.961		0.950		
Satd. Flow (prot)	1729	3182	0	1478	3283	0	0	1643	0	1729	1624	0
Flt Permitted	0.105			0.167				0.763		0.626		
Satd. Flow (perm)	191	3182	0	258	3283	0	0	1274	0	1135	1624	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		49			3			10			4	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		657.5			314.4			216.5			60.0	
Travel Time (s)		47.3			22.6			15.6			4.3	
Confl. Peds. (#/hr)	15		27	27		15	31		8	8		31
Confl. Bikes (#/hr)						1						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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	7%	17%	5%	0%	5%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	20	883	232	30	1306	24	333	27	54	3	3	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	20	1115	0	30	1330	0	0	414	0	3	7	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	29.7	29.7		29.7	29.7		35.0	35.0		35.0	35.0	
Total Split (s)	47.0	47.0		47.0	47.0		43.0	43.0		43.0	43.0	
Total Split (%)	52.2%	52.2%		52.2%	52.2%		47.8%	47.8%		47.8%	47.8%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.4	1.4		1.4	1.4		2.7	2.7		2.7	2.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	4.7	4.7		4.7	4.7			6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	46.7	46.7		46.7	46.7			32.6		32.6	32.6	

























Lanes, Volumes, Timings
4: Sandalwood Dr & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	773	32	22	1087	17	67	14	36	6	14	72
Future Volume (vph)	43	773	32	22	1087	17	67	14	36	6	14	72
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	55.0		0.0	55.0		0.0	32.0		0.0	37.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	25.0			25.0			12.0			37.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		0.99	0.99		0.99	0.98	
Frt		0.994			0.998			0.893				0.875
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	3301	0	1601	3257	0	1478	1537	0	1729	1567	0
Flt Permitted	0.199			0.301			0.695			0.720		
Satd. Flow (perm)	361	3301	0	505	3257	0	1074	1537	0	1301	1567	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			3			40				80
Link Speed (k/h)		50			50			50				50
Link Distance (m)		314.4			354.9			199.1				258.5
Travel Time (s)		22.6			25.6			14.3				18.6
Confl. Peds. (#/hr)	7		7	7		7	5		5	5		5
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	27%	8%	6%	0%	17%	15%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	48	859	36	24	1208	19	74	16	40	7	16	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	895	0	24	1227	0	74	56	0	7	96	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		16.0	16.0		16.0	16.0	
Minimum Split (s)	24.3	24.3		24.3	24.3		24.1	24.1		24.1	24.1	
Total Split (s)	62.0	62.0		62.0	62.0		28.0	28.0		28.0	28.0	
Total Split (%)	68.9%	68.9%		68.9%	68.9%		31.1%	31.1%		31.1%	31.1%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.8	2.8		2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		6.1	6.1		6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	67.7	67.7		67.7	67.7		16.4	16.4		16.4	16.4	

Lanes, Volumes, Timings
5: Heron Rd & Jefferson St

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	731	48	13	1018	27	31	31	27	30	26	78
Future Volume (vph)	34	731	48	13	1018	27	31	31	27	30	26	78
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	58.0		62.0	55.0		0.0	18.0		15.0	0.0		0.0
Storage Lanes	1		1	1		0	1		1	0		0
Taper Length (m)	27.0			17.0			10.0			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97	1.00	1.00		1.00		0.98		0.99	
Frt			0.850		0.996				0.850		0.921	
Flt Protected	0.950			0.950			0.950				0.989	
Satd. Flow (prot)	1572	3357	1419	1383	3278	0	1679	1820	1381	0	1564	0
Flt Permitted	0.175			0.301			0.667				0.934	
Satd. Flow (perm)	289	3357	1379	437	3278	0	1174	1820	1357	0	1475	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			53		4				32			64
Link Speed (k/h)		50			50			50				50
Link Distance (m)		354.9			465.1			176.5				237.6
Travel Time (s)		25.6			33.5			12.7				17.1
Confl. Peds. (#/hr)	6		4	4		6	5		5	5		5
Confl. Bikes (#/hr)			2						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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	3%	9%	25%	5%	4%	3%	0%	12%	4%	0%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	38	812	53	14	1131	30	34	34	30	33	29	87
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	812	53	14	1161	0	34	34	30	0	149	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2		2	6			8		8	4		
Detector Phase	2	2	2	6	6		8	8	8	4		4
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		27.0	27.0	27.0	27.0		27.0
Minimum Split (s)	30.6	30.6	30.6	30.6	30.6		34.2	34.2	34.2	34.2		34.2
Total Split (s)	54.0	54.0	54.0	54.0	54.0		36.0	36.0	36.0	36.0		36.0
Total Split (%)	60.0%	60.0%	60.0%	60.0%	60.0%		40.0%	40.0%	40.0%	40.0%		40.0%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3		3.3
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3		2.9	2.9	2.9	2.9		2.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0
Total Lost Time (s)	5.6	5.6	5.6	5.6	5.6		6.2	6.2	6.2	6.2		6.2
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max		None	None	None	None	None	None
Act Effct Green (s)	51.0	51.0	51.0	51.0	51.0		27.2	27.2	27.2		27.2	

Lanes, Volumes, Timings
5: Heron Rd & Jefferson St

04/13/2023

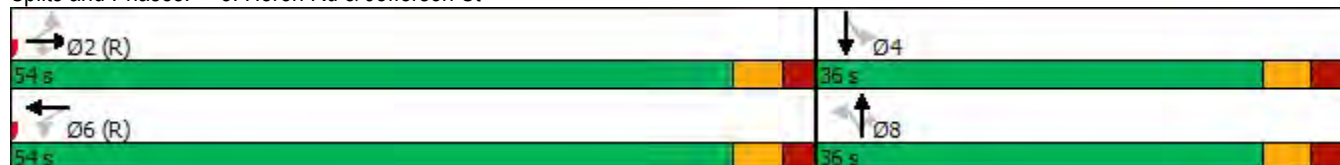


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.57	0.57	0.57	0.57	0.57		0.30	0.30	0.30		0.30	
v/c Ratio	0.23	0.43	0.07	0.06	0.62		0.10	0.06	0.07		0.30	
Control Delay	5.0	3.0	0.2	9.7	15.0		23.4	22.6	8.1		15.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	5.0	3.0	0.2	9.7	15.0		23.4	22.6	8.1		15.8	
LOS	A	A	A	A	B		C	C	A		B	
Approach Delay		2.9			14.9			18.5			15.8	
Approach LOS		A			B			B			B	
Queue Length 50th (m)	0.5	6.7	0.0	1.0	65.4		4.2	4.2	0.0		10.9	
Queue Length 95th (m)	1.4	8.0	0.1	3.9	87.5		11.0	10.7	5.6		25.2	
Internal Link Dist (m)		330.9			441.1			152.5			213.6	
Turn Bay Length (m)	58.0		62.0	55.0			18.0		15.0			
Base Capacity (vph)	163	1902	804	247	1859		388	602	470		531	
Starvation Cap Reductn	0	0	0	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.23	0.43	0.07	0.06	0.62		0.09	0.06	0.06		0.28	

Intersection Summary

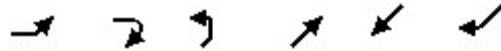
Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	10 (11%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.62
Intersection Signal Delay:	10.4
Intersection LOS:	B
Intersection Capacity Utilization	81.6%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 5: Heron Rd & Jefferson St



Lanes, Volumes, Timings
6: Walkley Rd & Heron Rd

04/13/2023



Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	↑↑			↑↑	↑↑	↑↑
Traffic Volume (vph)	749	31	0	751	670	1058
Future Volume (vph)	749	31	0	751	670	1058
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			65.0
Storage Lanes	2	0	0			1
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	0.95	1.00	0.95	0.95	0.88
Ped Bike Factor						
Frt	0.994					0.850
Flt Protected	0.954					
Satd. Flow (prot)	3283	0	0	3390	3390	2669
Flt Permitted	0.954					
Satd. Flow (perm)	3283	0	0	3390	3390	2669
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	5					1176
Link Speed (k/h)	50			50	50	
Link Distance (m)	465.1			393.2	359.8	
Travel Time (s)	33.5			28.3	25.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	832	34	0	834	744	1176
Shared Lane Traffic (%)						
Lane Group Flow (vph)	866	0	0	834	744	1176
Turn Type	Prot			NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases						6
Detector Phase	4			2	6	6
Switch Phase						
Minimum Initial (s)	10.0			10.0	10.0	10.0
Minimum Split (s)	33.7			16.6	16.6	16.6
Total Split (s)	46.0			54.0	54.0	54.0
Total Split (%)	46.0%			54.0%	54.0%	54.0%
Yellow Time (s)	3.3			3.3	3.3	3.3
All-Red Time (s)	3.4			3.3	3.3	3.3
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.7			6.6	6.6	6.6
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max			C-Max	C-Max	C-Max
Act Effect Green (s)	39.3			47.4	47.4	47.4

Lanes, Volumes, Timings
6: Walkley Rd & Heron Rd

04/13/2023



Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Actuated g/C Ratio	0.39			0.47	0.47	0.47
v/c Ratio	0.67			0.52	0.46	0.62
Control Delay	28.0			19.8	18.9	2.6
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	28.0			19.8	18.9	2.6
LOS	C			B	B	A
Approach Delay	28.0			19.8	8.9	
Approach LOS	C			B	A	
Queue Length 50th (m)	69.6			57.3	49.3	0.0
Queue Length 95th (m)	90.2			74.2	64.5	11.2
Internal Link Dist (m)	441.1			369.2	335.8	
Turn Bay Length (m)						65.0
Base Capacity (vph)	1293			1606	1606	1883
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	0.67			0.52	0.46	0.62

Intersection Summary
































Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	23 (23%), Referenced to phase 2:NET and 6:SWT, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.67
Intersection Signal Delay:	16.0
Intersection LOS:	B
Intersection Capacity Utilization	56.6%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 6: Walkley Rd & Heron Rd



Lanes, Volumes, Timings
7: Bank St & Wakley Rd

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 			  		 	 	
Traffic Volume (vph)	395	415	96	119	404	400	159	1280	162	165	503	260
Future Volume (vph)	395	415	96	119	404	400	159	1280	162	165	503	260
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	60.0		50.0	78.0		0.0	208.0		70.0	156.0		0.0
Storage Lanes	2		1	2		0	1		1	2		1
Taper Length (m)	27.0			24.0			0.0			24.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.91	1.00	0.97	0.95	1.00
Ped Bike Factor	0.99		0.97	0.99	0.98		1.00		0.96	0.99		0.97
Frt			0.850		0.925				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3390	1517	3288	3071	0	1695	4871	1517	3288	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3244	3390	1476	3254	3071	0	1687	4871	1459	3271	3390	1468
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			209		181				215			289
Link Speed (k/h)		50			50			50				50
Link Distance (m)		154.1			197.3			245.1				260.6
Travel Time (s)		11.1			14.2			17.6				18.8
Confl. Peds. (#/hr)	26		11	11		26	8		17	17		8
Confl. Bikes (#/hr)			5			2			5			10
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	439	461	107	132	449	444	177	1422	180	183	559	289
Shared Lane Traffic (%)												
Lane Group Flow (vph)	439	461	107	132	893	0	177	1422	180	183	559	289
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	29.0	29.0	7.0	29.0		7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	13.8	39.7	39.7	13.8	39.7		13.4	33.4	33.4	13.4	33.4	33.4
Total Split (s)	23.8	47.4	47.4	16.1	39.7		23.0	42.4	42.4	14.1	33.5	33.5
Total Split (%)	19.8%	39.5%	39.5%	13.4%	33.1%		19.2%	35.3%	35.3%	11.8%	27.9%	27.9%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.4	3.4	3.5	3.4		3.1	3.1	3.1	3.1	3.1	3.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.7	6.7	6.8	6.7		6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	17.0	40.4	40.4	8.8	32.3		15.5	36.4	36.4	8.1	29.0	29.0

Lanes, Volumes, Timings
7: Bank St & Walkley Rd

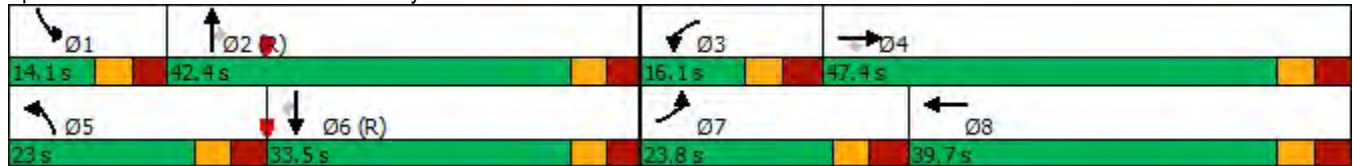
04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.14	0.34	0.34	0.07	0.27		0.13	0.30	0.30	0.07	0.24	0.24
v/c Ratio	0.94	0.40	0.17	0.55	0.93		0.81	0.96	0.30	0.83	0.68	0.50
Control Delay	81.2	31.8	0.6	62.4	51.0		78.0	57.7	3.5	84.6	46.9	7.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	81.2	31.8	0.6	62.4	51.0		78.0	57.7	3.5	84.6	46.9	7.7
LOS	F	C	A	E	D		E	E	A	F	D	A
Approach Delay		50.0			52.5			54.2			42.6	
Approach LOS		D			D			D			D	
Queue Length 50th (m)	53.5	43.4	0.0	15.6	88.7		40.6	121.1	0.0	22.4	64.6	0.0
Queue Length 95th (m)	#83.8	58.1	0.0	25.8	#126.7		#73.4	#153.5	9.6	#42.8	84.4	22.4
Internal Link Dist (m)		130.1			173.3			221.1			236.6	
Turn Bay Length (m)	60.0		50.0	78.0			208.0		70.0	156.0		
Base Capacity (vph)	465	1151	639	254	975		234	1476	592	221	818	573
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.94	0.40	0.17	0.52	0.92		0.76	0.96	0.30	0.83	0.68	0.50

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 79 (66%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.96
 Intersection Signal Delay: 50.5 Intersection LOS: D
 Intersection Capacity Utilization 92.9% ICU Level of Service F
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 7: Bank St & Walkley Rd



Lanes, Volumes, Timings
8: Walkley Rd & Baycrest Dr

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	640	11	9	663	131	26	21	28	155	5	86
Future Volume (vph)	56	640	11	9	663	131	26	21	28	155	5	86
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	50.0		0.0	33.0		0.0	0.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	22.0			27.0			2.5			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	0.99			0.99		0.98	0.98	
Frt		0.998			0.975			0.950			0.859	
Flt Protected	0.950			0.950				0.983		0.950		
Satd. Flow (prot)	1530	3257	0	1530	3192	0	0	1680	0	1586	1532	0
Flt Permitted	0.291			0.361				0.871		0.703		
Satd. Flow (perm)	467	3257	0	577	3192	0	0	1484	0	1154	1532	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			43			31			96	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		360.2			304.5			74.0			276.3	
Travel Time (s)		25.9			21.9			5.3			19.9	
Confl. Peds. (#/hr)	9		12	12		9	11		23	23		11
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	6%	0%	13%	4%	10%	0%	0%	0%	9%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	62	711	12	10	737	146	29	23	31	172	6	96
Shared Lane Traffic (%)												
Lane Group Flow (vph)	62	723	0	10	883	0	0	83	0	172	102	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.9	25.9		25.9	25.9		31.1	31.1		31.1	31.1	
Total Split (s)	38.0	38.0		38.0	38.0		32.0	32.0		32.0	32.0	
Total Split (%)	54.3%	54.3%		54.3%	54.3%		45.7%	45.7%		45.7%	45.7%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.8	2.8		2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		5.9	5.9			6.1		6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	41.5	41.5		41.5	41.5			16.5		16.5	16.5	

Lanes, Volumes, Timings
8: Walkley Rd & Baycrest Dr

04/13/2023

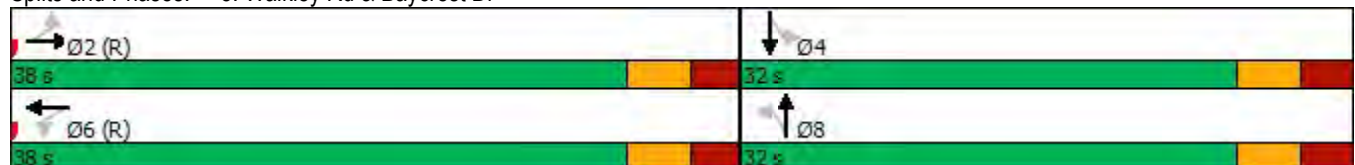


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.59	0.59		0.59	0.59			0.24		0.24	0.24	
v/c Ratio	0.22	0.37		0.03	0.46			0.22		0.63	0.24	
Control Delay	11.7	9.2		8.9	9.6			14.5		33.7	6.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	11.7	9.2		8.9	9.6			14.5		33.7	6.2	
LOS	B	A		A	A			B		C	A	
Approach Delay		9.4			9.6			14.5			23.4	
Approach LOS		A			A			B			C	
Queue Length 50th (m)	3.3	22.3		0.5	27.7			5.5		20.6	0.6	
Queue Length 95th (m)	13.1	45.0		3.0	55.9			12.7		32.5	9.1	
Internal Link Dist (m)		336.2			280.5			50.0			252.3	
Turn Bay Length (m)	50.0			33.0						20.0		
Base Capacity (vph)	277	1934		342	1911			568		426	627	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.22	0.37		0.03	0.46			0.15		0.40	0.16	

Intersection Summary

Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	17 (24%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.63
Intersection Signal Delay:	11.6
Intersection LOS:	B
Intersection Capacity Utilization:	64.5%
ICU Level of Service:	C
Analysis Period (min):	15

























Splits and Phases: 8: Walkley Rd & Baycrest Dr



Lanes, Volumes, Timings

1: Bank St & Heron Rd

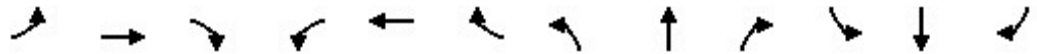
04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	219	993	509	80	1027	165	428	565	49	278	919	143
Future Volume (vph)	219	993	509	80	1027	165	428	565	49	278	919	143
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	73.0		85.0	50.0		70.0	110.0		0.0	70.0		0.0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (m)	20.0			30.0			0.0			0.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.97			0.97	0.99	1.00		0.99	1.00	
Frt			0.850			0.850		0.988			0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	3357	1446	1662	3293	1473	3225	3280	0	1712	3172	0
Flt Permitted	0.123			0.123			0.950			0.950		
Satd. Flow (perm)	222	3357	1402	215	3293	1436	3206	3280	0	1692	3172	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			326			192		7			14	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		381.8			492.5			121.2			274.8	
Travel Time (s)		27.5			35.5			8.7			19.8	
Confl. Peds. (#/hr)	8		13	13		8	12		20	20		12
Confl. Bikes (#/hr)			1			3			3			9
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	3%	7%	4%	5%	5%	4%	3%	13%	1%	7%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	243	1103	566	89	1141	183	476	628	54	309	1021	159
Shared Lane Traffic (%)												
Lane Group Flow (vph)	243	1103	566	89	1141	183	476	682	0	309	1180	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	5.0	10.0	10.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	13.5	34.4	34.4	9.5	32.5	32.5	13.5	32.4		13.5	32.4	
Total Split (s)	17.0	49.4	49.4	9.6	42.0	42.0	22.0	40.0		31.0	49.0	
Total Split (%)	13.1%	38.0%	38.0%	7.4%	32.3%	32.3%	16.9%	30.8%		23.8%	37.7%	
Yellow Time (s)	3.3	3.3	3.3	3.5	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	3.2	3.1	3.1	1.0	1.0	1.0	3.2	3.1		3.2	3.1	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.4	6.4	4.5	4.3	4.3	6.5	6.4		6.5	6.4	
Lead/Lag	Lag	Lag	Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effct Green (s)	42.9	43.0	43.0	37.5	37.7	37.7	15.5	33.6		24.5	42.6	

Lanes, Volumes, Timings

1: Bank St & Heron Rd

04/13/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.33	0.33	0.33	0.29	0.29	0.29	0.12	0.26		0.19	0.33	
v/c Ratio	1.26	0.99	0.83	0.75	1.20	0.33	1.24	0.80		0.96	1.13	
Control Delay	195.0	68.9	28.3	48.7	120.2	3.1	166.3	47.7		93.2	109.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	195.0	68.9	28.3	48.7	120.2	3.1	166.3	47.7		93.2	109.2	
LOS	F	E	C	D	F	A	F	D		F	F	
Approach Delay		72.9			100.5			96.5			105.9	
Approach LOS		E			F			F			F	
Queue Length 50th (m)	~63.1	147.8	61.9	8.5	~180.0	2.0	~78.7	89.3		79.2	~182.8	
Queue Length 95th (m)	#115.5	#194.8	#128.7	m9.9 m	#196.2	m4.5	m#95.0	m98.5		#135.0	#225.2	
Internal Link Dist (m)		357.8			468.5			97.2			250.8	
Turn Bay Length (m)	73.0		85.0	50.0		70.0	110.0			70.0		
Base Capacity (vph)	193	1110	681	118	954	552	384	852		322	1048	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	1.26	0.99	0.83	0.75	1.20	0.33	1.24	0.80		0.96	1.13	

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.26

Intersection Signal Delay: 92.2

Intersection LOS: F

Intersection Capacity Utilization 107.2%

ICU Level of Service G

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

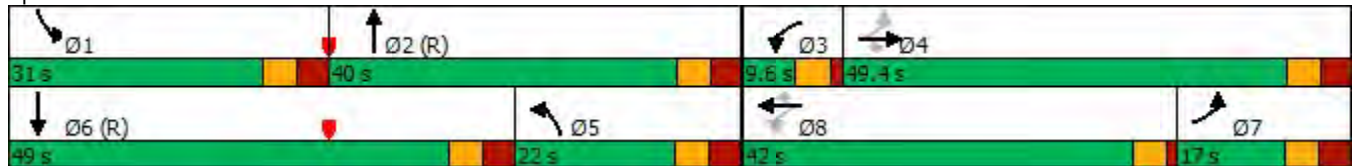
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 1: Bank St & Heron Rd



Lanes, Volumes, Timings
2: Alta Vista Dr & Heron Rd

04/13/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	151	1112	42	116	1072	165	23	226	128	189	464	150
Future Volume (vph)	151	1112	42	116	1072	165	23	226	128	189	464	150
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%				0%
Storage Length (m)	65.0		0.0	57.0		85.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	30.0			24.0			2.5			48.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.96	0.99		0.97		0.77		0.93			0.99	
Frt		0.995				0.850		0.946			0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	3261	0	1695	3293	1459	1601	1568	0	1631	1707	0
Flt Permitted	0.950			0.950			0.122			0.166		
Satd. Flow (perm)	1640	3261	0	1652	3293	1116	206	1568	0	285	1707	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				159		21			15	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		492.5			657.5			201.9			270.3	
Travel Time (s)		35.5			47.3			14.5			19.5	
Confl. Peds. (#/hr)	54		37	37		54	21		110	110		21
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	5%	1%	2%	5%	6%	8%	2%	3%	6%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	168	1236	47	129	1191	183	26	251	142	210	516	167
Shared Lane Traffic (%)												
Lane Group Flow (vph)	168	1283	0	129	1191	183	26	393	0	210	683	0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases						6	8			4		
Detector Phase	5	2		1	6	6	8	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	10.0	10.0		7.0	10.0	
Minimum Split (s)	12.4	23.4		12.4	23.4	23.4	29.9	29.9		11.5	29.9	
Total Split (s)	19.0	57.7		16.3	55.0	55.0	38.8	38.8		17.2	56.0	
Total Split (%)	14.6%	44.4%		12.5%	42.3%	42.3%	29.8%	29.8%		13.2%	43.1%	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.1	2.1		2.1	2.1	2.1	2.6	2.6		1.0	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.4	5.4		5.4	5.4	5.4	5.9	5.9		4.3	5.9	
Lead/Lag	Lead	Lead		Lag	Lag	Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes		
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max		None	Max	
Act Effect Green (s)	13.6	52.3		10.9	49.6	49.6	32.9	32.9		51.7	50.1	

Lanes, Volumes, Timings

3: Baycrest Dr & Heron Rd

04/13/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	1104	250	31	1194	14	163	2	32	21	8	3
Future Volume (vph)	2	1104	250	31	1194	14	163	2	32	21	8	3
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	43.0		0.0	55.0		0.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	70.0			25.0			2.5			0.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	0.99			1.00			0.97		1.00	0.99	
Frt		0.972			0.998			0.978			0.962	
Flt Protected	0.950			0.950				0.960		0.950		
Satd. Flow (prot)	1729	3200	0	1478	3287	0	0	1631	0	1729	1733	0
Flt Permitted	0.143			0.107				0.755		0.688		
Satd. Flow (perm)	260	3200	0	166	3287	0	0	1252	0	1246	1733	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		48			2			12			3	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		657.5			314.4			216.5			60.0	
Travel Time (s)		47.3			22.6			15.6			4.3	
Confl. Peds. (#/hr)	15		27	27		15	31		8	8		31
Confl. Bikes (#/hr)						1						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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	7%	17%	5%	0%	5%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	2	1227	278	34	1327	16	181	2	36	23	9	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	2	1505	0	34	1343	0	0	219	0	23	12	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	29.7	29.7		29.7	29.7		35.0	35.0		35.0	35.0	
Total Split (s)	54.0	54.0		54.0	54.0		36.0	36.0		36.0	36.0	
Total Split (%)	60.0%	60.0%		60.0%	60.0%		40.0%	40.0%		40.0%	40.0%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.4	1.4		1.4	1.4		2.7	2.7		2.7	2.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	4.7	4.7		4.7	4.7			6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	56.7	56.7		56.7	56.7			22.6		22.6	22.6	

