Timbercreek Heron Gate Secondary Plan

Transportation Impact Assessment

Step 1 Screening Report

Step 2 Scoping Report

Step 3 Forecasting Report

Step 4 Strategy Report

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1 Screening

This study has been prepared according to the City of Ottawa's 2017 Transportation Impact Assessment (TIA) Guidelines. Accordingly, a Step 1 Screening Form has been prepared and is included as Appendix A, along with the Certification Form for TIA Study PM. As shown in the Screening Form, a TIA is required by the Trip Generation, Location, and Safety triggers.

2 Existing and Planned Conditions

2.1 Proposed Development

The proposed redevelopment, encompassing 2848, 2851, 2881, 2898 Baycrest Drive and 2820, 2831 Cedarwood Drive, is currently zoned as part residential (R5B) and Arterial Mainstreet (AM10). The existing land is currently residential townhouse and apartment buildings. The development is not located within any planning area, although a Secondary Plan exercise is currently underway for the redevelopment site.

The proposed redevelopment of the Heron Gate will include nine (9) separate blocks. The first block, named HG7, is currently being constructed and is located on the east side of Sandalwood Drive on Heron Road (2816 Sandalwood Drive). The remaining redevelopment will remove the existing townhouses and replace them with 314 low rise, 1,387 mid-rise, and 3,362 high-rise units. The apartment buildings at 2840, 2851, and 2861 Baycrest Drive and 2820 Cedarwood Drive will remain. The existing driveways along Baycrest Drive, Sandalwood Drive and Cedarwood Drive will be removed and new accesses will be provided per the redevelopment of each block. Conceptually, new accesses may be provided along Walkley Road and Heron Road, per the individual site plans.

This study documents the transportation impacts supporting the ZBA/OPA process and the overall Secondary Plan. Separate TIAs will be required as each additional block proceeds.

Figure 1 illustrates the study area context, and Figure 2 illustrates the proposed concept plan stages.

Figure 1: Area Context Plan

Source: http://maps.ottawa.ca/geoOttawa/ Accessed: January 14, 2019

Heron Gate Concept Plan | April 1, 2019 |

DIALOG

Timbercreek

2.2 Existing Conditions

2.2.1 Heron Gate Area Road Network

Heron Road: Heron Road is a City of Ottawa arterial road with a four-lane divided urban cross-section and a posted speed limit of 50 km/h. The Ottawa Official Plan reserves a 44.5 metre right-of-way between Prince of Wales Drive and Walkley Road. Sidewalks are provided on both sides of the road and a cycle track is located along the south side of the roadway between the Heron-Walkley Park and Herongate Mall. Heron Road is designated as a trucking route.

Walkley Road: Walkley Road is a City of Ottawa arterial road with a four-lane divided urban cross-section and a posted speed limit of 50 km/h. The Ottawa Official Plan reserves a 37.5 metre right-of- way between Bank Street and Heron Road. Sidewalks are located on both sides of the roadway. Walkley Road is designated as a trucking route.

Baycrest Drive: Baycrest Drive is a City of Ottawa collector road with a two-lane urban cross-section with an unposted speed limit of 50 km/h. The existing right-of-way is 20.0 metres, including existing sidewalks on both sides.

Sandalwood Drive: Sandalwood Drive is a City of Ottawa local road with a two-lane urban cross-section with an unposted speed limit of 50 km/h. The existing right-of-way is 20.0 metres, including existing sidewalks on both sides.

Cedarwood Drive: Cedarwood Drive is a City of Ottawa local road with a two-lane urban cross-section with an unposted speed limit of 50 km/h. The existing right-of-way is 20.0 metres, including existing sidewalks on both sides.

2.2.2 1km Signalized Road Network

Alta Vista Drive: Alta Vista Drive is a City of Ottawa major collector road with a two-lane urban cross-section and an unposted speed limit of 50 km/h with a posted 40km/h during school hours. The existing right-of-way is 30.0 metres at Heron Road. Asphalt pathways are provided on both sides of the road and on-street bike lanes are on both sides of the road.

Finn Court: Finn Court is a City of Ottawa local road with a two-lane urban cross-section and an unposted speed limit of 50 km/h. The existing right-of-way is 18.0 metres and no sidewalks are provided.

Jefferson Street: Jefferson Street is a City of Ottawa local road with a two-lane urban cross-section with an unposted speed limit of 50 km/h. The existing right-of-way is 20.0 metre, including an asphalt path on the east side of the road.

Hampstead Place: Hampstead Place is a City of Ottawa local road with a two-lane urban cross-section with a posted speed limit of 40 km/h. The existing right-of-way is 15.0 metres and no sidewalks are provided.

Albion Road North: Albion Road North is a City of Ottawa collector road with a two-lane urban cross-section with an unposted speed limit of 50 km/h. The existing right-of-way is 20.0 metres, including existing sidewalks on both sides.

Colliston Crescent: Colliston Crescent is a City of Ottawa local road with a two-lane urban cross-section with an unposted speed limit of 50 km/h. The existing right-of-way is 20.0 metres, including a sidewalk on the west side.

Heatherington Road: Heatherington Road is a City of Ottawa collector road with a two-lane urban cross-section with an unposted speed limit of 50 km/h with a posted 40km/h during school hours. The existing right-of-way is 20.0 metres, including existing sidewalks on both sides.

2.2.3 Existing Heron Gate Intersections

Heron Road / Baycrest Drive	The intersection of Heron Road and Baycrest Drive is a signalized intersection. The east and west bound approaches consist of an auxiliary left-turn lane, a through lane, and a shared through/right-turn lane. The southbound approach consists of an auxiliary left-turn lane, and a shared through/right-turn lane. The northbound approach consists of a shared all movement lane. The cycle track on the eastbound approach transitions to a bike pocket for an at grade crossing of the intersection. No turn restrictions were noted.
Heron Road / Sandalwood Drive	The intersection of Heron Road and Sandalwood Drive is a signalized intersection. The east and west bound approaches consist of an auxiliary left-turn lane, a through lane, and a shared through/right-turn lane. The north and southbound approaches consist of an auxiliary left-turn lane, and a shared through/right-turn lane. The cycle track on the eastbound approach transitions to a bike pocket for an at grade crossing of the intersection. No turn restrictions were noted.
Walkley Road / Cedarwood Drive	The intersection of Walkley Road and Cedarwood Drive is a signalized intersection. The eastbound approach consists of an auxiliary left-turn lane, a through lane, and a shared through/right-turn lane. The westbound approach consists of a through lane and a shared trough/right-turn lane. The southbound approach consists of an auxiliary left-turn lane, and a shared through/right-turn lane. No turn restrictions were noted.
Walkley Road / Baycrest Drive	The intersection of Walkley Road and Baycrest Drive is a signalized intersection. The east and west bound approaches consist of an auxiliary left-turn lane, a through lane, and a shared through/right-turn lane. The southbound approach consists of an auxiliary left-turn lane, and a shared through/right-turn lane. The northbound approach consists of a shared all movement lane from a private approach. No turn restrictions were noted.
Baycrest Drive / Sandalwood Drive	Baycrest Drive and Sandalwood Drive is a minor stop-controlled intersection, with the stop sign on the Sandalwood Drive approach. All approaches consist of a shared all movement lane, and the eastbound approach is a private access. No turning restrictions were noted.
Baycrest Drive / Cedarwood Drive	Baycrest Drive and Sandalwood Drive is a three-leg intersection with an all-way stop-control. All approaches

consist of a shared all movement lane. No turning restrictions were noted.

2.2.4 Existing 1km Signalized Intersections

Heron Road / Alta Vista Drive

The intersection of Heron Road and Alta Vista Drive is a signalized intersection. The eastbound approach consists of an auxiliary left-turn lane, a through lane, and a shared through/right-turn lane with a channelized right. The westbound approach consists of an auxiliary left-turn lane, a two through lanes, and a channelized right-turn lane. The north and south bound approaches consist of an auxiliary left-turn lane, and a shared through/right-turn lane with a channelization. Bike lanes are provided in the north and southbound directions. No turn restrictions were noted.

Heron Road / Finn Court

The intersection of Heron Road and Finn Court is a signalized intersection. The eastbound approaches consist of a through lane and shared through/right-turn lane, and the westbound approach consists of an auxiliary left-turn lane and two through lanes. The northbound approach consists of an auxiliary left-turn lane and a right-turn lane. No turn restrictions were noted.

Heron Road / Jefferson Street-HG Mall

The intersection of Heron Road and Jefferson Street/HG Mall is a signalized intersection. The eastbound approach consists of an auxiliary left-turn lane, two through lane, and a channelized right-turn lane. The westbound approach consists of an auxiliary left-turn lane, a through lane and a shared trough/right-turn lane. The southbound approach consists of a shared all movement lane, and the northbound approach consists of a left-turn lane, a through lane and a right-turn lane. No turn restrictions were noted.

Walkley Road / Hampstead Place-Jim Durrell RC

The intersection of Walkley Road and Hampstead Place/Jim Durrell RC is a signalized intersection. The east and westbound approaches consist of an auxiliary left-turn lane, a through lane, and a shared through/right-turn lane. The southbound approach consists of an auxiliary left-turn lane, and a shared through/right-turn lane. The northbound approach consists of a shared all movement lane. No turn restrictions were noted.

Walkley Road / Albion Road N-Colliston Crescent

The intersection of Walkley Road and Albion Road N/Colliston Crescent is a signalized intersection. The eastbound approach consists of an auxiliary left-turn lane, two through lanes, and a channelized right-turn lane. The westbound approach consists of an auxiliary left-turn lane, a through lane, and a shared through/right-turn lane. The north and southbound approaches consist of an auxiliary left-turn lane, and a shared through/right-turn lane. No turn restrictions were noted.

Walkley Road / Heatherington Road-HG Mall

The intersection of Walkley Road and Heatherington Road/HG Mall is a signalized intersection. The eastbound approach consists of an auxiliary left-turn lane, a through lanes, and a shared through/right-turn lane. The westbound approach consists of an auxiliary left-turn lane, two through lanes, and channelized right-turn lane. The north and south bound approaches consist of an auxiliary left-turn lane, and a shared through/right-turn lane. No turning restrictions were noted.

2.2.5 Existing Driveways

Along Heron Road, private driveways are located west of Baycrest Drive on both sides of the road, on the north side of the road to the east of Baycrest Drive for residential complexes and individual driveways. An auxiliary left turn lane and median break is provided between Baycrest Drive and Sandalwood Drive, and the median is depressed to the west of Sandalwood Drive.

Along the south side of Walkley Road, existing driveways are located west of Cedarwood Drive and east of Baycrest Drive, where a depressed median is provided for access.

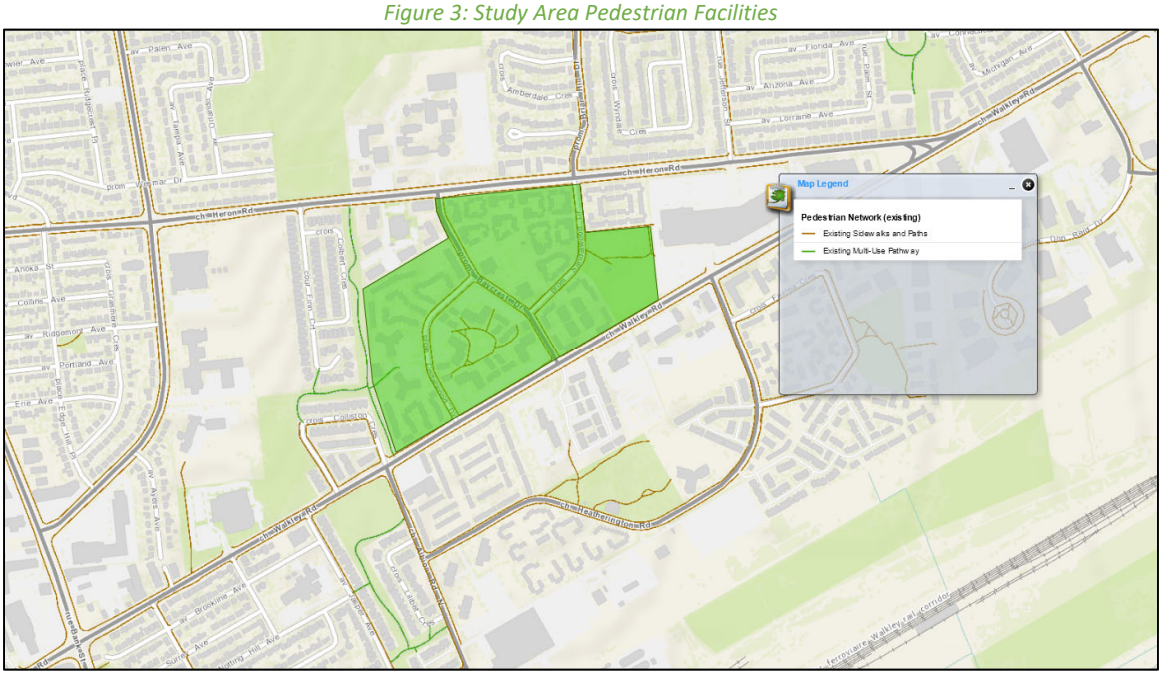
Within the redevelopment area, existing driveways access Baycrest Drive, Sandalwood Drive, and Cedarwood Drive. Existing driveways that will retain access to the City roads include 2810, 2840, 2851, and 2861 Baycrest Drive, and the new access for the HG 7 block at 2816 Sandalwood Drive.

2.2.6 Cycling and Pedestrian Facilities

Figure 3 illustrates the pedestrian facilities in the study area and Figure 4 illustrates the cycling facilities.

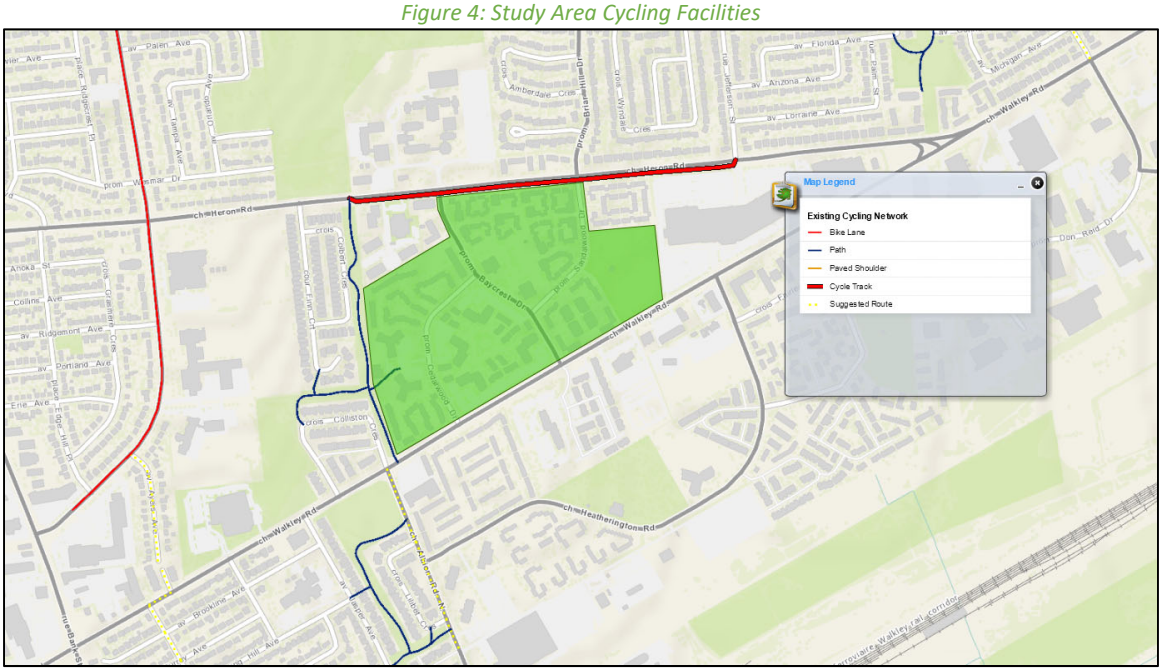
Sidewalks are provided along both sides of the roadways in the study area. The cycling network consists of a cycle track along a portion of Heron Road, a multi-use pathway between Heron Road and Walkley Road in Heron-Walkley Park and a suggested bike route to the south along Albion Road N.

Figure 3: Study Area Pedestrian Facilities



Source: http://maps.ottawa.ca/geoOttawa/ Accessed: January 14, 2019

Figure 4: Study Area Cycling Facilities



Source: http://maps.ottawa.ca/geoOttawa/ Accessed: January 14, 2019

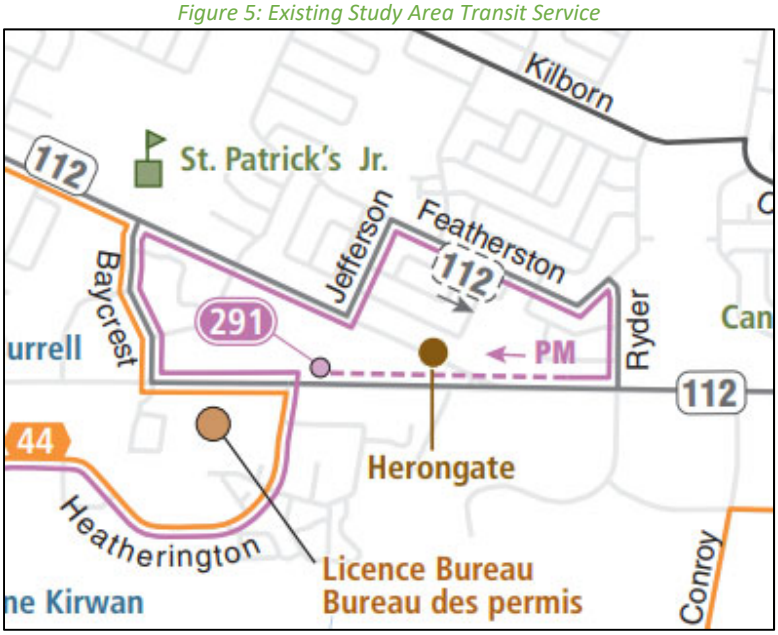
2.2.7 Existing Transit

Within the study area, routes #44, 112, and 291 stop along Heron Road, Baycrest Drive and Walkley Road. The frequency of these routes within proximity of the proposed site currently are:

- Route #44 – every 5-10 minutes in the peak direction, and 15-30 minutes in the off-peak direction and off-peak times
- Route #112 – every 5-20 minutes in the peak direction, and 30 minutes in the off-peak direction and off-peak times
- Route #291 – peak hour service only, every 15-20 minutes during the AM peak direction, every 30 minutes during the PM peak

Figure 5 illustrates the transit system map in the study area.

Figure 5: Existing Study Area Transit Service



Source: http://www.octranspo.com/ Accessed: January 3, 2019

2.2.8 Existing Area Traffic Management Measures

There are no area traffic management measures in the area.

2.2.9 Existing Peak Hour Travel Demand

Existing turning movement counts were acquired from the City of Ottawa and additional count were conducted at non-signalized intersections for the existing Study Area intersection. Table 1 and Table 2 summarize the intersection count dates.

Table 1: Intersection Counts – Heron Gate Intersections

Intersection	Count Date
Heron Road & Baycrest Drive	Wednesday, November 16, 2016
Heron Road & Sandalwood Drive	Wednesday, November 16, 2016
Walkley Road & Cedarwood Drive	Wednesday, August 3, 2016
Walkley Road & Baycrest Drive	Wednesday, November 16, 2016
Baycrest Drive & Cedarwood Drive	Wednesday, December 19, 2018
Baycrest Drive & Sandalwood Drive	Wednesday, October 24, 2018

Table 2: Intersection Counts – 1km Signalized Intersections

Intersection	Count Date
Heron Road & Alta Vista Drive	Tuesday, December 04, 2018
Heron Road & Finn Court	Thursday, February 07, 2019
Heron Road & Jefferson Street/HG Mall	Thursday, November 17, 2016
Walkley Road & Hampstead Place/Jim Durrell RC	Wednesday, November 16, 2016
Walkley Road & Albion Road/Colliston Crescent	Wednesday, December 07, 2016
Walkley Road & Heatherington Road/HG Mall	Wednesday, November 16, 2016

Figure 6 and Figure 7 illustrate the existing traffic counts, and Table 3 and Table 4 summarize the existing intersection operations. The level of service is based on the HCM criteria for average delay at unsignalized and signalized intersections. Detailed turning movement count data is included in Appendix B and the synchro worksheets are provided in Appendix C.

Figure 6: Existing Traffic Counts – Heron Gate Intersections

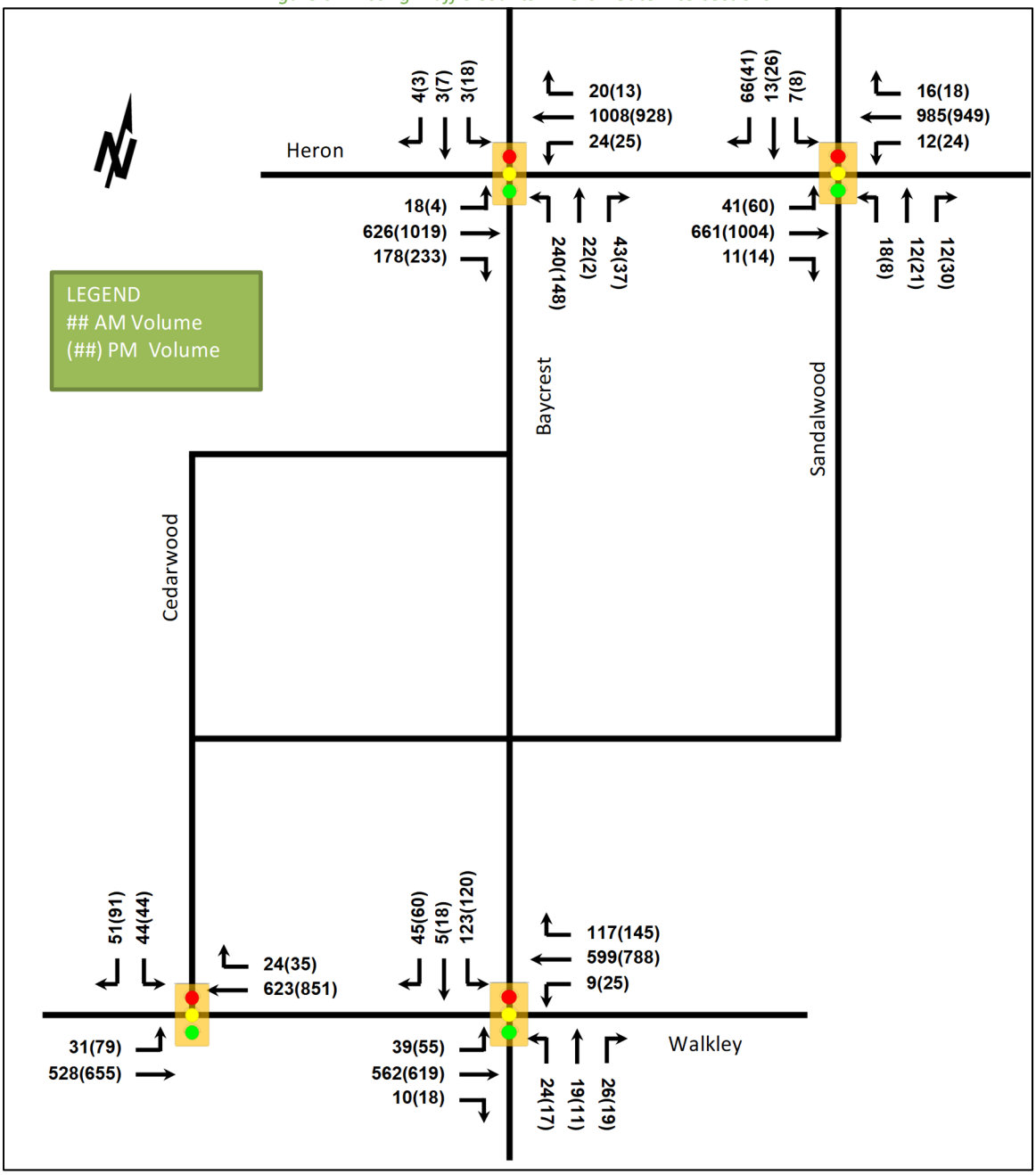


Figure 7: Existing Traffic Counts – 1km Signalized Intersections

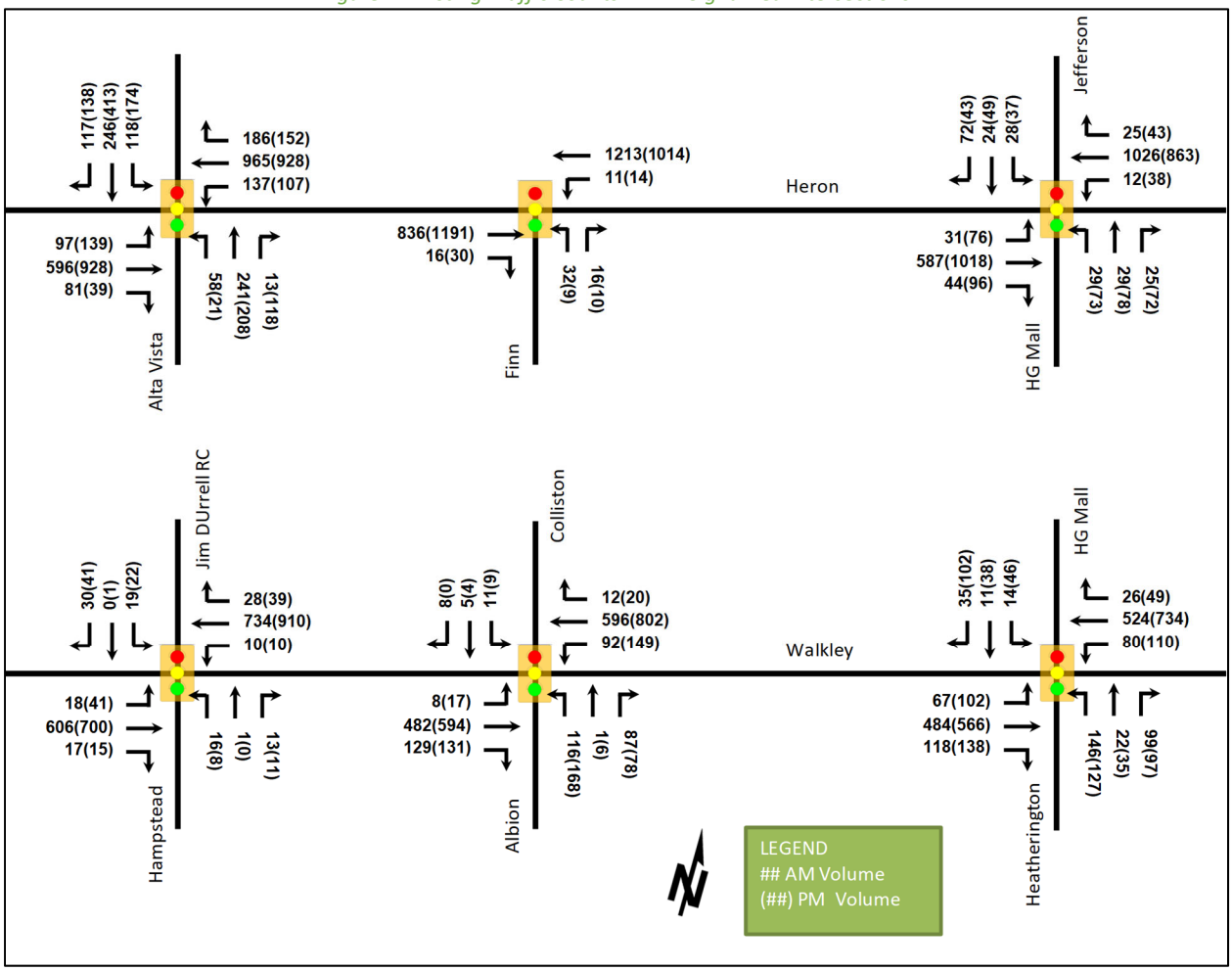


Table 3: Existing Intersection Operations – Heron Gate Intersections

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	Q (95th)	LOS	Delay	V/C	Q (95th)
Heron Road & Baycrest Drive *Signalized*	EBL	C	24.6	0.24	8.3	A	8.8	0.02	1.8
	EBT/R	C	21.8	0.68	79.8	B	13.1	0.68	122.1
	WBL	B	19.5	0.19	9.0	B	13.2	0.19	8.3
	WBT/R	C	29.3	0.85	115.6	B	10.4	0.50	78.3
	NB	C	21.6	0.56	74.1	D	36.4	0.67	49.9
	SBL	B	14.3	0.01	1.9	C	22.7	0.08	8.0
	SBT/R	B	11.0	0.01	2.9	B	18.8	0.03	4.8
	Overall	**C**	**25.3**	**-**	**-**	**B**	**13.9**	**-**	**-**
Heron Road & Sandalwood Drive *Signalized*	EBL	C	30.7	0.45	15.0	A	5.5	0.20	7.6
	EBT/R	B	10.1	0.06	6.5	A	5.1	0.49	49.0
	WBL	B	11.0	0.03	3.8	A	4.5	0.10	3.5
	WBT/R	C	22.3	0.80	89.4	A	4.6	0.42	39.1
	NBL	B	15.4	0.04	6.6	C	27.6	0.06	5.1
	NBT/R	B	10.9	0.04	6.6	B	17.7	0.23	12.7
	SBL	B	15.3	0.01	3.7	C	27.6	0.05	5.1
	SBT/R	A	6.4	0.13	10.7	B	17.5	0.30	14.8
	Overall	**C**	**20.4**	**-**	**-**	**A**	**5.7**	**-**	**-**
Walkley Road & Cedarwood Drive *Signalized*	EBL	B	16.1	0.21	8.0	A	6.3	0.25	9.8
	EBT	B	16.7	0.55	36.9	A	4.2	0.30	23.4
	WBT/R	B	18.7	0.68	46.2	A	5.0	0.42	35.4
	SBL	A	9.4	0.06	8.4	C	26.5	0.19	14.3
	SBR	A	3.7	0.08	5.5	B	10.8	0.34	12.9
	Overall	**B**	**16.9**	**-**	**-**	**A**	**5.6**	**-**	**-**
Walkley Road & Baycrest Drive *Signalized*	EBL	B	19.9	0.30	10.7	B	12.8	0.23	13.6
	EBT/R	B	17.6	0.58	42.6	A	9.2	0.33	44.8
	WBL	B	12.7	0.05	3.4	A	9.5	0.07	6.1
	WBT/R	B	19.7	0.72	53.6	B	10.6	0.49	72.1
	NB	A	8.0	0.11	11.0	B	14.2	0.14	11.3
	SBL	B	12.6	0.25	23.0	C	26.5	0.43	31.1
	SBT/R	A	4.8	0.08	6.3	A	9.1	0.21	12.1
	Overall	**B**	**17.4**	**-**	**-**	**B**	**11.2**	**-**	**-**

Notes: Saturation flow rate of 1800 veh/h/lane
PHF = 0.90

Table 4: Existing Intersection Operations – 1km Signalized Intersections

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	Q (95th)	LOS	Delay	V/C	Q (95th)
Heron Road & Alta Vista Drive *Signalized*	EBL	E	75.4	0.77	#47.4	F	103.1	0.90	#83.1
	EBT/R	C	31.2	0.72	83.0	E	58.8	0.95	#197.2
	WBL	F	142.6	1.09	#69.6	F	84.0	0.74	#59.0
	WBT	E	64.1	1.02	#150.0	E	56.2	0.93	#183.3
	WBR	A	5.1	0.34	15.2	A	9.5	0.29	23.5
	NBL	C	29.6	0.26	20.6	D	38.1	0.17	12.9
	NBT/R	C	34.4	0.59	71.2	D	47.0	0.71	120.6
	SBL	B	18.9	0.35	26.2	C	30.6	0.58	50.1
	SBT/R	C	23.2	0.61	85.6	D	43.6	0.83	#201.4
	Overall	**D**	**46.0**	**-**	**-**	**D**	**53.3**	**-**	**-**
Heron Road & Finn Court *Signalized*	EBT/R	A	2.7	0.30	26.8	A	2.5	0.45	46.3
	WBL	A	2.9	0.02	1.6	A	2.4	0.05	1.9
	WBT	A	3.7	0.48	53.6	A	2.3	0.41	39.9
	NBL	D	36.8	0.24	14.0	C	34.3	0.08	6.1
	NBR	B	16.8	0.12	6.1	B	19.6	0.09	4.7
	Overall	**A**	**4.0**	**-**	**-**	**A**	**2.6**	**-**	**-**
Heron Road & Jefferson Street/HG Mall *Signalized*	EBL	A	5.3	0.11	4.9	A	8.1	0.27	13.0
	EBT	A	4.9	0.29	25.2	A	6.5	0.45	50.8
	EBR	A	1.6	0.05	3.0	A	1.4	0.10	4.9
	WBL	A	4.2	0.03	2.3	A	6.2	0.14	6.6
	WBT/R	A	6.1	0.46	46.4	A	6.4	0.45	49.7
	NBL	C	28.1	0.18	11.0	D	35.7	0.45	23.4
	NBT	C	26.3	0.12	10.8	C	30.2	0.32	23.5
	NBR	B	10.2	0.11	5.9	A	9.2	0.27	10.7
	SB	B	19.7	0.49	22.8	C	31.2	0.56	32.0
	Overall	**A**	**7.2**	**-**	**-**	**A**	**9.4**	**-**	**-**
Walkley Road & Hampstead Place/Jim Durrell RC *Signalized*	EBL	A	4.7	0.04	2.9	A	4.7	0.12	5.5
	EBT/R	A	4.0	0.27	24.2	A	3.7	0.32	30.0
	WBL	A	4.4	0.02	1.9	A	3.8	0.02	1.8
	WBT/R	A	4.3	0.33	31.0	A	4.1	0.39	40.1
	NB	B	16.7	0.14	8.0	A	4.9	0.09	3.1
	SBL	C	22.1	0.10	6.9	C	27.6	0.13	8.9
	SBT/R	A	0.5	0.09	0.0	B	10.9	0.18	8.3
	Overall	**A**	**4.6**	**-**	**-**	**A**	**4.4**	**-**	**-**
Walkley Road & Albion Road/Colliston Crescent *Signalized*	EBL	A	6.1	0.02	2.2	A	7.9	0.06	4.5
	EBT	A	6.0	0.24	25.2	A	8.0	0.34	43.1
	EBR	A	1.8	0.14	6.5	A	1.9	0.15	7.4
	WBL	A	7.6	0.19	13.8	B	12.5	0.41	32.0
	WBT/R	A	6.4	0.30	32.2	A	8.8	0.44	58.0
	NBL	C	27.9	0.49	27.4	D	38.8	0.68	44.3
	NBT/R	A	7.1	0.26	10.0	A	7.9	0.24	11.2
	SBL	B	19.0	0.05	4.8	C	21.4	0.04	4.7
	SBT/R	B	13.6	0.05	4.5	C	20.8	0.01	2.6
	Overall	**A**	**7.8**	**-**	**-**	**B**	**10.9**	**-**	**-**

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	Q (95th)	LOS	Delay	V/C	Q (95th)
Walkley Road & Heatherington Road/HG Mall *Signalized*	EBL	A	8.9	0.17	11.7	A	9.5	0.32	15.1
	EBT/R	A	8.1	0.40	37.3	A	7.7	0.37	39.8
	WBL	B	10.2	0.25	14.7	C	20.9	0.41	30.4
	WBT	A	8.1	0.31	30.6	B	16.7	0.54	70.0
	WBR	A	1.6	0.03	2.0	A	0.2	0.07	0.0
	NBL	C	27.9	0.58	30.7	D	39.3	0.66	34.2
	NBT/R	A	7.6	0.31	12.7	B	10.1	0.35	17.0
	SB	B	10.5	0.19	10.1	B	18.0	0.52	31.3
	Overall	**A**	**9.9**	**-**	**-**	**B**	**14.4**	**-**	**-**

Notes: Saturation flow rate of 1800 veh/h/lane
PHF = 0.90

The existing intersection operations operate satisfactorily during the peak hours with the exception of the Heron Road and Alta Vista Drive intersection. During the AM peak hour, the westbound left-turn movement is anticipated to experience high delays and be over capacity. During the PM peak hour, the northbound and westbound left-turn movements are anticipated to experience high delays. A signal timing modification may improve the intersection operations but would need to be considered within the context of the corridor progression and coordination for both Alta Vista Drive and Heron Road.

2.2.10 Collision Analysis

Collision data has been acquired from the City of Ottawa open data website (data.ottawa.ca) for five years prior to the commencement of this TIA for the surrounding study are road network. Table 5 and Table 6 summarize the collisions types and conditions in the study area, Figure 8 illustrates the intersections and segments analyzed, and Table 7 and Table 8 summarizes the total collisions for each of these locations. Collision data is included in Appendix D.

Table 5: Study Area Collision Summary – Heron Gate Intersections – 2013-2017

		Number	%
Total Collisions		**130**	**100%**
Classification	Fatality	0	0%
	Non-Fatal Injury	28	22%
	Property Damage Only	102	78%
Initial Impact Type	Angle	1	1%
	Angle	30	23%
	Rear end	40	31%
	Sideswipe	11	8%
	Turning Movement	15	12%
	SMV Unattended	16	12%
	SMV Other	11	8%
	Other	6	5%
Road Surface Condition	Dry	86	66%
	Wet	23	18%
	Loose Snow	8	6%
	Slush	3	2%
	Packed Snow	2	2%
	Ice	7	5%
	Unknown	1	1%
Pedestrian Involved		7	5%
Cyclists Involved		5	4%

Table 6: Study Area Collision Summary – 1km Signalized Intersections – 2013-2017

		Number	%
Total Collisions		**165**	**100%**
Classification	Fatality	0	0%
	Non-Fatal Injury	45	27%
	Property Damage Only	120	73%
Initial Impact Type	Approaching	3	2%
	Angle	25	15%
	Rear end	51	31%
	Sideswipe	20	12%
	Turning Movement	36	22%
	SMV Unattended	1	1%
	SMV Other	25	15%
	Other	4	2%
Road Surface Condition	Dry	115	70%
	Wet	27	16%
	Loose Snow	6	4%
	Slush	6	4%
	Packed Snow	2	1%
	Ice	9	5%
Pedestrian Involved		10	6%
Cyclists Involved		5	3%

Figure 8: Study Area Representation of Collision Locations

Source: https://maps.bikeottawa.ca/collisions/ Accessed: January 15, 2019

Table 7: Summary of Collision Locations – Heron Gate Intersections

	Number	%
Intersections / Segments	**130**	**100%**
Heron Rd @ Baycrest Dr	20	15%
Heron Rd @ Briar Hill Dr/Sandalwood Dr	11	8%
Baycrest Dr @ Walkley Rd	33	25%
Cedarwood Dr @ Walkley Rd	18	14%
Baycrest Dr @ Cedarwood Dr	4	3%
Baycrest Dr @ Sandalwood Dr	4	3%
Heron Rd btwn Baycrest Dr & Sandalwood Dr	2	2%
Walkley Rd btwn Cedarwood Dr & Baycrest Dr	3	2%
Baycrest Dr btwn Heron Rd & Cedarwood Dr	5	4%
Baycrest Dr btwn Cedarwood Dr & Sandalwood Dr	8	6%
Baycrest Dr btwn Sandalwood Dr & Walkley Rd	3	2%
Sandalwood Dr btwn Baycrest Dr & Heron Rd	8	6%
Cedarwood Dr btwn Walkley Rd & Baycrest Dr	11	8%

Table 8: Summary of Collision Locations – 1km Signalized Intersections

	Number	%
Intersections / Segments	**165**	**100%**
Heron Rd @ Alta Vista Dr	26	16%
Heron Rd @ Finn Crt	9	5%
Heron Rd @ Jefferson St	15	9%
Hampstead Pl @ Walkley Rd	7	4%
Albion Rd/Colliston Cres E @ Walkley Rd	31	19%
Jasper Ave @ Walkley Rd	2	1%
Walkley Rd @ Heatherington Rd	28	17%
Heron Rd btwn Alta Vista Dr & Finn Crt	5	3%
Heron Rd btwn Finn Crt & Baycrest Dr	11	7%
Heron Rd btwn Sandalwood Dr & Jefferson St	1	1%
Walkley Rd btwn Hampstead Pl & Jasper Ave	1	1%
Walkley Rd btwn Jasper Ave & Colliston Cres	3	2%
Walkley Rd btwn Colliston Cres & Colliston Cres	3	2%
Walkley Rd btwn Colliston Cres & Cedarwood Dr	8	5%
Walkley Rd btwn Baycrest Dr & Heatherington Rd	15	9%

Overall, no fatal collisions were documented in the study area and a total of 12 collisions were noted involving pedestrians or cyclists within the Heron Gate area. Within Heron Gate, the cycling collisions occurred mid-block on Baycrest Drive between Sandalwood Drive and Walkley Road, at the Heron Road and Sandalwood Drive intersection, and two at the Walkley Road and Baycrest Drive intersection. The pedestrian collisions occurred on Baycrest Drive between Cedarwood Drive and Sandalwood Drive, the Heron Road and Baycrest intersection, and two at the Walkley Road and Cedarwood Drive intersection. Overall, the road surface conditions (66% on dry roads) are not considered a contributing factor to the study area collisions.

On the adjacent network 1km from Heron Gate, the cycling collisions occurred at the intersections of Heron Road and Jefferson Street, Walkley Road and Hampstead Place, and Walkley Road and Heatherington Road, and two at the midblock on Walkley Road between Colliston Crescent and Cedarwood Drive. Single pedestrian collisions occurred at the intersections of Heron Road and Alta Vista Drive, Heron Road and Jefferson Street, and four occurred at each of the intersections of Walkley Road and Albion Road, and Walkley Road and Heatherington

Road. Overall, the road surface conditions (70% on dry roads) are not considered a contributing factor to the study area collisions.

For the intersections along Heron Road and Walkley Road that have a higher volume of collisions, they have been summarized in Table 9, Table 10, Table 11, Table 12, Table 13, Table 14, Table 15, and Table 16 summarize the collision types and conditions individually form the study area total.

Table 9: Heron Road and Baycrest Drive Collision Summary

		Number	%
Total Collisions		**20**	**100%**
Classification	Non-Fatal Injury	1	5%
	Property Damage Only	19	95%
Initial Impact Type	Angle	2	10%
	Rear end	10	50%
	Sideswipe	3	15%
	Turning Movement	4	20%
	SMV Other	1	5%
Road Surface Condition	Dry	14	70%
	Wet	3	15%
	Ice	3	15%
Pedestrian Involved		1	5%
Cyclists Involved		1	5%

Heron Road and Baycrest Drive has experienced 20 collisions between 2013-2017, almost entirely property damage only. Half of the impacts in the area are rear-end collisions, and four were noted as turning movement collisions. Road surface conditions were not noted as a contributing factor for collisions at this intersection. No patterns were noted and no improvements are recommended.

Table 10: Heron Road and Sandalwood Drive Collision Summary

		Number	%
Total Collisions		**11**	**100%**
Classification	Non-Fatal Injury	2	18%
	Property Damage Only	9	82%
Initial Impact Type	Angle	5	45%
	Rear end	5	45%
	Turning Movement	1	10%
Road Surface Condition	Dry	5	45%
	Wet	4	36%
	Slush	2	18%
Pedestrian Involved		0	0%
Cyclists Involved		1	9%

Heron Road and Sandalwood Drive has experienced 11 collisions between 2013-2017. Angled and rear end collisions are the predominant collision types at the intersection. No sight line issues are noted for the angled collisions. Left-turn auxiliary lanes are provided at the intersection, and protected phasing on the turning movements may improve the angled collisions.

Table 11: Walkley Road and Cedarwood Drive Collision Summary

		Number	%
Total Collisions		**18**	**100%**
Classification	Non-Fatal Injury	7	39%
	Property Damage Only	11	61%
Initial Impact Type	Approaching	1	6%
	Angle	1	6%
	Rear end	6	33%
	Sideswipe	1	6%
	Turning Movement	5	28%
	SMV Other	4	22%
Road Surface Condition	Dry	12	67%
	Wet	3	17%
	Loose Snow	2	11%
	Slush	1	6%
Pedestrian Involved		4	22%
Cyclists Involved		0	0%

Walkley Road and Cedarwood Drive intersection has experienced 18 collisions between 2013-2017. Rear-end, turning movement and single motor vehicle collisions are noted to comprise of the majority of the impact types. Sight line issues are noted for the southbound approach to the west as plantings along the berm on Walkley Road limit visibility to westbound vehicles. Road surface conditions were not noted as a contributing factor for collisions at this intersection.

Table 12: Walkley Road and Baycrest Drive Collision Summary

		Number	%
Total Collisions		**33**	**100%**
Classification	Non-Fatal Injury	10	30%
	Property Damage Only	23	70%
Initial Impact Type	Angle	10	30%
	Rear end	17	52%
	Sideswipe	2	6%
	Turning Movement	1	3%
	SMV Other	3	9%
Road Surface Condition	Dry	26	79%
	Wet	3	8%
	Loose Snow	1	3%
	Packed Snow	1	3%
	Ice	2	8%
Pedestrian Involved		0	0%
Cyclists Involved		2	8%

Walkley Road and Baycrest Drive intersection has experienced 33 collisions between 2013-2017. Sight line issues are noted for the southbound approach to the west, with the retaining wall along Walkley Road limits visibility to westbound vehicles. The visibility concerns do not translate to increased turning movement collisions at this intersection. The rear end collisions are the predominant impact type at the intersection. Left-turn auxiliary lanes are provided at the intersection, and protected phasing on the turning movements may improve the angled collisions. Road surface conditions were not noted as a contributing factor for collisions at this intersection.

Table 13: Heron Road and Alta Vista Drive Collision Summary

		Number	%
Total Collisions		**26**	**100%**
Classification	Non-Fatal Injury	5	19%
	Property Damage Only	21	81%
Initial Impact Type	Rear end	16	62%
	Sideswipe	3	12%
	Turning Movement	3	12%
	SMV Other	4	15%
Road Surface Condition	Dry	14	54%
	Wet	7	27%
	Packed Snow	1	4%
	Ice	4	15%
Pedestrian Involved		1	4%
Cyclists Involved		0	0%

Heron Road and Alta Vista Drive intersection has experienced 26 collisions between 2013-2017. Sight line issues are noted for the southbound approach to the west and eastbound approach to the south, with retaining walls located within the sight triangles. The visibility concerns do not translate to increased turning movement collisions at this intersection. The rear end collisions are the predominant impact type at the intersection.

Table 14: Heron Road and Jefferson Street Collision Summary

		Number	%
Total Collisions		**15**	**100%**
Classification	Non-Fatal Injury	3	20%
	Property Damage Only	12	80%
Initial Impact Type	Angle	7	47%
	Rear end	2	13%
	Sideswipe	2	13%
	Turning Movement	3	20%
	SMV Other	1	7%
Road Surface Condition	Dry	12	80%
	Wet	3	20%
Pedestrian Involved		1	7%
Cyclists Involved		1	7%

Heron Road and Jefferson Street intersection has experienced 15 collisions between 2013-2017. Sight line issues are noted on the north side of the intersection, as private property boarders the intersection and no sight triangles are provided. The visibility concerns do not translate to increased turning movement collisions at this intersection. The rear end collisions are the predominant impact type at the intersection. Road surface conditions were not noted as a contributing factor for collisions at this intersection.

Table 15: Walkley Road and Albion Road/Colliston Crescent E Collision Summary

		Number	%
Total Collisions		**31**	**100%**
Classification	Non-Fatal Injury	13	42%
	Property Damage Only	18	58%
Initial Impact Type	Approaching	1	3%
	Angle	3	10%
	Rear end	6	19%
	Sideswipe	14	45%
	Turning Movement	6	19%
	SMV Other	1	3%
Road Surface Condition	Dry	20	65%
	Wet	5	16%
	Loose Snow	3	10%
	Slush	1	3%
	Ice	2	6%
Pedestrian Involved		4	13%
Cyclists Involved		0	0%

Walkley Road and Albion Road/Colliston Crescent E intersection has experienced 31 collisions between 2013-2017. The sideswipe collisions are the predominant impact type at the intersection and is a significant deviation from the other area intersections as 14 of the 20 total sideswipes for the 1km signalized intersections occur here. No operational issues are noted as the cause, although the westbound shared through/right or the adjacent retail access to the east of the intersection may generate lane changes to avoid slowing vehicles and cause the sideswipe collisions. Road surface conditions were not noted as a contributing factor for collisions at this intersection.

Table 16: Walkley Road and Heatherington Road Collision Summary

		Number	%
Total Collisions		**28**	**100%**
Classification	Non-Fatal Injury	10	36%
	Property Damage Only	18	64%
Initial Impact Type	Angle	3	11%
	Rear end	9	32%
	Sideswipe	2	7%
	Turning Movement	5	18%
	SMV Other	8	29%
	Other	1	4%
Road Surface Condition	Dry	20	71%
	Wet	4	14%
	Slush	2	7%
	Ice	2	7%
Pedestrian Involved		4	14%
Cyclists Involved		1	4%

Walkley Road and Heatherington Road intersection has experienced 28 collisions between 2013-2017. The rear end and single motor vehicle collisions are the predominant impact type at the intersection. Road surface conditions were not noted as a contributing factor for collisions at this intersection. No patterns were noted and no improvements are recommended.

2.3 Planned Conditions

2.3.1 Changes to the Area Transportation Network

No projects are identified within the City of Ottawa Transportation Master Plan for the 2031 Affordable Network.

The 2031 Transportation Master Plan and Ultimate Rapid Transit and Transit Priority Network identifies an at-grade bus rapid transit corridor along Heron Road, an extension of the Baseline Road BRT from the currently planned end point at Airport Parkway/Data Centre Road. The Heron Road BRT would extend to Walkley Road, before traveling north along Russell Road and St Laurent Boulevard, ending at Innes Road/Industrial Avenue.

In addition, isolated transit priority measures are noted along Walkley Road from the Southeast Transitway to Heron Road.

2.3.2 Other Study Area Developments

2816 Sandalwood Drive – HG7

HG7 is currently being completed, removing the previous 80 townhouses on site to be replaced by 341 apartment units in three 6-storey buildings. An access is provided on both Sandalwood Drive and Heron Road.

1670 Heron Road – Herongate Square

Herongate Square underwent redevelopment during 2015-2016, de-malling the site and adding additional buildings along the Walkley Road and Heron Road frontages, and along the west boundary of the site.

1780 Heron Road – Ultramar

A new gas station was proposed at the Heron Road and Walkley Road intersection and has been constructed in 2016.

3 Study Area and Time Periods

3.1 Study Area

The study area includes the intersections of Heron Road and Baycrest Drive, Heron Road and Sandalwood Drive, Walkley Road and Cedarwood Drive, Walkley Road and Baycrest Drive, Baycrest Drive and Cedarwood Drive, and Baycrest Drive and Sandalwood Drive. Heron Road, Walkley Road, Baycrest Drive, Sandalwood Drive, and Cedarwood Drive are noted as the boundary roads for the site.

The TRANS screenline SL-19 is located along the Rideau River to the approximately 4.0km to the west, SL-54 is located approximately 3.0km to the north along the Ottawa hospital Link, and SL-13 is located approximately 1.0km to the south along the CN Rail line.

3.2 Time Periods

The AM and PM peak hours will be examined for the proposed development.

3.3 Horizon Years

The anticipated build-out year horizon the Heron Gate Secondary Plan build-out horizon is 2036.

4 Exemption Review

Table 17 summarizes the exemptions for this TIA.

Table 17: Exemption Review

Module	Element	Explanation	Exempt/Required
Design Review Component			
4.1 Development Design	All	This is a ZBA and OPA application. Therefore, these elements are not required at this stage and will be documented during the individual TIAs for each phase.	Exempt
4.2 Parking			
4.3 Boundary Street Design			
4.4 Access Intersections Design			
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	Required
4.6 Neighbourhood Traffic Management	4.6.1 Adjacent Neighbourhoods	Only required when the development relies on local or collector streets for access and total volumes exceed ATM capacity thresholds	Required
4.8 Network Concept		Only required when proposed development generates more than 200 person-trips during the peak hour in excess of equivalent volume permitted by established zoning	Required

5 Development-Generated Travel Demand

5.1 Trip Generation and Mode Share

This TIA has been prepared using the vehicle and person trip rates for the residential components using the TRANS Trip Generation Study Report (2009). Table 18 summarizes the person trip rates for the proposed land uses.

Table 18: Trip Generation Person Trip Rates

Dwelling Type	Land Use Code	Peak Hour	Vehicle Trip Rate	Person Trip Rates
Low-rise Apartment	221	AM	0.31	0.84
		PM	0.34	0.85
Mid-rise Apartment	223	AM	0.24	0.65
		PM	0.28	0.70
High-rise Apartment	222	AM	0.24	0.65
		PM	0.27	0.68

Using the above Person Trip rates, the total person trip generation has been estimated. Table 19 summarizes the total person trip generation by dwelling type.

Table 19: Total Person Trip Generation

Land Use	Units	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Low-rise Apartment	362	73	231	304	191	117	308
Mid-rise Apartment	1,374	214	679	893	596	366	962
High-rise Apartment	4,348	678	2,148	2,826	1,833	1,124	2,957
Total Person Trips		**965**	**3058**	**4023**	**2620**	**1607**	**4227**

Using the most recent National Capital Region Origin-Destination survey (OD Survey), the existing mode shares for Alta Vista were determined and will be applied for the development and are summarized in Table 20.

Table 20: Alta Vista Mode Share

Travel Mode	Mode Share
Auto Driver	60%
Auto Passenger	15%
Transit	20%
Non-Auto	5%
Total	100%

Using the above mode shares and person trip rates the person trips by mode have been projected. Table 21 summarizes the trip generation by mode.

Table 21: Trip Generation by Mode

Travel Mode	Mode Share	In	Out	Total	In	Out	Total
Auto Driver	60%	579	1,835	2,414	1,573	964	2,536
Auto Passenger	15%	145	459	604	393	242	634
Transit	20%	194	612	805	524	321	845
Non-Auto Modes	5%	49	153	201	132	80	211
Total	100%	965	3,058	4,023	2,620	1,607	4,227

As shown above, 2,414 AM and 2,536 PM peak hour two-way vehicle trips are projected as a result of the proposed Secondary Plan redevelopment.

No trip reductions factors (i.e. synergy, pass-by, etc.) have been applied as the subject residential. Potential mixed-use opportunities may exist in the future, and while likely servicing the Heron Gate area with the trips captured in the overall trip generation above, future TIAs will be required and will confirm the traffic impacts once the use and sizes are known.

5.2 Trip Distribution

To understand the travel patterns of the subject development the OD Survey has been reviewed to determine the existing travel patterns. Table 22 below summarizes the distribution.

Table 22: OD Survey Existing Mode Share – Alta Vista

To/From	Percent of Trips
North	35%
South	25%
East	20%
West	20%
Total	100%

5.3 Trip Assignment

Using the distribution outlined above, turning movement splits, and access to major transportation infrastructure, the trips generated by the site have been assigned to the Study Area road network. The 2036 new site volumes for the Secondary Plan area are illustrated in Figure 9 and Figure 10.

Figure 9: New 2036 Site Generation Auto Volumes - Heron Gate Intersections

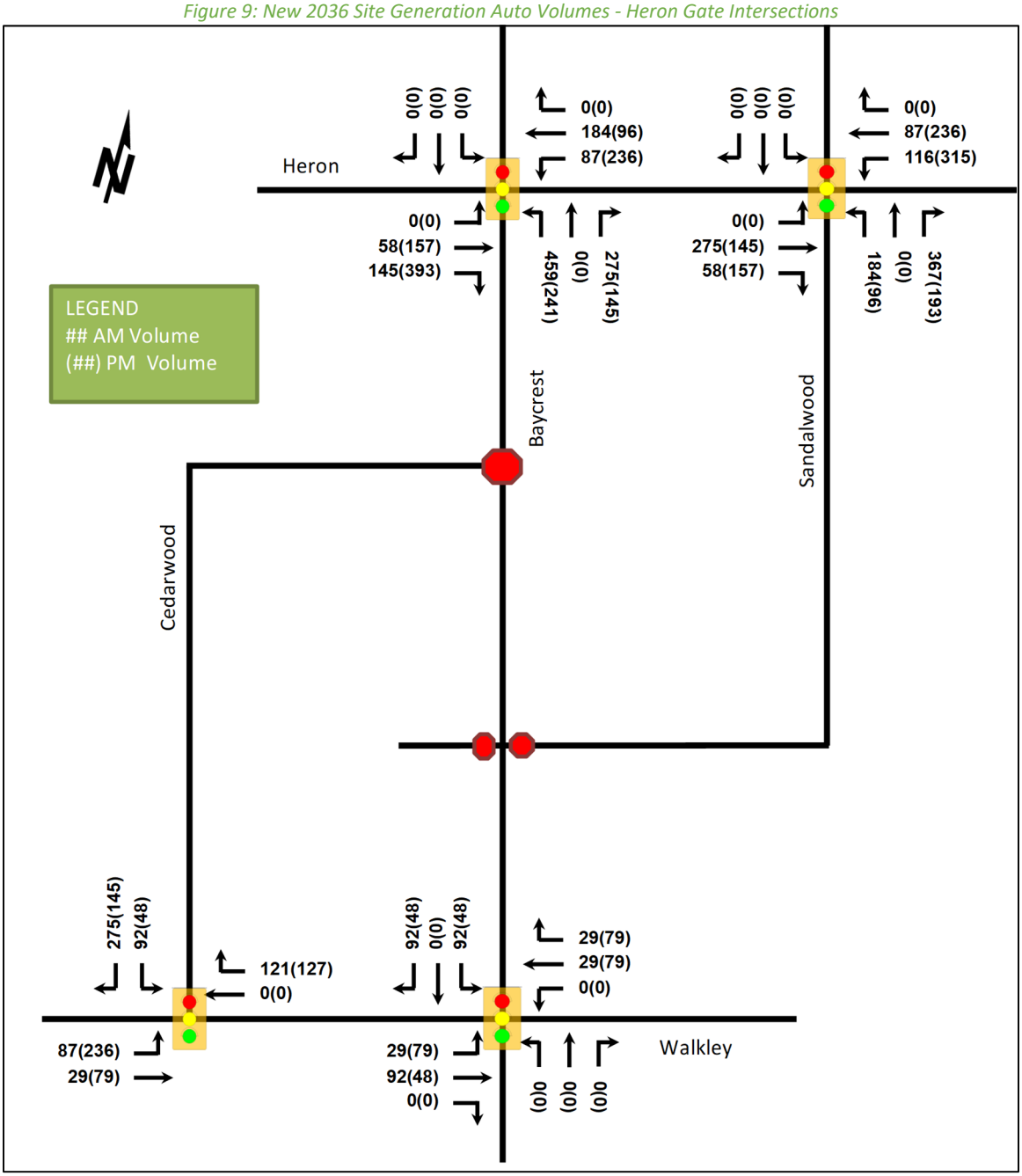
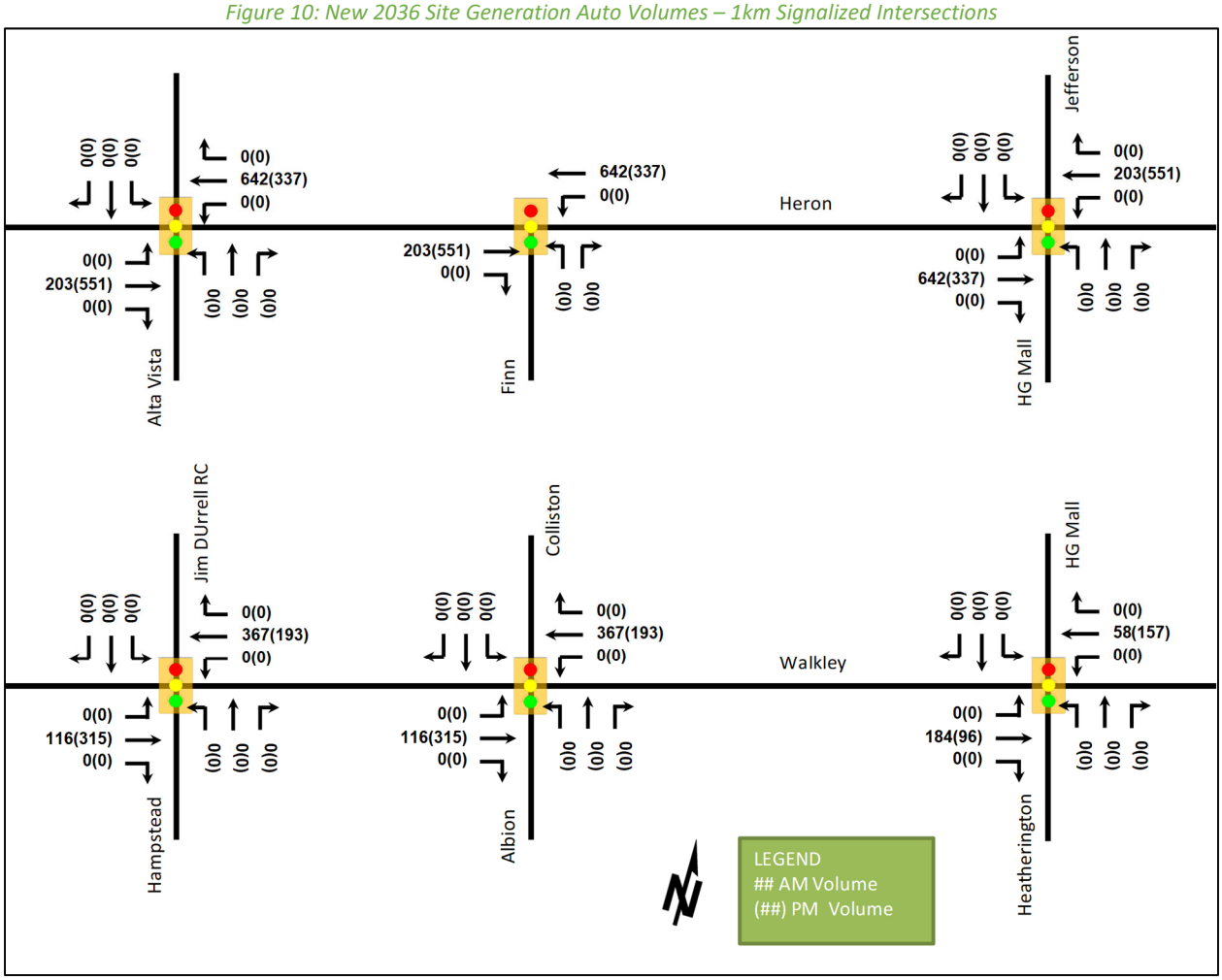


Figure 10: New 2036 Site Generation Auto Volumes – 1km Signalized Intersections



6 Background Network Travel Demand

6.1 Transportation Network Plans

The transportation network plans were discussed in Section 2.3.

6.2 Background Growth

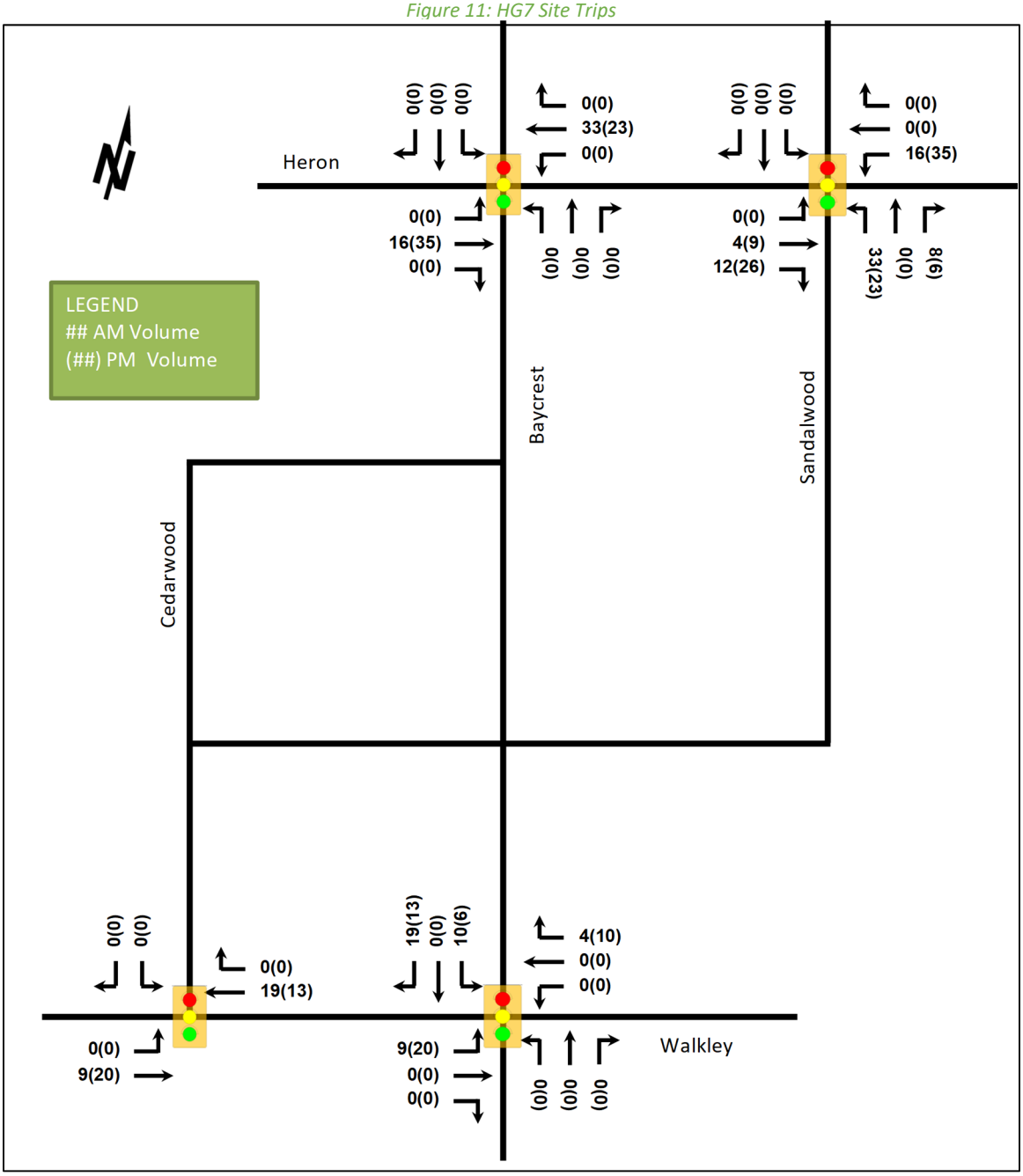
The Transportation Policy and Networks Branch supplied the background intersection traffic growth rates and TRANS regional modal results for 2011 and 2031, identifying the background growth for the study area. Overall, the area has generally seen a reduction in traffic with -4% to 0.2% growth at the study area intersections. Walkley Road is forecasted in TRANS to see an increase in traffic of approximately 4% over 20 years, or 0.2% per year. As such, a 1% growth rate was applied to the mainline volumes on Walkley Road as a conservative approximation of the 2031 forecasts and no growth was applied to the other study area roadways.

The City data is provided in Appendix E.

6.3 Other Developments

The HG7 redevelopment located at 2816 Sandalwood Drive is currently under construction and will be completed prior to the 2036 horizon. Figure 11 illustrates the new site trips forecasted in the HG7 Traffic Impact Study (MMM, October 2016).

Figure 11: HG7 Site Trips



Source: HG7 Traffic Impact Study (MMM, October 2016)

7 Demand Rationalization

7.1 2036 Future Background Operations

Figure 12 and Figure 13 illustrate the 2036 future background volumes and Table 23 and Table 24 summarizes the intersection operations. The level of service is based on the HCM criteria for average delay at unsignalized and signalized intersections. The synchro worksheets are provided in Appendix F.

The 2036 future background conditions have been assessed to determine the overall long-term impact of the Heron Gate redevelopment. The background volumes include the redeveloped HG5 and HG7 blocks, background growth, and the remaining Heron Gate area as per the existing land use.

The internal Heron Gate intersections along Baycrest Drive at Cedarwood Drive, and Sandalwood Drive are not included in the 2036 horizon as the internal road network may undergo changes during the Secondary Plan exercise. As TIA reports are required for each of the future blocks, these studies will assess the changes to the road network as the rest of the Heron Gate area is redeveloped.