Lanes, Volumes, Timings
 3: Baycrest Dr & Heron Rd

04/13/2023

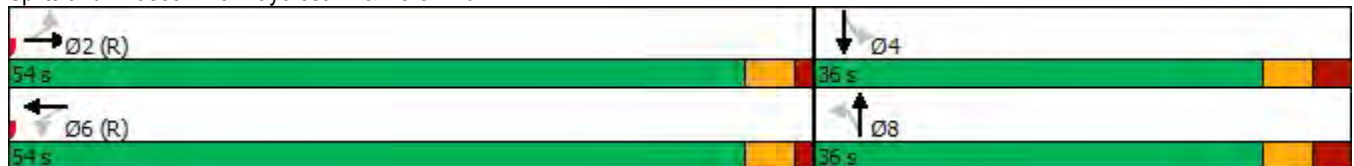


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.63	0.63		0.63	0.63			0.25		0.25	0.25	
v/c Ratio	0.01	0.74		0.33	0.65			0.68		0.07	0.03	
Control Delay	8.5	14.7		17.4	10.9			39.5		24.5	20.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	8.5	14.7		17.4	10.9			39.5		24.5	20.5	
LOS	A	B		B	B			D		C	C	
Approach Delay		14.7			11.0			39.5			23.1	
Approach LOS		B			B			D			C	
Queue Length 50th (m)	0.1	75.0		1.6	33.8			33.7		3.2	1.2	
Queue Length 95th (m)	1.1	134.4		6.2	105.6			51.2		8.1	4.8	
Internal Link Dist (m)		633.5			290.4			192.5			36.0	
Turn Bay Length (m)	43.0			55.0						30.0		
Base Capacity (vph)	164	2034		104	2072			425		415	579	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.01	0.74		0.33	0.65			0.52		0.06	0.02	

Intersection Summary






















Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 14 (16%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.74
 Intersection Signal Delay: 14.9
 Intersection LOS: B
 Intersection Capacity Utilization 71.5%
 ICU Level of Service C
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Baycrest Dr & Heron Rd



Lanes, Volumes, Timings
4: Sandalwood Dr & Heron Rd

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	1042	58	44	1171	20	36	23	32	9	28	45
Future Volume (vph)	65	1042	58	44	1171	20	36	23	32	9	28	45
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	55.0		0.0	55.0		0.0	32.0		0.0	37.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	25.0			25.0			12.0			37.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00		1.00	1.00		0.99	0.99		0.99	0.99	
Frt		0.992			0.998			0.913				0.907
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	3284	0	1601	3257	0	1478	1546	0	1729	1631	0
Flt Permitted	0.175			0.200			0.704			0.717		
Satd. Flow (perm)	318	3284	0	336	3257	0	1088	1546	0	1296	1631	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			3			36			44	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		314.4			354.9			199.1			258.5	
Travel Time (s)		22.6			25.6			14.3			18.6	
Confl. Peds. (#/hr)	7		7	7		7	5		5	5		5
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	27%	8%	6%	0%	17%	15%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	72	1158	64	49	1301	22	40	26	36	10	31	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	1222	0	49	1323	0	40	62	0	10	81	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		16.0	16.0		16.0	16.0	
Minimum Split (s)	24.3	24.3		24.3	24.3		24.1	24.1		24.1	24.1	
Total Split (s)	55.0	55.0		55.0	55.0		35.0	35.0		35.0	35.0	
Total Split (%)	61.1%	61.1%		61.1%	61.1%		38.9%	38.9%		38.9%	38.9%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.8	2.8		2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		6.1	6.1		6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effct Green (s)	67.7	67.7		67.7	67.7		16.4	16.4		16.4	16.4	

Lanes, Volumes, Timings
5: Heron Rd & Jefferson St

04/13/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	996	104	41	1106	47	78	85	78	40	53	47
Future Volume (vph)	83	996	104	41	1106	47	78	85	78	40	53	47
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	58.0		62.0	55.0		0.0	18.0		15.0	0.0		0.0
Storage Lanes	1		1	1		0	1		1	0		0
Taper Length (m)	27.0			17.0			10.0			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97	1.00	1.00		1.00		0.98		0.99	
Frt			0.850		0.994				0.850		0.955	
Flt Protected	0.950			0.950			0.950				0.986	
Satd. Flow (prot)	1572	3357	1419	1383	3271	0	1679	1820	1381	0	1647	0
Flt Permitted	0.141			0.192			0.661				0.894	
Satd. Flow (perm)	233	3357	1379	279	3271	0	1164	1820	1357	0	1491	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116		7				73		30	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		354.9			465.1			176.5			237.6	
Travel Time (s)		25.6			33.5			12.7			17.1	
Confl. Peds. (#/hr)	6		4	4		6	5		5	5		5
Confl. Bikes (#/hr)			2						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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	3%	9%	25%	5%	4%	3%	0%	12%	4%	0%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	92	1107	116	46	1229	52	87	94	87	44	59	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	1107	116	46	1281	0	87	94	87	0	155	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2		2	6			8		8	4		
Detector Phase	2	2	2	6	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		27.0	27.0	27.0	27.0	27.0	
Minimum Split (s)	30.6	30.6	30.6	30.6	30.6		34.2	34.2	34.2	34.2	34.2	
Total Split (s)	55.0	55.0	55.0	55.0	55.0		35.0	35.0	35.0	35.0	35.0	
Total Split (%)	61.1%	61.1%	61.1%	61.1%	61.1%		38.9%	38.9%	38.9%	38.9%	38.9%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3		2.9	2.9	2.9	2.9	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.6	5.6	5.6	5.6	5.6		6.2	6.2	6.2	6.2	6.2	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max		None	None	None	None	None	
Act Effect Green (s)	51.0	51.0	51.0	51.0	51.0		27.2	27.2	27.2		27.2	

Lanes, Volumes, Timings

6: Walkley Rd & Heron Rd

04/13/2023



Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	↑↑			↑↑	↑↑	↑↑
Traffic Volume (vph)	1101	13	0	696	1016	1180
Future Volume (vph)	1101	13	0	696	1016	1180
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			65.0
Storage Lanes	2	0	0			1
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	0.95	1.00	0.95	0.95	0.88
Ped Bike Factor						
Frt	0.998					0.850
Flt Protected	0.953					
Satd. Flow (prot)	3292	0	0	3390	3390	2669
Flt Permitted	0.953					
Satd. Flow (perm)	3292	0	0	3390	3390	2669
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	1					1311
Link Speed (k/h)	50			50	50	
Link Distance (m)	465.1			393.2	359.8	
Travel Time (s)	33.5			28.3	25.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	1223	14	0	773	1129	1311
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1237	0	0	773	1129	1311
Turn Type	Prot			NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases						6
Detector Phase	4			2	6	6
Switch Phase						
Minimum Initial (s)	10.0			10.0	10.0	10.0
Minimum Split (s)	33.7			16.6	16.6	16.6
Total Split (s)	56.0			54.0	54.0	54.0
Total Split (%)	50.9%			49.1%	49.1%	49.1%
Yellow Time (s)	3.3			3.3	3.3	3.3
All-Red Time (s)	3.4			3.3	3.3	3.3
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.7			6.6	6.6	6.6
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max			C-Max	C-Max	C-Max
Act Effect Green (s)	49.3			47.4	47.4	47.4

Lanes, Volumes, Timings
6: Walkley Rd & Heron Rd

04/13/2023



Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Actuated g/C Ratio	0.45			0.43	0.43	0.43
v/c Ratio	0.84			0.53	0.77	0.69
Control Delay	33.2			24.7	31.2	3.3
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	33.2			24.7	31.2	3.3
LOS	C			C	C	A
Approach Delay	33.2			24.7	16.2	
Approach LOS	C			C	B	
Queue Length 50th (m)	117.9			63.0	106.5	0.0
Queue Length 95th (m)	146.9			80.9	132.7	12.7
Internal Link Dist (m)	441.1			369.2	335.8	
Turn Bay Length (m)						65.0
Base Capacity (vph)	1475			1460	1460	1896
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	0.84			0.53	0.77	0.69

Intersection Summary
































Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	110
Offset:	53 (48%), Referenced to phase 2:NET and 6:SWT, Start of Green
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.84
Intersection Signal Delay:	22.4
Intersection LOS:	C
Intersection Capacity Utilization	74.3%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 6: Walkley Rd & Heron Rd



Lanes, Volumes, Timings
7: Bank St & Wakley Rd

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 			  		 	 	
Traffic Volume (vph)	291	436	243	282	509	276	207	801	227	262	1213	535
Future Volume (vph)	291	436	243	282	509	276	207	801	227	262	1213	535
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	60.0		50.0	78.0		0.0	208.0		70.0	156.0		0.0
Storage Lanes	2		1	2		0	1		1	2		1
Taper Length (m)	27.0			24.0			0.0			24.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.91	1.00	0.97	0.95	1.00
Ped Bike Factor	0.98		0.97	0.99	0.98		1.00		0.96	0.99		0.97
Frt			0.850		0.947				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3390	1517	3288	3161	0	1695	4871	1517	3288	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3238	3390	1473	3252	3161	0	1692	4871	1457	3249	3390	1472
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			245		75				252			234
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		154.1			197.3			245.1			260.6	
Travel Time (s)		11.1			14.2			17.6			18.8	
Confl. Peds. (#/hr)	26		11	11		26	8		17	17		8
Confl. Bikes (#/hr)			5			2			5			10
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	323	484	270	313	566	307	230	890	252	291	1348	594
Shared Lane Traffic (%)												
Lane Group Flow (vph)	323	484	270	313	873	0	230	890	252	291	1348	594
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	29.0	29.0	7.0	29.0		7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	13.8	39.7	39.7	13.8	39.7		13.4	33.4	33.4	13.4	33.4	33.4
Total Split (s)	18.0	40.7	40.7	17.0	39.7		21.0	47.6	47.6	24.7	51.3	51.3
Total Split (%)	13.8%	31.3%	31.3%	13.1%	30.5%		16.2%	36.6%	36.6%	19.0%	39.5%	39.5%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.4	3.4	3.5	3.4		3.1	3.1	3.1	3.1	3.1	3.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.7	6.7	6.8	6.7		6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	None	C-Max	C-Max
Act Effct Green (s)	11.2	34.0	34.0	10.2	33.0		14.6	43.4	43.4	16.1	44.9	44.9

Lanes, Volumes, Timings
7: Bank St & Walkley Rd

04/13/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.09	0.26	0.26	0.08	0.25		0.11	0.33	0.33	0.12	0.35	0.35
v/c Ratio	1.14	0.55	0.48	1.22	1.02		1.21	0.55	0.39	0.71	1.15	0.90
Control Delay	149.1	44.1	9.5	177.1	78.9		181.3	37.2	5.6	64.0	124.3	49.8
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	149.1	44.1	9.5	177.1	78.9		181.3	37.2	5.6	64.0	124.3	49.8
LOS	F	D	A	F	E		F	D	A	E	F	D
Approach Delay		66.9			104.8			55.5			96.6	
Approach LOS		E			F			E			F	
Queue Length 50th (m)	~49.7	56.4	4.8	~50.4	~116.3		~71.8	68.3	0.0	38.6	~212.5	107.3
Queue Length 95th (m)	#79.3	73.9	27.9	#79.5	#157.0		#122.3	83.9	18.4	m42.3m	#216.8	m118.5
Internal Link Dist (m)		130.1			173.3			221.1			236.6	
Turn Bay Length (m)	60.0		50.0	78.0			208.0		70.0	156.0		
Base Capacity (vph)	283	886	566	257	858		190	1626	654	462	1170	661
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.14	0.55	0.48	1.22	1.02		1.21	0.55	0.39	0.63	1.15	0.90

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.22
 Intersection Signal Delay: 83.2 Intersection LOS: F
 Intersection Capacity Utilization 104.6% ICU Level of Service G
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Bank St & Walkley Rd



Lanes, Volumes, Timings
8: Walkley Rd & Baycrest Dr

04/13/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	93	783	20	24	890	182	18	12	21	77	20	63
Future Volume (vph)	93	783	20	24	890	182	18	12	21	77	20	63
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	50.0		0.0	33.0		0.0	0.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	22.0			27.0			2.5			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	0.99			0.98		0.98	0.98	
Fr _t		0.996			0.975			0.945			0.886	
Fl _t Protected	0.950			0.950				0.982		0.950		
Satd. Flow (prot)	1530	3250	0	1530	3190	0	0	1666	0	1586	1585	0
Fl _t Permitted	0.208			0.305				0.857		0.720		
Satd. Flow (perm)	334	3250	0	488	3190	0	0	1449	0	1178	1585	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			45			23			70	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		360.2			304.5			74.0			276.3	
Travel Time (s)		25.9			21.9			5.3			19.9	
Confl. Peds. (#/hr)	9		12	12		9	11		23	23		11
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	6%	0%	13%	4%	10%	0%	0%	0%	9%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	103	870	22	27	989	202	20	13	23	86	22	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	103	892	0	27	1191	0	0	56	0	86	92	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.9	25.9		25.9	25.9		31.1	31.1		31.1	31.1	
Total Split (s)	48.0	48.0		48.0	48.0		31.1	31.1		32.0	32.0	
Total Split (%)	60.0%	60.0%		60.0%	60.0%		38.9%	38.9%		40.0%	40.0%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.8	2.8		2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		5.9	5.9			6.1		6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	58.5	58.5		58.5	58.5			13.9		13.9	13.9	

Lanes, Volumes, Timings

8: Walkley Rd & Baycrest Dr

04/13/2023

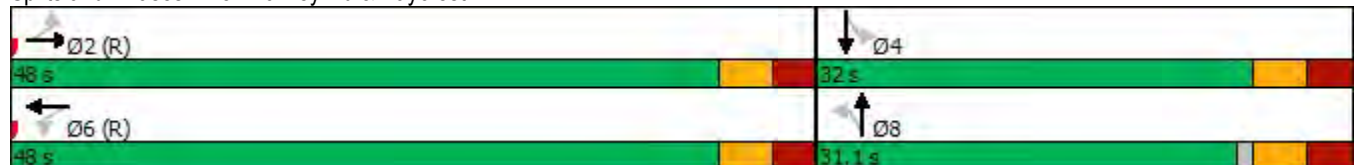


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.73	0.73		0.73	0.73			0.17		0.17	0.17	
v/c Ratio	0.42	0.38		0.08	0.51			0.21		0.42	0.28	
Control Delay	16.3	6.7		7.2	7.8			18.7		34.0	11.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	16.3	6.7		7.2	7.8			18.7		34.0	11.6	
LOS	B	A		A	A			B		C	B	
Approach Delay		7.7			7.8			18.7			22.4	
Approach LOS		A			A			B			C	
Queue Length 50th (m)	5.4	23.4		1.1	34.6			4.5		12.3	3.0	
Queue Length 95th (m)	#33.5	57.0		5.9	84.2			11.4		20.4	12.0	
Internal Link Dist (m)		336.2			280.5			50.0			252.3	
Turn Bay Length (m)	50.0			33.0						20.0		
Base Capacity (vph)	244	2377		356	2344			484		381	560	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.42	0.38		0.08	0.51			0.12		0.23	0.16	

Intersection Summary

Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 9.1 Intersection LOS: A
 Intersection Capacity Utilization 71.6% ICU Level of Service C
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.






























Splits and Phases: 8: Walkley Rd & Baycrest Dr



Lanes, Volumes, Timings

1: Bank St & Heron Rd

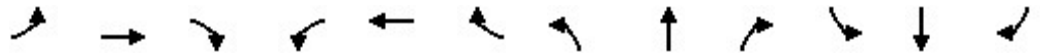
04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Traffic Volume (vph)	153	762	253	86	1082	271	523	647	31	183	346	100
Future Volume (vph)	153	762	253	86	1082	271	523	647	31	183	346	100
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	73.0		85.0	50.0		70.0	110.0		0.0	70.0		0.0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (m)	20.0			30.0			0.0			0.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.97	0.99		0.98	0.99	1.00		0.99	0.99	
Frt			0.850			0.850		0.993			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	3357	1446	1662	3293	1473	3225	3313	0	1712	3129	0
Flt Permitted	0.089			0.322			0.950			0.950		
Satd. Flow (perm)	160	3357	1404	561	3293	1438	3180	3313	0	1695	3129	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			281			220		4			29	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		381.8			492.5			121.2			274.8	
Travel Time (s)		27.5			35.5			8.7			19.8	
Confl. Peds. (#/hr)	8		13	13		8	12		20	20		12
Confl. Bikes (#/hr)			1			3			3			9
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	3%	7%	4%	5%	5%	4%	3%	13%	1%	7%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	170	847	281	96	1202	301	581	719	34	203	384	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	170	847	281	96	1202	301	581	753	0	203	495	0
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Detector Phase	7	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	13.5	34.4	34.4	32.5	32.5	32.5	13.5	32.4		13.5	32.4	
Total Split (s)	14.3	59.3	59.3	45.0	45.0	45.0	27.0	38.7		22.0	33.7	
Total Split (%)	11.9%	49.4%	49.4%	37.5%	37.5%	37.5%	22.5%	32.3%		18.3%	28.1%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	3.2	3.1	3.1	1.0	1.0	1.0	3.2	3.1		3.2	3.1	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.4	6.4	4.3	4.3	4.3	6.5	6.4		6.5	6.4	
Lead/Lag	Lead			Lag	Lag	Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effect Green (s)	52.8	52.9	52.9	40.7	40.7	40.7	20.5	32.3		15.5	27.3	

Lanes, Volumes, Timings

1: Bank St & Heron Rd

04/13/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.44	0.44	0.44	0.34	0.34	0.34	0.17	0.27		0.13	0.23	
v/c Ratio	0.99	0.57	0.36	0.51	1.08	0.48	1.06	0.84		0.92	0.67	
Control Delay	95.2	27.0	3.7	29.2	69.4	7.2	83.9	32.4		94.7	45.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	95.2	27.0	3.7	29.2	69.4	7.2	83.9	32.4		94.7	45.0	
LOS	F	C	A	C	E	A	F	C		F	D	
Approach Delay		30.9			55.3			54.8			59.5	
Approach LOS		C			E			D			E	
Queue Length 50th (m)	25.4	76.9	0.0	10.5	~160.2	13.2	~78.1	84.1		47.9	53.1	
Queue Length 95th (m)	#70.0	96.4	15.1	m11.0	m#150.7	m13.5	m#86.1	m90.7		#91.8	71.6	
Internal Link Dist (m)		357.8			468.5			97.2			250.8	
Turn Bay Length (m)	73.0		85.0	50.0		70.0	110.0			70.0		
Base Capacity (vph)	171	1479	776	190	1116	633	550	894		221	734	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.99	0.57	0.36	0.51	1.08	0.48	1.06	0.84		0.92	0.67	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 52 (43%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 135

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.08

Intersection Signal Delay: 49.3

Intersection LOS: D

Intersection Capacity Utilization 97.7%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

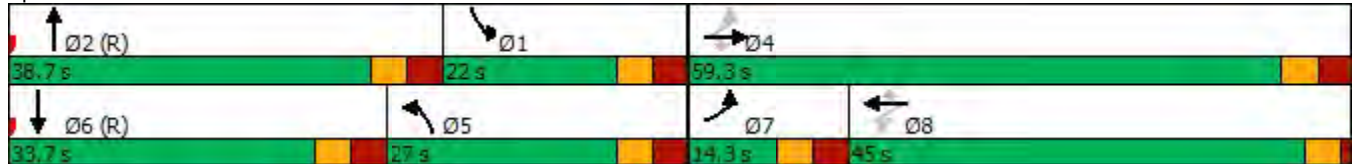
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.






















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

Splits and Phases: 1: Bank St & Heron Rd



Lanes, Volumes, Timings
2: Alta Vista Dr & Heron Rd

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	791	88	148	1219	257	68	275	182	183	267	127
Future Volume (vph)	103	791	88	148	1219	257	68	275	182	183	267	127
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	65.0		0.0	57.0		85.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	30.0			24.0			2.5			48.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97	0.98		0.96		0.78	0.98	0.93			0.99	
Frt		0.985				0.850		0.940			0.952	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	3205	0	1695	3293	1459	1601	1555	0	1631	1686	0
Flt Permitted	0.950			0.950			0.463			0.103		
Satd. Flow (perm)	1659	3205	0	1635	3293	1141	768	1555	0	177	1686	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				239		28			24	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		492.5			657.5			201.9			270.3	
Travel Time (s)		35.5			47.3			14.5			19.5	
Confl. Peds. (#/hr)	54		37	37		54	21		110	110		21
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	5%	1%	2%	5%	6%	8%	2%	3%	6%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	114	879	98	164	1354	286	76	306	202	203	297	141
Shared Lane Traffic (%)												
Lane Group Flow (vph)	114	977	0	164	1354	286	76	508	0	203	438	0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases						6	8			4		
Detector Phase	5	2		1	6	6	8	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	10.0	10.0		7.0	10.0	
Minimum Split (s)	12.4	23.4		12.4	23.4	23.4	29.9	29.9		11.5	29.9	
Total Split (s)	13.8	47.1		18.5	51.8	51.8	40.4	40.4		14.0	54.4	
Total Split (%)	11.5%	39.3%		15.4%	43.2%	43.2%	33.7%	33.7%		11.7%	45.3%	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.1	2.1		2.1	2.1	2.1	2.6	2.6		1.0	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.4	5.4		5.4	5.4	5.4	5.9	5.9		4.3	5.9	
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes		
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max		None	Max	
Act Effect Green (s)	8.4	41.8		13.0	46.4	46.4	34.5	34.5		50.1	48.5	

Lanes, Volumes, Timings

2: Alta Vista Dr & Heron Rd

04/13/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.07	0.35		0.11	0.39	0.39	0.29	0.29		0.42	0.40	
v/c Ratio	0.96	0.87		0.89	1.06	0.49	0.35	1.09		1.06	0.63	
Control Delay	115.1	41.2		64.5	75.7	17.0	39.3	106.1		111.6	31.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	115.1	41.2		64.5	75.7	17.0	39.3	106.1		111.6	31.8	
LOS	F	D		E	E	B	D	F		F	C	
Approach Delay		48.9			65.4			97.4			57.1	
Approach LOS		D			E			F			E	
Queue Length 50th (m)	23.1	66.7		40.3	~188.9	32.0	14.2	~129.8		~37.6	77.0	
Queue Length 95th (m)	m#54.7	m#106.6		m42.2	m#201.4	m34.1	28.8	#195.6		#84.9	111.8	
Internal Link Dist (m)		468.5			633.5			177.9			246.3	
Turn Bay Length (m)	65.0			57.0		85.0				30.0		
Base Capacity (vph)	119	1122		185	1273	587	220	467		191	695	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.96	0.87		0.89	1.06	0.49	0.35	1.09		1.06	0.63	

Intersection Summary

Area Type: Other

Cycle Length: 120

Actuated Cycle Length: 120

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.09

Intersection Signal Delay: 64.3

Intersection LOS: E

Intersection Capacity Utilization 99.3%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

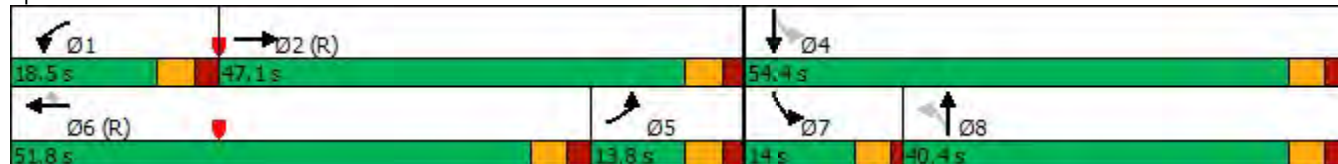
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

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

Splits and Phases: 2: Alta Vista Dr & Heron Rd



Lanes, Volumes, Timings
3: Baycrest Dr & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	795	209	27	1244	22	300	34	49	50	13	75
Future Volume (vph)	158	795	209	27	1244	22	300	34	49	50	13	75
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	43.0		0.0	55.0		0.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	70.0			25.0			2.5			0.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98		0.99	1.00			0.97		1.00	0.96	
Fr _t		0.969			0.997			0.983			0.872	
Fl _t Protected	0.950			0.950				0.962		0.950		
Satd. Flow (prot)	1729	3171	0	1478	3283	0	0	1648	0	1729	1518	0
Fl _t Permitted	0.069			0.228				0.709		0.632		
Satd. Flow (perm)	126	3171	0	350	3283	0	0	1182	0	1146	1518	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		46			2			7			83	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		657.5			169.5			216.5			60.0	
Travel Time (s)		47.3			12.2			15.6			4.3	
Confl. Peds. (#/hr)	15		27	27		15	31		8	8		31
Confl. Bikes (#/hr)						1						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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	7%	17%	5%	0%	5%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	176	883	232	30	1382	24	333	38	54	56	14	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	176	1115	0	30	1406	0	0	425	0	56	97	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8				4
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	9.5	29.7		29.7	29.7		35.0	35.0		35.0	35.0	
Total Split (s)	14.6	73.0		58.4	58.4		47.0	47.0		47.0	47.0	
Total Split (%)	12.2%	60.8%		48.7%	48.7%		39.2%	39.2%		39.2%	39.2%	
Yellow Time (s)	3.5	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.0	1.4		1.4	1.4		2.7	2.7		2.7	2.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7		4.7	4.7			6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	68.5	68.3		53.8	53.8			41.0		41.0	41.0	

Lanes, Volumes, Timings
 3: Baycrest Dr & Heron Rd

04/13/2023

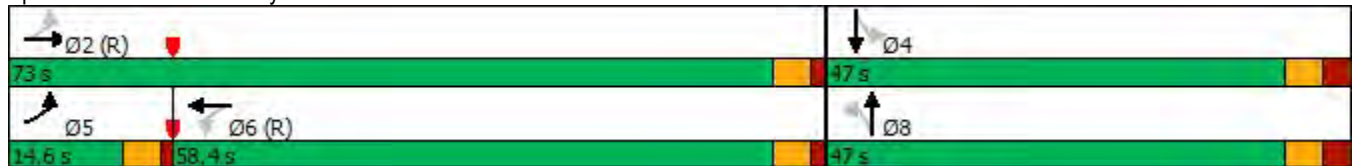


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.57	0.57		0.45	0.45			0.34		0.34	0.34	
v/c Ratio	0.86	0.61		0.19	0.96			1.04		0.14	0.17	
Control Delay	47.8	31.8		24.1	47.4			94.4		28.7	8.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	47.8	31.8		24.1	47.4			94.4		28.7	8.4	
LOS	D	C		C	D			F		C	A	
Approach Delay		34.0			46.9			94.4			15.9	
Approach LOS		C			D			F			B	
Queue Length 50th (m)	34.0	119.0		4.2	164.5			~107.2		9.1	2.2	
Queue Length 95th (m)	m37.0	m116.1		11.4	#215.5			#169.4		19.0	13.7	
Internal Link Dist (m)		633.5			145.5			192.5			36.0	
Turn Bay Length (m)	43.0			55.0						30.0		
Base Capacity (vph)	206	1824		156	1472			408		391	573	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.85	0.61		0.19	0.96			1.04		0.14	0.17	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 46.5
 Intersection LOS: D
 Intersection Capacity Utilization 88.3%
 ICU Level of Service E
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Baycrest Dr & Heron Rd



Lanes, Volumes, Timings
4: Sandalwood Dr & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	821	32	22	1134	17	67	14	36	8	14	72
Future Volume (vph)	43	821	32	22	1134	17	67	14	36	8	14	72
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	55.0		0.0	55.0		0.0	32.0		0.0	37.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	25.0			25.0			12.0			37.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		0.99	0.99		0.99	0.98	
Frt		0.994			0.998			0.893				0.875
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	3303	0	1601	3257	0	1478	1537	0	1729	1567	0
Flt Permitted	0.186			0.283			0.695			0.720		
Satd. Flow (perm)	338	3303	0	475	3257	0	1074	1537	0	1301	1567	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			3			40				77
Link Speed (k/h)		50			50			50				50
Link Distance (m)		144.9			354.9			199.1				258.5
Travel Time (s)		10.4			25.6			14.3				18.6
Confl. Peds. (#/hr)	7		7	7		7	5		5	5		5
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	27%	8%	6%	0%	17%	15%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	48	912	36	24	1260	19	74	16	40	9	16	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	948	0	24	1279	0	74	56	0	9	96	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		16.0	16.0		16.0	16.0	
Minimum Split (s)	24.3	24.3		24.3	24.3		24.1	24.1		24.1	24.1	
Total Split (s)	63.0	63.0		63.0	63.0		27.0	27.0		27.0	27.0	
Total Split (%)	70.0%	70.0%		70.0%	70.0%		30.0%	30.0%		30.0%	30.0%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.8	2.8		2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		6.1	6.1		6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	67.7	67.7		67.7	67.7		16.4	16.4		16.4	16.4	

Lanes, Volumes, Timings
4: Sandalwood Dr & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.75	0.75		0.75	0.75		0.18	0.18		0.18	0.18	
v/c Ratio	0.19	0.38		0.07	0.52		0.38	0.18		0.04	0.28	
Control Delay	7.4	5.8		6.8	7.1		38.6	15.7		30.4	12.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	7.4	5.8		6.8	7.1		38.6	15.7		30.4	12.9	
LOS	A	A		A	A		D	B		C	B	
Approach Delay		5.9			7.1			28.7			14.4	
Approach LOS		A			A			C			B	
Queue Length 50th (m)	2.5	31.2		1.1	36.3		11.4	2.3		1.3	2.8	
Queue Length 95th (m)	7.9	44.8		m3.0	69.6		23.8	11.9		5.2	15.0	
Internal Link Dist (m)		120.9			330.9			175.1			234.5	
Turn Bay Length (m)	55.0			55.0			32.0			37.0		
Base Capacity (vph)	254	2486		357	2450		249	387		302	423	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.19	0.38		0.07	0.52		0.30	0.14		0.03	0.23	

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.52

Intersection Signal Delay: 8.0

Intersection LOS: A

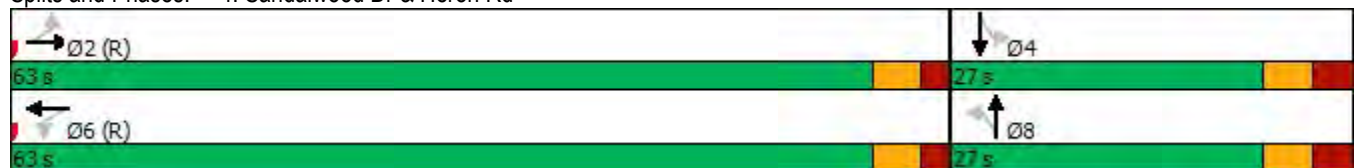
Intersection Capacity Utilization 60.8%

ICU Level of Service B

Analysis Period (min) 15

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

Splits and Phases: 4: Sandalwood Dr & Heron Rd



Lanes, Volumes, Timings
5: Heron Rd & Jefferson St

04/13/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	778	48	13	1065	27	31	31	27	30	26	78
Future Volume (vph)	34	778	48	13	1065	27	31	31	27	30	26	78
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%				0%
Storage Length (m)	58.0		62.0	55.0		0.0	18.0		15.0	0.0		0.0
Storage Lanes	1		1	1		0	1		1	0		0
Taper Length (m)	27.0			17.0			10.0			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97	1.00	1.00		1.00		0.98		0.99	
Frt			0.850		0.996				0.850		0.921	
Flt Protected	0.950			0.950			0.950				0.989	
Satd. Flow (prot)	1572	3357	1419	1383	3278	0	1679	1820	1381	0	1564	0
Flt Permitted	0.160			0.279			0.667				0.934	
Satd. Flow (perm)	264	3357	1379	405	3278	0	1174	1820	1357	0	1475	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			53		4				32			59
Link Speed (k/h)		50			50			50				50
Link Distance (m)		354.9			465.1			176.5				237.6
Travel Time (s)		25.6			33.5			12.7				17.1
Confl. Peds. (#/hr)	6		4	4		6	5		5	5		5
Confl. Bikes (#/hr)			2						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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	3%	9%	25%	5%	4%	3%	0%	12%	4%	0%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	38	864	53	14	1183	30	34	34	30	33	29	87
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	864	53	14	1213	0	34	34	30	0	149	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2		2	6			8		8	4		
Detector Phase	2	2	2	6	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		27.0	27.0	27.0	27.0	27.0	
Minimum Split (s)	30.6	30.6	30.6	30.6	30.6		34.2	34.2	34.2	34.2	34.2	
Total Split (s)	55.0	55.0	55.0	55.0	55.0		35.0	35.0	35.0	35.0	35.0	
Total Split (%)	61.1%	61.1%	61.1%	61.1%	61.1%		38.9%	38.9%	38.9%	38.9%	38.9%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3		2.9	2.9	2.9	2.9	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.6	5.6	5.6	5.6	5.6		6.2	6.2	6.2	6.2	6.2	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max		None	None	None	None	None	
Act Effect Green (s)	51.0	51.0	51.0	51.0	51.0		27.2	27.2	27.2		27.2	

Lanes, Volumes, Timings
5: Heron Rd & Jefferson St

04/13/2023

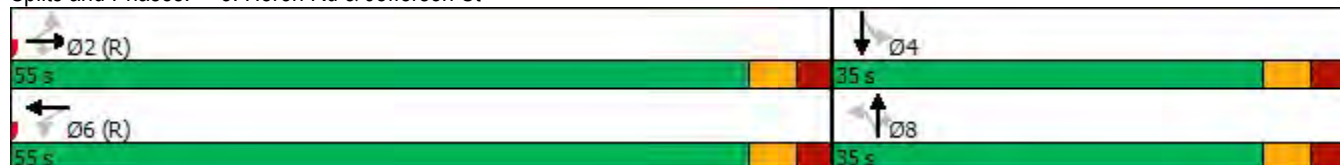


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.57	0.57	0.57	0.57	0.57		0.30	0.30	0.30		0.30	
v/c Ratio	0.26	0.45	0.07	0.06	0.65		0.10	0.06	0.07		0.31	
Control Delay	12.2	9.3	2.0	9.8	15.5		23.4	22.6	8.1		16.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	12.2	9.3	2.0	9.8	15.5		23.4	22.6	8.1		16.5	
LOS	B	A	A	A	B		C	C	A		B	
Approach Delay		9.0			15.5			18.5			16.5	
Approach LOS		A			B			B			B	
Queue Length 50th (m)	2.0	24.3	0.0	1.0	70.0		4.2	4.2	0.0		11.5	
Queue Length 95th (m)	5.1	30.6	2.4	3.9	93.6		11.0	10.7	5.6		26.0	
Internal Link Dist (m)		330.9			441.1			152.5			213.6	
Turn Bay Length (m)	58.0		62.0	55.0			18.0		15.0			
Base Capacity (vph)	149	1902	804	229	1859		375	582	456		512	
Starvation Cap Reductn	0	0	0	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.26	0.45	0.07	0.06	0.65		0.09	0.06	0.07		0.29	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	10 (11%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.65
Intersection Signal Delay:	13.1
Intersection LOS:	B
Intersection Capacity Utilization:	83.0%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 5: Heron Rd & Jefferson St



Lanes, Volumes, Timings

6: Walkley Rd & Heron Rd

04/13/2023



Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	↑↑			↑↑	↑↑	↑↑
Traffic Volume (vph)	796	31	0	751	670	1105
Future Volume (vph)	796	31	0	751	670	1105
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			65.0
Storage Lanes	2	0	0			1
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	0.95	1.00	0.95	0.95	0.88
Ped Bike Factor						
Frt	0.994					0.850
Flt Protected	0.954					
Satd. Flow (prot)	3283	0	0	3390	3390	2669
Flt Permitted	0.954					
Satd. Flow (perm)	3283	0	0	3390	3390	2669
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	5					1228
Link Speed (k/h)	50			50	50	
Link Distance (m)	465.1			393.2	359.8	
Travel Time (s)	33.5			28.3	25.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	884	34	0	834	744	1228
Shared Lane Traffic (%)						
Lane Group Flow (vph)	918	0	0	834	744	1228
Turn Type	Prot			NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases						6
Detector Phase	4			2	6	6
Switch Phase						
Minimum Initial (s)	10.0			10.0	10.0	10.0
Minimum Split (s)	33.7			16.6	16.6	16.6
Total Split (s)	46.0			54.0	54.0	54.0
Total Split (%)	46.0%			54.0%	54.0%	54.0%
Yellow Time (s)	3.3			3.3	3.3	3.3
All-Red Time (s)	3.4			3.3	3.3	3.3
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.7			6.6	6.6	6.6
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max			C-Max	C-Max	C-Max
Act Effect Green (s)	39.3			47.4	47.4	47.4

Lanes, Volumes, Timings
6: Walkley Rd & Heron Rd

04/13/2023



Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Actuated g/C Ratio	0.39			0.47	0.47	0.47
v/c Ratio	0.71			0.52	0.46	0.64
Control Delay	29.1			19.8	18.9	2.7
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	29.1			19.8	18.9	2.7
LOS	C			B	B	A
Approach Delay	29.1			19.8	8.8	
Approach LOS	C			B	A	
Queue Length 50th (m)	75.4			57.3	49.3	0.0
Queue Length 95th (m)	97.3			74.2	64.5	11.3
Internal Link Dist (m)	441.1			369.2	335.8	
Turn Bay Length (m)						65.0
Base Capacity (vph)	1293			1606	1606	1911
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	0.71			0.52	0.46	0.64

Intersection Summary

Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	23 (23%), Referenced to phase 2:NET and 6:SWT, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.71
Intersection Signal Delay:	16.3
Intersection LOS:	B
Intersection Capacity Utilization	58.0%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 6: Walkley Rd & Heron Rd



Lanes, Volumes, Timings
7: Bank St & Wakley Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	395	415	96	119	404	400	159	1290	162	165	513	260
Future Volume (vph)	395	415	96	119	404	400	159	1290	162	165	513	260
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	60.0		50.0	78.0		0.0	208.0		70.0	156.0		0.0
Storage Lanes	2		1	2		0	1		1	2		1
Taper Length (m)	27.0			24.0			0.0			24.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.91	1.00	0.97	0.95	1.00
Ped Bike Factor	0.99		0.97	0.99	0.98		1.00		0.96	0.99		0.97
Frt			0.850		0.925				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3390	1517	3288	3071	0	1695	4871	1517	3288	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3244	3390	1476	3254	3071	0	1687	4871	1460	3272	3390	1470
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			151		172				215			289
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		154.1			197.3			245.1			260.6	
Travel Time (s)		11.1			14.2			17.6			18.8	
Confl. Peds. (#/hr)	26		11	11		26	8		17	17		8
Confl. Bikes (#/hr)			5			2			5			10
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	439	461	107	132	449	444	177	1433	180	183	570	289
Shared Lane Traffic (%)												
Lane Group Flow (vph)	439	461	107	132	893	0	177	1433	180	183	570	289
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	29.0	29.0	7.0	29.0		7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	13.8	39.7	39.7	13.8	39.7		13.4	33.4	33.4	13.4	33.4	33.4
Total Split (s)	23.0	46.6	46.6	16.1	39.7		19.9	43.5	43.5	13.8	37.4	37.4
Total Split (%)	19.2%	38.8%	38.8%	13.4%	33.1%		16.6%	36.3%	36.3%	11.5%	31.2%	31.2%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.4	3.4	3.5	3.4		3.1	3.1	3.1	3.1	3.1	3.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.7	6.7	6.8	6.7		6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	16.2	39.7	39.7	8.8	32.4		13.7	37.2	37.2	7.9	31.4	31.4

Lanes, Volumes, Timings
7: Bank St & Walkley Rd

04/13/2023

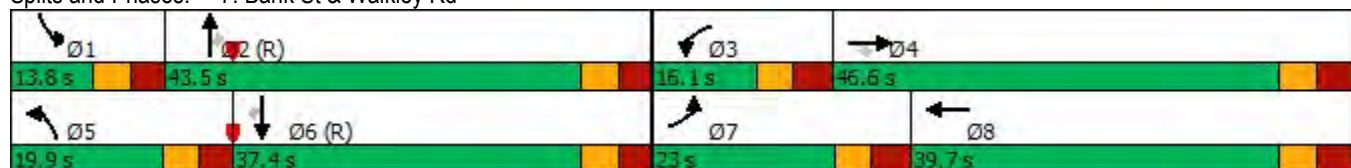


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.14	0.33	0.33	0.07	0.27		0.11	0.31	0.31	0.07	0.26	0.26
v/c Ratio	0.99	0.41	0.18	0.55	0.94		0.92	0.95	0.30	0.85	0.64	0.48
Control Delay	92.6	32.4	2.2	62.4	51.9		99.6	54.7	3.4	87.2	53.4	16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.6	32.4	2.2	62.4	51.9		99.6	54.7	3.4	87.2	53.4	16.2
LOS	F	C	A	E	D		F	D	A	F	D	B
Approach Delay		55.4			53.3			54.0			49.0	
Approach LOS		E			D			D			D	
Queue Length 50th (m)	53.9	44.0	0.0	15.6	90.0		42.0	120.7	0.0	23.0	66.7	18.8
Queue Length 95th (m)	#86.6	58.6	4.6	25.8	#128.4		#84.1	#151.5	9.5	m#43.4	85.4	31.5
Internal Link Dist (m)		130.1			173.3			221.1			236.6	
Turn Bay Length (m)	60.0		50.0	78.0			208.0		70.0	156.0		
Base Capacity (vph)	443	1129	592	254	969		193	1509	600	216	887	598
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.41	0.18	0.52	0.92		0.92	0.95	0.30	0.85	0.64	0.48

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 79 (66%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 53.1 Intersection LOS: D
 Intersection Capacity Utilization 93.1% ICU Level of Service F
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Bank St & Walkley Rd



Lanes, Volumes, Timings
8: Walkley Rd & Baycrest Dr

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	640	11	9	663	135	26	23	28	159	7	90
Future Volume (vph)	60	640	11	9	663	135	26	23	28	159	7	90
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	50.0		0.0	33.0		0.0	0.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	22.0			27.0			2.5			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	0.99			0.99		0.98	0.98	
Frt		0.998			0.975			0.951			0.861	
Flt Protected	0.950			0.950				0.983		0.950		
Satd. Flow (prot)	1530	3257	0	1530	3191	0	0	1682	0	1586	1536	0
Flt Permitted	0.288			0.360				0.874		0.701		
Satd. Flow (perm)	462	3257	0	576	3191	0	0	1492	0	1150	1536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			45			31			100	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		360.2			304.5			74.0			276.3	
Travel Time (s)		25.9			21.9			5.3			19.9	
Confl. Peds. (#/hr)	9		12	12		9	11		23	23		11
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	6%	0%	13%	4%	10%	0%	0%	0%	9%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	67	711	12	10	737	150	29	26	31	177	8	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	723	0	10	887	0	0	86	0	177	108	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.9	25.9		25.9	25.9		31.1	31.1		31.1	31.1	
Total Split (s)	38.0	38.0		38.0	38.0		32.0	32.0		32.0	32.0	
Total Split (%)	54.3%	54.3%		54.3%	54.3%		45.7%	45.7%		45.7%	45.7%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.8	2.8		2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		5.9	5.9			6.1		6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	41.3	41.3		41.3	41.3			16.7		16.7	16.7	

Lanes, Volumes, Timings
8: Walkley Rd & Baycrest Dr

04/13/2023

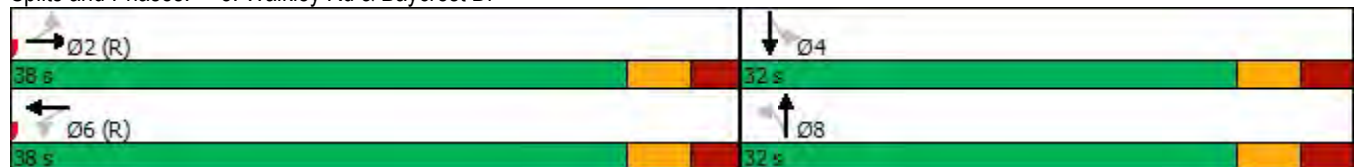


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.59	0.59		0.59	0.59			0.24		0.24	0.24	
v/c Ratio	0.25	0.38		0.03	0.47			0.23		0.65	0.24	
Control Delay	12.3	9.3		8.9	9.7			14.6		34.1	6.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	12.3	9.3		8.9	9.7			14.6		34.1	6.3	
LOS	B	A		A	A			B		C	A	
Approach Delay		9.5			9.7			14.6			23.6	
Approach LOS		A			A			B			C	
Queue Length 50th (m)	3.7	22.6		0.5	28.2			5.8		21.2	0.8	
Queue Length 95th (m)	14.3	45.0		3.0	56.1			13.3		33.6	9.6	
Internal Link Dist (m)		336.2			280.5			50.0			252.3	
Turn Bay Length (m)	50.0			33.0						20.0		
Base Capacity (vph)	272	1924		340	1903			571		425	631	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.25	0.38		0.03	0.47			0.15		0.42	0.17	

Intersection Summary

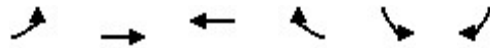
Area Type:	Other
Cycle Length:	70
Actuated Cycle Length:	70
Offset:	17 (24%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.65
Intersection Signal Delay:	11.8
Intersection LOS:	B
Intersection Capacity Utilization	64.8%
ICU Level of Service	C
Analysis Period (min)	15

Splits and Phases: 8: Walkley Rd & Baycrest Dr



Lanes, Volumes, Timings
29: Heron Rd & RIRO Access

04/13/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Volume (vph)	0	954	1224	47	0	69
Future Volume (vph)	0	954	1224	47	0	69
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	0.0
Storage Lanes	0			0	0	1
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						
Frt			0.994			0.865
Flt Protected						
Satd. Flow (prot)	0	3390	3370	0	0	1543
Flt Permitted						
Satd. Flow (perm)	0	3390	3370	0	0	1543
Link Speed (k/h)		50	50		50	
Link Distance (m)		169.5	144.9		73.5	
Travel Time (s)		12.2	10.4		5.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	0	1060	1360	52	0	77
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1060	1412	0	0	77
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	48.5%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings

1: Bank St & Heron Rd

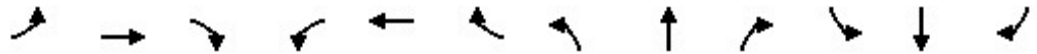
04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	219	1028	509	88	1060	195	428	565	57	309	919	143
Future Volume (vph)	219	1028	509	88	1060	195	428	565	57	309	919	143
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	73.0		85.0	50.0		70.0	110.0		0.0	70.0		0.0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (m)	20.0			30.0			0.0			0.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.97			0.97	0.99	1.00		0.99	1.00	
Frt			0.850			0.850		0.986			0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	3357	1446	1662	3293	1473	3225	3268	0	1712	3172	0
Flt Permitted	0.093			0.103			0.950			0.950		
Satd. Flow (perm)	168	3357	1402	180	3293	1436	3206	3268	0	1692	3172	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			323			175		8			14	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		381.8			492.5			121.2			274.8	
Travel Time (s)		27.5			35.5			8.7			19.8	
Confl. Peds. (#/hr)	8		13	13		8	12		20	20		12
Confl. Bikes (#/hr)			1			3			3			9
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	3%	7%	4%	5%	5%	4%	3%	13%	1%	7%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	243	1142	566	98	1178	217	476	628	63	343	1021	159
Shared Lane Traffic (%)												
Lane Group Flow (vph)	243	1142	566	98	1178	217	476	691	0	343	1180	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	5.0	10.0	10.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	13.5	34.4	34.4	9.5	32.5	32.5	13.5	32.4		13.5	32.4	
Total Split (s)	16.0	49.5	49.5	9.5	43.0	43.0	22.0	38.8		32.2	49.0	
Total Split (%)	12.3%	38.1%	38.1%	7.3%	33.1%	33.1%	16.9%	29.8%		24.8%	37.7%	
Yellow Time (s)	3.3	3.3	3.3	3.5	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	3.2	3.1	3.1	1.0	1.0	1.0	3.2	3.1		3.2	3.1	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.4	6.4	4.5	4.3	4.3	6.5	6.4		6.5	6.4	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effect Green (s)	52.5	43.1	43.1	43.5	38.7	38.7	15.5	32.4		25.7	42.6	

Lanes, Volumes, Timings

1: Bank St & Heron Rd

04/13/2023

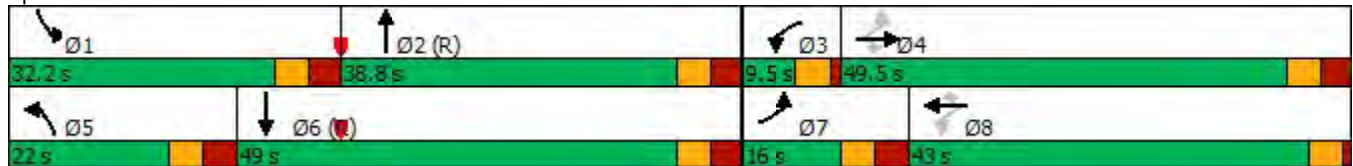


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.40	0.33	0.33	0.33	0.30	0.30	0.12	0.25		0.20	0.33	
v/c Ratio	1.35	1.03	0.83	0.84	1.20	0.39	1.24	0.84		1.01	1.13	
Control Delay	217.1	76.8	28.6	59.3	115.5	2.1	166.0	50.3		104.2	109.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	217.1	76.8	28.6	59.3	115.5	2.1	166.0	50.3		104.2	109.2	
LOS	F	E	C	E	F	A	F	D		F	F	
Approach Delay	80.3			95.3			97.5			108.0		
Approach LOS	F			F			F			F		
Queue Length 50th (m)	~66.5	~164.0	62.8	11.2	~192.8	6.1	~79.8	91.5		~90.5	~182.8	
Queue Length 95th (m)	#119.0	#206.0	#129.6	m12.0	m#195.1	m6.2	m#96.2	m101.0		#151.0	#225.2	
Internal Link Dist (m)	357.8			468.5			97.2			250.8		
Turn Bay Length (m)	73.0		85.0	50.0		70.0	110.0			70.0		
Base Capacity (vph)	180	1112	680	117	980	550	384	820		338	1048	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	1.35	1.03	0.83	0.84	1.20	0.39	1.24	0.84		1.01	1.13	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.35
 Intersection Signal Delay: 94.1 Intersection LOS: F
 Intersection Capacity Utilization 108.2% ICU Level of Service G
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Bank St & Heron Rd



Lanes, Volumes, Timings
2: Alta Vista Dr & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	151	1187	42	116	1144	212	23	226	128	237	464	150
Future Volume (vph)	151	1187	42	116	1144	212	23	226	128	237	464	150
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	65.0		0.0	57.0		85.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	30.0			24.0			2.5			48.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.96	0.99		0.98		0.77	0.99	0.93			0.99	
Frt		0.995				0.850		0.946			0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	3262	0	1695	3293	1459	1601	1568	0	1631	1707	0
Flt Permitted	0.950			0.950			0.137			0.120		
Satd. Flow (perm)	1648	3262	0	1657	3293	1116	229	1568	0	206	1707	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				196		20			14	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		492.5			657.5			201.9			270.3	
Travel Time (s)		35.5			47.3			14.5			19.5	
Confl. Peds. (#/hr)	54		37	37		54	21		110	110		21
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	5%	1%	2%	5%	6%	8%	2%	3%	6%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	168	1319	47	129	1271	236	26	251	142	263	516	167
Shared Lane Traffic (%)												
Lane Group Flow (vph)	168	1366	0	129	1271	236	26	393	0	263	683	0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases						6	8			4		
Detector Phase	5	2		1	6	6	8	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	10.0	10.0		7.0	10.0	
Minimum Split (s)	12.4	23.4		12.4	23.4	23.4	29.9	29.9		11.5	29.9	
Total Split (s)	18.6	59.0		16.0	56.4	56.4	35.0	35.0		20.0	55.0	
Total Split (%)	14.3%	45.4%		12.3%	43.4%	43.4%	26.9%	26.9%		15.4%	42.3%	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.1	2.1		2.1	2.1	2.1	2.6	2.6		1.0	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.4	5.4		5.4	5.4	5.4	5.9	5.9		4.3	5.9	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes		
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max		None	Max	
Act Effect Green (s)	13.2	53.6		10.6	51.0	51.0	29.1	29.1		50.7	49.1	