Figure 12: 2036 Future Background Traffic Counts Volumes - Heron Gate Intersections

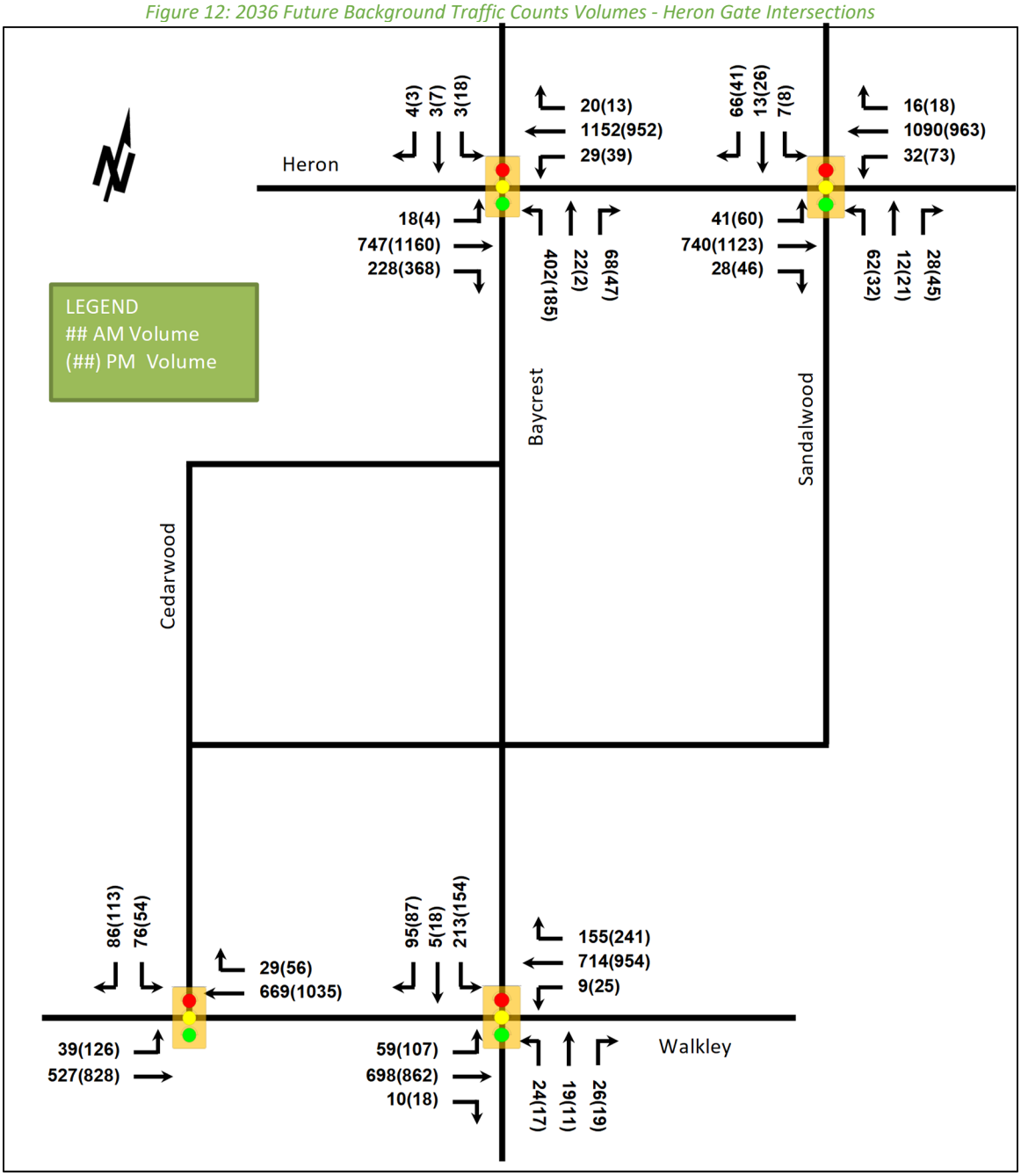


Figure 13: 2036 Future Background Traffic Counts Volumes – 1km Signalized Intersections

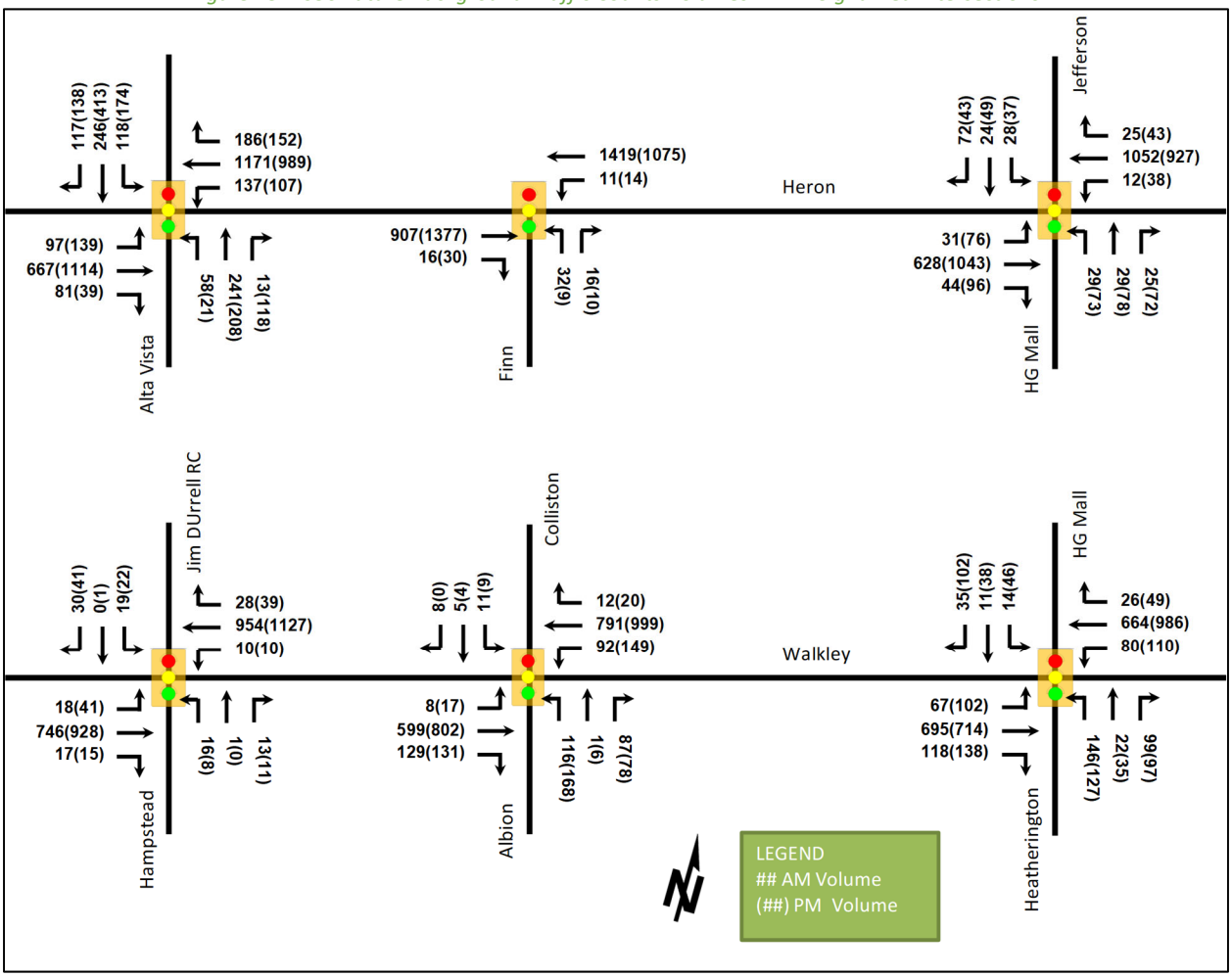


Table 23: 2036 Future Background Intersection Operations – Heron Gate Intersections

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	Q (95th)	LOS	Delay	V/C	Q (95th)
Heron Road & Baycrest Drive *Signalized*	EBL	C	23.0	0.21	7.3	A	9.3	0.07	4.8
	EBT/R	C	21.9	0.69	76.2	B	13.9	0.72	127.0
	WBL	C	20.4	0.21	9.6	B	17.3	0.29	12.5
	WBT/R	C	28.5	0.83	105.3	B	10.3	0.47	70.2
	NB	C	32.1	0.81	#142.2	D	39.3	0.73	57.2
	SBL	B	14.0	0.01	2.0	C	22.3	0.06	7.2
	SBT/R	B	10.7	0.01	2.9	B	18.5	0.02	4.5
	Overall	**C**	**26.7**	**-**	**-**	**B**	**14.9**	**-**	**-**

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	Q (95th)	LOS	Delay	V/C	Q (95th)
Heron Road & Sandalwood Drive *Signalized*	EBL	C	25.1	0.38	12.3	A	4.9	0.16	6.5
	EBT/R	B	17.0	0.55	50.8	A	4.7	0.42	38.8
	WBL	B	14.5	0.16	7.9	A	5.8	0.22	8.3
	WBT/R	C	21.9	0.77	78.4	A	4.4	0.39	34.4
	NBL	B	14.2	0.12	14.0	C	30.6	0.19	11.6
	NBT/R	A	7.7	0.06	6.9	B	16.1	0.27	13.1
	SBL	B	13.7	0.01	3.1	C	27.4	0.05	4.7
	SBT/R	A	5.8	0.11	9.3	B	17.4	0.27	13.9
	Overall	**B**	**18.9**	**-**	**-**	**A**	**5.7**	**-**	**-**
Walkley Road & Cedarwood Drive *Signalized*	EBL	C	21.1	0.35	10.7	A	8.5	0.37	16.9
	EBT	B	13.3	0.43	36.0	A	4.4	0.31	26.1
	WBT/R	B	14.0	0.84	65.4	A	5.1	0.44	38.2
	SBL	B	14.7	0.11	15.7	C	26.6	0.21	15.4
	SBR	A	4.8	0.13	8.4	B	12.7	0.38	15.2
	Overall	**B**	**13.6**	**-**	**-**	**A**	**6.0**	**-**	**-**
Walkley Road & Baycrest Drive *Signalized*	EBL	C	24.3	0.42	14.6	C	23.7	0.52	#35.6
	EBT/R	B	17.6	0.58	44.0	A	9.8	0.36	44.3
	WBL	B	12.6	0.05	3.1	A	9.6	0.07	5.6
	WBT/R	B	19.5	0.73	54.3	B	11.9	0.59	79.7
	NB	A	8.2	0.10	10.3	B	14.1	0.13	10.5
	SBL	B	14.6	0.39	36.4	C	28.9	0.50	35.7
	SBT/R	A	4.0	0.14	8.4	A	8.1	0.25	12.7
	Overall	**B**	**17.2**	**-**	**-**	**B**	**12.8**	**-**	**-**

Notes: Saturation flow rate of 1800 veh/h/lane
PHF = 1.00

Table 24: 2036 Future Background Intersection Operations – 1km Signalized Intersections

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	Q (95th)	LOS	Delay	V/C	Q (95th)
Heron Road & Alta Vista Drive *Signalized*	EBL	E	75.4	0.77	#47.4	F	103.1	0.90	#83.1
	EBT/R	C	31.1	0.72	82.7	E	59.2	0.95	#198.1
	WBL	F	142.6	1.09	#69.6	F	84.0	0.74	#59.0
	WBT	E	55.4	0.98	#141.9	D	53.7	0.91	#176.5
	WBR	A	5.1	0.34	15.2	A	9.1	0.29	22.8
	NBL	C	29.6	0.26	20.6	D	38.1	0.17	12.9
	NBT/R	C	34.4	0.59	71.2	D	47.0	0.71	120.6
	SBL	B	18.9	0.35	26.2	C	30.6	0.58	50.1
	SBT/R	C	23.2	0.61	85.6	D	43.6	0.83	#201.4
	Overall	**D**	**42.9**	**-**	**-**	**D**	**52.7**	**-**	**-**
Heron Road & Finn Court *Signalized*	EBT/R	A	2.7	0.30	26.6	A	2.5	0.46	46.2
	WBL	A	2.9	0.02	1.6	A	2.4	0.05	1.9
	WBT	A	3.6	0.47	51.1	A	2.2	0.40	38.5
	NBL	D	36.8	0.24	14.0	C	34.3	0.08	6.1
	NBR	B	16.8	0.12	6.1	B	19.6	0.09	4.7
	Overall	**A**	**3.9**	**-**	**-**	**A**	**2.6**	**-**	**-**

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	Q (95th)	LOS	Delay	V/C	Q (95th)
Heron Road & Jefferson Street/HG Mall *Signalized*	EBL	A	5.4	0.12	4.9	A	8.4	0.28	13.3
	EBT	A	4.9	0.28	25.1	A	6.4	0.44	49.8
	EBR	A	1.6	0.05	3.0	A	1.4	0.10	4.9
	WBL	A	4.2	0.03	2.3	A	6.1	0.13	6.6
	WBT/R	A	6.2	0.47	47.5	A	6.5	0.46	51.7
	NBL	C	28.0	0.18	11.0	D	35.7	0.45	23.4
	NBT	C	26.3	0.12	10.8	C	30.2	0.32	23.5
	NBR	B	10.2	0.11	5.9	A	9.2	0.27	10.7
	SB	C	20.1	0.49	23.1	C	31.2	0.56	32.0
	Overall	**A**	**7.3**	**-**	**-**	**A**	**9.4**	**-**	**-**
Walkley Road & Hampstead Place/Jim Durrell RC *Signalized*	EBL	A	4.7	0.05	2.9	A	4.8	0.13	5.6
	EBT/R	A	4.2	0.29	26.8	A	3.8	0.34	33.3
	WBL	A	4.4	0.02	1.9	A	3.9	0.03	1.8
	WBT/R	A	4.5	0.35	34.1	A	4.3	0.41	43.2
	NB	B	16.7	0.14	8.0	A	4.9	0.09	3.1
	SBL	C	22.1	0.10	6.9	C	27.6	0.13	8.9
	SBT/R	A	0.6	0.10	0.0	B	10.9	0.18	8.3
	Overall	**A**	**4.7**	**-**	**-**	**A**	**4.5**	**-**	**-**
Walkley Road & Albion Road/Colliston Crescent *Signalized*	EBL	A	6.1	0.02	2.2	A	8.0	0.07	4.5
	EBT	A	6.2	0.26	27.4	A	8.2	0.37	47.4
	EBR	A	1.8	0.14	6.5	A	1.9	0.15	7.4
	WBL	A	7.8	0.20	14.0	B	13.7	0.45	34.2
	WBT	A	6.5	0.33	35.2	A	9.0	0.46	61.9
	NBL	C	27.9	0.49	27.4	D	38.8	0.68	44.3
	NBT/R	A	7.1	0.26	10.0	A	7.9	0.24	11.2
	SBL	B	19.0	0.05	4.8	C	21.4	0.04	4.7
	SBT/R	B	13.6	0.05	4.5	C	20.8	0.01	2.6
	Overall	**A**	**7.8**	**-**	**-**	**B**	**11.0**	**-**	**-**
Walkley Road & Heatherington Road/HG Mall *Signalized*	EBL	A	9.1	0.18	11.8	A	9.8	0.34	15.1
	EBT	A	8.3	0.41	38.5	A	7.7	0.38	40.3
	WBL	B	10.4	0.25	14.9	C	21.0	0.41	30.4
	WBT	A	8.2	0.33	33.0	B	17.2	0.57	75.5
	WBR	A	1.6	0.03	2.0	A	0.2	0.07	0.0
	NBL	C	27.9	0.58	30.7	D	39.3	0.66	34.2
	NBT/R	A	7.6	0.31	12.7	B	10.1	0.35	17.0
	SB	B	10.5	0.19	10.1	B	18.0	0.52	31.3
	Overall	**B**	**10.0**	**-**	**-**	**B**	**14.7**	**-**	**-**

Notes: Saturation flow rate of 1800 veh/h/lane
PHF = 1.00

Overall, the study area intersections operate like the existing conditions during the 2036 future background horizon.

8 Transportation Demand Management

8.1 Context for TDM

The mode shares used within the TIA represent this area of the City and have not been altered, therefore, they are likely to be achieved.

Total bedrooms within the development is subject to the final unit count and product styles. No age restrictions are noted.

8.2 Need and Opportunity

The subject site has been assumed to rely predominantly on auto travel and those assumptions have been carried through the analysis. The opportunity for the City to extend transit infrastructure exists to help shift the high Alta Vista auto share. The development can provide the internal connectivity to transit and adjacent non-auto infrastructure.

8.3 TDM Program

The "suite of post occupancy TDM measures" has been summarized in the TDM checklists for the residential land uses. The checklist is provided in Appendix G.

The key TDM measures recommended include:

- Enhanced connectivity of pedestrians and cyclists to the adjacent network
- Posting of pedestrian and cycling wayfinding signage within the individual buildings and community
- Bike parking locations at each building in proximity to the entrances, and located within the community at key locations such as park space
- Inclusion of a 1-month Presto card for first time new rentals, with a set time frame for this offer (e.g. 6-months) from the initial offering of the individual phases
- Rideshare parking spaces and vehicles for internal and external community use

9 Neighbourhood Traffic Management

The Secondary Plan encompasses the entire area and will connect to the adjacent arterial roads. The proposed improvements on Baycrest, Cedarwood and Sandalwood will include community traffic calming elements to facilitate improved pedestrian crossings along community desire lines. Figure 14 illustrates the conceptual pedestrian network within the Heron Gate Community and traffic calming elements, such as single bulb-outs on the approaching lane, or raised crossings on non-transit routes, will be located to support the final network.

Figure 14: Heron Gate Secondary Plan Concept Pedestrian Network

10 Transit

10.1 Route Capacity

The redevelopment of the Heron Gate community will require additional transit service to be provided to support the area. Heron Gate is forecasted to generate approximately 805-845 two-way peak hour transit trips. Table 25 summarizes the forecasted peak direction transit trips to estimate the minimum bus type and service required to support Heron Gate by 2036.

Table 25: Forecasted Transit Service – Minimum Bus Requirements

Trips in Peak Direction	Minimum Buses Required By Type		
	Single Capacity: 55	**Articulated Capacity: 75**	**Double Decker Capacity: 95**
525-615	10-12 buses	7-9 buses	6-7 buses

With the numbers above, the local route frequencies would be required an increase to 5 to 10-minute service to achieve the forecasted transit mode shares during the peak hours.

10.2 Transit Priority

No transit priority was considered for the study area.

Ultimately, bus lanes will be constructed along Heron Road, although it is not known whether it will be in the form of median bus lanes or dedicated bus lanes. Through the environmental assessment study, the layout and transit priority requirements the rapid transit extension will be determined.

11 Review of Network Concept

The existing and background volumes forecasted along Heron Road and Walkley Road can be accommodated within the road network. The future total volumes forecasted, discussed below in Section 12, will see downstream impacts increased at Alta Vista Drive, which will require additional capacity or a mode shift in the Alta Vista community to reduce traffic.

It is also noted that the traffic volumes along Heron Road have been declining between 2-4% between 2000 and 2016. The forecasted volumes assumed a 0% growth, but the reduction may continue to offset the growth of Heron Gate and ultimately be like the existing/background conditions.

12 Network Intersection Design

12.1 Network Intersection Control

The study area network intersections along Heron Road and Walkley Road are currently signalized and no changes are proposed to the intersection control.

12.2 Network Intersection Design

12.2.1 Forecasted Future Total Operations 2036

Figure 15 and Figure 16 illustrate the 2036 future total volumes, and Table 26 and Table 27 summarize the intersection operations. The level of service is based on the HCM criteria for average delay at unsignalized and signalized intersections. The synchro worksheets are provided in Appendix H.

Figure 15: 2036 Future Total Traffic Counts Volumes - Heron Gate Intersections

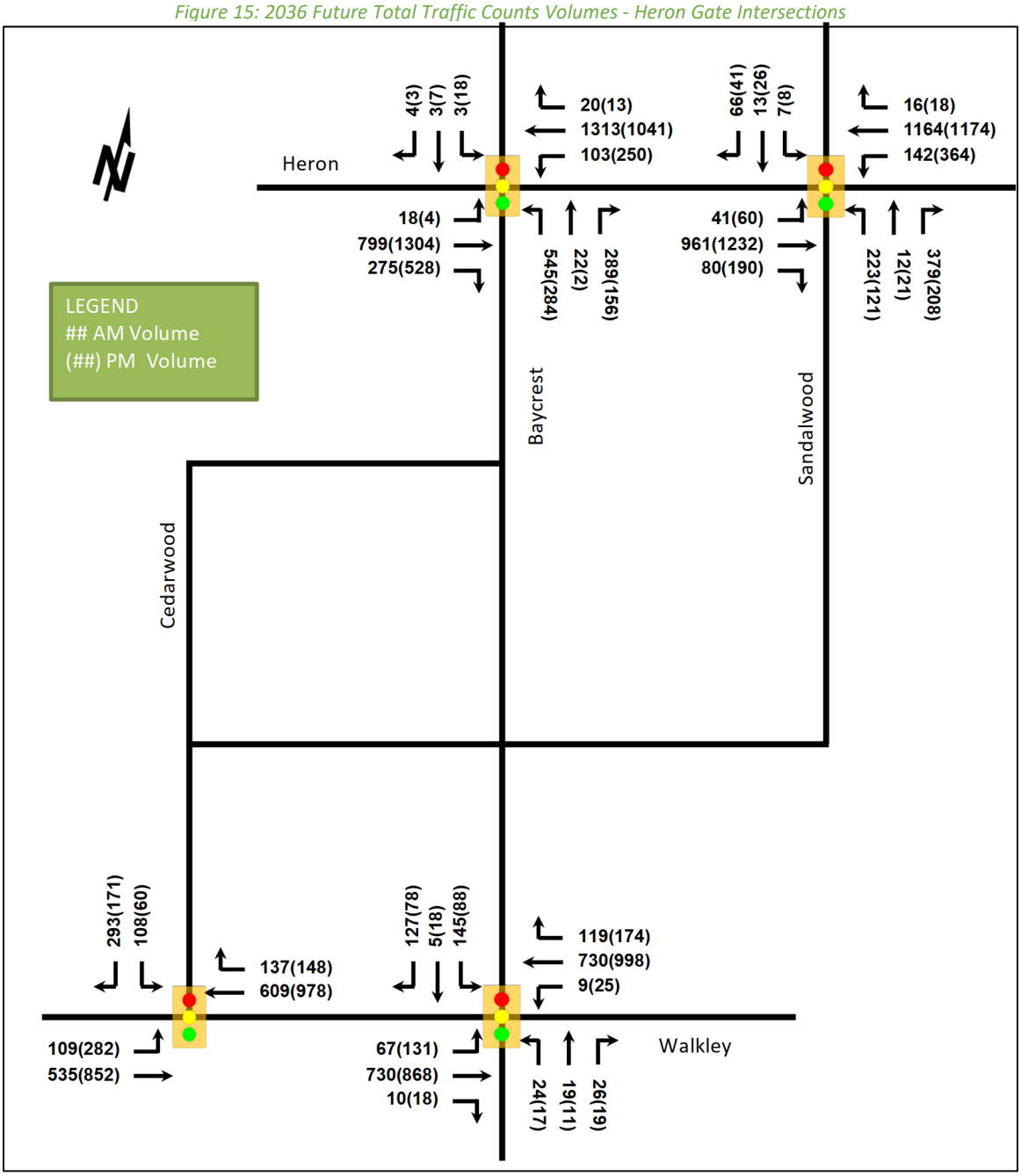


Figure 16: 2036 Future Total Traffic Counts Volumes – 1km Signalized Intersections

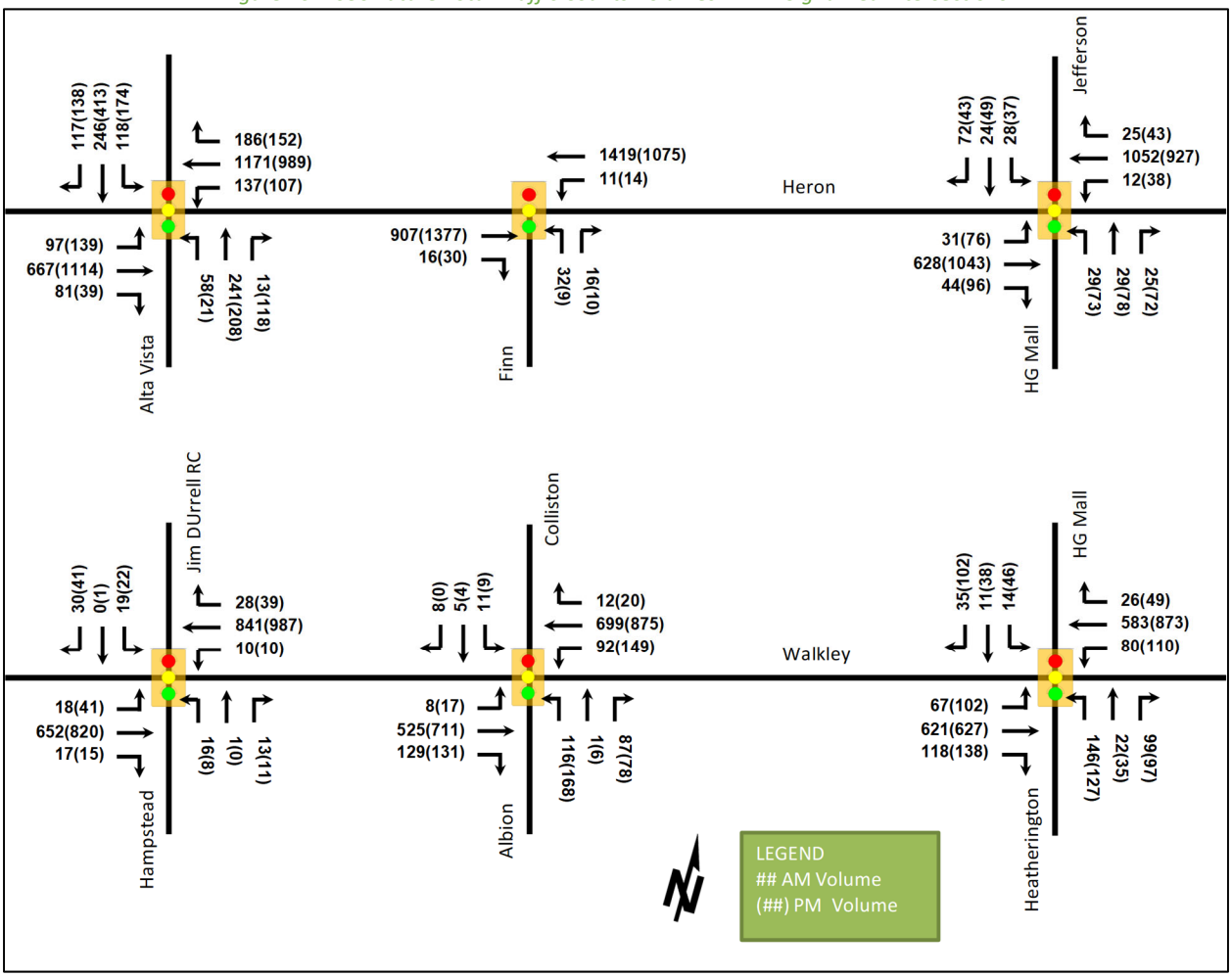


Table 26: 2036 Future Total Intersection Operations – Heron Gate Intersections

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	Q (95th)	LOS	Delay	V/C	Q (95th)
Heron Road & Baycrest Drive *Signalized*	EBL	C	23.9	0.23	7.8	B	15.0	0.02	2.5
	EBT/R	C	21.8	0.71	88.0	D	47.0	0.99	#304.8
	WBL	E	66.4	0.80	#46.0	E	75.1	0.92	#107.4
	WBT/R	C	31.0	0.88	130.0	A	8.4	0.44	76.0
	NBL	C	25.2	0.63	83.0	E	68.9	0.78	73.9
	NBR	B	12.3	0.42	44.1	A	9.4	0.39	18.7
	SBL	B	14.7	0.01	2.0	D	41.4	0.10	11.0
	SBT/R	B	11.1	0.01	2.9	C	33.0	0.03	6.4
	Overall	**C**	**26.5**	**-**	**-**	**D**	**36.5**	**-**	**-**

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	Q (95th)	LOS	Delay	V/C	Q (95th)
Heron Road & Sandalwood Drive *Signalized*	EBL	B	19.3	0.32	11.4	A	8.8	0.21	8.0
	EBT/R	B	17.3	0.66	73.7	C	34.4	0.90	#189.1
	WBL	E	76.2	0.92	#55.8	D	45.4	0.85	#114.9
	WBT/R	B	18.7	0.71	83.8	B	13.1	0.57	107.4
	NBL	C	25.2	0.47	57.5	D	52.8	0.63	40.8
	NBT/R	C	20.1	0.61	78.2	B	12.5	0.56	24.6
	SBL	C	20.6	0.03	4.1	C	34.9	0.08	5.6
	SBT/R	A	8.2	0.13	11.5	B	19.1	0.24	16.0
	Overall	**C**	**21.4**	**-**	**-**	**C**	**26.5**	**-**	**-**
Walkley Road & Cedarwood Drive *Signalized*	EBL	D	39.8	0.70	#26.9	C	24.8	0.76	#54.0
	EBT	B	15.2	0.51	36.7	A	5.4	0.36	31.2
	WBT/R	B	17.1	0.69	49.3	C	20.2	0.77	84.4
	SBL	B	12.3	0.15	20.2	C	25.8	0.22	16.2
	SBR	B	14.6	0.64	#83.6	A	9.5	0.59	18.1
	Overall	**B**	**16.9**	**-**	**-**	**B**	**14.9**	**-**	**-**
Walkley Road & Baycrest Drive *Signalized*	EBL	C	26.4	0.47	16.4	C	23.9	0.53	#43.8
	EBT/R	B	18.4	0.62	46.5	A	9.2	0.33	44.8
	WBL	B	12.8	0.05	3.1	A	9.4	0.06	5.6
	WBT/R	B	19.8	0.72	53.6	B	11.0	0.52	78.3
	NB	A	8.0	0.10	10.1	B	14.1	0.13	10.5
	SBL	B	12.7	0.26	24.2	C	23.7	0.28	21.5
	SBT/R	A	3.6	0.18	9.4	A	0.2	8.50	12.4
	Overall	**B**	**17.4**	**-**	**-**	**B**	**11.6**	**-**	**-**

Notes: Saturation flow rate of 1800 veh/h/lane
PHF = 1.00

Table 27: 2036 Future Total Intersection Operations – 1km Signalized Intersections

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	Q (95th)	LOS	Delay	V/C	Q (95th)
Heron Road & Alta Vista Drive *Signalized*	EBL	E	75.4	0.77	#47.4	F	103.1	0.90	#83.1
	EBT/R	D	41.8	0.90	#122.3	F	227.8	1.42	#358.2
	WBL	F	142.6	1.09	#69.6	F	84.0	0.74	#59.0
	WBT	F	197.3	1.36	#225.0	F	92.2	1.08	#234.4
	WBR	A	8.0	0.35	21.4	B	12.3	0.29	27.9
	NBL	C	29.6	0.26	20.6	D	38.1	0.17	12.9
	NBT/R	C	34.4	0.59	71.2	D	47.0	0.71	120.6
	SBL	B	18.9	0.35	26.2	C	30.6	0.58	50.1
	SBT/R	C	23.2	0.61	85.6	D	43.6	0.83	#201.4
	Overall	**F**	**100.8**	**-**	**-**	**F**	**125.1**	**-**	**-**
Heron Road & Finn Court *Signalized*	EBT/R	A	3.0	0.37	35.0	A	4.0	0.63	91.3
	WBL	A	3.0	0.03	1.7	A	3.9	0.11	2.4
	WBT	A	5.0	0.61	84.4	A	2.6	0.47	49.5
	NBL	D	36.8	0.24	14.0	C	34.3	0.08	6.1
	NBR	B	16.8	0.12	6.1	B	19.6	0.09	4.7
	Overall	**A**	**4.7**	**-**	**-**	**A**	**3.5**	**-**	**-**

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	Delay	V/C	Q (95th)	LOS	Delay	V/C	Q (95th)
Heron Road & Jefferson Street/HG Mall ***Signalized***	EBL	A	7.0	0.16	5.9	D	42.2	0.68	#36.2
	EBT	A	7.8	0.59	72.1	A	8.2	0.59	79.2
	EBR	A	2.1	0.05	3.6	A	1.7	0.10	5.6
	WBL	A	5.6	0.07	2.8	A	8.7	0.22	8.2
	WBT/R	A	7.5	0.57	68.1	B	10.4	0.72	113.3
	NBL	C	27.3	0.17	10.9	D	35.2	0.44	23.4
	NBT	C	25.8	0.12	10.6	C	30.0	0.31	23.4
	NBR	A	9.9	0.11	5.8	B	18.3	0.30	16.3
	SB	C	26.8	0.53	28.2	C	33.5	0.57	33.4
	Overall	**A**	**8.9**	**-**	**-**	**B**	**12.2**	**-**	**-**
Walkley Road & Hampstead Place/Jim Durrell RC ***Signalized***	EBL	A	6.1	0.10	3.5	A	6.1	0.18	6.5
	EBT/R	A	4.4	0.34	32.1	A	4.6	0.46	50.8
	WBL	A	4.5	0.02	2.0	A	4.1	0.04	1.9
	WBT/R	A	6.5	0.57	73.1	A	5.0	0.51	59.8
	NB	B	16.7	0.14	8.0	A	4.9	0.09	3.1
	SBL	C	22.1	0.10	6.9	C	27.6	0.13	8.9
	SBT/R	A	6.2	0.11	4.6	B	12.0	0.19	8.7
	Overall	**A**	**6.0**	**-**	**-**	**A**	**5.2**	**-**	**-**
Walkley Road & Albion Road/Colliston Crescent ***Signalized***	EBL	A	6.9	0.04	2.4	A	8.9	0.09	4.8
	EBT	A	6.5	0.31	33.8	A	9.8	0.52	74.2
	EBR	A	1.8	0.14	6.5	A	2.2	0.15	8.1
	WBL	A	8.3	0.23	14.7	C	30.0	0.68	#57.0
	WBT	A	9.1	0.58	78.6	B	10.5	0.58	86.6
	NBL	C	27.9	0.49	27.4	D	38.8	0.68	44.3
	NBT/R	A	7.1	0.26	10.0	A	9.3	0.25	12.3
	SBL	B	19.0	0.05	4.8	C	21.4	0.04	4.7
	SBT/R	B	13.6	0.05	4.5	C	20.8	0.01	2.6
	Overall	**A**	**8.9**	**-**	**-**	**B**	**12.7**	**-**	**-**
Walkley Road & Heatherington Road/HG Mall ***Signalized***	EBL	A	9.2	0.19	12.0	B	10.9	0.39	15.1
	EBT	A	9.1	0.48	48.0	A	8.7	0.46	53.2
	WBL	B	11.9	0.30	16.2	C	25.0	0.48	#37.2
	WBT	A	8.4	0.36	35.1	B	18.8	0.66	90.3
	WBR	A	1.6	0.03	2.0	A	0.2	0.07	0.0
	NBL	C	27.9	0.58	30.7	D	39.3	0.66	34.2
	NBT/R	A	7.8	0.31	12.9	B	10.1	0.35	17.0
	SB	B	10.5	0.19	10.1	B	18.0	0.52	31.3
	Overall	**B**	**10.3**	**-**	**-**	**B**	**15.5**	**-**	**-**

Notes: Saturation flow rate of 1800 veh/h/lane
PHF = 1.00

The intersection of Heron Road and Alta Vista Drive is noted to become congested in the east and westbound directions during the 2036 future total horizon. During the AM peak hour, the westbound left-turn and through lanes are expected to experience high delays and be over capacity. During the PM peak hour, the eastbound left-turn and shared through/right-turn lanes, and the westbound left-turn and through lanes are expected to experience high delays and the through lanes in both directions to be over capacity. The optimization of the signal timing will see an incremental improvement, although will not improve all movements to satisfactory operations. The Heron Road intersections and coordinated and may operate at a higher level of service in practice but as not been assessed. This same coordination may also improve the corridor operations beyond this assessment.

The remaining study area intersections are forecasted to operate well.

12.2.2 Design Elements

The queues at the Heron Gate intersections and turning volumes, were reviewed to assess if any conceptual study area geometric improvements would be required to support the Secondary Plan redevelopment of Heron Gate. Table 28 summarizes the Ottawa TIA Guidelines Minimum Storage Lengths and the TAC Storage Length for the key study area intersections based on the forecasted AM and PM volumes. Table 29 provides the TIA recommendations and rationale to carry forward within the Secondary Plan and future TIA studies.

Table 28: Turn Lane Storage Length Review

Intersection	Turning Movement	Storage Length	
		TIA Guidelines	TAC
Heron @ Baycrest	Eastbound Right	72.2 to 138.6 metres	64.2 to 123.2 metres
	Northbound Right	41.0 to 75.9 metres	36.2 to 67.4 metres
Heron @ Sandalwood	Eastbound Right	21.0 to 49.9 metres	18.7 to 44.3 metres
Walkley @ Cedarwood	Westbound Right	28.0 to 34.5 metres	32.0 to 34.5 metres
	Southbound Left	14.0 to 22.1 metres	14.0 to 25.2 metres
Walkley @ Baycrest	Westbound Right	24.3 to 40.6 metres	27.8 to 40.6 metres
	Southbound Left	20.5 to 29.6 metres	20.5 to 33.8 metres

Table 29: Turn Lane Storage Length Recommendations

Intersection	Turning Movement	Recommendation	Rationale
Heron @ Baycrest	Eastbound Right	25 metres	• Due to the adjacent driveways for 1480 and 1490 Heron Road, an auxiliary lane greater than 50 metres, including taper, would be extend past these driveways • It is noted that the eastbound approach is forecasted to operate satisfactorily during the 2036 horizon with no auxiliary lane
	Northbound Right	60 metres	• Extend to new private road on east side of Baycrest, but does not cross new access • Meets guideline parameters
Heron @ Sandalwood	Eastbound Right	45 metres	• Meets guideline parameters
Walkley @ Cedarwood	Westbound Right	35 metres	• Meets guideline parameters
	Southbound Left	25 metres (existing 15 metres)	• Extend existing auxiliary turn lane from 15 to 25 metres • Meets guideline parameters
Walkley @ Baycrest	Westbound Right	40 metres	• Meets guideline parameters
	Southbound Left	35 metres (existing 15 metres)	• Extend existing auxiliary turn lane from 15 to 35 metres • Meets guideline parameters

It is anticipated that these improvements will be constructed with the adjacent development phases and will be confirmed during the individual TIAs. It is anticipated that any improvements along lands that are not on the frontage of the Heron Gate community will be deferred until the City acquires the subject lands (e.g. eastbound right turn lane at Heron Road and Baycrest).

13 Summary of Improvements Indicated and Modifications Options

The following summarizes the analysis and results presented in this TIA report:

Proposed Redevelopment and Screening

- The proposed redevelopment of Heron Gate includes 314 low rise apartment units, 1,387 mid-rise apartment units and 3,362 high-rise apartment units
- Apartment buildings at 2840, 2851, and 2861 Baycrest Drive and 2820 Cedarwood Drive will remain within Heron Gate and are not part of the redevelopment
- The existing accesses along Baycrest Drive, Cedarwood Drive and Sandalwood Drive will be removed and replaced with new accesses and private road connections
- The redevelopment of Heron Gate is proposed to be completed through 9 blocks by 2036
- Block 7 (HG7) is currently being constructed
- The Trip Generation, Location, and Safety triggers were all met for the TIA Screening

Existing Conditions

- Heron Road and Walkley Road serve as the arterial road network bordering Heron Gate, Baycrest Drive is a collector road, and Cedarwood Drive and Sandalwood Drive are local roads within Heron Gate with posted/unposted speed limits of 50 km/h
- Within 1 km of the site, Alta Vista Drive (major collector), Albion Road and Heatherington Road (collectors), and Finn Court, Colliston Crescent, Jefferson Street and Hampstead Place (local) are roadways that connect to Heron Road or Walkley Road at signalized intersections
- The study area roads have sidewalks on at least one side of the local roads and both sides of the roadways, with the exception of Hampstead Place and Finn Court
- Bike lanes are provided along Alta Vista Drive and a cycle track is provided along the south side of Heron Road between Heron-Walkley Park and Jefferson Street
- Multi-use pathways are provided through Heron-Walkley Park
- The existing transits routes #44, 112, and 291 travel through Heron Gate on Baycrest Drive, and long Heron Road and/or Walkley Road
- The Heron Road and Alta Vista Drive eastbound left-turn movement during the AM peak, and the eastbound and westbound left-turn movements during the PM peak are noted to experience high delays and have capacity concerns
- No other operational issues are noted for the study area intersections

Development Generated Travel Demand

- The proposed redevelopment is forecasted to generate 4,023 people two-way trips during the AM peak and 4,227 people two-way trips during the PM peak
- Based on the Alta Vista area mode shares, a total of 2,4414 two-way vehicle trips will be generated during the AM peak and 2,536 two-way vehicles trips during the PM peak
- The distribution of the site trips is estimated to be 35% to the north, 25% to the south, 20% to the east, and 20% to the west

Background Conditions

- Adjacent developments have included in the background conditions

- The background growth provide by the City of Ottawa indicates a -4% to 0.2% growth on the study area roadways, although it is anticipated that Walkley Road may experience a 0% to 1% growth up to 2031
- Therefore, a 0% growth rate was assumed for the study area roadways, with Walkley Road had a 1% growth rate applied along the mainline volumes
- The future background intersection operations are like the existing conditions

Design Review Component

- The review of the Development Design, Parking, Boundary Street Design, and Access Intersection Design will be completed during the Site Plan submission

TDM

- Supportive TDM measures to be included within the redevelopment of Heron Gate should include:
  - Enhanced connectivity of pedestrians and cyclists to the adjacent network
  - Posting of pedestrian and cycling wayfinding signage within the individual buildings and community
  - Bike parking locations at each building in proximity to the entrances, and located within the community at key locations such as park space
  - Inclusion of a 1-month Presto card for first time new rentals, with a set time frame for this offer (e.g. 6-months) from the initial offering of the individual phases
  - Rideshare parking spaces and vehicles for internal and external community use

Neighbourhood Traffic Management

- The redevelopment will include upgrades to the internal roads of Baycrest Drive, Cedarwood Drive, and Sandalwood Drive, incorporating traffic management and calming measures throughout the community

Transit

- The forecasted transit trips will approximately 805 to 845 two-way trips during both peak hours
- The service time for the existing routes would need to increase to approximately a bus every 5-10 minutes during the peak hours
- No transit priority measures are recommended

Review of Network Concept

- The site is not anticipated to impact the transportation network concepts

Network Intersection Design

- The study area intersections are anticipated to operate satisfactorily during the 2036 future total horizon with the exception of Heron Road and Alta Vista Drive
- Heron Road and Alta Vista Drive will see an increase in delay, capacity constraints, and decrease in level of service in the eastbound and westbound directions during both AM and PM peak hours
- The following auxiliary turn lane storage lengths are recommended for the Heron Gate intersections:
  - Heron Road/Baycrest Drive: 25 metre storage for eastbound right-turn lane
  - Heron Road/Sandalwood Drive: 35 metre storage for northbound right-turn lane
  - Walkley Road/Cedarwood Drive: 35 metre storage for westbound right-turn lane
  - Walkley Road/Cedarwood Drive: extension of southbound left-turn lane from 15 metres to 25 metres of storage
  - Walkley Road/Baycrest Drive: 40 metre storage for westbound right-turn lane

- Walkley Road/Baycrest Drive: extension of southbound left-turn lane from 15 metres to 35 metres of storage

14 Conclusion

The proposed Heron Gate Secondary Plan for the redevelopment of the community is recommended to proceed from a transportation perspective. Following the circulation and review of this Strategy Report, any outstanding comments will be documented within the context of the OPA and ZBA application and, if required, a revised Step 4 Report.

Prepared By:

Andrew Harte, P.Eng.
Senior Transportation Engineer

Reviewed By:

Christopher Gordon, P.Eng.
Senior Transportation Engineer

Appendix A

TIA Screening Form and PM Certification Form

13 Markham Avenue
Nepean ON K2G 3Z1

City of Ottawa 2017 TIA Guidelines
Step 1 - Screening Form

Date:	Jan. 4, 2019
Project Number:	2018-49
Project Reference:	Timbercreek - Heron Gate

1.1 Description of Proposed Development	
Municipal Address	2848, 2851, 2881, 2898 Baycrest Dr, 2820, 2831 Cedarwood Dr
Description of Location	PLAN 796 PT BLK 1A, A, C, D & G, CARL CONDO PLAN 325 LEVEL 1;UNIT 17, 326 LEVEL 1;UNIT 6, 327 LEVEL 1;UNIT 36
Land Use Classification	Residential (R5B) and Arterial Mainstreet (AM10)
Development Size	314 low rise, 1,387 mid-rise, 3,362 high-rise units (HG7 not included)
Accesses	Existing Road Network - Baycrest, Cedarwood, Sandalwood
Phase of Development	8 remaining blocks
Buildout Year	2022 for initial block
TIA Requirement	Full TIA Required

1.2 Trip Generation Trigger		
Land Use Type	Townhomes or apartments	
Development Size	5,063	Units
Trip Generation Trigger	Yes	

1.3 Location Triggers	
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?	Yes
Is the development in a Design Priority Area (DPA) or Transit-oriented Development (TOD) zone?	No
Location Trigger	Yes

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

TIA Plan Reports

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

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

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

CERTIFICATION

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

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

City Of Ottawa
Infrastructure Services and Community Sustainability
Planning and Growth Management
110 Laurier Avenue West, 4th fl.
Ottawa, ON K1P 1J1
Tel. : 613-580-2424
Fax: 613-560-6006

Ville d'Ottawa
Services d 'infrastructure et Viabilité des collectivités
Urbanisme et Gestion de la croissance
110, avenue Laurier Ouest
Ottawa (Ontario) K1P 1J1
Tél. : 613-580-2424
Télécopieur: 613-560-6006

Dated at ___Ottawa_____ this __20__ day of _____September_____, 2018.
(City)

Name: _____Andrew Harte_____
(Please Print)

Professional Title: _____Professional Engineer_____

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

Office Contact Information (Please Print)
Address: 13 Markham Avenue
City / Postal Code: Ottawa / K2G 3Z1
Telephone / Extension: (613) 697-3797
E-Mail Address: Andrew.Harte@CGHTransportation.com

Concept Plan

Appendix B

Turning Movement Counts

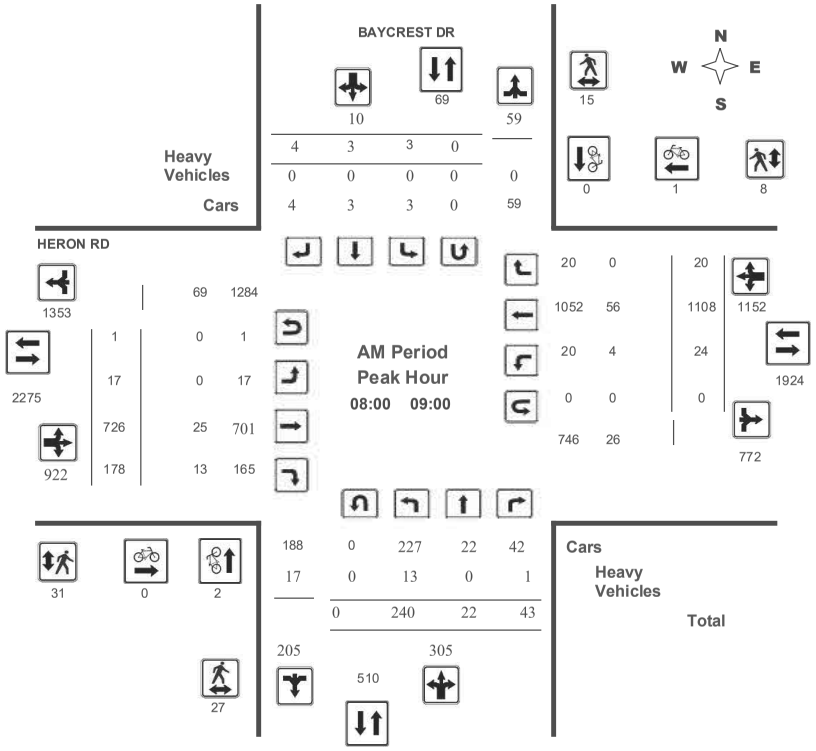
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HERON RD @ BAYCREST DR

Survey Date: Wednesday, November 16, 2016 **WO No:** 36544

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



Comments

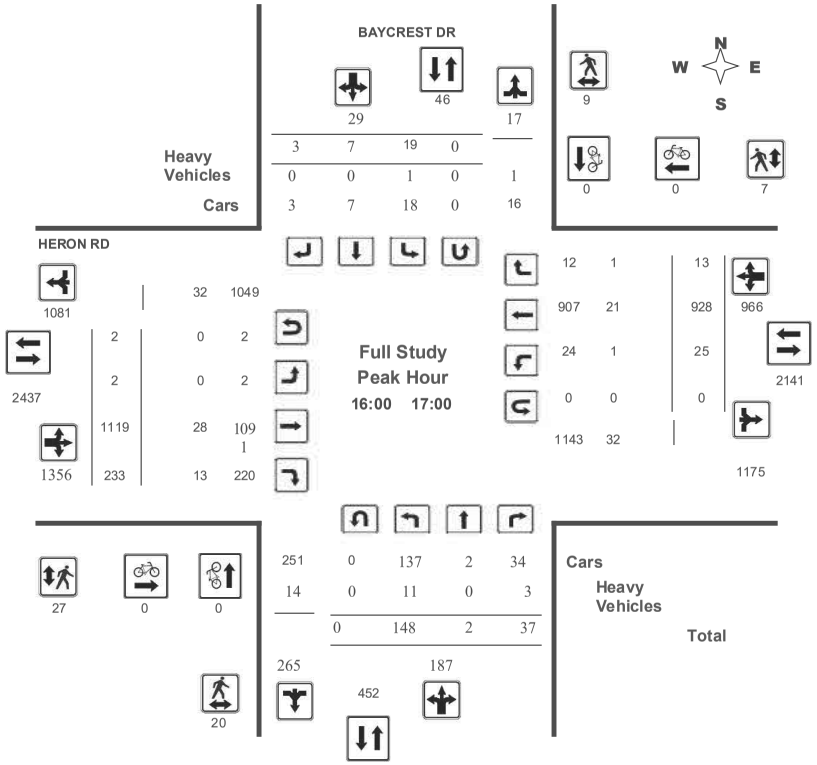
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HERON RD @ BAYCREST DR

Survey Date: Wednesday, November 16, 2016 **WO No:** 36544

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



Comments

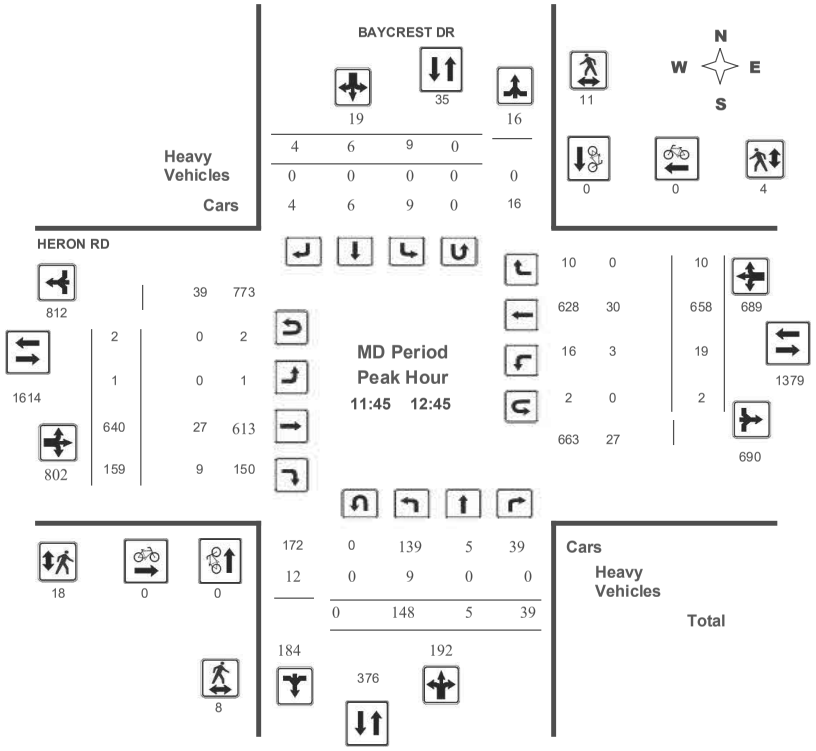
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HERON RD @ BAYCREST DR

Survey Date: Wednesday, November 16, 2016 **WO No:** 36544

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



Comments

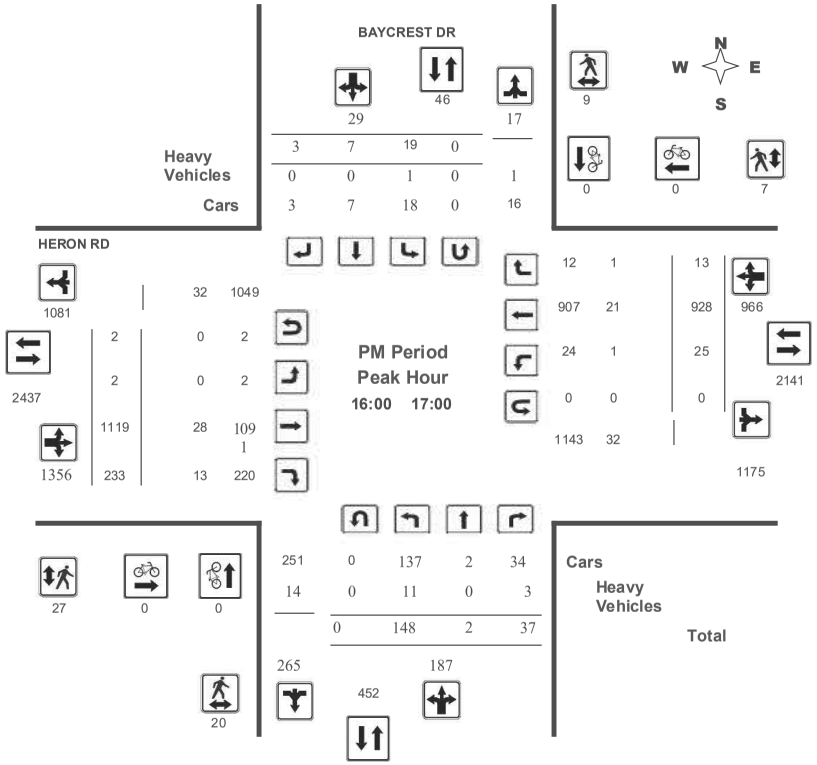
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HERON RD @ BAYCREST DR

Survey Date: Wednesday, November 16, 2016 **WO No:** 36544

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



Comments

Transportation Services - Traffic Services

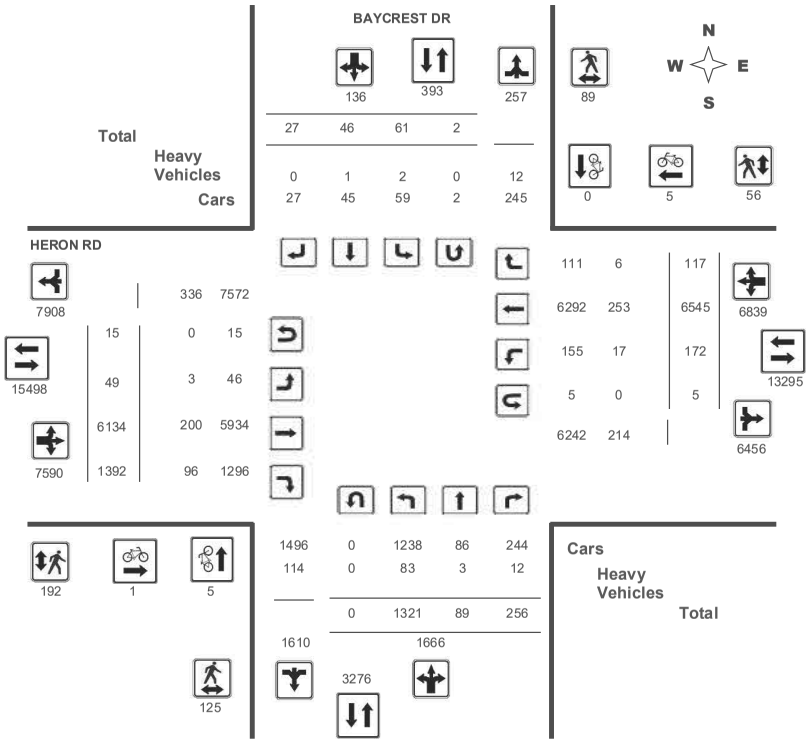
Turning Movement Count - Full Study Diagram

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

Northbound: 0 Southbound: 2

Eastbound: 15 Westbound: 5

AADT Factor .90

Full Study

	BAYCREST DR									HERON RD									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	**NB TOT**	LT	ST	RT	**SB TOT**	**STR TOT**	LT	ST	RT	**EB TOT**	LT	ST	RT	**WB TOT**	**STR TOT**	**Grand Total**
07:00 08:00	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	726	178	**921**	24	1108	20	**1152**	**2073**	**2388**
09:00 10:00	169	27	25	**221**	2	5	5	**12**	**233**	9	531	126	**666**	16	649	27	**692**	**1358**	**1591**
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	167	1	46	**214**	1	0	2	**3**	**217**	4	967	210	**1181**	19	762	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	1836	124	356	**2316**	85	64	38	**189**	**2505**	68	8526	1935	**10550**	239	9098	163	**9506**	**20056**	**22561**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor. **1.39**																			
AVG 12Hr	1653	111	320	**2084**	76	58	34	**170**	**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. **.90**																			
AVG 24Hr	2165	146	420	**2730**	100	75	44	**223**	**2953**	80	10052	2281	**12439**	282	10726	192	**11208**	**23647**	**26600**
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. 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

		BAYCREST DR									HERON 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	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**	**552**	**600**
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**	**549**	**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:

2018-Dec-10

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

	BAYCREST DR			HERON RD			
Time Period	Northbound	Southbound	**Street Total**	Eastbound	Westbound	**Street Total**	**Grand 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**
17:00 18:00	0	0	**0**	0	0	**0**	**0**
Total	5	0	**5**	1	5	**6**	**11**

Comment:

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

2018-Dec-10

Transportation Services - Traffic Services

W.O. 36544

Turning Movement Count - Heavy Vehicle Report

HERON RD @ BAYCREST DR

Survey Date: Wednesday, November 16, 2016

	BAYCREST DR								HERON 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 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**
Total	83	3	12	**0**	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.

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**
07:00 08:00	9	6	**15**	25	6	**31**	**46**
08:00 08:15	2	3	**5**	2	0	**2**	**7**
08:15 08:30	7	3	**10**	3	0	**3**	**13**
08:30 08:45	4	4	**8**	14	4	**18**	**26**
08:45 09:00	14	5	**19**	12	4	**16**	**35**
08:00 09:00	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	6	**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	8	**20**	12	7	**19**	**39**
15:00 15:15	0	3	**3**	9	5	**14**	**17**
15:15 15:30	4	7	**11**	6	2	**8**	**19**
15:30 15:45	1	7	**8**	9	4	**13**	**21**
15:45 16:00	2	4	**6**	9	0	**9**	**15**
15:00 16:00	7	21	**28**	33	11	**44**	**72**
16:00 16:15	3	1	**4**	13	0	**13**	**17**
16:15 16:30	9	2	**11**	2	4	**6**	**17**
16:30 16:45	3	1	**4**	2	1	**3**	**7**
16:45 17:00	5	5	**10**	10	2	**12**	**22**
16:00 17:00	20	9	**29**	27	7	**34**	**63**
17:00 17:15	6	3	**9**	4	1	**5**	**14**
17:15 17:30	8	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	6	**11**	**41**
Total	125	89	**214**	192	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

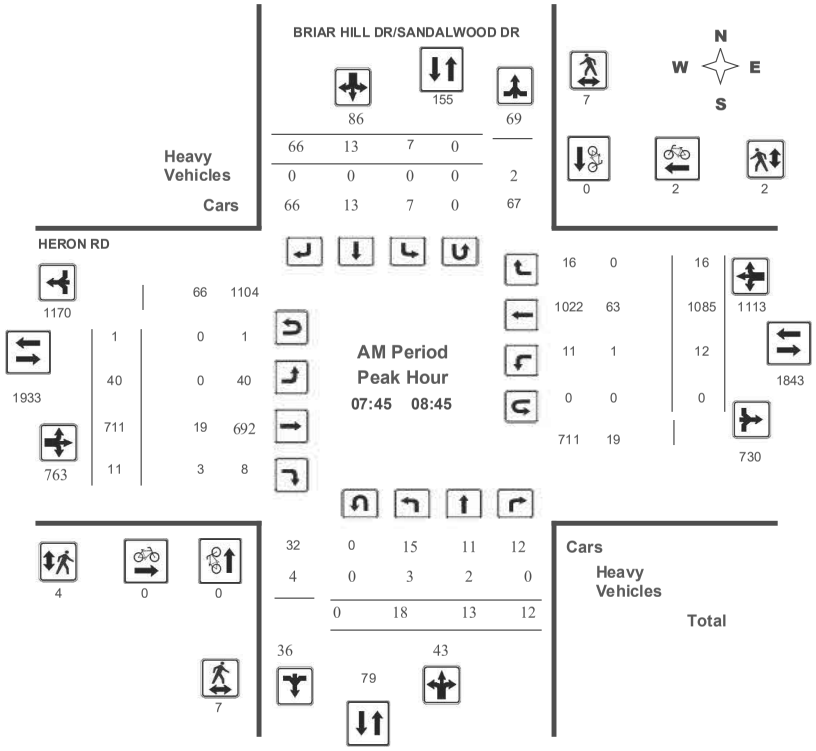
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HERON RD @ BRIAR HILL DR/SANDALWOOD DR

Survey Date: Wednesday, November 16, 2016 **WO No:** 36492

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



Comments

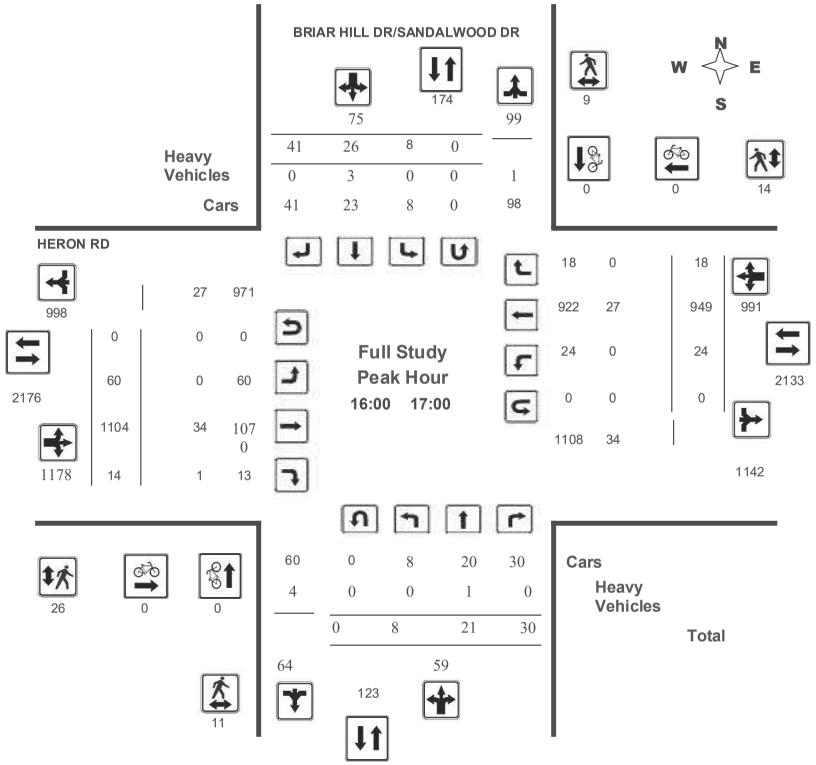
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HERON RD @ BRIAR HILL DR/SANDALWOOD DR

Survey Date: Wednesday, November 16, 2016 **WO No:** 36492

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



Comments

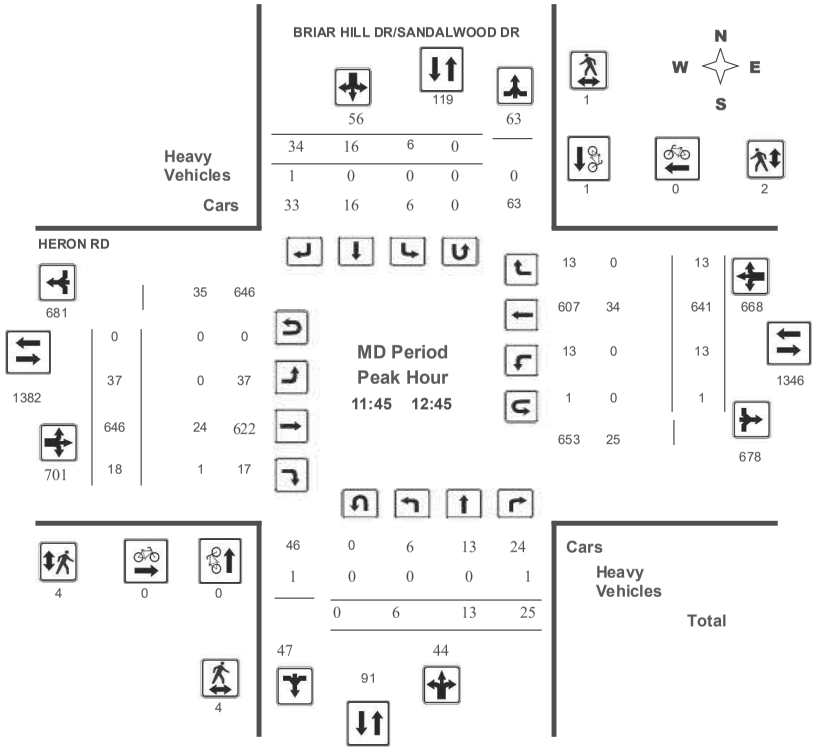
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HERON RD @ BRIAR HILL DR/SANDALWOOD DR

Survey Date: Wednesday, November 16, 2016 **WO No:** 36492

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



Comments

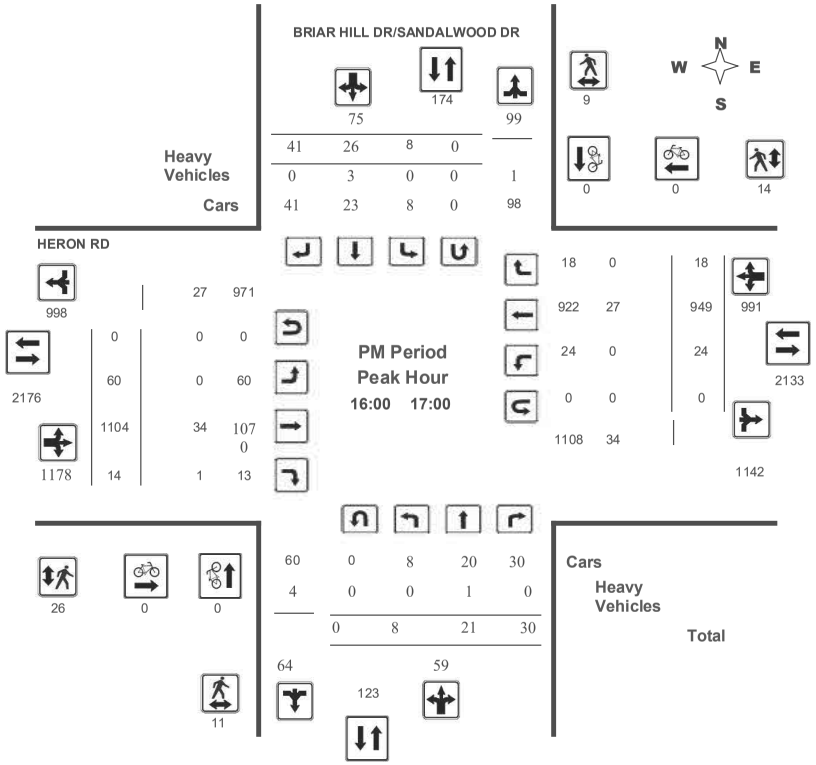
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HERON RD @ BRIAR HILL DR/SANDALWOOD DR

Survey Date: Wednesday, November 16, 2016 **WO No:** 36492

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



Comments

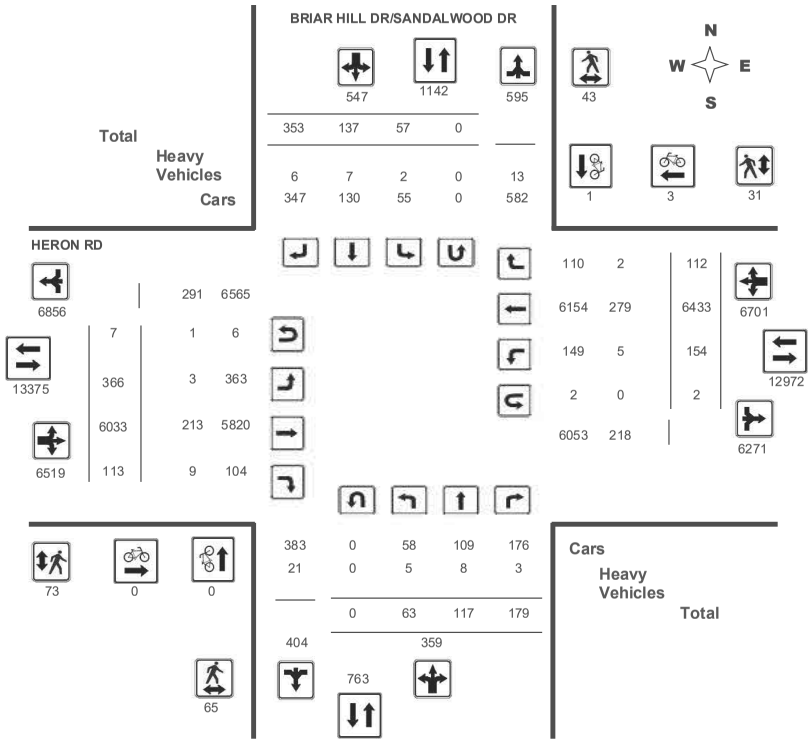
Transportation Services - Traffic Services

Turning Movement Count - Full Study Diagram

HERON RD @ BRIAR HILL DR/SANDALWOOD DR

Survey Date: Wednesday, November 16, 2016 **WO#:** 36492

Device: Miovision



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 16, 2016

Total Observed U-Turns
Northbound: 0 Southbound: 0
Eastbound: 7 Westbound: 2

AADT Factor .90

Full Study

	BRIAR HILL DR/SANDALWOOD DR									HERON RD									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	9	7	13	**29**	8	5	51	**64**	**93**	19	592	7	**618**	8	946	9	**963**	**1581**	**1674**
08:00 09:00	15	19	16	**50**	6	17	63	**86**	**136**	43	691	12	**746**	16	1069	13	**1098**	**1844**	**1980**
09:00 10:00	6	14	25	**45**	8	21	47	**76**	**121**	39	543	12	**594**	18	686	9	**713**	**1307**	**1428**
11:30 12:30	8	12	19	**39**	6	15	27	**48**	**87**	36	641	15	**692**	14	650	12	**676**	**1368**	**1455**
12:30 13:30	9	12	21	**42**	6	11	40	**57**	**99**	42	562	12	**616**	20	546	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	21	**40**	7	17	34	**58**	**98**	77	975	17	**1069**	31	781	19	**831**	**1900**	**1998**
Sub Total	63	117	179	**359**	57	137	353	**547**	**906**	366	6033	113	**6512**	154	6433	112	**6699**	**13211**	**14117**
U Turns				**0**				**0**	**0**				**7**				**2**	**9**	**9**
Total	63	117	179	**359**	57	137	353	**547**	**906**	366	6033	113	**6519**	154	6433	112	**6701**	**13220**	**14126**
EQ 12Hr	88	163	249	**499**	79	190	491	**760**	**1259**	509	8386	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	146	224	**449**	71	171	442	**684**	**1133**	458	7547	141	**8155**	193	8048	140	**8383**	**16538**	**17671**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													**.90**						
AVG 24Hr	103	192	293	**588**	93	225	578	**896**	**1484**	600	9887	185	**10683**	252	10542	184	**10982**	**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: 2

	BRIAR HILL DR/SANDALWOOD DR									HERON 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	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	168	3	**173**	**308**	**330**
09:45 10:00	3	2	0	**5**	3	2	6	**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	163	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	216	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	179	**359**	57	137	353	**547**	**906**	366	6033	113	**6519**	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

	BRIAR HILL DR/SANDALWOOD DR			HERON RD			
Time Period	Northbound	Southbound	**Street Total**	Eastbound	Westbound	**Street Total**	**Grand 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									
	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 08:00	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	58	1	**60**	**82**	**92**
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	28	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	9	**226**	5	279	2	**286**	**512**	**543**
U-Turns (Heavy Vehicles)				**0**				**0**	**0**				**1**				**0**	**1**	**1**
Total	5	8	3	**0**	2	7	6	**15**	**31**	3	213	9	**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	6	6	**12**	14	5	**19**	**31**
09:00 09:15	6	1	**7**	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**
15:00 15:15	0	3	**3**	0	2	**2**	**5**
15:15 15:30	3	2	**5**	1	0	**1**	**6**
15:30 15:45	2	2	**4**	1	2	**3**	**7**
15:45 16:00	1	2	**3**	8	0	**8**	**11**
15:00 16:00	6	9	**15**	10	4	**14**	**29**
16:00 16:15	5	2	**7**	21	12	**33**	**40**
16:15 16:30	4	2	**6**	5	2	**7**	**13**
16:30 16:45	0	1	**1**	0	0	**0**	**1**
16:45 17:00	2	4	**6**	0	0	**0**	**6**
16:00 17:00	11	9	**20**	26	14	**40**	**60**
17:00 17:15	3	1	**4**	3	1	**4**	**8**
17:15 17:30	3	0	**3**	1	0	**1**	**4**
17:30 17:45	7	0	**7**	4	1	**5**	**12**
17:45 18:00	1	0	**1**	1	0	**1**	**2**
17:00 18:00	14	1	**15**	9	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

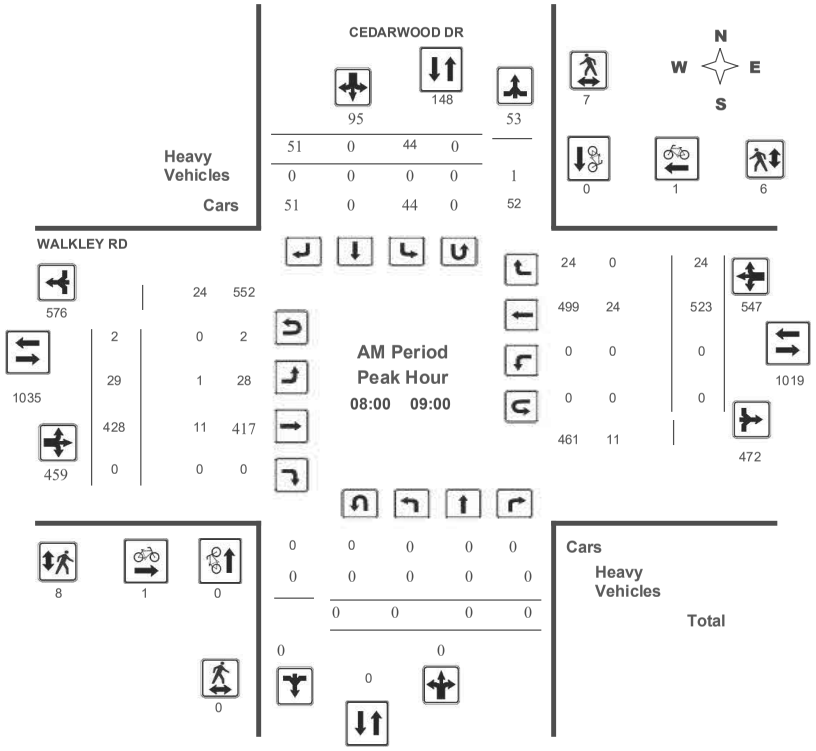
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CEDARWOOD DR @ WALKLEY RD