Lanes, Volumes, Timings
2: Alta Vista Dr & Heron Rd

04/13/2023

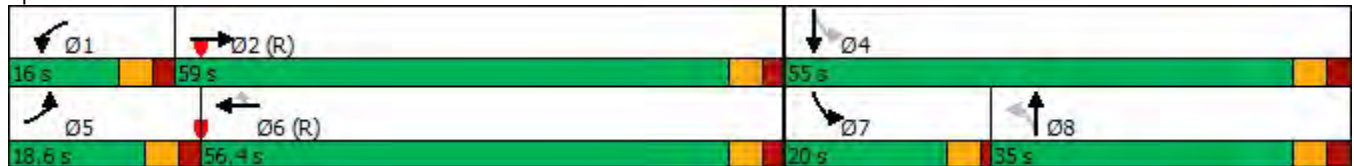


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.10	0.41		0.08	0.39	0.39	0.22	0.22		0.39	0.38	
v/c Ratio	0.97	1.01		0.93	0.98	0.42	0.51	1.07		1.04	1.05	
Control Delay	58.1	55.4		120.0	60.8	8.5	80.2	113.2		103.2	86.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	58.1	55.4		120.0	60.8	8.5	80.2	113.2		103.2	86.6	
LOS	E	E		F	E	A	F	F		F	F	
Approach Delay		55.7			57.9			111.2			91.2	
Approach LOS		E			E			F			F	
Queue Length 50th (m)	43.3	~196.8		33.4	168.0	6.4	5.9	~107.6		~57.7	~187.5	
Queue Length 95th (m)	m42.8	m190.5		#71.8	#217.3	26.4	#19.9	#170.3		#111.7	#260.4	
Internal Link Dist (m)		468.5			633.5			177.9			246.3	
Turn Bay Length (m)	65.0			57.0		85.0				30.0		
Base Capacity (vph)	173	1346		138	1291	556	51	366		252	653	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.97	1.01		0.93	0.98	0.42	0.51	1.07		1.04	1.05	

Intersection Summary




















Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 6 (5%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.07
 Intersection Signal Delay: 69.0 Intersection LOS: E
 Intersection Capacity Utilization 106.0% ICU Level of Service G
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Alta Vista Dr & Heron Rd



Lanes, Volumes, Timings
3: Baycrest Dr & Heron Rd

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	1104	250	31	1252	14	163	11	32	61	16	63
Future Volume (vph)	125	1104	250	31	1252	14	163	11	32	61	16	63
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	43.0		0.0	55.0		0.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	70.0			25.0			2.5			0.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	0.98			1.00			0.97		0.99	0.96	
Frt		0.972			0.998			0.979			0.881	
Flt Protected	0.950			0.950				0.962		0.950		
Satd. Flow (prot)	1729	3190	0	1478	3286	0	0	1638	0	1729	1538	0
Flt Permitted	0.142			0.122				0.712		0.695		
Satd. Flow (perm)	258	3190	0	190	3286	0	0	1180	0	1258	1538	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		49			2			7			64	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		657.5			172.8			216.5			60.0	
Travel Time (s)		47.3			12.4			15.6			4.3	
Confl. Peds. (#/hr)	15		27	27		15	31		8	8		31
Confl. Bikes (#/hr)						1						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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	7%	17%	5%	0%	5%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	139	1227	278	34	1391	16	181	12	36	68	18	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	139	1505	0	34	1407	0	0	229	0	68	88	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	29.7	29.7		29.7	29.7		35.0	35.0		35.0	35.0	
Total Split (s)	85.0	85.0		85.0	85.0		35.0	35.0		35.0	35.0	
Total Split (%)	70.8%	70.8%		70.8%	70.8%		29.2%	29.2%		29.2%	29.2%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.4	1.4		1.4	1.4		2.7	2.7		2.7	2.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	4.7	4.7		4.7	4.7			6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	83.0	83.0		83.0	83.0			26.3		26.3	26.3	

Lanes, Volumes, Timings
 3: Baycrest Dr & Heron Rd

04/13/2023

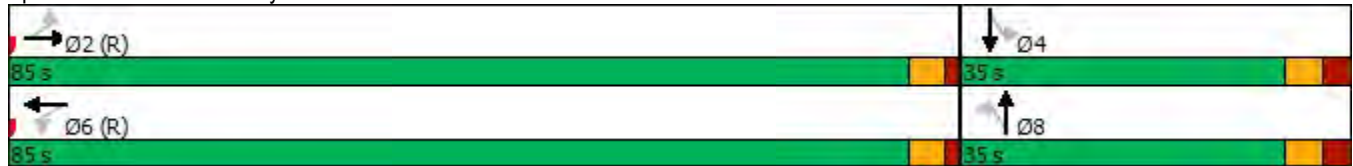


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.69	0.69		0.69	0.69			0.22		0.22	0.22	
v/c Ratio	0.78	0.68		0.26	0.62			0.87		0.25	0.23	
Control Delay	46.7	12.7		14.0	11.9			74.1		40.1	14.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	46.7	12.7		14.0	11.9			74.1		40.1	14.9	
LOS	D	B		B	B			E		D	B	
Approach Delay		15.6			11.9			74.1			25.9	
Approach LOS		B			B			E			C	
Queue Length 50th (m)	21.4	102.1		2.9	91.5			49.4		12.9	4.4	
Queue Length 95th (m)	#66.0	126.8		9.4	112.7			#89.0		25.6	17.6	
Internal Link Dist (m)		633.5			148.8			192.5			36.0	
Turn Bay Length (m)	43.0			55.0						30.0		
Base Capacity (vph)	178	2222		131	2274			290		304	420	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.78	0.68		0.26	0.62			0.79		0.22	0.21	

Intersection Summary





















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.87
 Intersection Signal Delay: 18.4
 Intersection LOS: B
 Intersection Capacity Utilization 83.8%
 ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Baycrest Dr & Heron Rd



Lanes, Volumes, Timings
4: Sandalwood Dr & Heron Rd

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	1082	58	44	1212	20	36	23	32	9	28	45
Future Volume (vph)	65	1082	58	44	1212	20	36	23	32	9	28	45
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	55.0		0.0	55.0		0.0	32.0		0.0	37.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	25.0			25.0			12.0			37.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		0.99	0.99		0.99	0.99	
Frt		0.992			0.998			0.913			0.907	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	3286	0	1601	3257	0	1478	1546	0	1729	1631	0
Flt Permitted	0.164			0.189			0.704			0.717		
Satd. Flow (perm)	298	3286	0	318	3257	0	1088	1546	0	1296	1631	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			4			36			50	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		141.6			354.9			199.1			258.5	
Travel Time (s)		10.2			25.6			14.3			18.6	
Confl. Peds. (#/hr)	7		7	7		7	5		5	5		5
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	27%	8%	6%	0%	17%	15%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	72	1202	64	49	1347	22	40	26	36	10	31	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	1266	0	49	1369	0	40	62	0	10	81	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		16.0	16.0		16.0	16.0	
Minimum Split (s)	24.3	24.3		24.3	24.3		24.1	24.1		24.1	24.1	
Total Split (s)	65.9	65.9		65.9	65.9		24.1	24.1		24.1	24.1	
Total Split (%)	73.2%	73.2%		73.2%	73.2%		26.8%	26.8%		26.8%	26.8%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.8	2.8		2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		6.1	6.1		6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	67.7	67.7		67.7	67.7		16.4	16.4		16.4	16.4	

Lanes, Volumes, Timings
 4: Sandalwood Dr & Heron Rd

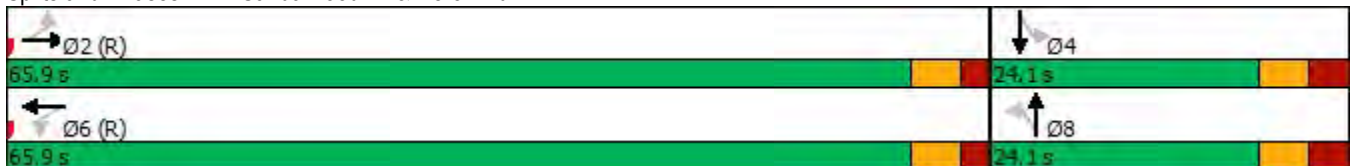
04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.75	0.75		0.75	0.75		0.18	0.18		0.18	0.18	
v/c Ratio	0.32	0.51		0.21	0.56		0.20	0.20		0.04	0.24	
Control Delay	10.8	7.0		13.2	16.7		33.9	18.1		30.4	16.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	10.8	7.0		13.2	16.7		33.9	18.1		30.4	16.8	
LOS	B	A		B	B		C	B		C	B	
Approach Delay		7.2			16.6			24.3			18.3	
Approach LOS		A			B			C			B	
Queue Length 50th (m)	4.3	48.3		6.1	123.6		6.0	3.8		1.5	4.5	
Queue Length 95th (m)	13.8	68.6		m8.8	145.8		14.5	14.0		5.6	16.1	
Internal Link Dist (m)		117.6			330.9			175.1			234.5	
Turn Bay Length (m)	55.0			55.0			32.0			37.0		
Base Capacity (vph)	224	2474		239	2450		217	338		259	366	
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	0.32	0.51		0.21	0.56		0.18	0.18		0.04	0.22	

Intersection Summary























Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 60 (67%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.56
 Intersection Signal Delay: 12.7
 Intersection LOS: B
 Intersection Capacity Utilization 71.9%
 ICU Level of Service C
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Sandalwood Dr & Heron Rd



Lanes, Volumes, Timings
5: Heron Rd & Jefferson St

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	1036	104	41	1148	47	78	85	78	40	53	47
Future Volume (vph)	83	1036	104	41	1148	47	78	85	78	40	53	47
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	58.0		62.0	55.0		0.0	18.0		15.0	0.0		0.0
Storage Lanes	1		1	1		0	1		1	0		0
Taper Length (m)	27.0			17.0			10.0			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97	1.00	1.00		1.00		0.98		0.99	
Frt			0.850		0.994				0.850		0.955	
Flt Protected	0.950			0.950			0.950				0.986	
Satd. Flow (prot)	1572	3357	1419	1383	3271	0	1679	1820	1381	0	1647	0
Flt Permitted	0.129			0.178			0.661				0.894	
Satd. Flow (perm)	213	3357	1379	259	3271	0	1164	1820	1357	0	1491	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116		7				68			29
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		354.9			465.1			176.5			237.6	
Travel Time (s)		25.6			33.5			12.7			17.1	
Confl. Peds. (#/hr)	6		4	4		6	5		5	5		5
Confl. Bikes (#/hr)			2						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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	3%	9%	25%	5%	4%	3%	0%	12%	4%	0%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	92	1151	116	46	1276	52	87	94	87	44	59	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	1151	116	46	1328	0	87	94	87	0	155	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2		2	6			8		8	4		
Detector Phase	2	2	2	6	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		27.0	27.0	27.0	27.0	27.0	
Minimum Split (s)	30.6	30.6	30.6	30.6	30.6		34.2	34.2	34.2	34.2	34.2	
Total Split (s)	55.8	55.8	55.8	55.8	55.8		34.2	34.2	34.2	34.2	34.2	
Total Split (%)	62.0%	62.0%	62.0%	62.0%	62.0%		38.0%	38.0%	38.0%	38.0%	38.0%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3		2.9	2.9	2.9	2.9	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.6	5.6	5.6	5.6	5.6		6.2	6.2	6.2	6.2	6.2	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max		None	None	None	None	None	
Act Effect Green (s)	51.0	51.0	51.0	51.0	51.0		27.2	27.2	27.2		27.2	

Lanes, Volumes, Timings
5: Heron Rd & Jefferson St

04/13/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.57	0.57	0.57	0.57	0.57		0.30	0.30	0.30		0.30	
v/c Ratio	0.77	0.61	0.14	0.32	0.72		0.25	0.17	0.19		0.33	
Control Delay	52.9	11.5	2.3	17.8	17.0		25.9	24.1	9.6		21.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	52.9	11.5	2.3	17.8	17.0		25.9	24.1	9.6		21.8	
LOS	D	B	A	B	B		C	C	A		C	
Approach Delay		13.5			17.0			20.0			21.8	
Approach LOS		B			B			B			C	
Queue Length 50th (m)	11.8	71.5	3.7	3.9	81.0		11.3	12.0	2.3		16.6	
Queue Length 95th (m)	#37.5	95.8	6.4	12.6	108.1		22.9	23.1	12.5		32.2	
Internal Link Dist (m)		330.9			441.1			152.5			213.6	
Turn Bay Length (m)	58.0		62.0	55.0			18.0		15.0			
Base Capacity (vph)	120	1902	831	146	1856		362	566	469		483	
Starvation Cap Reductn	0	0	0	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.77	0.61	0.14	0.32	0.72		0.24	0.17	0.19		0.32	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 10 (11%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.77
 Intersection Signal Delay: 16.0 Intersection LOS: B
 Intersection Capacity Utilization 90.5% ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 5: Heron Rd & Jefferson St



Lanes, Volumes, Timings

6: Walkley Rd & Heron Rd

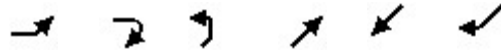
04/13/2023



Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	1141	13	0	696	1016	1222
Future Volume (vph)	1141	13	0	696	1016	1222
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			65.0
Storage Lanes	2	0	0			1
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	0.95	1.00	0.95	0.95	0.88
Ped Bike Factor						
Flt	0.998					0.850
Flt Protected	0.953					
Satd. Flow (prot)	3292	0	0	3390	3390	2669
Flt Permitted	0.953					
Satd. Flow (perm)	3292	0	0	3390	3390	2669
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	1					1358
Link Speed (k/h)	50			50	50	
Link Distance (m)	465.1			393.2	359.8	
Travel Time (s)	33.5			28.3	25.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	1268	14	0	773	1129	1358
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1282	0	0	773	1129	1358
Turn Type	Prot			NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases						6
Detector Phase	4			2	6	6
Switch Phase						
Minimum Initial (s)	10.0			10.0	10.0	10.0
Minimum Split (s)	33.7			16.6	16.6	16.6
Total Split (s)	57.0			53.0	53.0	53.0
Total Split (%)	51.8%			48.2%	48.2%	48.2%
Yellow Time (s)	3.3			3.3	3.3	3.3
All-Red Time (s)	3.4			3.3	3.3	3.3
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.7			6.6	6.6	6.6
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max			C-Max	C-Max	C-Max
Act Effect Green (s)	50.3			46.4	46.4	46.4

Lanes, Volumes, Timings
6: Walkley Rd & Heron Rd

04/13/2023

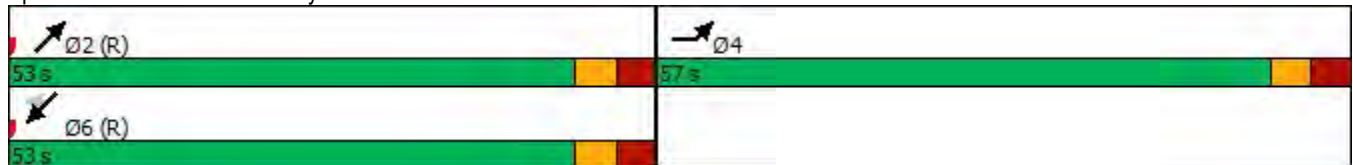


Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Actuated g/C Ratio	0.46			0.42	0.42	0.42
v/c Ratio	0.85			0.54	0.79	0.71
Control Delay	33.3			25.6	32.5	3.5
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	33.3			25.6	32.5	3.5
LOS	C			C	C	A
Approach Delay	33.3			25.6	16.7	
Approach LOS	C			C	B	
Queue Length 50th (m)	122.6			64.1	108.4	0.0
Queue Length 95th (m)	152.7			82.3	135.2	13.1
Internal Link Dist (m)	441.1			369.2	335.8	
Turn Bay Length (m)						65.0
Base Capacity (vph)	1505			1429	1429	1911
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	0.85			0.54	0.79	0.71

Intersection Summary
































Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	110
Offset:	53 (48%), Referenced to phase 2:NET and 6:SWT, Start of Green
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.85
Intersection Signal Delay:	22.9
Intersection LOS:	C
Intersection Capacity Utilization	75.5%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 6: Walkley Rd & Heron Rd



Lanes, Volumes, Timings
7: Bank St & Wakley Rd

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 			  		 	 	
Traffic Volume (vph)	291	436	243	282	509	276	207	810	227	262	1221	535
Future Volume (vph)	291	436	243	282	509	276	207	810	227	262	1221	535
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	60.0		50.0	78.0		0.0	208.0		70.0	156.0		0.0
Storage Lanes	2		1	2		0	1		1	2		1
Taper Length (m)	27.0			24.0			0.0			24.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.91	1.00	0.97	0.95	1.00
Ped Bike Factor	0.98		0.97	0.99	0.98		1.00		0.96	0.99		0.97
Frt			0.850		0.947				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3390	1517	3288	3161	0	1695	4871	1517	3288	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3238	3390	1473	3252	3161	0	1692	4871	1457	3250	3390	1472
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			245		75				252			234
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		154.1			197.3			245.1			260.6	
Travel Time (s)		11.1			14.2			17.6			18.8	
Confl. Peds. (#/hr)	26		11	11		26	8		17	17		8
Confl. Bikes (#/hr)			5			2			5			10
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	323	484	270	313	566	307	230	900	252	291	1357	594
Shared Lane Traffic (%)												
Lane Group Flow (vph)	323	484	270	313	873	0	230	900	252	291	1357	594
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	29.0	29.0	7.0	29.0		7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	13.8	39.7	39.7	13.8	39.7		13.4	33.4	33.4	13.4	33.4	33.4
Total Split (s)	18.0	40.7	40.7	17.0	39.7		21.0	47.6	47.6	24.7	51.3	51.3
Total Split (%)	13.8%	31.3%	31.3%	13.1%	30.5%		16.2%	36.6%	36.6%	19.0%	39.5%	39.5%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.4	3.4	3.5	3.4		3.1	3.1	3.1	3.1	3.1	3.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.7	6.7	6.8	6.7		6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	11.2	34.0	34.0	10.2	33.0		14.6	43.4	43.4	16.1	44.9	44.9

Lanes, Volumes, Timings
7: Bank St & Walkley Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.09	0.26	0.26	0.08	0.25		0.11	0.33	0.33	0.12	0.35	0.35
v/c Ratio	1.14	0.55	0.48	1.22	1.02		1.21	0.55	0.39	0.71	1.16	0.90
Control Delay	149.1	44.1	9.5	177.1	78.9		181.3	37.3	5.6	54.7	122.8	44.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	149.1	44.1	9.5	177.1	78.9		181.3	37.3	5.6	54.7	122.8	44.1
LOS	F	D	A	F	E		F	D	A	D	F	D
Approach Delay		66.9			104.8			55.5			93.1	
Approach LOS		E			F			E			F	
Queue Length 50th (m)	~49.7	56.4	4.8	~50.4	~116.3		~71.8	69.3	0.0	38.6	~220.6	112.8
Queue Length 95th (m)	#79.3	73.9	27.9	#79.5	#157.0		#122.3	85.1	18.4	m42.2m	#225.0	m126.3
Internal Link Dist (m)		130.1			173.3			221.1			236.6	
Turn Bay Length (m)	60.0		50.0	78.0			208.0		70.0	156.0		
Base Capacity (vph)	283	886	566	257	858		190	1626	654	462	1170	661
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.14	0.55	0.48	1.22	1.02		1.21	0.55	0.39	0.63	1.16	0.90

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.22
 Intersection Signal Delay: 81.8 Intersection LOS: F
 Intersection Capacity Utilization 104.9% ICU Level of Service G
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Bank St & Walkley Rd



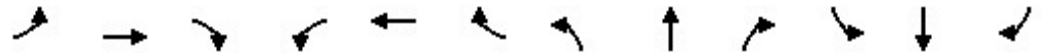
Lanes, Volumes, Timings
8: Walkley Rd & Baycrest Dr

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	783	20	24	890	185	18	14	21	81	22	66
Future Volume (vph)	96	783	20	24	890	185	18	14	21	81	22	66
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	50.0		0.0	33.0		0.0	0.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	22.0			27.0			2.5			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	0.99			0.98		0.98	0.98	
Fr _t		0.996			0.974			0.947			0.887	
Fl _t Protected	0.950			0.950				0.983		0.950		
Satd. Flow (prot)	1530	3250	0	1530	3186	0	0	1672	0	1586	1587	0
Fl _t Permitted	0.206			0.304				0.862		0.719		
Satd. Flow (perm)	331	3250	0	487	3186	0	0	1462	0	1176	1587	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			47			23			73	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		360.2			304.5			74.0			276.3	
Travel Time (s)		25.9			21.9			5.3			19.9	
Confl. Peds. (#/hr)	9		12	12		9	11		23	23		11
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	6%	0%	13%	4%	10%	0%	0%	0%	9%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	107	870	22	27	989	206	20	16	23	90	24	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	892	0	27	1195	0	0	59	0	90	97	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.9	25.9		25.9	25.9		31.1	31.1		31.1	31.1	
Total Split (s)	48.9	48.9		48.9	48.9		31.1	31.1		31.1	31.1	
Total Split (%)	61.1%	61.1%		61.1%	61.1%		38.9%	38.9%		38.9%	38.9%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.8	2.8		2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		5.9	5.9			6.1		6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	58.4	58.4		58.4	58.4			14.0		14.0	14.0	

Lanes, Volumes, Timings
8: Walkley Rd & Baycrest Dr

04/13/2023

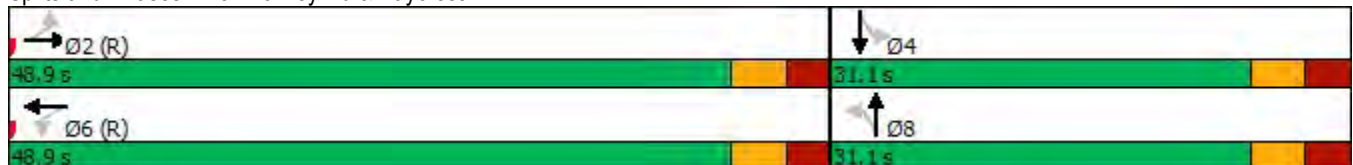


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.73	0.73		0.73	0.73			0.18		0.18	0.18	
v/c Ratio	0.44	0.38		0.08	0.51			0.21		0.44	0.29	
Control Delay	17.5	6.8		7.3	7.9			19.2		34.5	11.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	17.5	6.8		7.3	7.9			19.2		34.5	11.7	
LOS	B	A		A	A			B		C	B	
Approach Delay		7.9			7.9			19.2			22.6	
Approach LOS		A			A			B			C	
Queue Length 50th (m)	5.8	23.7		1.1	34.9			4.9		12.9	3.2	
Queue Length 95th (m)	#35.4	57.0		5.9	84.4			12.0		21.4	12.5	
Internal Link Dist (m)		336.2			280.5			50.0			252.3	
Turn Bay Length (m)	50.0			33.0						20.0		
Base Capacity (vph)	241	2373		355	2337			472		367	546	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.44	0.38		0.08	0.51			0.13		0.25	0.18	

Intersection Summary

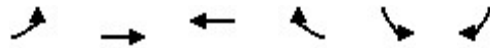
Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 9.3
 Intersection LOS: A
 Intersection Capacity Utilization 71.7%
 ICU Level of Service C
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 8: Walkley Rd & Baycrest Dr



Lanes, Volumes, Timings
29: Heron Rd & RIRO Access

04/13/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Volume (vph)	0	1197	1239	42	0	58
Future Volume (vph)	0	1197	1239	42	0	58
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	0.0
Storage Lanes	0			0	0	1
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						
Frt			0.995			0.865
Flt Protected						
Satd. Flow (prot)	0	3390	3373	0	0	1543
Flt Permitted						
Satd. Flow (perm)	0	3390	3373	0	0	1543
Link Speed (k/h)		50	50		50	
Link Distance (m)		172.8	141.6		61.9	
Travel Time (s)		12.4	10.2		4.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	0	1330	1377	47	0	64
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1330	1424	0	0	64
Sign Control		Free	Free		Stop	






























Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	48.0%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings

1: Bank St & Heron Rd

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 		 	 			 	
Traffic Volume (vph)	153	762	253	86	1082	271	523	647	31	183	346	100
Future Volume (vph)	153	762	253	86	1082	271	523	647	31	183	346	100
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	73.0		85.0	50.0		70.0	110.0		0.0	70.0		0.0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (m)	20.0			30.0			0.0			0.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.97	0.99		0.98	0.99	1.00		0.99	0.99	
Frt			0.850			0.850		0.993			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	3357	1446	1662	3293	1473	3225	3313	0	1712	3129	0
Flt Permitted	0.089			0.322			0.950			0.950		
Satd. Flow (perm)	160	3357	1404	561	3293	1438	3180	3313	0	1695	3129	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			281			220		4			29	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		381.8			492.5			121.2			274.8	
Travel Time (s)		27.5			35.5			8.7			19.8	
Confl. Peds. (#/hr)	8		13	13		8	12		20	20		12
Confl. Bikes (#/hr)			1			3			3			9
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	3%	7%	4%	5%	5%	4%	3%	13%	1%	7%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	170	847	281	96	1202	301	581	719	34	203	384	111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	170	847	281	96	1202	301	581	753	0	203	495	0
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Detector Phase	7	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	13.5	34.4	34.4	32.5	32.5	32.5	13.5	32.4		13.5	32.4	
Total Split (s)	14.3	59.3	59.3	45.0	45.0	45.0	27.0	38.7		22.0	33.7	
Total Split (%)	11.9%	49.4%	49.4%	37.5%	37.5%	37.5%	22.5%	32.3%		18.3%	28.1%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	3.2	3.1	3.1	1.0	1.0	1.0	3.2	3.1		3.2	3.1	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.4	6.4	4.3	4.3	4.3	6.5	6.4		6.5	6.4	
Lead/Lag	Lead			Lag	Lag	Lag	Lag	Lead		Lag	Lead	
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effect Green (s)	52.8	52.9	52.9	40.7	40.7	40.7	20.5	32.3		15.5	27.3	

Lanes, Volumes, Timings

1: Bank St & Heron Rd

04/13/2023

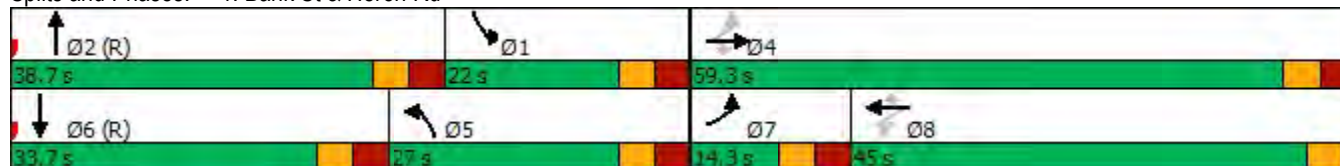


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.44	0.44	0.44	0.34	0.34	0.34	0.17	0.27		0.13	0.23	
v/c Ratio	0.99	0.57	0.36	0.51	1.08	0.48	1.06	0.84		0.92	0.67	
Control Delay	95.2	27.0	3.7	29.2	69.4	7.2	83.9	32.4		94.7	45.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	95.2	27.0	3.7	29.2	69.4	7.2	83.9	32.4		94.7	45.0	
LOS	F	C	A	C	E	A	F	C		F	D	
Approach Delay		30.9			55.3			54.8			59.5	
Approach LOS		C			E			D			E	
Queue Length 50th (m)	25.4	76.9	0.0	10.5	~160.2	13.2	~78.1	84.1		47.9	53.1	
Queue Length 95th (m)	#70.0	96.4	15.1	m11.0	m#150.7	m13.5	m#86.1	m90.7		#91.8	71.6	
Internal Link Dist (m)		357.8			468.5			97.2			250.8	
Turn Bay Length (m)	73.0		85.0	50.0		70.0	110.0			70.0		
Base Capacity (vph)	171	1479	776	190	1116	633	550	894		221	734	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	0.99	0.57	0.36	0.51	1.08	0.48	1.06	0.84		0.92	0.67	

Intersection Summary






















Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 52 (43%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.08
 Intersection Signal Delay: 49.3 Intersection LOS: D
 Intersection Capacity Utilization 97.7% ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Bank St & Heron Rd



Lanes, Volumes, Timings
2: Alta Vista Dr & Heron Rd

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	791	88	148	1219	257	68	275	182	183	267	127
Future Volume (vph)	103	791	88	148	1219	257	68	275	182	183	267	127
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	65.0		0.0	57.0		85.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	30.0			24.0			2.5			48.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97	0.98		0.96		0.78	0.98	0.93			0.99	
Frt		0.985				0.850		0.940			0.952	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	3205	0	1695	3293	1459	1601	1555	0	1631	1686	0
Flt Permitted	0.950			0.950			0.463			0.103		
Satd. Flow (perm)	1659	3205	0	1635	3293	1141	768	1555	0	177	1686	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				239		28			24	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		492.5			657.5			201.9			270.3	
Travel Time (s)		35.5			47.3			14.5			19.5	
Confl. Peds. (#/hr)	54		37	37		54	21		110	110		21
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	5%	1%	2%	5%	6%	8%	2%	3%	6%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	114	879	98	164	1354	286	76	306	202	203	297	141
Shared Lane Traffic (%)												
Lane Group Flow (vph)	114	977	0	164	1354	286	76	508	0	203	438	0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases						6	8			4		
Detector Phase	5	2		1	6	6	8	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	10.0	10.0		7.0	10.0	
Minimum Split (s)	12.4	23.4		12.4	23.4	23.4	29.9	29.9		11.5	29.9	
Total Split (s)	13.8	47.1		18.5	51.8	51.8	40.4	40.4		14.0	54.4	
Total Split (%)	11.5%	39.3%		15.4%	43.2%	43.2%	33.7%	33.7%		11.7%	45.3%	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.1	2.1		2.1	2.1	2.1	2.6	2.6		1.0	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.4	5.4		5.4	5.4	5.4	5.9	5.9		4.3	5.9	
Lead/Lag	Lag	Lag		Lead	Lead	Lead	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes		
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max		None	Max	
Act Effect Green (s)	8.4	41.8		13.0	46.4	46.4	34.5	34.5		50.1	48.5	

Lanes, Volumes, Timings
2: Alta Vista Dr & Heron Rd

04/13/2023

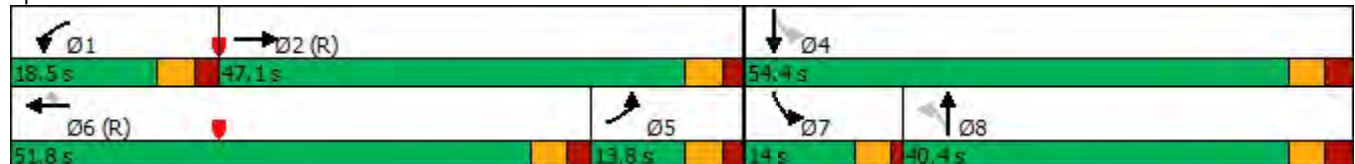


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.07	0.35		0.11	0.39	0.39	0.29	0.29		0.42	0.40	
v/c Ratio	0.96	0.87		0.89	1.06	0.49	0.35	1.09		1.06	0.63	
Control Delay	115.1	41.2		67.4	80.4	18.3	39.3	106.1		111.6	31.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	115.1	41.2		67.4	80.4	18.3	39.3	106.1		111.6	31.8	
LOS	F	D		E	F	B	D	F		F	C	
Approach Delay		48.9			69.4			97.4			57.1	
Approach LOS		D			E			F			E	
Queue Length 50th (m)	23.1	66.7		39.2	~191.3	32.5	14.2	~129.8		~37.6	77.0	
Queue Length 95th (m)	m#54.7	m#106.6		m44.7	m#219.7	m38.4	28.8	#195.6		#84.9	111.8	
Internal Link Dist (m)		468.5			633.5			177.9			246.3	
Turn Bay Length (m)	65.0			57.0		85.0				30.0		
Base Capacity (vph)	119	1122		185	1273	587	220	467		191	695	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.96	0.87		0.89	1.06	0.49	0.35	1.09		1.06	0.63	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 110
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.09
 Intersection Signal Delay: 66.0 Intersection LOS: E
 Intersection Capacity Utilization 99.3% ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Alta Vista Dr & Heron Rd



Lanes, Volumes, Timings
3: Baycrest Dr & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	795	209	27	1244	22	300	34	49	50	13	75
Future Volume (vph)	158	795	209	27	1244	22	300	34	49	50	13	75
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	43.0		0.0	55.0		0.0	60.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	70.0			25.0			2.5			0.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98		0.99	1.00		0.97	0.99		0.99	0.96	
Frt		0.969			0.997			0.912			0.872	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	3171	0	1478	3283	0	1647	1620	0	1729	1517	0
Flt Permitted	0.068			0.248			0.579			0.697		
Satd. Flow (perm)	124	3171	0	381	3283	0	972	1620	0	1257	1517	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		43			2			54				83
Link Speed (k/h)		50			50			50				50
Link Distance (m)		657.5			169.5			216.5				60.0
Travel Time (s)		47.3			12.2			15.6				4.3
Confl. Peds. (#/hr)	15		27	27		15	31		8	8		31
Confl. Bikes (#/hr)						1						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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	7%	17%	5%	0%	5%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	176	883	232	30	1382	24	333	38	54	56	14	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	176	1115	0	30	1406	0	333	92	0	56	97	0
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2			6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		5.0	20.0		5.0	20.0	
Minimum Split (s)	9.5	29.7		29.7	29.7		9.5	35.0		9.5	35.0	
Total Split (s)	14.0	70.0		56.0	56.0		15.0	40.4		9.6	35.0	
Total Split (%)	11.7%	58.3%		46.7%	46.7%		12.5%	33.7%		8.0%	29.2%	
Yellow Time (s)	3.5	3.3		3.3	3.3		3.5	3.3		3.5	3.3	
All-Red Time (s)	1.0	1.4		1.4	1.4		1.0	2.7		1.0	2.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7		4.7	4.7		4.5	6.0		4.5	6.0	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	72.7	72.5		55.4	55.4		38.3	29.1		28.4	21.8	

Lanes, Volumes, Timings
3: Baycrest Dr & Heron Rd

04/13/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.61	0.60		0.46	0.46		0.32	0.24		0.24	0.18	
v/c Ratio	0.72	0.58		0.17	0.93		0.90	0.21		0.18	0.28	
Control Delay	34.8	30.5		23.6	42.5		65.3	18.1		29.6	13.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	34.8	30.5		23.6	42.5		65.3	18.1		29.6	13.2	
LOS	C	C		C	D		E	B		C	B	
Approach Delay		31.1			42.1			55.1			19.2	
Approach LOS		C			D			E			B	
Queue Length 50th (m)	32.1	89.2		4.1	160.5		68.3	7.3		9.5	2.8	
Queue Length 95th (m)	m37.9	m124.6		11.5	#224.3		#94.9	19.1		17.2	16.0	
Internal Link Dist (m)		633.5			145.5			192.5			36.0	
Turn Bay Length (m)	43.0			55.0			60.0			30.0		
Base Capacity (vph)	243	1932		175	1517		369	504		317	429	
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	0.58		0.17	0.93		0.90	0.18		0.18	0.23	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.93
 Intersection Signal Delay: 38.4 Intersection LOS: D
 Intersection Capacity Utilization 83.2% ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Baycrest Dr & Heron Rd



Lanes, Volumes, Timings
4: Sandalwood Dr & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	821	32	22	1134	17	67	14	36	8	14	72
Future Volume (vph)	43	821	32	22	1134	17	67	14	36	8	14	72
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	55.0		0.0	55.0		0.0	32.0		0.0	37.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	25.0			25.0			12.0			37.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		0.99	0.99		0.99	0.98	
Frt		0.994			0.998			0.893				0.875
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	3303	0	1601	3257	0	1478	1537	0	1729	1567	0
Flt Permitted	0.186			0.283			0.695			0.720		
Satd. Flow (perm)	338	3303	0	475	3257	0	1074	1537	0	1301	1567	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		9			3			40				77
Link Speed (k/h)		50			50			50				50
Link Distance (m)		144.9			354.9			199.1				258.5
Travel Time (s)		10.4			25.6			14.3				18.6
Confl. Peds. (#/hr)	7		7	7		7	5		5	5		5
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	27%	8%	6%	0%	17%	15%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	48	912	36	24	1260	19	74	16	40	9	16	80
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	948	0	24	1279	0	74	56	0	9	96	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		16.0	16.0		16.0	16.0	
Minimum Split (s)	24.3	24.3		24.3	24.3		24.1	24.1		24.1	24.1	
Total Split (s)	63.0	63.0		63.0	63.0		27.0	27.0		27.0	27.0	
Total Split (%)	70.0%	70.0%		70.0%	70.0%		30.0%	30.0%		30.0%	30.0%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.8	2.8		2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		6.1	6.1		6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	67.7	67.7		67.7	67.7		16.4	16.4		16.4	16.4	

Lanes, Volumes, Timings
4: Sandalwood Dr & Heron Rd

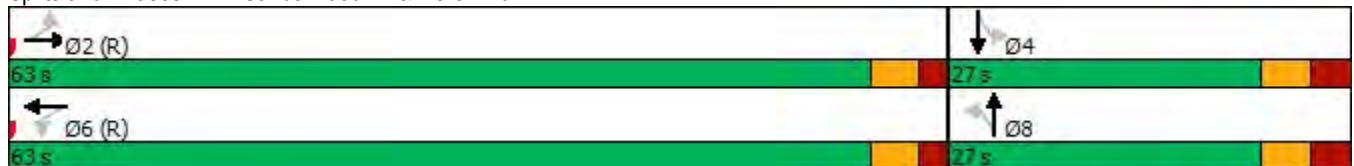
04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.75	0.75		0.75	0.75		0.18	0.18		0.18	0.18	
v/c Ratio	0.19	0.38		0.07	0.52		0.38	0.18		0.04	0.28	
Control Delay	7.4	5.8		6.8	7.1		38.6	15.7		30.4	12.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	7.4	5.8		6.8	7.1		38.6	15.7		30.4	12.9	
LOS	A	A		A	A		D	B		C	B	
Approach Delay		5.9			7.1			28.7			14.4	
Approach LOS		A			A			C			B	
Queue Length 50th (m)	2.5	31.2		1.1	36.3		11.4	2.3		1.3	2.8	
Queue Length 95th (m)	7.9	44.8		m3.0	69.6		23.8	11.9		5.2	15.0	
Internal Link Dist (m)		120.9			330.9			175.1			234.5	
Turn Bay Length (m)	55.0			55.0			32.0			37.0		
Base Capacity (vph)	254	2486		357	2450		249	387		302	423	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.19	0.38		0.07	0.52		0.30	0.14		0.03	0.23	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.52
 Intersection Signal Delay: 8.0 Intersection LOS: A
 Intersection Capacity Utilization 60.8% ICU Level of Service B
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Sandalwood Dr & Heron Rd



Lanes, Volumes, Timings
5: Heron Rd & Jefferson St

04/13/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	778	48	13	1065	27	31	31	27	30	26	78
Future Volume (vph)	34	778	48	13	1065	27	31	31	27	30	26	78
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	58.0		62.0	55.0		0.0	18.0		15.0	0.0		0.0
Storage Lanes	1		1	1		0	1		1	0		0
Taper Length (m)	27.0			17.0			10.0			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97	1.00	1.00		1.00		0.98		0.99	
Frt			0.850		0.996				0.850		0.921	
Flt Protected	0.950			0.950			0.950				0.989	
Satd. Flow (prot)	1572	3357	1419	1383	3278	0	1679	1820	1381	0	1564	0
Flt Permitted	0.160			0.279			0.667				0.934	
Satd. Flow (perm)	264	3357	1379	405	3278	0	1174	1820	1357	0	1475	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			53		4				32			59
Link Speed (k/h)		50			50			50				50
Link Distance (m)		354.9			465.1			176.5				237.6
Travel Time (s)		25.6			33.5			12.7				17.1
Confl. Peds. (#/hr)	6		4	4		6	5		5	5		5
Confl. Bikes (#/hr)			2						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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	3%	9%	25%	5%	4%	3%	0%	12%	4%	0%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	38	864	53	14	1183	30	34	34	30	33	29	87
Shared Lane Traffic (%)												
Lane Group Flow (vph)	38	864	53	14	1213	0	34	34	30	0	149	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2		2	6			8		8	4		
Detector Phase	2	2	2	6	6		8	8	8	4		4
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		27.0	27.0	27.0	27.0	27.0	
Minimum Split (s)	30.6	30.6	30.6	30.6	30.6		34.2	34.2	34.2	34.2	34.2	
Total Split (s)	55.0	55.0	55.0	55.0	55.0		35.0	35.0	35.0	35.0	35.0	
Total Split (%)	61.1%	61.1%	61.1%	61.1%	61.1%		38.9%	38.9%	38.9%	38.9%	38.9%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3		2.9	2.9	2.9	2.9	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.6	5.6	5.6	5.6	5.6		6.2	6.2	6.2	6.2	6.2	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max		None	None	None	None	None	
Act Effect Green (s)	51.0	51.0	51.0	51.0	51.0		27.2	27.2	27.2		27.2	

Lanes, Volumes, Timings
5: Heron Rd & Jefferson St

04/13/2023

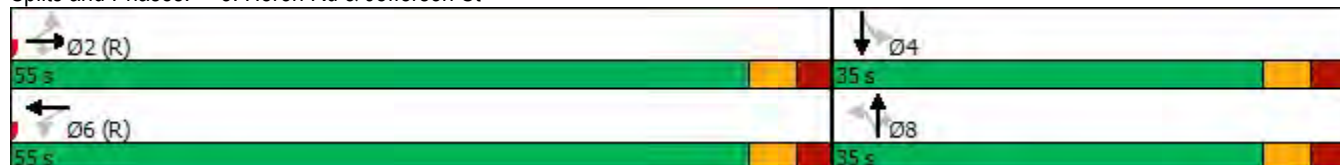


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.57	0.57	0.57	0.57	0.57		0.30	0.30	0.30		0.30	
v/c Ratio	0.26	0.45	0.07	0.06	0.65		0.10	0.06	0.07		0.31	
Control Delay	12.2	9.3	2.0	9.8	15.5		23.4	22.6	8.1		16.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	12.2	9.3	2.0	9.8	15.5		23.4	22.6	8.1		16.5	
LOS	B	A	A	A	B		C	C	A		B	
Approach Delay		9.0			15.5			18.5			16.5	
Approach LOS		A			B			B			B	
Queue Length 50th (m)	2.0	24.3	0.0	1.0	70.0		4.2	4.2	0.0		11.5	
Queue Length 95th (m)	5.1	30.6	2.4	3.9	93.6		11.0	10.7	5.6		26.0	
Internal Link Dist (m)		330.9			441.1			152.5			213.6	
Turn Bay Length (m)	58.0		62.0	55.0			18.0		15.0			
Base Capacity (vph)	149	1902	804	229	1859		375	582	456		512	
Starvation Cap Reductn	0	0	0	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.26	0.45	0.07	0.06	0.65		0.09	0.06	0.07		0.29	

Intersection Summary

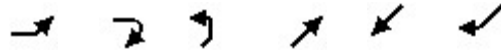
Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	10 (11%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.65
Intersection Signal Delay:	13.1
Intersection LOS:	B
Intersection Capacity Utilization:	83.0%
ICU Level of Service:	E
Analysis Period (min):	15

Splits and Phases: 5: Heron Rd & Jefferson St



Lanes, Volumes, Timings
6: Walkley Rd & Heron Rd

04/13/2023



Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations	↑↑			↑↑	↑↑	↑↑
Traffic Volume (vph)	796	31	0	751	670	1105
Future Volume (vph)	796	31	0	751	670	1105
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			65.0
Storage Lanes	2	0	0			1
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	0.95	1.00	0.95	0.95	0.88
Ped Bike Factor						
Frt	0.994					0.850
Flt Protected	0.954					
Satd. Flow (prot)	3283	0	0	3390	3390	2669
Flt Permitted	0.954					
Satd. Flow (perm)	3283	0	0	3390	3390	2669
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	5					1228
Link Speed (k/h)	50			50	50	
Link Distance (m)	465.1			393.2	359.8	
Travel Time (s)	33.5			28.3	25.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	884	34	0	834	744	1228
Shared Lane Traffic (%)						
Lane Group Flow (vph)	918	0	0	834	744	1228
Turn Type	Prot			NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases						6
Detector Phase	4			2	6	6
Switch Phase						
Minimum Initial (s)	10.0			10.0	10.0	10.0
Minimum Split (s)	33.7			16.6	16.6	16.6
Total Split (s)	46.0			54.0	54.0	54.0
Total Split (%)	46.0%			54.0%	54.0%	54.0%
Yellow Time (s)	3.3			3.3	3.3	3.3
All-Red Time (s)	3.4			3.3	3.3	3.3
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.7			6.6	6.6	6.6
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max			C-Max	C-Max	C-Max
Act Effect Green (s)	39.3			47.4	47.4	47.4

Lanes, Volumes, Timings
6: Walkley Rd & Heron Rd

04/13/2023



Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Actuated g/C Ratio	0.39			0.47	0.47	0.47
v/c Ratio	0.71			0.52	0.46	0.64
Control Delay	29.1			19.8	18.9	2.7
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	29.1			19.8	18.9	2.7
LOS	C			B	B	A
Approach Delay	29.1			19.8	8.8	
Approach LOS	C			B	A	
Queue Length 50th (m)	75.4			57.3	49.3	0.0
Queue Length 95th (m)	97.3			74.2	64.5	11.3
Internal Link Dist (m)	441.1			369.2	335.8	
Turn Bay Length (m)						65.0
Base Capacity (vph)	1293			1606	1606	1911
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	0.71			0.52	0.46	0.64

Intersection Summary
































Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	23 (23%), Referenced to phase 2:NET and 6:SWT, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.71
Intersection Signal Delay:	16.3
Intersection LOS:	B
Intersection Capacity Utilization	58.0%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 6: Walkley Rd & Heron Rd



Lanes, Volumes, Timings
7: Bank St & Wakley Rd

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 			  		 	 	
Traffic Volume (vph)	395	415	96	119	404	400	159	1290	162	165	513	260
Future Volume (vph)	395	415	96	119	404	400	159	1290	162	165	513	260
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	60.0		50.0	78.0		0.0	208.0		70.0	156.0		0.0
Storage Lanes	2		1	2		0	1		1	2		1
Taper Length (m)	27.0			24.0			0.0			24.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.91	1.00	0.97	0.95	1.00
Ped Bike Factor	0.99		0.97	0.99	0.98		1.00		0.96	0.99		0.97
Frt			0.850		0.925				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3390	1517	3288	3071	0	1695	4871	1517	3288	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3244	3390	1476	3254	3071	0	1687	4871	1460	3272	3390	1470
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			151		172				215			289
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		154.1			197.3			245.1			260.6	
Travel Time (s)		11.1			14.2			17.6			18.8	
Confl. Peds. (#/hr)	26		11	11		26	8		17	17		8
Confl. Bikes (#/hr)			5			2			5			10
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	439	461	107	132	449	444	177	1433	180	183	570	289
Shared Lane Traffic (%)												
Lane Group Flow (vph)	439	461	107	132	893	0	177	1433	180	183	570	289
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	29.0	29.0	7.0	29.0		7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	13.8	39.7	39.7	13.8	39.7		13.4	33.4	33.4	13.4	33.4	33.4
Total Split (s)	23.0	46.6	46.6	16.1	39.7		19.9	43.5	43.5	13.8	37.4	37.4
Total Split (%)	19.2%	38.8%	38.8%	13.4%	33.1%		16.6%	36.3%	36.3%	11.5%	31.2%	31.2%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.4	3.4	3.5	3.4		3.1	3.1	3.1	3.1	3.1	3.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.7	6.7	6.8	6.7		6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	16.2	39.7	39.7	8.8	32.4		13.7	37.2	37.2	7.9	31.4	31.4

Lanes, Volumes, Timings
7: Bank St & Walkley Rd

04/13/2023

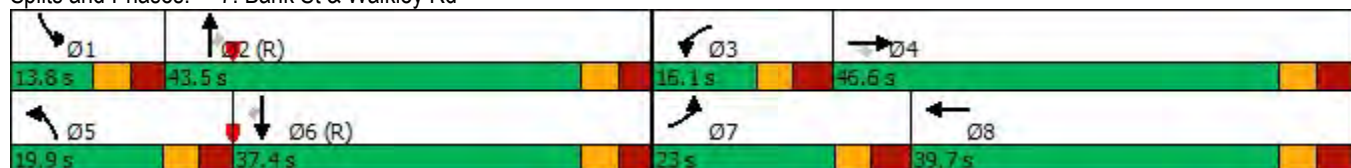


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.14	0.33	0.33	0.07	0.27		0.11	0.31	0.31	0.07	0.26	0.26
v/c Ratio	0.99	0.41	0.18	0.55	0.94		0.92	0.95	0.30	0.85	0.64	0.48
Control Delay	92.6	32.4	2.2	62.4	51.9		99.6	54.7	3.4	87.2	53.4	16.2
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	92.6	32.4	2.2	62.4	51.9		99.6	54.7	3.4	87.2	53.4	16.2
LOS	F	C	A	E	D		F	D	A	F	D	B
Approach Delay		55.4			53.3			54.0			49.0	
Approach LOS		E			D			D			D	
Queue Length 50th (m)	53.9	44.0	0.0	15.6	90.0		42.0	120.7	0.0	23.0	66.7	18.8
Queue Length 95th (m)	#86.6	58.6	4.6	25.8	#128.4		#84.1	#151.5	9.5	m#43.4	85.4	31.5
Internal Link Dist (m)		130.1			173.3			221.1			236.6	
Turn Bay Length (m)	60.0		50.0	78.0			208.0		70.0	156.0		
Base Capacity (vph)	443	1129	592	254	969		193	1509	600	216	887	598
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.41	0.18	0.52	0.92		0.92	0.95	0.30	0.85	0.64	0.48

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 79 (66%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 115
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.99
 Intersection Signal Delay: 53.1 Intersection LOS: D
 Intersection Capacity Utilization 93.1% ICU Level of Service F
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Bank St & Walkley Rd



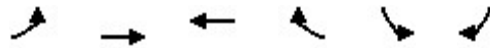
Lanes, Volumes, Timings
8: Walkley Rd & Baycrest Dr

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	640	11	9	663	135	26	23	28	159	7	90
Future Volume (vph)	60	640	11	9	663	135	26	23	28	159	7	90
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	50.0		0.0	33.0		0.0	0.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	22.0			27.0			2.5			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	0.99			0.99		0.98	0.98	
Frt		0.998			0.975			0.951			0.861	
Flt Protected	0.950			0.950				0.983		0.950		
Satd. Flow (prot)	1530	3257	0	1530	3191	0	0	1682	0	1586	1536	0
Flt Permitted	0.288			0.360				0.874		0.701		
Satd. Flow (perm)	462	3257	0	576	3191	0	0	1492	0	1150	1536	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			45			31			100	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		360.2			304.5			74.0			276.3	
Travel Time (s)		25.9			21.9			5.3			19.9	
Confl. Peds. (#/hr)	9		12	12		9	11		23	23		11
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	6%	0%	13%	4%	10%	0%	0%	0%	9%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	67	711	12	10	737	150	29	26	31	177	8	100
Shared Lane Traffic (%)												
Lane Group Flow (vph)	67	723	0	10	887	0	0	86	0	177	108	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.9	25.9		25.9	25.9		31.1	31.1		31.1	31.1	
Total Split (s)	38.0	38.0		38.0	38.0		32.0	32.0		32.0	32.0	
Total Split (%)	54.3%	54.3%		54.3%	54.3%		45.7%	45.7%		45.7%	45.7%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.8	2.8		2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		5.9	5.9			6.1		6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	41.3	41.3		41.3	41.3			16.7		16.7	16.7	

Lanes, Volumes, Timings
29: Heron Rd & RIRO Access

04/13/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Volume (vph)	0	954	1224	47	0	69
Future Volume (vph)	0	954	1224	47	0	69
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	0.0
Storage Lanes	0			0	0	1
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						
Frt			0.994			0.865
Flt Protected						
Satd. Flow (prot)	0	3390	3370	0	0	1543
Flt Permitted						
Satd. Flow (perm)	0	3390	3370	0	0	1543
Link Speed (k/h)		50	50		50	
Link Distance (m)		169.5	144.9		73.5	
Travel Time (s)		12.2	10.4		5.3	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	0	1060	1360	52	0	77
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1060	1412	0	0	77
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	48.5%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings

1: Bank St & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	219	1028	509	88	1060	195	428	565	57	309	919	143
Future Volume (vph)	219	1028	509	88	1060	195	428	565	57	309	919	143
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	73.0		85.0	50.0		70.0	110.0		0.0	70.0		0.0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (m)	20.0			30.0			0.0			0.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.97			0.97	0.99	1.00		0.99	1.00	
Frt			0.850			0.850		0.986			0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	3357	1446	1662	3293	1473	3225	3268	0	1712	3172	0
Flt Permitted	0.093			0.103			0.950			0.950		
Satd. Flow (perm)	168	3357	1402	180	3293	1436	3206	3268	0	1692	3172	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			323			175		8			14	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		381.8			492.5			121.2			274.8	
Travel Time (s)		27.5			35.5			8.7			19.8	
Confl. Peds. (#/hr)	8		13	13		8	12		20	20		12
Confl. Bikes (#/hr)			1			3			3			9
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	3%	7%	4%	5%	5%	4%	3%	13%	1%	7%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	243	1142	566	98	1178	217	476	628	63	343	1021	159
Shared Lane Traffic (%)												
Lane Group Flow (vph)	243	1142	566	98	1178	217	476	691	0	343	1180	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	5.0	10.0	10.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	13.5	34.4	34.4	9.5	32.5	32.5	13.5	32.4		13.5	32.4	
Total Split (s)	16.0	49.5	49.5	9.5	43.0	43.0	22.0	38.8		32.2	49.0	
Total Split (%)	12.3%	38.1%	38.1%	7.3%	33.1%	33.1%	16.9%	29.8%		24.8%	37.7%	
Yellow Time (s)	3.3	3.3	3.3	3.5	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	3.2	3.1	3.1	1.0	1.0	1.0	3.2	3.1		3.2	3.1	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.4	6.4	4.5	4.3	4.3	6.5	6.4		6.5	6.4	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effect Green (s)	52.5	43.1	43.1	43.5	38.7	38.7	15.5	32.4		25.7	42.6	

Lanes, Volumes, Timings
2: Alta Vista Dr & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	151	1187	42	116	1144	212	23	226	128	237	464	150
Future Volume (vph)	151	1187	42	116	1144	212	23	226	128	237	464	150
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	65.0		0.0	57.0		85.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	30.0			24.0			2.5			48.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.96	0.99		0.98		0.77	0.99	0.93			0.99	
Frt		0.995				0.850		0.946			0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	3262	0	1695	3293	1459	1601	1568	0	1631	1707	0
Flt Permitted	0.950			0.950			0.137			0.120		
Satd. Flow (perm)	1648	3262	0	1657	3293	1116	229	1568	0	206	1707	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				196		20			14	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		492.5			657.5			201.9			270.3	
Travel Time (s)		35.5			47.3			14.5			19.5	
Confl. Peds. (#/hr)	54		37	37		54	21		110	110		21
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	5%	1%	2%	5%	6%	8%	2%	3%	6%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	168	1319	47	129	1271	236	26	251	142	263	516	167
Shared Lane Traffic (%)												
Lane Group Flow (vph)	168	1366	0	129	1271	236	26	393	0	263	683	0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases						6	8			4		
Detector Phase	5	2		1	6	6	8	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	10.0	10.0		7.0	10.0	
Minimum Split (s)	12.4	23.4		12.4	23.4	23.4	29.9	29.9		11.5	29.9	
Total Split (s)	18.6	59.0		16.0	56.4	56.4	35.0	35.0		20.0	55.0	
Total Split (%)	14.3%	45.4%		12.3%	43.4%	43.4%	26.9%	26.9%		15.4%	42.3%	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.1	2.1		2.1	2.1	2.1	2.6	2.6		1.0	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.4	5.4		5.4	5.4	5.4	5.9	5.9		4.3	5.9	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes		
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max		None	Max	
Act Effect Green (s)	13.2	53.6		10.6	51.0	51.0	29.1	29.1		50.7	49.1	

Lanes, Volumes, Timings
2: Alta Vista Dr & Heron Rd

04/13/2023

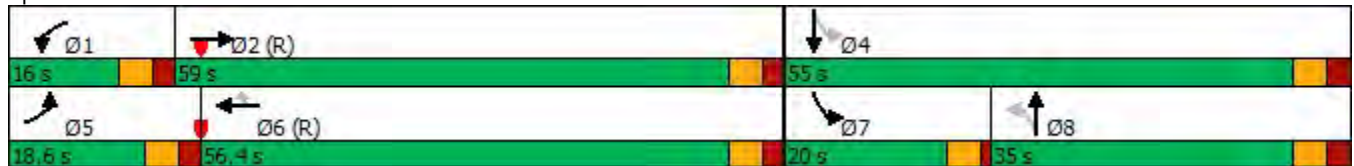


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.10	0.41		0.08	0.39	0.39	0.22	0.22		0.39	0.38	
v/c Ratio	0.97	1.01		0.93	0.98	0.42	0.51	1.07		1.04	1.05	
Control Delay	58.1	55.4		120.0	60.8	8.5	80.2	113.2		103.2	86.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	58.1	55.4		120.0	60.8	8.5	80.2	113.2		103.2	86.6	
LOS	E	E		F	E	A	F	F		F	F	
Approach Delay		55.7			57.9			111.2			91.2	
Approach LOS		E			E			F			F	
Queue Length 50th (m)	43.3	~196.8		33.4	168.0	6.4	5.9	~107.6		~57.7	~187.5	
Queue Length 95th (m)	m42.8	m190.5		#71.8	#217.3	26.4	#19.9	#170.3		#111.7	#260.4	
Internal Link Dist (m)		468.5			633.5			177.9			246.3	
Turn Bay Length (m)	65.0			57.0		85.0				30.0		
Base Capacity (vph)	173	1346		138	1291	556	51	366		252	653	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.97	1.01		0.93	0.98	0.42	0.51	1.07		1.04	1.05	

Intersection Summary





















Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 6 (5%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.07
 Intersection Signal Delay: 69.0 Intersection LOS: E
 Intersection Capacity Utilization 106.0% ICU Level of Service G
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Alta Vista Dr & Heron Rd























Lanes, Volumes, Timings
3: Baycrest Dr & Heron Rd

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	1104	250	31	1252	14	163	11	32	61	16	63
Future Volume (vph)	125	1104	250	31	1252	14	163	11	32	61	16	63
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	43.0		0.0	55.0		0.0	60.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	70.0			25.0			2.5			0.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	0.98			1.00		0.97	0.98		0.99	0.96	
Frt		0.972			0.998			0.887			0.881	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	3190	0	1478	3286	0	1647	1565	0	1729	1538	0
Flt Permitted	0.147			0.127			0.700			0.726		
Satd. Flow (perm)	267	3190	0	198	3286	0	1172	1565	0	1309	1538	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		49			2			36			64	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		657.5			172.8			216.5			60.0	
Travel Time (s)		47.3			12.4			15.6			4.3	
Confl. Peds. (#/hr)	15		27	27		15	31		8	8		31
Confl. Bikes (#/hr)						1						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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	7%	17%	5%	0%	5%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	139	1227	278	34	1391	16	181	12	36	68	18	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	139	1505	0	34	1407	0	181	48	0	68	88	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	29.7	29.7		29.7	29.7		35.0	35.0		35.0	35.0	
Total Split (s)	85.0	85.0		85.0	85.0		35.0	35.0		35.0	35.0	
Total Split (%)	70.8%	70.8%		70.8%	70.8%		29.2%	29.2%		29.2%	29.2%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.4	1.4		1.4	1.4		2.7	2.7		2.7	2.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.7	4.7		4.7	4.7		6.0	6.0		6.0	6.0	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	85.3	85.3		85.3	85.3		24.0	24.0		24.0	24.0	























Lanes, Volumes, Timings
4: Sandalwood Dr & Heron Rd

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	1082	58	44	1212	20	36	23	32	9	28	45
Future Volume (vph)	65	1082	58	44	1212	20	36	23	32	9	28	45
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	55.0		0.0	55.0		0.0	32.0		0.0	37.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	25.0			25.0			12.0			37.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		0.99	0.99		0.99	0.99	
Frt		0.992			0.998			0.913				0.907
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	3286	0	1601	3257	0	1478	1546	0	1729	1631	0
Flt Permitted	0.164			0.189			0.704			0.717		
Satd. Flow (perm)	298	3286	0	318	3257	0	1088	1546	0	1296	1631	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			4			36			50	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		141.6			354.9			199.1			258.5	
Travel Time (s)		10.2			25.6			14.3			18.6	
Confl. Peds. (#/hr)	7		7	7		7	5		5	5		5
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	27%	8%	6%	0%	17%	15%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	72	1202	64	49	1347	22	40	26	36	10	31	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	72	1266	0	49	1369	0	40	62	0	10	81	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		16.0	16.0		16.0	16.0	
Minimum Split (s)	24.3	24.3		24.3	24.3		24.1	24.1		24.1	24.1	
Total Split (s)	65.9	65.9		65.9	65.9		24.1	24.1		24.1	24.1	
Total Split (%)	73.2%	73.2%		73.2%	73.2%		26.8%	26.8%		26.8%	26.8%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.8	2.8		2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		6.1	6.1		6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	67.7	67.7		67.7	67.7		16.4	16.4		16.4	16.4	

Lanes, Volumes, Timings
5: Heron Rd & Jefferson St

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	83	1036	104	41	1148	47	78	85	78	40	53	47
Future Volume (vph)	83	1036	104	41	1148	47	78	85	78	40	53	47
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	58.0		62.0	55.0		0.0	18.0		15.0	0.0		0.0
Storage Lanes	1		1	1		0	1		1	0		0
Taper Length (m)	27.0			17.0			10.0			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97	1.00	1.00		1.00		0.98		0.99	
Frt			0.850		0.994				0.850		0.955	
Flt Protected	0.950			0.950			0.950				0.986	
Satd. Flow (prot)	1572	3357	1419	1383	3271	0	1679	1820	1381	0	1647	0
Flt Permitted	0.129			0.178			0.661				0.894	
Satd. Flow (perm)	213	3357	1379	259	3271	0	1164	1820	1357	0	1491	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			116		7				68			29
Link Speed (k/h)		50			50			50				50
Link Distance (m)		354.9			465.1			176.5				237.6
Travel Time (s)		25.6			33.5			12.7				17.1
Confl. Peds. (#/hr)	6		4	4		6	5		5	5		5
Confl. Bikes (#/hr)			2						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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	3%	9%	25%	5%	4%	3%	0%	12%	4%	0%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	92	1151	116	46	1276	52	87	94	87	44	59	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	92	1151	116	46	1328	0	87	94	87	0	155	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2		2	6			8		8	4		
Detector Phase	2	2	2	6	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		27.0	27.0	27.0	27.0	27.0	
Minimum Split (s)	30.6	30.6	30.6	30.6	30.6		34.2	34.2	34.2	34.2	34.2	
Total Split (s)	55.8	55.8	55.8	55.8	55.8		34.2	34.2	34.2	34.2	34.2	
Total Split (%)	62.0%	62.0%	62.0%	62.0%	62.0%		38.0%	38.0%	38.0%	38.0%	38.0%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3		2.9	2.9	2.9	2.9	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.6	5.6	5.6	5.6	5.6		6.2	6.2	6.2	6.2	6.2	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max		None	None	None	None	None	
Act Effect Green (s)	51.0	51.0	51.0	51.0	51.0		27.2	27.2	27.2		27.2	

Lanes, Volumes, Timings

6: Walkley Rd & Heron Rd

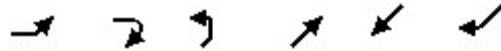
04/13/2023



Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	1141	13	0	696	1016	1222
Future Volume (vph)	1141	13	0	696	1016	1222
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			65.0
Storage Lanes	2	0	0			1
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	0.95	1.00	0.95	0.95	0.88
Ped Bike Factor						
Flt	0.998					0.850
Flt Protected	0.953					
Satd. Flow (prot)	3292	0	0	3390	3390	2669
Flt Permitted	0.953					
Satd. Flow (perm)	3292	0	0	3390	3390	2669
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	1					1358
Link Speed (k/h)	50			50	50	
Link Distance (m)	465.1			393.2	359.8	
Travel Time (s)	33.5			28.3	25.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	1268	14	0	773	1129	1358
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1282	0	0	773	1129	1358
Turn Type	Prot			NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases						6
Detector Phase	4			2	6	6
Switch Phase						
Minimum Initial (s)	10.0			10.0	10.0	10.0
Minimum Split (s)	33.7			16.6	16.6	16.6
Total Split (s)	57.0			53.0	53.0	53.0
Total Split (%)	51.8%			48.2%	48.2%	48.2%
Yellow Time (s)	3.3			3.3	3.3	3.3
All-Red Time (s)	3.4			3.3	3.3	3.3
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.7			6.6	6.6	6.6
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max			C-Max	C-Max	C-Max
Act Effect Green (s)	50.3			46.4	46.4	46.4

Lanes, Volumes, Timings
6: Walkley Rd & Heron Rd

04/13/2023

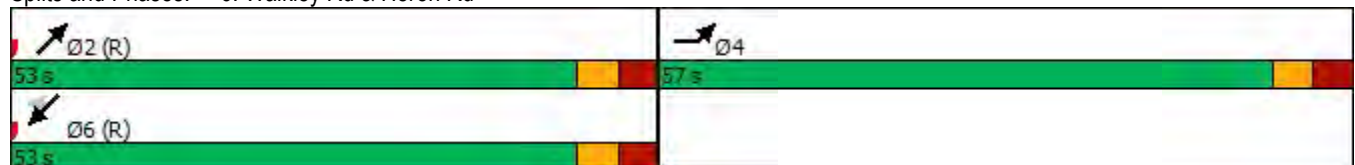


Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Actuated g/C Ratio	0.46			0.42	0.42	0.42
v/c Ratio	0.85			0.54	0.79	0.71
Control Delay	33.3			25.6	32.5	3.5
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	33.3			25.6	32.5	3.5
LOS	C			C	C	A
Approach Delay	33.3			25.6	16.7	
Approach LOS	C			C	B	
Queue Length 50th (m)	122.6			64.1	108.4	0.0
Queue Length 95th (m)	152.7			82.3	135.2	13.1
Internal Link Dist (m)	441.1			369.2	335.8	
Turn Bay Length (m)						65.0
Base Capacity (vph)	1505			1429	1429	1911
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	0.85			0.54	0.79	0.71

Intersection Summary
































Area Type:	Other
Cycle Length:	110
Actuated Cycle Length:	110
Offset:	53 (48%), Referenced to phase 2:NET and 6:SWT, Start of Green
Natural Cycle:	70
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.85
Intersection Signal Delay:	22.9
Intersection LOS:	C
Intersection Capacity Utilization	75.5%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 6: Walkley Rd & Heron Rd



Lanes, Volumes, Timings
7: Bank St & Wakley Rd

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 			  		 	 	
Traffic Volume (vph)	291	436	243	282	509	276	207	810	227	262	1221	535
Future Volume (vph)	291	436	243	282	509	276	207	810	227	262	1221	535
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	60.0		50.0	78.0		0.0	208.0		70.0	156.0		0.0
Storage Lanes	2		1	2		0	1		1	2		1
Taper Length (m)	27.0			24.0			0.0			24.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.91	1.00	0.97	0.95	1.00
Ped Bike Factor	0.98		0.97	0.99	0.98		1.00		0.96	0.99		0.97
Frt			0.850		0.947				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3390	1517	3288	3161	0	1695	4871	1517	3288	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3238	3390	1473	3252	3161	0	1692	4871	1457	3250	3390	1472
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			245		75				252			234
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		154.1			197.3			245.1			260.6	
Travel Time (s)		11.1			14.2			17.6			18.8	
Confl. Peds. (#/hr)	26		11	11		26	8		17	17		8
Confl. Bikes (#/hr)			5			2			5			10
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	323	484	270	313	566	307	230	900	252	291	1357	594
Shared Lane Traffic (%)												
Lane Group Flow (vph)	323	484	270	313	873	0	230	900	252	291	1357	594
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	29.0	29.0	7.0	29.0		7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	13.8	39.7	39.7	13.8	39.7		13.4	33.4	33.4	13.4	33.4	33.4
Total Split (s)	18.0	40.7	40.7	17.0	39.7		21.0	47.6	47.6	24.7	51.3	51.3
Total Split (%)	13.8%	31.3%	31.3%	13.1%	30.5%		16.2%	36.6%	36.6%	19.0%	39.5%	39.5%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.4	3.4	3.5	3.4		3.1	3.1	3.1	3.1	3.1	3.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.7	6.7	6.8	6.7		6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	11.2	34.0	34.0	10.2	33.0		14.6	43.4	43.4	16.1	44.9	44.9

Lanes, Volumes, Timings
7: Bank St & Walkley Rd

04/13/2023

	↖	→	↘	↙	←	↖	↙	↑	↘	↘	↓	↙
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.09	0.26	0.26	0.08	0.25		0.11	0.33	0.33	0.12	0.35	0.35
v/c Ratio	1.14	0.55	0.48	1.22	1.02		1.21	0.55	0.39	0.71	1.16	0.90
Control Delay	149.1	44.1	9.5	177.1	78.9		181.3	37.3	5.6	54.7	122.8	44.1
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	149.1	44.1	9.5	177.1	78.9		181.3	37.3	5.6	54.7	122.8	44.1
LOS	F	D	A	F	E		F	D	A	D	F	D
Approach Delay		66.9			104.8			55.5			93.1	
Approach LOS		E			F			E			F	
Queue Length 50th (m)	~49.7	56.4	4.8	~50.4	~116.3		~71.8	69.3	0.0	38.6	~220.6	112.8
Queue Length 95th (m)	#79.3	73.9	27.9	#79.5	#157.0		#122.3	85.1	18.4	m42.2m	#225.0	m126.3
Internal Link Dist (m)		130.1			173.3			221.1			236.6	
Turn Bay Length (m)	60.0		50.0	78.0			208.0		70.0	156.0		
Base Capacity (vph)	283	886	566	257	858		190	1626	654	462	1170	661
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	1.14	0.55	0.48	1.22	1.02		1.21	0.55	0.39	0.63	1.16	0.90

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.22
 Intersection Signal Delay: 81.8 Intersection LOS: F
 Intersection Capacity Utilization 104.9% ICU Level of Service G
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Bank St & Walkley Rd



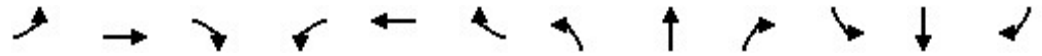
Lanes, Volumes, Timings
8: Walkley Rd & Baycrest Dr

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	783	20	24	890	185	18	14	21	81	22	66
Future Volume (vph)	96	783	20	24	890	185	18	14	21	81	22	66
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	50.0		0.0	33.0		0.0	0.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	22.0			27.0			2.5			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	0.99			0.98		0.98	0.98	
Frt		0.996			0.974			0.947			0.887	
Flt Protected	0.950			0.950				0.983		0.950		
Satd. Flow (prot)	1530	3250	0	1530	3186	0	0	1672	0	1586	1587	0
Flt Permitted	0.206			0.304				0.862		0.719		
Satd. Flow (perm)	331	3250	0	487	3186	0	0	1462	0	1176	1587	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			47			23			73	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		360.2			304.5			74.0			276.3	
Travel Time (s)		25.9			21.9			5.3			19.9	
Confl. Peds. (#/hr)	9		12	12		9	11		23	23		11
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	6%	0%	13%	4%	10%	0%	0%	0%	9%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	107	870	22	27	989	206	20	16	23	90	24	73
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	892	0	27	1195	0	0	59	0	90	97	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.9	25.9		25.9	25.9		31.1	31.1		31.1	31.1	
Total Split (s)	48.9	48.9		48.9	48.9		31.1	31.1		31.1	31.1	
Total Split (%)	61.1%	61.1%		61.1%	61.1%		38.9%	38.9%		38.9%	38.9%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.8	2.8		2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		5.9	5.9			6.1		6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	58.4	58.4		58.4	58.4			14.0		14.0	14.0	

Lanes, Volumes, Timings
8: Walkley Rd & Baycrest Dr

04/13/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.73	0.73		0.73	0.73			0.18		0.18	0.18	
v/c Ratio	0.44	0.38		0.08	0.51			0.21		0.44	0.29	
Control Delay	17.5	6.8		7.3	7.9			19.2		34.5	11.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	17.5	6.8		7.3	7.9			19.2		34.5	11.7	
LOS	B	A		A	A			B		C	B	
Approach Delay		7.9			7.9			19.2			22.6	
Approach LOS		A			A			B			C	
Queue Length 50th (m)	5.8	23.7		1.1	34.9			4.9		12.9	3.2	
Queue Length 95th (m)	#35.4	57.0		5.9	84.4			12.0		21.4	12.5	
Internal Link Dist (m)		336.2			280.5			50.0			252.3	
Turn Bay Length (m)	50.0			33.0						20.0		
Base Capacity (vph)	241	2373		355	2337			472		367	546	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.44	0.38		0.08	0.51			0.13		0.25	0.18	

Intersection Summary

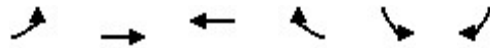
Area Type: Other
 Cycle Length: 80
 Actuated Cycle Length: 80
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 80
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.51
 Intersection Signal Delay: 9.3
 Intersection LOS: A
 Intersection Capacity Utilization 71.7%
 ICU Level of Service C
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 8: Walkley Rd & Baycrest Dr



Lanes, Volumes, Timings
29: Heron Rd & RIRO Access

04/13/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Volume (vph)	0	1197	1239	42	0	58
Future Volume (vph)	0	1197	1239	42	0	58
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	0.0
Storage Lanes	0			0	0	1
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						
Frt			0.995			0.865
Flt Protected						
Satd. Flow (prot)	0	3390	3373	0	0	1543
Flt Permitted						
Satd. Flow (perm)	0	3390	3373	0	0	1543
Link Speed (k/h)		50	50		50	
Link Distance (m)		172.8	141.6		61.9	
Travel Time (s)		12.4	10.2		4.5	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	0	1330	1377	47	0	64
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1330	1424	0	0	64
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	48.0%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings

1: Bank St & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	810	262	89	1184	294	544	673	32	192	360	104
Future Volume (vph)	158	810	262	89	1184	294	544	673	32	192	360	104
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	73.0		85.0	50.0		70.0	110.0		0.0	70.0		0.0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (m)	20.0			30.0			0.0			0.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.97	1.00		0.98	0.99	1.00		0.99	0.99	
Frt			0.850			0.850		0.993			0.966	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	3357	1446	1662	3293	1473	3225	3313	0	1712	3129	0
Flt Permitted	0.087			0.286			0.950			0.950		
Satd. Flow (perm)	157	3357	1404	498	3293	1438	3182	3313	0	1696	3129	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			291			222		4			29	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		381.8			492.5			121.2			274.8	
Travel Time (s)		27.5			35.5			8.7			19.8	
Confl. Peds. (#/hr)	8		13	13		8	12		20	20		12
Confl. Bikes (#/hr)			1			3			3			9
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	3%	7%	4%	5%	5%	4%	3%	13%	1%	7%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	176	900	291	99	1316	327	604	748	36	213	400	116
Shared Lane Traffic (%)												
Lane Group Flow (vph)	176	900	291	99	1316	327	604	784	0	213	516	0
Turn Type	pm+pt	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Detector Phase	7	4	4	8	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	10.0	10.0	10.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	13.5	34.4	34.4	32.5	32.5	32.5	13.5	32.4		13.5	32.4	
Total Split (s)	13.5	59.5	59.5	46.0	46.0	46.0	26.0	38.5		22.0	34.5	
Total Split (%)	11.3%	49.6%	49.6%	38.3%	38.3%	38.3%	21.7%	32.1%		18.3%	28.8%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	3.2	3.1	3.1	1.0	1.0	1.0	3.2	3.1		3.2	3.1	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.4	6.4	4.3	4.3	4.3	6.5	6.4		6.5	6.4	
Lead/Lag	Lead			Lag	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effect Green (s)	53.0	53.1	53.1	41.7	41.7	41.7	19.5	32.1		15.5	28.1	

Lanes, Volumes, Timings

1: Bank St & Heron Rd

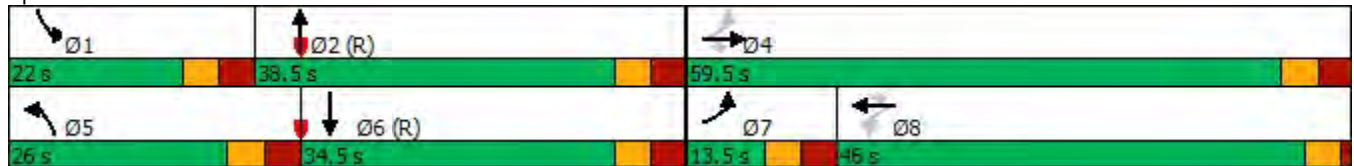
04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.44	0.44	0.44	0.35	0.35	0.35	0.16	0.27		0.13	0.23	
v/c Ratio	1.10	0.61	0.37	0.57	1.15	0.51	1.15	0.88		0.96	0.68	
Control Delay	126.7	27.6	3.7	54.8	120.5	31.1	113.7	29.5		104.3	44.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	126.7	27.6	3.7	54.8	120.5	31.1	113.7	29.5		104.3	44.8	
LOS	F	C	A	D	F	C	F	C		F	D	
Approach Delay		35.3			100.0			66.1			62.2	
Approach LOS		D			F			E			E	
Queue Length 50th (m)	~31.9	83.2	0.0	24.6	~198.6	49.2	~83.9	86.5		50.6	55.4	
Queue Length 95th (m)	#76.8	103.8	15.4	m24.5	m#180.5	m47.6	m#83.0	m85.7		#97.7	74.4	
Internal Link Dist (m)		357.8			468.5			97.2			250.8	
Turn Bay Length (m)	73.0		85.0	50.0		70.0	110.0			70.0		
Base Capacity (vph)	160	1485	783	173	1144	644	524	889		221	754	
Starvation Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0		0	0	
Reduced v/c Ratio	1.10	0.61	0.37	0.57	1.15	0.51	1.15	0.88		0.96	0.68	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 52 (43%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.15
 Intersection Signal Delay: 68.8 Intersection LOS: E
 Intersection Capacity Utilization 101.6% ICU Level of Service G
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Bank St & Heron Rd