Survey Date: Wednesday, August 03, 2016 **WO No:** 36123

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



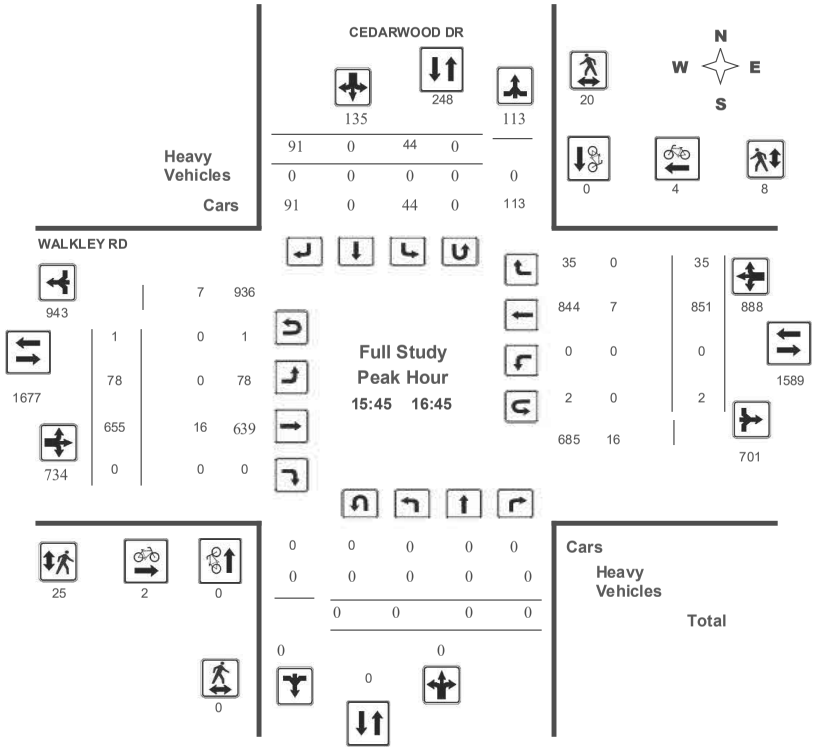
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CEDARWOOD DR @ WALKLEY RD

Survey Date: Wednesday, August 03, 2016 **WO No:** 36123

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



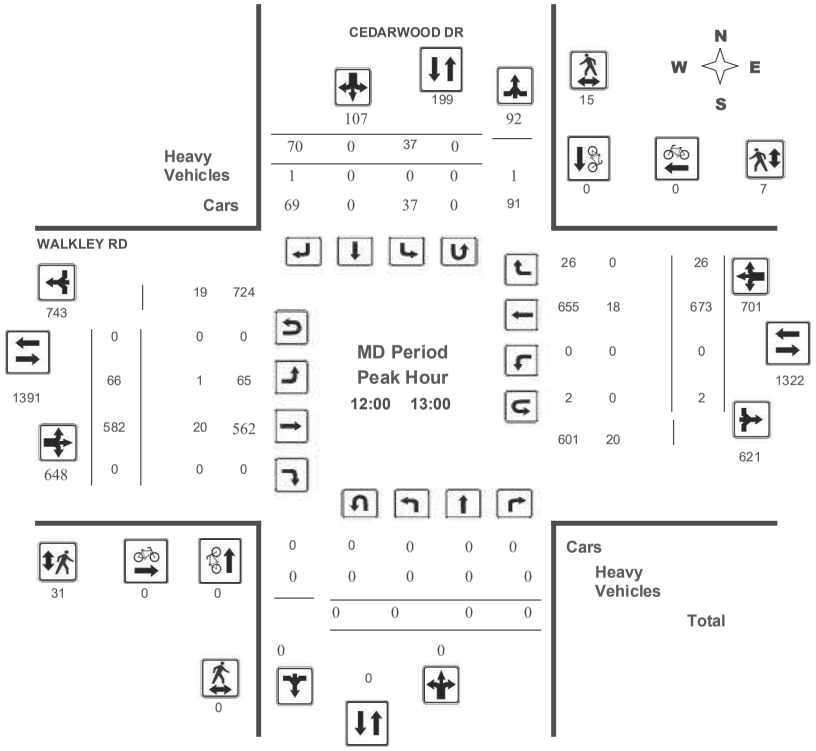
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CEDARWOOD DR @ WALKLEY RD

Survey Date: Wednesday, August 03, 2016 **WO No:** 36123

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



Comments

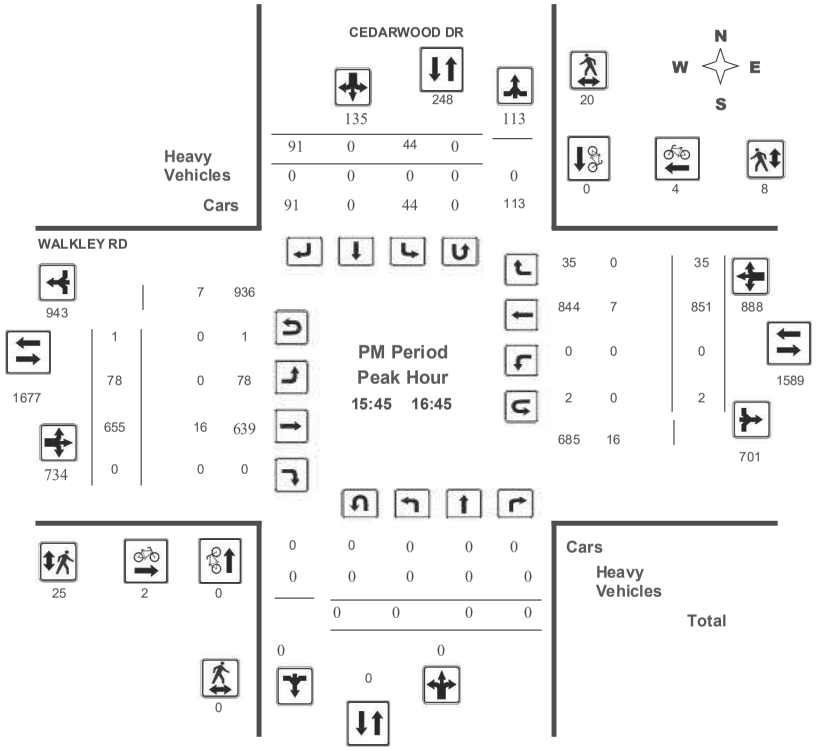
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

CEDARWOOD DR @ WALKLEY RD

Survey Date: Wednesday, August 03, 2016 **WO No:** 36123

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



Comments

Transportation Services - Traffic Services

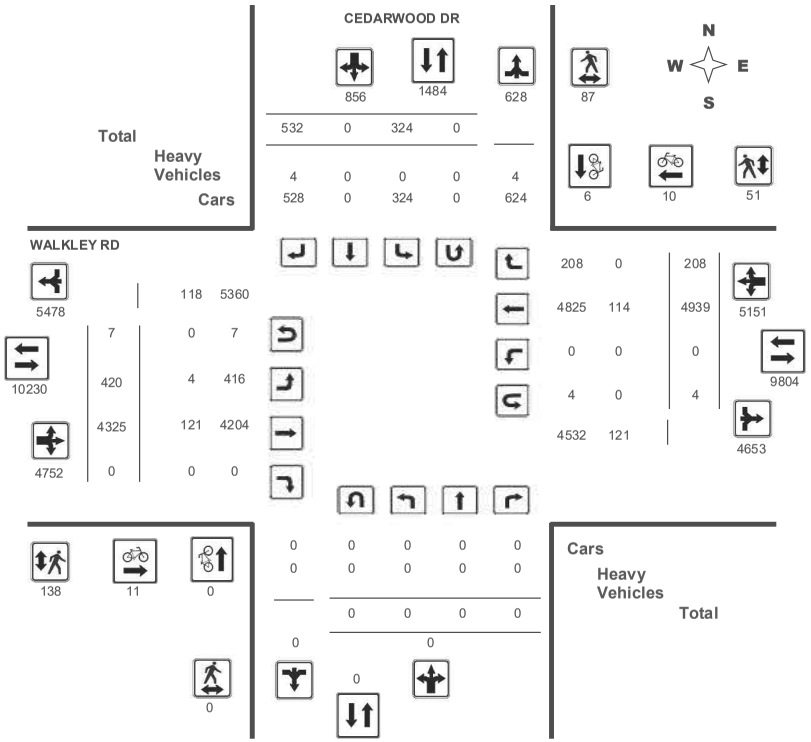
Turning Movement Count - Full Study Diagram

CEDARWOOD DR @ WALKLEY RD

Survey Date: Wednesday, August 03, 2016

WO#: 36123

Device: Miovision



Comments

Transportation Services - Traffic Services

Work Order 36123

Turning Movement Count - Full Study Summary Report

CEDARWOOD DR @ WALKLEY RD

Survey Date: Wednesday, August 03, 2016

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 7 Westbound: 4

AADT Factor .90

Full Study

	CEDARWOOD DR									WALKLEY RD									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	0	0	0	**0**	25	0	41	**66**	**66**	19	413	0	**432**	0	430	10	**440**	**872**	**938**
08:00 09:00	0	0	0	**0**	44	0	51	**95**	**95**	29	428	0	**457**	0	523	24	**547**	**1004**	**1099**
09:00 10:00	0	0	0	**0**	41	0	51	**92**	**92**	32	459	0	**491**	0	464	14	**478**	**969**	**1061**
11:30 12:30	0	0	0	**0**	29	0	63	**92**	**92**	62	563	0	**625**	0	617	23	**640**	**1265**	**1357**
12:30 13:30	0	0	0	**0**	46	0	81	**127**	**127**	62	584	0	**646**	0	610	29	**639**	**1285**	**1412**
15:00 16:00	0	0	0	**0**	55	0	74	**129**	**129**	58	645	0	**703**	0	749	30	**779**	**1482**	**1611**
16:00 17:00	0	0	0	**0**	39	0	88	**127**	**127**	78	623	0	**701**	0	844	31	**875**	**1576**	**1703**
17:00 18:00	0	0	0	**0**	45	0	83	**128**	**128**	80	610	0	**690**	0	702	47	**749**	**1439**	**1567**
Sub Total	0	0	0	**0**	324	0	532	**856**	**856**	420	4325	0	**4745**	0	4939	208	**5147**	**9892**	**10748**
U Turns				**0**				**0**	**0**				**7**				**4**	**11**	**11**
Total	0	0	0	**0**	324	0	532	**856**	**856**	420	4325	0	**4752**	0	4939	208	**5151**	**9903**	**10759**
EQ 12Hr	0	0	0	**0**	450	0	739	**1190**	**1190**	584	6012	0	**6605**	0	6865	289	**7160**	**13765**	**14955**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													**1.39**						
AVG 12Hr	0	0	0	**0**	405	0	666	**1071**	**1071**	525	5411	0	**5945**	0	6179	260	**6444**	**12389**	**13460**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													**.90**						
AVG 24Hr	0	0	0	**0**	531	0	872	**1403**	**1403**	688	7088	0	**7788**	0	8094	341	**8442**	**16230**	**17633**
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. 36123

Turning Movement Count - 15 Minute Summary Report

CEDARWOOD DR @ WALKLEY RD

Survey Date: Wednesday, August 03, 2016

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 7 Westbound: 4

	CEDARWOOD DR								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	0	0	**0**	4	0	9	**13**	**13**	4	97	0	**101**	0	88	2	**90**	**191**	**204**
07:15 07:30	0	0	0	**0**	7	0	9	**16**	**16**	7	93	0	**100**	0	105	0	**105**	**205**	**221**
07:30 07:45	0	0	0	**0**	4	0	11	**15**	**15**	4	111	0	**116**	0	115	6	**121**	**237**	**252**
07:45 08:00	0	0	0	**0**	10	0	12	**22**	**22**	4	112	0	**116**	0	122	2	**124**	**240**	**262**
08:00 08:15	0	0	0	**0**	17	0	10	**27**	**27**	9	113	0	**122**	0	134	6	**140**	**262**	**289**
08:15 08:30	0	0	0	**0**	6	0	14	**20**	**20**	5	112	0	**117**	0	109	9	**118**	**235**	**255**
08:30 08:45	0	0	0	**0**	9	0	11	**20**	**20**	12	105	0	**119**	0	130	2	**132**	**251**	**271**
08:45 09:00	0	0	0	**0**	12	0	16	**28**	**28**	3	98	0	**101**	0	150	7	**157**	**258**	**286**
09:00 09:15	0	0	0	**0**	4	0	15	**19**	**19**	7	118	0	**125**	0	126	3	**129**	**254**	**273**
09:15 09:30	0	0	0	**0**	11	0	12	**23**	**23**	8	120	0	**128**	0	107	3	**110**	**238**	**261**
09:30 09:45	0	0	0	**0**	11	0	12	**23**	**23**	10	120	0	**130**	0	111	1	**112**	**242**	**265**
09:45 10:00	0	0	0	**0**	15	0	12	**27**	**27**	7	101	0	**108**	0	120	7	**127**	**235**	**262**
11:30 11:45	0	0	0	**0**	8	0	18	**26**	**26**	15	130	0	**145**	0	128	6	**134**	**279**	**305**
11:45 12:00	0	0	0	**0**	9	0	17	**26**	**26**	13	140	0	**153**	0	135	4	**139**	**292**	**318**
12:00 12:15	0	0	0	**0**	8	0	16	**24**	**24**	19	142	0	**161**	0	177	8	**185**	**346**	**370**
12:15 12:30	0	0	0	**0**	4	0	12	**16**	**16**	15	151	0	**166**	0	177	5	**182**	**348**	**364**
12:30 12:45	0	0	0	**0**	9	0	21	**30**	**30**	19	139	0	**158**	0	182	4	**186**	**344**	**374**
12:45 13:00	0	0	0	**0**	16	0	21	**37**	**37**	13	150	0	**163**	0	137	9	**148**	**311**	**348**
13:00 13:15	0	0	0	**0**	10	0	19	**29**	**29**	12	148	0	**161**	0	138	10	**148**	**309**	**338**
13:15 13:30	0	0	0	**0**	11	0	20	**31**	**31**	18	147	0	**166**	0	153	6	**159**	**325**	**356**
15:00 15:15	0	0	0	**0**	14	0	21	**35**	**35**	14	148	0	**162**	0	179	7	**186**	**348**	**383**
15:15 15:30	0	0	0	**0**	12	0	12	**24**	**24**	14	159	0	**173**	0	196	4	**200**	**373**	**397**
15:30 15:45	0	0	0	**0**	15	0	19	**34**	**34**	16	162	0	**178**	0	178	10	**188**	**366**	**400**
15:45 16:00	0	0	0	**0**	14	0	22	**36**	**36**	14	176	0	**191**	0	196	9	**205**	**396**	**432**
16:00 16:15	0	0	0	**0**	12	0	20	**32**	**32**	22	165	0	**187**	0	213	8	**222**	**409**	**441**
16:15 16:30	0	0	0	**0**	9	0	28	**37**	**37**	16	153	0	**169**	0	216	7	**223**	**392**	**429**
16:30 16:45	0	0	0	**0**	9	0	21	**30**	**30**	26	161	0	**187**	0	226	11	**238**	**425**	**455**
16:45 17:00	0	0	0	**0**	9	0	19	**28**	**28**	14	144	0	**159**	0	189	5	**194**	**353**	**381**
17:00 17:15	0	0	0	**0**	19	0	23	**42**	**42**	24	179	0	**203**	0	176	13	**189**	**392**	**434**
17:15 17:30	0	0	0	**0**	10	0	22	**32**	**32**	13	169	0	**182**	0	190	14	**204**	**386**	**418**
17:30 17:45	0	0	0	**0**	7	0	21	**28**	**28**	20	128	0	**148**	0	160	9	**169**	**317**	**345**
17:45 18:00	0	0	0	**0**	9	0	17	**26**	**26**	23	134	0	**157**	0	176	11	**187**	**344**	**370**
TOTAL:	0	0	0	**0**	324	0	532	**856**	**856**	420	4325	0	**4752**	0	4939	208	**5151**	**9903**	**10759**

Note: U-Turns are included in Totals.

Comment:

2018-Dec-10

Transportation Services - Traffic Services

Turning Movement Count - Cyclist Volume Report

Work Order 36123

CEDARWOOD DR @ WALKLEY RD

Count Date: Wednesday, August 03, 2016

Start Time: 07:00

	CEDARWOOD DR			WALKLEY RD			
Time Period	Northbound	Southbound	**Street Total**	Eastbound	Westbound	**Street Total**	**Grand Total**
07:00 08:00	0	0	**0**	1	2	**3**	**3**
08:00 09:00	0	0	**0**	1	1	**2**	**2**
09:00 10:00	0	2	**2**	2	1	**3**	**5**
11:30 12:30	0	1	**1**	0	1	**1**	**2**
12:30 13:30	0	2	**2**	2	0	**2**	**4**
15:00 16:00	0	0	**0**	0	1	**1**	**1**
16:00 17:00	0	0	**0**	3	3	**6**	**6**
17:00 18:00	0	1	**1**	2	1	**3**	**4**
Total	0	6	**6**	11	10	**21**	**27**

Comment:

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

2018-Dec-10

Transportation Services - Traffic Services

W.O. 36123

Turning Movement Count - Heavy Vehicle Report

CEDARWOOD DR @ WALKLEY RD

Survey Date: Wednesday, August 03, 2016

	CEDARWOOD DR									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 08:00	0	0	0	**0**	0	0	0	**0**	**0**	1	24	0	**25**	0	14	0	**14**	**39**	**39**
08:00 09:00	0	0	0	**0**	0	0	0	**0**	**0**	1	11	0	**12**	0	24	0	**24**	**36**	**36**
09:00 10:00	0	0	0	**0**	0	0	0	**0**	**0**	0	18	0	**18**	0	22	0	**22**	**40**	**40**
11:30 12:30	0	0	0	**0**	0	0	2	**2**	**2**	1	20	0	**21**	0	24	0	**24**	**45**	**47**
12:30 13:30	0	0	0	**0**	0	0	1	**1**	**1**	0	13	0	**13**	0	9	0	**9**	**22**	**23**
15:00 16:00	0	0	0	**0**	0	0	1	**1**	**1**	0	20	0	**20**	0	8	0	**8**	**28**	**29**
16:00 17:00	0	0	0	**0**	0	0	0	**0**	**0**	0	11	0	**11**	0	7	0	**7**	**18**	**18**
17:00 18:00	0	0	0	**0**	0	0	0	**0**	**0**	1	4	0	**5**	0	6	0	**6**	**11**	**11**
Sub Total	0	0	0	**0**	0	0	4	**4**	**4**	4	121	0	**125**	0	114	0	**114**	**239**	**243**
U-Turns (Heavy Vehicles)				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	0	0	0	**0**	0	0	4	**4**	**4**	4	121	0	**125**	0	114	0	**114**	**239**	**243**

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 36123

Turning Movement Count - Pedestrian Volume Report

CEDARWOOD DR @ WALKLEY RD

Count Date: Wednesday, August 03, 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	1	**1**	1	1	**2**	**3**
07:30 07:45	0	1	**1**	0	0	**0**	**1**
07:45 08:00	0	1	**1**	4	3	**7**	**8**
07:00 08:00	0	5	**5**	5	4	**9**	**14**
08:00 08:15	0	2	**2**	0	2	**2**	**4**
08:15 08:30	0	0	**0**	0	1	**1**	**1**
08:30 08:45	0	2	**2**	3	2	**5**	**7**
08:45 09:00	0	3	**3**	5	1	**6**	**9**
08:00 09:00	0	7	**7**	8	6	**14**	**21**
09:00 09:15	0	0	**0**	1	1	**2**	**2**
09:15 09:30	0	3	**3**	3	1	**4**	**7**
09:30 09:45	0	6	**6**	0	0	**0**	**6**
09:45 10:00	0	4	**4**	7	1	**8**	**12**
09:00 10:00	0	13	**13**	11	3	**14**	**27**
11:30 11:45	0	0	**0**	0	1	**1**	**1**
11:45 12:00	0	3	**3**	7	0	**7**	**10**
12:00 12:15	0	4	**4**	12	4	**16**	**20**
12:15 12:30	0	1	**1**	5	1	**6**	**7**
11:30 12:30	0	8	**8**	24	6	**30**	**38**
12:30 12:45	0	4	**4**	5	1	**6**	**10**
12:45 13:00	0	6	**6**	9	1	**10**	**16**
13:00 13:15	0	3	**3**	9	0	**9**	**12**
13:15 13:30	0	3	**3**	5	0	**5**	**8**
12:30 13:30	0	16	**16**	28	2	**30**	**46**
15:00 15:15	0	1	**1**	4	2	**6**	**7**
15:15 15:30	0	3	**3**	4	1	**5**	**8**
15:30 15:45	0	1	**1**	1	1	**2**	**3**
15:45 16:00	0	3	**3**	4	2	**6**	**9**
15:00 16:00	0	8	**8**	13	6	**19**	**27**
16:00 16:15	0	5	**5**	11	2	**13**	**18**
16:15 16:30	0	5	**5**	8	4	**12**	**17**
16:30 16:45	0	7	**7**	2	0	**2**	**9**
16:45 17:00	0	5	**5**	5	4	**9**	**14**
16:00 17:00	0	22	**22**	26	10	**36**	**58**
17:00 17:15	0	1	**1**	7	1	**8**	**9**
17:15 17:30	0	2	**2**	5	7	**12**	**14**
17:30 17:45	0	3	**3**	6	4	**10**	**13**
17:45 18:00	0	2	**2**	5	2	**7**	**9**
17:00 18:00	0	8	**8**	23	14	**37**	**45**
Total	0	87	**87**	138	51	**189**	**276**

Comment:

Transportation Services - Traffic Services

Work Order 36123

Turning Movement Count - 15 Min U-Turn Total Report

CEDARWOOD DR @ WALKLEY RD

Survey Date: Wednesday, August 03, 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	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	0	0
08:30	08:45	0	0	2	0	2
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	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	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	2	2
13:00	13:15	0	0	1	0	1
13:15	13:30	0	0	1	0	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	1	0	1
16:00	16:15	0	0	0	1	1
16:15	16:30	0	0	0	0	0
16:30	16:45	0	0	0	1	1
16:45	17:00	0	0	1	0	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	0	0
Total		0	0	7	4	11

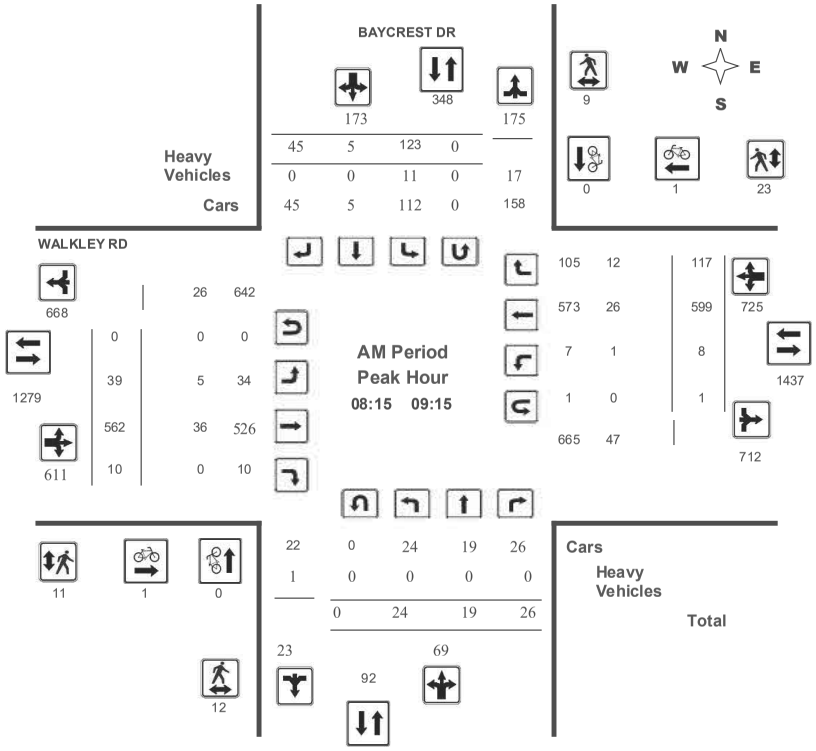
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BAYCREST DR @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016 **WO No:** 36488

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



Comments

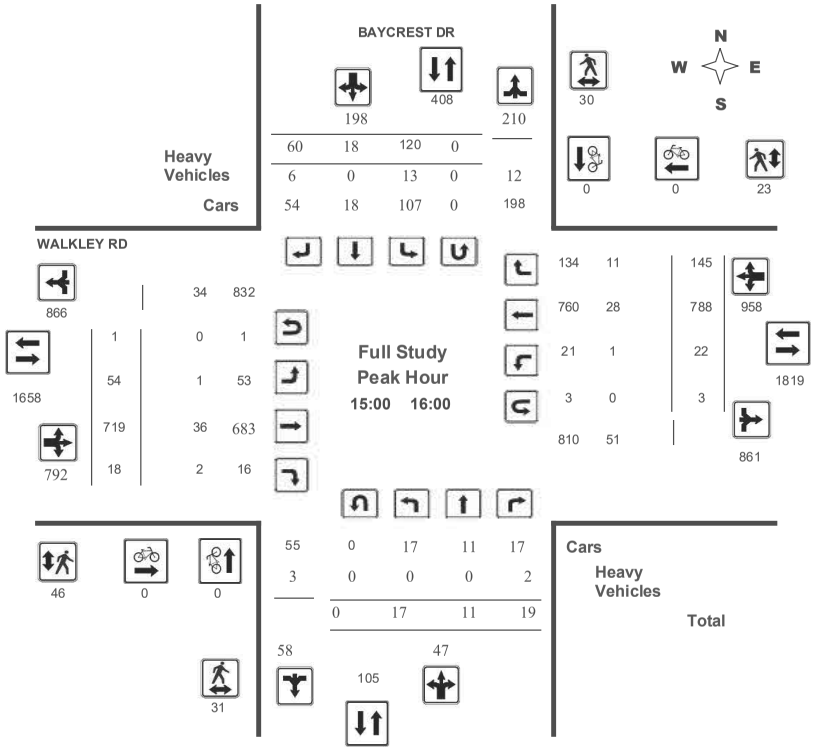
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BAYCREST DR @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016 **WO No:** 36488

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



Comments

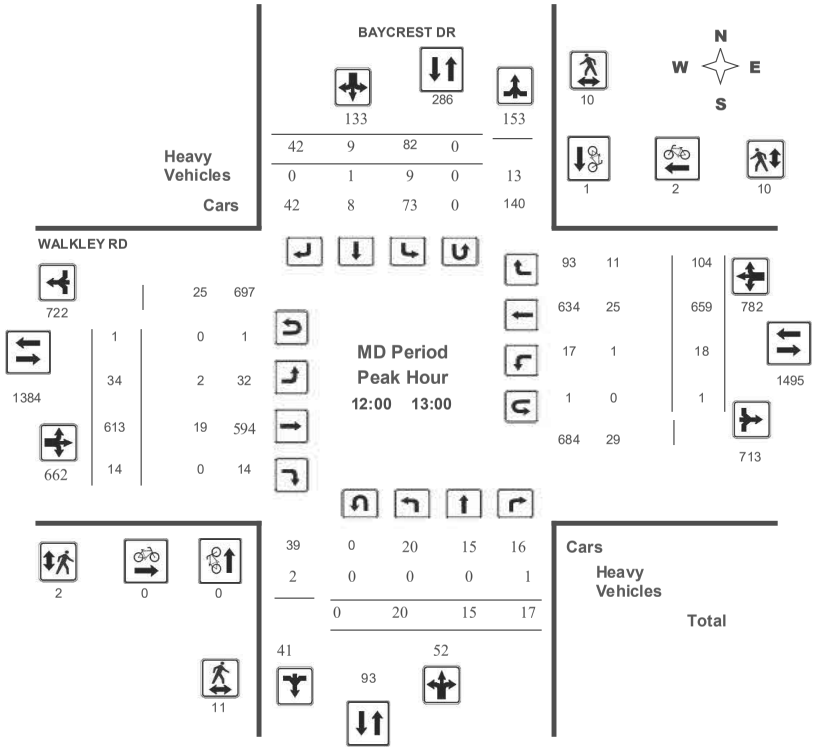
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BAYCREST DR @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016 **WO No:** 36488

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



Comments

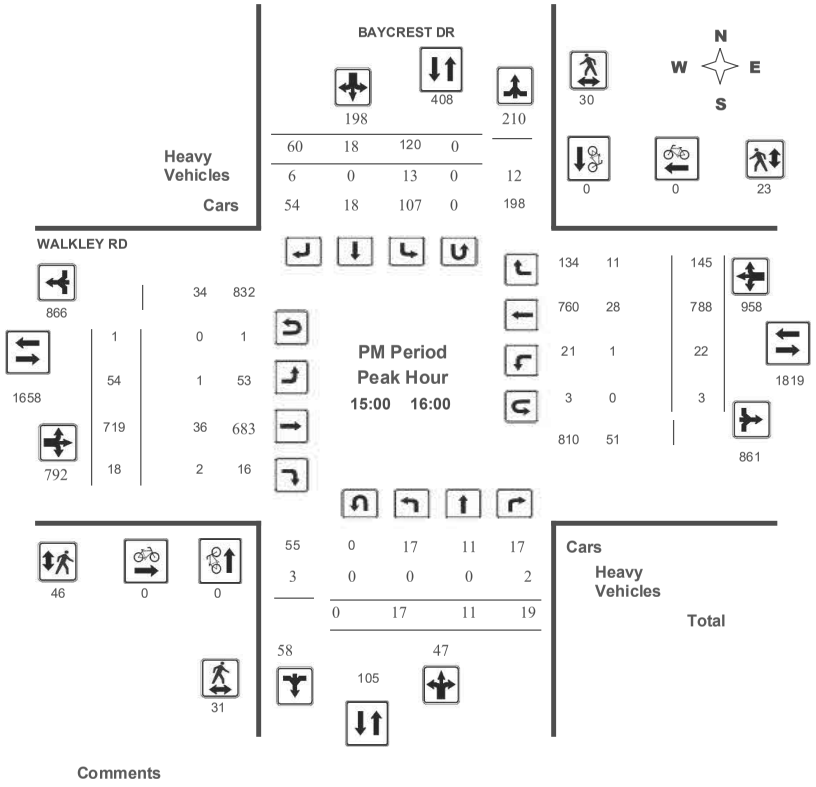
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BAYCREST DR @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016 **WO No:** 36488

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



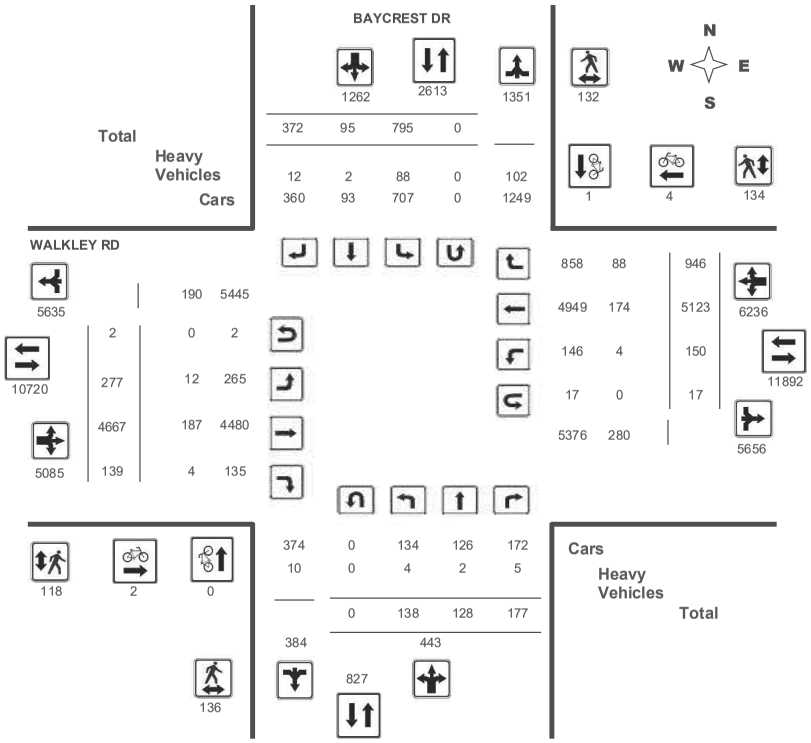
Transportation Services - Traffic Services

Turning Movement Count - Full Study Diagram

BAYCREST DR @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016 **WO#:** 36488

Device: Miovision



Transportation Services - Traffic Services

Work Order 36488

Turning Movement Count - Full Study Summary Report

BAYCREST DR @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016

Total Observed U-Turns

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

AADT Factor .90

Full Study

	BAYCREST DR									WALKLEY RD									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	19	24	31	**74**	93	5	38	**136**	**210**	14	454	5	**473**	9	513	107	**629**	**1102**	**1312**
08:00 09:00	25	22	25	**72**	110	6	51	**167**	**239**	34	576	9	**619**	7	587	119	**713**	**1332**	**1571**
09:00 10:00	13	17	20	**50**	82	2	36	**120**	**170**	26	518	11	**555**	11	529	129	**669**	**1224**	**1394**
11:30 12:30	10	11	16	**37**	81	4	48	**133**	**170**	32	594	11	**637**	22	645	119	**786**	**1423**	**1593**
12:30 13:30	16	14	14	**44**	100	13	40	**153**	**197**	34	567	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	**707**	35	795	115	**945**	**1652**	**1890**
17:00 18:00	16	19	26	**61**	106	25	44	**175**	**236**	49	597	39	**685**	30	662	120	**812**	**1497**	**1733**
Sub Total	138	128	177	**443**	795	95	372	**1262**	**1705**	277	4667	139	**5083**	150	5123	946	**6219**	**11302**	**13007**
U Turns				**0**				**0**	**0**				**2**				**17**	**19**	**19**
Total	138	128	177	**443**	795	95	372	**1262**	**1705**	277	4667	139	**5085**	150	5123	946	**6236**	**11321**	**13026**
EQ 12Hr	192	178	246	**616**	1105	132	517	**1754**	**2370**	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	465	**1579**	**2133**	347	5838	174	**6361**	188	6409	1183	**7801**	**14162**	**16295**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													**.90**						
AVG 24Hr	226	210	290	**726**	1303	156	610	**2068**	**2794**	454	7648	228	**8333**	246	8396	1550	**10220**	**18553**	**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.

Transportation Services - Traffic Services

W.O. 36488

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

	BAYCREST DR									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	2	3	4	**9**	20	2	8	**30**	**39**	0	84	2	**86**	2	96	20	**118**	**204**	**243**
07:15 07:30	5	9	6	**20**	26	1	5	**32**	**52**	5	116	0	**121**	0	130	27	**157**	**278**	**330**
07:30 07:45	5	7	10	**22**	24	0	15	**39**	**61**	2	110	3	**115**	5	132	27	**164**	**279**	**340**
07:45 08:00	7	5	11	**23**	23	2	10	**35**	**58**	7	144	0	**151**	2	155	33	**190**	**341**	**399**
08:00 08:15	4	5	8	**17**	23	1	17	**41**	**58**	5	141	4	**150**	1	133	37	**172**	**322**	**380**
08:15 08:30	9	5	6	**20**	24	3	16	**43**	**63**	5	130	2	**137**	2	139	26	**167**	**304**	**367**
08:30 08:45	6	8	3	**17**	29	1	8	**38**	**55**	15	127	2	**144**	1	170	27	**198**	**342**	**397**
08:45 09:00	6	4	8	**18**	34	1	10	**45**	**63**	9	178	1	**188**	3	145	29	**178**	**366**	**429**
09:00 09:15	3	2	9	**14**	36	0	11	**47**	**61**	10	127	5	**142**	2	145	35	**182**	**324**	**385**
09:15 09:30	3	5	2	**10**	22	0	11	**33**	**43**	2	150	3	**155**	3	113	33	**149**	**304**	**347**
09:30 09:45	1	8	5	**14**	6	1	7	**14**	**28**	6	118	2	**126**	5	144	34	**184**	**310**	**338**
09:45 10:00	6	2	4	**12**	18	1	7	**26**	**38**	8	123	1	**132**	1	127	27	**157**	**289**	**327**
11:30 11:45	1	1	5	**7**	24	1	16	**41**	**48**	9	135	2	**146**	3	149	30	**184**	**330**	**378**
11:45 12:00	0	4	3	**7**	20	3	8	**31**	**38**	7	148	2	**157**	5	146	32	**185**	**342**	**380**
12:00 12:15	4	2	4	**10**	22	0	14	**36**	**46**	10	134	4	**148**	7	175	24	**206**	**354**	**400**
12:15 12:30	5	4	4	**13**	15	0	10	**25**	**38**	6	177	3	**186**	7	175	33	**216**	**402**	**440**
12:30 12:45	4	8	4	**16**	25	5	7	**37**	**53**	9	143	4	**157**	2	155	24	**181**	**338**	**391**
12:45 13:00	7	1	5	**13**	20	4	11	**35**	**48**	9	159	3	**171**	2	154	23	**179**	**350**	**398**
13:00 13:15	0	3	2	**5**	23	1	11	**35**	**40**	7	128	7	**142**	5	142	19	**166**	**308**	**348**
13:15 13:30	5	2	3	**10**	32	3	11	**46**	**56**	9	137	1	**147**	5	153	26	**184**	**331**	**387**
15:00 15:15	2	2	4	**8**	29	5	12	**46**	**54**	14	175	3	**192**	5	199	39	**244**	**436**	**490**
15:15 15:30	2	3	7	**12**	31	4	20	**55**	**67**	11	187	2	**200**	4	185	34	**225**	**425**	**492**
15:30 15:45	6	1	4	**11**	34	4	10	**48**	**59**	11	175	6	**193**	4	207	33	**244**	**437**	**496**
15:45 16:00	7	5	4	**16**	26	5	18	**49**	**65**	18	182	7	**207**	9	197	39	**245**	**452**	**517**
16:00 16:15	5	2	6	**13**	25	5	14	**44**	**57**	7	168	3	**178**	5	201	40	**246**	**424**	**481**
16:15 16:30	8	4	8	**20**	25	5	13	**43**	**63**	4	154	12	**170**	11	203	27	**241**	**411**	**474**
16:30 16:45	2	3	8	**13**	20	4	15	**39**	**52**	11	167	7	**185**	11	208	20	**239**	**424**	**476**
16:45 17:00	7	1	4	**12**	33	8	13	**54**	**66**	12	153	9	**174**	8	183	28	**221**	**395**	**461**
17:00 17:15	4	5	6	**15**	34	10	15	**59**	**74**	10	167	7	**184**	10	191	26	**228**	**412**	**486**
17:15 17:30	7	3	3	**13**	23	6	8	**37**	**50**	7	138	10	**155**	5	192	42	**239**	**394**	**444**
17:30 17:45	4	6	5	**15**	28	5	14	**47**	**62**	11	147	15	**173**	8	170	26	**204**	**377**	**439**
17:45 18:00	1	5	12	**18**	21	4	7	**32**	**50**	21	145	7	**173**	7	109	26	**143**	**316**	**366**
TOTAL:	138	128	177	**443**	795	95	372	**1262**	**1705**	277	4667	139	**5085**	150	5123	946	**6236**	**11321**	**13026**

Note: U-Turns are included in Totals.

Comment:

Transportation Services - Traffic Services

Turning Movement Count - Cyclist Volume Report

Work Order 36488

BAYCREST DR @ WALKLEY RD

Count Date: Wednesday, November 16, 2016 **Start Time:** 07:00

	BAYCREST DR			WALKLEY RD			
Time Period	Northbound	Southbound	**Street Total**	Eastbound	Westbound	**Street Total**	**Grand 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									
	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 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**	**92**
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	26	9	**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**
Total	4	2	5	**0**	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	8	**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	6	**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	16	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	8	**25**	4	11	**15**	**40**
15:00 15:15	6	15	**21**	30	4	**34**	**55**
15:15 15:30	8	1	**9**	7	7	**14**	**23**
15:30 15:45	8	5	**13**	9	3	**12**	**25**
15:45 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**	2	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

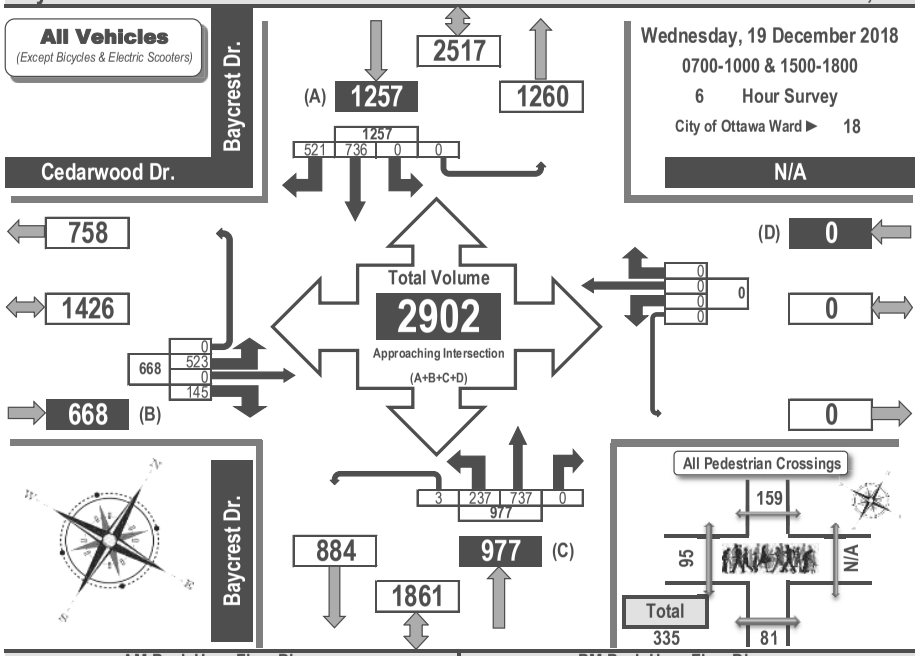
Survey Date: Wednesday, November 16, 2016

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

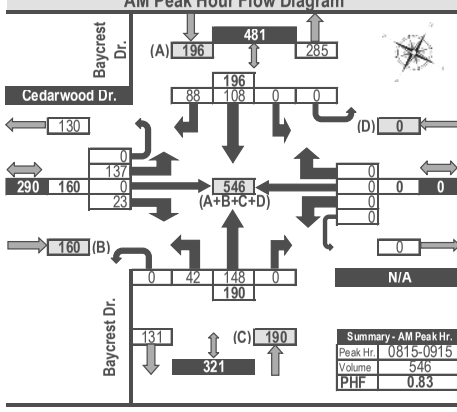
Turning Movement Count
Summary, AM and PM Peak Hour Flow Diagrams

Automobiles, Taxis, Light Trucks, Vans, SUV's, Motorcycles, Heavy Trucks, Buses, and School Buses

Baycrest Drive & Cedarwood Drive - Location 4 — Ottawa, ON

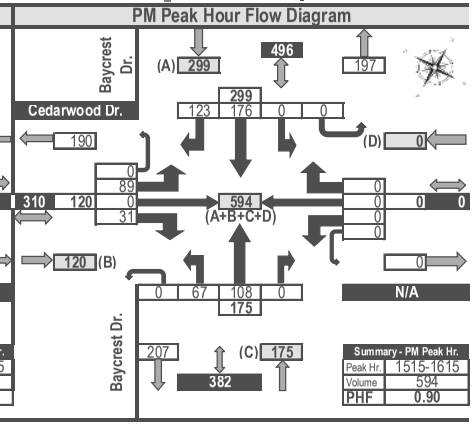


AM Peak Hour Flow Diagram



Summary - AM Peak Hr.	
Peak Hr.	0815-0915
Volume	546
PHF	0.83

PM Peak Hour Flow Diagram



Summary - PM Peak Hr.	
Peak Hr.	1515-1615
Volume	594
PHF	0.90

Turning Movement Count
Summary Report
AADT and Expansion Factors

Automobiles, Taxis, Light Trucks, Vans, SUV's, Motorcycles, Heavy Trucks, Buses, and School Buses

Baycrest Drive & Cedarwood Drive - Location 4 — Ottawa, ON

Survey Date: Wednesday, 19 December 2018 **Start Time:** 0700 **AADT Factor:** 1.0
Weather AM: Clear -12ºC **Survey Duration:** 6 Hrs. **Survey Hours:** 0700-1000 & 1500-1800
Weather PM: Overcast -2ºC **Surveyor(s):** Mousseau

	Cedarwood Dr. Eastbound					N/A Westbound						Baycrest Dr. Northbound					Baycrest Dr. Southbound					
Time Period	LT	ST	RT	UT	E/B Tot	LT	ST	RT	UT	W/B Tot	Street Total	LT	ST	RT	UT	N/B Tot	LT	ST	RT	UT	S/B Tot	Street Total	Grand Total
0700-0800	50	0	17	0	67	0	0	0	0	0	67	13	127	0	1	141	0	64	33	0	97	238	305
0800-0900	117	0	31	0	148	0	0	0	0	0	148	34	154	0	0	188	0	99	78	0	177	365	513
0900-1000	112	0	14	0	126	0	0	0	0	0	126	37	127	0	0	164	0	91	64	0	155	319	445
1500-1600	86	0	31	0	117	0	0	0	0	0	117	52	102	0	0	154	0	157	130	0	287	441	558
1600-1700	76	0	31	0	107	0	0	0	0	0	107	65	111	0	0	176	0	162	105	0	267	443	550
1700-1800	82	0	21	0	103	0	0	0	0	0	103	36	116	0	2	154	0	163	111	0	274	428	531
Totals	523	0	145	0	668	0	0	0	0	0	668	237	737	0	3	977	0	736	521	0	1257	2234	2902

Equivalent 12 & 24-hour Vehicle Volumes Including the Annual Average Daily Traffic (AADT) Factor Applicable to the Day and Month of the Turning Movement Count

Expansion factors are applied exclusively to standard weekday 8-hour turning movement counts conducted during the hours of 0700h - 1000h, 1130h - 1330h and 1500h - 1800h

Equivalent 12-hour vehicle volumes. These volumes are calculated by multiplying the 8-hour totals by the 8 ➡12 expansion factor of 1.39

Equ. 12 Hr	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

Average daily 12-hour vehicle volumes. These volumes are calculated by multiplying the equivalent 12-hour totals by the AADT factor of: 1.0

AADT 12-hr	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

24-Hour AADT. These volumes are calculated by multiplying the average daily 12-hour vehicle volumes by the 12 ➡24 expansion factor of 1.31

AADT 24 Hr	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a

AADT and expansion factors provided by the City of Ottawa

AM Peak Hour Factor ➡ 0.83 — Highest Hourly Vehicle Volume Between 0700h & 1000h

AM Peak Hr	LT	ST	RT	UT	TOT	LT	ST	RT	UT	TOT	S.TOT	LT	ST	RT	UT	TOT	LT	ST	RT	UT	TOT	S.TOT	G.TOT
0815-0915	137	0	23	0	160	0	0	0	0	0	160	42	148	0	0	190	0	108	88	0	196	386	546

PM Peak Hour Factor ➡ 0.90 — Highest Hourly Vehicle Volume Between 1500h & 1800h

PM Peak Hr	LT	ST	RT	UT	TOT	LT	ST	RT	UT	TOT	S.TOT	LT	ST	RT	UT	TOT	LT	ST	RT	UT	TOT	S.TOT	G.TOT
1515-1615	89	0	31	0	120	0	0	0	0	0	120	67	108	0	0	175	0	176	123	0	299	474	594

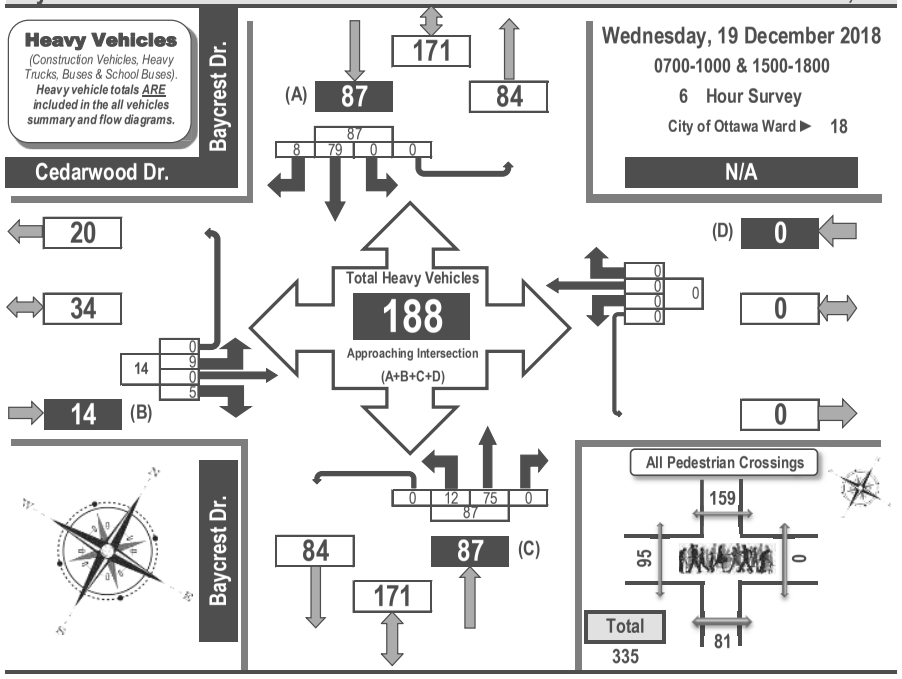
Comments:
The majority of the heavy vehicle traffic consists of OC Transpo buses and school buses.

Notes:
1. Includes all vehicle types except bicycles, electric bicycles, and electric scooters.
2.When expansion and AADT factors are applied, the results will differ slightly due to rounding.

Turning Movement Count
Heavy Vehicle Summary
Flow Diagram

Heavy Trucks, Buses, and School Buses

Baycrest Drive & Cedarwood Drive - Location 4 — **Ottawa, ON**



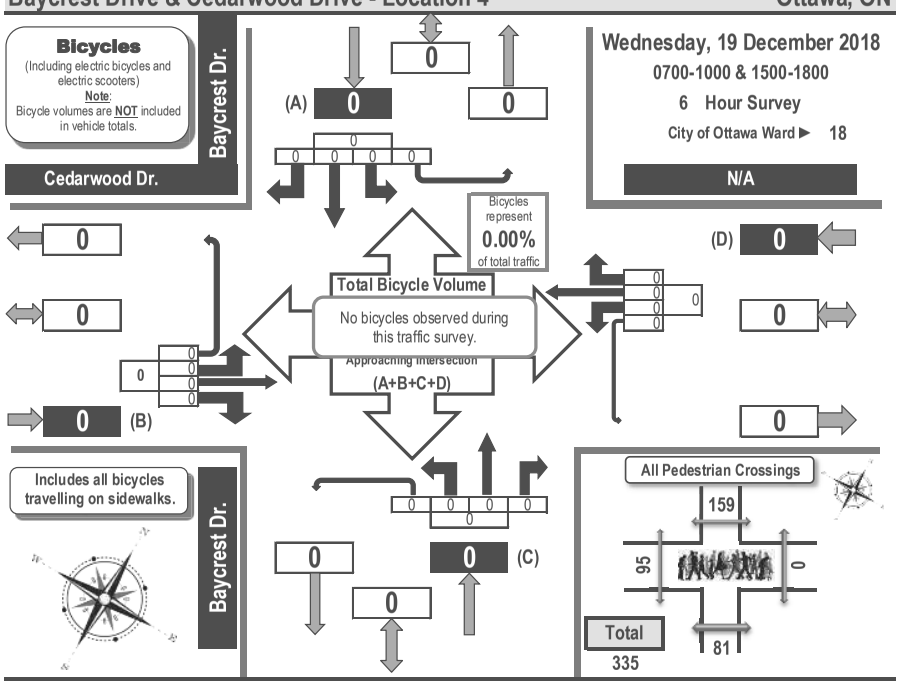
	Cedarwood Dr. Eastbound					N/A Westbound					Baycrest Dr. Northbound					Baycrest Dr. Southbound					
Time Period	LT	ST	RT	UT	S. Tot	LT	ST	RT	UT	S. Tot	LT	ST	RT	UT	S. Tot	LT	ST	RT	UT	S. Tot	G.Tot.
0700-0800	1	0	2	0	3	0	0	0	0	0	3	12	0	0	15	0	17	1	0	18	36
0800-0900	4	0	2	0	6	0	0	0	0	0	4	17	0	0	21	0	14	3	0	17	44
0900-1000	0	0	0	0	0	0	0	0	0	0	0	14	0	0	14	0	11	0	0	11	25
1500-1600	3	0	0	0	3	0	0	0	0	0	2	10	0	0	12	0	9	4	0	13	28
1600-1700	1	0	1	0	2	0	0	0	0	0	3	11	0	0	14	0	14	0	0	14	30
1700-1800	0	0	0	0	0	0	0	0	0	0	0	11	0	0	11	0	14	0	0	14	25
Totals	9	0	5	0	14	0	0	0	0	0	12	75	0	0	87	0	79	8	0	87	188

Comments:
The majority of the heavy vehicle traffic consists of OC Transpo buses and school buses.

Printed on: 12/23/2018 Prepared by: thetrafficspecialist@gmail.com Summary: Heavy Vehicles

Turning Movement Count
Bicycle Summary
Flow Diagram

Baycrest Drive & Cedarwood Drive - Location 4 — **Ottawa, ON**



	Cedarwood Dr. Eastbound					N/A Westbound					Baycrest Dr. Northbound					Baycrest Dr. Southbound					
Time Period	LT	ST	RT	UT	S. Tot	LT	ST	RT	UT	S. Tot	LT	ST	RT	UT	S. Tot	LT	ST	RT	UT	S. Tot	G.Tot.
0700-0800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0800-0900	0	0	0	0	0	0					0	0	0	0	0	0	0	0	0	0	0
0900-1000	0	0	0	0	0	0					0	0	0	0	0	0	0	0	0	0	0
1500-1600	0	0	0	0	0	0					0	0	0	0	0	0	0	0	0	0	0
1600-1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1700-1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Totals	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

No bicycles observed during this traffic survey.

Comments:
The majority of the heavy vehicle traffic consists of OC Transpo buses and school buses.

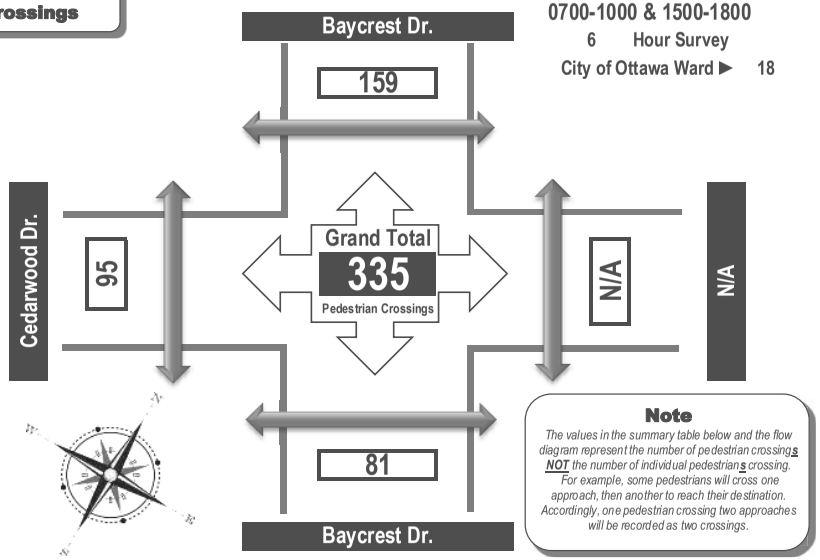
Printed on: 12/23/2018 Prepared by: thetrafficspecialist@gmail.com Summary: Bicycles

Turning Movement Count
Pedestrian Crossings Summary and Flow Diagram

Baycrest Drive & Cedarwood Drive - Location 4 — **Ottawa, ON**

Pedestrian Crossings

Wednesday, 19 December 2018
0700-1000 & 1500-1800
6 Hour Survey
City of Ottawa Ward ► 18



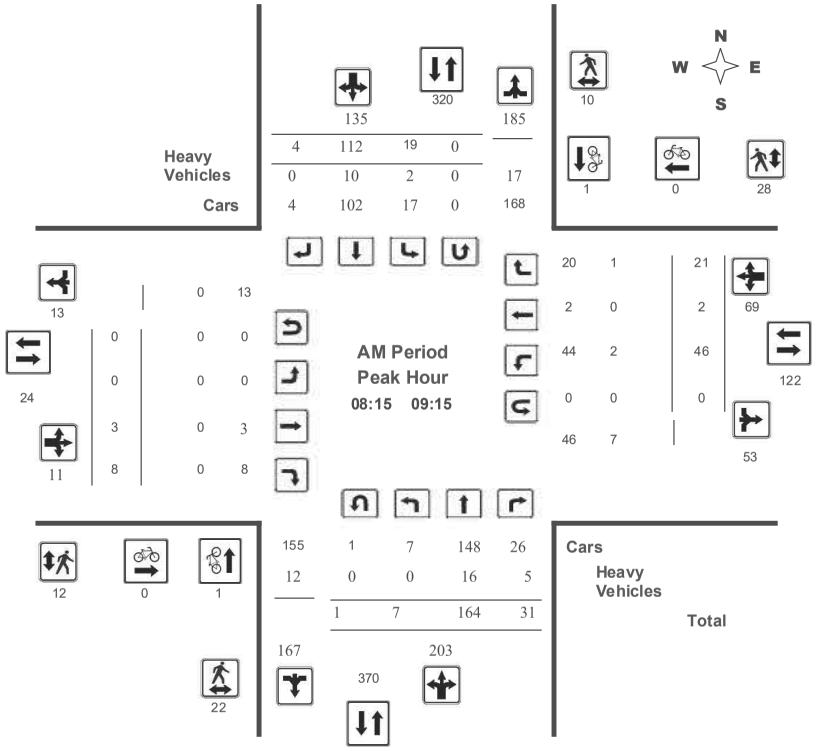
Note
*The values in the summary table below and the flow diagram represent the number of pedestrian crossings **NOT** the number of individual pedestrians crossing. For example, some pedestrians will cross one approach, then another to reach their destination. Accordingly, one pedestrian crossing two approaches will be recorded as two crossings.*

Time Period	West Side Crossing Cedarwood Dr.	East Side Crossing N/A	Street Total	South Side Crossing Baycrest Dr.	North Side Crossing Baycrest Dr.	Street Total	Grand Total
0700-0800	8	0	8	13	15	28	36
0800-0900	17	0	17	22	51	73	90
0900-1000	16	0	16	9	11	20	36
1500-1600	24	0	24	9	43	52	76
1600-1700	15	0	15	11	28	39	54
1700-1800	15	0	15	17	11	28	43
Totals	95	0	95	81	159	240	335

Comments:
The majority of the heavy vehicle traffic consists of OC Transpo buses and school buses.

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

Survey Date: Wednesday, October 24, 2018 **WO No:** 38074
Start Time: 07:00 **Device:** Miovision



Comments

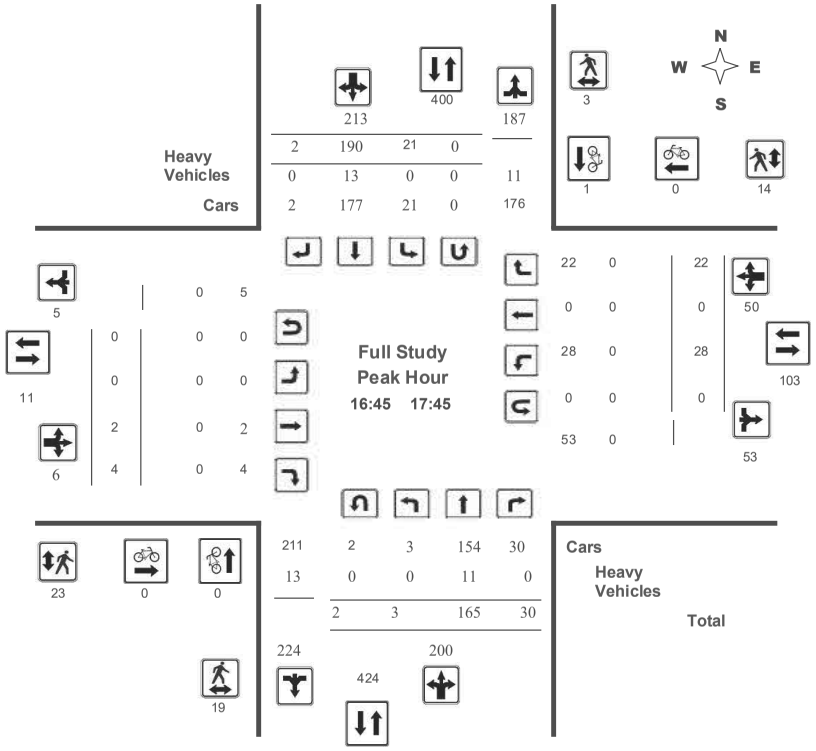
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BAYCREST DR @ SANDALWOOD DR

Survey Date: Wednesday, October 24, 2018 **WO No:** 38074

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



Comments

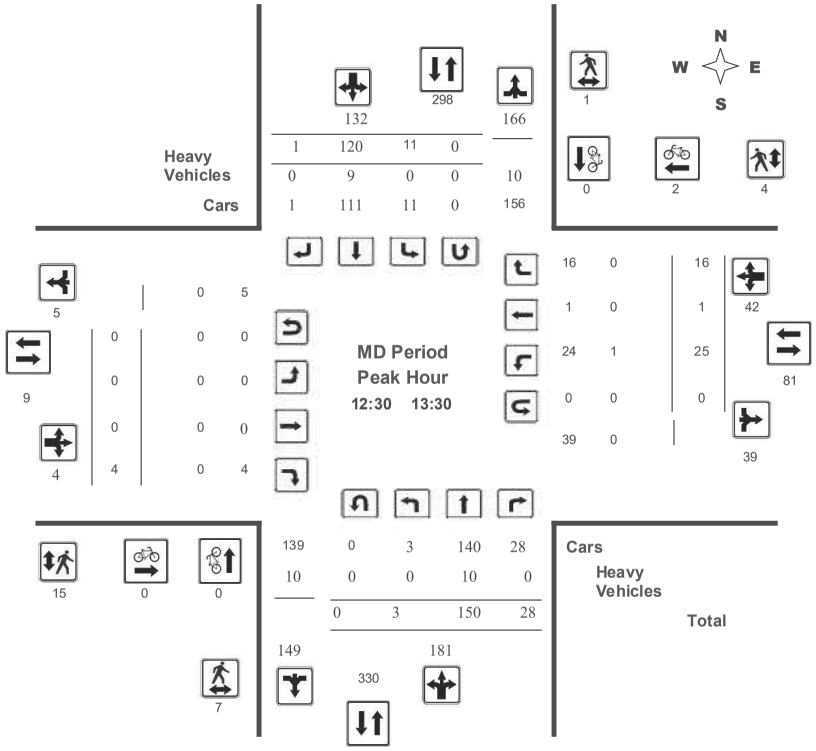
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BAYCREST DR @ SANDALWOOD DR

Survey Date: Wednesday, October 24, 2018 **WO No:** 38074

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



Comments

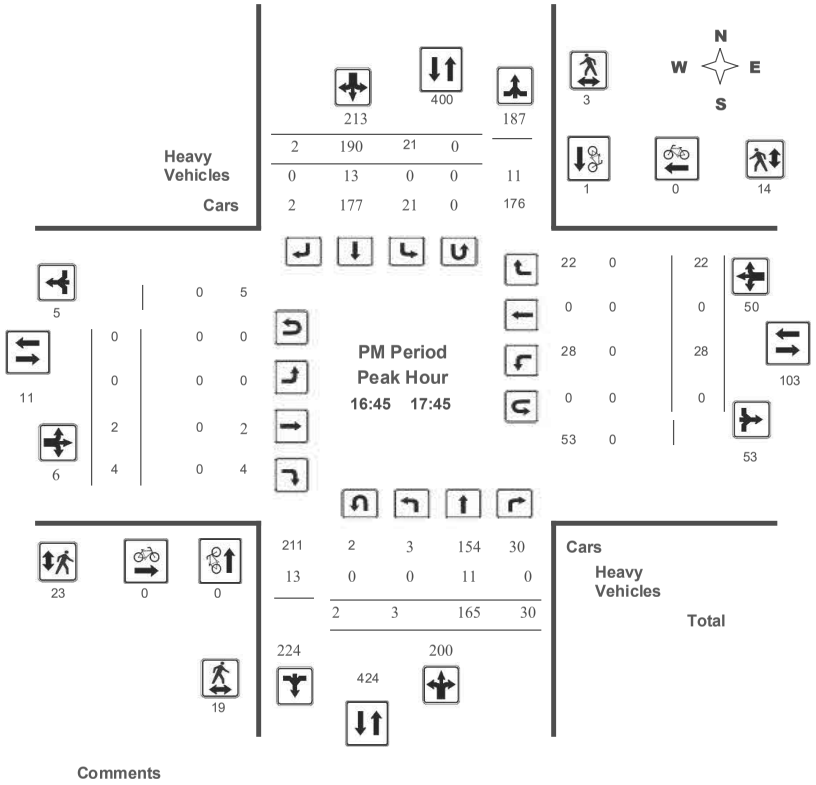
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

BAYCREST DR @ SANDALWOOD DR

Survey Date: Wednesday, October 24, 2018 **WO No:** 38074

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



Comments

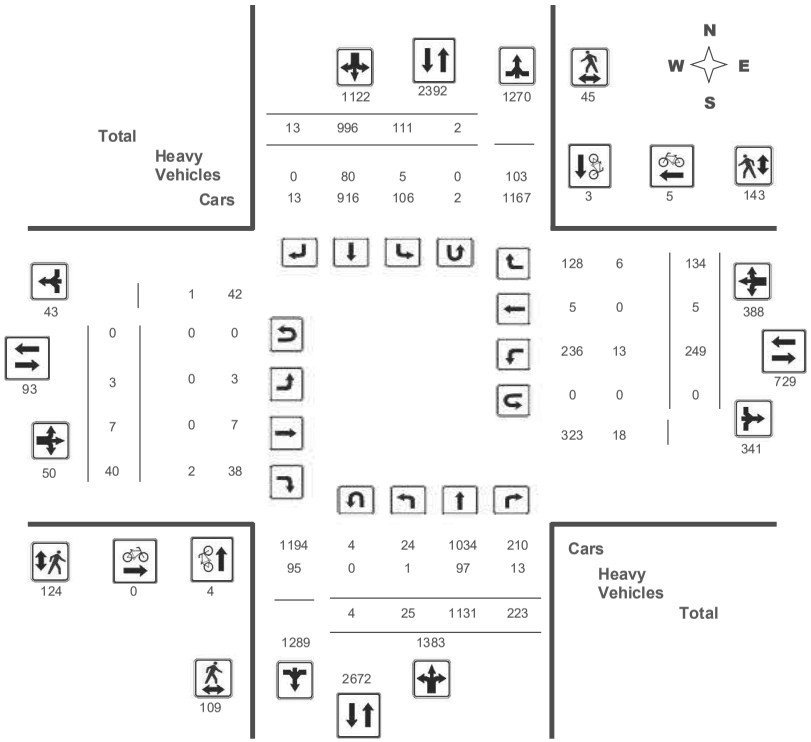
Transportation Services - Traffic Services

Turning Movement Count - Full Study Diagram

BAYCREST DR @ SANDALWOOD DR

Survey Date: Wednesday, October 24, 2018 **WO#:** 38074

Device: Miovision



Comments

Transportation Services - Traffic Services

Work Order 38074

Turning Movement Count - Full Study Summary Report

BAYCREST DR @ SANDALWOOD DR

Survey Date: Wednesday, October 24, 201

Total Observed U-Turns
Northbound: 4 Southbound: 2
Eastbound: 0 Westbound: 0

AADT Factor .90

Full Study

	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	**NB TOT**	LT	ST	RT	**SB TOT**	**STR TOT**	LT	ST	RT	**EB TOT**	LT	ST	RT	**WB TOT**	**STR TOT**	**Grand Total**
07:00 08:00	0	131	11	**142**	4	83	0	**87**	**229**	0	1	3	**4**	20	0	10	**30**	**34**	**263**
08:00 09:00	5	158	35	**198**	17	101	4	**122**	**320**	0	3	8	**11**	39	2	19	**60**	**71**	**391**
09:00 10:00	7	130	29	**166**	12	102	1	**115**	**281**	0	0	8	**8**	43	0	14	**57**	**65**	**346**
11:30 12:30	2	132	29	**163**	11	97	1	**109**	**272**	1	0	3	**4**	32	0	15	**47**	**51**	**323**
12:30 13:30	3	150	28	**181**	11	120	1	**132**	**313**	0	0	4	**4**	25	1	16	**42**	**46**	**359**
15:00 16:00	3	135	32	**170**	20	149	3	**172**	**342**	2	1	5	**8**	37	1	22	**60**	**68**	**410**
16:00 17:00	4	115	34	**153**	17	161	2	**180**	**333**	0	0	7	**7**	30	0	20	**50**	**57**	**390**
17:00 18:00	1	180	25	**206**	19	183	1	**203**	**409**	0	2	2	**4**	23	1	18	**42**	**46**	**455**
Sub Total	25	1131	223	**1379**	111	996	13	**1120**	**2499**	3	7	40	**50**	249	5	134	**388**	**438**	**2937**
U Turns				**4**				**2**	**6**				**0**				**0**	**0**	**6**
Total	25	1131	223	**1383**	111	996	13	**1122**	**2505**	3	7	40	**50**	249	5	134	**388**	**438**	**2943**
EQ 12Hr	35	1572	310	**1922**	154	1384	18	**1560**	**3482**	4	10	56	**70**	346	7	186	**539**	**609**	**4091**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													**1.39**						
AVG 12Hr	31	1415	279	**1730**	139	1246	16	**1404**	**3134**	4	9	50	**63**	311	6	168	**485**	**548**	**3682**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													**.90**						
AVG 24Hr	41	1853	365	**2266**	182	1632	21	**1839**	**4105**	5	11	66	**82**	408	8	220	**636**	**718**	**4823**
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. 38074

Turning Movement Count - 15 Minute Summary Report

BAYCREST DR @ SANDALWOOD DR

Survey Date: Wednesday, October 24, 2018

Total Observed U-Turns
Northbound: 4 Southbound: 2
Eastbound: 0 Westbound: 0

	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	27	3	**30**	2	21	0	**24**	**54**	0	0	0	**0**	5	0	2	**7**	**7**	**61**
07:15 07:30	0	29	0	**29**	0	17	0	**17**	**46**	0	0	1	**1**	3	0	1	**4**	**5**	**51**
07:30 07:45	0	41	4	**45**	0	26	0	**26**	**71**	0	0	1	**1**	7	0	6	**13**	**14**	**85**
07:45 08:00	0	34	4	**38**	2	19	0	**21**	**59**	0	1	1	**2**	5	0	1	**6**	**8**	**67**
08:00 08:15	1	32	12	**45**	4	25	0	**29**	**74**	0	0	2	**2**	7	0	4	**11**	**13**	**87**
08:15 08:30	0	44	4	**49**	5	35	2	**42**	**91**	0	1	1	**2**	14	1	5	**20**	**22**	**113**
08:30 08:45	2	32	7	**41**	4	24	0	**28**	**69**	0	1	2	**3**	9	0	2	**11**	**14**	**83**
08:45 09:00	2	50	12	**64**	4	17	2	**23**	**87**	0	1	3	**4**	9	1	8	**18**	**22**	**109**
09:00 09:15	3	38	8	**49**	6	36	0	**42**	**91**	0	0	2	**2**	14	0	6	**20**	**22**	**113**
09:15 09:30	0	29	7	**36**	4	24	0	**28**	**64**	0	0	3	**3**	13	0	4	**17**	**20**	**84**
09:30 09:45	2	33	7	**42**	0	24	0	**24**	**66**	0	0	1	**1**	11	0	1	**12**	**13**	**79**
09:45 10:00	2	30	7	**39**	2	18	1	**21**	**60**	0	0	2	**2**	5	0	3	**8**	**10**	**70**
11:30 11:45	0	36	5	**41**	3	23	0	**26**	**67**	0	0	2	**2**	6	0	5	**11**	**13**	**80**
11:45 12:00	0	40	5	**45**	3	16	0	**19**	**64**	1	0	0	**1**	10	0	3	**13**	**14**	**78**
12:00 12:15	1	24	11	**36**	2	31	0	**33**	**69**	0	0	0	**0**	7	0	2	**9**	**9**	**78**
12:15 12:30	1	32	8	**41**	3	27	1	**31**	**72**	0	0	1	**1**	9	0	5	**14**	**15**	**87**
12:30 12:45	0	30	8	**38**	3	34	0	**37**	**75**	0	0	0	**0**	6	0	3	**9**	**9**	**84**
12:45 13:00	0	48	7	**55**	0	24	1	**25**	**80**	0	0	1	**1**	4	0	3	**7**	**8**	**88**
13:00 13:15	3	38	6	**47**	4	32	0	**36**	**83**	0	0	3	**3**	8	0	1	**9**	**12**	**95**
13:15 13:30	0	34	7	**41**	4	30	0	**34**	**75**	0	0	0	**0**	7	1	9	**17**	**17**	**92**
15:00 15:15	1	27	3	**31**	4	27	1	**32**	**63**	1	0	2	**3**	5	0	3	**8**	**11**	**74**
15:15 15:30	0	33	11	**44**	4	46	1	**51**	**95**	0	1	1	**2**	6	1	4	**11**	**13**	**108**
15:30 15:45	0	33	11	**44**	6	42	0	**48**	**92**	0	0	1	**1**	9	0	5	**14**	**15**	**107**
15:45 16:00	2	42	7	**51**	6	34	1	**41**	**92**	1	0	1	**2**	17	0	10	**27**	**29**	**121**
16:00 16:15	0	27	5	**32**	4	40	1	**46**	**78**	0	0	2	**2**	11	0	4	**15**	**17**	**95**
16:15 16:30	1	25	7	**34**	3	31	0	**34**	**68**	0	0	1	**1**	9	0	5	**14**	**15**	**83**
16:30 16:45	0	26	9	**35**	7	42	0	**49**	**84**	0	0	2	**2**	2	0	4	**6**	**8**	**92**
16:45 17:00	3	37	13	**53**	3	48	1	**52**	**105**	0	0	2	**2**	8	0	7	**15**	**17**	**122**
17:00 17:15	0	48	5	**55**	6	42	0	**48**	**103**	0	0	0	**0**	3	0	7	**10**	**10**	**113**
17:15 17:30	0	43	9	**52**	7	45	0	**52**	**104**	0	1	0	**1**	11	0	4	**15**	**16**	**120**
17:30 17:45	0	37	3	**40**	5	55	1	**61**	**101**	0	1	2	**3**	6	0	4	**10**	**13**	**114**
17:45 18:00	1	52	8	**61**	1	41	0	**42**	**103**	0	0	0	**0**	3	1	3	**7**	**7**	**110**
TOTAL:	25	1131	223	**1383**	111	996	13	**1122**	**2505**	3	7	40	**50**	249	5	134	**388**	**438**	**2943**

Note: U-Turns are included in Totals.