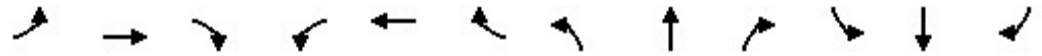
Lanes, Volumes, Timings
2: Alta Vista Dr & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	843	91	154	1335	265	71	286	190	188	278	132
Future Volume (vph)	107	843	91	154	1335	265	71	286	190	188	278	132
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	65.0		0.0	57.0		85.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	30.0			24.0			2.5			48.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97	0.98		0.97		0.78	0.99	0.93			0.99	
Frt		0.985				0.850		0.940			0.952	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	3207	0	1695	3293	1459	1601	1555	0	1631	1686	0
Flt Permitted	0.950			0.950			0.407			0.107		
Satd. Flow (perm)	1668	3207	0	1639	3293	1141	676	1555	0	184	1686	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		11				235		27			23	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		492.5			657.5			201.9			270.3	
Travel Time (s)		35.5			47.3			14.5			19.5	
Confl. Peds. (#/hr)	54		37	37		54	21		110	110		21
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	5%	1%	2%	5%	6%	8%	2%	3%	6%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	119	937	101	171	1483	294	79	318	211	209	309	147
Shared Lane Traffic (%)												
Lane Group Flow (vph)	119	1038	0	171	1483	294	79	529	0	209	456	0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases						6	8			4		
Detector Phase	5	2		1	6	6	8	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	10.0	10.0		7.0	10.0	
Minimum Split (s)	12.4	23.4		12.4	23.4	23.4	29.9	29.9		11.5	29.9	
Total Split (s)	13.0	49.4		18.6	55.0	55.0	39.0	39.0		13.0	52.0	
Total Split (%)	10.8%	41.2%		15.5%	45.8%	45.8%	32.5%	32.5%		10.8%	43.3%	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.1	2.1		2.1	2.1	2.1	2.6	2.6		1.0	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.4	5.4		5.4	5.4	5.4	5.9	5.9		4.3	5.9	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes		
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max		None	Max	
Act Effect Green (s)	7.6	44.0		13.2	49.6	49.6	33.1	33.1		47.7	46.1	

Lanes, Volumes, Timings
 2: Alta Vista Dr & Heron Rd

04/13/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.06	0.37		0.11	0.41	0.41	0.28	0.28		0.40	0.38	
v/c Ratio	1.10	0.88		0.92	1.09	0.48	0.42	1.18		1.17	0.69	
Control Delay	167.4	29.6		62.3	96.2	22.7	44.1	139.4		149.8	35.8	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	167.4	29.6		62.3	96.2	22.7	44.1	139.4		149.8	35.8	
LOS	F	C		E	F	C	D	F		F	D	
Approach Delay		43.8			82.1			127.0			71.6	
Approach LOS		D			F			F			E	
Queue Length 50th (m)	~33.0	39.5		40.6	~214.2	33.4	15.3	~145.1		~43.9	84.7	
Queue Length 95th (m)	m#63.5	m49.9		m41.5	m#210.3	m33.7	31.0	#211.3		#91.7	122.4	
Internal Link Dist (m)		468.5			633.5			177.9			246.3	
Turn Bay Length (m)	65.0			57.0		85.0				30.0		
Base Capacity (vph)	108	1182		186	1361	609	186	448		178	661	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	1.10	0.88		0.92	1.09	0.48	0.42	1.18		1.17	0.69	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.18
 Intersection Signal Delay: 76.6 Intersection LOS: E
 Intersection Capacity Utilization 104.3% ICU Level of Service G
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Alta Vista Dr & Heron Rd



Lanes, Volumes, Timings
3: Baycrest Dr & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	159	845	224	32	1345	23	330	35	60	50	13	76
Future Volume (vph)	159	845	224	32	1345	23	330	35	60	50	13	76
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	43.0		0.0	55.0		0.0	60.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	70.0			25.0			2.5			0.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98		0.99	1.00		0.97	0.99		0.99	0.96	
Frt		0.969			0.997			0.905			0.871	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	3170	0	1478	3283	0	1647	1604	0	1729	1515	0
Flt Permitted	0.069			0.224			0.579			0.689		
Satd. Flow (perm)	126	3170	0	345	3283	0	973	1604	0	1243	1515	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		44			2			67			84	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		657.5			177.1			216.5			60.0	
Travel Time (s)		47.3			12.8			15.6			4.3	
Confl. Peds. (#/hr)	15		27	27		15	31		8	8		31
Confl. Bikes (#/hr)						1						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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	7%	17%	5%	0%	5%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	177	939	249	36	1494	26	367	39	67	56	14	84
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	1188	0	36	1520	0	367	106	0	56	98	0
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2			6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		5.0	20.0		5.0	20.0	
Minimum Split (s)	9.5	29.7		29.7	29.7		9.5	35.0		9.5	35.0	
Total Split (s)	13.1	69.9		56.8	56.8		15.1	40.5		9.6	35.0	
Total Split (%)	10.9%	58.3%		47.3%	47.3%		12.6%	33.8%		8.0%	29.2%	
Yellow Time (s)	3.5	3.3		3.3	3.3		3.5	3.3		3.5	3.3	
All-Red Time (s)	1.0	1.4		1.4	1.4		1.0	2.7		1.0	2.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7		4.7	4.7		4.5	6.0		4.5	6.0	
Lead/Lag	Lead			Lag	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	72.6	72.4		54.4	54.4		38.4	29.2		28.4	21.8	

Lanes, Volumes, Timings
3: Baycrest Dr & Heron Rd

04/13/2023

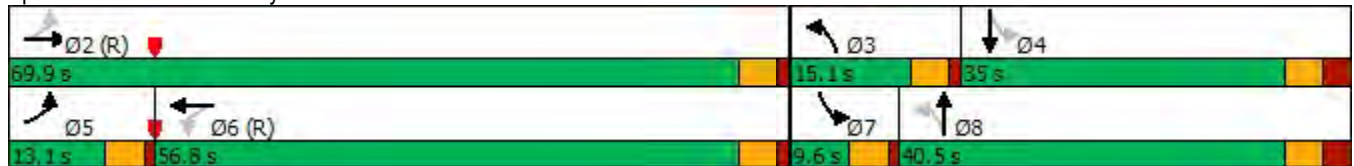


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.60	0.60		0.45	0.45		0.32	0.24		0.24	0.18	
v/c Ratio	0.69	0.62		0.23	1.02		0.99	0.24		0.18	0.29	
Control Delay	33.6	31.9		25.9	61.9		83.4	16.7		29.6	13.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	33.6	31.9		25.9	61.9		83.4	16.7		29.6	13.2	
LOS	C	C		C	E		F	B		C	B	
Approach Delay		32.1			61.1			68.4			19.2	
Approach LOS		C			E			E			B	
Queue Length 50th (m)	31.7	120.3		5.1	~200.6		~80.4	7.5		9.5	2.8	
Queue Length 95th (m)	m#37.4	m130.7		13.9	#251.3		#118.4	20.2		17.2	16.0	
Internal Link Dist (m)		633.5			153.1			192.5			36.0	
Turn Bay Length (m)	43.0			55.0			60.0			30.0		
Base Capacity (vph)	257	1929		156	1488		371	510		315	429	
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	0.62		0.23	1.02		0.99	0.21		0.18	0.23	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 135
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.02
 Intersection Signal Delay: 49.1 Intersection LOS: D
 Intersection Capacity Utilization 88.0% ICU Level of Service E
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Baycrest Dr & Heron Rd



Lanes, Volumes, Timings
4: Sandalwood Dr & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	860	51	27	1180	18	123	15	48	8	15	75
Future Volume (vph)	45	860	51	27	1180	18	123	15	48	8	15	75
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	55.0		0.0	55.0		0.0	32.0		0.0	37.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	25.0			25.0			12.0			37.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		0.99	0.99		0.99	0.98	
Frt		0.992			0.998			0.886			0.875	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	3281	0	1601	3257	0	1478	1533	0	1729	1567	0
Flt Permitted	0.159			0.249			0.692			0.711		
Satd. Flow (perm)	289	3281	0	418	3257	0	1069	1533	0	1285	1567	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		12			3			53			59	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		137.3			354.9			199.1			258.5	
Travel Time (s)		9.9			25.6			14.3			18.6	
Confl. Peds. (#/hr)	7		7	7		7	5		5	5		5
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	27%	8%	6%	0%	17%	15%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	50	956	57	30	1311	20	137	17	53	9	17	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	1013	0	30	1331	0	137	70	0	9	100	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		16.0	16.0		16.0	16.0	
Minimum Split (s)	24.3	24.3		24.3	24.3		24.1	24.1		24.1	24.1	
Total Split (s)	60.0	60.0		60.0	60.0		30.0	30.0		30.0	30.0	
Total Split (%)	66.7%	66.7%		66.7%	66.7%		33.3%	33.3%		33.3%	33.3%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.8	2.8		2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		6.1	6.1		6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	60.1	60.1		60.1	60.1		18.5	18.5		18.5	18.5	

Lanes, Volumes, Timings
4: Sandalwood Dr & Heron Rd

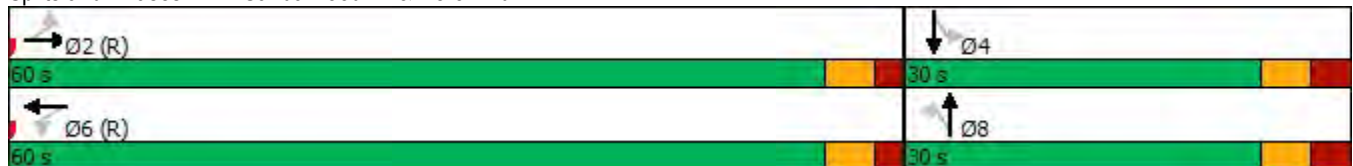
04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.67	0.67		0.67	0.67		0.21	0.21		0.21	0.21	
v/c Ratio	0.26	0.46		0.11	0.61		0.63	0.20		0.03	0.27	
Control Delay	11.4	8.4		10.7	11.5		45.2	12.6		26.8	15.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	11.4	8.4		10.7	11.5		45.2	12.6		26.8	15.5	
LOS	B	A		B	B		D	B		C	B	
Approach Delay		8.5			11.4			34.1			16.4	
Approach LOS		A			B			C			B	
Queue Length 50th (m)	2.8	35.4		1.7	48.8		22.3	2.5		1.3	6.0	
Queue Length 95th (m)	11.3	61.7		4.4	86.2		37.9	11.9		4.7	17.3	
Internal Link Dist (m)		113.3			330.9			175.1			234.5	
Turn Bay Length (m)	55.0			55.0			32.0			37.0		
Base Capacity (vph)	193	2194		279	2176		283	446		341	459	
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	0.26	0.46		0.11	0.61		0.48	0.16		0.03	0.22	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 12.2 Intersection LOS: B
 Intersection Capacity Utilization 63.0% ICU Level of Service B
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Sandalwood Dr & Heron Rd



Lanes, Volumes, Timings
5: Heron Rd & Jefferson St

04/13/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	826	50	14	1110	28	33	33	28	32	27	81
Future Volume (vph)	35	826	50	14	1110	28	33	33	28	32	27	81
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	58.0		62.0	55.0		0.0	18.0		15.0	0.0		0.0
Storage Lanes	1		1	1		0	1		1	0		0
Taper Length (m)	27.0			17.0			10.0			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97	1.00	1.00		1.00		0.98		0.99	
Frt			0.850		0.996				0.850		0.922	
Flt Protected	0.950			0.950			0.950				0.989	
Satd. Flow (prot)	1572	3357	1419	1383	3278	0	1679	1820	1381	0	1566	0
Flt Permitted	0.146			0.258			0.658				0.929	
Satd. Flow (perm)	241	3357	1379	375	3278	0	1158	1820	1357	0	1469	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			56		4				32			52
Link Speed (k/h)		50			50			50				50
Link Distance (m)		354.9			465.1			176.5				237.6
Travel Time (s)		25.6			33.5			12.7				17.1
Confl. Peds. (#/hr)	6		4	4		6	5		5	5		5
Confl. Bikes (#/hr)			2						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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	3%	9%	25%	5%	4%	3%	0%	12%	4%	0%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	39	918	56	16	1233	31	37	37	31	36	30	90
Shared Lane Traffic (%)												
Lane Group Flow (vph)	39	918	56	16	1264	0	37	37	31	0	156	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2		2	6			8		8	4		
Detector Phase	2	2	2	6	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		27.0	27.0	27.0	27.0	27.0	
Minimum Split (s)	30.6	30.6	30.6	30.6	30.6		34.2	34.2	34.2	34.2	34.2	
Total Split (s)	55.0	55.0	55.0	55.0	55.0		35.0	35.0	35.0	35.0	35.0	
Total Split (%)	61.1%	61.1%	61.1%	61.1%	61.1%		38.9%	38.9%	38.9%	38.9%	38.9%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3		2.9	2.9	2.9	2.9	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.6	5.6	5.6	5.6	5.6		6.2	6.2	6.2	6.2	6.2	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max		None	None	None	None	None	
Act Effect Green (s)	51.0	51.0	51.0	51.0	51.0		27.2	27.2	27.2		27.2	

Lanes, Volumes, Timings
5: Heron Rd & Jefferson St

04/13/2023

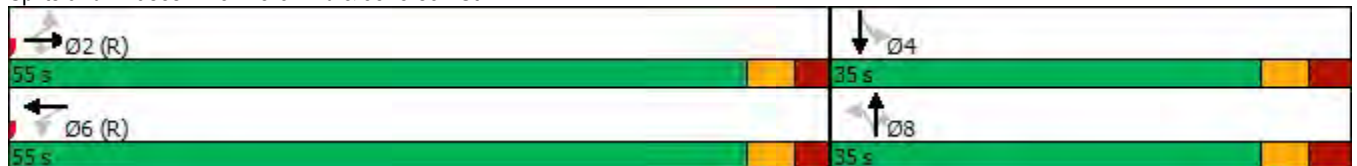


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.57	0.57	0.57	0.57	0.57		0.30	0.30	0.30		0.30	
v/c Ratio	0.29	0.48	0.07	0.08	0.68		0.11	0.07	0.07		0.33	
Control Delay	12.5	8.4	1.6	10.2	16.1		23.6	22.7	8.3		18.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	12.5	8.4	1.6	10.2	16.1		23.6	22.7	8.3		18.0	
LOS	B	A	A	B	B		C	C	A		B	
Approach Delay		8.2			16.0			18.8			18.0	
Approach LOS		A			B			B			B	
Queue Length 50th (m)	1.9	23.2	0.0	1.2	74.7		4.6	4.6	0.0		13.5	
Queue Length 95th (m)	m4.3	29.1	2.0	4.3	100.1		11.5	11.2	5.9		28.5	
Internal Link Dist (m)		330.9			441.1			152.5			213.6	
Turn Bay Length (m)	58.0		62.0	55.0			18.0		15.0			
Base Capacity (vph)	136	1902	805	212	1859		370	582	456		505	
Starvation Cap Reductn	0	0	0	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.29	0.48	0.07	0.08	0.68		0.10	0.06	0.07		0.31	

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 10 (11%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 13.2 Intersection LOS: B
 Intersection Capacity Utilization 84.4% ICU Level of Service E
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 5: Heron Rd & Jefferson St



Lanes, Volumes, Timings
6: Walkley Rd & Heron Rd

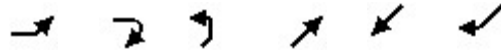
04/13/2023



Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	845	33	0	825	711	1152
Future Volume (vph)	845	33	0	825	711	1152
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			65.0
Storage Lanes	2	0	0			1
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	0.95	1.00	0.95	0.95	0.88
Ped Bike Factor						
Flt	0.994					0.850
Flt Protected	0.954					
Satd. Flow (prot)	3283	0	0	3390	3390	2669
Flt Permitted	0.954					
Satd. Flow (perm)	3283	0	0	3390	3390	2669
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	5					1280
Link Speed (k/h)	50			50	50	
Link Distance (m)	465.1			393.2	359.8	
Travel Time (s)	33.5			28.3	25.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	939	37	0	917	790	1280
Shared Lane Traffic (%)						
Lane Group Flow (vph)	976	0	0	917	790	1280
Turn Type	Prot			NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases						6
Detector Phase	4			2	6	6
Switch Phase						
Minimum Initial (s)	10.0			10.0	10.0	10.0
Minimum Split (s)	33.7			16.6	16.6	16.6
Total Split (s)	47.0			53.0	53.0	53.0
Total Split (%)	47.0%			53.0%	53.0%	53.0%
Yellow Time (s)	3.3			3.3	3.3	3.3
All-Red Time (s)	3.4			3.3	3.3	3.3
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.7			6.6	6.6	6.6
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max			C-Max	C-Max	C-Max
Act Effect Green (s)	40.3			46.4	46.4	46.4

Lanes, Volumes, Timings
6: Walkley Rd & Heron Rd

04/13/2023



Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Actuated g/C Ratio	0.40			0.46	0.46	0.46
v/c Ratio	0.74			0.58	0.50	0.67
Control Delay	29.3			21.6	20.1	2.9
Queue Delay	0.0			0.0	0.0	0.0
Total Delay	29.3			21.6	20.1	2.9
LOS	C			C	C	A
Approach Delay	29.3			21.6	9.5	
Approach LOS	C			C	A	
Queue Length 50th (m)	80.7			66.4	54.4	0.0
Queue Length 95th (m)	103.9			85.5	70.7	11.7
Internal Link Dist (m)	441.1			369.2	335.8	
Turn Bay Length (m)						65.0
Base Capacity (vph)	1326			1572	1572	1924
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	0.74			0.58	0.50	0.67

Intersection Summary
































Area Type:	Other
Cycle Length:	100
Actuated Cycle Length:	100
Offset:	23 (23%), Referenced to phase 2:NET and 6:SWT, Start of Green
Natural Cycle:	60
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.74
Intersection Signal Delay:	17.1
Intersection LOS:	B
Intersection Capacity Utilization	61.7%
ICU Level of Service	B
Analysis Period (min)	15

Splits and Phases: 6: Walkley Rd & Heron Rd



Lanes, Volumes, Timings
7: Bank St & Wakley Rd

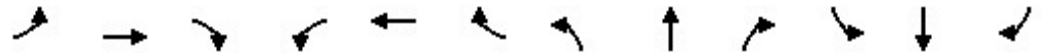
04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 			  		 	 	
Traffic Volume (vph)	410	440	100	130	441	438	165	1341	172	175	533	270
Future Volume (vph)	410	440	100	130	441	438	165	1341	172	175	533	270
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	60.0		50.0	78.0		0.0	208.0		70.0	156.0		0.0
Storage Lanes	2		1	2		0	1		1	2		1
Taper Length (m)	27.0			24.0			0.0			24.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.91	1.00	0.97	0.95	1.00
Ped Bike Factor	0.99		0.97	0.99	0.98		1.00		0.96	1.00		0.97
Frt			0.850		0.925				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3390	1517	3288	3071	0	1695	4871	1517	3288	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3248	3390	1476	3255	3071	0	1687	4871	1459	3273	3390	1469
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			151		179				154			289
Link Speed (k/h)		50			50			50				50
Link Distance (m)		154.1			197.3			245.1				260.6
Travel Time (s)		11.1			14.2			17.6				18.8
Confl. Peds. (#/hr)	26		11	11		26	8		17	17		8
Confl. Bikes (#/hr)			5			2			5			10
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	456	489	111	144	490	487	183	1490	191	194	592	300
Shared Lane Traffic (%)												
Lane Group Flow (vph)	456	489	111	144	977	0	183	1490	191	194	592	300
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	29.0	29.0	7.0	29.0		7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	13.8	39.7	39.7	13.8	39.7		13.4	33.4	33.4	13.4	33.4	33.4
Total Split (s)	23.6	46.4	46.4	16.9	39.7		20.4	42.6	42.6	14.1	36.3	36.3
Total Split (%)	19.7%	38.7%	38.7%	14.1%	33.1%		17.0%	35.5%	35.5%	11.8%	30.3%	30.3%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.4	3.4	3.5	3.4		3.1	3.1	3.1	3.1	3.1	3.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.7	6.7	6.8	6.7		6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	16.8	40.4	40.4	9.4	33.0		14.0	36.2	36.2	7.7	29.9	29.9

Lanes, Volumes, Timings

7: Bank St & Walkley Rd

04/13/2023

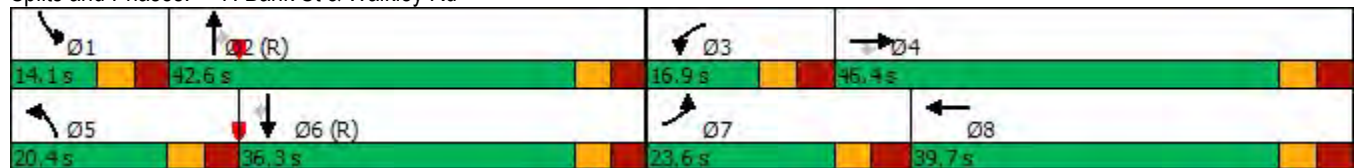


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.14	0.34	0.34	0.08	0.28		0.12	0.30	0.30	0.06	0.25	0.25
v/c Ratio	0.99	0.43	0.19	0.56	1.00		0.93	1.01	0.35	0.92	0.70	0.51
Control Delay	91.6	32.5	2.4	61.8	65.3		100.9	68.8	10.0	95.5	57.4	19.7
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	91.6	32.5	2.4	61.8	65.3		100.9	68.8	10.0	95.5	57.4	19.7
LOS	F	C	A	E	E		F	E	A	F	E	B
Approach Delay		54.9				64.9		65.9				53.8
Approach LOS		D				E		E				D
Queue Length 50th (m)	56.0	47.2	0.0	17.0	~104.1		43.3	~131.8	6.2	23.8	72.8	19.9
Queue Length 95th (m)	#89.1	62.5	5.5	27.5	#149.9		#86.3	#164.9	24.1	m#46.1	93.2	41.0
Internal Link Dist (m)		130.1				173.3		221.1				236.6
Turn Bay Length (m)	60.0		50.0	78.0			208.0		70.0	156.0		
Base Capacity (vph)	460	1140	596	276	974		197	1469	547	210	844	583
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.43	0.19	0.52	1.00		0.93	1.01	0.35	0.92	0.70	0.51

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 79 (66%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 125
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.01
 Intersection Signal Delay: 60.8 Intersection LOS: E
 Intersection Capacity Utilization 96.4% ICU Level of Service F
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: Bank St & Walkley Rd



Lanes, Volumes, Timings
8: Walkley Rd & Baycrest Dr

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	684	11	9	694	149	27	23	29	190	8	112
Future Volume (vph)	68	684	11	9	694	149	27	23	29	190	8	112
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	50.0		0.0	33.0		0.0	0.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	22.0			27.0			2.5			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		0.99	0.99			0.99		0.98	0.98	
Fr _t		0.998			0.973			0.951			0.860	
Fl _t Protected	0.950			0.950				0.983		0.950		
Satd. Flow (prot)	1530	3257	0	1530	3182	0	0	1682	0	1586	1534	0
Fl _t Permitted	0.265			0.334				0.867		0.700		
Satd. Flow (perm)	425	3257	0	535	3182	0	0	1480	0	1149	1534	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3			49			32			119	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		360.2			304.5			74.0			276.3	
Travel Time (s)		25.9			21.9			5.3			19.9	
Confl. Peds. (#/hr)	9		12	12		9	11		23	23		11
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	6%	0%	13%	4%	10%	0%	0%	0%	9%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	76	760	12	10	771	166	30	26	32	211	9	124
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	772	0	10	937	0	0	88	0	211	133	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8				4
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.9	25.9		25.9	25.9		31.1	31.1		31.1	31.1	
Total Split (s)	38.9	38.9		38.9	38.9		31.1	31.1		31.1	31.1	
Total Split (%)	55.6%	55.6%		55.6%	55.6%		44.4%	44.4%		44.4%	44.4%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.8	2.8		2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		5.9	5.9			6.1		6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	40.2	40.2		40.2	40.2			17.8		17.8	17.8	

Lanes, Volumes, Timings
8: Walkley Rd & Baycrest Dr

04/13/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.57	0.57		0.57	0.57			0.25		0.25	0.25	
v/c Ratio	0.31	0.41		0.03	0.51			0.22		0.72	0.28	
Control Delay	14.8	10.2		9.4	10.8			13.8		37.1	6.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	14.8	10.2		9.4	10.8			13.8		37.1	6.2	
LOS	B	B		A	B			B		D	A	
Approach Delay		10.7			10.8			13.8			25.1	
Approach LOS		B			B			B			C	
Queue Length 50th (m)	4.7	27.0		0.5	33.3			5.6		25.1	1.4	
Queue Length 95th (m)	17.0	48.8		3.0	60.3			13.4		40.5	11.0	
Internal Link Dist (m)		336.2			280.5			50.0			252.3	
Turn Bay Length (m)	50.0			33.0						20.0		
Base Capacity (vph)	243	1870		306	1846			549		410	624	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.31	0.41		0.03	0.51			0.16		0.51	0.21	

Intersection Summary

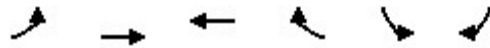
Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 17 (24%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 13.1
 Intersection LOS: B
 Intersection Capacity Utilization 67.4%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 8: Walkley Rd & Baycrest Dr



Lanes, Volumes, Timings
29: Heron Rd & RIRO Access

04/13/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Volume (vph)	0	955	1331	47	0	69
Future Volume (vph)	0	955	1331	47	0	69
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	0.0
Storage Lanes	0			0	0	1
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						
Frt			0.995			0.865
Flt Protected						
Satd. Flow (prot)	0	3390	3373	0	0	1543
Flt Permitted						
Satd. Flow (perm)	0	3390	3373	0	0	1543
Link Speed (k/h)		50	50		50	
Link Distance (m)		177.1	137.3		61.0	
Travel Time (s)		12.8	9.9		4.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	0	1061	1479	52	0	77
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1061	1531	0	0	77
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	51.6%
ICU Level of Service	A
Analysis Period (min)	15

Lanes, Volumes, Timings






















1: Bank St & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	227	1118	528	91	1134	208	445	587	60	334	955	149
Future Volume (vph)	227	1118	528	91	1134	208	445	587	60	334	955	149
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	73.0		85.0	50.0		70.0	110.0		0.0	70.0		0.0
Storage Lanes	1		1	1		1	2		0	1		0
Taper Length (m)	20.0			30.0			0.0			0.0		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor			0.97			0.97	0.99	1.00		0.99	1.00	
Frt			0.850			0.850		0.986			0.980	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	3357	1446	1662	3293	1473	3225	3267	0	1712	3172	0
Flt Permitted	0.091			0.101			0.950			0.950		
Satd. Flow (perm)	164	3357	1402	177	3293	1436	3208	3267	0	1693	3172	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			303			175		8			14	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		381.8			492.5			121.2			274.8	
Travel Time (s)		27.5			35.5			8.7			19.8	
Confl. Peds. (#/hr)	8		13	13		8	12		20	20		12
Confl. Bikes (#/hr)			1			3			3			9
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	3%	7%	4%	5%	5%	4%	3%	13%	1%	7%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	252	1242	587	101	1260	231	494	652	67	371	1061	166
Shared Lane Traffic (%)												
Lane Group Flow (vph)	252	1242	587	101	1260	231	494	719	0	371	1227	0
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4		4	8		8						
Detector Phase	7	4	4	3	8	8	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	10.0	10.0	5.0	10.0	10.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	13.5	34.4	34.4	9.5	32.5	32.5	13.5	32.4		13.5	32.4	
Total Split (s)	17.0	51.5	51.5	9.5	44.0	44.0	21.0	43.0		26.0	48.0	
Total Split (%)	13.1%	39.6%	39.6%	7.3%	33.8%	33.8%	16.2%	33.1%		20.0%	36.9%	
Yellow Time (s)	3.3	3.3	3.3	3.5	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	3.2	3.1	3.1	1.0	1.0	1.0	3.2	3.1		3.2	3.1	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.5	6.4	6.4	4.5	4.3	4.3	6.5	6.4		6.5	6.4	
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Recall Mode	None	None	None	None	None	None	None	C-Max		None	C-Max	
Act Effect Green (s)	54.5	45.1	45.1	44.5	39.7	39.7	14.5	36.6		19.5	41.6	

Lanes, Volumes, Timings
2: Alta Vista Dr & Heron Rd

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	157	1295	44	121	1223	219	24	235	133	244	482	156
Future Volume (vph)	157	1295	44	121	1223	219	24	235	133	244	482	156
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	65.0		0.0	57.0		85.0	0.0		0.0	30.0		0.0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (m)	30.0			24.0			2.5			48.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97	0.99		0.98		0.77		0.93			0.99	
Frt		0.995				0.850		0.946			0.963	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1712	3263	0	1695	3293	1459	1601	1568	0	1631	1707	0
Flt Permitted	0.950			0.950			0.137			0.120		
Satd. Flow (perm)	1655	3263	0	1663	3293	1116	231	1568	0	206	1707	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		3				195		20			14	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		492.5			657.5			201.9			270.3	
Travel Time (s)		35.5			47.3			14.5			19.5	
Confl. Peds. (#/hr)	54		37	37		54	21		110	110		21
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	5%	1%	2%	5%	6%	8%	2%	3%	6%	2%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	174	1439	49	134	1359	243	27	261	148	271	536	173
Shared Lane Traffic (%)												
Lane Group Flow (vph)	174	1488	0	134	1359	243	27	409	0	271	709	0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases	5	2		1	6			8		7	4	
Permitted Phases						6	8			4		
Detector Phase	5	2		1	6	6	8	8		7	4	
Switch Phase												
Minimum Initial (s)	7.0	10.0		7.0	10.0	10.0	10.0	10.0		7.0	10.0	
Minimum Split (s)	12.4	23.4		12.4	23.4	23.4	29.9	29.9		11.5	29.9	
Total Split (s)	18.0	62.0		15.0	59.0	59.0	35.0	35.0		18.0	53.0	
Total Split (%)	13.8%	47.7%		11.5%	45.4%	45.4%	26.9%	26.9%		13.8%	40.8%	
Yellow Time (s)	3.3	3.3		3.3	3.3	3.3	3.3	3.3		3.3	3.3	
All-Red Time (s)	2.1	2.1		2.1	2.1	2.1	2.6	2.6		1.0	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.4	5.4		5.4	5.4	5.4	5.9	5.9		4.3	5.9	
Lead/Lag	Lead	Lag		Lead	Lag	Lag	Lag	Lag		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes		
Recall Mode	None	C-Max		None	C-Max	C-Max	Max	Max		None	Max	
Act Effect Green (s)	12.6	56.6		9.6	53.6	53.6	29.1	29.1		48.7	47.1	

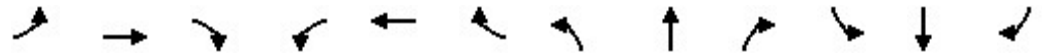
Lanes, Volumes, Timings
 3: Baycrest Dr/RIRO Access & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	1200	321	47	1329	15	178	11	38	61	16	63
Future Volume (vph)	125	1200	321	47	1329	15	178	11	38	61	16	63
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	43.0		0.0	55.0		0.0	60.0		0.0	30.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	70.0			25.0			2.5			0.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.98		1.00	1.00		0.97	0.98		0.99	0.96	
Frt		0.968			0.998			0.883			0.881	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	3167	0	1478	3286	0	1647	1556	0	1729	1538	0
Flt Permitted	0.088			0.108			0.700			0.722		
Satd. Flow (perm)	160	3167	0	167	3286	0	1172	1556	0	1302	1538	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		61			1			42			70	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		657.5			177.1			216.5			60.0	
Travel Time (s)		47.3			12.8			15.6			4.3	
Confl. Peds. (#/hr)	15		27	27		15	31		8	8		31
Confl. Bikes (#/hr)						1						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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	7%	17%	5%	0%	5%	0%	2%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	139	1333	357	52	1477	17	198	12	42	68	18	70
Shared Lane Traffic (%)												
Lane Group Flow (vph)	139	1690	0	52	1494	0	198	54	0	68	88	0
Turn Type	pm+pt	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases	5	2			6			8				4
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0		20.0	20.0		20.0	20.0	
Minimum Split (s)	9.5	29.7		29.7	29.7		35.0	35.0		35.0	35.0	
Total Split (s)	14.0	85.0		71.0	71.0		35.0	35.0		35.0	35.0	
Total Split (%)	11.7%	70.8%		59.2%	59.2%		29.2%	29.2%		29.2%	29.2%	
Yellow Time (s)	3.5	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	1.0	1.4		1.4	1.4		2.7	2.7		2.7	2.7	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.7		4.7	4.7		6.0	6.0		6.0	6.0	
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Recall Mode	None	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	84.4	84.2		71.2	71.2		25.1	25.1		25.1	25.1	

Lanes, Volumes, Timings
 3: Baycrest Dr/RIRO Access & Heron Rd

04/13/2023

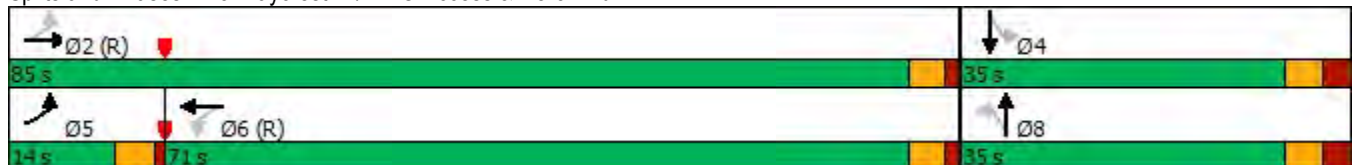


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.70	0.70		0.59	0.59		0.21	0.21		0.21	0.21	
v/c Ratio	0.62	0.75		0.53	0.77		0.81	0.15		0.25	0.23	
Control Delay	24.0	14.3		41.0	22.5		69.4	15.4		40.8	13.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	24.0	14.3		41.0	22.5		69.4	15.4		40.8	13.6	
LOS	C	B		D	C		E	B		D	B	
Approach Delay		15.0			23.1			57.8			25.5	
Approach LOS		B			C			E			C	
Queue Length 50th (m)	9.6	117.2		7.1	134.3		44.4	2.3		13.4	3.4	
Queue Length 95th (m)	28.4	161.2		#28.9	177.4		#74.2	12.4		25.5	16.4	
Internal Link Dist (m)		633.5			153.1			192.5			36.0	
Turn Bay Length (m)	43.0			55.0			60.0			30.0		
Base Capacity (vph)	236	2240		99	1949		283	407		314	424	
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	0.75		0.53	0.77		0.70	0.13		0.22	0.21	

Intersection Summary

Area Type: Other
 Cycle Length: 120
 Actuated Cycle Length: 120
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 21.6 Intersection LOS: C
 Intersection Capacity Utilization 89.0% ICU Level of Service E
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Baycrest Dr/RIRO Access & Heron Rd



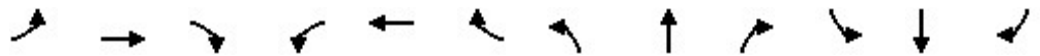
Lanes, Volumes, Timings
4: Sandalwood Dr & Heron Rd

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	1128	107	54	1266	20	66	24	37	9	29	46
Future Volume (vph)	68	1128	107	54	1266	20	66	24	37	9	29	46
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	55.0		0.0	55.0		0.0	32.0		0.0	37.0		0.0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (m)	25.0			25.0			12.0			37.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	1.00		0.99	0.99		0.99	0.99	
Fr _t		0.987			0.998			0.910			0.908	
Fl _t Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1729	3238	0	1601	3257	0	1478	1545	0	1729	1633	0
Fl _t Permitted	0.151			0.164			0.703			0.713		
Satd. Flow (perm)	274	3238	0	276	3257	0	1086	1545	0	1289	1633	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		24			4			41			51	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		137.3			354.9			199.1			258.5	
Travel Time (s)		9.9			25.6			14.3			18.6	
Confl. Peds. (#/hr)	7		7	7		7	5		5	5		5
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	3%	27%	8%	6%	0%	17%	15%	0%	0%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	76	1253	119	60	1407	22	73	27	41	10	32	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	76	1372	0	60	1429	0	73	68	0	10	83	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		16.0	16.0		16.0	16.0	
Minimum Split (s)	24.3	24.3		24.3	24.3		24.1	24.1		24.1	24.1	
Total Split (s)	65.8	65.8		65.8	65.8		24.2	24.2		24.2	24.2	
Total Split (%)	73.1%	73.1%		73.1%	73.1%		26.9%	26.9%		26.9%	26.9%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.8	2.8		2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.3	5.3		5.3	5.3		6.1	6.1		6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	67.7	67.7		67.7	67.7		16.4	16.4		16.4	16.4	

Lanes, Volumes, Timings
4: Sandalwood Dr & Heron Rd

04/13/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.75	0.75		0.75	0.75		0.18	0.18		0.18	0.18	
v/c Ratio	0.37	0.56		0.29	0.58		0.37	0.22		0.04	0.24	
Control Delay	12.7	7.6		10.3	8.0		38.2	17.5		30.4	16.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	12.7	7.6		10.3	8.0		38.2	17.5		30.4	16.9	
LOS	B	A		B	A		D	B		C	B	
Approach Delay		7.8			8.1			28.2			18.3	
Approach LOS		A			A			C			B	
Queue Length 50th (m)	4.8	55.4		3.5	60.3		11.2	4.0		1.5	4.7	
Queue Length 95th (m)	16.4	78.8		11.6	85.7		23.5	14.6		5.6	16.3	
Internal Link Dist (m)		113.3			330.9			175.1			234.5	
Turn Bay Length (m)	55.0			55.0			32.0			37.0		
Base Capacity (vph)	206	2441		207	2450		218	343		259	369	
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	0.37	0.56		0.29	0.58		0.33	0.20		0.04	0.22	

Intersection Summary

Area Type:	Other
Cycle Length:	90
Actuated Cycle Length:	90
Offset:	0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
Natural Cycle:	65
Control Type:	Actuated-Coordinated
Maximum v/c Ratio:	0.58
Intersection Signal Delay:	9.2
Intersection LOS:	A
Intersection Capacity Utilization	73.5%
ICU Level of Service	D
Analysis Period (min)	15

Splits and Phases: 4: Sandalwood Dr & Heron Rd



Lanes, Volumes, Timings
5: Heron Rd & Jefferson St

04/13/2023



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	1082	108	43	1208	49	81	88	81	42	55	49
Future Volume (vph)	86	1082	108	43	1208	49	81	88	81	42	55	49
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	58.0		62.0	55.0		0.0	18.0		15.0	0.0		0.0
Storage Lanes	1		1	1		0	1		1	0		0
Taper Length (m)	27.0			17.0			10.0			2.5		
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00		0.97	1.00	1.00		1.00		0.98		0.99	
Frt			0.850		0.994				0.850		0.955	
Flt Protected	0.950			0.950			0.950				0.986	
Satd. Flow (prot)	1572	3357	1419	1383	3271	0	1679	1820	1381	0	1646	0
Flt Permitted	0.125			0.175			0.628				0.885	
Satd. Flow (perm)	207	3357	1378	255	3271	0	1105	1820	1356	0	1476	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			120		7				75		25	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		354.9			465.1			176.5			237.6	
Travel Time (s)		25.6			33.5			12.7			17.1	
Confl. Peds. (#/hr)	6		4	4		6	5		5	5		5
Confl. Bikes (#/hr)			2						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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	10%	3%	9%	25%	5%	4%	3%	0%	12%	4%	0%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	96	1202	120	48	1342	54	90	98	90	47	61	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	96	1202	120	48	1396	0	90	98	90	0	162	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2		2	6			8		8	4		
Detector Phase	2	2	2	6	6		8	8	8	4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		27.0	27.0	27.0	27.0	27.0	
Minimum Split (s)	30.6	30.6	30.6	30.6	30.6		34.2	34.2	34.2	34.2	34.2	
Total Split (s)	65.8	65.8	65.8	65.8	65.8		34.2	34.2	34.2	34.2	34.2	
Total Split (%)	65.8%	65.8%	65.8%	65.8%	65.8%		34.2%	34.2%	34.2%	34.2%	34.2%	
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3	3.3	
All-Red Time (s)	2.3	2.3	2.3	2.3	2.3		2.9	2.9	2.9	2.9	2.9	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.6	5.6	5.6	5.6	5.6		6.2	6.2	6.2	6.2	6.2	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max	C-Max	C-Max	C-Max		None	None	None	None	None	
Act Effect Green (s)	61.0	61.0	61.0	61.0	61.0		27.2	27.2	27.2		27.2	

Lanes, Volumes, Timings
5: Heron Rd & Jefferson St

04/13/2023

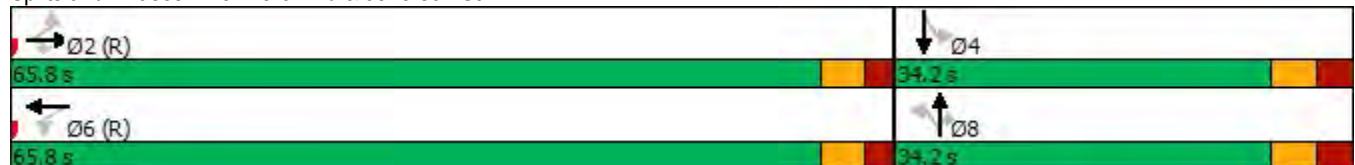


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.61	0.61	0.61	0.61	0.61		0.27	0.27	0.27		0.27	
v/c Ratio	0.76	0.59	0.14	0.31	0.70		0.30	0.20	0.21		0.39	
Control Delay	55.8	13.4	2.0	16.2	15.6		32.1	29.2	10.2		28.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	55.8	13.4	2.0	16.2	15.6		32.1	29.2	10.2		28.0	
LOS	E	B	A	B	B		C	C	B		C	
Approach Delay		15.3			15.6			24.0			28.0	
Approach LOS		B			B			C			C	
Queue Length 50th (m)	12.4	68.3	0.0	4.1	88.3		13.9	14.7	2.1		21.5	
Queue Length 95th (m)	#45.3	89.2	6.5	12.6	115.5		27.3	27.2	13.6		39.2	
Internal Link Dist (m)		330.9			441.1			152.5			213.6	
Turn Bay Length (m)	58.0		62.0	55.0			18.0		15.0			
Base Capacity (vph)	126	2047	887	155	1997		309	509	433		431	
Starvation Cap Reductn	0	0	0	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.76	0.59	0.14	0.31	0.70		0.29	0.19	0.21		0.38	

Intersection Summary

Area Type: Other
 Cycle Length: 100
 Actuated Cycle Length: 100
 Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.76
 Intersection Signal Delay: 16.8 Intersection LOS: B
 Intersection Capacity Utilization 91.8% ICU Level of Service F
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 5: Heron Rd & Jefferson St



Lanes, Volumes, Timings

6: Walkley Rd & Heron Rd
































04/13/2023



Lane Group	EBL	EBR	NEL	NET	SWT	SWR
Lane Configurations						
Traffic Volume (vph)	1192	14	0	743	1096	1284
Future Volume (vph)	1192	14	0	743	1096	1284
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)	0%			0%	0%	
Storage Length (m)	0.0	0.0	0.0			65.0
Storage Lanes	2	0	0			1
Taper Length (m)	2.5		2.5			
Lane Util. Factor	0.97	0.95	1.00	0.95	0.95	0.88
Ped Bike Factor						
Flt	0.998					0.850
Flt Protected	0.953					
Satd. Flow (prot)	3292	0	0	3390	3390	2669
Flt Permitted	0.953					
Satd. Flow (perm)	3292	0	0	3390	3390	2669
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	1					1304
Link Speed (k/h)	50			50	50	
Link Distance (m)	465.1			393.2	359.8	
Travel Time (s)	33.5			28.3	25.9	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	1324	16	0	826	1218	1427
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1340	0	0	826	1218	1427
Turn Type	Prot			NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases						6
Detector Phase	4			2	6	6
Switch Phase						
Minimum Initial (s)	10.0			10.0	10.0	10.0
Minimum Split (s)	33.7			16.6	16.6	16.6
Total Split (s)	61.0			59.0	59.0	59.0
Total Split (%)	50.8%			49.2%	49.2%	49.2%
Yellow Time (s)	3.3			3.3	3.3	3.3
All-Red Time (s)	3.4			3.3	3.3	3.3
Lost Time Adjust (s)	0.0			0.0	0.0	0.0
Total Lost Time (s)	6.7			6.6	6.6	6.6
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max			C-Max	C-Max	C-Max
Act Effect Green (s)	54.3			52.4	52.4	52.4

Lanes, Volumes, Timings
7: Bank St & Wakley Rd

04/13/2023

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 			  		 	 	
Traffic Volume (vph)	301	472	252	300	539	295	216	842	246	283	1269	557
Future Volume (vph)	301	472	252	300	539	295	216	842	246	283	1269	557
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%			0%	
Storage Length (m)	60.0		50.0	78.0		0.0	208.0		70.0	156.0		0.0
Storage Lanes	2		1	2		0	1		1	2		1
Taper Length (m)	27.0			24.0			0.0			24.0		
Lane Util. Factor	0.97	0.95	1.00	0.97	0.95	0.95	1.00	0.91	1.00	0.97	0.95	1.00
Ped Bike Factor	0.99		0.97	0.99	0.98		1.00		0.96	0.99		0.97
Frt			0.850		0.947				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3288	3390	1517	3288	3161	0	1695	4871	1517	3288	3390	1517
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3242	3390	1473	3254	3161	0	1692	4871	1457	3252	3390	1472
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			244		76				258			242
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		154.1			197.3			245.1			260.6	
Travel Time (s)		11.1			14.2			17.6			18.8	
Confl. Peds. (#/hr)	26		11	11		26	8		17	17		8
Confl. Bikes (#/hr)			5			2			5			10
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	334	524	280	333	599	328	240	936	273	314	1410	619
Shared Lane Traffic (%)												
Lane Group Flow (vph)	334	524	280	333	927	0	240	936	273	314	1410	619
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			6
Detector Phase	7	4	4	3	8		5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	7.0	29.0	29.0	7.0	29.0		7.0	10.0	10.0	7.0	10.0	10.0
Minimum Split (s)	13.8	39.7	39.7	13.8	39.7		13.4	33.4	33.4	13.4	33.4	33.4
Total Split (s)	18.0	39.7	39.7	18.0	39.7		21.0	46.7	46.7	25.6	51.3	51.3
Total Split (%)	13.8%	30.5%	30.5%	13.8%	30.5%		16.2%	35.9%	35.9%	19.7%	39.5%	39.5%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3	3.3	3.3	3.3	3.3
All-Red Time (s)	3.5	3.4	3.4	3.5	3.4		3.1	3.1	3.1	3.1	3.1	3.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.8	6.7	6.7	6.8	6.7		6.4	6.4	6.4	6.4	6.4	6.4
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None		None	C-Max	C-Max	None	C-Max	C-Max
Act Effect Green (s)	11.2	33.0	33.0	11.2	33.0		14.6	42.6	42.6	16.9	44.9	44.9

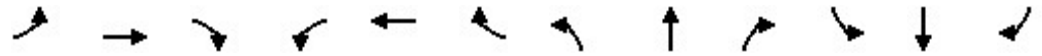
Lanes, Volumes, Timings
8: Walkley Rd & Baycrest Dr

04/13/2023

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	823	20	25	942	216	19	14	21	114	22	77
Future Volume (vph)	115	823	20	25	942	216	19	14	21	114	22	77
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%			0%			0%				0%
Storage Length (m)	50.0		0.0	33.0		0.0	0.0		0.0	20.0		0.0
Storage Lanes	1		0	1		0	0		0	1		0
Taper Length (m)	22.0			27.0			2.5			15.0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	1.00	1.00		1.00	0.99			0.99		0.98	0.98	
Fr _t		0.996			0.972			0.948			0.883	
Fl _t Protected	0.950			0.950				0.983		0.950		
Satd. Flow (prot)	1530	3250	0	1530	3176	0	0	1676	0	1586	1581	0
Fl _t Permitted	0.172			0.282				0.861		0.718		
Satd. Flow (perm)	277	3250	0	452	3176	0	0	1464	0	1178	1581	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		5			53			23			53	
Link Speed (k/h)		50			50			50			50	
Link Distance (m)		360.2			304.5			74.0			276.3	
Travel Time (s)		25.9			21.9			5.3			19.9	
Confl. Peds. (#/hr)	9		12	12		9	11		23	23		11
Confl. Bikes (#/hr)												
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
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	13%	6%	0%	13%	4%	10%	0%	0%	0%	9%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%			0%	
Adj. Flow (vph)	128	914	22	28	1047	240	21	16	23	127	24	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	128	936	0	28	1287	0	0	60	0	127	110	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	25.9	25.9		25.9	25.9		31.1	31.1		31.1	31.1	
Total Split (s)	38.9	38.9		38.9	38.9		31.1	31.1		31.1	31.1	
Total Split (%)	55.6%	55.6%		55.6%	55.6%		44.4%	44.4%		44.4%	44.4%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.6	2.6		2.6	2.6		2.8	2.8		2.8	2.8	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9		5.9	5.9			6.1		6.1	6.1	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max		C-Max	C-Max		None	None		None	None	
Act Effect Green (s)	47.7	47.7		47.7	47.7			14.7		14.7	14.7	

Lanes, Volumes, Timings
8: Walkley Rd & Baycrest Dr

04/13/2023

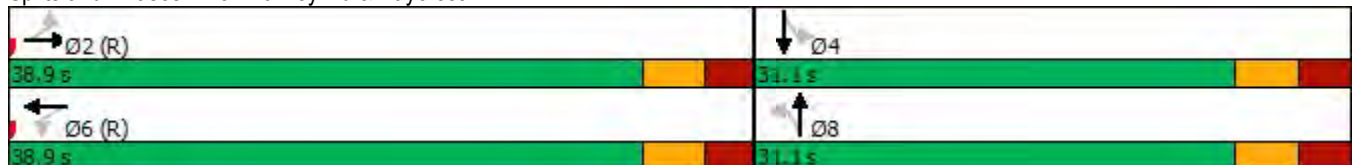


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Actuated g/C Ratio	0.68	0.68		0.68	0.68			0.21		0.21	0.21	
v/c Ratio	0.68	0.42		0.09	0.59			0.18		0.51	0.29	
Control Delay	37.5	8.4		9.0	10.6			14.9		30.5	13.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	37.5	8.4		9.0	10.6			14.9		30.5	13.8	
LOS	D	A		A	B			B		C	B	
Approach Delay		11.9			10.6			14.9			22.7	
Approach LOS		B			B			B			C	
Queue Length 50th (m)	9.5	27.4		1.2	43.1			4.1		15.4	6.4	
Queue Length 95th (m)	#47.3	62.4		6.5	#100.8			10.1		24.0	14.5	
Internal Link Dist (m)		336.2			280.5			50.0			252.3	
Turn Bay Length (m)	50.0			33.0						20.0		
Base Capacity (vph)	188	2216		308	2181			537		420	598	
Starvation Cap Reductn	0	0		0	0			0		0	0	
Spillback Cap Reductn	0	0		0	0			0		0	0	
Storage Cap Reductn	0	0		0	0			0		0	0	
Reduced v/c Ratio	0.68	0.42		0.09	0.59			0.11		0.30	0.18	

Intersection Summary

Area Type: Other
 Cycle Length: 70
 Actuated Cycle Length: 70
 Offset: 17 (24%), Referenced to phase 2:EBTL and 6:WBTL, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 12.3 Intersection LOS: B
 Intersection Capacity Utilization 74.3% ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

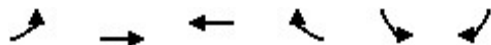
Splits and Phases: 8: Walkley Rd & Baycrest Dr



Lanes, Volumes, Timings

29: Heron Rd

04/13/2023



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Volume (vph)	0	1298	1333	42	0	58
Future Volume (vph)	0	1298	1333	42	0	58
Ideal Flow (vphpl)	1800	1800	1800	1800	1800	1800
Lane Width (m)	3.7	3.7	3.7	3.7	3.7	3.7
Grade (%)		0%	0%		0%	
Storage Length (m)	0.0			0.0	0.0	0.0
Storage Lanes	0			0	0	1
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						
Frt			0.995			0.865
Flt Protected						
Satd. Flow (prot)	0	3390	3373	0	0	1543
Flt Permitted						
Satd. Flow (perm)	0	3390	3373	0	0	1543
Link Speed (k/h)		50	50		50	
Link Distance (m)		177.1	137.3		61.0	
Travel Time (s)		12.8	9.9		4.4	
Confl. Peds. (#/hr)						
Confl. Bikes (#/hr)						
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	0	1442	1481	47	0	64
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	1442	1528	0	0	64
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type:	Other
Control Type:	Unsignalized
Intersection Capacity Utilization	50.8%
ICU Level of Service	A
Analysis Period (min)	15