Comment:

Transportation Services - Traffic Services

Turning Movement Count - Cyclist Volume Report

Work Order
38074

BAYCREST DR @ SANDALWOOD DR

Count Date: Wednesday, October 24, 2018 **Start Time:** 07:00

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

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.
38074

Turning Movement Count - Heavy Vehicle Report

BAYCREST DR @ SANDALWOOD DR

Survey Date: Wednesday, October 24, 2018

	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 08:00	0	12	2	**14**	0	14	0	**14**	**28**	0	0	0	**0**	0	0	1	**1**	**1**	**29**
08:00 09:00	1	15	4	**20**	3	10	0	**13**	**33**	0	0	0	**0**	2	0	2	**4**	**4**	**37**
09:00 10:00	0	14	2	**16**	0	8	0	**8**	**24**	0	0	0	**0**	2	0	0	**2**	**2**	**26**
11:30 12:30	0	12	1	**13**	1	7	0	**8**	**21**	0	0	1	**1**	1	0	0	**1**	**2**	**23**
12:30 13:30	0	10	0	**10**	0	9	0	**9**	**19**	0	0	0	**0**	1	0	0	**1**	**1**	**20**
15:00 16:00	0	8	2	**10**	0	6	0	**6**	**16**	0	0	1	**1**	2	0	3	**5**	**6**	**22**
16:00 17:00	0	16	1	**17**	1	13	0	**14**	**31**	0	0	0	**0**	5	0	0	**5**	**5**	**36**
17:00 18:00	0	10	1	**11**	0	13	0	**13**	**24**	0	0	0	**0**	0	0	0	**0**	**0**	**24**
Sub Total	1	97	13	**111**	5	80	0	**85**	**196**	0	0	2	**2**	13	0	6	**19**	**21**	**217**
U-Turns (Heavy Vehicles)				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	1	97	13	**0**	5	80	0	**85**	**196**	0	0	2	**2**	13	0	6	**19**	**21**	**217**

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
38074

Turning Movement Count - Pedestrian Volume Report

BAYCREST DR @ SANDALWOOD DR

Count Date: Wednesday, October 24, 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	0	**0**	2	0	**2**	**2**
07:15 07:30	1	0	**1**	2	1	**3**	**4**
07:30 07:45	1	0	**1**	4	0	**4**	**5**
07:45 08:00	7	2	**9**	5	0	**5**	**14**
07:00 08:00	9	2	**11**	13	1	**14**	**25**
08:00 08:15	7	2	**9**	5	12	**17**	**26**
08:15 08:30	1	1	**2**	3	2	**5**	**7**
08:30 08:45	7	3	**10**	0	9	**9**	**19**
08:45 09:00	13	4	**17**	5	12	**17**	**34**
08:00 09:00	28	10	**38**	13	35	**48**	**86**
09:00 09:15	1	2	**3**	4	5	**9**	**12**
09:15 09:30	0	1	**1**	0	1	**1**	**2**
09:30 09:45	1	0	**1**	1	4	**5**	**6**
09:45 10:00	0	0	**0**	0	0	**0**	**0**
09:00 10:00	2	3	**5**	5	10	**15**	**20**
11:30 11:45	0	0	**0**	4	5	**9**	**9**
11:45 12:00	1	0	**1**	3	2	**5**	**6**
12:00 12:15	0	0	**0**	2	2	**4**	**4**
12:15 12:30	1	2	**3**	3	1	**4**	**7**
11:30 12:30	2	2	**4**	12	10	**22**	**26**
12:30 12:45	3	0	**3**	3	1	**4**	**7**
12:45 13:00	0	0	**0**	2	1	**3**	**3**
13:00 13:15	3	0	**3**	6	1	**7**	**10**
13:15 13:30	1	1	**2**	4	1	**5**	**7**
12:30 13:30	7	1	**8**	15	4	**19**	**27**
15:00 15:15	6	5	**11**	7	11	**18**	**29**
15:15 15:30	3	3	**6**	5	9	**14**	**20**
15:30 15:45	12	2	**14**	5	16	**21**	**35**
15:45 16:00	2	0	**2**	5	10	**15**	**17**
15:00 16:00	23	10	**33**	22	46	**68**	**101**
16:00 16:15	10	7	**17**	10	10	**20**	**37**
16:15 16:30	5	4	**9**	7	11	**18**	**27**
16:30 16:45	2	2	**4**	4	0	**4**	**8**
16:45 17:00	4	2	**6**	9	1	**10**	**16**
16:00 17:00	21	15	**36**	30	22	**52**	**88**
17:00 17:15	5	0	**5**	6	6	**12**	**17**
17:15 17:30	5	0	**5**	5	3	**8**	**13**
17:30 17:45	5	1	**6**	3	4	**7**	**13**
17:45 18:00	2	1	**3**	0	2	**2**	**5**
17:00 18:00	17	2	**19**	14	15	**29**	**48**
Total	109	45	**154**	124	143	**267**	**421**

Comment:

Transportation Services - Traffic Services

Work Order
38074

Turning Movement Count - 15 Min U-Turn Total Report

BAYCREST DR @ SANDALWOOD DR

Survey Date: Wednesday, October 24, 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	1	0	0	1
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	1	0	0	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	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	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	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	1	0	0	1
16:15	16:30	1	0	0	0	1
16:30	16:45	0	0	0	0	0
16:45	17:00	0	0	0	0	0
17:00	17:15	2	0	0	0	2
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		4	2	0	0	6

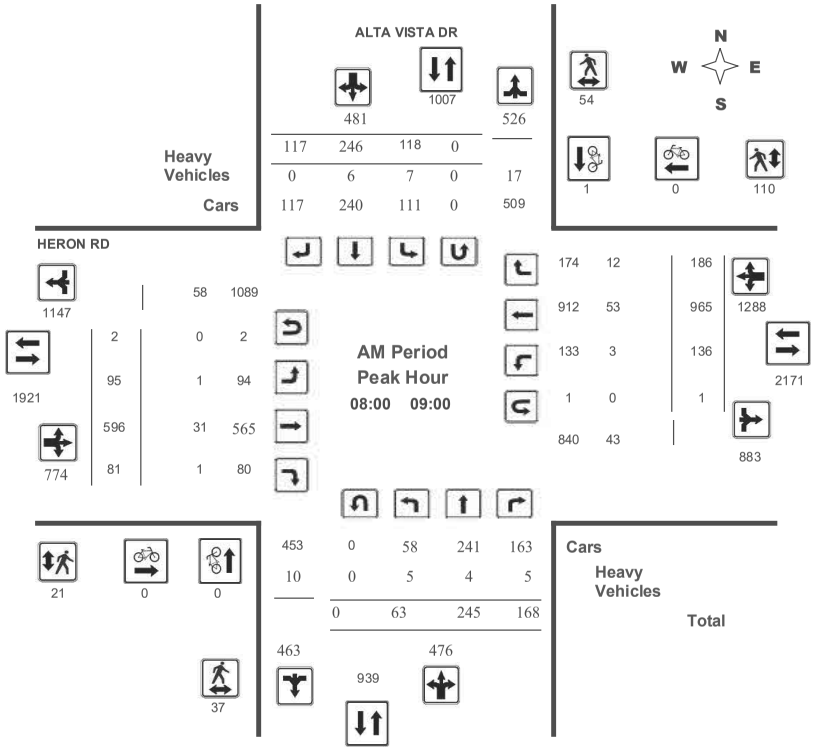
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HERON RD @ ALTA VISTA DR

Survey Date: Tuesday, December 04, 2018 **WO No:** 38190

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



Comments

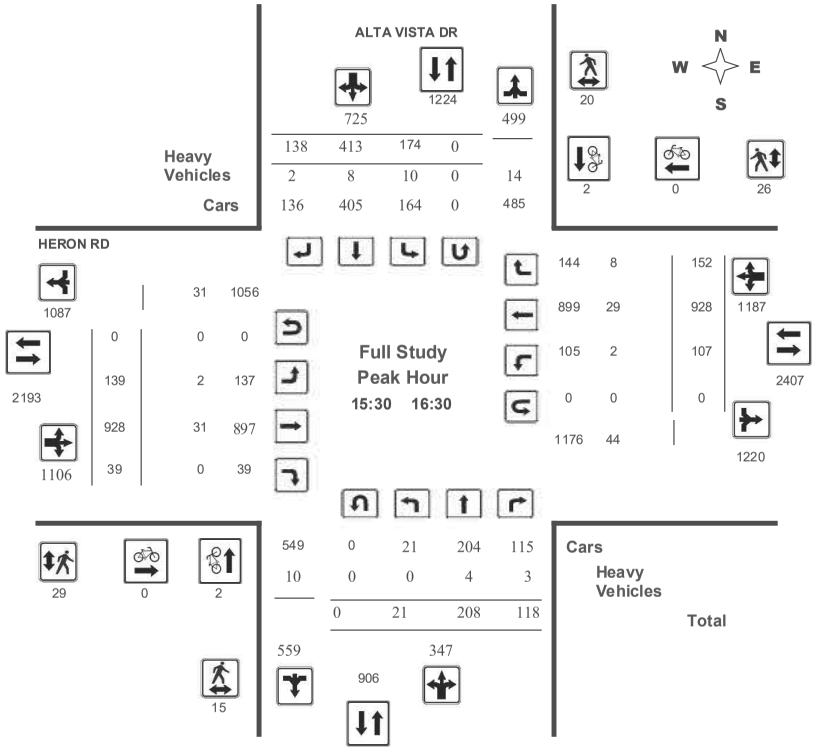
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HERON RD @ ALTA VISTA DR

Survey Date: Tuesday, December 04, 2018 **WO No:** 38190

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



Comments

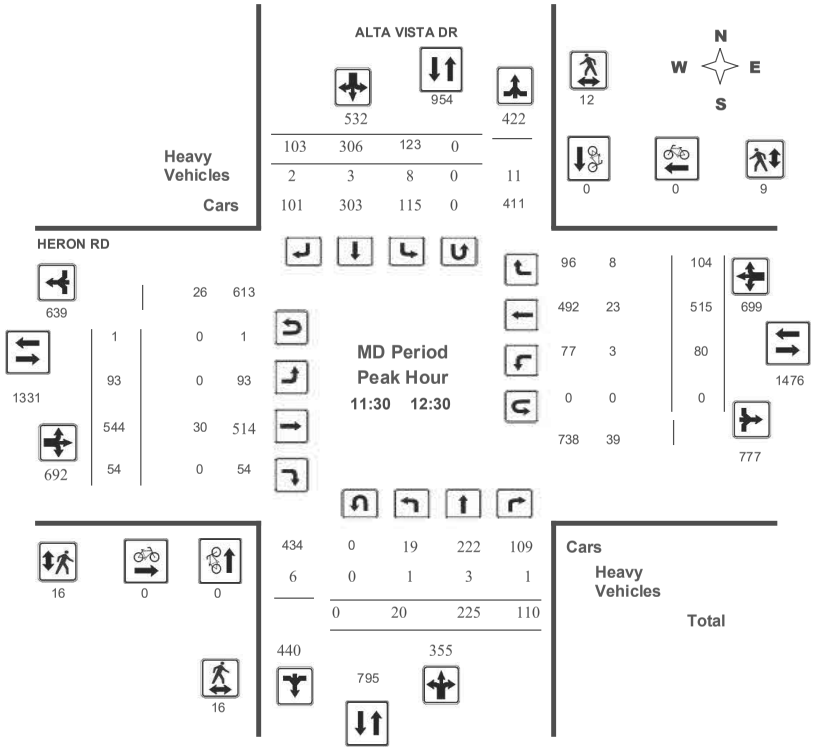
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HERON RD @ ALTA VISTA DR

Survey Date: Tuesday, December 04, 2018 **WO No:** 38190

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



Comments

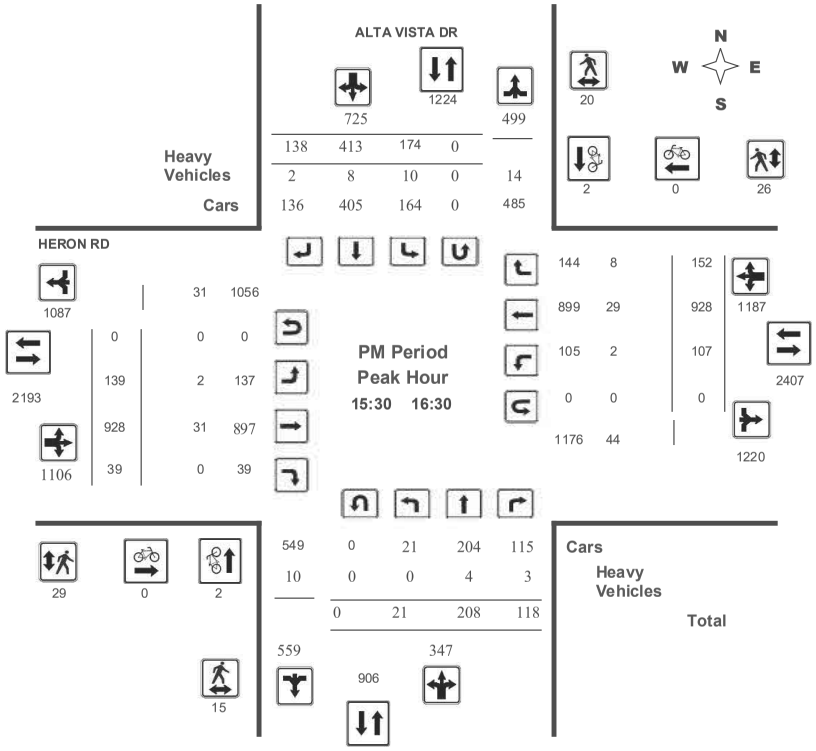
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HERON RD @ ALTA VISTA DR

Survey Date: Tuesday, December 04, 2018 **WO No:** 38190

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



Comments

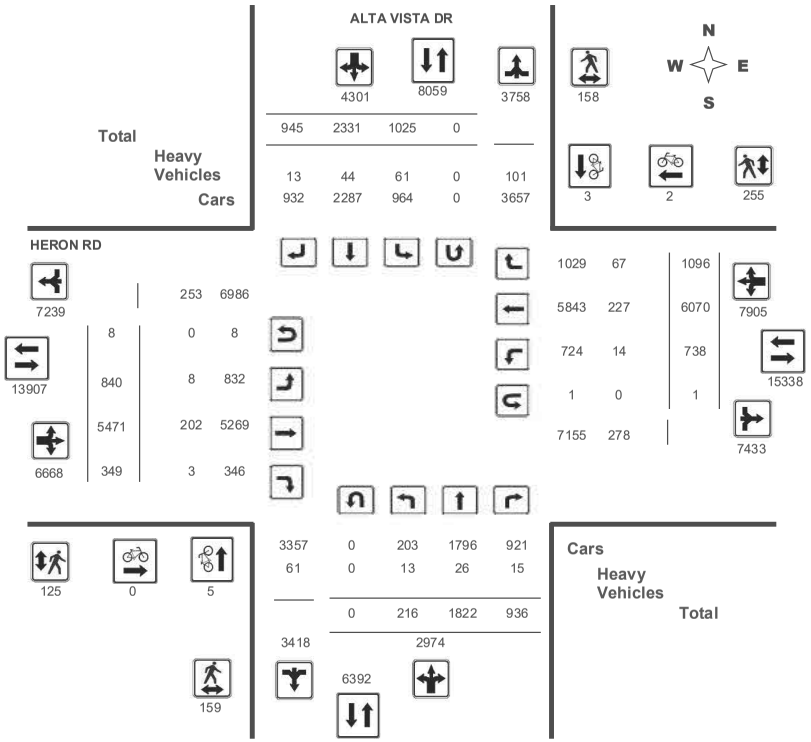
Transportation Services - Traffic Services

Turning Movement Count - Full Study Diagram

HERON RD @ ALTA VISTA DR

Survey Date: Tuesday, December 04, 2018 **WO#:** 38190

Device: Miovision



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

Northbound: 0 Southbound: 0

Eastbound: 8 Westbound: 1

AADT Factor 1.30

Full Study

	ALTA VISTA DR									HERON RD									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	**NB TOT**	LT	ST	RT	**SB TOT**	**STR TOT**	LT	ST	RT	**EB TOT**	LT	ST	RT	**WB TOT**	**STR TOT**	**Grand Total**
07:00 08:00	15	245	46	**306**	93	128	116	**337**	**643**	107	545	36	**688**	58	934	151	**1143**	**1831**	**2474**
08:00 09:00	63	245	168	**476**	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	136	**476**	**747**	101	496	32	**629**	84	668	128	**880**	**1509**	**2256**
11:30 12:30	20	225	110	**355**	123	306	103	**532**	**887**	93	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**	165	408	138	**711**	**1186**	141	789	35	**965**	107	853	161	**1121**	**2086**	**3272**
16:00 17:00	21	230	134	**385**	157	413	139	**709**	**1094**	108	976	47	**1131**	104	860	135	**1099**	**2230**	**3324**
17:00 18:00	19	230	124	**373**	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**	**21839**
U Turns				**0**				**0**	**0**				**8**				**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	7605	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	826	**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.

Transportation Services - Traffic Services

W.O. 38190

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									
	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	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**	26	52	35	**113**	**221**	16	136	26	**178**	30	242	47	**319**	**497**	**718**
08:15 08:30	17	63	49	**129**	33	60	26	**119**	**248**	24	150	22	**196**	40	298	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	**168**	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	166	10	**200**	29	199	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	24	**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	282	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	29	**92**	34	81	28	**143**	**235**	16	191	7	**214**	19	156	32	**207**	**421**	**656**
TOTAL:	216	1822	936	**2974**	1025	2331	945	**4301**	**7275**	840	5471	349	**6668**	738	6070	1096	**7905**	**14573**	**21848**

Note: U-Turns are included in Totals.

Comment:

2018-Dec-10

Transportation Services - Traffic Services

Turning Movement Count - Cyclist Volume Report

Work Order 38190

HERON RD @ ALTA VISTA DR

Count Date: Tuesday, December 04, 2018

Start Time: 07:00

	ALTA VISTA DR			HERON RD			
Time Period	Northbound	Southbound	**Street Total**	Eastbound	Westbound	**Street Total**	**Grand 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.

2018-Dec-10

Transportation Services - Traffic Services

W.O. 38190

Turning Movement Count - Heavy Vehicle Report

HERON RD @ ALTA VISTA DR

Survey Date: Tuesday, December 04, 2018

	ALTA VISTA DR								HERON 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 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	**68**	**101**	**128**
09:00 10:00	1	4	0	**5**	6	12	3	**21**	**26**	2	22	0	**24**	1	34	6	**41**	**65**	**91**
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**	8	202	3	**213**	14	227	67	**308**	**521**	**693**
U-Turns (Heavy Vehicles)				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	13	26	15	**0**	61	44	13	**118**	**172**	8	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	7	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	3	6	**9**	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	6	2	**8**	6	4	**10**	**18**
11:30 12:30	16	12	**28**	16	9	**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**
15:00 15:15	7	13	**20**	4	16	**20**	**40**
15:15 15:30	10	6	**16**	15	24	**39**	**55**
15:30 15:45	4	3	**7**	11	5	**16**	**23**
15:45 16:00	5	8	**13**	8	13	**21**	**34**
15:00 16:00	26	30	**56**	38	58	**96**	**152**
16:00 16:15	2	4	**6**	4	5	**9**	**15**
16:15 16:30	4	5	**9**	6	3	**9**	**18**
16:30 16:45	5	8	**13**	1	7	**8**	**21**
16:45 17:00	1	4	**5**	2	4	**6**	**11**
16:00 17:00	12	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

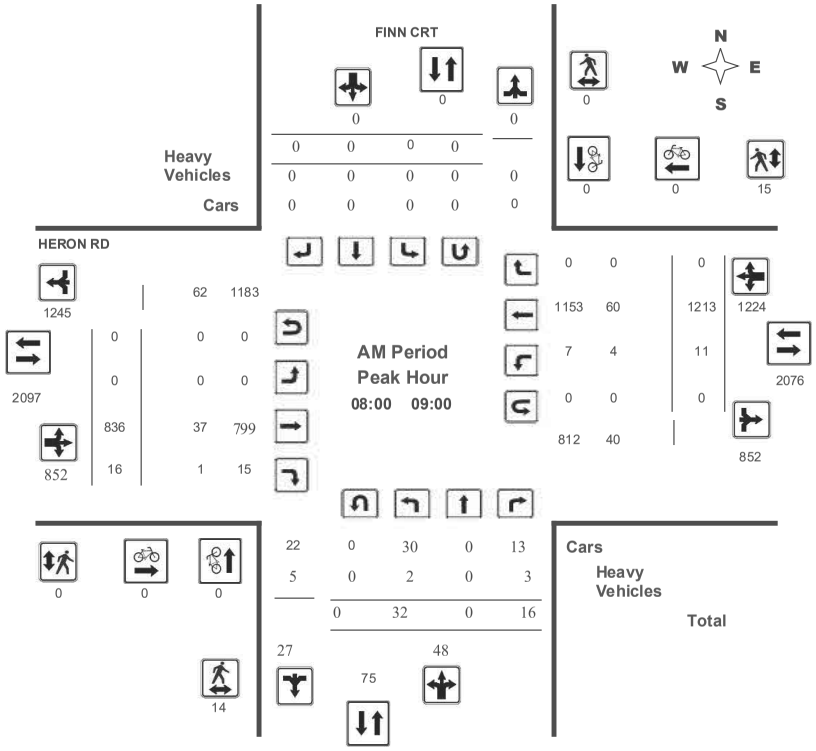
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HERON RD @ FINN CRT

Survey Date: Thursday, February 07, 2019 **WO No:** 38309

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



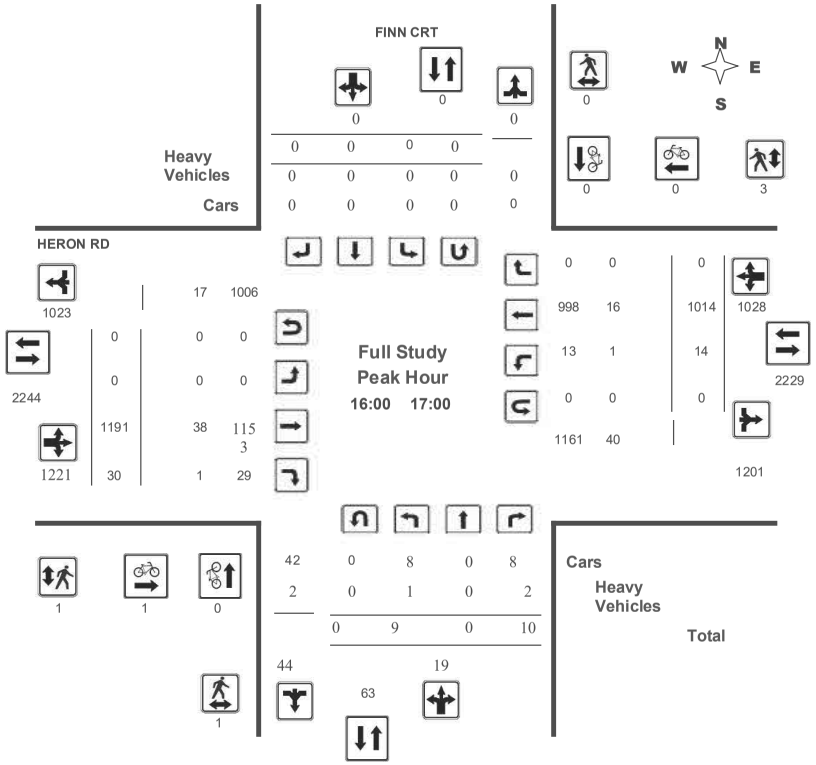
Comments

Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HERON RD @ FINN CRT

Survey Date: Thursday, February 07, 2019 **WO No:** 38309
Start Time: 07:00 **Device:** Miovision



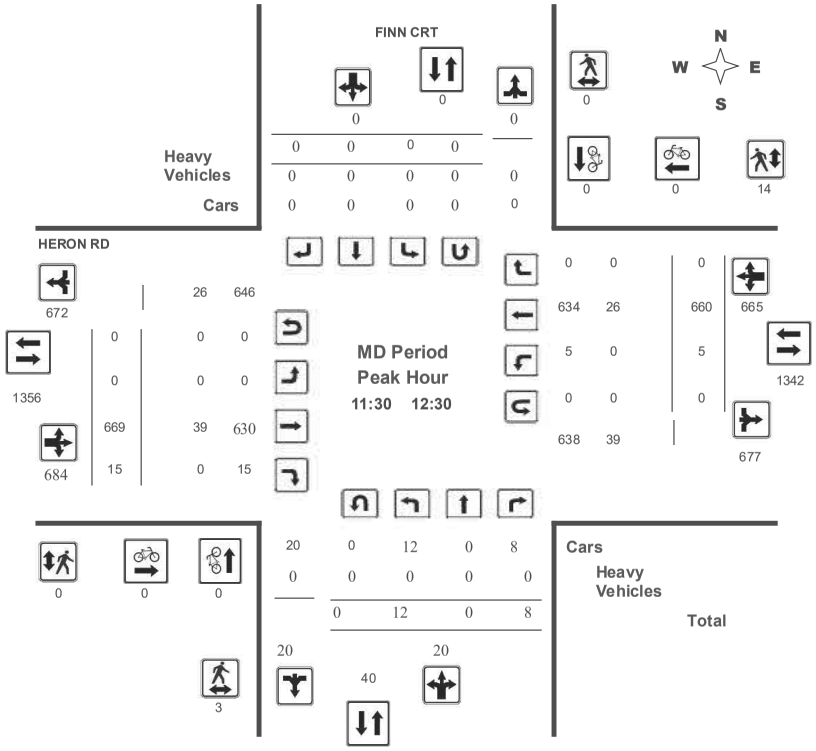
Comments

Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HERON RD @ FINN CRT

Survey Date: Thursday, February 07, 2019 **WO No:** 38309
Start Time: 07:00 **Device:** Miovision



Comments

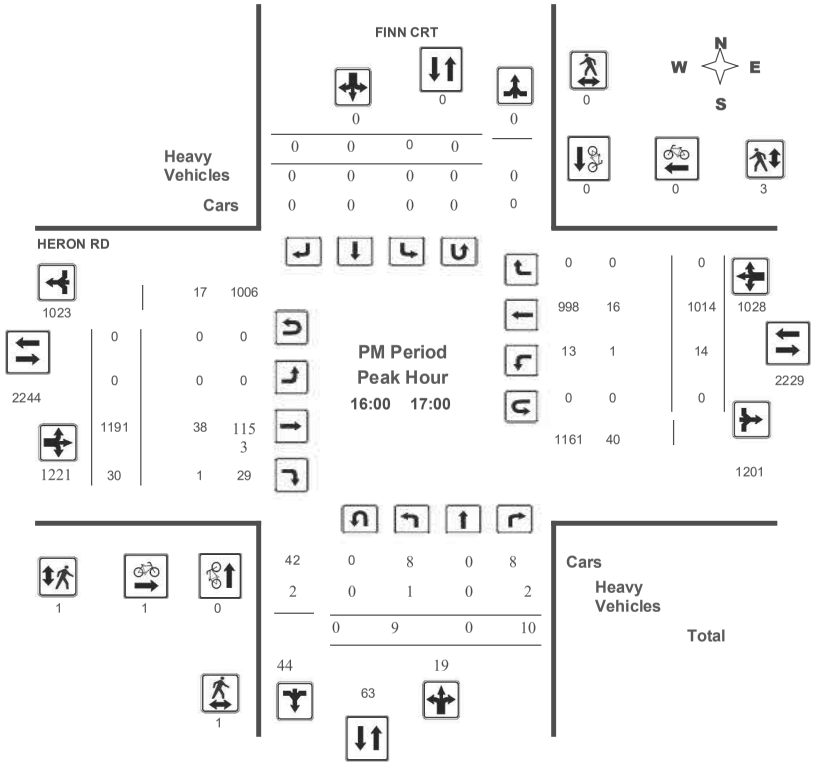
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HERON RD @ FINN CRT

Survey Date: Thursday, February 07, 2019 **WO No:** 38309

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



Comments

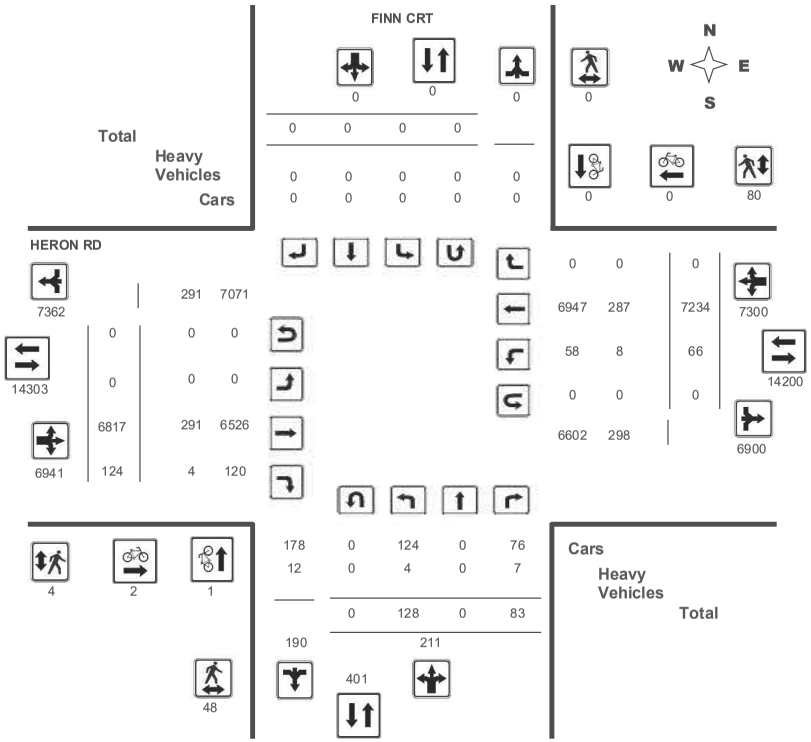
Transportation Services - Traffic Services

Turning Movement Count - Full Study Diagram

HERON RD @ FINN CRT

Survey Date: Thursday, February 07, 2019 **WO#:** 38309

Device: Miovision



Comments

Transportation Services - Traffic Services

Work Order 38309

Turning Movement Count - Full Study Summary Report

HERON RD @ FINN CRT

Survey Date: Thursday, February 07, 2019

Total Observed U-Turns
Northbound: 0 Southbound: 0
Eastbound: 0 Westbound: 0

AADT Factor .90

Full Study

	FINN CRT									HERON RD									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	**NB TOT**	LT	ST	RT	**SB TOT**	**STR TOT**	LT	ST	RT	**EB TOT**	LT	ST	RT	**WB TOT**	**STR TOT**	**Grand Total**
07:00 08:00	19	0	11	**30**	0	0	0	**0**	**30**	0	610	2	**612**	4	1139	0	**1143**	**1755**	**1785**
08:00 09:00	32	0	16	**48**	0	0	0	**0**	**48**	0	836	16	**852**	11	1213	0	**1224**	**2076**	**2124**
09:00 10:00	21	0	9	**30**	0	0	0	**0**	**30**	0	712	11	**723**	2	755	0	**757**	**1480**	**1510**
11:30 12:30	12	0	8	**20**	0	0	0	**0**	**20**	0	669	15	**684**	5	660	0	**665**	**1349**	**1369**
12:30 13:30	11	0	7	**18**	0	0	0	**0**	**18**	0	661	9	**670**	8	622	0	**630**	**1300**	**1318**
15:00 16:00	12	0	8	**20**	0	0	0	**0**	**20**	0	1043	25	**1068**	8	959	0	**967**	**2035**	**2055**
16:00 17:00	9	0	10	**19**	0	0	0	**0**	**19**	0	1191	30	**1221**	14	1014	0	**1028**	**2249**	**2268**
17:00 18:00	12	0	14	**26**	0	0	0	**0**	**26**	0	1095	16	**1111**	14	872	0	**886**	**1997**	**2023**
Sub Total	128	0	83	**211**	0	0	0	**0**	**211**	0	6817	124	**6941**	66	7234	0	**7300**	**14241**	**14452**
U Turns				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	128	0	83	**211**	0	0	0	**0**	**211**	0	6817	124	**6941**	66	7234	0	**7300**	**14241**	**14452**
EQ 12Hr	178	0	115	**293**	0	0	0	**0**	**293**	0	9476	172	**9648**	92	10055	0	**10147**	**19795**	**20088**

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

AVG 12Hr	160	0	104	**264**	0	0	0	**0**	**264**	0	8528	155	**8683**	83	9050	0	**9132**	**17815**	**18079**

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

AVG 24Hr	210	0	136	**346**	0	0	0	**0**	**346**	0	11172	203	**11375**	108	11855	0	**11963**	**23338**	**23684**

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. 38309

Turning Movement Count - 15 Minute Summary Report

HERON RD @ FINN CRT

Survey Date: Thursday, February 07, 2019

Total Observed U-Turns
Northbound: 0 Southbound: 0
Eastbound: 0 Westbound: 0

	FINN CRT									HERON 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	5	0	2	**7**	0	0	0	**0**	**7**	0	126	0	**126**	2	200	0	**202**	**328**	**335**
07:15 07:30	5	0	2	**7**	0	0	0	**0**	**7**	0	159	1	**160**	1	267	0	**268**	**428**	**435**
07:30 07:45	5	0	3	**8**	0	0	0	**0**	**8**	0	141	0	**141**	0	335	0	**335**	**476**	**484**
07:45 08:00	4	0	4	**8**	0	0	0	**0**	**8**	0	184	1	**185**	1	337	0	**338**	**523**	**531**
08:00 08:15	11	0	4	**15**	0	0	0	**0**	**15**	0	187	5	**192**	3	323	0	**326**	**518**	**533**
08:15 08:30	6	0	6	**12**	0	0	0	**0**	**12**	0	195	3	**198**	1	324	0	**325**	**523**	**535**
08:30 08:45	7	0	3	**10**	0	0	0	**0**	**10**	0	237	1	**238**	2	262	0	**264**	**502**	**512**
08:45 09:00	8	0	3	**11**	0	0	0	**0**	**11**	0	217	7	**224**	5	304	0	**309**	**533**	**544**
09:00 09:15	5	0	3	**8**	0	0	0	**0**	**8**	0	195	2	**197**	0	199	0	**199**	**396**	**404**
09:15 09:30	2	0	2	**4**	0	0	0	**0**	**4**	0	197	2	**199**	0	208	0	**208**	**407**	**411**
09:30 09:45	6	0	1	**7**	0	0	0	**0**	**7**	0	162	4	**166**	2	178	0	**180**	**346**	**353**
09:45 10:00	8	0	3	**11**	0	0	0	**0**	**11**	0	158	3	**161**	0	170	0	**170**	**331**	**342**
11:30 11:45	1	0	3	**4**	0	0	0	**0**	**4**	0	163	5	**168**	1	159	0	**160**	**328**	**332**
11:45 12:00	2	0	0	**2**	0	0	0	**0**	**2**	0	159	2	**161**	0	194	0	**194**	**355**	**357**
12:00 12:15	4	0	1	**5**	0	0	0	**0**	**5**	0	170	4	**174**	0	151	0	**151**	**325**	**330**
12:15 12:30	5	0	4	**9**	0	0	0	**0**	**9**	0	177	4	**181**	4	156	0	**160**	**341**	**350**
12:30 12:45	3	0	3	**6**	0	0	0	**0**	**6**	0	153	1	**154**	4	165	0	**169**	**323**	**329**
12:45 13:00	2	0	2	**4**	0	0	0	**0**	**4**	0	164	1	**165**	2	175	0	**177**	**342**	**346**
13:00 13:15	3	0	1	**4**	0	0	0	**0**	**4**	0	176	0	**176**	1	149	0	**150**	**326**	**330**
13:15 13:30	3	0	1	**4**	0	0	0	**0**	**4**	0	168	7	**175**	1	133	0	**134**	**309**	**313**
15:00 15:15	5	0	1	**6**	0	0	0	**0**	**6**	0	230	6	**236**	2	243	0	**245**	**481**	**487**
15:15 15:30	2	0	2	**4**	0	0	0	**0**	**4**	0	281	7	**288**	2	234	0	**236**	**524**	**528**
15:30 15:45	3	0	2	**5**	0	0	0	**0**	**5**	0	269	6	**275**	1	256	0	**257**	**532**	**537**
15:45 16:00	2	0	3	**5**	0	0	0	**0**	**5**	0	263	6	**269**	3	226	0	**229**	**498**	**503**
16:00 16:15	3	0	6	**9**	0	0	0	**0**	**9**	0	289	9	**298**	2	259	0	**261**	**559**	**568**
16:15 16:30	4	0	2	**6**	0	0	0	**0**	**6**	0	325	8	**333**	8	252	0	**260**	**593**	**599**
16:30 16:45	0	0	1	**1**	0	0	0	**0**	**1**	0	283	9	**292**	3	248	0	**251**	**543**	**544**
16:45 17:00	2	0	1	**3**	0	0	0	**0**	**3**	0	294	4	**298**	1	255	0	**256**	**554**	**557**
17:00 17:15	4	0	4	**8**	0	0	0	**0**	**8**	0	295	4	**299**	1	253	0	**254**	**553**	**561**
17:15 17:30	3	0	5	**8**	0	0	0	**0**	**8**	0	280	3	**283**	8	210	0	**218**	**501**	**509**
17:30 17:45	4	0	1	**5**	0	0	0	**0**	**5**	0	272	8	**280**	3	202	0	**205**	**485**	**490**
17:45 18:00	1	0	4	**5**	0	0	0	**0**	**5**	0	248	1	**249**	2	207	0	**209**	**458**	**463**
TOTAL:	128	0	83	**211**	0	0	0	**0**	**211**	0	6817	124	**6941**	66	7234	0	**7300**	**14241**	**14452**

Note: U-Turns are included in Totals.

Comment:

Transportation Services - Traffic Services

Turning Movement Count - Cyclist Volume Report

Work Order
38309

HERON RD @ FINN CRT

Count Date: Thursday, February 07, 2019

Start Time: 07:00

	FINN CRT			HERON RD			
Time Period	Northbound	Southbound	**Street Total**	Eastbound	Westbound	**Street Total**	**Grand Total**
07:00 08:00	0	0	**0**	0	0	**0**	**0**
08:00 09:00	0	0	**0**	0	0	**0**	**0**
09:00 10:00	0	0	**0**	1	0	**1**	**1**
11:30 12:30	0	0	**0**	0	0	**0**	**0**
12:30 13:30	1	0	**1**	0	0	**0**	**1**
15:00 16:00	0	0	**0**	0	0	**0**	**0**
16:00 17:00	0	0	**0**	1	0	**1**	**1**
17:00 18:00	0	0	**0**	0	0	**0**	**0**
Total	1	0	**1**	2	0	**2**	**3**

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.
38309

Turning Movement Count - Heavy Vehicle Report

HERON RD @ FINN CRT

Survey Date: Thursday, February 07, 2019

	FINN CRT									HERON 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 08:00	0	0	0	**0**	0	0	0	**0**	**0**	0	26	0	**26**	0	52	0	**52**	**78**	**78**
08:00 09:00	2	0	3	**5**	0	0	0	**0**	**5**	0	37	1	**38**	4	60	0	**64**	**102**	**107**
09:00 10:00	0	0	0	**0**	0	0	0	**0**	**0**	0	48	0	**48**	0	43	0	**43**	**91**	**91**
11:30 12:30	0	0	0	**0**	0	0	0	**0**	**0**	0	39	0	**39**	0	26	0	**26**	**65**	**65**
12:30 13:30	0	0	0	**0**	0	0	0	**0**	**0**	0	30	0	**30**	1	35	0	**36**	**66**	**66**
15:00 16:00	0	0	2	**2**	0	0	0	**0**	**2**	0	47	1	**48**	2	29	0	**31**	**79**	**81**
16:00 17:00	1	0	2	**3**	0	0	0	**0**	**3**	0	38	1	**39**	1	16	0	**17**	**56**	**59**
17:00 18:00	1	0	0	**1**	0	0	0	**0**	**1**	0	26	1	**27**	0	26	0	**26**	**53**	**54**
Sub Total	4	0	7	**11**	0	0	0	**0**	**11**	0	291	4	**295**	8	287	0	**295**	**590**	**601**
U-Turns (Heavy Vehicles)				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	4	0	7	**0**	0	0	0	**0**	**11**	0	291	4	**295**	8	287	0	**295**	**590**	**601**

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
38309

Turning Movement Count - Pedestrian Volume Report

HERON RD @ FINN CRT

Count Date: Thursday, February 07, 2019 **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	0	**0**	1	1	**2**	**2**
07:15 07:30	0	0	**0**	0	7	**7**	**7**
07:30 07:45	0	0	**0**	0	4	**4**	**4**
07:45 08:00	3	0	**3**	0	4	**4**	**7**
07:00 08:00	3	0	**3**	1	16	**17**	**20**
08:00 08:15	5	0	**5**	0	1	**1**	**6**
08:15 08:30	5	0	**5**	0	3	**3**	**8**
08:30 08:45	2	0	**2**	0	2	**2**	**4**
08:45 09:00	2	0	**2**	0	9	**9**	**11**
08:00 09:00	14	0	**14**	0	15	**15**	**29**
09:00 09:15	0	0	**0**	0	6	**6**	**6**
09:15 09:30	0	0	**0**	0	5	**5**	**5**
09:30 09:45	0	0	**0**	0	0	**0**	**0**
09:45 10:00	2	0	**2**	0	2	**2**	**4**
09:00 10:00	2	0	**2**	0	13	**13**	**15**
11:30 11:45	2	0	**2**	0	0	**0**	**2**
11:45 12:00	1	0	**1**	0	7	**7**	**8**
12:00 12:15	0	0	**0**	0	3	**3**	**3**
12:15 12:30	0	0	**0**	0	4	**4**	**4**
11:30 12:30	3	0	**3**	0	14	**14**	**17**
12:30 12:45	0	0	**0**	0	6	**6**	**6**
12:45 13:00	0	0	**0**	0	0	**0**	**0**
13:00 13:15	2	0	**2**	0	3	**3**	**5**
13:15 13:30	2	0	**2**	0	1	**1**	**3**
12:30 13:30	4	0	**4**	0	10	**10**	**14**
15:00 15:15	7	0	**7**	1	1	**2**	**9**
15:15 15:30	2	0	**2**	0	1	**1**	**3**
15:30 15:45	0	0	**0**	0	0	**0**	**0**
15:45 16:00	1	0	**1**	0	1	**1**	**2**
15:00 16:00	10	0	**10**	1	3	**4**	**14**
16:00 16:15	0	0	**0**	0	0	**0**	**0**
16:15 16:30	1	0	**1**	1	2	**3**	**4**
16:30 16:45	0	0	**0**	0	1	**1**	**1**
16:45 17:00	0	0	**0**	0	0	**0**	**0**
16:00 17:00	1	0	**1**	1	3	**4**	**5**
17:00 17:15	1	0	**1**	1	0	**1**	**2**
17:15 17:30	1	0	**1**	0	3	**3**	**4**
17:30 17:45	4	0	**4**	0	2	**2**	**6**
17:45 18:00	5	0	**5**	0	1	**1**	**6**
17:00 18:00	11	0	**11**	1	6	**7**	**18**
Total	48	0	**48**	4	80	**84**	**132**

Comment:

Transportation Services - Traffic Services

Work Order
38309

Turning Movement Count - 15 Min U-Turn Total Report

HERON RD @ FINN CRT

Survey Date: Thursday, February 07, 2019

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	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	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	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	0	0
17:45	18:00	0	0	0	0	0
Total		0	0	0	0	0

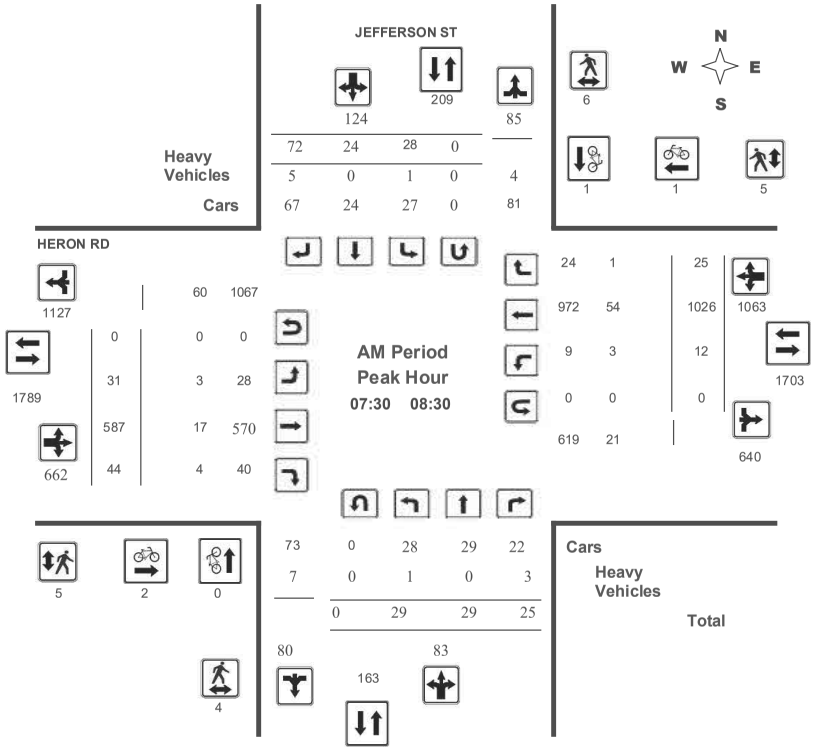
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HERON RD @ JEFFERSON ST

Survey Date: Thursday, November 17, 2016 **WO No:** 36494

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



Comments

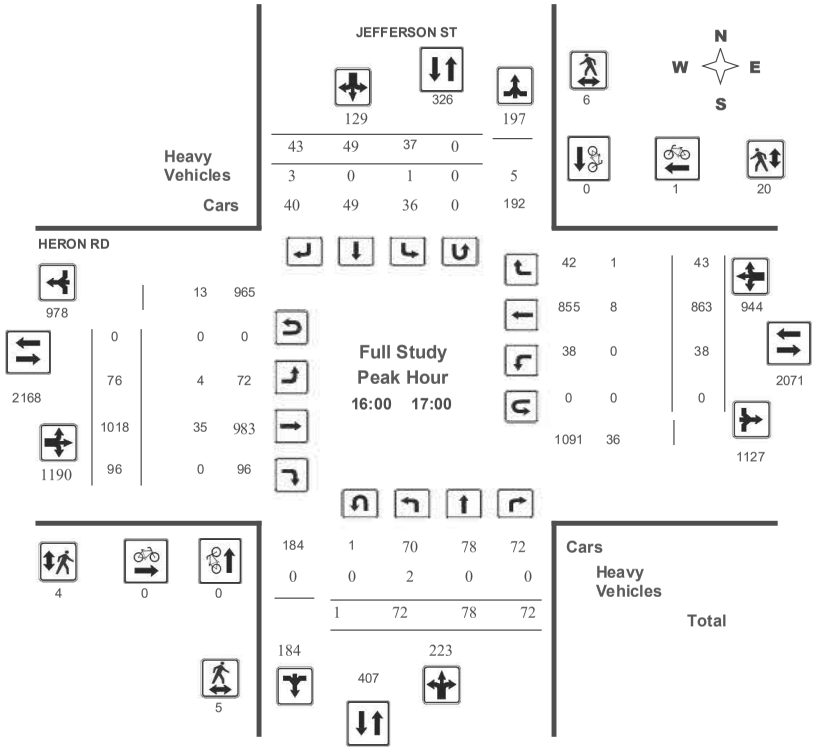
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HERON RD @ JEFFERSON ST

Survey Date: Thursday, November 17, 2016 **WO No:** 36494

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



Comments

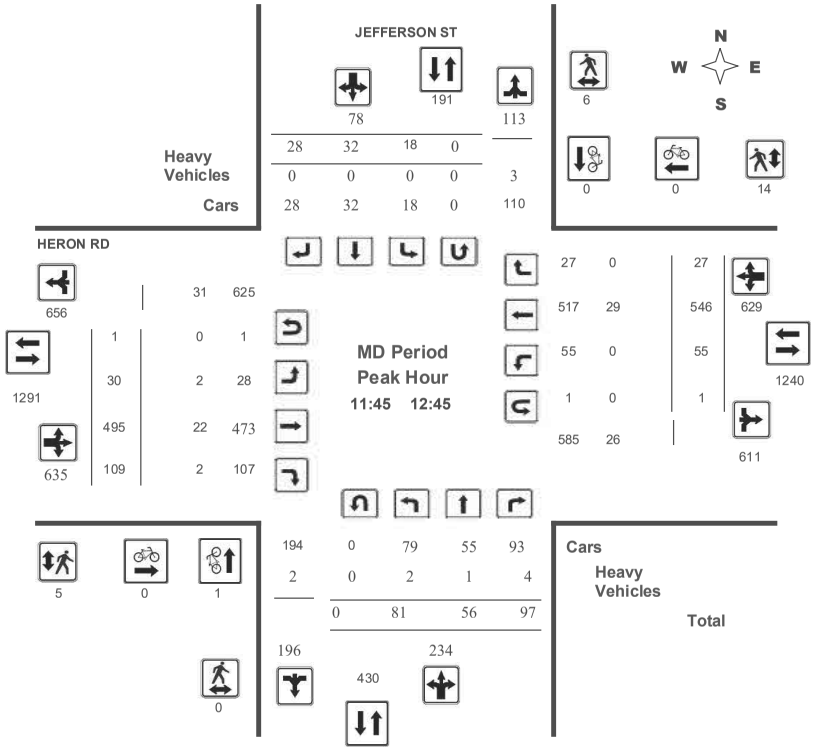
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HERON RD @ JEFFERSON ST

Survey Date: Thursday, November 17, 2016 **WO No:** 36494

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



Comments

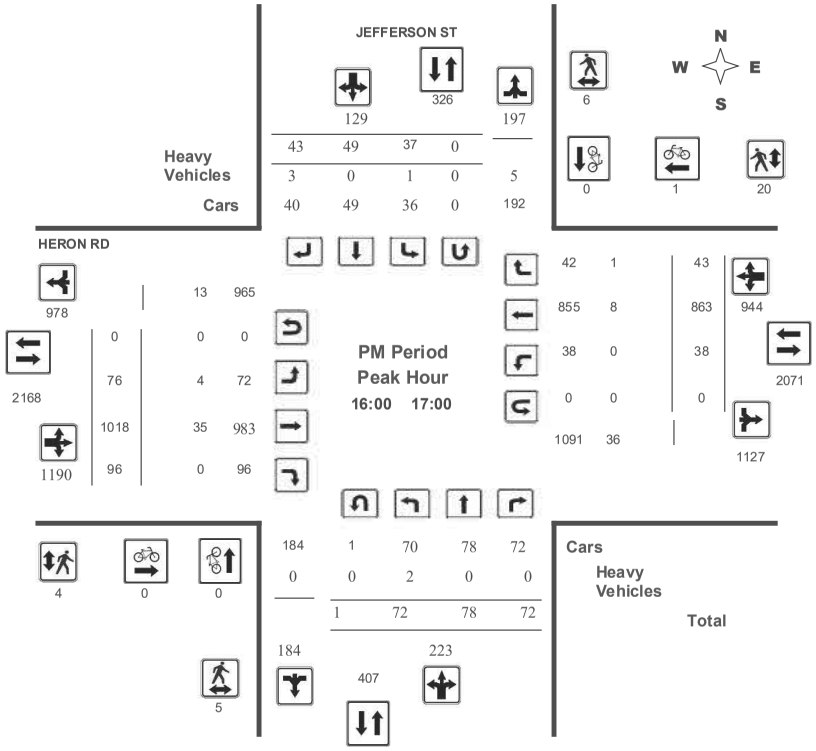
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HERON RD @ JEFFERSON ST

Survey Date: Thursday, November 17, 2016 **WO No:** 36494

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



Comments

Transportation Services - Traffic Services

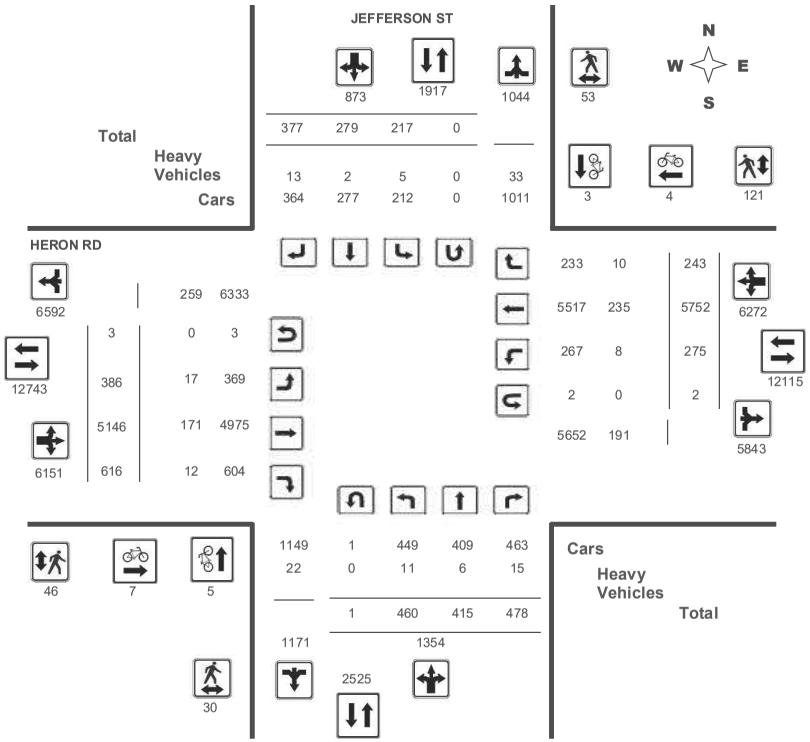
Turning Movement Count - Full Study Diagram

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

Northbound: 1 Southbound: 0

Eastbound: 3 Westbound: 2

AADT Factor .90

Full Study

	JEFFERSON ST									HERON RD									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	**NB TOT**	LT	ST	RT	**SB TOT**	**STR TOT**	LT	ST	RT	**EB TOT**	LT	ST	RT	**WB TOT**	**STR TOT**	**Grand Total**
07:00 08:00	15	25	15	**55**	20	17	58	**95**	**150**	17	560	24	**601**	16	938	26	**980**	**1581**	**1731**
08:00 09:00	39	41	26	**106**	36	26	64	**126**	**232**	39	610	53	**702**	19	935	34	**988**	**1690**	**1922**
09:00 10:00	45	46	43	**134**	25	39	57	**121**	**255**	36	479	70	**585**	34	539	32	**605**	**1190**	**1445**
11:30 12:30	76	45	89	**210**	13	31	35	**79**	**289**	28	502	116	**646**	49	547	23	**619**	**1265**	**1554**
12:30 13:30	82	54	81	**217**	34	40	33	**107**	**324**	39	393	63	**495**	45	477	27	**549**	**1044**	**1368**
15:00 16:00	75	86	74	**235**	31	44	37	**112**	**347**	77	785	95	**957**	50	755	28	**833**	**1790**	**2137**
16:00 17:00	72	78	72	**222**	37	49	43	**129**	**351**	76	1018	96	**1190**	38	863	43	**944**	**2134**	**2485**
17:00 18:00	56	40	78	**174**	21	33	50	**104**	**278**	74	799	99	**972**	24	698	30	**752**	**1724**	**2002**
Sub Total	460	415	478	**1353**	217	279	377	**873**	**2226**	386	5146	616	**6148**	275	5752	243	**6270**	**12418**	**14644**
U Turns				**1**				**0**	**1**				**3**				**2**	**5**	**6**
Total	460	415	478	**1354**	217	279	377	**873**	**2227**	386	5146	616	**6151**	275	5752	243	**6272**	**12423**	**14650**
EQ 12Hr	639	577	664	**1882**	302	388	524	**1213**	**3095**	537	7153	856	**8550**	382	7995	338	**8718**	**17268**	**20363**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													**1.39**						
AVG 12Hr	575	519	598	**1694**	271	349	472	**1092**	**2786**	483	6438	771	**7695**	344	7196	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**	356	457	618	**1431**	**3650**	633	8433	1010	**10080**	451	9426	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.

Transportation Services - Traffic Services

W.O. 36494

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: 2

	JEFFERSON ST									HERON 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	1	4	1	**6**	4	1	11	**16**	**22**	1	118	1	**120**	6	186	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**	6	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	**136**	10	129	10	**150**	**286**	**335**
09:45 10:00	11	10	17	**38**	6	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**	**428**
12:30 12:45	23	19	25	**67**	8	11	5	**24**	**91**	6	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	61	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**	16	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	201	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	616	**6151**	275	5752	243	**6272**	**12423**	**14650**

Note: U-Turns are included in Totals.

Comment:

2019-Mar-07

Transportation Services - Traffic Services

Turning Movement Count - Cyclist Volume Report

Work Order 36494

HERON RD @ JEFFERSON ST

Count Date: Thursday, November 17, 2016

Start Time: 07:00

	JEFFERSON ST			HERON RD			
Time Period	Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand 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.

2019-Mar-07

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										
	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 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**	2	52	2	**56**	**78**	**85**
09:00 10:00	1	2	3	**6**	1	0	0	**1**	**7**	2	23	3	**28**	1	31	2	**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**	**56**
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**	**505**
U-Turns (Heavy Vehicles)				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	11	6	15	**0**	5	2	13	**20**	**52**	17	171	12	**200**	8	235	10	**253**	**453**	**505**

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	3	**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	2	**3**	1	1	**2**	**5**
08:45 09:00	3	1	**4**	1	8	**9**	**13**
08:00 09:00	6	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	9	**10**	8	3	**11**	**21**
15:00 15:15	2	0	**2**	1	2	**3**	**5**
15:15 15:30	0	2	**2**	1	8	**9**	**11**
15:30 15:45	6	1	**7**	3	2	**5**	**12**
15:45 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**	2	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**	46	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

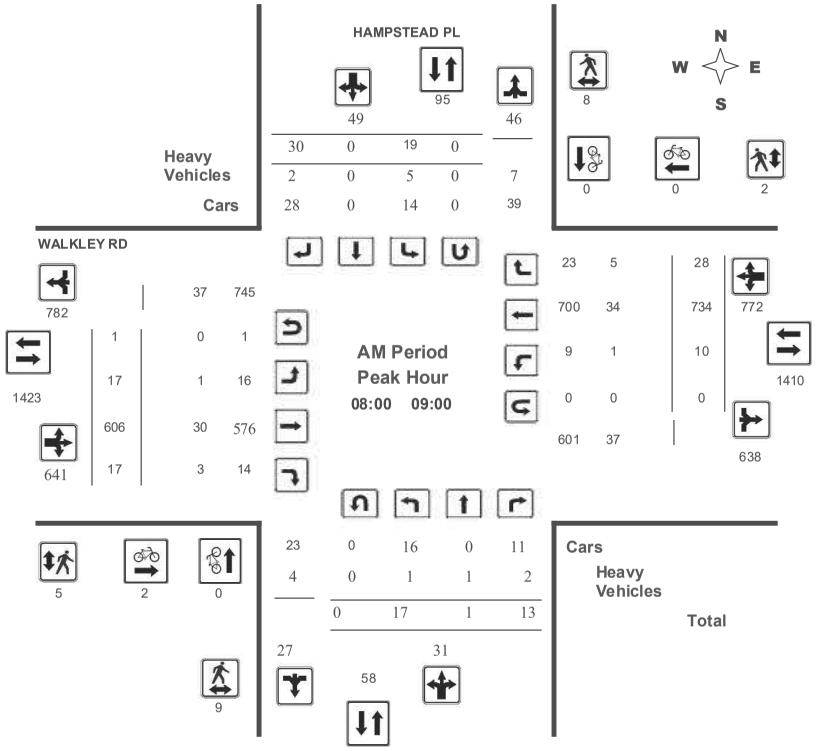
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HAMPSTEAD PL @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016 **WO No:** 36485

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



Comments

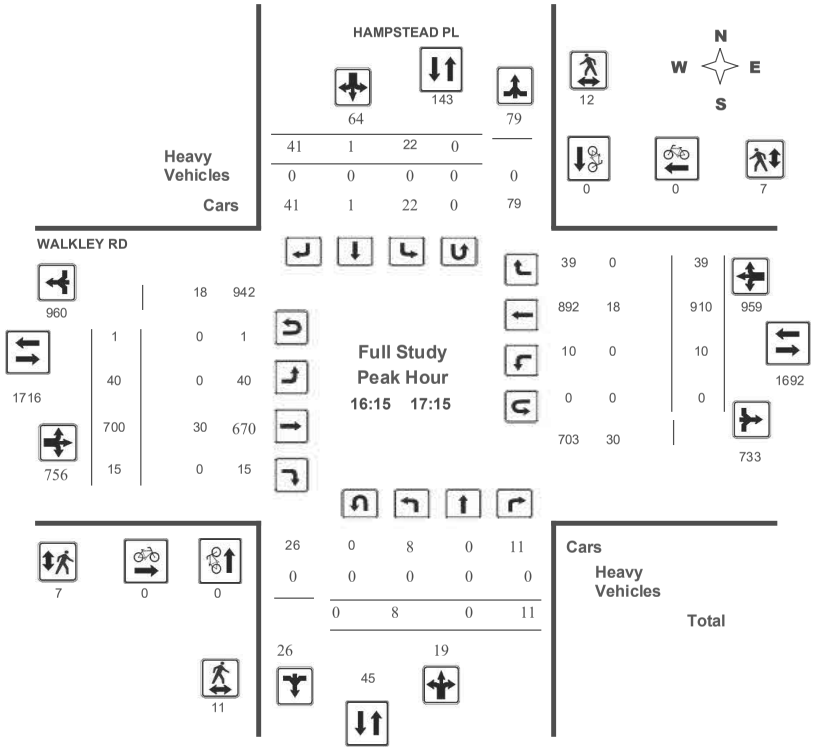
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HAMPSTEAD PL @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016 **WO No:** 36485

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



Comments

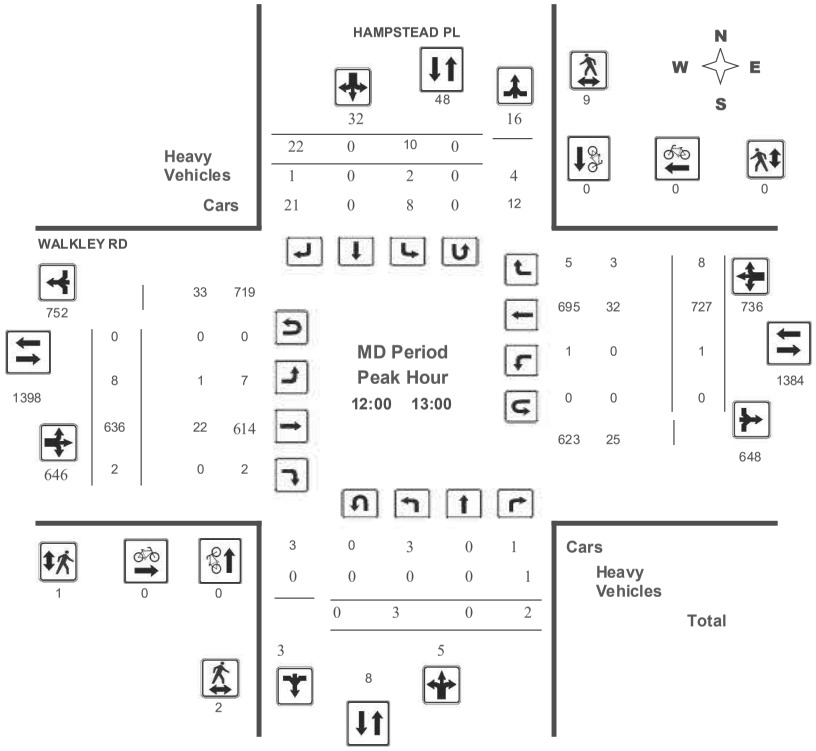
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HAMPSTEAD PL @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016 **WO No:** 36485

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



Comments

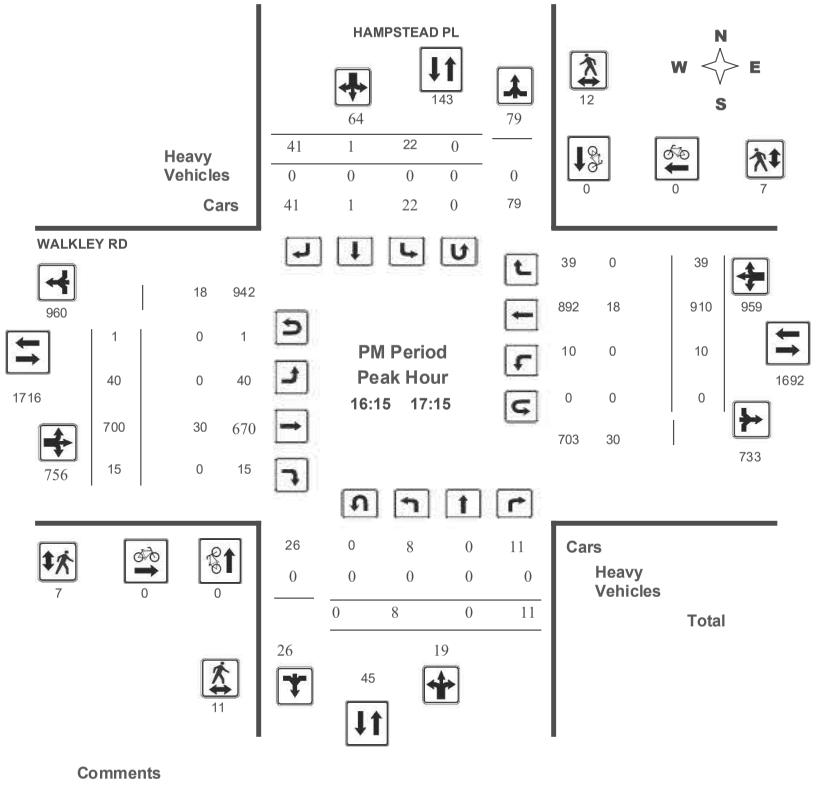
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

HAMPSTEAD PL @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016 **WO No:** 36485

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



Comments

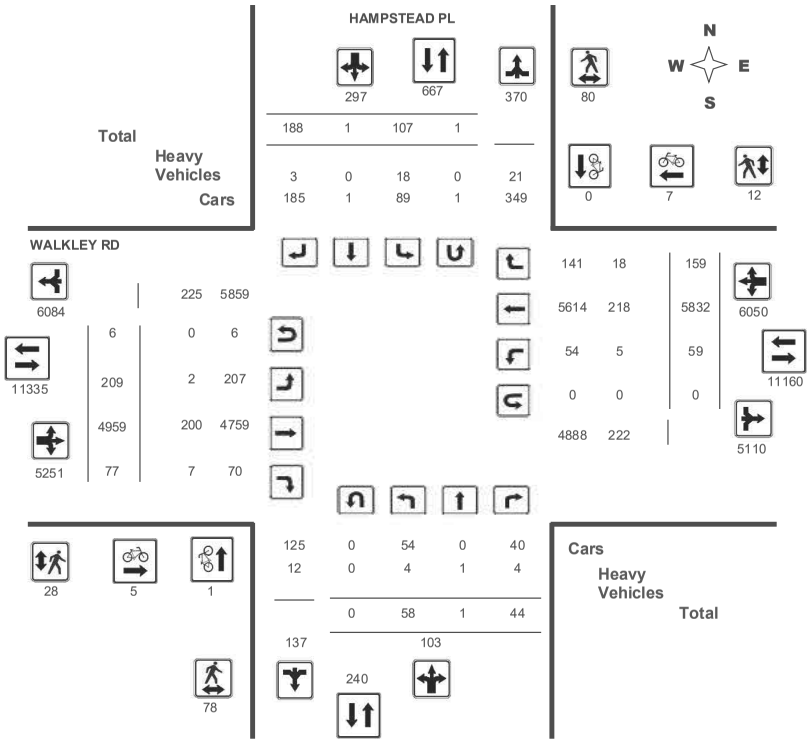
Transportation Services - Traffic Services

Turning Movement Count - Full Study Diagram

HAMPSTEAD PL @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016 **WO#:** 36485

Device: Miovision



Comments

Transportation Services - Traffic Services

Work Order 36485

Turning Movement Count - Full Study Summary Report

HAMPSTEAD PL @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016

Total Observed U-Turns

Northbound: 0 Southbound: 1
Eastbound: 6 Westbound: 0

AADT Factor .90

Full Study

	HAMPSTEAD PL									WALKLEY RD									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	7	0	3	**10**	3	0	2	**5**	**15**	10	486	11	**507**	5	557	6	**568**	**1075**	**1090**
08:00 09:00	17	1	13	**31**	19	0	30	**49**	**80**	17	606	17	**640**	10	734	28	**772**	**1412**	**1492**
09:00 10:00	1	0	5	**6**	8	0	5	**13**	**19**	23	539	2	**564**	7	564	17	**588**	**1152**	**1171**
11:30 12:30	5	0	2	**7**	7	0	27	**34**	**41**	13	593	5	**611**	1	712	10	**723**	**1334**	**1375**
12:30 13:30	6	0	3	**9**	5	0	23	**28**	**37**	8	595	0	**603**	4	689	7	**700**	**1303**	**1340**
15:00 16:00	10	0	3	**13**	20	0	11	**31**	**44**	39	730	17	**786**	14	868	17	**899**	**1685**	**1729**
16:00 17:00	9	0	8	**17**	14	0	26	**40**	**57**	43	683	13	**739**	10	928	44	**982**	**1721**	**1778**
17:00 18:00	3	0	7	**10**	31	1	64	**96**	**106**	56	727	12	**795**	8	780	30	**818**	**1613**	**1719**
Sub Total	58	1	44	**103**	107	1	188	**296**	**399**	209	4959	77	**5245**	59	5832	159	**6050**	**11295**	**11694**
U Turns				**0**				**1**	**1**				**6**				**0**	**6**	**7**
Total	58	1	44	**103**	107	1	188	**297**	**400**	209	4959	77	**5251**	59	5832	159	**6050**	**11301**	**11701**
EQ 12Hr	81	1	61	**143**	149	1	261	**413**	**556**	291	6893	107	**7299**	82	8106	221	**8410**	**15709**	**16265**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor. **1.39**																			
AVG 12Hr	73	1	55	**129**	134	1	235	**372**	**501**	261	6204	96	**6569**	74	7296	199	**7569**	**14138**	**14639**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor. **.90**																			
AVG 24Hr	95	2	72	**169**	175	2	308	**487**	**656**	343	8127	126	**8605**	97	9558	261	**9915**	**18520**	**19176**
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. 36485

Turning Movement Count - 15 Minute Summary Report

HAMPSTEAD PL @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016

Total Observed U-Turns

Northbound: 0 Southbound: 1
Eastbound: 6 Westbound: 0

	HAMPSTEAD PL									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	0	1	**1**	0	0	0	**0**	**1**	3	101	1	**105**	0	109	1	**110**	**215**	**216**
07:15 07:30	1	0	1	**2**	1	0	0	**1**	**3**	6	103	2	**112**	2	121	0	**123**	**235**	**238**
07:30 07:45	3	0	0	**3**	1	0	0	**1**	**4**	1	140	5	**146**	1	156	1	**158**	**304**	**308**
07:45 08:00	3	0	1	**4**	1	0	2	**3**	**7**	0	142	3	**146**	2	171	4	**177**	**323**	**330**
08:00 08:15	10	1	7	**18**	0	0	2	**2**	**20**	1	162	10	**173**	1	166	5	**172**	**345**	**365**
08:15 08:30	3	0	4	**7**	8	0	5	**13**	**20**	7	135	2	**144**	3	162	15	**180**	**324**	**344**
08:30 08:45	2	0	0	**2**	6	0	13	**19**	**21**	6	162	3	**171**	3	205	7	**215**	**386**	**407**
08:45 09:00	2	0	2	**4**	5	0	10	**15**	**19**	3	147	2	**153**	3	201	1	**205**	**358**	**377**
09:00 09:15	0	0	1	**1**	0	0	1	**1**	**2**	5	134	0	**139**	0	156	5	**161**	**300**	**302**
09:15 09:30	0	0	2	**2**	1	0	2	**3**	**5**	2	154	0	**156**	1	135	0	**136**	**292**	**297**
09:30 09:45	0	0	2	**2**	5	0	1	**6**	**8**	6	136	0	**142**	6	144	10	**160**	**302**	**310**
09:45 10:00	1	0	0	**1**	2	0	1	**3**	**4**	10	115	2	**127**	0	129	2	**131**	**258**	**262**
11:30 11:45	0	0	2	**2**	0	0	4	**4**	**6**	2	135	1	**138**	0	166	2	**168**	**306**	**312**
11:45 12:00	3	0	0	**3**	1	0	13	**14**	**17**	8	142	2	**152**	1	177	4	**182**	**334**	**351**
12:00 12:15	0	0	0	**0**	3	0	6	**9**	**9**	2	154	2	**158**	0	166	0	**166**	**324**	**333**
12:15 12:30	2	0	0	**2**	3	0	4	**7**	**9**	1	162	0	**163**	0	203	4	**207**	**370**	**379**
12:30 12:45	0	0	2	**2**	3	0	7	**10**	**12**	3	152	0	**155**	1	168	2	**171**	**326**	**338**
12:45 13:00	1	0	0	**1**	1	0	5	**6**	**7**	2	168	0	**170**	0	190	2	**192**	**362**	**369**
13:00 13:15	2	0	0	**2**	1	0	8	**9**	**11**	2	128	0	**130**	0	174	0	**174**	**304**	**315**
13:15 13:30	3	0	1	**4**	0	0	3	**3**	**7**	1	147	0	**149**	3	157	3	**163**	**312**	**319**
15:00 15:15	6	0	2	**8**	12	0	1	**13**	**21**	16	190	3	**209**	4	212	4	**220**	**429**	**450**
15:15 15:30	1	0	0	**1**	5	0	6	**11**	**12**	6	177	4	**187**	3	215	6	**224**	**411**	**423**
15:30 15:45	3	0	1	**4**	0	0	2	**2**	**6**	8	182	3	**194**	3	225	4	**232**	**426**	**432**
15:45 16:00	0	0	0	**0**	3	0	2	**6**	**6**	9	181	7	**197**	4	216	3	**223**	**420**	**426**
16:00 16:15	2	0	0	**2**	1	0	3	**4**	**6**	14	164	0	**178**	2	240	9	**251**	**429**	**435**
16:15 16:30	2	0	2	**4**	0	0	0	**0**	**4**	13	189	6	**208**	0	247	18	**265**	**473**	**477**
16:30 16:45	0	0	0	**0**	5	0	9	**14**	**14**	8	167	3	**178**	2	223	7	**232**	**410**	**424**
16:45 17:00	5	0	6	**11**	8	0	14	**22**	**33**	8	163	4	**176**	6	218	10	**234**	**410**	**443**
17:00 17:15	1	0	3	**4**	9	1	18	**28**	**32**	11	181	2	**194**	2	222	4	**228**	**422**	**454**
17:15 17:30	2	0	0	**2**	12	0	23	**35**	**37**	26	167	5	**198**	3	220	17	**240**	**438**	**475**
17:30 17:45	0	0	1	**1**	9	0	18	**27**	**28**	13	199	3	**215**	0	156	7	**163**	**378**	**406**
17:45 18:00	0	0	3	**3**	1	0	5	**6**	**9**	6	180	2	**188**	3	182	2	**187**	**375**	**384**
TOTAL:	58	1	44	**103**	107	1	188	**297**	**400**	209	4959	77	**5251**	59	5832	159	**6050**	**11301**	**11701**

Note: U-Turns are included in Totals.

Comment:

Transportation Services - Traffic Services

Turning Movement Count - Cyclist Volume Report

Work Order
36485

HAMPSTEAD PL @ WALKLEY RD

Count Date: Wednesday, November 16, 2016

Start Time: 07:00

	HAMPSTEAD PL			WALKLEY RD			
Time Period	Northbound	Southbound	**Street Total**	Eastbound	Westbound	**Street Total**	**Grand Total**
07:00 08:00	1	0	**1**	0	0	**0**	**1**
08:00 09:00	0	0	**0**	2	0	**2**	**2**
09:00 10:00	0	0	**0**	0	3	**3**	**3**
11:30 12:30	0	0	**0**	1	0	**1**	**1**
12:30 13:30	0	0	**0**	0	2	**2**	**2**
15:00 16:00	0	0	**0**	0	2	**2**	**2**
16:00 17:00	0	0	**0**	2	0	**2**	**2**
17:00 18:00	0	0	**0**	0	0	**0**	**0**
Total	1	0	**1**	5	7	**12**	**13**

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

Turning Movement Count - Heavy Vehicle Report

W.O.
36485

HAMPSTEAD PL @ WALKLEY RD

Survey Date: Wednesday, November 16, 2016

	HAMPSTEAD PL									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 08:00	1	0	0	**1**	2	0	0	**2**	**3**	0	27	0	**27**	2	43	2	**47**	**74**	**77**
08:00 09:00	1	1	2	**4**	5	0	2	**7**	**11**	1	30	3	**34**	1	34	5	**40**	**74**	**85**
09:00 10:00	0	0	1	**1**	4	0	0	**4**	**5**	0	32	0	**32**	0	20	4	**24**	**56**	**61**
11:30 12:30	0	0	0	**0**	1	0	0	**1**	**1**	1	17	0	**18**	0	29	3	**32**	**50**	**51**
12:30 13:30	0	0	1	**1**	1	0	1	**2**	**3**	0	19	0	**19**	0	34	1	**35**	**54**	**57**
15:00 16:00	2	0	0	**2**	5	0	0	**5**	**7**	0	34	4	**38**	1	28	3	**32**	**70**	**77**
16:00 17:00	0	0	0	**0**	0	0	0	**0**	**0**	0	27	0	**27**	1	22	0	**23**	**50**	**50**
17:00 18:00	0	0	0	**0**	0	0	0	**0**	**0**	0	14	0	**14**	0	8	0	**8**	**22**	**22**
Sub Total	4	1	4	**9**	18	0	3	**21**	**30**	2	200	7	**209**	5	218	18	**241**	**450**	**480**
U-Turns (Heavy Vehicles)				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	4	1	4	**0**	18	0	3	**21**	**30**	2	200	7	**209**	5	218	18	**241**	**450**	**480**

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
36485

Turning Movement Count - Pedestrian Volume Report

HAMPSTEAD PL @ 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	4	2	**6**	0	0	**0**	**6**
07:15 07:30	1	0	**1**	0	0	**0**	**1**
07:30 07:45	1	0	**1**	2	0	**2**	**3**
07:45 08:00	2	1	**3**	2	2	**4**	**7**
07:00 08:00	8	3	**11**	4	2	**6**	**17**
08:00 08:15	2	1	**3**	2	0	**2**	**5**
08:15 08:30	2	1	**3**	0	0	**0**	**3**
08:30 08:45	3	6	**9**	3	2	**5**	**14**
08:45 09:00	2	0	**2**	0	0	**0**	**2**
08:00 09:00	9	8	**17**	5	2	**7**	**24**
09:00 09:15	3	1	**4**	0	0	**0**	**4**
09:15 09:30	2	0	**2**	1	0	**1**	**3**
09:30 09:45	1	0	**1**	0	0	**0**	**1**
09:45 10:00	2	0	**2**	0	0	**0**	**2**
09:00 10:00	8	1	**9**	1	0	**1**	**10**
11:30 11:45	2	0	**2**	0	0	**0**	**2**
11:45 12:00	1	5	**6**	0	0	**0**	**6**
12:00 12:15	1	1	**2**	0	0	**0**	**2**
12:15 12:30	0	4	**4**	0	0	**0**	**4**
11:30 12:30	4	10	**14**	0	0	**0**	**14**
12:30 12:45	1	2	**3**	1	0	**1**	**4**
12:45 13:00	0	2	**2**	0	0	**0**	**2**
13:00 13:15	0	5	**5**	1	0	**1**	**6**
13:15 13:30	2	1	**3**	0	0	**0**	**3**
12:30 13:30	3	10	**13**	2	0	**2**	**15**
15:00 15:15	3	3	**6**	0	0	**0**	**6**
15:15 15:30	6	5	**11**	3	0	**3**	**14**
15:30 15:45	6	4	**10**	2	0	**2**	**12**
15:45 16:00	2	9	**11**	1	0	**1**	**12**
15:00 16:00	17	21	**38**	6	0	**6**	**44**
16:00 16:15	5	3	**8**	0	0	**0**	**8**
16:15 16:30	5	1	**6**	2	5	**7**	**13**
16:30 16:45	4	3	**7**	2	0	**2**	**9**
16:45 17:00	1	7	**8**	0	2	**2**	**10**
16:00 17:00	15	14	**29**	4	7	**11**	**40**
17:00 17:15	1	1	**2**	3	0	**3**	**5**
17:15 17:30	8	4	**12**	2	1	**3**	**15**
17:30 17:45	2	4	**6**	1	0	**1**	**7**
17:45 18:00	3	4	**7**	0	0	**0**	**7**
17:00 18:00	14	13	**27**	6	1	**7**	**34**
Total	78	80	**158**	28	12	**40**	**198**

Comment:

Transportation Services - Traffic Services

Work Order
36485

Turning Movement Count - 15 Min U-Turn Total Report

HAMPSTEAD PL @ 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	1	0	1
07:30	07:45	0	0	0	0	0
07:45	08:00	0	0	1	0	1
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	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	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	1	0	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	1	0	1
15:45	16:00	0	1	0	0	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	0	0	0
16:45	17:00	0	0	1	0	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	0	0
Total		0	1	6	0	7

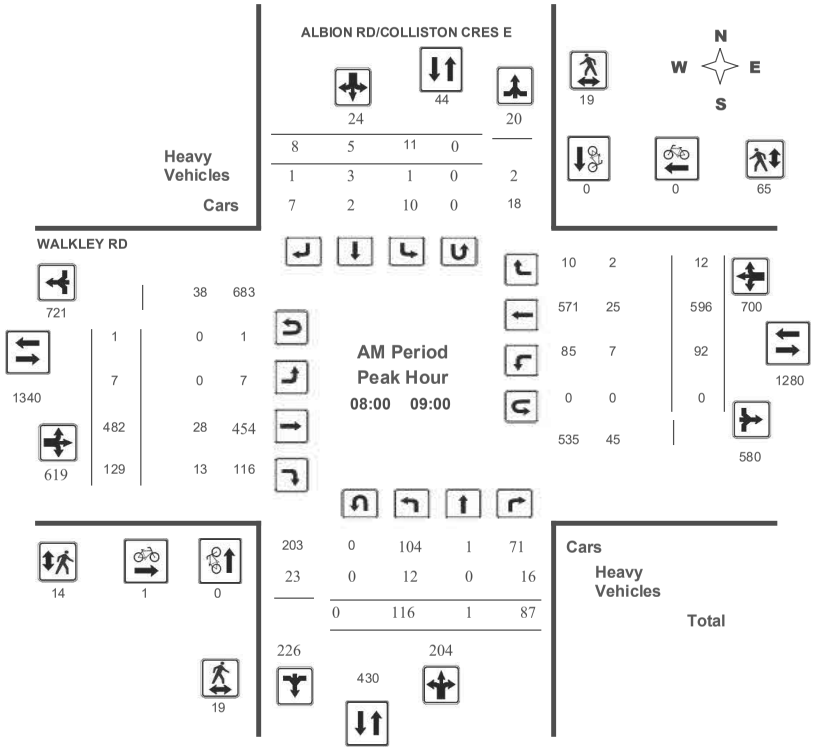
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

ALBION RD/COLLISTON CRES E @ WALKLEY RD

Survey Date: Wednesday, December 07, 2016 **WO No:** 36600

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



Comments

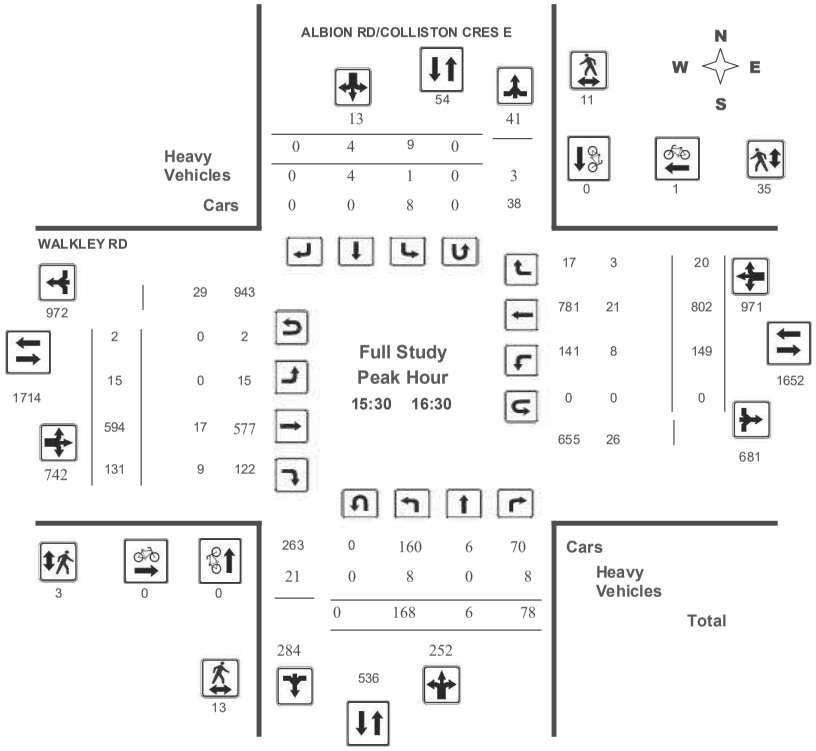
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

ALBION RD/COLLISTON CRES E @ WALKLEY RD

Survey Date: Wednesday, December 07, 2016 **WO No:** 36600

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



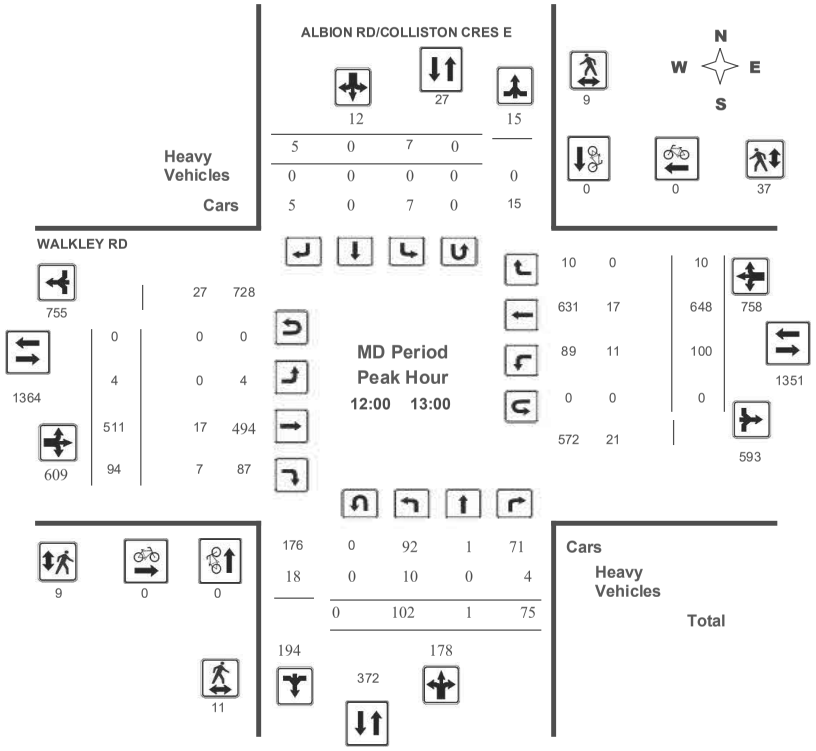
Comments

Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

ALBION RD/COLLISTON CRES E @ WALKLEY RD

Survey Date: Wednesday, December 07, 2016 **WO No:** 36600
Start Time: 07:00 **Device:** Miovision



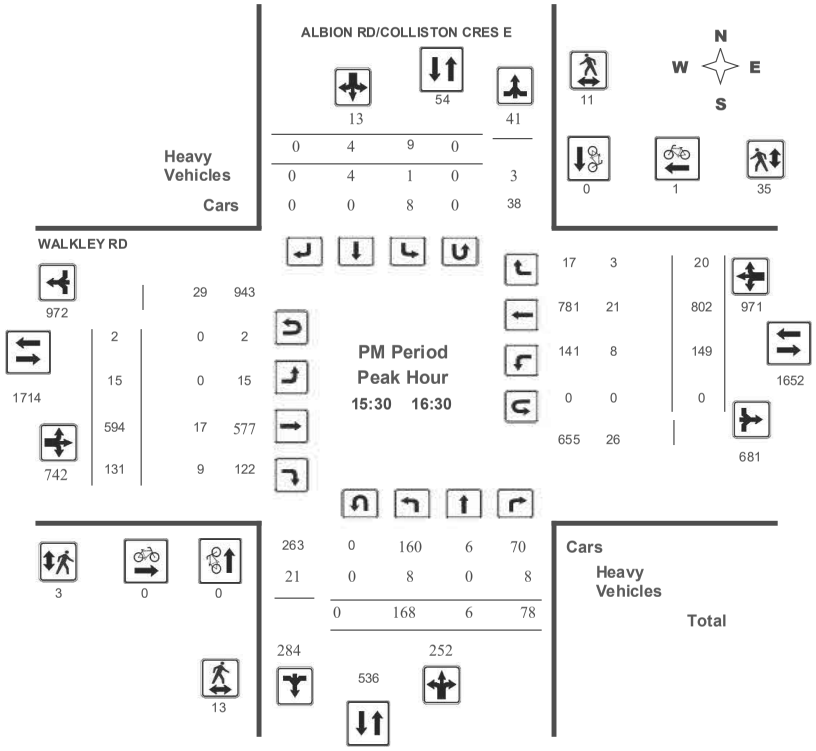
Comments

Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

ALBION RD/COLLISTON CRES E @ WALKLEY RD

Survey Date: Wednesday, December 07, 2016 **WO No:** 36600
Start Time: 07:00 **Device:** Miovision



Comments

Transportation Services - Traffic Services

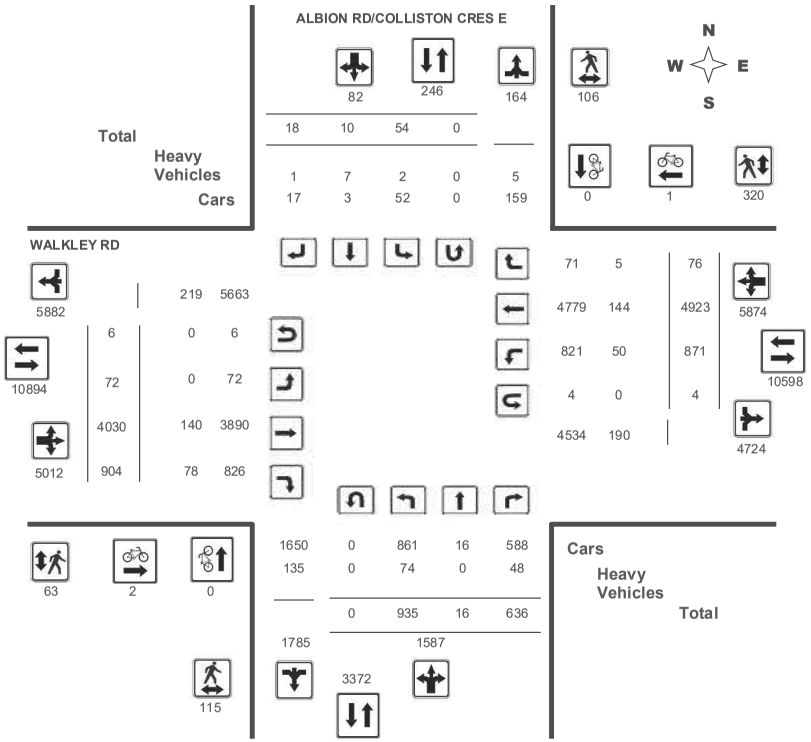
Turning Movement Count - Full Study Diagram

ALBION RD/COLLISTON CRES E @ WALKLEY RD

Survey Date: Wednesday, December 07, 2016

WO#: 36600

Device: Miovision



Comments

Transportation Services - Traffic Services

Work Order 36600

Turning Movement Count - Full Study Summary Report

ALBION RD/COLLISTON CRES E @ WALKLEY RD

Survey Date: Wednesday, December 07, 2016

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 6 Westbound: 4

AADT Factor 1.00

Full Study

	ALBION RD/COLLISTON CRES E									WALKLEY RD									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	**NB TOT**	LT	ST	RT	**SB TOT**	**STR TOT**	LT	ST	RT	**EB TOT**	LT	ST	RT	**WB TOT**	**STR TOT**	**Grand Total**
07:00 08:00	91	3	70	**164**	4	0	0	**4**	**168**	1	380	110	**491**	111	468	1	**580**	**1071**	**1239**
08:00 09:00	116	1	87	**204**	11	5	8	**24**	**228**	7	482	129	**618**	92	596	12	**700**	**1318**	**1546**
09:00 10:00	98	0	63	**161**	5	0	2	**7**	**168**	12	448	90	**550**	97	476	6	**579**	**1129**	**1297**
11:30 12:30	102	0	65	**167**	4	0	6	**10**	**177**	6	501	90	**597**	103	630	8	**741**	**1338**	**1515**
12:30 13:30	95	1	81	**177**	9	0	1	**10**	**187**	4	474	103	**581**	109	582	7	**698**	**1279**	**1466**
15:00 16:00	160	3	103	**266**	8	1	1	**10**	**276**	14	582	133	**729**	139	749	13	**901**	**1630**	**1906**
16:00 17:00	151	6	80	**237**	4	3	0	**7**	**244**	13	587	130	**730**	120	786	14	**920**	**1650**	**1894**
17:00 18:00	122	2	87	**211**	9	1	0	**10**	**221**	15	576	119	**710**	100	636	15	**751**	**1461**	**1682**
Sub Total	935	16	636	**1587**	54	10	18	**82**	**1669**	72	4030	904	**5006**	871	4923	76	**5870**	**10876**	**12545**
U Turns				**0**				**0**	**0**				**6**				**4**	**10**	**10**
Total	935	16	636	**1587**	54	10	18	**82**	**1669**	72	4030	904	**5012**	871	4923	76	**5874**	**10886**	**12555**
EQ 12Hr	1300	22	884	**2206**	75	14	25	**114**	**2320**	100	5602	1257	**6967**	1211	6843	106	**8165**	**15132**	**17452**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													**1.39**						
AVG 12Hr	1300	22	884	**2206**	75	14	25	**114**	**2320**	100	5602	1257	**6967**	1211	6843	106	**8165**	**15132**	**17452**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													**1.00**						
AVG 24Hr	1703	29	1158	**2890**	98	18	33	**149**	**3039**	131	7338	1646	**9126**	1586	8964	138	**10696**	**19822**	**22861**
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. 36600

Turning Movement Count - 15 Minute Summary Report

ALBION RD/COLLISTON CRES E @ WALKLEY RD

Survey Date: Wednesday, December 07, 2016

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 6 Westbound: 4

	ALBION RD/COLLISTON CRES E								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	11	1	7	**19**	0	0	0	**0**	**19**	0	69	19	**88**	24	78	0	**102**	**190**	**209**
07:15 07:30	20	0	23	**43**	2	0	0	**2**	**45**	0	87	30	**117**	29	122	0	**151**	**268**	**313**
07:30 07:45	36	1	22	**59**	0	0	0	**0**	**59**	0	103	29	**132**	23	124	1	**148**	**280**	**339**
07:45 08:00	24	1	18	**43**	2	0	0	**2**	**45**	1	121	32	**154**	35	144	0	**179**	**333**	**378**
08:00 08:15	26	1	13	**40**	1	0	2	**3**	**43**	2	120	29	**152**	21	150	4	**175**	**327**	**370**
08:15 08:30	27	0	17	**44**	2	2	1	**5**	**49**	1	119	26	**146**	27	150	2	**179**	**325**	**374**
08:30 08:45	29	0	26	**55**	4	3	3	**10**	**65**	1	112	37	**150**	20	167	3	**190**	**340**	**405**
08:45 09:00	34	0	31	**65**	4	0	2	**6**	**71**	3	131	37	**171**	24	129	3	**156**	**327**	**398**
09:00 09:15	25	0	21	**46**	4	0	1	**5**	**51**	3	134	28	**165**	30	117	1	**148**	**313**	**364**
09:15 09:30	28	0	19	**47**	1	0	0	**1**	**48**	3	117	19	**139**	26	125	2	**153**	**292**	**340**
09:30 09:45	20	0	13	**33**	0	0	0	**0**	**33**	4	88	24	**116**	17	132	2	**152**	**268**	**301**
09:45 10:00	25	0	10	**35**	0	0	1	**1**	**36**	2	109	19	**131**	24	102	1	**127**	**258**	**294**
11:30 11:45	24	0	19	**43**	1	0	1	**2**	**45**	1	118	22	**141**	22	133	2	**157**	**298**	**343**
11:45 12:00	25	0	13	**38**	2	0	1	**3**	**41**	2	113	20	**136**	23	155	1	**179**	**315**	**356**
12:00 12:15	23	0	23	**46**	1	0	0	**1**	**47**	2	122	30	**154**	30	172	3	**205**	**359**	**406**
12:15 12:30	30	0	10	**40**	0	0	4	**4**	**44**	1	148	18	**167**	28	170	2	**200**	**367**	**411**
12:30 12:45	21	1	21	**43**	2	0	1	**3**	**46**	1	110	19	**130**	18	145	3	**166**	**296**	**342**
12:45 13:00	28	0	21	**49**	4	0	0	**4**	**53**	0	131	27	**158**	24	161	2	**187**	**345**	**398**
13:00 13:15	24	0	16	**40**	3	0	0	**3**	**43**	2	118	26	**146**	41	143	0	**184**	**330**	**373**
13:15 13:30	22	0	23	**45**	0	0	0	**0**	**45**	1	115	31	**147**	26	133	2	**162**	**309**	**354**
15:00 15:15	53	0	34	**87**	2	0	1	**3**	**90**	5	139	35	**179**	24	168	1	**193**	**372**	**462**
15:15 15:30	25	0	28	**53**	0	0	0	**0**	**53**	1	140	32	**173**	36	185	3	**224**	**397**	**450**
15:30 15:45	35	3	21	**59**	3	0	0	**3**	**62**	4	168	32	**204**	33	206	4	**243**	**447**	**509**
15:45 16:00	47	0	20	**67**	3	1	0	**4**	**71**	4	135	34	**175**	46	190	5	**241**	**416**	**487**
16:00 16:15	49	3	19	**71**	2	2	0	**4**	**75**	4	141	29	**174**	35	229	6	**270**	**444**	**519**
16:15 16:30	37	0	18	**55**	1	1	0	**2**	**57**	3	150	36	**189**	35	177	5	**217**	**406**	**463**
16:30 16:45	37	2	25	**64**	1	0	0	**1**	**65**	3	143	35	**182**	30	200	3	**233**	**415**	**480**
16:45 17:00	28	1	18	**47**	0	0	0	**0**	**47**	3	153	30	**186**	20	180	0	**201**	**387**	**434**
17:00 17:15	42	0	30	**72**	2	0	0	**2**	**74**	8	164	32	**204**	30	186	3	**219**	**423**	**497**
17:15 17:30	30	1	24	**55**	3	0	0	**3**	**58**	2	144	33	**179**	21	165	4	**190**	**369**	**427**
17:30 17:45	23	1	21	**45**	2	1	0	**3**	**48**	4	135	29	**168**	21	130	4	**155**	**323**	**371**
17:45 18:00	27	0	12	**39**	2	0	0	**2**	**41**	1	133	25	**159**	28	155	4	**188**	**347**	**388**
TOTAL:	935	16	636	**1587**	54	10	18	**82**	**1669**	72	4030	904	**5012**	871	4923	76	**5874**	**10886**	**12555**

Note: U-Turns are included in Totals.

Comment:

2019-Mar-07

Transportation Services - Traffic Services

Turning Movement Count - Cyclist Volume Report

Work Order 36600

ALBION RD/COLLISTON CRES E @ WALKLEY RD

Count Date: Wednesday, December 07, 2016

Start Time: 07:00

	ALBION RD/COLLISTON CRES E			WALKLEY RD			
Time Period	Northbound	Southbound	**Street Total**	Eastbound	Westbound	**Street Total**	**Grand Total**
07:00 08:00	0	0	**0**	0	0	**0**	**0**
08:00 09:00	0	0	**0**	1	0	**1**	**1**
09:00 10:00	0	0	**0**	1	0	**1**	**1**
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	0	0	**0**	0	1	**1**	**1**
16:00 17:00	0	0	**0**	0	0	**0**	**0**
17:00 18:00	0	0	**0**	0	0	**0**	**0**
Total	0	0	**0**	2	1	**3**	**3**

Comment:

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

2019-Mar-07

Transportation Services - Traffic Services

W.O. 36600

Turning Movement Count - Heavy Vehicle Report

ALBION RD/COLLISTON CRES E @ WALKLEY RD

Survey Date: Wednesday, December 07, 2016

	ALBION RD/COLLISTON CRES E								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 08:00	15	0	10	**25**	0	0	0	**0**	**25**	0	22	9	**31**	9	25	0	**34**	**65**	**90**
08:00 09:00	12	0	16	**28**	1	3	1	**5**	**33**	0	28	13	**41**	7	25	2	**34**	**75**	**108**
09:00 10:00	9	0	1	**10**	0	0	0	**0**	**10**	0	20	13	**33**	9	22	0	**31**	**64**	**74**
11:30 12:30	11	0	5	**16**	0	0	0	**0**	**16**	0	16	8	**24**	7	19	0	**26**	**50**	**66**
12:30 13:30	8	0	4	**12**	0	0	0	**0**	**12**	0	14	8	**22**	6	12	0	**18**	**40**	**52**
15:00 16:00	5	0	8	**13**	1	1	0	**2**	**15**	0	16	13	**29**	7	19	3	**29**	**58**	**73**
16:00 17:00	7	0	4	**11**	0	3	0	**3**	**14**	0	19	7	**26**	5	16	0	**21**	**47**	**61**
17:00 18:00	7	0	0	**7**	0	0	0	**0**	**7**	0	5	7	**12**	0	6	0	**6**	**18**	**25**
Sub Total	74	0	48	**122**	2	7	1	**10**	**132**	0	140	78	**218**	50	144	5	**199**	**417**	**549**
U-Turns (Heavy Vehicles)				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	74	0	48	**0**	2	7	1	**10**	**132**	0	140	78	**218**	50	144	5	**199**	**417**	**549**

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 36600

Turning Movement Count - Pedestrian Volume Report

ALBION RD/COLLISTON CRES E @ WALKLEY RD

Count Date: Wednesday, December 07, 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	0	**0**	1	4	**5**	**5**
07:15 07:30	0	0	**0**	0	5	**5**	**5**
07:30 07:45	0	1	**1**	3	11	**14**	**15**
07:45 08:00	3	9	**12**	2	10	**12**	**24**
07:00 08:00	3	10	**13**	6	30	**36**	**49**
08:00 08:15	5	9	**14**	2	18	**20**	**34**
08:15 08:30	3	4	**7**	2	16	**18**	**25**
08:30 08:45	7	4	**11**	4	20	**24**	**35**
08:45 09:00	4	2	**6**	6	11	**17**	**23**
08:00 09:00	19	19	**38**	14	65	**79**	**117**
09:00 09:15	2	4	**6**	1	9	**10**	**16**
09:15 09:30	1	2	**3**	1	3	**4**	**7**
09:30 09:45	2	5	**7**	2	9	**11**	**18**
09:45 10:00	1	1	**2**	0	4	**4**	**6**
09:00 10:00	6	12	**18**	4	25	**29**	**47**
11:30 11:45	2	3	**5**	0	5	**5**	**10**
11:45 12:00	3	2	**5**	4	10	**14**	**19**
12:00 12:15	4	3	**7**	7	17	**24**	**31**
12:15 12:30	3	3	**6**	1	6	**7**	**13**
11:30 12:30	12	11	**23**	12	38	**50**	**73**
12:30 12:45	1	3	**4**	0	5	**5**	**9**
12:45 13:00	3	0	**3**	1	9	**10**	**13**
13:00 13:15	1	2	**3**	0	6	**6**	**9**
13:15 13:30	6	0	**6**	2	8	**10**	**16**
12:30 13:30	11	5	**16**	3	28	**31**	**47**
15:00 15:15	4	8	**12**	3	20	**23**	**35**
15:15 15:30	7	10	**17**	3	29	**32**	**49**
15:30 15:45	4	1	**5**	2	11	**13**	**18**
15:45 16:00	7	1	**8**	1	17	**18**	**26**
15:00 16:00	22	20	**42**	9	77	**86**	**128**
16:00 16:15	2	5	**7**	0	1	**1**	**8**
16:15 16:30	0	4	**4**	0	6	**6**	**10**
16:30 16:45	11	6	**17**	6	5	**11**	**28**
16:45 17:00	7	2	**9**	2	9	**11**	**20**
16:00 17:00	20	17	**37**	8	21	**29**	**66**
17:00 17:15	9	3	**12**	2	12	**14**	**26**
17:15 17:30	5	2	**7**	2	4	**6**	**13**
17:30 17:45	6	4	**10**	2	17	**19**	**29**
17:45 18:00	2	3	**5**	1	3	**4**	**9**
17:00 18:00	22	12	**34**	7	36	**43**	**77**
Total	115	106	**221**	63	320	**383**	**604**

Comment:

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

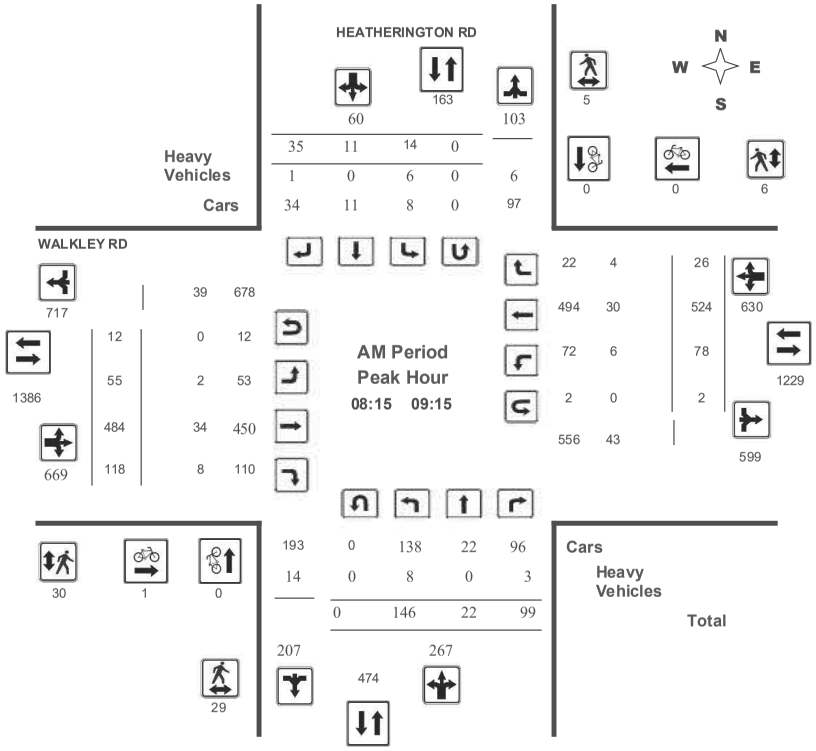
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

WALKLEY RD @ HEATHERINGTON RD

Survey Date: Wednesday, November 16, 2016 **WO No:** 36490

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



Comments

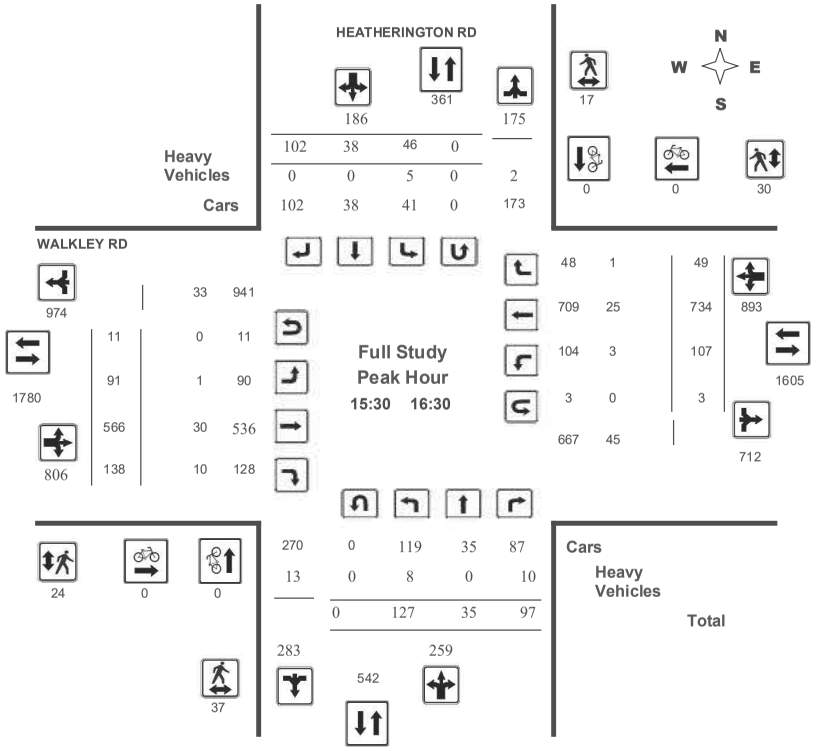
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

WALKLEY RD @ HEATHERINGTON RD

Survey Date: Wednesday, November 16, 2016 **WO No:** 36490

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



Comments

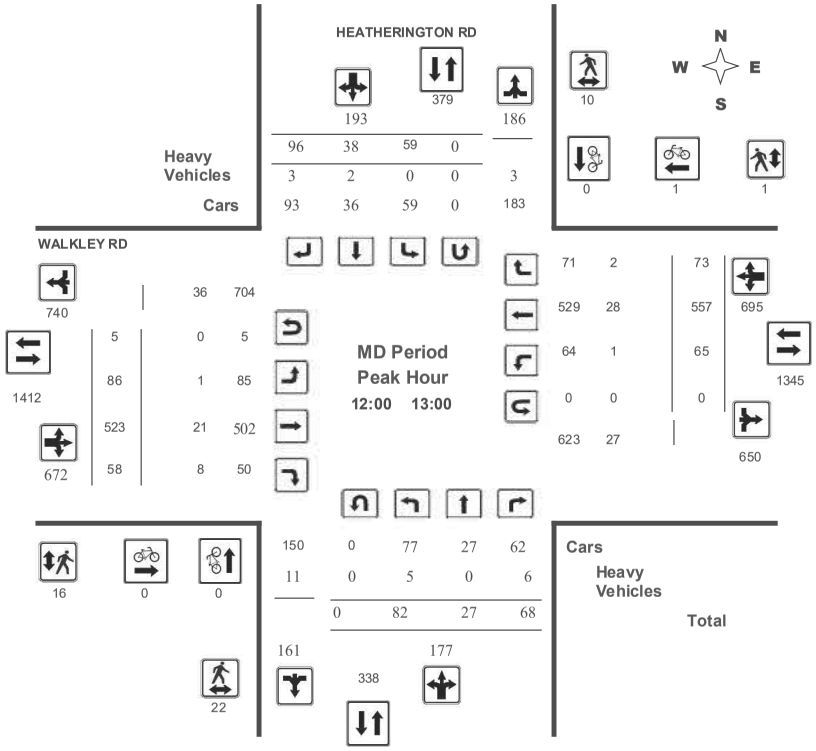
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

WALKLEY RD @ HEATHERINGTON RD

Survey Date: Wednesday, November 16, 2016 **WO No:** 36490

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



Comments

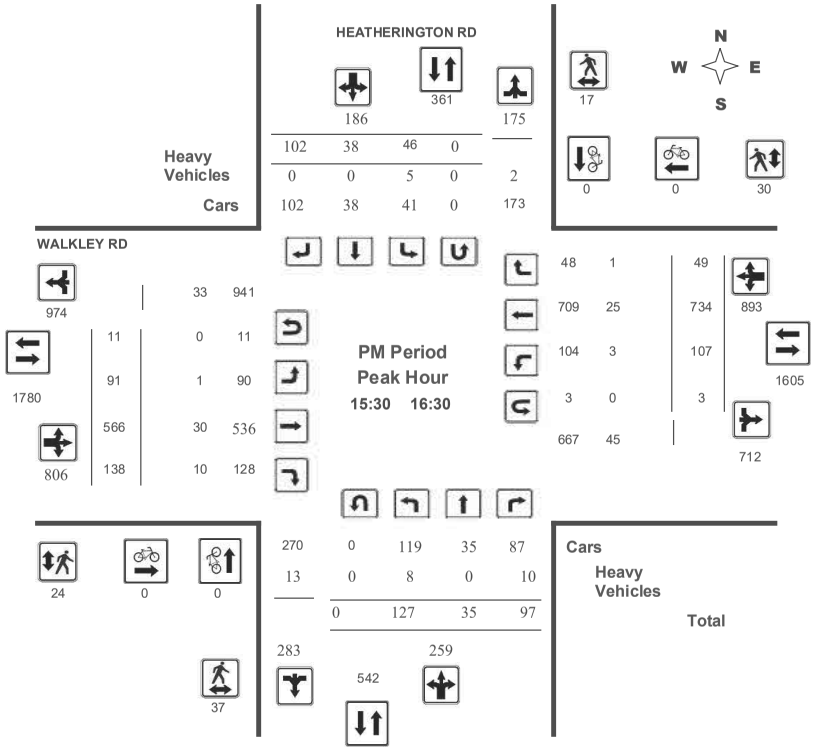
Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

WALKLEY RD @ HEATHERINGTON RD

Survey Date: Wednesday, November 16, 2016 **WO No:** 36490

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



Comments

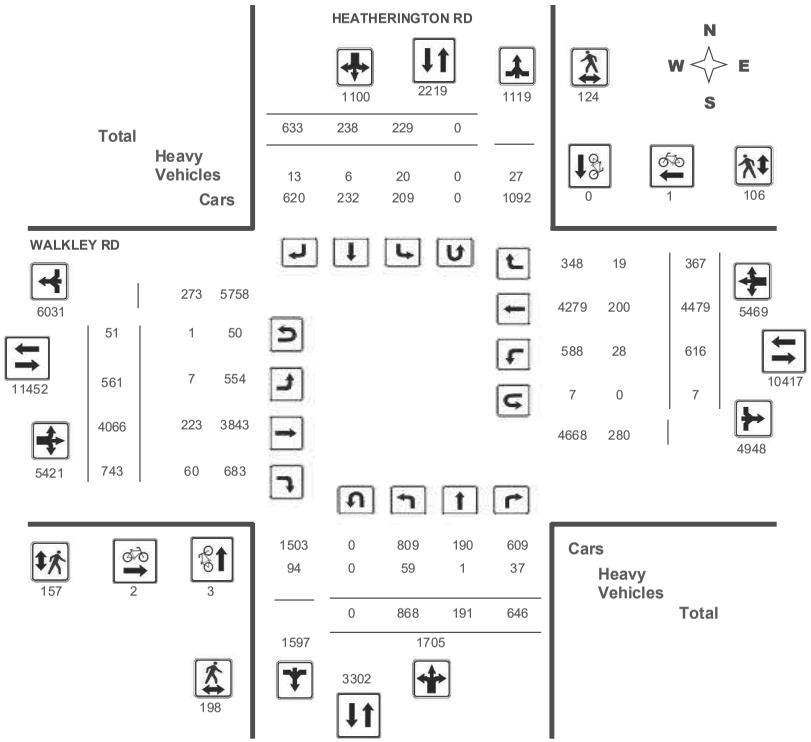
Transportation Services - Traffic Services

Turning Movement Count - Full Study Diagram

WALKLEY RD @ HEATHERINGTON RD

Survey Date: Wednesday, November 16, 2016 **WO#:** 36490

Device: Miovision



Comments

Transportation Services - Traffic Services

Work Order 36490

Turning Movement Count - Full Study Summary Report

WALKLEY RD @ HEATHERINGTON RD

Survey Date: Wednesday, November 16, 2016

Total Observed U-Turns
Northbound: 0 Southbound: 0
Eastbound: 51 Westbound: 7

AADT Factor .90

Full Study

	HEATHERINGTON RD									WALKLEY RD									
	Northbound				Southbound					Eastbound				Westbound					
Period	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00 08:00	122	11	81	**214**	4	9	19	**32**	**246**	30	474	59	**563**	70	443	17	**530**	**1093**	**1339**
08:00 09:00	146	21	102	**269**	11	10	35	**56**	**325**	45	504	91	**640**	76	523	22	**621**	**1261**	**1586**
09:00 10:00	112	22	78	**212**	10	25	44	**79**	**291**	59	433	90	**582**	61	453	29	**543**	**1125**	**1416**
11:30 12:30	91	23	60	**174**	48	33	114	**195**	**369**	89	495	68	**652**	63	540	77	**680**	**1332**	**1701**
12:30 13:30	82	25	70	**177**	44	35	90	**169**	**346**	74	495	66	**635**	65	495	58	**618**	**1253**	**1599**
15:00 16:00	129	31	91	**251**	38	34	119	**191**	**442**	96	567	148	**811**	84	655	52	**791**	**1602**	**2044**
16:00 17:00	101	20	78	**199**	38	43	111	**192**	**391**	77	573	118	**768**	103	743	46	**892**	**1660**	**2051**
17:00 18:00	85	38	86	**209**	36	49	101	**186**	**395**	91	525	103	**719**	94	627	66	**787**	**1506**	**1901**
Sub Total	868	191	646	**1705**	229	238	633	**1100**	**2805**	561	4066	743	**5370**	616	4479	367	**5462**	**10832**	**13637**
U Turns				**0**				**0**	**0**				**51**				**7**	**58**	**58**
Total	868	191	646	**1705**	229	238	633	**1100**	**2805**	561	4066	743	**5421**	616	4479	367	**5469**	**10890**	**13695**
EQ 12Hr	1207	265	898	**2370**	318	331	880	**1529**	**3899**	780	5652	1033	**7535**	856	6226	510	**7602**	**15137**	**19036**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													**1.39**						
AVG 12Hr	1086	239	808	**2133**	286	298	792	**1376**	**3509**	702	5087	929	**6782**	771	5603	459	**6842**	**13624**	**17133**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													**.90**						
AVG 24Hr	1422	313	1059	**2794**	375	390	1037	**1803**	**4597**	919	6663	1218	**8884**	1010	7340	601	**8963**	**17847**	**22444**
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. 36490

Turning Movement Count - 15 Minute Summary Report

WALKLEY RD @ HEATHERINGTON RD

Survey Date: Wednesday, November 16, 2016

Total Observed U-Turns
Northbound: 0 Southbound: 0
Eastbound: 51 Westbound: 7

	HEATHERINGTON RD									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	17	0	16	**33**	0	1	1	**2**	**35**	4	100	9	**113**	11	97	5	**114**	**227**	**262**
07:15 07:30	25	2	25	**52**	2	0	7	**9**	**61**	7	116	13	**138**	15	93	6	**114**	**252**	**313**
07:30 07:45	42	4	14	**60**	1	3	4	**8**	**68**	9	143	16	**168**	23	114	3	**140**	**308**	**376**
07:45 08:00	38	5	26	**69**	1	5	7	**13**	**82**	10	115	21	**147**	21	139	3	**163**	**310**	**392**
08:00 08:15	31	8	26	**65**	0	2	9	**11**	**76**	10	125	13	**149**	16	121	2	**139**	**288**	**364**
08:15 08:30	43	4	30	**77**	5	4	10	**19**	**96**	5	118	25	**150**	27	116	14	**158**	**308**	**404**
08:30 08:45	32	2	24	**58**	2	0	8	**10**	**68**	16	117	23	**160**	17	149	2	**168**	**328**	**396**
08:45 09:00	40	7	22	**69**	4	4	8	**16**	**85**	14	144	30	**190**	16	137	4	**158**	**348**	**433**
09:00 09:15	31	9	23	**63**	3	3	9	**15**	**78**	20	105	40	**169**	18	122	6	**146**	**315**	**393**
09:15 09:30	29	3	24	**56**	2	6	11	**19**	**75**	19	124	20	**164**	17	107	9	**133**	**297**	**372**
09:30 09:45	37	6	17	**60**	4	7	13	**24**	**84**	11	108	15	**135**	14	120	9	**143**	**278**	**362**
09:45 10:00	15	4	14	**33**	1	9	11	**21**	**54**	9	96	15	**120**	12	104	5	**121**	**241**	**295**
11:30 11:45	22	3	16	**41**	12	11	30	**53**	**94**	20	114	19	**153**	9	112	16	**137**	**290**	**384**
11:45 12:00	20	5	9	**34**	7	5	32	**44**	**78**	22	113	15	**155**	17	125	20	**162**	**317**	**395**
12:00 12:15	20	10	17	**47**	12	4	21	**37**	**84**	21	125	20	**168**	18	152	14	**184**	**352**	**436**
12:15 12:30	29	5	18	**52**	17	13	31	**61**	**113**	26	143	14	**184**	19	151	27	**197**	**381**	**494**
12:30 12:45	17	6	15	**38**	20	8	25	**53**	**91**	17	134	9	**162**	13	123	15	**151**	**313**	**404**
12:45 13:00	16	6	18	**40**	10	13	19	**42**	**82**	22	121	15	**158**	15	131	17	**163**	**321**	**403**
13:00 13:15	23	7	15	**45**	9	6	28	**43**	**88**	17	117	20	**156**	22	123	14	**159**	**315**	**403**
13:15 13:30	26	6	22	**54**	5	8	18	**31**	**85**	18	123	22	**164**	15	118	12	**145**	**309**	**394**
15:00 15:15	34	4	19	**57**	8	8	30	**46**	**103**	21	143	24	**190**	18	160	14	**192**	**382**	**485**
15:15 15:30	23	6	19	**48**	9	12	38	**59**	**107**	21	152	44	**220**	16	150	13	**179**	**399**	**506**
15:30 15:45	28	8	21	**57**	9	4	23	**36**	**93**	21	134	46	**202**	28	171	14	**213**	**415**	**508**
15:45 16:00	44	13	32	**89**	12	10	28	**50**	**139**	33	138	34	**211**	22	174	11	**207**	**418**	**557**
16:00 16:15	35	5	27	**67**	15	12	20	**47**	**114**	20	145	33	**201**	24	188	12	**227**	**428**	**542**
16:15 16:30	20	9	17	**46**	10	12	31	**53**	**99**	17	149	25	**192**	33	201	12	**246**	**438**	**537**
16:30 16:45	22	4	16	**42**	8	8	31	**47**	**89**	15	151	22	**188**	18	175	11	**204**	**392**	**481**
16:45 17:00	24	2	18	**44**	5	11	29	**45**	**89**	25	128	38	**192**	28	179	11	**218**	**410**	**499**
17:00 17:15	18	7	25	**50**	6	12	19	**37**	**87**	21	146	28	**196**	24	168	15	**207**	**403**	**490**
17:15 17:30	27	9	19	**55**	14	9	29	**52**	**107**	19	139	23	**181**	24	187	22	**233**	**414**	**521**
17:30 17:45	22	10	21	**53**	7	16	25	**48**	**101**	24	122	31	**179**	26	144	21	**191**	**370**	**471**
17:45 18:00	18	12	21	**51**	9	12	28	**49**	**100**	27	118	21	**166**	20	128	8	**157**	**323**	**423**
TOTAL:	868	191	646	**1705**	229	238	633	**1100**	**2805**	561	4066	743	**5421**	616	4479	367	**5469**	**10890**	**13695**

Note: U-Turns are included in Totals.

Comment:

Transportation Services - Traffic Services

Turning Movement Count - Cyclist Volume Report

Work Order
36490

WALKLEY RD @ HEATHERINGTON RD

Count Date: Wednesday, November 16, 2016 **Start Time:** 07:00

	HEATHERINGTON RD			WALKLEY RD			
Time Period	Northbound	Southbound	**Street Total**	Eastbound	Westbound	**Street Total**	**Grand Total**
07:00 08:00	2	0	**2**	0	0	**0**	**2**
08:00 09:00	0	0	**0**	1	0	**1**	**1**
09:00 10:00	0	0	**0**	0	0	**0**	**0**
11:30 12:30	0	0	**0**	0	1	**1**	**1**
12:30 13:30	1	0	**1**	0	0	**0**	**1**
15:00 16:00	0	0	**0**	0	0	**0**	**0**
16:00 17:00	0	0	**0**	1	0	**1**	**1**
17:00 18:00	0	0	**0**	0	0	**0**	**0**
Total	3	0	**3**	2	1	**3**	**6**

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

Turning Movement Count - Heavy Vehicle Report

W.O.
36490

WALKLEY RD @ HEATHERINGTON RD

Survey Date: Wednesday, November 16, 2016

	HEATHERINGTON RD									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 08:00	8	0	3	**11**	1	0	2	**3**	**14**	1	33	11	**45**	5	42	2	**49**	**94**	**108**
08:00 09:00	8	0	4	**12**	5	0	1	**6**	**18**	1	31	11	**43**	6	33	4	**43**	**86**	**104**
09:00 10:00	9	0	3	**12**	1	2	3	**6**	**18**	2	37	6	**46**	7	20	2	**29**	**75**	**93**
11:30 12:30	4	0	4	**8**	3	1	5	**9**	**17**	1	23	5	**29**	0	25	3	**28**	**57**	**74**
12:30 13:30	6	0	6	**12**	1	1	0	**2**	**14**	0	19	6	**25**	4	29	2	**35**	**60**	**74**
15:00 16:00	7	1	7	**15**	4	1	1	**6**	**21**	1	41	12	**54**	3	30	1	**34**	**88**	**109**
16:00 17:00	9	0	8	**17**	3	0	0	**3**	**20**	0	23	7	**30**	2	15	3	**20**	**50**	**70**
17:00 18:00	8	0	2	**10**	2	1	1	**4**	**14**	1	16	2	**19**	1	6	2	**9**	**28**	**42**
Sub Total	59	1	37	**97**	20	6	13	**39**	**136**	7	223	60	**291**	28	200	19	**247**	**538**	**674**
U-Turns (Heavy Vehicles)				**0**				**0**	**0**				**1**				**0**	**1**	**1**
Total	59	1	37	**0**	20	6	13	**39**	**136**	7	223	60	**292**	28	200	19	**247**	**539**	**675**

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
36490

Turning Movement Count - Pedestrian Volume Report

WALKLEY RD @ HEATHERINGTON 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	2	2	**4**	1	1	**2**	**6**
07:15 07:30	6	0	**6**	2	1	**3**	**9**
07:30 07:45	5	2	**7**	1	3	**4**	**11**
07:45 08:00	5	1	**6**	0	0	**0**	**6**
07:00 08:00	18	5	**23**	4	5	**9**	**32**
08:00 08:15	5	4	**9**	3	0	**3**	**12**
08:15 08:30	5	0	**5**	5	2	**7**	**12**
08:30 08:45	10	0	**10**	8	1	**9**	**19**
08:45 09:00	9	3	**12**	11	0	**11**	**23**
08:00 09:00	29	7	**36**	27	3	**30**	**66**
09:00 09:15	5	2	**7**	6	3	**9**	**16**
09:15 09:30	11	2	**13**	0	2	**2**	**15**
09:30 09:45	1	3	**4**	0	4	**4**	**8**
09:45 10:00	3	1	**4**	0	3	**3**	**7**
09:00 10:00	20	8	**28**	6	12	**18**	**46**
11:30 11:45	0	10	**10**	0	3	**3**	**13**
11:45 12:00	6	5	**11**	1	2	**3**	**14**
12:00 12:15	6	1	**7**	5	0	**5**	**12**
12:15 12:30	2	3	**5**	6	0	**6**	**11**
11:30 12:30	14	19	**33**	12	5	**17**	**50**
12:30 12:45	3	4	**7**	2	0	**2**	**9**
12:45 13:00	11	2	**13**	3	1	**4**	**17**
13:00 13:15	8	4	**12**	3	3	**6**	**18**
13:15 13:30	2	1	**3**	6	2	**8**	**11**
12:30 13:30	24	11	**35**	14	6	**20**	**55**
15:00 15:15	12	6	**18**	7	8	**15**	**33**
15:15 15:30	3	4	**7**	14	4	**18**	**25**
15:30 15:45	12	7	**19**	6	10	**16**	**35**
15:45 16:00	10	4	**14**	6	6	**12**	**26**
15:00 16:00	37	21	**58**	33	28	**61**	**119**
16:00 16:15	4	3	**7**	4	9	**13**	**20**
16:15 16:30	11	3	**14**	8	5	**13**	**27**
16:30 16:45	7	8	**15**	8	10	**18**	**33**
16:45 17:00	7	6	**13**	11	10	**21**	**34**
16:00 17:00	29	20	**49**	31	34	**65**	**114**
17:00 17:15	2	14	**16**	1	6	**7**	**23**
17:15 17:30	9	5	**14**	11	5	**16**	**30**
17:30 17:45	6	8	**14**	9	1	**10**	**24**
17:45 18:00	10	6	**16**	9	1	**10**	**26**
17:00 18:00	27	33	**60**	30	13	**43**	**103**
Total	198	124	**322**	157	106	**263**	**585**

Comment:

Transportation Services - Traffic Services

Work Order
36490

Turning Movement Count - 15 Min U-Turn Total Report

WALKLEY RD @ HEATHERINGTON 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	1	1
07:15	07:30	0	0	2	0	2
07:30	07:45	0	0	0	0	0
07:45	08:00	0	0	1	0	1
08:00	08:15	0	0	1	0	1
08:15	08:30	0	0	2	1	3
08:30	08:45	0	0	4	0	4
08:45	09:00	0	0	2	1	3
09:00	09:15	0	0	4	0	4
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	0	0	0
11:45	12:00	0	0	5	0	5
12:00	12:15	0	0	2	0	2
12:15	12:30	0	0	1	0	1
12:30	12:45	0	0	2	0	2
12:45	13:00	0	0	0	0	0
13:00	13:15	0	0	2	0	2
13:15	13:30	0	0	1	0	1
15:00	15:15	0	0	2	0	2
15:15	15:30	0	0	3	0	3
15:30	15:45	0	0	1	0	1
15:45	16:00	0	0	6	0	6
16:00	16:15	0	0	3	3	6
16:15	16:30	0	0	1	0	1
16:30	16:45	0	0	0	0	0
16:45	17:00	0	0	1	0	1
17:00	17:15	0	0	1	0	1
17:15	17:30	0	0	0	0	0
17:30	17:45	0	0	2	0	2
17:45	18:00	0	0	0	1	1
Total		0	0	51	7	58

Appendix C

Synchro Intersection Worksheets – Existing Conditions

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	17	626	178	24	1008	20	240	22	43	3	3
Future Volume (vph)	1	17	626	178	24	1008	20	240	22	43	3	3
Satd. Flow (prot)	0	1658	3155	0	1658	3301	0	0	1642	0	1658	1558
Flt Permitted		0.117			0.198				0.767		0.595	
Satd. Flow (perm)	0	203	3155	0	343	3301	0	0	1280	0	1034	1558
Satd. Flow (RTOR)			53			3			12			4
Lane Group Flow (vph)	0	20	894	0	27	1142	0	0	339	0	3	7
Turn Type	Perm	Perm	NA		Perm	NA		Perm	NA		Perm	NA
Protected Phases			4			8			2			6
Permitted Phases	4	4			8			2			6	
Detector Phase	4	4	4		8	8		2	2		6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0
Minimum Split (s)	27.7	27.7	27.7		27.7	27.7		35.0	35.0		35.0	35.0
Total Split (s)	45.0	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0
Total Split (%)	50.0%	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%
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)	1.4	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	None	None	None		None	None		Max	Max		Max	Max
Act Effct Green (s)		34.3	34.3		34.3	34.3			39.2		39.2	39.2
Actuated g/C Ratio		0.41	0.41		0.41	0.41			0.47		0.47	0.47
v/c Ratio		0.24	0.68		0.19	0.85			0.56		0.01	0.01
Control Delay		24.6	21.8		19.5	29.3			21.6		14.3	11.0
Queue Delay		0.0	0.0		0.0	0.0			0.0		0.0	0.0
Total Delay		24.6	21.8		19.5	29.3			21.6		14.3	11.0
LOS		C	C		B	C			C		B	B
Approach Delay			21.9			29.1			21.6			12.0
Approach LOS			C			C			C			B
Queue Length 50th (m)		2.2	59.5		2.9	89.1			40.1		0.3	0.3
Queue Length 95th (m)		8.3	79.8		9.0	115.6			74.1		1.9	2.9
Internal Link Dist (m)			327.1			295.8			181.0			16.2
Turn Bay Length (m)		45.0			50.0							
Base Capacity (vph)		97	1544		165	1588			602		481	727
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		0.21	0.58		0.16	0.72			0.56		0.01	0.01

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 84.2
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	4
Future Volume (vph)	4
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Satd. Flow (RTOR)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

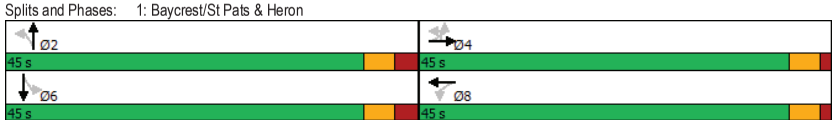
Intersection Summary

Lanes, Volumes, Timings
1: Baycrest/St Pats & Heron

03-25-2019

Intersection Signal Delay: 25.3	Intersection LOS: C
Intersection Capacity Utilization 63.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: Baycrest/St Pats & Heron



Lanes, Volumes, Timings
2: Sandalwood/Briar Hill & Heron

03-25-2019

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	40	66	11	12	985	16	18	13	12	7	13
Future Volume (vph)	1	40	66	11	12	985	16	18	13	12	7	13
Satd. Flow (prot)	0	1658	3229	0	1658	3307	0	1658	1609	0	1658	1505
Flt Permitted		0.135			0.699			0.701			0.740	
Satd. Flow (perm)	0	235	3229	0	1202	3307	0	1219	1609	0	1289	1505
Satd. Flow (RTOR)			12			3			13			72
Lane Group Flow (vph)	0	45	85	0	13	1112	0	20	27	0	8	87
Turn Type	Perm	Perm	NA		Perm	NA		Perm	NA		Perm	NA
Protected Phases			4			8			2			6
Permitted Phases	4	4			8			2			6	
Detector Phase	4	4	4		8	8		2	2		6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0
Minimum Split (s)	24.3	24.3	24.3		24.3	24.3		35.1	35.1		35.1	35.1
Total Split (s)	55.0	55.0	55.0		55.0	55.0		35.1	35.1		35.1	35.1
Total Split (%)	61.0%	61.0%	61.0%		61.0%	61.0%		39.0%	39.0%		39.0%	39.0%
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)	2.0	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	None	None	None		None	None		Max	Max		Max	Max
Act Effct Green (s)		29.7	29.7		29.7	29.7		29.2	29.2		29.2	29.2
Actuated g/C Ratio		0.42	0.42		0.42	0.42		0.41	0.41		0.41	0.41
v/c Ratio		0.45	0.06		0.03	0.80		0.04	0.04		0.01	0.13
Control Delay		30.7	10.1		11.0	22.3		15.4	10.9		15.3	6.4
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Delay		30.7	10.1		11.0	22.3		15.4	10.9		15.3	6.4
LOS		C	B		B	C		B	B		B	A
Approach Delay			17.2			22.2			12.8			7.1
Approach LOS			B			C			B			A
Queue Length 50th (m)		4.3	3.0		1.0	67.3		1.6	1.1		0.6	1.2
Queue Length 95th (m)		15.0	6.5		3.8	89.4		6.6	6.6		3.7	10.7
Internal Link Dist (m)			295.8			838.3			333.5			187.5
Turn Bay Length (m)		55.0			55.0			22.0			35.0	
Base Capacity (vph)		167	2302		855	2355		506	676		535	667
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		0.27	0.04		0.02	0.47		0.04	0.04		0.01	0.13

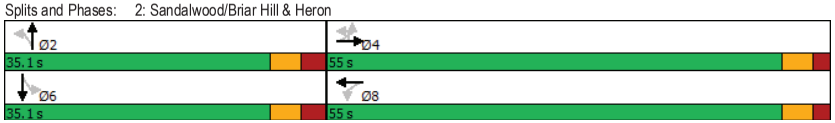
Intersection Summary
Cycle Length: 90.1
Actuated Cycle Length: 70.4
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.80

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	66
Future Volume (vph)	66
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Satd. Flow (RTOR)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Intersection Signal Delay: 20.4	Intersection LOS: C
Intersection Capacity Utilization 69.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: Sandalwood/Briar Hill & Heron

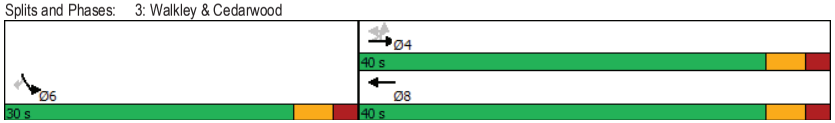


Lane Group	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	2	29	528	623	24	44	51
Future Volume (vph)	2	29	528	623	24	44	51
Satd. Flow (prot)	0	1658	3316	3292	0	1658	1483
Flt Permitted		0.289				0.950	
Satd. Flow (perm)	0	502	3316	3292	0	1649	1455
Satd. Flow (RTOR)				8			57
Lane Group Flow (vph)	0	34	587	719	0	49	57
Turn Type	Perm	Perm	NA	NA		Prot	Perm
Protected Phases			4	8		6	
Permitted Phases	4	4					6
Detector Phase	4	4	4	8		6	6
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	23.5	23.5	23.5	25.5		29.5	29.5
Total Split (s)	40.0	40.0	40.0	40.0		30.0	30.0
Total Split (%)	57.1%	57.1%	57.1%	57.1%		42.9%	42.9%
Yellow Time (s)	3.3	3.3	3.3	3.3		3.3	3.3
All-Red Time (s)	2.2	2.2	2.2	2.2		2.2	2.2
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None		Max	Max
Act Effct Green (s)		16.8	16.8	16.8		24.7	24.7
Actuated g/C Ratio		0.32	0.32	0.32		0.47	0.47
v/c Ratio		0.21	0.55	0.68		0.06	0.08
Control Delay		16.1	16.7	18.7		9.4	3.7
Queue Delay		0.0	0.0	0.0		0.0	0.0
Total Delay		16.1	16.7	18.7		9.4	3.7
LOS		B	B	B		A	A
Approach Delay			16.6	18.7		6.3	
Approach LOS			B	B		A	
Queue Length 50th (m)		2.4	24.6	31.3		2.5	0.0
Queue Length 95th (m)		8.0	36.9	46.2		8.4	5.5
Internal Link Dist (m)			340.4	238.6		352.9	
Turn Bay Length (m)		57.0				15.0	
Base Capacity (vph)		331	2192	2179		778	713
Starvation Cap Reductn		0	0	0		0	0
Spillback Cap Reductn		0	0	0		0	0
Storage Cap Reductn		0	0	0		0	0
Reduced v/c Ratio		0.10	0.27	0.33		0.06	0.08

Intersection Summary
Cycle Length: 70
Actuated Cycle Length: 52.5
Natural Cycle: 55
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.68

Intersection Signal Delay: 16.9 Intersection LOS: B
Intersection Capacity Utilization 56.4% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 3: Walkley & Cedarwood



Lanes, Volumes, Timings
4: Private/Baycrest & Walkley

03-25-2019

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	39	562	10	1	8	599	117	24	19	26	123	5
Future Volume (vph)	39	562	10	1	8	599	117	24	19	26	123	5
Satd. Flow (prot)	1658	3303	0	0	1658	3217	0	0	1609	0	1658	1483
Flt Permitted	0.247				0.351				0.912		0.707	
Satd. Flow (perm)	429	3303	0	0	608	3217	0	0	1488	0	1212	1483
Satd. Flow (RTOR)		3				43			29			50
Lane Group Flow (vph)	43	635	0	0	10	796	0	0	77	0	137	56
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		4				8			2			6
Permitted Phases	4			8	8			2			6	
Detector Phase	4	4		8	8	8		2	2		6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0		10.0	10.0		10.0	10.0
Minimum Split (s)	25.9	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	38.0		32.0	32.0		32.0	32.0
Total Split (%)	54.3%	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	3.3
All-Red Time (s)	2.6	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	None	None		None	None	None		Max	Max		Max	Max
Act Effct Green (s)	19.1	19.1			19.1	19.1			26.1		26.1	26.1
Actuated g/C Ratio	0.33	0.33			0.33	0.33			0.46		0.46	0.46
v/c Ratio	0.30	0.58			0.05	0.72			0.11		0.25	0.08
Control Delay	19.9	17.6			12.7	19.7			8.0		12.6	4.8
Queue Delay	0.0	0.0			0.0	0.0			0.0		0.0	0.0
Total Delay	19.9	17.6			12.7	19.7			8.0		12.6	4.8
LOS	B	B			B	B			A		B	A
Approach Delay		17.8				19.7			8.0			10.3
Approach LOS		B				B			A			B
Queue Length 50th (m)	3.4	29.1			0.7	36.9			2.8		8.6	0.3
Queue Length 95th (m)	10.7	42.6			3.4	53.6			11.0		23.0	6.3
Internal Link Dist (m)		238.6				1021.0			32.3			109.2
Turn Bay Length (m)	48.0				40.0						15.0	
Base Capacity (vph)	242	1866			343	1835			693		552	702
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	0.18	0.34			0.03	0.43			0.11		0.25	0.08

Intersection Summary
Cycle Length: 70
Actuated Cycle Length: 57.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.72

Lanes, Volumes, Timings
4: Private/Baycrest & Walkley

03-25-2019

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	45
Future Volume (vph)	45
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Satd. Flow (RTOR)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

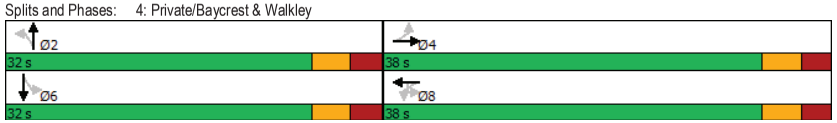
Intersection Summary

Lanes, Volumes, Timings
4: Private/Baycrest & Walkley

03-25-2019

Intersection Signal Delay: 17.4	Intersection LOS: B
Intersection Capacity Utilization 65.0%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: Private/Baycrest & Walkley



Lanes, Volumes, Timings
1: Alta Vista & Heron

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	596	81	137	965	186	58	241	13	118	246	138
Future Volume (vph)	97	596	81	137	965	186	58	241	13	118	246	138
Satd. Flow (prot)	1658	3256	0	1658	3316	1483	1658	1733	0	1658	1651	0
Flt Permitted	0.950			0.950			0.514			0.371		
Satd. Flow (perm)	1658	3256	0	1658	3316	1483	897	1733	0	647	1651	0
Satd. Flow (RTOR)		17				207		3			38	
Lane Group Flow (vph)	108	752	0	152	1072	207	64	282	0	131	426	0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases						8	2			6		
Detector Phase	7	4		3	8	8	2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	10.0	10.0		5.0	10.0	
Minimum Split (s)	10.4	22.5		10.4	22.5	22.5	29.9	29.9		9.5	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	Max		None	Max	Max	Max	Max		None	Max	
Act Effct Green (s)	7.6	28.6		7.6	28.6	28.6	24.5	24.5		38.7	37.1	
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	0.77	0.72		1.09	1.02	0.34	0.26	0.59		0.35	0.61	
Control Delay	75.4	31.2		142.6	64.1	5.1	29.6	34.4		18.9	23.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	75.4	31.2		142.6	64.1	5.1	29.6	34.4		18.9	23.2	
LOS	E	C		F	E	A	C	C		B	C	
Approach Delay		36.7			63.9			33.5			22.2	
Approach LOS		D			E			C			C	
Queue Length 50th (m)	19.6	61.7		~31.4	~105.3	0.0	9.2	44.4		14.3	53.8	
Queue Length 95th (m)	#47.4	83.0		#69.6	#150.0	15.2	20.6	71.2		26.2	85.6	
Internal Link Dist (m)		200.1			317.8			368.0			361.8	
Turn Bay Length (m)	65.0			57.0		75.0	21.0			38.0		
Base Capacity (vph)	140	1046		140	1053	612	244	474		375	702	
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	0.72		1.09	1.02	0.34	0.26	0.59		0.35	0.61	

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Natural Cycle: 90
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.09

Lanes, Volumes, Timings
1: Alta Vista & Heron

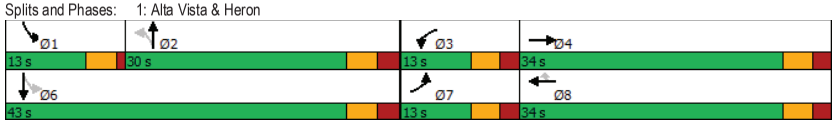
03-25-2019

Intersection Signal Delay: 46.0	Intersection LOS: D
Intersection Capacity Utilization 83.5%	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: 1: Alta Vista & Heron



Lanes, Volumes, Timings
2: Finn & Heron

03-25-2019

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	736	16	11	1213	32	16
Future Volume (vph)	736	16	11	1213	32	16
Satd. Flow (prot)	3306	0	1658	3316	1658	1483
Flt Permitted			0.337		0.950	
Satd. Flow (perm)	3306	0	588	3316	1658	1483
Satd. Flow (RTOR)	5					18
Lane Group Flow (vph)	836	0	12	1348	36	18
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	5.0	5.0
Minimum Split (s)	33.0		22.5	22.5	24.8	24.8
Total Split (s)	65.0		65.0	65.0	25.0	25.0
Total Split (%)	72.2%		72.2%	72.2%	27.8%	27.8%
Yellow Time (s)	3.3		3.3	3.3	3.3	3.3
All-Red Time (s)	2.7		2.7	2.7	2.5	2.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	5.8	5.8
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max		Max	Max	None	None
Act Effct Green (s)	67.4		67.4	67.4	7.2	7.2
Actuated g/C Ratio	0.85		0.85	0.85	0.09	0.09
v/c Ratio	0.30		0.02	0.48	0.24	0.12
Control Delay	2.7		2.9	3.7	36.8	16.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	2.7		2.9	3.7	36.8	16.8
LOS	A		A	A	D	B
Approach Delay	2.7			3.7	30.1	
Approach LOS	A			A	C	
Queue Length 50th (m)	16.7		0.4	34.4	5.3	0.0
Queue Length 95th (m)	26.8		1.6	53.6	14.0	6.1
Internal Link Dist (m)	317.8			954.9	272.9	
Turn Bay Length (m)			50.0		15.0	
Base Capacity (vph)	2805		499	2813	400	372
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.30		0.02	0.48	0.09	0.05

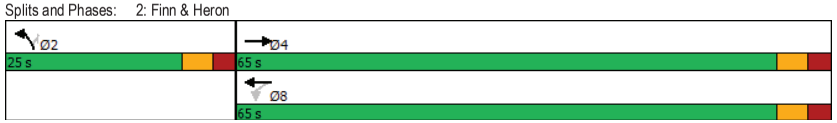
Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 79.4
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.48

Lanes, Volumes, Timings
2: Finn & Heron

03-25-2019

Intersection Signal Delay: 4.0	Intersection LOS: A
Intersection Capacity Utilization 49.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: Finn & Heron



Lanes, Volumes, Timings
3: HG Mall/Jefferson & Heron

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	587	44	12	926	25	29	29	25	28	24	72
Future Volume (vph)	31	587	44	12	926	25	29	29	25	28	24	72
Satd. Flow (prot)	1658	3316	1483	1658	3302	0	1658	1745	1483	0	1591	0
Flt Permitted	0.247			0.404			0.685				0.913	
Satd. Flow (perm)	431	3316	1483	705	3302	0	1195	1745	1483	0	1469	0
Satd. Flow (RTOR)			49		4				32		76	
Lane Group Flow (vph)	34	652	49	13	1057	0	32	32	28	0	138	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2		2	6		
Detector Phase	4	4	4	8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.6	30.6	30.6	30.6	30.6		35.2	35.2	35.2	35.2	35.2	
Total Split (s)	52.0	52.0	52.0	52.0	52.0		38.0	38.0	38.0	38.0	38.0	
Total Split (%)	57.8%	57.8%	57.8%	57.8%	57.8%		42.2%	42.2%	42.2%	42.2%	42.2%	
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	
Total Lost Time (s)	5.6	5.6	5.6	5.6	5.6		6.2	6.2	6.2		6.2	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max	Max	Max	Max		None	None	None	None	None	
Act Effct Green (s)	50.0	50.0	50.0	50.0	50.0		10.7	10.7	10.7		10.7	
Actuated g/C Ratio	0.69	0.69	0.69	0.69	0.69		0.15	0.15	0.15		0.15	
v/c Ratio	0.11	0.29	0.05	0.03	0.46		0.18	0.12	0.11		0.49	
Control Delay	5.3	4.9	1.6	4.2	6.1		28.1	26.3	10.2		19.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	5.3	4.9	1.6	4.2	6.1		28.1	26.3	10.2		19.7	
LOS	A	A	A	A	A		C	C	B		B	
Approach Delay		4.7			6.1			22.0			19.7	
Approach LOS		A			A			C			B	
Queue Length 50th (m)	1.3	15.0	0.0	0.5	28.6		3.8	3.8	0.0		7.5	
Queue Length 95th (m)	4.9	25.2	3.0	2.3	46.4		11.0	10.8	5.9		22.8	
Internal Link Dist (m)		954.9			280.8			63.4			133.2	
Turn Bay Length (m)	55.0		50.0	50.0			15.0					
Base Capacity (vph)	297	2286	1037	485	2277		526	769	671		690	
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	0.11	0.29	0.05	0.03	0.46		0.06	0.04	0.04		0.20	

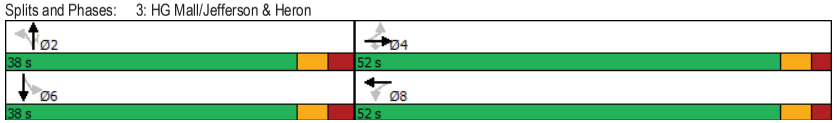
Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 72.5
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.49

Lanes, Volumes, Timings
3: HG Mall/Jefferson & Heron

03-25-2019

Intersection Signal Delay: 7.2	Intersection LOS: A
Intersection Capacity Utilization 52.0%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: HG Mall/Jefferson & Heron



Lanes, Volumes, Timings
4: Hampstead/Jim Durrell RC & Walkley

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	606	17	10	734	28	16	1	13	19	0	30
Future Volume (vph)	18	606	17	10	734	28	16	1	13	19	0	30
Satd. Flow (prot)	1658	3302	0	1658	3299	0	0	1601	0	1658	1483	0
Flt Permitted	0.334			0.389				0.812		0.736		
Satd. Flow (perm)	583	3302	0	679	3299	0	0	1336	0	1284	1483	0
Satd. Flow (RTOR)		5			7			14			117	
Lane Group Flow (vph)	20	692	0	11	847	0	0	33	0	21	33	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	32.1	32.1		32.1	32.1		29.9	29.9		29.9	29.9	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	57.1%	57.1%		57.1%	57.1%		42.9%	42.9%		42.9%	42.9%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.8	2.8		2.8	2.8		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1			5.9		5.9	5.9	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Act Effct Green (s)	46.4	46.4		46.4	46.4			10.1		10.1	10.1	
Actuated g/C Ratio	0.79	0.79		0.79	0.79			0.17		0.17	0.17	
v/c Ratio	0.04	0.27		0.02	0.33			0.14		0.10	0.09	
Control Delay	4.7	4.0		4.4	4.3			16.7		22.1	0.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	4.7	4.0		4.4	4.3			16.7		22.1	0.5	
LOS	A	A		A	A			B		C	A	
Approach Delay		4.1			4.3			16.7			8.9	
Approach LOS		A			A			B			A	
Queue Length 50th (m)	0.7	16.2		0.4	21.0			2.4		2.6	0.0	
Queue Length 95th (m)	2.9	24.2		1.9	31.0			8.0		6.9	0.0	
Internal Link Dist (m)		181.7			386.9			131.2			67.6	
Turn Bay Length (m)	60.0			54.0						25.0		
Base Capacity (vph)	457	2591		532	2590			557		528	678	
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	0.04	0.27		0.02	0.33			0.06		0.04	0.05	

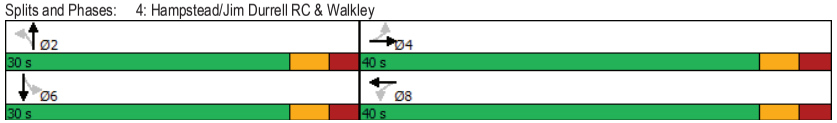
Intersection Summary
Cycle Length: 70
Actuated Cycle Length: 59.1
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.33

Lanes, Volumes, Timings
4: Hampstead/Jim Durrell RC & Walkley

03-25-2019

Intersection Signal Delay: 4.6	Intersection LOS: A
Intersection Capacity Utilization 40.9%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Hampstead/Jim Durrell RC & Walkley



Lanes, Volumes, Timings
5: Albion/Colliston & Walkley

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	482	129	92	596	12	116	1	87	11	5	8
Future Volume (vph)	8	482	129	92	596	12	116	1	87	11	5	8
Satd. Flow (prot)	1658	3316	1483	1658	3306	0	1658	1487	0	1658	1588	0
Flt Permitted	0.395			0.453			0.748			0.694		
Satd. Flow (perm)	689	3316	1483	791	3306	0	1305	1487	0	1211	1588	0
Satd. Flow (RTOR)			143		4			97			9	
Lane Group Flow (vph)	9	536	143	102	675	0	129	98	0	12	15	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0		29.2	29.2		29.2	29.2	
Total Split (s)	41.0	41.0	41.0	41.0	41.0		29.2	29.2		29.2	29.2	
Total Split (%)	58.4%	58.4%	58.4%	58.4%	58.4%		41.6%	41.6%		41.6%	41.6%	
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)	2.7	2.7	2.7	2.7	2.7		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	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.2	6.2		6.2	6.2	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max	Max	Max	Max		None	None		None	None	
Act Effct Green (s)	40.0	40.0	40.0	40.0	40.0		12.0	12.0		12.0	12.0	
Actuated g/C Ratio	0.67	0.67	0.67	0.67	0.67		0.20	0.20		0.20	0.20	
v/c Ratio	0.02	0.24	0.14	0.19	0.30		0.49	0.26		0.05	0.05	
Control Delay	6.1	6.0	1.8	7.6	6.4		27.9	7.1		19.0	13.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	6.1	6.0	1.8	7.6	6.4		27.9	7.1		19.0	13.6	
LOS	A	A	A	A	A		C	A		B	B	
Approach Delay		5.2			6.5			18.9			16.0	
Approach LOS		A			A			B			B	
Queue Length 50th (m)	0.4	12.8	0.0	4.5	16.8		13.1	0.1		1.1	0.6	
Queue Length 95th (m)	2.2	25.2	6.5	13.8	32.2		27.4	10.0		4.8	4.5	
Internal Link Dist (m)		386.9			832.0			135.7			92.3	
Turn Bay Length (m)	52.0		35.0	57.0			25.0			30.0		
Base Capacity (vph)	463	2229	1044	531	2224		505	635		469	620	
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	0.02	0.24	0.14	0.19	0.30		0.26	0.15		0.03	0.02	

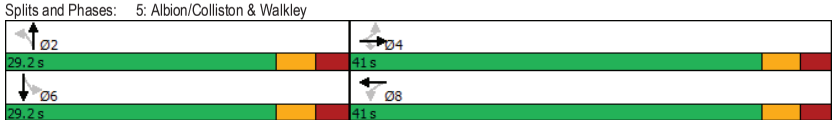
Intersection Summary
Cycle Length: 70.2
Actuated Cycle Length: 59.5
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.49

Lanes, Volumes, Timings
5: Albion/Colliston & Walkley

03-25-2019

Intersection Signal Delay: 7.8	Intersection LOS: A
Intersection Capacity Utilization 54.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 5: Albion/Colliston & Walkley



Lanes, Volumes, Timings
6: Heatherington/HG Mall & Walkley

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	534	118	80	524	26	146	22	99	14	11	35
Future Volume (vph)	67	534	118	80	524	26	146	22	99	14	11	35
Satd. Flow (prot)	1658	3226	0	1658	3316	1483	1658	1530	0	0	1588	0
Flt Permitted	0.433			0.369			0.713				0.903	
Satd. Flow (perm)	756	3226	0	644	3316	1483	1244	1530	0	0	1451	0
Satd. Flow (RTOR)		47				51		110			39	
Lane Group Flow (vph)	74	724	0	89	582	29	162	134	0	0	67	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	27.2	27.2		27.2	27.2	27.2	34.3	34.3		34.3	34.3	
Total Split (s)	36.0	36.0		36.0	36.0	36.0	34.3	34.3		34.3	34.3	
Total Split (%)	51.2%	51.2%		51.2%	51.2%	51.2%	48.8%	48.8%		48.8%	48.8%	
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)	2.9	2.9		2.9	2.9	2.9	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.2	6.2		6.2	6.2	6.2	6.3	6.3			6.3	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max	Max	None	None		None	None	
Act Effct Green (s)	32.6	32.6		32.6	32.6	32.6	13.1	13.1			13.1	
Actuated g/C Ratio	0.56	0.56		0.56	0.56	0.56	0.22	0.22			0.22	
v/c Ratio	0.17	0.40		0.25	0.31	0.03	0.58	0.31			0.19	
Control Delay	8.9	8.1		10.2	8.1	1.6	27.9	7.6			10.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay	8.9	8.1		10.2	8.1	1.6	27.9	7.6			10.5	
LOS	A	A		B	A	A	C	A			B	
Approach Delay		8.2			8.1			18.7			10.5	
Approach LOS		A			A			B			B	
Queue Length 50th (m)	3.4	18.7		4.3	15.4	0.0	15.0	2.0			2.3	
Queue Length 95th (m)	11.7	37.3		14.7	30.6	2.0	30.7	12.7			10.1	
Internal Link Dist (m)		832.0			331.8			119.9			86.2	
Turn Bay Length (m)	46.0			37.0			25.0					
Base Capacity (vph)	423	1825		360	1855	852	602	797			722	
Starvation Cap Reductn	0	0		0	0	0	0	0			0	
Spillback Cap Reductn	0	0		0	0	0	0	0			0	
Storage Cap Reductn	0	0		0	0	0	0	0			0	
Reduced v/c Ratio	0.17	0.40		0.25	0.31	0.03	0.27	0.17			0.09	

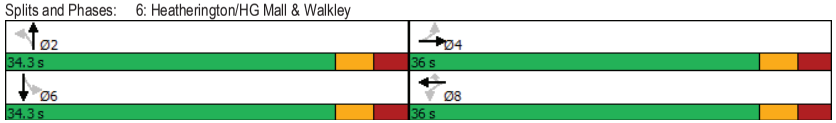
Intersection Summary
Cycle Length: 70.3
Actuated Cycle Length: 58.3
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.58

Lanes, Volumes, Timings
6: Heatherington/HG Mall & Walkley

03-25-2019

Intersection Signal Delay: 9.9	Intersection LOS: A
Intersection Capacity Utilization 60.4%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: Heatherington/HG Mall & Walkley



Lanes, Volumes, Timings
1: Baycrest/St Pats & Heron

03-25-2019

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	2	2	1019	233	25	928	13	148	2	37	19	7
Future Volume (vph)	2	2	1019	233	25	928	13	148	2	37	19	7
Satd. Flow (prot)	0	1658	3188	0	1658	3307	0	0	1628	0	1658	1657
Flt Permitted		0.229			0.134				0.763		0.682	
Satd. Flow (perm)	0	398	3188	0	233	3307	0	0	1266	0	1185	1657
Satd. Flow (RTOR)			50			2			15			3
Lane Group Flow (vph)	0	4	1391	0	28	1045	0	0	207	0	21	11
Turn Type	Perm	Perm	NA		Perm	NA		Perm	NA		Perm	NA
Protected Phases			4			8			2			6
Permitted Phases	4	4			8			2			6	
Detector Phase	4	4	4		8	8		2	2		6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0
Minimum Split (s)	27.7	27.7	27.7		27.7	27.7		35.0	35.0		35.0	35.0
Total Split (s)	55.0	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%	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	3.3
All-Red Time (s)	1.4	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	Max	Max	Max		Max	Max		None	None		None	None
Act Effct Green (s)		51.9	51.9		51.9	51.9			19.3		19.3	19.3
Actuated g/C Ratio		0.63	0.63		0.63	0.63			0.24		0.24	0.24
v/c Ratio		0.02	0.68		0.19	0.50			0.67		0.08	0.03
Control Delay		8.8	13.1		13.2	10.4			36.4		22.7	18.8
Queue Delay		0.0	0.0		0.0	0.0			0.0		0.0	0.0
Total Delay		8.8	13.1		13.2	10.4			36.4		22.7	18.8
LOS		A	B		B	B			D		C	B
Approach Delay			13.1			10.5			36.4			21.3
Approach LOS			B			B			D			C
Queue Length 50th (m)		0.2	59.7		1.6	38.7			27.9		2.6	1.0
Queue Length 95th (m)		1.8	122.1		8.3	78.3			49.9		8.0	4.8
Internal Link Dist (m)			327.1			295.8			181.0			16.2
Turn Bay Length (m)		45.0			50.0							
Base Capacity (vph)		251	2037		147	2095			460		422	592
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		0.02	0.68		0.19	0.50			0.45		0.05	0.02

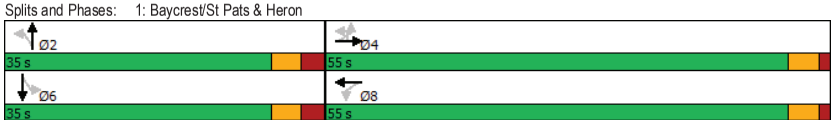
Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 81.9
Natural Cycle: 75
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.68

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	3
Future Volume (vph)	3
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Satd. Flow (RTOR)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Intersection Signal Delay: 13.9	Intersection LOS: B
Intersection Capacity Utilization 66.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: Baycrest/St Pats & Heron



Lanes, Volumes, Timings
2: Sandalwood/Briar Hill & Heron

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	1104	14	24	949	18	8	21	30	8	26	41
Future Volume (vph)	60	1104	14	24	949	18	8	21	30	8	26	41
Satd. Flow (prot)	1658	3307	0	1658	3303	0	1658	1568	0	1658	1550	0
Flt Permitted	0.249			0.202			0.708			0.720		
Satd. Flow (perm)	433	3307	0	352	3303	0	1209	1568	0	1241	1550	0
Satd. Flow (RTOR)		2			3			33			46	
Lane Group Flow (vph)	67	1243	0	27	1074	0	9	56	0	9	75	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	24.3	24.3		24.3	24.3		35.1	35.1		35.1	35.1	
Total Split (s)	55.0	55.0		55.0	55.0		35.1	35.1		35.1	35.1	
Total Split (%)	61.0%	61.0%		61.0%	61.0%		39.0%	39.0%		39.0%	39.0%	
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	Max	Max		Max	Max		None	None		None	None	
Act Effct Green (s)	57.3	57.3		57.3	57.3		10.1	10.1		10.1	10.1	
Actuated g/C Ratio	0.77	0.77		0.77	0.77		0.14	0.14		0.14	0.14	
v/c Ratio	0.20	0.49		0.10	0.42		0.06	0.23		0.05	0.30	
Control Delay	5.5	5.1		4.5	4.6		27.6	17.7		27.6	17.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	5.5	5.1		4.5	4.6		27.6	17.7		27.6	17.5	
LOS	A	A		A	A		C	B		C	B	
Approach Delay		5.2			4.6			19.1			18.6	
Approach LOS		A			A			B			B	
Queue Length 50th (m)	2.7	35.7		1.0	28.6		1.2	3.0		1.2	3.7	
Queue Length 95th (m)	7.6	49.0		3.5	39.1		5.1	12.7		5.1	14.8	
Internal Link Dist (m)		295.8			838.3			333.5			187.5	
Turn Bay Length (m)	55.0			55.0			22.0			35.0		
Base Capacity (vph)	334	2551		271	2548		475	636		487	636	
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	0.20	0.49		0.10	0.42		0.02	0.09		0.02	0.12	

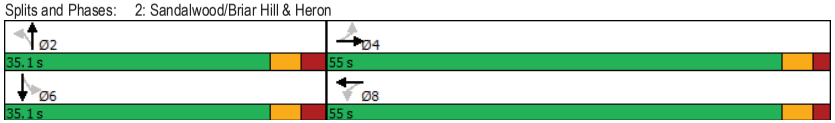
Intersection Summary
Cycle Length: 90.1
Actuated Cycle Length: 74.3
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.49

Lanes, Volumes, Timings
2: Sandalwood/Briar Hill & Heron

03-25-2019

Intersection Signal Delay: 5.7 — Intersection LOS: A
Intersection Capacity Utilization 72.5% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 2: Sandalwood/Briar Hill & Heron

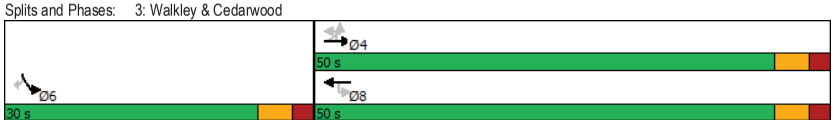


Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	1	78	655	2	851	35	44	91
Future Volume (vph)	1	78	655	2	851	35	44	91
Satd. Flow (prot)	0	1658	3316	0	3288	0	1658	1483
Flt Permitted		0.277			0.954		0.950	
Satd. Flow (perm)	0	480	3316	0	3137	0	1645	1429
Satd. Flow (RTOR)					8			94
Lane Group Flow (vph)	0	88	728	0	987	0	49	101
Turn Type	Perm	Perm	NA	Perm	NA		Prot	Perm
Protected Phases			4		8		6	
Permitted Phases	4	4		8				6
Detector Phase	4	4	4	8	8		6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	23.5	23.5	23.5	25.5	25.5		29.5	29.5
Total Split (s)	50.0	50.0	50.0	50.0	50.0		30.0	30.0
Total Split (%)	62.5%	62.5%	62.5%	62.5%	62.5%		37.5%	37.5%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2		2.2	2.2
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0
Total Lost Time (s)		5.5	5.5		5.5		5.5	5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max		None	None
Act Effct Green (s)		48.6	48.6		48.6		10.0	10.0
Actuated g/C Ratio		0.74	0.74		0.74		0.15	0.15
v/c Ratio		0.25	0.30		0.42		0.19	0.34
Control Delay		6.3	4.2		5.0		26.5	10.8
Queue Delay		0.0	0.0		0.0		0.0	0.0
Total Delay		6.3	4.2		5.0		26.5	10.8
LOS		A	A		A		C	B
Approach Delay			4.4		5.0		15.9	
Approach LOS			A		A		B	
Queue Length 50th (m)		3.6	16.4		25.0		5.5	0.8
Queue Length 95th (m)		9.8	23.4		35.4		14.3	12.9
Internal Link Dist (m)			340.4		238.6		352.9	
Turn Bay Length (m)		57.0					15.0	
Base Capacity (vph)		357	2465		2334		621	594
Starvation Cap Reductn		0	0		0		0	0
Spillback Cap Reductn		0	0		0		0	0
Storage Cap Reductn		0	0		0		0	0
Reduced v/c Ratio		0.25	0.30		0.42		0.08	0.17

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 65.4
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.42

Intersection Signal Delay: 5.6 Intersection LOS: A
Intersection Capacity Utilization 73.9% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Walkley & Cedarwood



Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	54	619	18	3	22	788	145	17	11	19	120
Future Volume (vph)	1	54	619	18	3	22	788	145	17	11	19	120
Satd. Flow (prot)	0	1658	3295	0	0	1658	3200	0	0	1597	0	1658
Flt Permitted		0.238				0.371				0.881		0.723
Satd. Flow (perm)	0	411	3295	0	0	634	3200	0	0	1413	0	1236
Satd. Flow (RTOR)			5				40			21		
Lane Group Flow (vph)	0	61	708	0	0	27	1037	0	0	52	0	133
Turn Type	Perm	Perm	NA		Perm	Perm	NA		Perm	NA		Perm
Protected Phases			4				8			2		
Permitted Phases	4	4			8	8			2			6
Detector Phase	4	4	4		8	8	8		2	2		6
Switch Phase												
Minimum Initial (s)	10.0	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	25.9	25.9		31.1	31.1		31.1
Total Split (s)	48.0	48.0	48.0		48.0	48.0	48.0		32.0	32.0		32.0
Total Split (%)	60.0%	60.0%	60.0%		60.0%	60.0%	60.0%		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
All-Red Time (s)	2.6	2.6	2.6		2.6	2.6	2.6		2.8	2.8		2.8
Lost Time Adjust (s)		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
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max	Max		Max	Max	Max		None	None		None
Act Effct Green (s)		47.6	47.6			47.6	47.6			18.5		18.5
Actuated g/C Ratio		0.65	0.65			0.65	0.65			0.25		0.25
v/c Ratio		0.23	0.33			0.07	0.49			0.14		0.43
Control Delay		12.8	9.2			9.5	10.6			14.2		26.5
Queue Delay		0.0	0.0			0.0	0.0			0.0		0.0
Total Delay		12.8	9.2			9.5	10.6			14.2		26.5
LOS		B	A			A	B			B		C
Approach Delay			9.5				10.6			14.2		
Approach LOS			A				B			B		
Queue Length 50th (m)		4.9	32.4			2.0	53.1			3.4		16.0
Queue Length 95th (m)		13.6	44.8			6.1	72.1			11.3		31.1
Internal Link Dist (m)			238.6				1021.0			32.3		
Turn Bay Length (m)		48.0				40.0						15.0
Base Capacity (vph)		267	2148			413	2098			519		442
Starvation Cap Reductn		0	0			0	0			0		0
Spillback Cap Reductn		0	0			0	0			0		0
Storage Cap Reductn		0	0			0	0			0		0
Reduced v/c Ratio		0.23	0.33			0.07	0.49			0.10		0.30

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 73.1
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.49

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	18	60
Future Volume (vph)	18	60
Satd. Flow (prot)	1477	0
Flt Permitted		
Satd. Flow (perm)	1477	0
Satd. Flow (RTOR)	67	
Lane Group Flow (vph)	87	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	10.0	
Minimum Split (s)	31.1	
Total Split (s)	32.0	
Total Split (%)	40.0%	
Yellow Time (s)	3.3	
All-Red Time (s)	2.8	
Lost Time Adjust (s)	0.0	
Total Lost Time (s)	6.1	
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	None	
Act Effct Green (s)	18.5	
Actuated g/C Ratio	0.25	
v/c Ratio	0.21	
Control Delay	9.1	
Queue Delay	0.0	
Total Delay	9.1	
LOS	A	
Approach Delay	19.6	
Approach LOS	B	
Queue Length 50th (m)	2.2	
Queue Length 95th (m)	12.1	
Internal Link Dist (m)	109.2	
Turn Bay Length (m)		
Base Capacity (vph)	572	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.15	

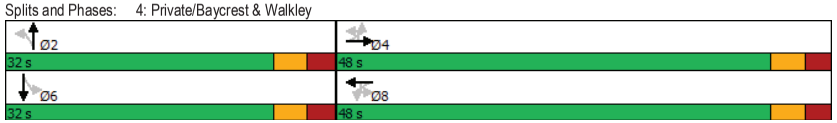
Intersection Summary

Lanes, Volumes, Timings
4: Private/Baycrest & Walkley

03-25-2019

Intersection Signal Delay: 11.2	Intersection LOS: B
Intersection Capacity Utilization 70.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: Private/Baycrest & Walkley



Lanes, Volumes, Timings
1: Alta Vista & Heron

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	928	39	107	928	152	21	208	118	174	413	138
Future Volume (vph)	139	928	39	107	928	152	21	208	118	174	413	138
Satd. Flow (prot)	1658	3296	0	1658	3316	1483	1658	1651	0	1658	1679	0
Flt Permitted	0.950			0.950			0.266			0.277		
Satd. Flow (perm)	1658	3296	0	1658	3316	1483	464	1651	0	483	1679	0
Satd. Flow (RTOR)		3				135		22			16	
Lane Group Flow (vph)	154	1074	0	119	1031	169	23	362	0	193	612	0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases						8	2			6		
Detector Phase	7	4		3	8	8	2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	10.0	10.0		5.0	10.0	
Minimum Split (s)	10.4	22.5		10.4	22.5	22.5	29.9	29.9		9.5	29.9	
Total Split (s)	19.0	49.0		19.0	49.0	49.0	44.0	44.0		18.0	62.0	
Total Split (%)	14.6%	37.7%		14.6%	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	Max		None	Max	Max	Max	Max		None	Max	
Act Effct Green (s)	13.5	44.6		12.6	43.6	43.6	39.0	39.0		57.7	56.1	
Actuated g/C Ratio	0.10	0.34		0.10	0.34	0.34	0.30	0.30		0.44	0.43	
v/c Ratio	0.90	0.95		0.74	0.93	0.29	0.17	0.71		0.58	0.83	
Control Delay	103.1	58.8		84.0	56.2	9.5	38.1	47.0		30.6	43.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	103.1	58.8		84.0	56.2	9.5	38.1	47.0		30.6	43.6	
LOS	F	E		F	E	A	D	D		C	D	
Approach Delay		64.3			52.7			46.5			40.4	
Approach LOS		E			D			D			D	
Queue Length 50th (m)	41.7	149.4		31.5	140.6	6.2	4.6	82.8		32.2	141.2	
Queue Length 95th (m)	#83.1	#197.2		#59.0	#183.3	23.5	12.9	120.6		50.1	#201.4	
Internal Link Dist (m)		200.1			317.8			368.0			361.8	
Turn Bay Length (m)	65.0			57.0		75.0	21.0			38.0		
Base Capacity (vph)	173	1132		173	1113	587	138	511		338	733	
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	0.89	0.95		0.69	0.93	0.29	0.17	0.71		0.57	0.83	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 129.9
Natural Cycle: 90
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.95

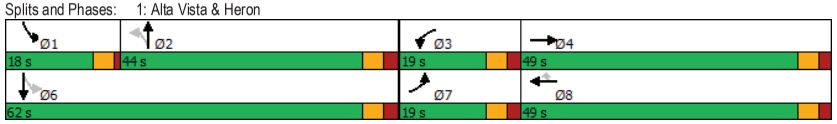
Lanes, Volumes, Timings
1: Alta Vista & Heron

03-25-2019

Intersection Signal Delay: 53.3	Intersection LOS: D
Intersection Capacity Utilization 94.2%	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: 1: Alta Vista & Heron



Lanes, Volumes, Timings
2: Finn & Heron

03-25-2019

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1191	30	14	1114	9	10
Future Volume (vph)	1191	30	14	1114	9	10
Satd. Flow (prot)	3302	0	1658	3316	1658	1483
Flt Permitted			0.190		0.950	
Satd. Flow (perm)	3302	0	332	3316	1658	1483
Satd. Flow (RTOR)	6					11
Lane Group Flow (vph)	1356	0	16	1238	10	11
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	5.0	5.0
Minimum Split (s)	33.0		22.5	22.5	24.8	24.8
Total Split (s)	65.0		65.0	65.0	25.0	25.0
Total Split (%)	72.2%		72.2%	72.2%	27.8%	27.8%
Yellow Time (s)	3.3		3.3	3.3	3.3	3.3
All-Red Time (s)	2.7		2.7	2.7	2.5	2.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	5.8	5.8
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max		Max	Max	None	None
Act Effct Green (s)	71.5		71.5	71.5	6.1	6.1
Actuated g/C Ratio	0.91		0.91	0.91	0.08	0.08
v/c Ratio	0.45		0.05	0.41	0.08	0.09
Control Delay	2.5		2.4	2.3	34.3	19.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	2.5		2.4	2.3	34.3	19.6
LOS	A		A	A	C	B
Approach Delay	2.5			2.3	26.6	
Approach LOS	A			A	C	
Queue Length 50th (m)	0.0		0.0	0.0	1.5	0.0
Queue Length 95th (m)	46.3		1.9	39.9	6.1	4.7
Internal Link Dist (m)	317.8			954.9	272.9	
Turn Bay Length (m)			50.0		15.0	
Base Capacity (vph)	2987		300	2999	402	368
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.45		0.05	0.41	0.02	0.03

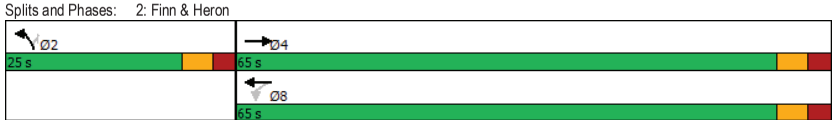
Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 79
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.45

Lanes, Volumes, Timings
2: Finn & Heron

03-25-2019

Intersection Signal Delay: 2.6	Intersection LOS: A
Intersection Capacity Utilization 49.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: Finn & Heron



Lanes, Volumes, Timings
3: HG Mall/Jefferson & Heron

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	918	96	38	863	43	73	78	72	37	49	43
Future Volume (vph)	76	918	96	38	863	43	73	78	72	37	49	43
Satd. Flow (prot)	1658	3316	1483	1658	3292	0	1658	1745	1483	0	1643	0
Flt Permitted	0.261			0.257			0.664				0.873	
Satd. Flow (perm)	455	3316	1483	448	3292	0	1159	1745	1483	0	1455	0
Satd. Flow (RTOR)			107		9				80		30	
Lane Group Flow (vph)	84	1020	107	42	1007	0	81	87	80	0	143	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2		2	6		
Detector Phase	4	4	4	8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.6	30.6	30.6	30.6	30.6		35.2	35.2	35.2	35.2	35.2	
Total Split (s)	55.0	55.0	55.0	55.0	55.0		35.2	35.2	35.2	35.2	35.2	
Total Split (%)	61.0%	61.0%	61.0%	61.0%	61.0%		39.0%	39.0%	39.0%	39.0%	39.0%	
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	
Total Lost Time (s)	5.6	5.6	5.6	5.6	5.6		6.2	6.2	6.2		6.2	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max	Max	Max	Max		None	None	None	None	None	
Act Effct Green (s)	52.3	52.3	52.3	52.3	52.3		12.0	12.0	12.0		12.0	
Actuated g/C Ratio	0.69	0.69	0.69	0.69	0.69		0.16	0.16	0.16		0.16	
v/c Ratio	0.27	0.45	0.10	0.14	0.45		0.45	0.32	0.27		0.56	
Control Delay	8.1	6.5	1.4	6.2	6.4		35.7	30.2	9.2		31.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	8.1	6.5	1.4	6.2	6.4		35.7	30.2	9.2		31.2	
LOS	A	A	A	A	A		D	C	A		C	
Approach Delay		6.1			6.4			25.2			31.2	
Approach LOS		A			A			C			C	
Queue Length 50th (m)	3.8	28.6	0.0	1.7	27.8		10.7	11.2	0.0		15.0	
Queue Length 95th (m)	13.0	50.8	4.9	6.6	49.7		23.4	23.5	10.7		32.0	
Internal Link Dist (m)		954.9			280.8			63.4			133.2	
Turn Bay Length (m)	55.0		50.0	50.0			15.0					
Base Capacity (vph)	312	2276	1051	307	2262		443	667	617		575	
Starvation Cap Reductn	0	0	0	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.27	0.45	0.10	0.14	0.45		0.18	0.13	0.13		0.25	

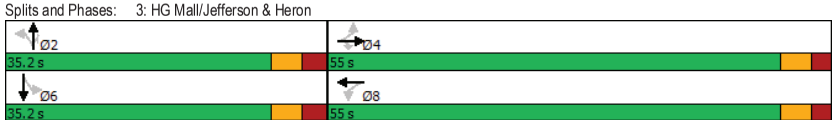
Intersection Summary
Cycle Length: 90.2
Actuated Cycle Length: 76.2
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.56

Lanes, Volumes, Timings
3: HG Mall/Jefferson & Heron

03-25-2019

Intersection Signal Delay: 9.4	Intersection LOS: A
Intersection Capacity Utilization 63.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: HG Mall/Jefferson & Heron



Lanes, Volumes, Timings
4: Hampstead/Jim Durrell RC & Walkley

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	750	15	10	910	39	8	0	11	22	1	41
Future Volume (vph)	41	750	15	10	910	39	8	0	11	22	1	41
Satd. Flow (prot)	1658	3306	0	1658	3296	0	0	1577	0	1658	1489	0
Flt Permitted	0.262			0.333				0.839		0.744		
Satd. Flow (perm)	457	3306	0	581	3296	0	0	1351	0	1298	1489	0
Satd. Flow (RTOR)		4			8			42			46	
Lane Group Flow (vph)	46	850	0	11	1054	0	0	21	0	24	47	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	32.1	32.1		32.1	32.1		29.9	29.9		29.9	29.9	
Total Split (s)	50.0	50.0		50.0	50.0		30.0	30.0		30.0	30.0	
Total Split (%)	62.5%	62.5%		62.5%	62.5%		37.5%	37.5%		37.5%	37.5%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.8	2.8		2.8	2.8		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1			5.9		5.9	5.9	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Act Effct Green (s)	56.0	56.0		56.0	56.0			10.1		10.1	10.1	
Actuated g/C Ratio	0.81	0.81		0.81	0.81			0.15		0.15	0.15	
v/c Ratio	0.12	0.32		0.02	0.39			0.09		0.13	0.18	
Control Delay	4.7	3.7		3.8	4.1			4.9		27.6	10.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	4.7	3.7		3.8	4.1			4.9		27.6	10.9	
LOS	A	A		A	A			A		C	B	
Approach Delay		3.8			4.1			4.9			16.6	
Approach LOS		A			A			A			B	
Queue Length 50th (m)	1.8	21.3		0.4	28.6			0.0		3.4	0.2	
Queue Length 95th (m)	5.5	30.0		1.8	40.1			3.1		8.9	8.3	
Internal Link Dist (m)		181.7			386.9			131.2			67.6	
Turn Bay Length (m)	60.0			54.0						25.0		
Base Capacity (vph)	372	2691		473	2684			503		457	554	
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	0.32		0.02	0.39			0.04		0.05	0.08	

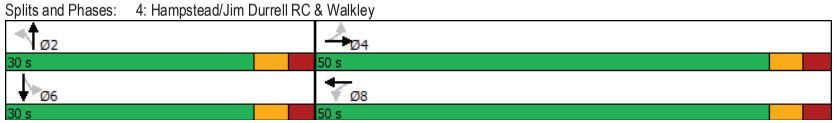
Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 68.8
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.39

Lanes, Volumes, Timings
4: Hampstead/Jim Durrell RC & Walkley

03-25-2019

Intersection Signal Delay: 4.4	Intersection LOS: A
Intersection Capacity Utilization 54.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Hampstead/Jim Durrell RC & Walkley



Lanes, Volumes, Timings
5: Albion/Colliston & Walkley

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	644	131	149	802	20	168	6	78	9	4	0
Future Volume (vph)	17	644	131	149	802	20	168	6	78	9	4	0
Satd. Flow (prot)	1658	3316	1483	1658	3302	0	1658	1503	0	1658	1745	0
Flt Permitted	0.284			0.368			0.755			0.696		
Satd. Flow (perm)	496	3316	1483	642	3302	0	1318	1503	0	1215	1745	0
Satd. Flow (RTOR)			146		5			87				
Lane Group Flow (vph)	19	716	146	166	913	0	187	94	0	10	4	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0		29.2	29.2		29.2	29.2	
Total Split (s)	50.0	50.0	50.0	50.0	50.0		30.0	30.0		30.0	30.0	
Total Split (%)	62.5%	62.5%	62.5%	62.5%	62.5%		37.5%	37.5%		37.5%	37.5%	
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)	2.7	2.7	2.7	2.7	2.7		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	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.2	6.2		6.2	6.2	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max	Max	Max	Max		None	None		None	None	
Act Effct Green (s)	47.0	47.0	47.0	47.0	47.0		15.8	15.8		15.8	15.8	
Actuated g/C Ratio	0.63	0.63	0.63	0.63	0.63		0.21	0.21		0.21	0.21	
v/c Ratio	0.06	0.34	0.15	0.41	0.44		0.68	0.24		0.04	0.01	
Control Delay	7.9	8.0	1.9	12.5	8.8		38.8	7.9		21.4	20.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	7.9	8.0	1.9	12.5	8.8		38.8	7.9		21.4	20.8	
LOS	A	A	A	B	A		D	A		C	C	
Approach Delay		7.0			9.4			28.5			21.2	
Approach LOS		A			A			C			C	
Queue Length 50th (m)	1.0	22.8	0.0	10.7	31.4		24.3	0.8		1.1	0.5	
Queue Length 95th (m)	4.5	43.1	7.4	32.0	58.0		44.3	11.2		4.7	2.6	
Internal Link Dist (m)		386.9			832.0			135.7			92.3	
Turn Bay Length (m)	52.0		35.0	57.0			25.0			30.0		
Base Capacity (vph)	310	2076	982	401	2069		420	538		387	556	
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	0.06	0.34	0.15	0.41	0.44		0.45	0.17		0.03	0.01	

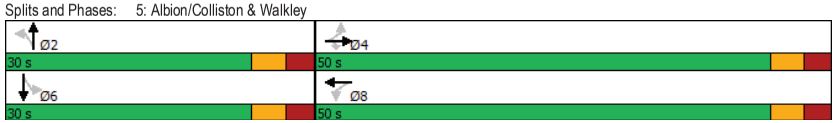
Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 75
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.68

Lanes, Volumes, Timings
5: Albion/Colliston & Walkley

03-25-2019

Intersection Signal Delay: 10.9	Intersection LOS: B
Intersection Capacity Utilization 64.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: Albion/Colliston & Walkley



Lanes, Volumes, Timings
6: Heatherington/HG Mall & Walkley

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	516	138	110	734	49	127	35	97	46	38	102
Future Volume (vph)	102	516	138	110	734	49	127	35	97	46	38	102
Satd. Flow (prot)	1658	3210	0	1658	3316	1483	1658	1553	0	0	1597	0
Flt Permitted	0.233			0.376			0.568				0.881	
Satd. Flow (perm)	407	3210	0	656	3316	1483	991	1553	0	0	1424	0
Satd. Flow (RTOR)		59				129		108			85	
Lane Group Flow (vph)	113	726	0	122	816	54	141	147	0	0	206	0
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	11.2	27.2		27.2	27.2	27.2	34.3	34.3		33.3	33.3	
Total Split (s)	12.0	46.0		34.0	34.0	34.0	34.3	34.3		33.3	33.3	
Total Split (%)	14.9%	57.3%		42.3%	42.3%	42.3%	42.7%	42.7%		41.5%	41.5%	
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)	2.9	2.9		2.9	2.9	2.9	3.0	3.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.2	6.2		6.2	6.2	6.2	6.3	6.3			5.3	
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Recall Mode	None	Max		Max	Max	Max	None	None		None	None	
Act Effct Green (s)	40.1	40.1		30.6	30.6	30.6	14.5	14.5			15.5	
Actuated g/C Ratio	0.60	0.60		0.46	0.46	0.46	0.22	0.22			0.23	
v/c Ratio	0.32	0.37		0.41	0.54	0.07	0.66	0.35			0.52	
Control Delay	9.5	7.7		20.9	16.7	0.2	39.3	10.1			18.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay	9.5	7.7		20.9	16.7	0.2	39.3	10.1			18.0	
LOS	A	A		C	B	A	D	B			B	
Approach Delay		7.9			16.3			24.4			18.0	
Approach LOS		A			B			C			B	
Queue Length 50th (m)	5.5	20.0		10.8	41.0	0.0	16.9	4.1			13.3	
Queue Length 95th (m)	15.1	39.8		30.4	70.0	0.0	34.2	17.0			31.3	
Internal Link Dist (m)		832.0			331.8			119.9			86.2	
Turn Bay Length (m)	46.0			37.0			25.0					
Base Capacity (vph)	351	1941		298	1511	746	415	713			666	
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	0.37		0.41	0.54	0.07	0.34	0.21			0.31	

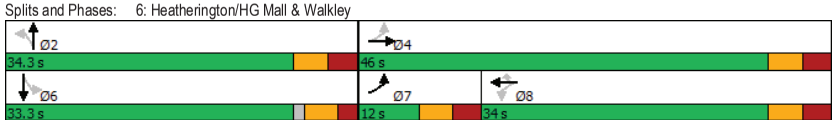
Intersection Summary
Cycle Length: 80.3
Actuated Cycle Length: 67.1
Natural Cycle: 75
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.66

Lanes, Volumes, Timings
6: Heatherington/HG Mall & Walkley

03-25-2019

Intersection Signal Delay: 14.4	Intersection LOS: B
Intersection Capacity Utilization 67.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Heatherington/HG Mall & Walkley



Appendix D

Collision Data

Record	Location	X	Y	Date	Time	Environment	Road_Surface	Traffic_Control	Collision_Location	Light	Collision_Classification	Impact_type
5318	BAYCREST DR @ CEDARWOOD DR	371231.104	5026788.847	2015-01-23	16:00	01 - Clear	02 - Wet	02 - Stop sign	02 - Intersection related	05 - Dusk	03 - P.D. only	03 - Rear end
13-7582	BAYCREST DR @ CEDARWOOD DR	371233.3234	5026789.132	2013-07-31	13:16	01 - Clear	01 - Dry	02 - Stop sign	02 - Intersection related	01 - Daylight	03 - P.D. only	02 - Angle
1493	BAYCREST DR @ CEDARWOOD DR	371229.7263	5026790.778	2016-12-26	14:35	04 - Freezing Rain	06 - Ice	02 - Stop sign	03 - At intersection	01 - Daylight	03 - P.D. only	02 - Angle
1518	BAYCREST DR @ CEDARWOOD DR	371226.9003	5026791.929	2017-09-17	9:06	01 - Clear	01 - Dry	02 - Stop sign	02 - Intersection related	01 - Daylight	03 - P.D. only	06 - SMV unattended vehicle
4205	BAYCREST DR @ SANDALWOOD DR	371355.0255	5026707.014	2015-02-10	20:11	01 - Clear	01 - Dry	03 - Yield sign	02 - Intersection related	07 - Dark	03 - P.D. only	99 - Other
13-9078	BAYCREST DR @ SANDALWOOD DR	371360.0265	5026706.743	2013-09-15	23:18	01 - Clear	02 - Wet	03 - Yield sign	04 - At/near private drive	07 - Dark	03 - P.D. only	99 - Other
1494	BAYCREST DR @ SANDALWOOD DR	371357.4286	5026703.627	2016-10-29	12:28	01 - Clear	02 - Wet	03 - Yield sign	02 - Intersection related	01 - Daylight	03 - P.D. only	02 - Angle
1519	BAYCREST DR @ SANDALWOOD DR	371354.1784	5026704.411	2017-09-21	0:00	01 - Clear	01 - Dry	03 - Yield sign	02 - Intersection related	00 - Unknown	03 - P.D. only	06 - SMV unattended vehicle
4455	BAYCREST DR @ WALKLEY RD	371420.7667	5026591.009	2015-03-17	18:40	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	07 - Dark	03 - P.D. only	02 - Angle
4564	BAYCREST DR @ WALKLEY RD	371421.7306	5026590.167	2015-06-11	0:26	01 - Clear	02 - Wet	01 - Traffic signal	02 - Intersection related	07 - Dark	03 - P.D. only	03 - Rear end
7755	BAYCREST DR @ WALKLEY RD	371421.8485	5026590.071	2015-04-02	14:49	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
1654	BAYCREST DR @ WALKLEY RD	371422.2045	5026589.579	2014-10-06	9:29	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	02 - Non-fatal injury	03 - Rear end
2916	BAYCREST DR @ WALKLEY RD	371420.7167	5026591.287	2014-01-06	2:48	04 - Freezing Rain	06 - Ice	01 - Traffic signal	03 - At intersection	07 - Dark	03 - P.D. only	07 - SMV other
4773	BAYCREST DR @ WALKLEY RD	371422.2045	5026588.631	2014-02-25	16:50	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	02 - Angle
4777	BAYCREST DR @ WALKLEY RD	371420.3088	5026591.475	2014-02-07	15:30	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
9070	BAYCREST DR @ WALKLEY RD	371421.7306	5026590.78	2014-08-12	8:10	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	02 - Angle
10776	BAYCREST DR @ WALKLEY RD	371423.1524	5026589.579	2014-09-29	17:00	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
13-2152	BAYCREST DR @ WALKLEY RD	371420.8313	5026595.792	2013-02-16	16:38	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	02 - Non-fatal injury	02 - Angle
13-2617	BAYCREST DR @ WALKLEY RD	371428.9249	5026594.982	2013-02-27	22:21	03 - Snow	03 - Loose snow	01 - Traffic signal	03 - At intersection	07 - Dark	02 - Non-fatal injury	07 - SMV other
13-4283	BAYCREST DR @ WALKLEY RD	371432.522	5026596.602	2013-04-21	18:40	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
13-5102	BAYCREST DR @ WALKLEY RD	371419.0328	5026590.932	2013-05-18	2:54	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	07 - Dark	03 - P.D. only	03 - Rear end
13-8616	BAYCREST DR @ WALKLEY RD	371424.4285	5026599.842	2013-09-02	12:16	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	02 - Angle
13-8848	BAYCREST DR @ WALKLEY RD	371421.7306	5026590.932	2013-09-09	14:47	01 - Clear	01 - Dry	01 - Traffic signal	04 - At/near private drive	01 - Daylight	03 - P.D. only	02 - Angle
13-9527	BAYCREST DR @ WALKLEY RD	371421.7306	5026590.122	2013-09-27	16:37	01 - Clear	01 - Dry	01 - Traffic signal	01 - Non intersection	01 - Daylight	02 - Non-fatal injury	03 - Rear end
13-10539	BAYCREST DR @ WALKLEY RD	371419.9321	5026588.502	2013-10-26	11:59	02 - Rain	02 - Wet	01 - Traffic signal	02 - Intersection related	01 - Daylight	02 - Non-fatal injury	07 - SMV other
13-10619	BAYCREST DR @ WALKLEY RD	371423.5292	5026594.982	2013-10-28	14:55	01 - Clear	01 - Dry	01 - Traffic signal	01 - Non intersection	01 - Daylight	03 - P.D. only	02 - Angle
1495	BAYCREST DR @ WALKLEY RD	371420.9801	5026592.403	2016-05-17	11:19	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	02 - Non-fatal injury	02 - Angle
1496	BAYCREST DR @ WALKLEY RD	371422.407	5026590.752	2016-06-09	13:07	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	02 - Non-fatal injury	05 - Turning movement
1497	BAYCREST DR @ WALKLEY RD	371421.7306	5026590.297	2016-09-01	21:27	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	07 - Dark	03 - P.D. only	04 - Sideswipe
1498	BAYCREST DR @ WALKLEY RD	371420.9317	5026590.261	2016-03-22	8:49	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	03 - Rear end
1499	BAYCREST DR @ WALKLEY RD	371421.2486	5026590.425	2016-05-13	20:24	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	05 - Dusk	03 - P.D. only	03 - Rear end
1500	BAYCREST DR @ WALKLEY RD	371421.9501	5026590.747	2016-09-23	16:46	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	02 - Angle
1501	BAYCREST DR @ WALKLEY RD	371420.9246	5026590.749	2016-06-15	7:30	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	02 - Angle
1502	BAYCREST DR @ WALKLEY RD	371421.9501	5026590.307	2016-10-27	10:40	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	04 - Sideswipe
1503	BAYCREST DR @ WALKLEY RD	371421.9501	5026590.747	2016-11-04	12:42	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
1520	BAYCREST DR @ WALKLEY RD	371421.3962	5026589.858	2017-07-01	23:17	02 - Rain	02 - Wet	01 - Traffic signal	02 - Intersection related	07 - Dark	02 - Non-fatal injury	03 - Rear end
1521	BAYCREST DR @ WALKLEY RD	371421.2211	5026590.527	2017-07-05	7:39	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	02 - Non-fatal injury	03 - Rear end
1522	BAYCREST DR @ WALKLEY RD	371421.2572	5026589.107	2017-12-13	7:30	03 - Snow	06 - Ice	01 - Traffic signal	02 - Intersection related	03 - Dawn	03 - P.D. only	03 - Rear end
1523	BAYCREST DR @ WALKLEY RD	371421.2678	5026590.693	2017-03-19	17:41	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	05 - Dusk	03 - P.D. only	03 - Rear end
1524	BAYCREST DR @ WALKLEY RD	371421.7306	5026591.244	2017-12-28	18:57	01 - Clear	05 - Packed snow	01 - Traffic signal	02 - Intersection related	07 - Dark	03 - P.D. only	03 - Rear end
1525	BAYCREST DR @ WALKLEY RD	371421.7306	5026591.722	2017-12-27	14:25	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	02 - Non-fatal injury	03 - Rear end
6695	BAYCREST DR btwn CEDARWOOD DR & SANDALWOOD DR	371244.4182	5026779.11	2014-04-29	16:54	01 - Clear	01 - Dry	10 - No control	04 - At/near private drive	01 - Daylight	03 - P.D. only	99 - Other
13-1600	BAYCREST DR btwn CEDARWOOD DR & SANDALWOOD DR	371262.9997	5026764.833	2013-02-04	21:35	01 - Clear	05 - Packed snow	10 - No control	03 - At intersection	07 - Dark	03 - P.D. only	06 - SMV unattended vehicle
13-7853	BAYCREST DR btwn CEDARWOOD DR & SANDALWOOD DR	371333.9473	5026721.322	2013-08-09	9:34	00 - Unknown	00 - Unknown	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	06 - SMV unattended vehicle
1504	BAYCREST DR btwn CEDARWOOD DR & SANDALWOOD DR	371274.4779	5026757.998	2016-07-03	19:13	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	02 - Non-fatal injury	07 - SMV other
1505	BAYCREST DR btwn CEDARWOOD DR & SANDALWOOD DR	371237.4955	5026781.767	2016-02-17	14:44	01 - Clear	02 - Wet	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	04 - Sideswipe
1526	BAYCREST DR btwn CEDARWOOD DR & SANDALWOOD DR	371282.9036	5026751.409	2017-11-10	0:00	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	07 - Dark	03 - P.D. only	06 - SMV unattended vehicle
1527	BAYCREST DR btwn CEDARWOOD DR & SANDALWOOD DR	371311.5434	5026737.418	2017-02-06	9:11	01 - Clear	02 - Wet	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	05 - Turning movement
1528	BAYCREST DR btwn CEDARWOOD DR & SANDALWOOD DR	371296.3642	5026744.078	2017-12-29	22:29	01 - Clear	06 - Ice	10 - No control	01 - Non intersection	07 - Dark	02 - Non-fatal injury	07 - SMV other
1727	BAYCREST DR btwn HERON RD & CEDARWOOD DR	371198.3945	5026843.65	2015-05-14	22:28	01 - Clear	01 - Dry	10 - No control	04 - At/near private drive	07 - Dark	02 - Non-fatal injury	02 - Angle
5757	BAYCREST DR btwn HERON RD & CEDARWOOD DR	371165.7893	5026893.991	2014-01-21	12:49	01 - Clear	01 - Dry	10 - No control	04 - At/near private drive	01 - Daylight	03 - P.D. only	02 - Angle
6376	BAYCREST DR btwn HERON RD & CEDARWOOD DR	371171.8323	5026882.505	2014-04-05	12:59	01 - Clear	01 - Dry	10 - No control	04 - At/near private drive	01 - Daylight	03 - P.D. only	05 - Turning movement
1506	BAYCREST DR btwn HERON RD & CEDARWOOD DR	371174.2182	5026881.756	2016-05-26	8:11	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	02 - Non-fatal injury	03 - Rear end
1507	BAYCREST DR btwn HERON RD & CEDARWOOD DR	371191.446	5026856.802	2016-12-17	0:00	04 - Freezing Rain	03 - Loose snow	10 - No control	01 - Non intersection	00 - Unknown	03 - P.D. only	06 - SMV unattended vehicle
552	BAYCREST DR btwn SANDALWOOD DR & WALKLEY RD	371413.0559	5026604.503	2015-04-27	18:55	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	05 - Dusk	02 - Non-fatal injury	02 - Angle
5858	BAYCREST DR btwn SANDALWOOD DR & WALKLEY RD	371390.2211	5026645.124	2015-11-04	13:28	01 - Clear	01 - Dry	10 - No control	04 - At/near private drive	01 - Daylight	03 - P.D. only	02 - Angle
1529	BAYCREST DR btwn SANDALWOOD DR & WALKLEY RD	371411.3533	5026611.991	2017-12-12	14:59	01 - Clear	01 - Dry	10 - No control	04 - At/near private drive	01 - Daylight	03 - P.D. only	02 - Angle
635	CEDARWOOD DR @ WALKLEY RD	371194.7286	5026456.97	2015-01-25	9:58	01 - Clear	02 - Wet	01 - Traffic signal	03 - At intersection	01 - Daylight	02 - Non-fatal injury	07 - SMV other
10067	CEDARWOOD DR @ WALKLEY RD	371193.7147	5026454.257	2015-06-03	14:15	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	04 - Sideswipe
1224	CEDARWOOD DR @ WALKLEY RD	371195.2356	5026456.791	2014-07-26	17:07	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	02 - Non-fatal injury	07 - SMV other
1383	CEDARWOOD DR @ WALKLEY RD	371197.0983	5026455.524	2014-08-20	16:02	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	02 - Non-fatal injury	03 - Rear end
8017	CEDARWOOD DR @ WALKLEY RD	371196.1504	5026456.472	2014-06-18	18:30	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	02 - Angle
13-3459	CEDARWOOD DR @ WALKLEY RD	371200.1243	5026457.549	2013-03-22	13:38	01 - Clear	01 - Dry	01 - Traffic signal	01 - Non intersection	01 - Daylight	03 - P.D. only	05 - Turning movement

13-4186	CEDARWOOD DR @ WALKLEY RD	371189.3329	5026453.499	2013-04-17	21:06	01 - Clear	01 - Dry	01 - Traffic signal	04 - At/near private drive	07 - Dark	02 - Non-fatal injury	07 - SMV other
13-9804	CEDARWOOD DR @ WALKLEY RD	371198.3258	5026460.789	2013-10-05	8:37	01 - Clear	01 - Dry	01 - Traffic signal	01 - Non intersection	01 - Daylight	02 - Non-fatal injury	07 - SMV other
13-10127	CEDARWOOD DR @ WALKLEY RD	371195.6279	5026460.789	2013-10-15	12:51	01 - Clear	01 - Dry	01 - Traffic signal	01 - Non intersection	01 - Daylight	03 - P.D. only	05 - Turning movement
13-11691	CEDARWOOD DR @ WALKLEY RD	371192.9301	5026455.929	2013-11-23	20:00	03 - Snow	02 - Wet	01 - Traffic signal	04 - At/near private drive	07 - Dark	03 - P.D. only	01 - Approaching
13-11710	CEDARWOOD DR @ WALKLEY RD	371195.6279	5026455.119	2013-11-23	20:05	01 - Clear	03 - Loose snow	01 - Traffic signal	02 - Intersection related	07 - Dark	03 - P.D. only	05 - Turning movement
3280	CEDARWOOD DR @ WALKLEY RD	371194.9526	5026455.748	2016-02-28	12:45	03 - Snow	03 - Loose snow	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	05 - Turning movement
3433	CEDARWOOD DR @ WALKLEY RD	371194.3942	5026456.862	2017-05-31	21:12	02 - Rain	02 - Wet	01 - Traffic signal	03 - At intersection	07 - Dark	03 - P.D. only	05 - Turning movement
3434	CEDARWOOD DR @ WALKLEY RD	371194.7286	5026454.814	2017-08-31	16:52	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
3435	CEDARWOOD DR @ WALKLEY RD	371195.8385	5026455.746	2017-08-28	15:30	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	02 - Non-fatal injury	03 - Rear end
3436	CEDARWOOD DR @ WALKLEY RD	371194.7286	5026455.747	2017-09-18	18:45	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	02 - Non-fatal injury	03 - Rear end
3437	CEDARWOOD DR @ WALKLEY RD	371193.8702	5026453.807	2017-01-10	8:43	01 - Clear	04 - Slush	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
3438	CEDARWOOD DR @ WALKLEY RD	371193.2277	5026456.65	2017-03-12	11:48	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
2233	CEDARWOOD DR btwn WALKLEY RD & BAYCREST DR	371179.6423	5026488.03	2015-11-16	9:23	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	02 - Non-fatal injury	04 - Sideswipe
243	CEDARWOOD DR btwn WALKLEY RD & BAYCREST DR	371123.1758	5026575.045	2014-02-05	6:33	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	03 - Dawn	02 - Non-fatal injury	99 - Other
4715	CEDARWOOD DR btwn WALKLEY RD & BAYCREST DR	371120.8014	5026620.159	2014-02-19	0:00	01 - Clear	03 - Loose snow	10 - No control	01 - Non intersection	00 - Unknown	03 - P.D. only	06 - SMV unattended vehicle
10988	CEDARWOOD DR btwn WALKLEY RD & BAYCREST DR	371208.6552	5026769.748	2014-09-06	0:00	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	00 - Unknown	03 - P.D. only	06 - SMV unattended vehicle
13994	CEDARWOOD DR btwn WALKLEY RD & BAYCREST DR	371216.4246	5026773.859	2014-10-22	0:00	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	00 - Unknown	03 - P.D. only	06 - SMV unattended vehicle
13-1359	CEDARWOOD DR btwn WALKLEY RD & BAYCREST DR	371156.8845	5026723.527	2013-01-29	8:37	01 - Clear	03 - Loose snow	10 - No control	04 - At/near private drive	01 - Daylight	03 - P.D. only	02 - Angle
13-2214	CEDARWOOD DR btwn WALKLEY RD & BAYCREST DR	371137.947	5026568.933	2013-02-19	14:34	01 - Clear	01 - Dry	10 - No control	03 - At intersection	01 - Daylight	03 - P.D. only	99 - Other
13-8895	CEDARWOOD DR btwn WALKLEY RD & BAYCREST DR	371208.1435	5026768.883	2013-09-03	18:00	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	06 - SMV unattended vehicle
3439	CEDARWOOD DR btwn WALKLEY RD & BAYCREST DR	371176.7394	5026486.81	2017-05-05	23:41	02 - Rain	02 - Wet	10 - No control	04 - At/near private drive	07 - Dark	03 - P.D. only	05 - Turning movement
3440	CEDARWOOD DR btwn WALKLEY RD & BAYCREST DR	371135.4693	5026561.378	2017-08-31	13:48	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	06 - SMV unattended vehicle
3441	CEDARWOOD DR btwn WALKLEY RD & BAYCREST DR	371122.1059	5026632.357	2017-11-10	15:09	01 - Clear	01 - Dry	10 - No control	04 - At/near private drive	01 - Daylight	03 - P.D. only	02 - Angle
5299	HERON RD @ BAYCREST DR	371145.5205	5026981.367	2015-04-18	18:42	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	05 - Turning movement
5460	HERON RD @ BAYCREST DR	371143.7293	5026980.026	2015-03-20	15:20	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	04 - Sideswipe
5560	HERON RD @ BAYCREST DR	371142.7654	5026978.099	2015-04-03	22:34	02 - Rain	02 - Wet	01 - Traffic signal	03 - At intersection	07 - Dark	03 - P.D. only	05 - Turning movement
6596	HERON RD @ BAYCREST DR	371143.7293	5026980.026	2015-01-07	11:30	01 - Clear	06 - Ice	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
13911	HERON RD @ BAYCREST DR	371143.2398	5026981.608	2015-08-31	16:34	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
13-4583	HERON RD @ BAYCREST DR	371151.8228	5026984.809	2013-05-02	15:55	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
13-5101	HERON RD @ BAYCREST DR	371146.4271	5026979.14	2013-05-18	2:53	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	07 - Dark	03 - P.D. only	07 - SMV other
13-5318	HERON RD @ BAYCREST DR	371153.6214	5026983.19	2013-05-24	18:29	01 - Clear	01 - Dry	01 - Traffic signal	01 - Non intersection	01 - Daylight	03 - P.D. only	04 - Sideswipe
13-10657	HERON RD @ BAYCREST DR	371142.83	5026982.38	2013-10-28	14:30	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
5957	HERON RD @ BAYCREST DR	371144.6554	5026978.482	2016-03-16	12:08	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
5958	HERON RD @ BAYCREST DR	371142.6144	5026979.953	2016-02-01	10:40	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	02 - Angle
5959	HERON RD @ BAYCREST DR	371143.7293	5026979.92	2016-01-06	13:34	01 - Clear	02 - Wet	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
5960	HERON RD @ BAYCREST DR	371145.4627	5026981.455	2016-04-25	15:14	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	02 - Angle
5961	HERON RD @ BAYCREST DR	371142.6144	5026981.204	2016-05-31	16:28	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
5962	HERON RD @ BAYCREST DR	371142.073	5026979.959	2016-11-16	10:49	01 - Clear	02 - Wet	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
6195	HERON RD @ BAYCREST DR	371143.5073	5026978.879	2017-08-21	16:00	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	04 - Sideswipe
6196	HERON RD @ BAYCREST DR	371143.7293	5026979.545	2017-10-03	8:25	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	02 - Non-fatal injury	05 - Turning movement
6197	HERON RD @ BAYCREST DR	371143.2514	5026978.35	2017-11-08	16:49	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	05 - Dusk	03 - P.D. only	05 - Turning movement
6198	HERON RD @ BAYCREST DR	371146.0874	5026979.179	2017-02-13	15:36	03 - Snow	06 - Ice	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
6199	HERON RD @ BAYCREST DR	371142.8709	5026977.828	2017-01-05	19:10	01 - Clear	06 - Ice	01 - Traffic signal	02 - Intersection related	07 - Dark	03 - P.D. only	03 - Rear end
5498	HERON RD @ BRIAR HILL DR/SANDALWOOD DR	371452.7278	5027011.092	2015-02-04	15:00	03 - Snow	04 - Slush	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
7922	HERON RD @ BRIAR HILL DR/SANDALWOOD DR	371452.7278	5027011.092	2015-03-11	12:55	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	02 - Angle
1523	HERON RD @ BRIAR HILL DR/SANDALWOOD DR	371452.2539	5027012.538	2014-09-26	18:24	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	02 - Non-fatal injury	02 - Angle
2383	HERON RD @ BRIAR HILL DR/SANDALWOOD DR	371452.7278	5027012.063	2014-08-14	12:02	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	02 - Non-fatal injury	02 - Angle
9200	HERON RD @ BRIAR HILL DR/SANDALWOOD DR	371454.1496	5027011.59	2014-08-17	19:11	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	02 - Angle
13271	HERON RD @ BRIAR HILL DR/SANDALWOOD DR	371452.7278	5027011.113	2014-10-08	23:45	02 - Rain	02 - Wet	01 - Traffic signal	02 - Intersection related	07 - Dark	03 - P.D. only	03 - Rear end
13-11468	HERON RD @ BRIAR HILL DR/SANDALWOOD DR	371451.8285	5027013.753	2013-11-20	8:30	01 - Clear	01 - Dry	01 - Traffic signal	01 - Non intersection	01 - Daylight	03 - P.D. only	03 - Rear end
5963	HERON RD @ BRIAR HILL DR/SANDALWOOD DR	371452.712	5027013.279	2016-01-06	14:48	01 - Clear	02 - Wet	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	05 - Turning movement
5964	HERON RD @ BRIAR HILL DR/SANDALWOOD DR	371451.8388	5027011.549	2016-02-18	12:57	01 - Clear	02 - Wet	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	02 - Angle
6200	HERON RD @ BRIAR HILL DR/SANDALWOOD DR	371453.0623	5027011.2	2017-02-15	18:05	03 - Snow	04 - Slush	01 - Traffic signal	02 - Intersection related	07 - Dark	03 - P.D. only	03 - Rear end
6201	HERON RD @ BRIAR HILL DR/SANDALWOOD DR	371455.2351	5027013.263	2017-12-31	18:33	01 - Clear	02 - Wet	01 - Traffic signal	03 - At intersection	07 - Dark	03 - P.D. only	03 - Rear end
5991	HERON RD btwn BAYCREST DR & SANDALWOOD DR	371343.4605	5027003.729	2016-09-14	21:37	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	07 - Dark	02 - Non-fatal injury	04 - Sideswipe
6219	HERON RD btwn BAYCREST DR & SANDALWOOD DR	371243.7293	5026992.254	2017-11-01	9:02	02 - Rain	02 - Wet	10 - No control	04 - At/near private drive	01 - Daylight	03 - P.D. only	05 - Turning movement
10364	SANDALWOOD DR btwn BAYCREST DR & HERON RD	371381.1972	5026733.745	2015-05-11	18:02	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	06 - SMV unattended vehicle
10627	SANDALWOOD DR btwn BAYCREST DR & HERON RD	371417.7055	5026770.253	2015-10-08	0:00	02 - Rain	02 - Wet	10 - No control	01 - Non intersection	00 - Unknown	03 - P.D. only	06 - SMV unattended vehicle
6068	SANDALWOOD DR btwn BAYCREST DR & HERON RD	371466.1978	5026898.32	2014-03-23	16:31	01 - Clear	01 - Dry	10 - No control	04 - At/near private drive	01 - Daylight	03 - P.D. only	02 - Angle
9068	SANDALWOOD DR btwn BAYCREST DR & HERON RD	371387.6286	5026738.999	2014-07-13	12:00	02 - Rain	02 - Wet	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	06 - SMV unattended vehicle
13-10031	SANDALWOOD DR btwn BAYCREST DR & HERON RD	371468.9149	5026950.578	2013-10-11	9:20	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	02 - Angle
12203	SANDALWOOD DR btwn BAYCREST DR & HERON RD	371466.7107	5026916.19	2016-12-05	0:00	03 - Snow	03 - Loose snow	10 - No control	01 - Non intersection	00 - Unknown	03 - P.D. only	06 - SMV unattended vehicle
12621	SANDALWOOD DR btwn BAYCREST DR & HERON RD	371464.5988	5026937.017	2017-07-21	12:52	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	99 - Other
12622	SANDALWOOD DR btwn BAYCREST DR & HERON RD	371472.0226	5026868.276	2017-04-03	0:00	02 - Rain	02 - Wet	10 - No control	01 - Non intersection	07 - Dark	03 - P.D. only	06 - SMV unattended vehicle

6628	WALKLEY RD btwn CEDARWOOD DR & BAYCREST DR	371409.5268	5026583.892	2014-05-07	8:26	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	07 - SMV other
13135	WALKLEY RD btwn CEDARWOOD DR & BAYCREST DR	371401.7781	5026577.7	2014-12-22	10:37	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	04 - Sideswipe
13-756	WALKLEY RD btwn CEDARWOOD DR & BAYCREST DR	371394.7522	5026577.163	2013-01-19	11:32	01 - Clear	03 - Loose snow	10 - No control	03 - At intersection	01 - Daylight	03 - P.D. only	04 - Sideswipe

Record	Location	X	Y	Date	Time	Environment	Road_Surface	Traffic_Control	Collision_Location	Light	Collision_Classification	Impact_type
308	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371033.4917	5026354.601	2017-06-17	19:42	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	02 - Non-fatal injury	01 - Approaching
309	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371035.169	5026354.797	2017-07-25	12:05	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	02 - Non-fatal injury	05 - Turning movement
310	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371033.1263	5026353.497	2017-07-22	6:01	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	03 - Dawn	02 - Non-fatal injury	07 - SMV other
311	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371033.2609	5026354.972	2017-07-19	13:11	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
312	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371035.1233	5026355.622	2017-11-18	18:54	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	07 - Dark	02 - Non-fatal injury	05 - Turning movement
313	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371034.3133	5026355.314	2017-03-01	18:22	02 - Rain	02 - Wet	01 - Traffic signal	03 - At intersection	07 - Dark	03 - P.D. only	05 - Turning movement
289	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371032.5578	5026354.534	2016-07-25	22:13	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	07 - Dark	02 - Non-fatal injury	05 - Turning movement
290	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371032.632	5026354.315	2016-12-01	18:09	01 - Clear	02 - Wet	01 - Traffic signal	03 - At intersection	07 - Dark	02 - Non-fatal injury	05 - Turning movement
291	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371034.5177	5026355.457	2016-03-04	19:00	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	07 - Dark	03 - P.D. only	03 - Rear end
292	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371035.0165	5026354.243	2016-02-19	18:17	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	07 - Dark	03 - P.D. only	05 - Turning movement
293	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371033.6179	5026354.805	2016-01-18	16:20	03 - Snow	03 - Loose snow	01 - Traffic signal	02 - Intersection related	05 - Dusk	03 - P.D. only	03 - Rear end
294	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371033.7539	5026354.635	2016-01-19	6:38	01 - Clear	06 - Ice	01 - Traffic signal	03 - At intersection	07 - Dark	03 - P.D. only	05 - Turning movement
295	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371033.9675	5026355.68	2016-11-10	9:00	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	05 - Turning movement
355	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371032.6365	5026356.655	2015-07-01	13:36	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	02 - Non-fatal injury	07 - SMV other
1733	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371034.1034	5026353.58	2015-06-12	15:38	02 - Rain	02 - Wet	01 - Traffic signal	03 - At intersection	01 - Daylight	02 - Non-fatal injury	07 - SMV other
2097	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371033.6021	5026354.723	2015-10-19	13:55	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	02 - Non-fatal injury	07 - SMV other
3060	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371035.6574	5026353.088	2015-01-20	17:09	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	05 - Dusk	03 - P.D. only	99 - Other
7579	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371032.6491	5026356.166	2015-03-31	14:12	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	02 - Angle
14113	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371033.3827	5026355.021	2015-11-02	16:02	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
1189	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371034.8011	5026355.845	2014-07-29	15:30	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	02 - Non-fatal injury	07 - SMV other
1415	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371034.2036	5026352.638	2014-08-22	15:01	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	02 - Non-fatal injury	05 - Turning movement
3859	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371033.6704	5026356.706	2014-01-27	0:37	03 - Snow	03 - Loose snow	01 - Traffic signal	03 - At intersection	07 - Dark	03 - P.D. only	02 - Angle
4507	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371035.1515	5026353.586	2014-02-21	19:30	04 - Freezing Rair	06 - Ice	01 - Traffic signal	02 - Intersection related	07 - Dark	03 - P.D. only	03 - Rear end
10435	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371032.6171	5026354.609	2014-09-29	15:37	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	05 - Turning movement
11678	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371033.726	5026356.489	2014-09-15	10:10	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	05 - Turning movement
13-205	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371036.4275	5026363.039	2013-01-06	13:31	03 - Snow	04 - Slush	01 - Traffic signal	01 - Non intersection	01 - Daylight	03 - P.D. only	03 - Rear end
13-2658	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371039.1254	5026356.559	2013-02-27	16:00	03 - Snow	03 - Loose snow	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	02 - Angle
13-4373	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371040.0247	5026360.609	2013-04-24	21:45	02 - Rain	02 - Wet	01 - Traffic signal	03 - At intersection	07 - Dark	02 - Non-fatal injury	05 - Turning movement
13-6384	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371033.7297	5026358.179	2013-06-24	14:03	01 - Clear	01 - Dry	01 - Traffic signal	01 - Non intersection	01 - Daylight	03 - P.D. only	05 - Turning movement
13-7152	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371029.2333	5026362.229	2013-07-18	13:18	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	02 - Non-fatal injury	07 - SMV other
13-8549	ALBION RD/COLLISTON CRES E @ WALKLEY RD	371037.3268	5026358.179	2013-08-30	21:26	02 - Rain	02 - Wet	01 - Traffic signal	02 - Intersection related	07 - Dark	03 - P.D. only	05 - Turning movement
5714	HAMPSTEAD PL @ WALKLEY RD	370682.4887	5026150.662	2016-04-21	14:45	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
5715	HAMPSTEAD PL @ WALKLEY RD	370682.7142	5026151.605	2016-12-09	8:22	01 - Clear	06 - Ice	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
2744	HAMPSTEAD PL @ WALKLEY RD	370683.4362	5026149.534	2015-10-01	8:56	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	02 - Non-fatal injury	05 - Turning movement
9219	HAMPSTEAD PL @ WALKLEY RD	370683.4349	5026147.733	2015-08-19	20:36	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	07 - Dark	03 - P.D. only	03 - Rear end
13354	HAMPSTEAD PL @ WALKLEY RD	370681.9922	5026150.256	2015-10-23	20:14	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	07 - Dark	03 - P.D. only	01 - Approaching
5425	HAMPSTEAD PL @ WALKLEY RD	370682.2403	5026148.587	2014-03-03	17:04	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	05 - Turning movement
13-10909	HAMPSTEAD PL @ WALKLEY RD	370680.9157	5026150.506	2013-11-04	14:00	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	02 - Non-fatal injury	05 - Turning movement
6184	HERON RD @ ALTA VISTA DR	370494.3085	5026905.217	2017-05-11	9:50	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
6185	HERON RD @ ALTA VISTA DR	370492.388	5026902.537	2017-06-24	12:08	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
6186	HERON RD @ ALTA VISTA DR	370492.388	5026901.868	2017-05-21	15:46	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	07 - SMV other
6187	HERON RD @ ALTA VISTA DR	370490.7993	5026902.537	2017-08-15	6:43	02 - Rain	02 - Wet	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
6188	HERON RD @ ALTA VISTA DR	370492.7224	5026901.42	2017-08-30	9:43	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	02 - Non-fatal injury	04 - Sideswipe
6189	HERON RD @ ALTA VISTA DR	370493.0569	5026903.875	2017-07-01	21:34	01 - Clear	02 - Wet	01 - Traffic signal	03 - At intersection	07 - Dark	02 - Non-fatal injury	05 - Turning movement
6190	HERON RD @ ALTA VISTA DR	370492.7224	5026902.537	2017-10-04	16:16	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
6191	HERON RD @ ALTA VISTA DR	370491.0057	5026900.82	2017-01-05	17:23	03 - Snow	06 - Ice	01 - Traffic signal	02 - Intersection related	05 - Dusk	03 - P.D. only	03 - Rear end
6192	HERON RD @ ALTA VISTA DR	370493.7257	5026903.875	2017-03-08	4:00	02 - Rain	02 - Wet	01 - Traffic signal	03 - At intersection	07 - Dark	02 - Non-fatal injury	07 - SMV other
6193	HERON RD @ ALTA VISTA DR	370492.7224	5026902.298	2017-12-21	15:27	01 - Clear	06 - Ice	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
6194	HERON RD @ ALTA VISTA DR	370492.249	5026903.721	2017-12-16	16:46	01 - Clear	02 - Wet	01 - Traffic signal	02 - Intersection related	05 - Dusk	03 - P.D. only	03 - Rear end
905	HERON RD @ ALTA VISTA DR	370491.7585	5026901.091	2015-02-02	10:00	03 - Snow	05 - Packed snow	01 - Traffic signal	02 - Intersection related	01 - Daylight	02 - Non-fatal injury	03 - Rear end
972	HERON RD @ ALTA VISTA DR	370493.6863	5026903.019	2015-03-19	16:52	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	02 - Non-fatal injury	03 - Rear end
7405	HERON RD @ ALTA VISTA DR	370491.979	5026904.743	2015-03-03	16:15	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	04 - Sideswipe
8273	HERON RD @ ALTA VISTA DR	370492.7224	5026901.456	2015-08-24	10:21	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	05 - Turning movement
13279	HERON RD @ ALTA VISTA DR	370492.0017	5026902.177	2015-10-22	8:05	01 - Clear	02 - Wet	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
13458	HERON RD @ ALTA VISTA DR	370493.4444	5026902.537	2015-09-30	16:30	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
2757	HERON RD @ ALTA VISTA DR	370492.2154	5026903.298	2014-01-02	12:53	01 - Clear	06 - Ice	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
2892	HERON RD @ ALTA VISTA DR	370491.7085	5026903.298	2014-01-03	9:02	01 - Clear	06 - Ice	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	04 - Sideswipe
5022	HERON RD @ ALTA VISTA DR	370492.2154	5026902.791	2014-02-24	8:40	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
6276	HERON RD @ ALTA VISTA DR	370490.3527	5026903.485	2014-04-17	8:10	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	05 - Turning movement
9450	HERON RD @ ALTA VISTA DR	370493.1963	5026902.537	2014-08-25	1:42	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	07 - Dark	03 - P.D. only	07 - SMV other
9688	HERON RD @ ALTA VISTA DR	370493.2294	5026902.791	2014-11-08	16:23	02 - Rain	02 - Wet	01 - Traffic signal	02 - Intersection related	05 - Dusk	03 - P.D. only	03 - Rear end
12133	HERON RD @ ALTA VISTA DR	370492.7224	5026903.962	2014-12-06	16:05	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	05 - Dusk	03 - P.D. only	03 - Rear end
14601	HERON RD @ ALTA VISTA DR	370491.7723	5026903.962	2014-10-15	4:07	02 - Rain	02 - Wet	01 - Traffic signal	02 - Intersection related	07 - Dark	03 - P.D. only	07 - SMV other

14697	HERON RD @ ALTA VISTA DR	370490.8222	5026903.012	2014-12-15	18:14	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	07 - Dark	03 - P.D. only	03 - Rear end
6203	HERON RD @ FINN CRT	370830.6262	5026945.327	2017-08-24	21:47	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	07 - Dark	03 - P.D. only	04 - Sideswipe
6204	HERON RD @ FINN CRT	370831.4891	5026945.111	2017-09-07	9:28	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	04 - Sideswipe
5966	HERON RD @ FINN CRT	370831.1784	5026945.252	2016-05-27	7:37	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
5967	HERON RD @ FINN CRT	370831.4948	5026945.038	2016-01-06	15:45	01 - Clear	02 - Wet	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	02 - Angle
5968	HERON RD @ FINN CRT	370830.8623	5026945.248	2016-10-03	13:54	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	05 - Turning movement
7972	HERON RD @ FINN CRT	370831.019	5026944.799	2015-04-02	7:20	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	04 - Sideswipe
11123	HERON RD @ FINN CRT	370830.6773	5026945.686	2015-11-27	18:16	02 - Rain	02 - Wet	01 - Traffic signal	02 - Intersection related	07 - Dark	03 - P.D. only	03 - Rear end
3616	HERON RD @ FINN CRT	370831.9631	5026944.163	2014-01-16	11:20	01 - Clear	02 - Wet	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	04 - Sideswipe
11467	HERON RD @ FINN CRT	370831.9908	5026945.716	2014-10-22	11:45	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
5969	HERON RD @ JEFFERSON ST	371809.3912	5027053.651	2016-03-01	12:04	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	02 - Angle
5970	HERON RD @ JEFFERSON ST	371808.5512	5027052.914	2016-09-01	19:09	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	04 - Sideswipe
5971	HERON RD @ JEFFERSON ST	371807.6276	5027053.2	2016-01-28	14:55	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
5972	HERON RD @ JEFFERSON ST	371808.0435	5027052.542	2016-06-18	20:20	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	05 - Dusk	03 - P.D. only	02 - Angle
5973	HERON RD @ JEFFERSON ST	371808.0489	5027052.767	2016-07-03	18:41	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	02 - Angle
2383	HERON RD @ JEFFERSON ST	371807.7114	5027052.795	2015-10-26	8:20	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	02 - Non-fatal injury	02 - Angle
2641	HERON RD @ JEFFERSON ST	371808.7253	5027051.82	2015-12-01	16:44	02 - Rain	02 - Wet	01 - Traffic signal	03 - At intersection	05 - Dusk	02 - Non-fatal injury	07 - SMV other
2836	HERON RD @ JEFFERSON ST	371808.4536	5027053.157	2015-12-11	12:50	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	02 - Non-fatal injury	02 - Angle
4254	HERON RD @ JEFFERSON ST	371808.4462	5027053.856	2015-03-29	21:14	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	07 - Dark	03 - P.D. only	05 - Turning movement
8058	HERON RD @ JEFFERSON ST	371807.2839	5027051.461	2015-05-20	16:15	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
8820	HERON RD @ JEFFERSON ST	371808.364	5027053.747	2015-02-27	15:27	01 - Clear	02 - Wet	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	02 - Angle
6980	HERON RD @ JEFFERSON ST	371807.3035	5027051.594	2014-05-24	18:20	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	04 - Sideswipe
10900	HERON RD @ JEFFERSON ST	371809.1992	5027051.594	2014-10-04	8:59	02 - Rain	02 - Wet	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	02 - Angle
12579	HERON RD @ JEFFERSON ST	371808.7253	5027053.017	2014-11-08	18:02	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	07 - Dark	03 - P.D. only	05 - Turning movement
14232	HERON RD @ JEFFERSON ST	371808.7253	5027053.302	2014-11-28	17:05	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	07 - Dark	03 - P.D. only	05 - Turning movement
5987	HERON RD btwn ALTA VISTA DR & FINN CRT	370647.0038	5026923.021	2016-06-21	6:57	01 - Clear	01 - Dry	10 - No control	04 - At/near private drive	01 - Daylight	02 - Non-fatal injury	02 - Angle
5988	HERON RD btwn ALTA VISTA DR & FINN CRT	370499.3133	5026902.537	2016-08-04	13:17	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	05 - Turning movement
5989	HERON RD btwn ALTA VISTA DR & FINN CRT	370510.2308	5026906.129	2016-05-03	7:28	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	04 - Sideswipe
5990	HERON RD btwn ALTA VISTA DR & FINN CRT	370781.8975	5026937.95	2016-12-17	17:27	03 - Snow	04 - Slush	10 - No control	01 - Non intersection	07 - Dark	03 - P.D. only	04 - Sideswipe
1226	HERON RD btwn ALTA VISTA DR & FINN CRT	370510.0197	5026903.618	2015-08-24	16:00	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	02 - Non-fatal injury	04 - Sideswipe
6222	HERON RD btwn FINN CRT & BAYCREST DR	370967.5572	5026960.265	2017-05-02	18:02	02 - Rain	02 - Wet	10 - No control	04 - At/near private drive	01 - Daylight	03 - P.D. only	05 - Turning movement
5994	HERON RD btwn FINN CRT & BAYCREST DR	370941.0948	5026958.249	2016-02-27	10:11	01 - Clear	01 - Dry	10 - No control	04 - At/near private drive	01 - Daylight	03 - P.D. only	05 - Turning movement
5995	HERON RD btwn FINN CRT & BAYCREST DR	371092.0732	5026974.373	2016-04-04	18:17	01 - Clear	01 - Dry	10 - No control	04 - At/near private drive	05 - Dusk	03 - P.D. only	02 - Angle
5996	HERON RD btwn FINN CRT & BAYCREST DR	371044.3848	5026968.021	2016-04-06	17:57	03 - Snow	03 - Loose snow	10 - No control	04 - At/near private drive	01 - Daylight	03 - P.D. only	02 - Angle
5997	HERON RD btwn FINN CRT & BAYCREST DR	370936.9695	5026956.323	2016-03-30	11:33	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	03 - Rear end
8516	HERON RD btwn FINN CRT & BAYCREST DR	371001.705	5026963.105	2015-03-03	8:46	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	03 - Rear end
2672	HERON RD btwn FINN CRT & BAYCREST DR	370987.0448	5026962.395	2014-01-09	7:46	01 - Clear	02 - Wet	10 - No control	04 - At/near private drive	03 - Dawn	03 - P.D. only	04 - Sideswipe
8596	HERON RD btwn FINN CRT & BAYCREST DR	371121.4544	5026978.597	2014-07-25	15:33	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	03 - Rear end
9386	HERON RD btwn FINN CRT & BAYCREST DR	371042.7814	5026968.17	2014-08-29	7:08	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	07 - SMV other
10924	HERON RD btwn FINN CRT & BAYCREST DR	371004.0821	5026963.891	2014-10-10	13:20	01 - Clear	01 - Dry	10 - No control	04 - At/near private drive	01 - Daylight	03 - P.D. only	03 - Rear end
12110	HERON RD btwn FINN CRT & BAYCREST DR	370984.1094	5026962.917	2014-12-10	12:46	03 - Snow	03 - Loose snow	10 - No control	04 - At/near private drive	01 - Daylight	03 - P.D. only	02 - Angle
6224	HERON RD btwn SANDALWOOD DR & JEFFERSON ST	371501.5578	5027015.442	2017-12-09	23:22	03 - Snow	03 - Loose snow	10 - No control	01 - Non intersection	07 - Dark	03 - P.D. only	07 - SMV other
3377	JASPER AVE @ WALKLEY RD	370849.7603	5026246.088	2015-02-27	21:49	01 - Clear	01 - Dry	02 - Stop sign	02 - Intersection related	07 - Dark	03 - P.D. only	03 - Rear end
13-11201	JASPER AVE @ WALKLEY RD	370850.7242	5026247.129	2013-11-13	7:50	01 - Clear	01 - Dry	02 - Stop sign	04 - At/near private drive	01 - Daylight	03 - P.D. only	03 - Rear end
13914	WALKLEY RD @ HEATHERINGTON RD	371767.4753	5026794.902	2017-01-07	8:07	01 - Clear	06 - Ice	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
13532	WALKLEY RD @ HEATHERINGTON RD	371766.8117	5026794.077	2016-03-24	15:48	03 - Snow	04 - Slush	01 - Traffic signal	03 - At intersection	01 - Daylight	02 - Non-fatal injury	03 - Rear end
13533	WALKLEY RD @ HEATHERINGTON RD	371767.553	5026793.284	2016-12-08	23:57	01 - Clear	06 - Ice	01 - Traffic signal	02 - Intersection related	07 - Dark	02 - Non-fatal injury	07 - SMV other
13534	WALKLEY RD @ HEATHERINGTON RD	371766.0662	5026793.429	2016-01-20	11:53	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	05 - Turning movement
13535	WALKLEY RD @ HEATHERINGTON RD	371767.2348	5026794.422	2016-01-20	18:03	01 - Clear	02 - Wet	01 - Traffic signal	03 - At intersection	07 - Dark	03 - P.D. only	05 - Turning movement
13536	WALKLEY RD @ HEATHERINGTON RD	371766.2271	5026795.43	2016-12-10	22:08	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	07 - Dark	03 - P.D. only	02 - Angle
2607	WALKLEY RD @ HEATHERINGTON RD	371766.6867	5026796.007	2015-11-17	9:23	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	02 - Non-fatal injury	07 - SMV other
5492	WALKLEY RD @ HEATHERINGTON RD	371767.6887	5026794.045	2015-03-20	16:04	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	05 - Turning movement
9474	WALKLEY RD @ HEATHERINGTON RD	371766.7255	5026794.534	2015-06-08	15:03	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
9745	WALKLEY RD @ HEATHERINGTON RD	371767.184	5026794.297	2015-04-01	18:01	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
12378	WALKLEY RD @ HEATHERINGTON RD	371766.7255	5026795.085	2015-02-25	8:45	03 - Snow	04 - Slush	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
374	WALKLEY RD @ HEATHERINGTON RD	371766.4579	5026794.021	2014-02-11	15:42	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	02 - Non-fatal injury	07 - SMV other
690	WALKLEY RD @ HEATHERINGTON RD	371769.0945	5026794.527	2014-05-09	8:49	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	02 - Non-fatal injury	07 - SMV other
1154	WALKLEY RD @ HEATHERINGTON RD	371766.2509	5026792.631	2014-07-25	17:55	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	02 - Non-fatal injury	03 - Rear end
1178	WALKLEY RD @ HEATHERINGTON RD	371766.2509	5026795.475	2014-07-20	18:25	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	02 - Non-fatal injury	03 - Rear end
3153	WALKLEY RD @ HEATHERINGTON RD	371766.7248	5026794.78	2014-01-07	8:00	01 - Clear	02 - Wet	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	04 - Sideswipe
4946	WALKLEY RD @ HEATHERINGTON RD	371767.2318	5026794.78	2014-02-28	16:50	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	02 - Angle
8348	WALKLEY RD @ HEATHERINGTON RD	371766.2178	5026795.287	2014-06-17	17:15	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
10170	WALKLEY RD @ HEATHERINGTON RD	371765.8954	5026793.579	2014-11-06	13:51	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	04 - Sideswipe
13738	WALKLEY RD @ HEATHERINGTON RD	371765.303	5026795.475	2014-10-09	13:47	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	01 - Daylight	03 - P.D. only	07 - SMV other

14808	WALKLEY RD @ HEATHERINGTON RD	371766.7248	5026793.259	2014-10-10	18:23	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	05 - Dusk	03 - P.D. only	07 - SMV other
13-350	WALKLEY RD @ HEATHERINGTON RD	371772.1205	5026805.461	2013-01-09	10:04	01 - Clear	02 - Wet	01 - Traffic signal	02 - Intersection related	01 - Daylight	02 - Non-fatal injury	07 - SMV other
13-7824	WALKLEY RD @ HEATHERINGTON RD	371767.6241	5026793.312	2013-08-08	13:00	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	03 - Rear end
13-8386	WALKLEY RD @ HEATHERINGTON RD	371766.7248	5026794.932	2013-08-25	13:53	01 - Clear	01 - Dry	01 - Traffic signal	01 - Non intersection	01 - Daylight	02 - Non-fatal injury	05 - Turning movement
13-8489	WALKLEY RD @ HEATHERINGTON RD	371772.1205	5026794.932	2013-08-28	21:53	01 - Clear	01 - Dry	01 - Traffic signal	03 - At intersection	07 - Dark	03 - P.D. only	02 - Angle
13-8821	WALKLEY RD @ HEATHERINGTON RD	371764.9263	5026796.552	2013-09-08	15:48	01 - Clear	01 - Dry	01 - Traffic signal	02 - Intersection related	01 - Daylight	03 - P.D. only	05 - Turning movement
13-9055	WALKLEY RD @ HEATHERINGTON RD	371772.1205	5026799.792	2013-09-14	15:18	01 - Clear	01 - Dry	01 - Traffic signal	01 - Non intersection	01 - Daylight	03 - P.D. only	99 - Other
13-12579	WALKLEY RD @ HEATHERINGTON RD	371765.8432	5026796.563	2013-12-13	7:57	01 - Clear	02 - Wet	01 - Traffic signal	01 - Non intersection	01 - Daylight	02 - Non-fatal injury	07 - SMV other
13548	WALKLEY RD btwn BAYCREST DR & HEATHERINGTON RD	371757.1846	5026787.565	2016-07-12	15:17	01 - Clear	01 - Dry	10 - No control	04 - At/near private drive	01 - Daylight	02 - Non-fatal injury	02 - Angle
13549	WALKLEY RD btwn BAYCREST DR & HEATHERINGTON RD	371743.2341	5026779.818	2016-02-12	12:27	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	03 - Rear end
1657	WALKLEY RD btwn BAYCREST DR & HEATHERINGTON RD	371512.9854	5026642.492	2015-05-29	12:57	01 - Clear	01 - Dry	10 - No control	04 - At/near private drive	01 - Daylight	02 - Non-fatal injury	02 - Angle
8335	WALKLEY RD btwn BAYCREST DR & HEATHERINGTON RD	371642.7467	5026722.858	2015-08-01	13:18	01 - Clear	01 - Dry	10 - No control	04 - At/near private drive	01 - Daylight	03 - P.D. only	02 - Angle
10512	WALKLEY RD btwn BAYCREST DR & HEATHERINGTON RD	371572.1733	5026677.647	2015-09-17	15:24	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	06 - SMV unattended vehicle
765	WALKLEY RD btwn BAYCREST DR & HEATHERINGTON RD	371709.5523	5026758.761	2014-05-22	9:26	01 - Clear	01 - Dry	10 - No control	04 - At/near private drive	01 - Daylight	02 - Non-fatal injury	03 - Rear end
1569	WALKLEY RD btwn BAYCREST DR & HEATHERINGTON RD	371593.3607	5026696.001	2014-10-14	20:40	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	07 - Dark	02 - Non-fatal injury	07 - SMV other
7129	WALKLEY RD btwn BAYCREST DR & HEATHERINGTON RD	371716.0139	5026764.195	2014-05-29	9:40	01 - Clear	01 - Dry	10 - No control	04 - At/near private drive	01 - Daylight	03 - P.D. only	02 - Angle
9564	WALKLEY RD btwn BAYCREST DR & HEATHERINGTON RD	371610.6424	5026701.173	2014-08-25	13:12	01 - Clear	01 - Dry	10 - No control	04 - At/near private drive	01 - Daylight	03 - P.D. only	07 - SMV other
12593	WALKLEY RD btwn BAYCREST DR & HEATHERINGTON RD	371588.1597	5026694.267	2014-10-31	15:06	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	04 - Sideswipe
13-5844	WALKLEY RD btwn BAYCREST DR & HEATHERINGTON RD	371523.3494	5026652.487	2013-06-09	13:05	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	05 - Turning movement
13-8173	WALKLEY RD btwn BAYCREST DR & HEATHERINGTON RD	371603.5013	5026706.775	2013-08-19	16:02	01 - Clear	01 - Dry	10 - No control	03 - At intersection	01 - Daylight	03 - P.D. only	02 - Angle
13-9044	WALKLEY RD btwn BAYCREST DR & HEATHERINGTON RD	371739.7464	5026781.163	2013-09-09	20:45	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	07 - Dark	03 - P.D. only	03 - Rear end
13-11896	WALKLEY RD btwn BAYCREST DR & HEATHERINGTON RD	371651.5369	5026723.194	2013-11-28	10:21	01 - Clear	01 - Dry	10 - No control	02 - Intersection related	01 - Daylight	03 - P.D. only	02 - Angle
13-12093	WALKLEY RD btwn BAYCREST DR & HEATHERINGTON RD	371560.2135	5026671.118	2013-12-01	23:10	02 - Rain	02 - Wet	10 - No control	02 - Intersection related	07 - Dark	03 - P.D. only	07 - SMV other
13925	WALKLEY RD btwn COLLISTON CRES & CEDARWOOD DR	371080.5592	5026382.764	2017-03-20	12:15	01 - Clear	01 - Dry	10 - No control	04 - At/near private drive	01 - Daylight	02 - Non-fatal injury	03 - Rear end
13550	WALKLEY RD btwn COLLISTON CRES & CEDARWOOD DR	371051.5124	5026364.853	2016-11-18	14:15	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	02 - Non-fatal injury	99 - Other
13551	WALKLEY RD btwn COLLISTON CRES & CEDARWOOD DR	371120.5482	5026409.875	2016-07-23	20:30	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	05 - Dusk	02 - Non-fatal injury	04 - Sideswipe
13552	WALKLEY RD btwn COLLISTON CRES & CEDARWOOD DR	371077.5499	5026383.298	2016-05-07	0:05	01 - Clear	01 - Dry	10 - No control	04 - At/near private drive	07 - Dark	03 - P.D. only	07 - SMV other
10792	WALKLEY RD btwn COLLISTON CRES & CEDARWOOD DR	371121.4694	5026409.989	2015-12-30	11:30	01 - Clear	04 - Slush	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	99 - Other
8447	WALKLEY RD btwn COLLISTON CRES & CEDARWOOD DR	371126.5862	5026411.752	2014-07-29	11:35	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	03 - Rear end
13-5073	WALKLEY RD btwn COLLISTON CRES & CEDARWOOD DR	371171.2096	5026445.165	2013-05-07	17:00	01 - Clear	01 - Dry	10 - No control	03 - At intersection	01 - Daylight	02 - Non-fatal injury	05 - Turning movement
13-9909	WALKLEY RD btwn COLLISTON CRES & CEDARWOOD DR	371073.2981	5026379.238	2013-10-08	13:55	01 - Clear	01 - Dry	10 - No control	02 - Intersection related	01 - Daylight	03 - P.D. only	02 - Angle
13926	WALKLEY RD btwn COLLISTON CRES & COLLISTON CRES	370945.3988	5026303.155	2017-10-24	19:23	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	07 - Dark	03 - P.D. only	03 - Rear end
749	WALKLEY RD btwn COLLISTON CRES & COLLISTON CRES	370999.0052	5026335.814	2015-01-08	15:31	03 - Snow	04 - Slush	10 - No control	01 - Non intersection	01 - Daylight	02 - Non-fatal injury	04 - Sideswipe
5504	WALKLEY RD btwn COLLISTON CRES & COLLISTON CRES	370966.2341	5026318.464	2015-02-25	15:38	03 - Snow	05 - Packed snow	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	01 - Approaching
13562	WALKLEY RD btwn HAMPSTEAD PL & JASPER AVE	370773.1427	5026201.213	2016-05-19	11:41	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	04 - Sideswipe
13946	WALKLEY RD btwn JASPER AVE & COLLISTON CRES	370887.3446	5026269.747	2017-04-17	1:07	01 - Clear	01 - Dry	10 - No control	01 - Non intersection	07 - Dark	03 - P.D. only	05 - Turning movement
10412	WALKLEY RD btwn JASPER AVE & COLLISTON CRES	370911.0762	5026280.584	2014-11-22	15:18	04 - Freezing Rair	02 - Wet	10 - No control	01 - Non intersection	01 - Daylight	03 - P.D. only	04 - Sideswipe
13-3147	WALKLEY RD btwn JASPER AVE & COLLISTON CRES	370902.4354	5026283.859	2013-03-15	11:32	03 - Snow	02 - Wet	10 - No control	02 - Intersection related	01 - Daylight	02 - Non-fatal injury	05 - Turning movement

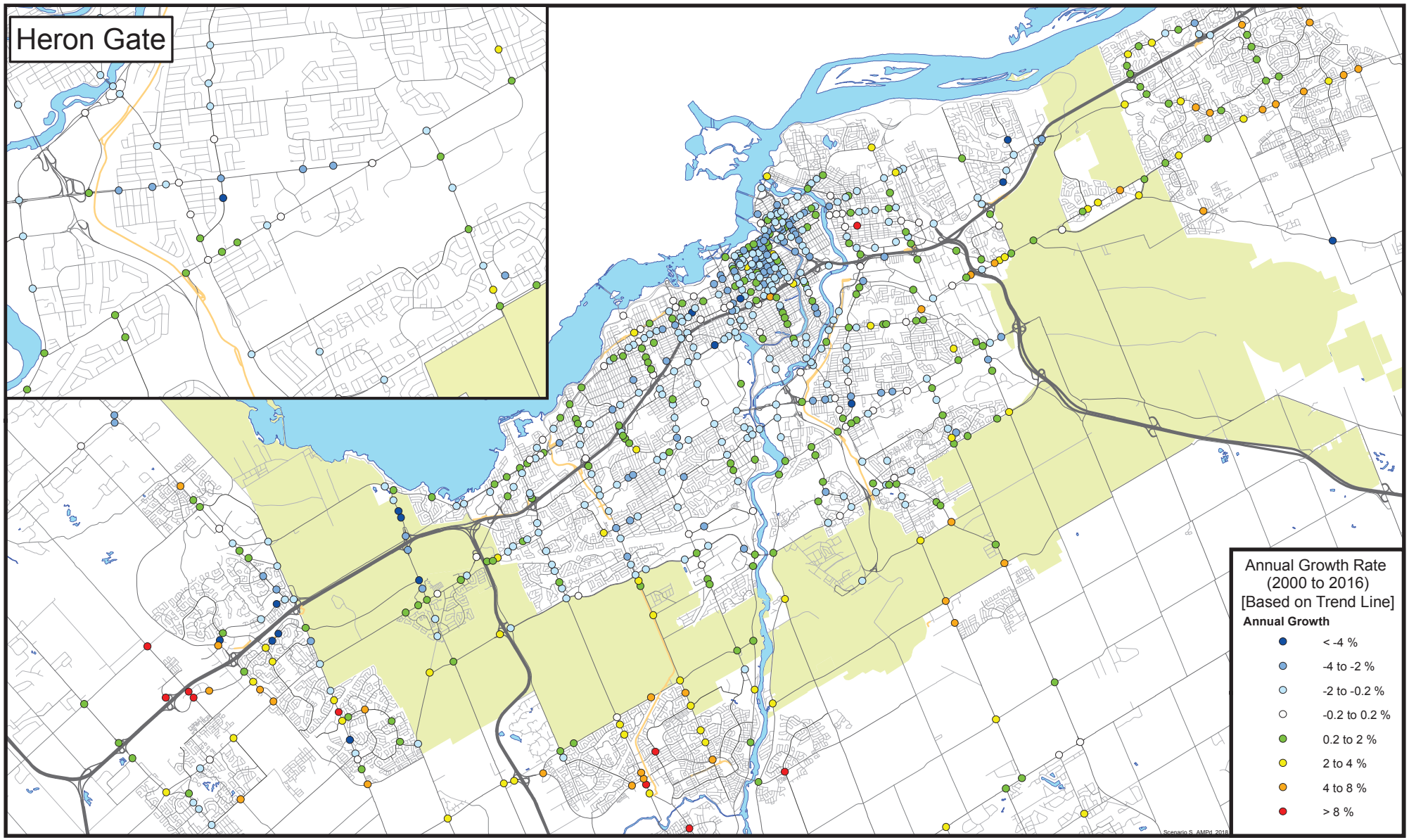
LOCATION & GEOID	TOTAL_CYCLIST_COLLISIONS_2013-17	TOTAL_PEDESTRIAN_COLLISIONS_2013-17
BAYCREST DR btwn HERON RD & CEDARWOOD DR (__3ZA861)	0	0
HERON RD @ ALTA VISTA DR (0007188)	0	1
HERON RD @ BAYCREST DR (0007191)	1	1
HERON RD @ BRIAR HILL DR/SANDALWOOD DR (0007190)	1	0
HERON RD @ FINN CRT (0012186)	0	0
HERON RD @ JEFFERSON ST (0007192)	1	1
HERON RD btwn ALTA VISTA DR & FINN CRT (__5RFC5O)	0	0
HERON RD btwn BAYCREST DR & SANDALWOOD DR (__3ZA3AF)	0	0
HERON RD btwn FINN CRT & BAYCREST DR (__3ZBOFO)	0	0
HERON RD btwn SANDALWOOD DR & JEFFERSON ST (__3ZA3AG)	0	0
SANDALWOOD DR btwn BAYCREST DR & HERON RD (__3ZA9YZ)	0	0
ALBION RD/COLLISTON CRES E @ WALKLEY RD (0011422)	0	4
BAYCREST DR @ WALKLEY RD (0006958)	2	1
BAYCREST DR btwn SANDALWOOD DR & WALKLEY RD (__3ZA9YU)	1	0
CEDARWOOD DR @ WALKLEY RD (0002235)	0	4
CEDARWOOD DR btwn WALKLEY RD & BAYCREST DR (__3ZA9YT)	0	0
HAMPSTEAD PL @ WALKLEY RD (0006845)	1	0
JASPER AVE @ WALKLEY RD (0011425)	0	0
WALKLEY RD @ HEATHERINGTON RD (0006928)	1	4
WALKLEY RD btwn BAYCREST DR & HEATHERINGTON RD (__3ZA361)	0	0
WALKLEY RD btwn CEDARWOOD DR & BAYCREST DR (__3ZA37A)	0	0
WALKLEY RD btwn COLLISTON CRES & CEDARWOOD DR (__3ZA370)	2	0
WALKLEY RD btwn COLLISTON CRES & COLLISTON CRES (__3ZA378)	0	0
WALKLEY RD btwn HAMPSTEAD PL & JASPER AVE (__3ZA377)	0	0
WALKLEY RD btwn JASPER AVE & COLLISTON CRES (__5RFCCN)	0	0
BAYCREST DR @ CEDARWOOD DR (0006999)	0	0
BAYCREST DR @ SANDALWOOD DR (0007085)	0	0
BAYCREST DR btwn CEDARWOOD DR & SANDALWOOD DR (__3ZA9YY)	0	1

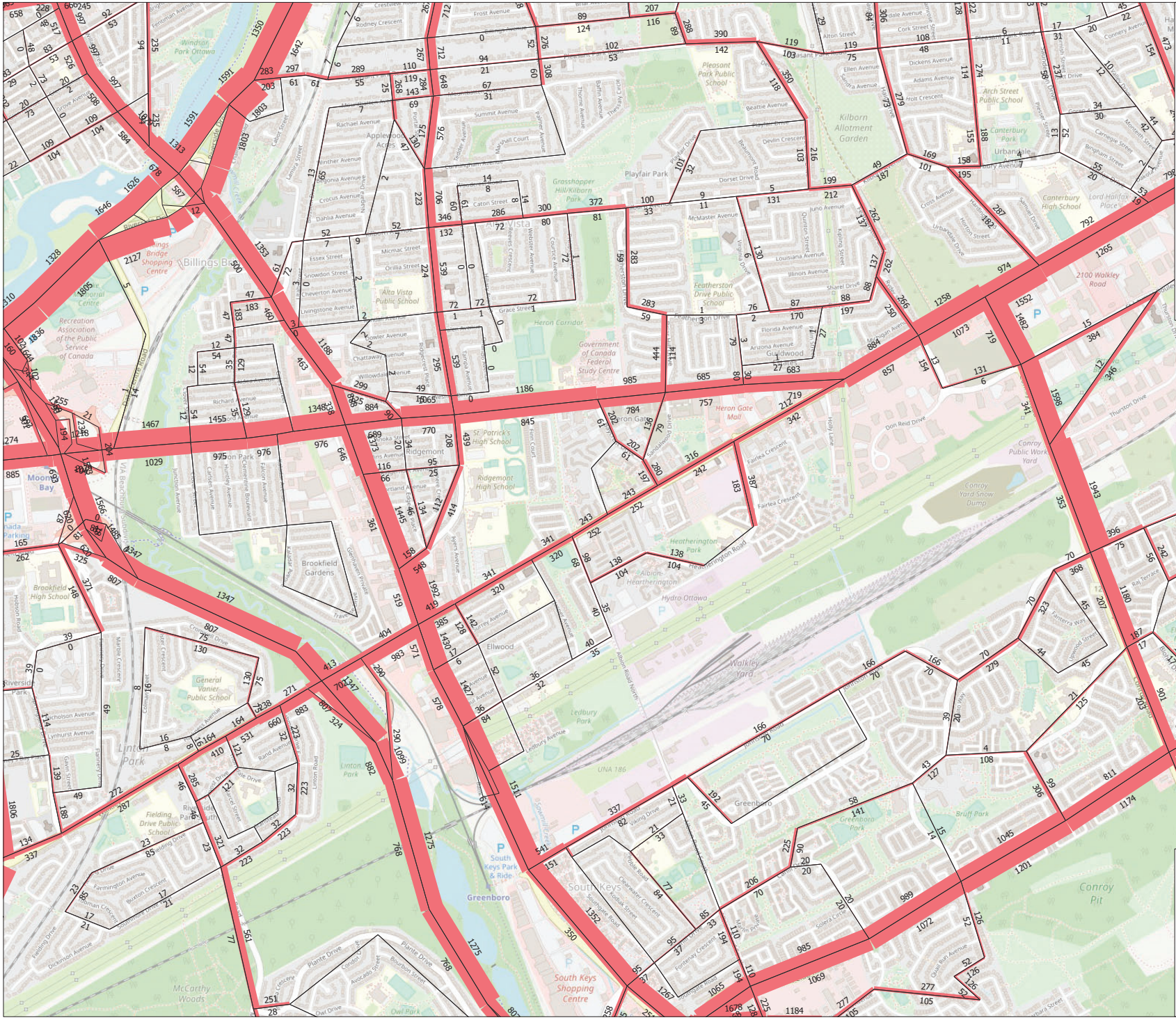
Appendix E

City TRANS Forecasts – Background Growth

INTERSECTION TRAFFIC GROWTH RATE, AM PEAK PERIOD

Total Vehicular Volume Entering the Intersection, 2000 to 2016





TRANS Regional Model

Version 1.13 - Assigned March 6, 2019

AM Peak Hour Total Traffic Volume

Baycrest Drive - Heron Gate

2011 - Base Scenario

User Initials: SG
Plot Prepared: March 11, 2019
EMME Scenario: 11132

Legend

AM Peak Hour Total Traffic Volume

300 600 900 1200 1500

Distance (m)

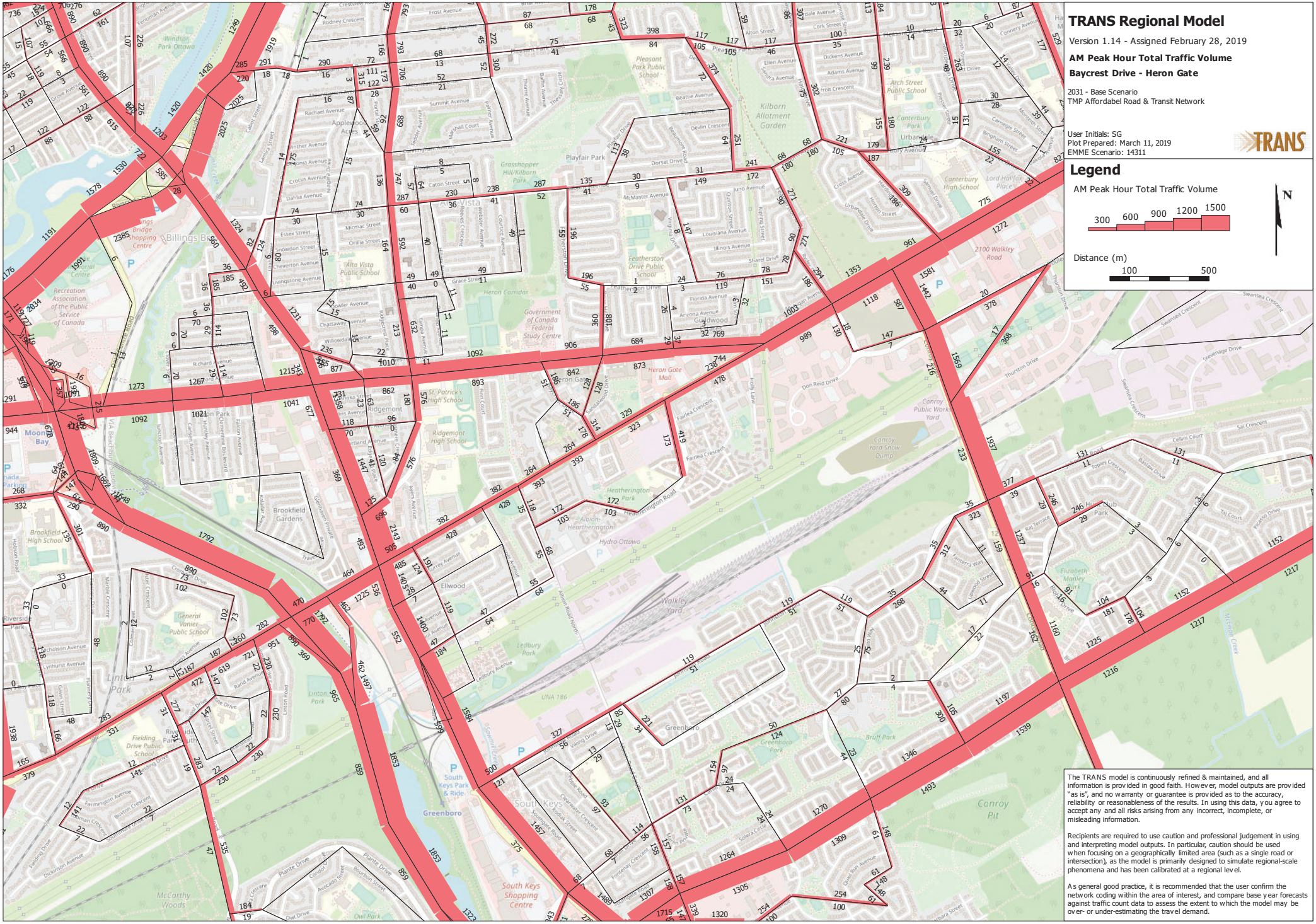
100 500

N

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

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

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



TRANS Regional Model

Version 1.14 - Assigned February 28, 2019

AM Peak Hour Total Traffic Volume

Baycrest Drive - Heron Gate

2031 - Base Scenario
TMP Affordabel Road & Transit Network

User Initials: SG
Plot Prepared: March 11, 2019
EMME Scenario: 14311

Legend

AM Peak Hour Total Traffic Volume

300 600 900 1200 1500

Distance (m)

100 500

N

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

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

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

Appendix F

Synchro Intersection Worksheets – 2036 Future Background Conditions

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	17	647	228	29	1052	20	402	22	68	3	3
Future Volume (vph)	1	17	647	228	29	1052	20	402	22	68	3	3
Satd. Flow (prot)	0	1658	3127	0	1658	3301	0	0	1641	0	1658	1558
Flt Permitted		0.124			0.199				0.761		0.566	
Satd. Flow (perm)	0	216	3127	0	345	3301	0	0	1269	0	985	1558
Satd. Flow (RTOR)			71			3			11			4
Lane Group Flow (vph)	0	18	875	0	29	1072	0	0	492	0	3	7
Turn Type	Perm	Perm	NA		Perm	NA		Perm	NA		Perm	NA
Protected Phases			4			8			2			6
Permitted Phases	4	4			8			2			6	
Detector Phase	4	4	4		8	8		2	2		6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0
Minimum Split (s)	27.7	27.7	27.7		27.7	27.7		35.0	35.0		35.0	35.0
Total Split (s)	45.0	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0
Total Split (%)	50.0%	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%
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)	1.4	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	None	None	None		None	None		Max	Max		Max	Max
Act Effct Green (s)		32.2	32.2		32.2	32.2			39.2		39.2	39.2
Actuated g/C Ratio		0.39	0.39		0.39	0.39			0.48		0.48	0.48
v/c Ratio		0.21	0.69		0.21	0.83			0.81		0.01	0.01
Control Delay		23.0	21.9		20.4	28.5			32.1		14.0	10.7
Queue Delay		0.0	0.0		0.0	0.0			0.0		0.0	0.0
Total Delay		23.0	21.9		20.4	28.5			32.1		14.0	10.7
LOS		C	C		C	C			C		B	B
Approach Delay			21.9			28.2			32.1			11.7
Approach LOS			C			C			C			B
Queue Length 50th (m)		1.9	56.4		3.1	81.0			64.8		0.3	0.3
Queue Length 95th (m)		7.3	76.2		9.6	105.3			#142.2		2.0	2.9
Internal Link Dist (m)			327.1			295.8			181.0			16.2
Turn Bay Length (m)		45.0			50.0							
Base Capacity (vph)		106	1577		170	1628			611		469	745
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		0.17	0.55		0.17	0.66			0.81		0.01	0.01

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 82.2
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.83

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	4
Future Volume (vph)	4
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Satd. Flow (RTOR)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

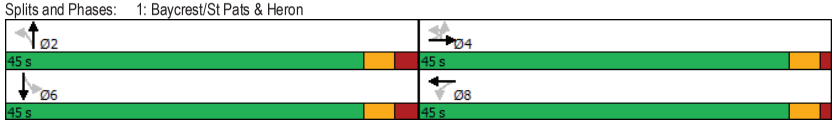
Lanes, Volumes, Timings
1: Baycrest/St Pats & Heron

03-25-2019

Intersection Signal Delay: 26.7	Intersection LOS: C
Intersection Capacity Utilization 76.2%	ICU Level of Service D
Analysis Period (min) 15	

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

Splits and Phases: 1: Baycrest/St Pats & Heron



Lanes, Volumes, Timings
2: Sandalwood/Briar Hill & Heron

03-25-2019

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	40	690	28	32	990	16	62	12	28	7	13
Future Volume (vph)	1	40	690	28	32	990	16	62	12	28	7	13
Satd. Flow (prot)	0	1658	3291	0	1658	3307	0	1658	1547	0	1658	1507
Flt Permitted		0.160			0.300			0.706			0.731	
Satd. Flow (perm)	0	278	3291	0	521	3307	0	1228	1547	0	1273	1507
Satd. Flow (RTOR)			7			3			28			66
Lane Group Flow (vph)	0	41	718	0	32	1006	0	62	40	0	7	79
Turn Type	Perm	Perm	NA		Perm	NA		Perm	NA		Perm	NA
Protected Phases			4			8			2			6
Permitted Phases	4	4			8			2			6	
Detector Phase	4	4	4		8	8		2	2		6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0
Minimum Split (s)	24.3	24.3	24.3		24.3	24.3		35.1	35.1		35.1	35.1
Total Split (s)	55.0	55.0	55.0		55.0	55.0		35.1	35.1		35.1	35.1
Total Split (%)	61.0%	61.0%	61.0%		61.0%	61.0%		39.0%	39.0%		39.0%	39.0%
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)	2.0	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	None	None	None		None	None		Max	Max		Max	Max
Act Effct Green (s)		26.4	26.4		26.4	26.4		29.2	29.2		29.2	29.2
Actuated g/C Ratio		0.39	0.39		0.39	0.39		0.44	0.44		0.44	0.44
v/c Ratio		0.38	0.55		0.16	0.77		0.12	0.06		0.01	0.11
Control Delay		25.1	17.0		14.5	21.9		14.2	7.7		13.7	5.8
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Delay		25.1	17.0		14.5	21.9		14.2	7.7		13.7	5.8
LOS		C	B		B	C		B	A		B	A
Approach Delay			17.5			21.7			11.6			6.4
Approach LOS			B			C			B			A
Queue Length 50th (m)		3.7	36.5		2.6	58.0		4.6	0.9		0.5	0.9
Queue Length 95th (m)		12.3	50.8		7.9	78.4		14.0	6.9		3.1	9.3
Internal Link Dist (m)			295.8			838.3			333.5			187.5
Turn Bay Length (m)		55.0			55.0			22.0			35.0	
Base Capacity (vph)		207	2456		388	2467		534	689		553	693
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		0.20	0.29		0.08	0.41		0.12	0.06		0.01	0.11

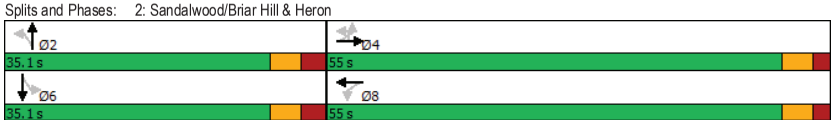
Intersection Summary
Cycle Length: 90.1
Actuated Cycle Length: 67.1
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.77

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	66
Future Volume (vph)	66
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Satd. Flow (RTOR)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Intersection Signal Delay: 18.9	Intersection LOS: B
Intersection Capacity Utilization 69.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: Sandalwood/Briar Hill & Heron

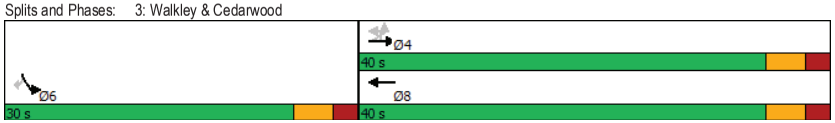


Lane Group	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	2	37	595	619	728	76	86
Future Volume (vph)	2	37	595	619	728	76	86
Satd. Flow (prot)	0	1658	3316	2993	0	1658	1483
Flt Permitted		0.156				0.950	
Satd. Flow (perm)	0	272	3316	2993	0	1649	1455
Satd. Flow (RTOR)				600			86
Lane Group Flow (vph)	0	39	595	1347	0	76	86
Turn Type	Perm	Perm	NA	NA		Prot	Perm
Protected Phases			4	8		6	
Permitted Phases	4	4					6
Detector Phase	4	4	4	8		6	6
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	23.5	23.5	23.5	25.5		29.5	29.5
Total Split (s)	40.0	40.0	40.0	40.0		30.0	30.0
Total Split (%)	57.1%	57.1%	57.1%	57.1%		42.9%	42.9%
Yellow Time (s)	3.3	3.3	3.3	3.3		3.3	3.3
All-Red Time (s)	2.2	2.2	2.2	2.2		2.2	2.2
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None		Max	Max
Act Effct Green (s)		25.6	25.6	25.6		24.8	24.8
Actuated g/C Ratio		0.42	0.42	0.42		0.40	0.40
v/c Ratio		0.35	0.43	0.84		0.11	0.13
Control Delay		21.1	13.3	14.0		14.7	4.8
Queue Delay		0.0	0.0	0.0		0.0	0.0
Total Delay		21.1	13.3	14.0		14.7	4.8
LOS		C	B	B		B	A
Approach Delay			13.8	14.0		9.4	
Approach LOS			B	B		A	
Queue Length 50th (m)		3.0	25.0	39.3		5.6	0.0
Queue Length 95th (m)		10.7	36.0	65.4		15.7	8.4
Internal Link Dist (m)			340.4	238.6		352.9	
Turn Bay Length (m)		57.0				15.0	
Base Capacity (vph)		154	1882	1958		668	638
Starvation Cap Reductn		0	0	0		0	0
Spillback Cap Reductn		0	0	0		0	0
Storage Cap Reductn		0	0	0		0	0
Reduced v/c Ratio		0.25	0.32	0.69		0.11	0.13

Intersection Summary
Cycle Length: 70
Actuated Cycle Length: 61.6
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.84

Intersection Signal Delay: 13.6 Intersection LOS: B
Intersection Capacity Utilization 72.3% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 3: Walkley & Cedarwood



Lanes, Volumes, Timings
4: Private/Baycrest & Walkley

03-25-2019

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	59	644	10	1	8	657	155	24	19	26	213	5
Future Volume (vph)	59	644	10	1	8	657	155	24	19	26	213	5
Satd. Flow (prot)	1658	3307	0	0	1658	3197	0	0	1609	0	1658	1466
Flt Permitted	0.240				0.339				0.905		0.712	
Satd. Flow (perm)	417	3307	0	0	587	3197	0	0	1477	0	1221	1466
Satd. Flow (RTOR)		3				54			26			95
Lane Group Flow (vph)	59	654	0	0	9	812	0	0	69	0	213	100
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		4				8			2			6
Permitted Phases	4			8	8			2			6	
Detector Phase	4	4		8	8	8		2	2		6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0		10.0	10.0		10.0	10.0
Minimum Split (s)	25.9	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	38.0		32.0	32.0		32.0	32.0
Total Split (%)	54.3%	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	3.3
All-Red Time (s)	2.6	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	None	None		None	None	None		Max	Max		Max	Max
Act Effct Green (s)	19.5	19.5			19.5	19.5			26.1		26.1	26.1
Actuated g/C Ratio	0.34	0.34			0.34	0.34			0.45		0.45	0.45
v/c Ratio	0.42	0.58			0.05	0.73			0.10		0.39	0.14
Control Delay	24.3	17.6			12.6	19.5			8.2		14.6	4.0
Queue Delay	0.0	0.0			0.0	0.0			0.0		0.0	0.0
Total Delay	24.3	17.6			12.6	19.5			8.2		14.6	4.0
LOS	C	B			B	B			A		B	A
Approach Delay		18.2				19.4			8.2			11.2
Approach LOS		B				B			A			B
Queue Length 50th (m)	4.9	30.2			0.7	37.4			2.5		14.5	0.3
Queue Length 95th (m)	14.6	44.0			3.1	54.3			10.3		36.4	8.4
Internal Link Dist (m)		238.6				1021.0			32.3			109.2
Turn Bay Length (m)	48.0				40.0						15.0	
Base Capacity (vph)	233	1853			328	1814			681		551	714
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	0.35			0.03	0.45			0.10		0.39	0.14

Intersection Summary
Cycle Length: 70
Actuated Cycle Length: 57.7
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.73

Lanes, Volumes, Timings
4: Private/Baycrest & Walkley

03-25-2019

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	95
Future Volume (vph)	95
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Satd. Flow (RTOR)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

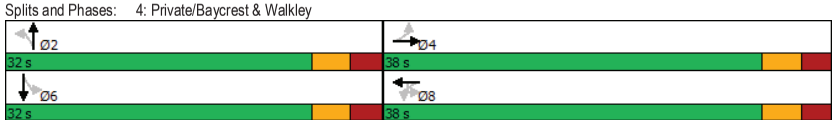
Intersection Summary

Lanes, Volumes, Timings
4: Private/Baycrest & Walkley

03-25-2019

Intersection Signal Delay: 17.2	Intersection LOS: B
Intersection Capacity Utilization 68.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 4: Private/Baycrest & Walkley



Lanes, Volumes, Timings
1: Alta Vista & Heron

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	593	81	137	931	186	58	241	13	118	246	138
Future Volume (vph)	97	593	81	137	931	186	58	241	13	118	246	138
Satd. Flow (prot)	1658	3256	0	1658	3316	1483	1658	1733	0	1658	1651	0
Flt Permitted	0.950			0.950			0.514			0.371		
Satd. Flow (perm)	1658	3256	0	1658	3316	1483	897	1733	0	647	1651	0
Satd. Flow (RTOR)		17				207		3			38	
Lane Group Flow (vph)	108	749	0	152	1034	207	64	282	0	131	426	0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases						8	2			6		
Detector Phase	7	4		3	8	8	2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	10.0	10.0		5.0	10.0	
Minimum Split (s)	10.4	22.5		10.4	22.5	22.5	29.9	29.9		9.5	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	Max		None	Max	Max	Max	Max		None	Max	
Act Effct Green (s)	7.6	28.6		7.6	28.6	28.6	24.5	24.5		38.7	37.1	
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	0.77	0.72		1.09	0.98	0.34	0.26	0.59		0.35	0.61	
Control Delay	75.4	31.1		142.6	55.4	5.1	29.6	34.4		18.9	23.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	75.4	31.1		142.6	55.4	5.1	29.6	34.4		18.9	23.2	
LOS	E	C		F	E	A	C	C		B	C	
Approach Delay		36.7			57.5			33.5			22.2	
Approach LOS		D			E			C			C	
Queue Length 50th (m)	19.6	61.4		~31.4	97.4	0.0	9.2	44.4		14.3	53.8	
Queue Length 95th (m)	#47.4	82.7		#69.6	#141.9	15.2	20.6	71.2		26.2	85.6	
Internal Link Dist (m)		200.1			317.8			368.0			361.8	
Turn Bay Length (m)	65.0			57.0		75.0	21.0			38.0		
Base Capacity (vph)	140	1046		140	1053	612	244	474		375	702	
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	0.72		1.09	0.98	0.34	0.26	0.59		0.35	0.61	

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Natural Cycle: 90
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.09

Lanes, Volumes, Timings
1: Alta Vista & Heron

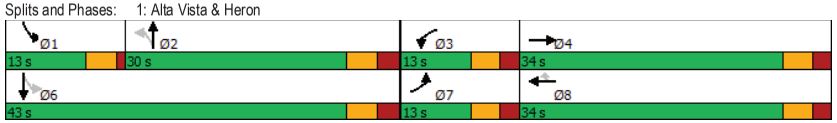
03-25-2019

Intersection Signal Delay: 42.9	Intersection LOS: D
Intersection Capacity Utilization 82.6%	ICU Level of Service E
Analysis Period (min) 15	

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

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

Splits and Phases: 1: Alta Vista & Heron



Lanes, Volumes, Timings
2: Finn & Heron

03-25-2019

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	733	16	11	1179	32	16
Future Volume (vph)	733	16	11	1179	32	16
Satd. Flow (prot)	3306	0	1658	3316	1658	1483
Flt Permitted			0.339		0.950	
Satd. Flow (perm)	3306	0	592	3316	1658	1483
Satd. Flow (RTOR)	5					18
Lane Group Flow (vph)	832	0	12	1310	36	18
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	5.0	5.0
Minimum Split (s)	33.0		22.5	22.5	24.8	24.8
Total Split (s)	65.0		65.0	65.0	25.0	25.0
Total Split (%)	72.2%		72.2%	72.2%	27.8%	27.8%
Yellow Time (s)	3.3		3.3	3.3	3.3	3.3
All-Red Time (s)	2.7		2.7	2.7	2.5	2.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	5.8	5.8
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max		Max	Max	None	None
Act Effct Green (s)	67.4		67.4	67.4	7.2	7.2
Actuated g/C Ratio	0.85		0.85	0.85	0.09	0.09
v/c Ratio	0.30		0.02	0.47	0.24	0.12
Control Delay	2.7		2.9	3.6	36.8	16.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	2.7		2.9	3.6	36.8	16.8
LOS	A		A	A	D	B
Approach Delay	2.7			3.6	30.1	
Approach LOS	A			A	C	
Queue Length 50th (m)	16.6		0.4	32.7	5.3	0.0
Queue Length 95th (m)	26.6		1.6	51.1	14.0	6.1
Internal Link Dist (m)	317.8			954.9	272.9	
Turn Bay Length (m)			50.0		15.0	
Base Capacity (vph)	2805		502	2813	400	372
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.30		0.02	0.47	0.09	0.05

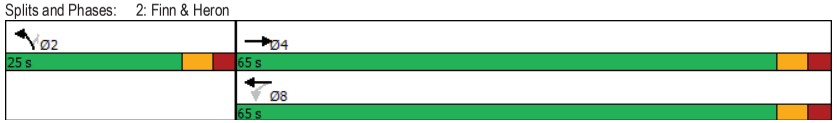
Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 79.4
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.47

Lanes, Volumes, Timings
2: Finn & Heron

03-25-2019

Intersection Signal Delay: 3.9	Intersection LOS: A
Intersection Capacity Utilization 48.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: Finn & Heron



Lanes, Volumes, Timings
3: HG Mall/Jefferson & Heron

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	580	44	12	938	25	29	29	25	28	24	72
Future Volume (vph)	31	580	44	12	938	25	29	29	25	28	24	72
Satd. Flow (prot)	1658	3316	1483	1658	3302	0	1658	1745	1483	0	1591	0
Flt Permitted	0.242			0.407			0.685				0.913	
Satd. Flow (perm)	422	3316	1483	710	3302	0	1195	1745	1483	0	1469	0
Satd. Flow (RTOR)			49		4				32		74	
Lane Group Flow (vph)	34	644	49	13	1070	0	32	32	28	0	138	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2		2	6		
Detector Phase	4	4	4	8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.6	30.6	30.6	30.6	30.6		35.2	35.2	35.2	35.2	35.2	
Total Split (s)	52.0	52.0	52.0	52.0	52.0		38.0	38.0	38.0	38.0	38.0	
Total Split (%)	57.8%	57.8%	57.8%	57.8%	57.8%		42.2%	42.2%	42.2%	42.2%	42.2%	
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	
Total Lost Time (s)	5.6	5.6	5.6	5.6	5.6		6.2	6.2	6.2		6.2	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max	Max	Max	Max		None	None	None	None	None	
Act Effct Green (s)	50.0	50.0	50.0	50.0	50.0		10.7	10.7	10.7		10.7	
Actuated g/C Ratio	0.69	0.69	0.69	0.69	0.69		0.15	0.15	0.15		0.15	
v/c Ratio	0.12	0.28	0.05	0.03	0.47		0.18	0.12	0.11		0.49	
Control Delay	5.4	4.9	1.6	4.2	6.2		28.0	26.3	10.2		20.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	5.4	4.9	1.6	4.2	6.2		28.0	26.3	10.2		20.1	
LOS	A	A	A	A	A		C	C	B		C	
Approach Delay		4.7			6.1			22.0			20.1	
Approach LOS		A			A			C			C	
Queue Length 50th (m)	1.3	14.7	0.0	0.5	29.2		3.8	3.8	0.0		7.8	
Queue Length 95th (m)	4.9	25.1	3.0	2.3	47.5		11.0	10.8	5.9		23.1	
Internal Link Dist (m)		954.9			280.8			63.4			133.2	
Turn Bay Length (m)	55.0		50.0	50.0			15.0					
Base Capacity (vph)	290	2285	1037	489	2276		526	768	671		688	
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	0.28	0.05	0.03	0.47		0.06	0.04	0.04		0.20	

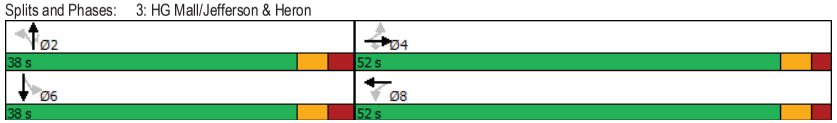
Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 72.5
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.49

Lanes, Volumes, Timings
3: HG Mall/Jefferson & Heron

03-25-2019

Intersection Signal Delay: 7.3	Intersection LOS: A
Intersection Capacity Utilization 52.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 3: HG Mall/Jefferson & Heron



Lanes, Volumes, Timings
4: Hampstead/Jim Durrell RC & Walkley

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	661	17	10	793	28	16	1	13	19	0	30
Future Volume (vph)	18	661	17	10	793	28	16	1	13	19	0	30
Satd. Flow (prot)	1658	3302	0	1658	3299	0	0	1601	0	1658	1483	0
Flt Permitted	0.310			0.366				0.812		0.736		
Satd. Flow (perm)	541	3302	0	639	3299	0	0	1336	0	1284	1483	0
Satd. Flow (RTOR)		5			7			14			98	
Lane Group Flow (vph)	20	753	0	11	912	0	0	33	0	21	33	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	32.1	32.1		32.1	32.1		29.9	29.9		29.9	29.9	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	57.1%	57.1%		57.1%	57.1%		42.9%	42.9%		42.9%	42.9%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.8	2.8		2.8	2.8		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1			5.9		5.9	5.9	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Act Effct Green (s)	46.4	46.4		46.4	46.4			10.1		10.1	10.1	
Actuated g/C Ratio	0.79	0.79		0.79	0.79			0.17		0.17	0.17	
v/c Ratio	0.05	0.29		0.02	0.35			0.14		0.10	0.10	
Control Delay	4.7	4.2		4.4	4.5			16.7		22.1	0.6	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	4.7	4.2		4.4	4.5			16.7		22.1	0.6	
LOS	A	A		A	A			B		C	A	
Approach Delay		4.2			4.5			16.7			9.0	
Approach LOS		A			A			B			A	
Queue Length 50th (m)	0.7	18.1		0.4	23.3			2.4		2.6	0.0	
Queue Length 95th (m)	2.9	26.8		1.9	34.1			8.0		6.9	0.0	
Internal Link Dist (m)		181.7			386.9			131.2			67.6	
Turn Bay Length (m)	60.0			54.0						25.0		
Base Capacity (vph)	424	2591		501	2590			557		528	667	
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	0.05	0.29		0.02	0.35			0.06		0.04	0.05	

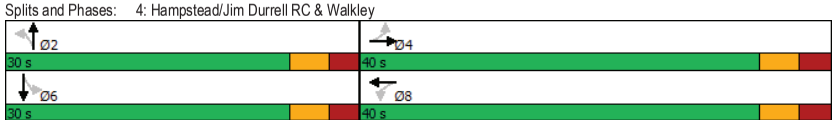
Intersection Summary
Cycle Length: 70
Actuated Cycle Length: 59.1
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.35

Lanes, Volumes, Timings
4: Hampstead/Jim Durrell RC & Walkley

03-25-2019

Intersection Signal Delay: 4.7	Intersection LOS: A
Intersection Capacity Utilization 42.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Hampstead/Jim Durrell RC & Walkley



Lanes, Volumes, Timings
5: Albion/Colliston & Walkley

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	526	129	92	643	12	116	1	87	11	5	8
Future Volume (vph)	8	526	129	92	643	12	116	1	87	11	5	8
Satd. Flow (prot)	1658	3316	1483	1658	3306	0	1658	1487	0	1658	1588	0
Flt Permitted	0.375			0.432			0.748			0.694		
Satd. Flow (perm)	654	3316	1483	754	3306	0	1305	1487	0	1211	1588	0
Satd. Flow (RTOR)			143		4			97			9	
Lane Group Flow (vph)	9	584	143	102	727	0	129	98	0	12	15	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0		29.2	29.2		29.2	29.2	
Total Split (s)	41.0	41.0	41.0	41.0	41.0		29.2	29.2		29.2	29.2	
Total Split (%)	58.4%	58.4%	58.4%	58.4%	58.4%		41.6%	41.6%		41.6%	41.6%	
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)	2.7	2.7	2.7	2.7	2.7		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	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.2	6.2		6.2	6.2	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max	Max	Max	Max		None	None		None	None	
Act Effct Green (s)	40.0	40.0	40.0	40.0	40.0		12.0	12.0		12.0	12.0	
Actuated g/C Ratio	0.67	0.67	0.67	0.67	0.67		0.20	0.20		0.20	0.20	
v/c Ratio	0.02	0.26	0.14	0.20	0.33		0.49	0.26		0.05	0.05	
Control Delay	6.1	6.2	1.8	7.8	6.5		27.9	7.1		19.0	13.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	6.1	6.2	1.8	7.8	6.5		27.9	7.1		19.0	13.6	
LOS	A	A	A	A	A		C	A		B	B	
Approach Delay		5.3			6.7			18.9			16.0	
Approach LOS		A			A			B			B	
Queue Length 50th (m)	0.4	14.1	0.0	4.5	18.5		13.1	0.1		1.1	0.6	
Queue Length 95th (m)	2.2	27.4	6.5	14.0	35.2		27.4	10.0		4.8	4.5	
Internal Link Dist (m)		386.9			832.0			135.7			92.3	
Turn Bay Length (m)	52.0		35.0	57.0			25.0			30.0		
Base Capacity (vph)	439	2229	1044	507	2224		505	635		469	620	
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	0.02	0.26	0.14	0.20	0.33		0.26	0.15		0.03	0.02	

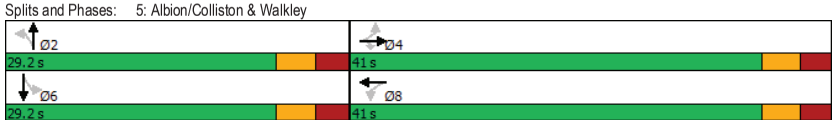
Intersection Summary
Cycle Length: 70.2
Actuated Cycle Length: 59.5
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.49

Lanes, Volumes, Timings
5: Albion/Colliston & Walkley

03-25-2019

Intersection Signal Delay: 7.8	Intersection LOS: A
Intersection Capacity Utilization 56.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 5: Albion/Colliston & Walkley



Lanes, Volumes, Timings
6: Heatherington/HG Mall & Walkley

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	548	118	80	559	26	146	22	99	14	11	35
Future Volume (vph)	67	548	118	80	559	26	146	22	99	14	11	35
Satd. Flow (prot)	1658	3226	0	1658	3316	1483	1658	1530	0	0	1588	0
Flt Permitted	0.416			0.361			0.713				0.903	
Satd. Flow (perm)	726	3226	0	630	3316	1483	1244	1530	0	0	1451	0
Satd. Flow (RTOR)		45				51		110			39	
Lane Group Flow (vph)	74	740	0	89	621	29	162	134	0	0	67	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	27.2	27.2		27.2	27.2	27.2	34.3	34.3		34.3	34.3	
Total Split (s)	36.0	36.0		36.0	36.0	36.0	34.3	34.3		34.3	34.3	
Total Split (%)	51.2%	51.2%		51.2%	51.2%	51.2%	48.8%	48.8%		48.8%	48.8%	
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)	2.9	2.9		2.9	2.9	2.9	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.2	6.2		6.2	6.2	6.2	6.3	6.3			6.3	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max	Max	None	None		None	None	
Act Effct Green (s)	32.6	32.6		32.6	32.6	32.6	13.1	13.1			13.1	
Actuated g/C Ratio	0.56	0.56		0.56	0.56	0.56	0.22	0.22			0.22	
v/c Ratio	0.18	0.41		0.25	0.33	0.03	0.58	0.31			0.19	
Control Delay	9.1	8.3		10.4	8.2	1.6	27.9	7.6			10.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay	9.1	8.3		10.4	8.2	1.6	27.9	7.6			10.5	
LOS	A	A		B	A	A	C	A			B	
Approach Delay		8.3			8.2			18.7			10.5	
Approach LOS		A			A			B			B	
Queue Length 50th (m)	3.4	19.3		4.3	16.6	0.0	15.0	2.0			2.3	
Queue Length 95th (m)	11.8	38.5		14.9	33.0	2.0	30.7	12.7			10.1	
Internal Link Dist (m)		832.0			331.8			119.9			86.2	
Turn Bay Length (m)	46.0			37.0			25.0					
Base Capacity (vph)	406	1824		352	1855	852	602	797			722	
Starvation Cap Reductn	0	0		0	0	0	0	0			0	
Spillback Cap Reductn	0	0		0	0	0	0	0			0	
Storage Cap Reductn	0	0		0	0	0	0	0			0	
Reduced v/c Ratio	0.18	0.41		0.25	0.33	0.03	0.27	0.17			0.09	

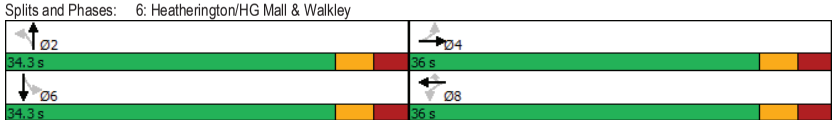
Intersection Summary
Cycle Length: 70.3
Actuated Cycle Length: 58.3
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.58

Lanes, Volumes, Timings
6: Heatherington/HG Mall & Walkley

03-25-2019

Intersection Signal Delay: 10.0	Intersection LOS: A
Intersection Capacity Utilization 60.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 6: Heatherington/HG Mall & Walkley



Lanes, Volumes, Timings
1: Baycrest/St Pats & Heron

03-25-2019

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	2	16	1060	368	39	952	13	185	2	47	18	7
Future Volume (vph)	2	16	1060	368	39	952	13	185	2	47	18	7
Satd. Flow (prot)	0	1658	3138	0	1658	3307	0	0	1627	0	1658	1648
Flt Permitted		0.254			0.123				0.764		0.677	
Satd. Flow (perm)	0	442	3138	0	215	3307	0	0	1267	0	1176	1648
Satd. Flow (RTOR)			87			2			15			3
Lane Group Flow (vph)	0	18	1428	0	39	965	0	0	234	0	18	10
Turn Type	Perm	Perm	NA		Perm	NA		Perm	NA		Perm	NA
Protected Phases			4			8			2			6
Permitted Phases	4	4			8			2			6	
Detector Phase	4	4	4		8	8		2	2		6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0
Minimum Split (s)	27.7	27.7	27.7		27.7	27.7		35.0	35.0		35.0	35.0
Total Split (s)	55.0	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%	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	3.3
All-Red Time (s)	1.4	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	Max	Max	Max		Max	Max		None	None		None	None
Act Effct Green (s)		50.8	50.8		50.8	50.8			20.1		20.1	20.1
Actuated g/C Ratio		0.62	0.62		0.62	0.62			0.25		0.25	0.25
v/c Ratio		0.07	0.72		0.29	0.47			0.73		0.06	0.02
Control Delay		9.3	13.9		17.3	10.3			39.3		22.3	18.5
Queue Delay		0.0	0.0		0.0	0.0			0.0		0.0	0.0
Total Delay		9.3	13.9		17.3	10.3			39.3		22.3	18.5
LOS		A	B		B	B			D		C	B
Approach Delay			13.9			10.6			39.3			21.0
Approach LOS			B			B			D			C
Queue Length 50th (m)		1.0	66.8		2.5	37.5			32.6		2.3	0.9
Queue Length 95th (m)		4.8	127.0		12.5	70.2			57.2		7.2	4.5
Internal Link Dist (m)			327.1			295.8			181.0			16.2
Turn Bay Length (m)		45.0			50.0							
Base Capacity (vph)		275	1985		133	2058			462		420	591
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		0.07	0.72		0.29	0.47			0.51		0.04	0.02

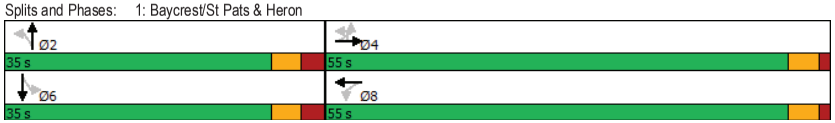
Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 81.7
Natural Cycle: 75
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.73

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	3
Future Volume (vph)	3
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Satd. Flow (RTOR)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Intersection Signal Delay: 14.9	Intersection LOS: B
Intersection Capacity Utilization 74.2%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 1: Baycrest/St Pats & Heron



Lanes, Volumes, Timings
2: Sandalwood/Briar Hill & Heron

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	1023	46	73	963	18	32	21	45	8	26	41
Future Volume (vph)	60	1023	46	73	963	18	32	21	45	8	26	41
Satd. Flow (prot)	1658	3289	0	1658	3303	0	1658	1541	0	1658	1550	0
Flt Permitted	0.279			0.251			0.713			0.714		
Satd. Flow (perm)	485	3289	0	436	3303	0	1217	1541	0	1231	1550	0
Satd. Flow (RTOR)		8			3			45			41	
Lane Group Flow (vph)	60	1069	0	73	981	0	32	66	0	8	67	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	24.3	24.3		24.3	24.3		35.1	35.1		35.1	35.1	
Total Split (s)	55.0	55.0		55.0	55.0		35.1	35.1		35.1	35.1	
Total Split (%)	61.0%	61.0%		61.0%	61.0%		39.0%	39.0%		39.0%	39.0%	
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	Max	Max		Max	Max		None	None		None	None	
Act Effct Green (s)	56.3	56.3		56.3	56.3		10.0	10.0		10.0	10.0	
Actuated g/C Ratio	0.77	0.77		0.77	0.77		0.14	0.14		0.14	0.14	
v/c Ratio	0.16	0.42		0.22	0.39		0.19	0.27		0.05	0.27	
Control Delay	4.9	4.7		5.8	4.4		30.6	16.1		27.4	17.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	4.9	4.7		5.8	4.4		30.6	16.1		27.4	17.4	
LOS	A	A		A	A		C	B		C	B	
Approach Delay		4.7			4.5			20.8			18.4	
Approach LOS		A			A			C			B	
Queue Length 50th (m)	2.4	28.2		3.0	25.1		4.0	2.6		1.0	3.3	
Queue Length 95th (m)	6.5	38.8		8.3	34.4		11.6	13.1		4.7	13.9	
Internal Link Dist (m)		295.8			838.3			333.5			187.5	
Turn Bay Length (m)	55.0			55.0			22.0			35.0		
Base Capacity (vph)	372	2528		334	2537		483	639		489	640	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.16	0.42		0.22	0.39		0.07	0.10		0.02	0.10	

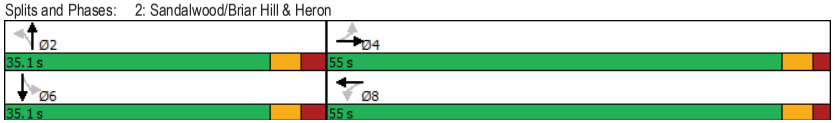
Intersection Summary
Cycle Length: 90.1
Actuated Cycle Length: 73.3
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.42

Lanes, Volumes, Timings
2: Sandalwood/Briar Hill & Heron

03-25-2019

Intersection Signal Delay: 5.7 — Intersection LOS: A
Intersection Capacity Utilization 71.2% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 2: Sandalwood/Briar Hill & Heron

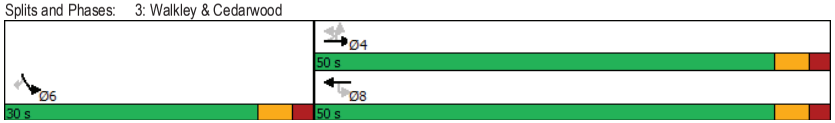


Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	1	125	765	2	953	56	54	113
Future Volume (vph)	1	125	765	2	953	56	54	113
Satd. Flow (prot)	0	1658	3316	0	3278	0	1658	1483
Flt Permitted		0.268			0.954		0.950	
Satd. Flow (perm)	0	464	3316	0	3127	0	1645	1429
Satd. Flow (RTOR)					12			92
Lane Group Flow (vph)	0	126	765	0	1011	0	54	113
Turn Type	Perm	Perm	NA	Perm	NA		Prot	Perm
Protected Phases			4		8		6	
Permitted Phases	4	4		8				6
Detector Phase	4	4	4	8	8		6	6
Switch Phase								
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	23.5	23.5	23.5	25.5	25.5		29.5	29.5
Total Split (s)	50.0	50.0	50.0	50.0	50.0		30.0	30.0
Total Split (%)	62.5%	62.5%	62.5%	62.5%	62.5%		37.5%	37.5%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2		2.2	2.2
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0
Total Lost Time (s)		5.5	5.5		5.5		5.5	5.5
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max		None	None
Act Effct Green (s)		48.7	48.7		48.7		10.2	10.2
Actuated g/C Ratio		0.74	0.74		0.74		0.16	0.16
v/c Ratio		0.37	0.31		0.44		0.21	0.38
Control Delay		8.5	4.4		5.1		26.6	12.7
Queue Delay		0.0	0.0		0.0		0.0	0.0
Total Delay		8.5	4.4		5.1		26.6	12.7
LOS		A	A		A		C	B
Approach Delay			4.9		5.1		17.2	
Approach LOS			A		A		B	
Queue Length 50th (m)		5.8	17.4		25.8		6.1	2.3
Queue Length 95th (m)		16.9	26.1		38.2		15.4	15.2
Internal Link Dist (m)			340.4		238.6		352.9	
Turn Bay Length (m)		57.0					15.0	
Base Capacity (vph)		344	2459		2323		619	591
Starvation Cap Reductn		0	0		0		0	0
Spillback Cap Reductn		0	0		0		0	0
Storage Cap Reductn		0	0		0		0	0
Reduced v/c Ratio		0.37	0.31		0.44		0.09	0.19

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 65.6
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.44

Intersection Signal Delay: 6.0 Intersection LOS: A
Intersection Capacity Utilization 81.5% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 3: Walkley & Cedarwood



Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	106	684	18	3	22	879	241	17	11	19	154
Future Volume (vph)	1	106	684	18	3	22	879	241	17	11	19	154
Satd. Flow (prot)	0	1658	3296	0	0	1658	3155	0	0	1597	0	1658
Flt Permitted		0.203				0.367				0.888		0.726
Satd. Flow (perm)	0	351	3296	0	0	627	3155	0	0	1425	0	1241
Satd. Flow (RTOR)			5				66			19		
Lane Group Flow (vph)	0	107	702	0	0	25	1120	0	0	47	0	154
Turn Type	Perm	Perm	NA		Perm	Perm	NA		Perm	NA		Perm
Protected Phases			4				8			2		
Permitted Phases	4	4			8	8			2			6
Detector Phase	4	4	4		8	8	8		2	2		6
Switch Phase												
Minimum Initial (s)	10.0	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	25.9	25.9		31.1	31.1		31.1
Total Split (s)	48.0	48.0	48.0		48.0	48.0	48.0		32.0	32.0		32.0
Total Split (%)	60.0%	60.0%	60.0%		60.0%	60.0%	60.0%		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
All-Red Time (s)	2.6	2.6	2.6		2.6	2.6	2.6		2.8	2.8		2.8
Lost Time Adjust (s)		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
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max	Max		Max	Max	Max		None	None		None
Act Effct Green (s)		45.3	45.3			45.3	45.3			19.0		19.0
Actuated g/C Ratio		0.59	0.59			0.59	0.59			0.25		0.25
v/c Ratio		0.52	0.36			0.07	0.59			0.13		0.50
Control Delay		23.7	9.8			9.6	11.9			14.1		28.9
Queue Delay		0.0	0.0			0.0	0.0			0.0		0.0
Total Delay		23.7	9.8			9.6	11.9			14.1		28.9
LOS		C	A			A	B			B		C
Approach Delay			11.6				11.9			14.1		
Approach LOS			B				B			B		
Queue Length 50th (m)		10.6	32.1			1.8	58.6			3.1		18.8
Queue Length 95th (m)		#35.6	44.3			5.6	79.7			10.5		35.7
Internal Link Dist (m)			238.6				1021.0			32.3		
Turn Bay Length (m)		48.0				40.0						15.0
Base Capacity (vph)		207	1956			371	1898			499		423
Starvation Cap Reductn		0	0			0	0			0		0
Spillback Cap Reductn		0	0			0	0			0		0
Storage Cap Reductn		0	0			0	0			0		0
Reduced v/c Ratio		0.52	0.36			0.07	0.59			0.09		0.36

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 76.3
Natural Cycle: 75
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.59

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	18	87
Future Volume (vph)	18	87
Satd. Flow (prot)	1459	0
Flt Permitted		
Satd. Flow (perm)	1459	0
Satd. Flow (RTOR)	87	
Lane Group Flow (vph)	105	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	10.0	
Minimum Split (s)	31.1	
Total Split (s)	32.0	
Total Split (%)	40.0%	
Yellow Time (s)	3.3	
All-Red Time (s)	2.8	
Lost Time Adjust (s)	0.0	
Total Lost Time (s)	6.1	
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	None	
Act Effct Green (s)	19.0	
Actuated g/C Ratio	0.25	
v/c Ratio	0.25	
Control Delay	8.1	
Queue Delay	0.0	
Total Delay	8.1	
LOS	A	
Approach Delay	20.5	
Approach LOS	C	
Queue Length 50th (m)	2.0	
Queue Length 95th (m)	12.7	
Internal Link Dist (m)	109.2	
Turn Bay Length (m)		
Base Capacity (vph)	555	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.19	

Intersection Summary

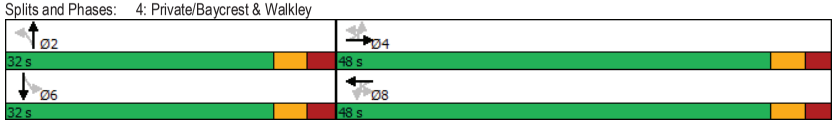
Lanes, Volumes, Timings
4: Private/Baycrest & Walkley

03-25-2019

Intersection Signal Delay: 12.8	Intersection LOS: B
Intersection Capacity Utilization 77.3%	ICU Level of Service D
Analysis Period (min) 15	

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

Splits and Phases: 4: Private/Baycrest & Walkley



Lanes, Volumes, Timings
1: Alta Vista & Heron

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	931	39	107	907	152	21	208	118	174	413	138
Future Volume (vph)	139	931	39	107	907	152	21	208	118	174	413	138
Satd. Flow (prot)	1658	3296	0	1658	3316	1483	1658	1651	0	1658	1679	0
Flt Permitted	0.950			0.950			0.266			0.277		
Satd. Flow (perm)	1658	3296	0	1658	3316	1483	464	1651	0	483	1679	0
Satd. Flow (RTOR)		3				138		22			16	
Lane Group Flow (vph)	154	1077	0	119	1008	169	23	362	0	193	612	0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases						8	2			6		
Detector Phase	7	4		3	8	8	2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	10.0	10.0		5.0	10.0	
Minimum Split (s)	10.4	22.5		10.4	22.5	22.5	29.9	29.9		9.5	29.9	
Total Split (s)	19.0	49.0		19.0	49.0	49.0	44.0	44.0		18.0	62.0	
Total Split (%)	14.6%	37.7%		14.6%	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	Max		None	Max	Max	Max	Max		None	Max	
Act Effct Green (s)	13.5	44.6		12.6	43.6	43.6	39.0	39.0		57.7	56.1	
Actuated g/C Ratio	0.10	0.34		0.10	0.34	0.34	0.30	0.30		0.44	0.43	
v/c Ratio	0.90	0.95		0.74	0.91	0.29	0.17	0.71		0.58	0.83	
Control Delay	103.1	59.2		84.0	53.7	9.1	38.1	47.0		30.6	43.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	103.1	59.2		84.0	53.7	9.1	38.1	47.0		30.6	43.6	
LOS	F	E		F	D	A	D	D		C	D	
Approach Delay		64.7			50.7			46.5			40.4	
Approach LOS		E			D			D			D	
Queue Length 50th (m)	41.7	150.0		31.5	136.2	5.7	4.6	82.8		32.2	141.2	
Queue Length 95th (m)	#83.1	#198.1		#59.0	#176.5	22.8	12.9	120.6		50.1	#201.4	
Internal Link Dist (m)		200.1			317.8			368.0			361.8	
Turn Bay Length (m)	65.0			57.0		75.0	21.0			38.0		
Base Capacity (vph)	173	1132		173	1113	589	138	511		338	733	
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	0.89	0.95		0.69	0.91	0.29	0.17	0.71		0.57	0.83	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 129.9
Natural Cycle: 90
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.95

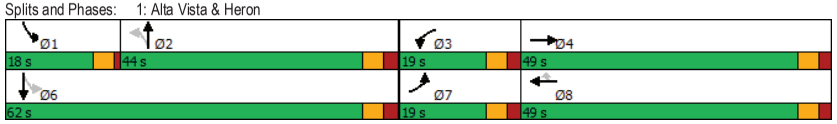
Lanes, Volumes, Timings
1: Alta Vista & Heron

03-25-2019

Intersection Signal Delay: 52.7	Intersection LOS: D
Intersection Capacity Utilization 93.7%	ICU Level of Service F
Analysis Period (min) 15	

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

Splits and Phases: 1: Alta Vista & Heron



Lanes, Volumes, Timings
2: Finn & Heron

03-25-2019

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1194	30	14	1093	9	10
Future Volume (vph)	1194	30	14	1093	9	10
Satd. Flow (prot)	3302	0	1658	3316	1658	1483
Flt Permitted			0.189		0.950	
Satd. Flow (perm)	3302	0	330	3316	1658	1483
Satd. Flow (RTOR)	6					11
Lane Group Flow (vph)	1360	0	16	1214	10	11
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	5.0	5.0
Minimum Split (s)	33.0		22.5	22.5	24.8	24.8
Total Split (s)	65.0		65.0	65.0	25.0	25.0
Total Split (%)	72.2%		72.2%	72.2%	27.8%	27.8%
Yellow Time (s)	3.3		3.3	3.3	3.3	3.3
All-Red Time (s)	2.7		2.7	2.7	2.5	2.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	5.8	5.8
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max		Max	Max	None	None
Act Effct Green (s)	71.5		71.5	71.5	6.1	6.1
Actuated g/C Ratio	0.91		0.91	0.91	0.08	0.08
v/c Ratio	0.46		0.05	0.40	0.08	0.09
Control Delay	2.5		2.4	2.2	34.3	19.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	2.5		2.4	2.2	34.3	19.6
LOS	A		A	A	C	B
Approach Delay	2.5			2.2	26.6	
Approach LOS	A			A	C	
Queue Length 50th (m)	0.0		0.0	0.0	1.5	0.0
Queue Length 95th (m)	46.2		1.9	38.5	6.1	4.7
Internal Link Dist (m)	317.8			954.9	272.9	
Turn Bay Length (m)			50.0		15.0	
Base Capacity (vph)	2987		298	2999	402	368
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.46		0.05	0.40	0.02	0.03

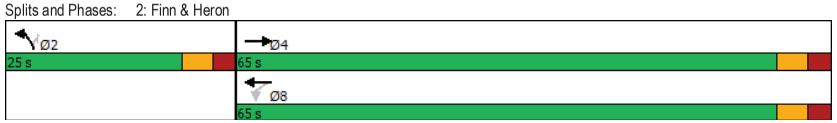
Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 79
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.46

Lanes, Volumes, Timings
2: Finn & Heron

03-25-2019

Intersection Signal Delay: 2.6	Intersection LOS: A
Intersection Capacity Utilization 49.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 2: Finn & Heron



Lanes, Volumes, Timings
3: HG Mall/Jefferson & Heron

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	906	96	38	890	43	73	78	72	37	49	43
Future Volume (vph)	76	906	96	38	890	43	73	78	72	37	49	43
Satd. Flow (prot)	1658	3316	1483	1658	3292	0	1658	1745	1483	0	1643	0
Flt Permitted	0.251			0.261			0.664				0.873	
Satd. Flow (perm)	438	3316	1483	455	3292	0	1159	1745	1483	0	1455	0
Satd. Flow (RTOR)			107		9				80		30	
Lane Group Flow (vph)	84	1007	107	42	1037	0	81	87	80	0	143	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2		2	6		
Detector Phase	4	4	4	8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.6	30.6	30.6	30.6	30.6		35.2	35.2	35.2	35.2	35.2	
Total Split (s)	55.0	55.0	55.0	55.0	55.0		35.2	35.2	35.2	35.2	35.2	
Total Split (%)	61.0%	61.0%	61.0%	61.0%	61.0%		39.0%	39.0%	39.0%	39.0%	39.0%	
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	
Total Lost Time (s)	5.6	5.6	5.6	5.6	5.6		6.2	6.2	6.2		6.2	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max	Max	Max	Max		None	None	None	None	None	
Act Effct Green (s)	52.3	52.3	52.3	52.3	52.3		12.0	12.0	12.0		12.0	
Actuated g/C Ratio	0.69	0.69	0.69	0.69	0.69		0.16	0.16	0.16		0.16	
v/c Ratio	0.28	0.44	0.10	0.13	0.46		0.45	0.32	0.27		0.56	
Control Delay	8.4	6.4	1.4	6.1	6.5		35.7	30.2	9.2		31.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	8.4	6.4	1.4	6.1	6.5		35.7	30.2	9.2		31.2	
LOS	A	A	A	A	A		D	C	A		C	
Approach Delay		6.1			6.5			25.2			31.2	
Approach LOS		A			A			C			C	
Queue Length 50th (m)	3.9	28.1	0.0	1.7	29.2		10.7	11.2	0.0		15.0	
Queue Length 95th (m)	13.3	49.8	4.9	6.6	51.7		23.4	23.5	10.7		32.0	
Internal Link Dist (m)		954.9			280.8			63.4			133.2	
Turn Bay Length (m)	55.0		50.0	50.0			15.0					
Base Capacity (vph)	300	2276	1051	312	2262		443	667	617		575	
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	0.28	0.44	0.10	0.13	0.46		0.18	0.13	0.13		0.25	

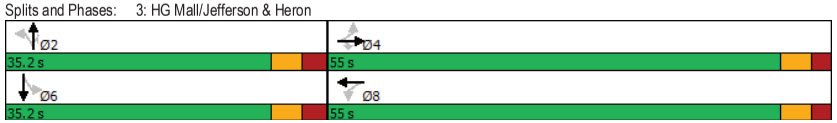
Intersection Summary
Cycle Length: 90.2
Actuated Cycle Length: 76.2
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.56

Lanes, Volumes, Timings
3: HG Mall/Jefferson & Heron

03-25-2019

Intersection Signal Delay: 9.4	Intersection LOS: A
Intersection Capacity Utilization 64.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: HG Mall/Jefferson & Heron



Lanes, Volumes, Timings
4: Hampstead/Jim Durrell RC & Walkley

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	814	15	10	961	39	8	0	11	22	1	41
Future Volume (vph)	41	814	15	10	961	39	8	0	11	22	1	41
Satd. Flow (prot)	1658	3306	0	1658	3296	0	0	1577	0	1658	1489	0
Flt Permitted	0.245			0.307				0.839		0.744		
Satd. Flow (perm)	428	3306	0	536	3296	0	0	1351	0	1298	1489	0
Satd. Flow (RTOR)		4			8			42			46	
Lane Group Flow (vph)	46	921	0	11	1111	0	0	21	0	24	47	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	32.1	32.1		32.1	32.1		29.9	29.9		29.9	29.9	
Total Split (s)	50.0	50.0		50.0	50.0		30.0	30.0		30.0	30.0	
Total Split (%)	62.5%	62.5%		62.5%	62.5%		37.5%	37.5%		37.5%	37.5%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.8	2.8		2.8	2.8		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1			5.9		5.9	5.9	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Act Effct Green (s)	56.0	56.0		56.0	56.0			10.1		10.1	10.1	
Actuated g/C Ratio	0.81	0.81		0.81	0.81			0.15		0.15	0.15	
v/c Ratio	0.13	0.34		0.03	0.41			0.09		0.13	0.18	
Control Delay	4.8	3.8		3.9	4.3			4.9		27.6	10.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	4.8	3.8		3.9	4.3			4.9		27.6	10.9	
LOS	A	A		A	A			A		C	B	
Approach Delay		3.9			4.3			4.9			16.6	
Approach LOS		A			A			A			B	
Queue Length 50th (m)	1.8	23.7		0.4	31.1			0.0		3.4	0.2	
Queue Length 95th (m)	5.6	33.3		1.8	43.2			3.1		8.9	8.3	
Internal Link Dist (m)		181.7			386.9			131.2			67.6	
Turn Bay Length (m)	60.0			54.0						25.0		
Base Capacity (vph)	348	2691		436	2684			503		457	554	
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	0.13	0.34		0.03	0.41			0.04		0.05	0.08	

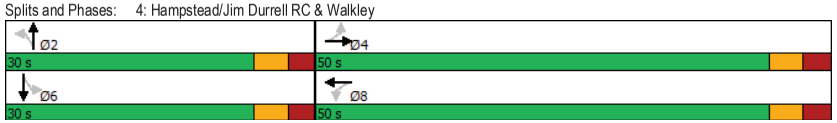
Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 68.8
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.41

Lanes, Volumes, Timings
4: Hampstead/Jim Durrell RC & Walkley

03-25-2019

Intersection Signal Delay: 4.5	Intersection LOS: A
Intersection Capacity Utilization 54.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Hampstead/Jim Durrell RC & Walkley



Lanes, Volumes, Timings
5: Albion/Colliston & Walkley

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	699	131	149	843	20	168	6	78	9	4	0
Future Volume (vph)	17	699	131	149	843	20	168	6	78	9	4	0
Satd. Flow (prot)	1658	3316	1483	1658	3306	0	1658	1503	0	1658	1745	0
Flt Permitted	0.267			0.340			0.755			0.696		
Satd. Flow (perm)	466	3316	1483	593	3306	0	1318	1503	0	1215	1745	0
Satd. Flow (RTOR)			146		5			87				
Lane Group Flow (vph)	19	777	146	166	959	0	187	94	0	10	4	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0		29.2	29.2		29.2	29.2	
Total Split (s)	50.0	50.0	50.0	50.0	50.0		30.0	30.0		30.0	30.0	
Total Split (%)	62.5%	62.5%	62.5%	62.5%	62.5%		37.5%	37.5%		37.5%	37.5%	
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)	2.7	2.7	2.7	2.7	2.7		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	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.2	6.2		6.2	6.2	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max	Max	Max	Max		None	None		None	None	
Act Effct Green (s)	47.0	47.0	47.0	47.0	47.0		15.8	15.8		15.8	15.8	
Actuated g/C Ratio	0.63	0.63	0.63	0.63	0.63		0.21	0.21		0.21	0.21	
v/c Ratio	0.07	0.37	0.15	0.45	0.46		0.68	0.24		0.04	0.01	
Control Delay	8.0	8.2	1.9	13.7	9.0		38.8	7.9		21.4	20.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	8.0	8.2	1.9	13.7	9.0		38.8	7.9		21.4	20.8	
LOS	A	A	A	B	A		D	A		C	C	
Approach Delay		7.2			9.7			28.5			21.2	
Approach LOS		A			A			C			C	
Queue Length 50th (m)	1.0	25.4	0.0	11.0	33.6		24.3	0.8		1.1	0.5	
Queue Length 95th (m)	4.5	47.4	7.4	34.2	61.9		44.3	11.2		4.7	2.6	
Internal Link Dist (m)		386.9			832.0			135.7			92.3	
Turn Bay Length (m)	52.0		35.0	57.0			25.0			30.0		
Base Capacity (vph)	291	2076	982	371	2071		420	538		387	556	
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	0.07	0.37	0.15	0.45	0.46		0.45	0.17		0.03	0.01	

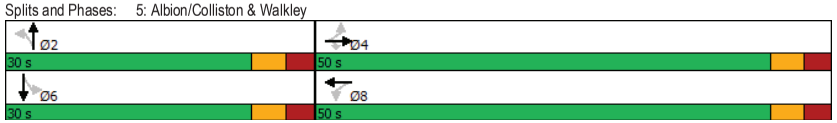
Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 75
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.68

Lanes, Volumes, Timings
5: Albion/Colliston & Walkley

03-25-2019

Intersection Signal Delay: 11.0	Intersection LOS: B
Intersection Capacity Utilization 65.3%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: Albion/Colliston & Walkley



Lanes, Volumes, Timings
6: Heatherington/HG Mall & Walkley

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	521	138	110	779	49	127	35	97	46	38	102
Future Volume (vph)	102	521	138	110	779	49	127	35	97	46	38	102
Satd. Flow (prot)	1658	3213	0	1658	3316	1483	1658	1553	0	0	1597	0
Flt Permitted	0.213			0.374			0.568				0.881	
Satd. Flow (perm)	372	3213	0	653	3316	1483	991	1553	0	0	1424	0
Satd. Flow (RTOR)		59				129		108			85	
Lane Group Flow (vph)	113	732	0	122	866	54	141	147	0	0	206	0
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	11.2	27.2		27.2	27.2	27.2	34.3	34.3		33.3	33.3	
Total Split (s)	12.0	46.0		34.0	34.0	34.0	34.3	34.3		33.3	33.3	
Total Split (%)	14.9%	57.3%		42.3%	42.3%	42.3%	42.7%	42.7%		41.5%	41.5%	
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)	2.9	2.9		2.9	2.9	2.9	3.0	3.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.2	6.2		6.2	6.2	6.2	6.3	6.3			5.3	
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Recall Mode	None	Max		Max	Max	Max	None	None		None	None	
Act Effct Green (s)	40.1	40.1		30.6	30.6	30.6	14.5	14.5			15.5	
Actuated g/C Ratio	0.60	0.60		0.46	0.46	0.46	0.22	0.22			0.23	
v/c Ratio	0.34	0.38		0.41	0.57	0.07	0.66	0.35			0.52	
Control Delay	9.8	7.7		21.0	17.2	0.2	39.3	10.1			18.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay	9.8	7.7		21.0	17.2	0.2	39.3	10.1			18.0	
LOS	A	A		C	B	A	D	B			B	
Approach Delay		8.0			16.8			24.4			18.0	
Approach LOS		A			B			C			B	
Queue Length 50th (m)	5.5	20.2		10.8	44.3	0.0	16.9	4.1			13.3	
Queue Length 95th (m)	15.1	40.3		30.4	75.5	0.0	34.2	17.0			31.3	
Internal Link Dist (m)		832.0			331.8			119.9			86.2	
Turn Bay Length (m)	46.0			37.0			25.0					
Base Capacity (vph)	333	1942		297	1511	746	415	713			666	
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	0.34	0.38		0.41	0.57	0.07	0.34	0.21			0.31	

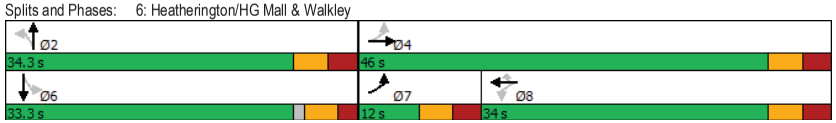
Intersection Summary
Cycle Length: 80.3
Actuated Cycle Length: 67.1
Natural Cycle: 75
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.66

Lanes, Volumes, Timings
6: Heatherington/HG Mall & Walkley

03-25-2019

Intersection Signal Delay: 14.7	Intersection LOS: B
Intersection Capacity Utilization 68.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Heatherington/HG Mall & Walkley



Appendix G

TDM Checklist for Subdivisions

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

Legend

- BASIC — The measure is generally feasible and effective, and in most cases would benefit the development and its users
- BETTER — The measure could maximize support for users of sustainable modes, and optimize development performance
- ★ — The measure is one of the most dependably effective tools to encourage the use of sustainable modes

		TDM measures: *Residential developments*	Check if proposed & add descriptions
	1.	**TDM PROGRAM MANAGEMENT**	
	1.1	**Program coordinator**	
BASIC ★	1.1.1	Designate an internal coordinator, or contract with an external coordinator	☑ Additional task for rental/condo coordinator
	1.2	**Travel surveys**	
BETTER	1.2.1	Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress	☑ Recommended as development occurs, potential to monitor effectiveness of other TDM measures
	2.	**WALKING AND CYCLING**	
	2.1	**Information on walking/cycling routes & destinations**	
BASIC	2.1.1	Display local area maps with walking/cycling access routes and key destinations at major entrances *(multi-family, condominium)*	☑ Recommended for lobby display
	2.2	**Bicycle skills training**	
BETTER	2.2.1	Offer on-site cycling courses for residents, or subsidize off-site courses	☑ Recommended as yearly offering, if interest from rentals is generated

		TDM measures: *Residential developments*	Check if proposed & add descriptions
	3.	**TRANSIT**	
	3.1	**Transit information**	
BASIC	3.1.1	Display relevant transit schedules and route maps at entrances *(multi-family, condominium)*	☑ Recommended for lobby display
BETTER	3.1.2	Provide real-time arrival information display at entrances *(multi-family, condominium)*	☐
	3.2	**Transit fare incentives**	
BASIC ★	3.2.1	Offer PRESTO cards preloaded with one monthly transit pass on residence purchase/move-in, to encourage residents to use transit	☑ Recommended to be limited to initial construction and opening of rental buildings
BETTER	3.2.2	Offer at least one year of free monthly transit passes on residence purchase/move-in	☐
	3.3	**Enhanced public transit service**	
BETTER ★	3.3.1	Contract with OC Transpo to provide early transit services until regular services are warranted by occupancy levels *(subdivision)*	☐
	3.4	**Private transit service**	
BETTER	3.4.1	Provide shuttle service for seniors homes or lifestyle communities (e.g. scheduled mall or supermarket runs)	☑ Recommended if senior residences are included in ultimate redevelopment
	4.	**CARSHARING & BIKESHARING**	
	4.1	**Bikeshare stations & memberships**	
BETTER	4.1.1	Contract with provider to install on-site bikeshare station *(multi-family)*	☑ Recommended for residential buildings and/or parks
BETTER	4.1.2	Provide residents with bikeshare memberships, either free or subsidized *(multi-family)*	☐
	4.2	**Carshare vehicles & memberships**	
BETTER	4.2.1	Contract with provider to install on-site carshare vehicles and promote their use by residents	☑ Recommended for residential buildings or retail, in publicly accesssible areas (e.g. not behind security control gates.
BETTER	4.2.2	Provide residents with carshare memberships, either free or subsidized	☐
	5.	**PARKING**	
	5.1	**Priced parking**	
BASIC ★	5.1.1	Unbundle parking cost from purchase price *(condominium)*	☑
BASIC ★	5.1.2	Unbundle parking cost from monthly rent *(multi-family)*	☑

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

TDM Measures Checklist:
Non-Residential Developments (office, institutional, retail or industrial)

Legend

- BASIC — The measure is generally feasible and effective, and in most cases would benefit the development and its users
- BETTER — The measure could maximize support for users of sustainable modes, and optimize development performance
- ★ — The measure is one of the most dependably effective tools to encourage the use of sustainable modes

			TDM measures: *Non-residential developments*	Check if proposed & add descriptions
		1.	**TDM PROGRAM MANAGEMENT**	
		1.1	**Program coordinator**	
BASIC	★	1.1.1	Designate an internal coordinator, or contract with an external coordinator	☑ Recommended as retail coordinator
		1.2	**Travel surveys**	
BETTER		1.2.1	Conduct periodic surveys to identify travel-related behaviours, attitudes, challenges and solutions, and to track progress	☑ Recommended to enhance retail rental data and coordination with tenants.
		2.	**WALKING AND CYCLING**	
		2.1	**Information on walking/cycling routes & destinations**	
BASIC		2.1.1	Display local area maps with walking/cycling access routes and key destinations at major entrances	☐
		2.2	**Bicycle skills training**	
			Commuter travel	
BETTER	★	2.2.1	Offer on-site cycling courses for commuters, or subsidize off-site courses	☐
		2.3	**Valet bike parking**	
			Visitor travel	
BETTER		2.3.1	Offer secure valet bike parking during public events when demand exceeds fixed supply (e.g. for festivals, concerts, games)	☐

Many TDM measures are tenant specific and cannot be controls as the development proceeds. The Residential TDMs will augment many of the mesures suggested in this section and should be reviewed prior to the supporting retail space that may be included in the mixed use development.

		TDM measures: *Non-residential developments*	Check if proposed & add descriptions
	3.	**TRANSIT**	
	3.1	**Transit information**	
BASIC	3.1.1	Display relevant transit schedules and route maps at entrances	☐
BASIC	3.1.2	Provide online links to OC Transpo and STO information	☐
BETTER	3.1.3	Provide real-time arrival information display at entrances	☐
	3.2	**Transit fare incentives**	
		Commuter travel	
BETTER	3.2.1	Offer preloaded PRESTO cards to encourage commuters to use transit	☐
BETTER ★	3.2.2	Subsidize or reimburse monthly transit pass purchases by employees	☐
		Visitor travel	
BETTER	3.2.3	Arrange inclusion of same-day transit fare in price of tickets (e.g. for festivals, concerts, games)	☐
	3.3	**Enhanced public transit service**	
		Commuter travel	
BETTER	3.3.1	Contract with OC Transpo to provide enhanced transit services (e.g. for shift changes, weekends)	☐
		Visitor travel	
BETTER	3.3.2	Contract with OC Transpo to provide enhanced transit services (e.g. for festivals, concerts, games)	☐
	3.4	**Private transit service**	
		Commuter travel	
BETTER	3.4.1	Provide shuttle service when OC Transpo cannot offer sufficient quality or capacity to serve demand (e.g. for shift changes, weekends)	☐
		Visitor travel	
BETTER	3.4.2	Provide shuttle service when OC Transpo cannot offer sufficient quality or capacity to serve demand (e.g. for festivals, concerts, games)	☐

		TDM measures: *Non-residential developments*	Check if proposed & add descriptions
	4.	**RIDESHARING**	
	4.1	**Ridematching service**	
		Commuter travel	
BASIC ★	4.1.1	Provide a dedicated ridematching portal at OttawaRideMatch.com	☐
	4.2	**Carpool parking price incentives**	
		Commuter travel	
BETTER	4.2.1	Provide discounts on parking costs for registered carpools	☐
	4.3	**Vanpool service**	
		Commuter travel	
BETTER	4.3.1	Provide a vanpooling service for long-distance commuters	☐
	5.	**CARSHARING & BIKESHARING**	
	5.1	**Bikeshare stations & memberships**	
BETTER	5.1.1	Contract with provider to install on-site bikeshare station for use by commuters and visitors	☐
		Commuter travel	
BETTER	5.1.2	Provide employees with bikeshare memberships for local business travel	☐
	5.2	**Carshare vehicles & memberships**	
		Commuter travel	
BETTER	5.2.1	Contract with provider to install on-site carshare vehicles and promote their use by tenants	☐
BETTER	5.2.2	Provide employees with carshare memberships for local business travel	☐
	6.	**PARKING**	
	6.1	**Priced parking**	
		Commuter travel	
BASIC ★	6.1.1	Charge for long-term parking (daily, weekly, monthly)	☑
BASIC	6.1.2	Unbundle parking cost from lease rates at multi-tenant sites	☑
		Visitor travel	
BETTER	6.1.3	Charge for short-term parking (hourly)	☑

			TDM measures: *Non-residential developments*	Check if proposed & add descriptions
		7.	**TDM MARKETING & COMMUNICATIONS**	
		7.1	**Multimodal travel information**	
			Commuter travel	
BASIC	★	7.1.1	Provide a multimodal travel option information package to new/relocating employees and students	☑ Similar to lobby display, recent travel options
			Visitor travel	
BETTER	★	7.1.2	Include multimodal travel option information in invitations or advertising that attract visitors or customers (e.g. for festivals, concerts, games)	☐
		7.2	**Personalized trip planning**	
			Commuter travel	
BETTER	★	7.2.1	Offer personalized trip planning to new/relocating employees	☐
		7.3	**Promotions**	
			Commuter travel	
BETTER		7.3.1	Deliver promotions and incentives to maintain awareness, build understanding, and encourage trial of sustainable modes	☐
		8.	**OTHER INCENTIVES & AMENITIES**	
		8.1	**Emergency ride home**	
			Commuter travel	
BETTER	★	8.1.1	Provide emergency ride home service to non-driving commuters	☐
		8.2	**Alternative work arrangements**	
			Commuter travel	
BASIC	★	8.2.1	Encourage flexible work hours	☐
BETTER		8.2.2	Encourage compressed workweeks	☐
BETTER	★	8.2.3	Encourage telework	☐
		8.3	**Local business travel options**	
			Commuter travel	
BASIC	★	8.3.1	Provide local business travel options that minimize the need for employees to bring a personal car to work	☐
		8.4	**Commuter incentives**	
			Commuter travel	
BETTER		8.4.1	Offer employees a taxable, mode-neutral commuting allowance	☐
		8.5	**On-site amenities**	
			Commuter travel	
BETTER		8.5.1	Provide on-site amenities/services to minimize mid-day or mid-commute errands	☐

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

Legend

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

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

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

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

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

TDM-Supportive Development Design and Infrastructure Checklist:
Non-Residential Developments (office, institutional, retail or industrial)

Legend

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

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

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

		TDM-supportive design & infrastructure measures: *Non-residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	2.	**WALKING & CYCLING: END-OF-TRIP FACILITIES**	
	2.1	**Bicycle parking**	
REQUIRED	2.1.1	Provide bicycle parking in highly visible and lighted areas, sheltered from the weather wherever possible *(see Official Plan policy 4.3.6)*	☑
REQUIRED	2.1.2	Provide the number of bicycle parking spaces specified for various land uses in different parts of Ottawa; provide convenient access to main entrances or well-used areas *(see Zoning By-law Section 111)*	☑
REQUIRED	2.1.3	Ensure that bicycle parking spaces and access aisles meet minimum dimensions; that no more than 50% of spaces are vertical spaces; and that parking racks are securely anchored *(see Zoning By-law Section 111)*	☑
BASIC	2.1.4	Provide bicycle parking spaces equivalent to the expected number of commuter cyclists (assuming the cycling mode share target is met), plus the expected peak number of customer/visitor cyclists	☑
BETTER	2.1.5	Provide bicycle parking spaces equivalent to the expected number of commuter and customer/visitor cyclists, plus an additional buffer (e.g. 25 percent extra) to encourage other cyclists and ensure adequate capacity in peak cycling season	☑
	2.2	**Secure bicycle parking**	
REQUIRED	2.2.1	Where more than 50 bicycle parking spaces are provided for a single office building, locate at least 25% of spaces within a building/structure, a secure area (e.g. supervised parking lot or enclosure) or bicycle lockers *(see Zoning By-law Section 111)*	☑
BETTER	2.2.2	Provide secure bicycle parking spaces equivalent to the expected number of commuter cyclists (assuming the cycling mode share target is met)	☐
	2.3	**Shower & change facilities**	
BASIC	2.3.1	Provide shower and change facilities for the use of active commuters	☑
BETTER	2.3.2	In addition to shower and change facilities, provide dedicated lockers, grooming stations, drying racks and laundry facilities for the use of active commuters	☐
	2.4	**Bicycle repair station**	
BETTER	2.4.1	Provide a permanent bike repair station, with commonly used tools and an air pump, adjacent to the main bicycle parking area (or secure bicycle parking area, if provided)	☑

		TDM-supportive design & infrastructure measures: *Non-residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	3.	**TRANSIT**	
	3.1	**Customer amenities**	
BASIC	3.1.1	Provide shelters, lighting and benches at any on-site transit stops	☑
BASIC	3.1.2	Where the site abuts an off-site transit stop and insufficient space exists for a transit shelter in the public right-of-way, protect land for a shelter and/or install a shelter	☑
BETTER	3.1.3	Provide a secure and comfortable interior waiting area by integrating any on-site transit stops into the building	☑
	4.	**RIDESHARING**	
	4.1	**Pick-up & drop-off facilities**	
BASIC	4.1.1	Provide a designated area for carpool drivers (plus taxis and ride-hailing services) to drop off or pick up passengers without using fire lanes or other no-stopping zones	☑
	4.2	**Carpool parking**	
BASIC	4.2.1	Provide signed parking spaces for carpools in a priority location close to a major building entrance, sufficient in number to accommodate the mode share target for carpools	☑
BETTER	4.2.2	At large developments, provide spaces for carpools in a separate, access-controlled parking area to simplify enforcement	☐
	5.	**CARSHARING & BIKESHARING**	
	5.1	**Carshare parking spaces**	
BETTER	5.1.1	Provide carshare parking spaces in permitted non-residential zones, occupying either required or provided parking spaces *(see Zoning By-law Section 94)*	☐
	5.2	**Bikeshare station location**	
BETTER	5.2.1	Provide a designated bikeshare station area near a major building entrance, preferably lighted and sheltered with a direct walkway connection	☑

		TDM-supportive design & infrastructure measures: *Non-residential developments*	Check if completed & add descriptions, explanations or plan/drawing references
	6.	**PARKING**	
	6.1	**Number of parking spaces**	
REQUIRED	6.1.1	Do not provide more parking than permitted by zoning, nor less than required by zoning, unless a variance is being applied for	☑
BASIC	6.1.2	Provide parking for long-term and short-term users that is consistent with mode share targets, considering the potential for visitors to use off-site public parking	☑
BASIC	6.1.3	Where a site features more than one use, provide shared parking and reduce the cumulative number of parking spaces accordingly *(see Zoning By-law Section 104)*	☑
BETTER	6.1.4	Reduce the minimum number of parking spaces required by zoning by one space for each 13 square metres of gross floor area provided as shower rooms, change rooms, locker rooms and other facilities for cyclists in conjunction with bicycle parking *(see Zoning By-law Section 111)*	☑
	6.2	**Separate long-term & short-term parking areas**	
BETTER	6.2.1	Separate short-term and long-term parking areas using signage or physical barriers, to permit access controls and simplify enforcement (i.e. to discourage employees from parking in visitor spaces, and vice versa)	☑
	7.	**OTHER**	
	7.1	**On-site amenities to minimize off-site trips**	
BETTER	7.1.1	Provide on-site amenities to minimize mid-day or mid-commute errands	☑

Appendix H

Synchro Intersection Worksheets – 2036 Future Total Conditions

Lanes, Volumes, Timings
1: Baycrest/St Pats & Heron

03-25-2019

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	17	699	275	103	1213	20	361	22	286	3	3
Future Volume (vph)	1	17	699	275	103	1213	20	361	22	286	3	3
Satd. Flow (prot)	0	1658	3112	0	1658	3305	0	1658	1474	0	1658	1558
Flt Permitted		0.108			0.174			0.753			0.517	
Satd. Flow (perm)	0	188	3112	0	302	3305	0	1276	1474	0	898	1558
Satd. Flow (RTOR)			84			2			118			4
Lane Group Flow (vph)	0	18	974	0	103	1233	0	361	308	0	3	7
Turn Type	Perm	Perm	NA		Perm	NA		Perm	NA		Perm	NA
Protected Phases			4			8			2			6
Permitted Phases	4	4			8			2			6	
Detector Phase	4	4	4		8	8		2	2		6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0
Minimum Split (s)	27.7	27.7	27.7		27.7	27.7		35.0	35.0		35.0	35.0
Total Split (s)	45.0	45.0	45.0		45.0	45.0		45.0	45.0		45.0	45.0
Total Split (%)	50.0%	50.0%	50.0%		50.0%	50.0%		50.0%	50.0%		50.0%	50.0%
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)	1.4	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	None	None	None		None	None		Max	Max		Max	Max
Act Effct Green (s)		36.9	36.9		36.9	36.9		39.1	39.1		39.1	39.1
Actuated g/C Ratio		0.43	0.43		0.43	0.43		0.45	0.45		0.45	0.45
v/c Ratio		0.23	0.71		0.80	0.88		0.63	0.42		0.01	0.01
Control Delay		23.9	21.8		66.4	31.0		25.2	12.3		14.7	11.1
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Delay		23.9	21.8		66.4	31.0		25.2	12.3		14.7	11.1
LOS		C	C		E	C		C	B		B	B
Approach Delay			21.8			33.7			19.3			12.2
Approach LOS			C			C			B			B
Queue Length 50th (m)		1.9	65.3		15.2	100.4		50.4	22.1		0.3	0.3
Queue Length 95th (m)		7.8	88.0		#46.0	130.0		83.0	44.1		2.0	2.9
Internal Link Dist (m)			327.1			295.8			181.0			16.2
Turn Bay Length (m)		45.0			50.0							
Base Capacity (vph)		87	1494		141	1541		575	729		405	705
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		0.21	0.65		0.73	0.80		0.63	0.42		0.01	0.01

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 86.7
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.88

Lanes, Volumes, Timings
1: Baycrest/St Pats & Heron

03-25-2019

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	4
Future Volume (vph)	4
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Satd. Flow (RTOR)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

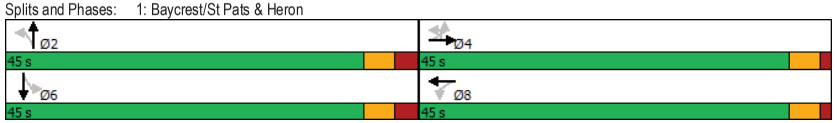
Lanes, Volumes, Timings
1: Baycrest/St Pats & Heron

03-25-2019

Intersection Signal Delay: 26.5	Intersection LOS: C
Intersection Capacity Utilization 85.0%	ICU Level of Service E
Analysis Period (min) 15	

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

Splits and Phases: 1: Baycrest/St Pats & Heron



Lanes, Volumes, Timings
2: Sandalwood/Briar Hill & Heron

03-25-2019

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	1	40	911	80	142	1064	16	223	12	379	7	13
Future Volume (vph)	1	40	911	80	142	1064	16	223	12	379	7	13
Satd. Flow (prot)	0	1658	3266	0	1658	3307	0	1658	1472	0	1658	1507
Flt Permitted		0.161			0.194			0.706			0.410	
Satd. Flow (perm)	0	280	3266	0	338	3307	0	1228	1472	0	715	1507
Satd. Flow (RTOR)			16			3			119			66
Lane Group Flow (vph)	0	41	991	0	142	1080	0	223	391	0	7	79
Turn Type	Perm	Perm	NA		Perm	NA		Perm	NA		Perm	NA
Protected Phases			4			8			2			6
Permitted Phases	4	4			8			2			6	
Detector Phase	4	4	4		8	8		2	2		6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0
Minimum Split (s)	24.3	24.3	24.3		24.3	24.3		35.1	35.1		35.1	35.1
Total Split (s)	55.0	55.0	55.0		55.0	55.0		35.1	35.1		35.1	35.1
Total Split (%)	61.0%	61.0%	61.0%		61.0%	61.0%		39.0%	39.0%		39.0%	39.0%
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)	2.0	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	None	None	None		None	None		Max	Max		Max	Max
Act Effct Green (s)		35.0	35.0		35.0	35.0		29.7	29.7		29.7	29.7
Actuated g/C Ratio		0.46	0.46		0.46	0.46		0.39	0.39		0.39	0.39
v/c Ratio		0.32	0.66		0.92	0.71		0.47	0.61		0.03	0.13
Control Delay		19.3	17.3		76.2	18.7		25.2	20.1		20.6	8.2
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Delay		19.3	17.3		76.2	18.7		25.2	20.1		20.6	8.2
LOS		B	B		E	B		C	C		C	A
Approach Delay			17.4			25.4			21.9			9.2
Approach LOS			B			C			C			A
Queue Length 50th (m)		3.7	56.2		18.7	64.3		24.6	31.4		0.6	1.2
Queue Length 95th (m)		11.4	73.7		#55.8	83.8		57.5	78.2		4.1	11.5
Internal Link Dist (m)			295.8			838.3			333.5			187.5
Turn Bay Length (m)		55.0			55.0			22.0			35.0	
Base Capacity (vph)		186	2184		225	2207		478	645		278	627
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		0.22	0.45		0.63	0.49		0.47	0.61		0.03	0.13

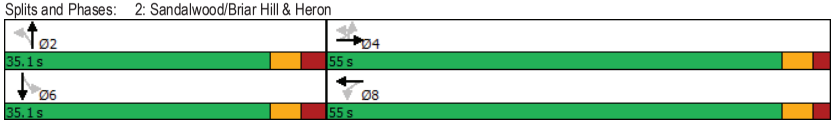
Intersection Summary
Cycle Length: 90.1
Actuated Cycle Length: 76.4
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.92

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	66
Future Volume (vph)	66
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Satd. Flow (RTOR)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Intersection Signal Delay: 21.4 Intersection LOS: C
Intersection Capacity Utilization 79.5% 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: 2: Sandalwood/Briar Hill & Heron

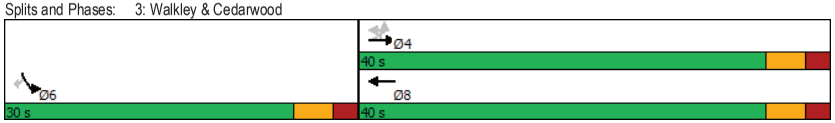


Lane Group	EBU	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations							
Traffic Volume (vph)	2	107	603	668	137	108	477
Future Volume (vph)	2	107	603	668	137	108	477
Satd. Flow (prot)	0	1658	3316	3211	0	1658	1483
Flt Permitted		0.251				0.950	
Satd. Flow (perm)	0	437	3316	3211	0	1649	1455
Satd. Flow (RTOR)				48			170
Lane Group Flow (vph)	0	109	603	805	0	108	477
Turn Type	Perm	Perm	NA	NA		Prot	Perm
Protected Phases			4	8		6	
Permitted Phases	4	4					6
Detector Phase	4	4	4	8		6	6
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	23.5	23.5	23.5	25.5		29.5	29.5
Total Split (s)	40.0	40.0	40.0	40.0		30.0	30.0
Total Split (%)	57.1%	57.1%	57.1%	57.1%		42.9%	42.9%
Yellow Time (s)	3.3	3.3	3.3	3.3		3.3	3.3
All-Red Time (s)	2.2	2.2	2.2	2.2		2.2	2.2
Lost Time Adjust (s)		0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)		5.5	5.5	5.5		5.5	5.5
Lead/Lag							
Lead-Lag Optimize?							
Recall Mode	None	None	None	None		Max	Max
Act Effct Green (s)		19.9	19.9	19.9		24.8	24.8
Actuated g/C Ratio		0.36	0.36	0.36		0.44	0.44
v/c Ratio		0.70	0.51	0.69		0.15	0.64
Control Delay		39.8	15.2	17.1		12.3	14.6
Queue Delay		0.0	0.0	0.0		0.0	0.0
Total Delay		39.8	15.2	17.1		12.3	14.6
LOS		D	B	B		B	B
Approach Delay			19.0	17.1		14.1	
Approach LOS			B	B		B	
Queue Length 50th (m)		9.5	25.4	34.4		6.0	20.4
Queue Length 95th (m)		#26.9	36.7	49.3		20.2	#83.6
Internal Link Dist (m)			340.4	238.6		352.9	
Turn Bay Length (m)		57.0				15.0	
Base Capacity (vph)		273	2074	2027		736	740
Starvation Cap Reductn		0	0	0		0	0
Spillback Cap Reductn		0	0	0		0	0
Storage Cap Reductn		0	0	0		0	0
Reduced v/c Ratio		0.40	0.29	0.40		0.15	0.64

Intersection Summary
Cycle Length: 70
Actuated Cycle Length: 55.9
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.70

Intersection Signal Delay: 16.9 Intersection LOS: B
Intersection Capacity Utilization 78.3% 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: 3: Walkley & Cedarwood



Lanes, Volumes, Timings
4: Private/Baycrest & Walkley

03-25-2019

Lane Group	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	67	676	10	1	8	673	119	24	19	26	145	5
Future Volume (vph)	67	676	10	1	8	673	119	24	19	26	145	5
Satd. Flow (prot)	1658	3307	0	0	1658	3222	0	0	1609	0	1658	1464
Flt Permitted	0.249				0.316				0.898		0.712	
Satd. Flow (perm)	433	3307	0	0	547	3222	0	0	1466	0	1221	1464
Satd. Flow (RTOR)		3				38			26			127
Lane Group Flow (vph)	67	686	0	0	9	792	0	0	69	0	145	132
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		4				8			2			6
Permitted Phases	4			8	8			2			6	
Detector Phase	4	4		8	8	8		2	2		6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0		10.0	10.0		10.0	10.0
Minimum Split (s)	25.9	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	38.0		32.0	32.0		32.0	32.0
Total Split (%)	54.3%	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	3.3
All-Red Time (s)	2.6	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	None	None		None	None	None		Max	Max		Max	Max
Act Effct Green (s)	19.1	19.1			19.1	19.1			26.1		26.1	26.1
Actuated g/C Ratio	0.33	0.33			0.33	0.33			0.46		0.46	0.46
v/c Ratio	0.47	0.62			0.05	0.72			0.10		0.26	0.18
Control Delay	26.4	18.4			12.8	19.8			8.0		12.7	3.6
Queue Delay	0.0	0.0			0.0	0.0			0.0		0.0	0.0
Total Delay	26.4	18.4			12.8	19.8			8.0		12.7	3.6
LOS	C	B			B	B			A		B	A
Approach Delay		19.1				19.7			8.0			8.4
Approach LOS		B				B			A			A
Queue Length 50th (m)	5.6	32.1			0.7	37.0			2.5		9.2	0.3
Queue Length 95th (m)	16.4	46.5			3.1	53.6			10.1		24.2	9.4
Internal Link Dist (m)		238.6				1021.0			32.3			109.2
Turn Bay Length (m)	48.0				40.0						15.0	
Base Capacity (vph)	244	1869			309	1836			682		556	736
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	0.27	0.37			0.03	0.43			0.10		0.26	0.18

Intersection Summary
Cycle Length: 70
Actuated Cycle Length: 57.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.72

Lanes, Volumes, Timings
4: Private/Baycrest & Walkley

03-25-2019

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	127
Future Volume (vph)	127
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Satd. Flow (RTOR)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

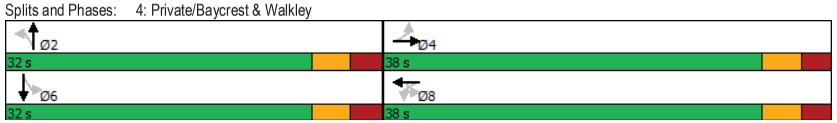
Intersection Summary

Lanes, Volumes, Timings
4: Private/Baycrest & Walkley

03-25-2019

Intersection Signal Delay: 17.4	Intersection LOS: B
Intersection Capacity Utilization 74.3%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 4: Private/Baycrest & Walkley



Lanes, Volumes, Timings
1: Alta Vista & Heron

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	766	81	137	1291	186	58	241	13	118	246	138
Future Volume (vph)	97	766	81	137	1291	186	58	241	13	118	246	138
Satd. Flow (prot)	1658	3269	0	1658	3316	1483	1658	1733	0	1658	1651	0
Flt Permitted	0.950			0.950			0.514			0.371		
Satd. Flow (perm)	1658	3269	0	1658	3316	1483	897	1733	0	647	1651	0
Satd. Flow (RTOR)		13				167		3			38	
Lane Group Flow (vph)	108	941	0	152	1434	207	64	282	0	131	426	0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases						8	2			6		
Detector Phase	7	4		3	8	8	2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	10.0	10.0		5.0	10.0	
Minimum Split (s)	10.4	22.5		10.4	22.5	22.5	29.9	29.9		9.5	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	Max		None	Max	Max	Max	Max		None	Max	
Act Effct Green (s)	7.6	28.6		7.6	28.6	28.6	24.5	24.5		38.7	37.1	
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	0.77	0.90		1.09	1.36	0.35	0.26	0.59		0.35	0.61	
Control Delay	75.4	41.8		142.6	197.3	8.0	29.6	34.4		18.9	23.2	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	75.4	41.8		142.6	197.3	8.0	29.6	34.4		18.9	23.2	
LOS	E	D		F	F	A	C	C		B	C	
Approach Delay		45.3			170.8			33.5			22.2	
Approach LOS		D			F			C			C	
Queue Length 50th (m)	19.6	84.3		~31.4	~182.5	5.1	9.2	44.4		14.3	53.8	
Queue Length 95th (m)	#47.4	#122.3		#69.6	#225.0	21.4	20.6	71.2		26.2	85.6	
Internal Link Dist (m)		200.1			317.8			368.0			361.8	
Turn Bay Length (m)	65.0			57.0		75.0	21.0			38.0		
Base Capacity (vph)	140	1047		140	1053	585	244	474		375	702	
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	0.90		1.09	1.36	0.35	0.26	0.59		0.35	0.61	

Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 90
Natural Cycle: 100
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.36

Lanes, Volumes, Timings
1: Alta Vista & Heron

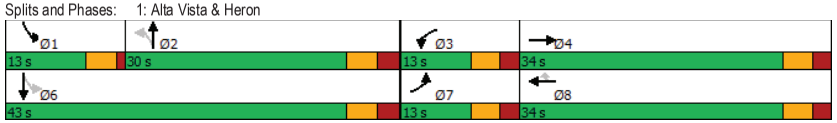
03-25-2019

Intersection Signal Delay: 100.8	Intersection LOS: F
Intersection Capacity Utilization 93.1%	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: Alta Vista & Heron



Lanes, Volumes, Timings
2: Finn & Heron

03-25-2019

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	906	16	11	1539	32	16
Future Volume (vph)	906	16	11	1539	32	16
Satd. Flow (prot)	3306	0	1658	3316	1658	1483
Flt Permitted			0.275		0.950	
Satd. Flow (perm)	3306	0	480	3316	1658	1483
Satd. Flow (RTOR)	4					18
Lane Group Flow (vph)	1025	0	12	1710	36	18
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	5.0	5.0
Minimum Split (s)	33.0		22.5	22.5	24.8	24.8
Total Split (s)	65.0		65.0	65.0	25.0	25.0
Total Split (%)	72.2%		72.2%	72.2%	27.8%	27.8%
Yellow Time (s)	3.3		3.3	3.3	3.3	3.3
All-Red Time (s)	2.7		2.7	2.7	2.5	2.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	5.8	5.8
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max		Max	Max	None	None
Act Effct Green (s)	67.4		67.4	67.4	7.2	7.2
Actuated g/C Ratio	0.85		0.85	0.85	0.09	0.09
v/c Ratio	0.37		0.03	0.61	0.24	0.12
Control Delay	3.0		3.0	5.0	36.8	16.8
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	3.0		3.0	5.0	36.8	16.8
LOS	A		A	A	D	B
Approach Delay	3.0			4.9	30.1	
Approach LOS	A			A	C	
Queue Length 50th (m)	22.3		0.4	53.5	5.3	0.0
Queue Length 95th (m)	35.0		1.7	84.4	14.0	6.1
Internal Link Dist (m)	317.8			954.9	272.9	
Turn Bay Length (m)			50.0		15.0	
Base Capacity (vph)	2805		407	2813	400	372
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.37		0.03	0.61	0.09	0.05

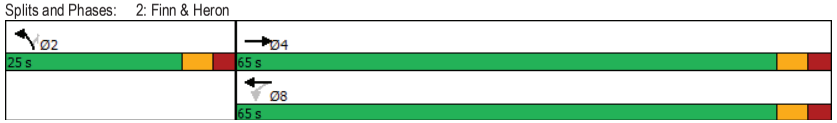
Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 79.4
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.61

Lanes, Volumes, Timings
2: Finn & Heron

03-25-2019

Intersection Signal Delay: 4.7	Intersection LOS: A
Intersection Capacity Utilization 58.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: Finn & Heron



Lanes, Volumes, Timings
3: HG Mall/Jefferson & Heron

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	1200	44	12	1135	25	29	29	25	28	24	72
Future Volume (vph)	31	1200	44	12	1135	25	29	29	25	28	24	72
Satd. Flow (prot)	1658	3316	1483	1658	3306	0	1658	1745	1483	0	1591	0
Flt Permitted	0.179			0.168			0.686				0.913	
Satd. Flow (perm)	312	3316	1483	293	3306	0	1197	1745	1483	0	1469	0
Satd. Flow (RTOR)			42		4				32		40	
Lane Group Flow (vph)	34	1333	49	13	1289	0	32	32	28	0	138	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2		2	6		
Detector Phase	4	4	4	8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.6	30.6	30.6	30.6	30.6		35.2	35.2	35.2	35.2	35.2	
Total Split (s)	52.0	52.0	52.0	52.0	52.0		38.0	38.0	38.0	38.0	38.0	
Total Split (%)	57.8%	57.8%	57.8%	57.8%	57.8%		42.2%	42.2%	42.2%	42.2%	42.2%	
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	
Total Lost Time (s)	5.6	5.6	5.6	5.6	5.6		6.2	6.2	6.2		6.2	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max	Max	Max	Max		None	None	None	None	None	
Act Effct Green (s)	50.0	50.0	50.0	50.0	50.0		11.3	11.3	11.3		11.3	
Actuated g/C Ratio	0.68	0.68	0.68	0.68	0.68		0.15	0.15	0.15		0.15	
v/c Ratio	0.16	0.59	0.05	0.07	0.57		0.17	0.12	0.11		0.53	
Control Delay	7.0	7.8	2.1	5.6	7.5		27.3	25.8	9.9		26.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	7.0	7.8	2.1	5.6	7.5		27.3	25.8	9.9		26.8	
LOS	A	A	A	A	A		C	C	A		C	
Approach Delay		7.6			7.5			21.5			26.8	
Approach LOS		A			A			C			C	
Queue Length 50th (m)	1.4	41.2	0.3	0.5	38.8		3.8	3.8	0.0		12.2	
Queue Length 95th (m)	5.9	72.1	3.6	2.8	68.1		10.9	10.6	5.8		28.2	
Internal Link Dist (m)		954.9			280.8			63.4			133.2	
Turn Bay Length (m)	55.0		50.0	50.0			15.0					
Base Capacity (vph)	213	2265	1026	200	2259		522	761	665		664	
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	0.16	0.59	0.05	0.07	0.57		0.06	0.04	0.04		0.21	

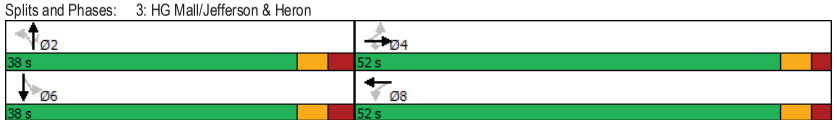
Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 73.2
Natural Cycle: 75
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.59

Lanes, Volumes, Timings
3: HG Mall/Jefferson & Heron

03-25-2019

Intersection Signal Delay: 8.9	Intersection LOS: A
Intersection Capacity Utilization 66.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: HG Mall/Jefferson & Heron



Lanes, Volumes, Timings
4: Hampstead/Jim Durrell RC & Walkley

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	766	17	10	1307	28	16	1	13	19	0	30
Future Volume (vph)	18	766	17	10	1307	28	16	1	13	19	0	30
Satd. Flow (prot)	1658	3306	0	1658	3306	0	0	1601	0	1658	1483	0
Flt Permitted	0.146			0.326				0.812		0.736		
Satd. Flow (perm)	255	3306	0	569	3306	0	0	1336	0	1284	1483	0
Satd. Flow (RTOR)		4			4			14			48	
Lane Group Flow (vph)	20	870	0	11	1483	0	0	33	0	21	33	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	32.1	32.1		32.1	32.1		29.9	29.9		29.9	29.9	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	57.1%	57.1%		57.1%	57.1%		42.9%	42.9%		42.9%	42.9%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.8	2.8		2.8	2.8		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1			5.9		5.9	5.9	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Act Effct Green (s)	46.4	46.4		46.4	46.4			10.1		10.1	10.1	
Actuated g/C Ratio	0.79	0.79		0.79	0.79			0.17		0.17	0.17	
v/c Ratio	0.10	0.34		0.02	0.57			0.14		0.10	0.11	
Control Delay	6.1	4.4		4.5	6.5			16.7		22.1	6.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	6.1	4.4		4.5	6.5			16.7		22.1	6.2	
LOS	A	A		A	A			B		C	A	
Approach Delay		4.4			6.5			16.7			12.4	
Approach LOS		A			A			B			B	
Queue Length 50th (m)	0.8	22.0		0.4	50.2			2.4		2.6	0.0	
Queue Length 95th (m)	3.5	32.1		2.0	73.1			8.0		6.9	4.6	
Internal Link Dist (m)		181.7			386.9			131.2			67.6	
Turn Bay Length (m)	60.0			54.0						25.0		
Base Capacity (vph)	200	2594		446	2594			557		528	638	
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	0.10	0.34		0.02	0.57			0.06		0.04	0.05	

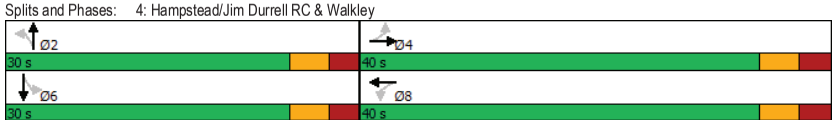
Intersection Summary
Cycle Length: 70
Actuated Cycle Length: 59.1
Natural Cycle: 70
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.57

Lanes, Volumes, Timings
4: Hampstead/Jim Durrell RC & Walkley

03-25-2019

Intersection Signal Delay: 6.0	Intersection LOS: A
Intersection Capacity Utilization 57.6%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 4: Hampstead/Jim Durrell RC & Walkley



Lanes, Volumes, Timings
5: Albion/Colliston & Walkley

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	631	129	92	1157	12	116	1	87	11	5	8
Future Volume (vph)	8	631	129	92	1157	12	116	1	87	11	5	8
Satd. Flow (prot)	1658	3316	1483	1658	3309	0	1658	1487	0	1658	1588	0
Flt Permitted	0.171			0.385			0.748			0.694		
Satd. Flow (perm)	298	3316	1483	672	3309	0	1305	1487	0	1211	1588	0
Satd. Flow (RTOR)			143		2			97			9	
Lane Group Flow (vph)	9	701	143	102	1299	0	129	98	0	12	15	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0		29.2	29.2		29.2	29.2	
Total Split (s)	41.0	41.0	41.0	41.0	41.0		29.2	29.2		29.2	29.2	
Total Split (%)	58.4%	58.4%	58.4%	58.4%	58.4%		41.6%	41.6%		41.6%	41.6%	
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)	2.7	2.7	2.7	2.7	2.7		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	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.2	6.2		6.2	6.2	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max	Max	Max	Max		None	None		None	None	
Act Effct Green (s)	40.0	40.0	40.0	40.0	40.0		12.0	12.0		12.0	12.0	
Actuated g/C Ratio	0.67	0.67	0.67	0.67	0.67		0.20	0.20		0.20	0.20	
v/c Ratio	0.04	0.31	0.14	0.23	0.58		0.49	0.26		0.05	0.05	
Control Delay	6.9	6.5	1.8	8.3	9.1		27.9	7.1		19.0	13.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	6.9	6.5	1.8	8.3	9.1		27.9	7.1		19.0	13.6	
LOS	A	A	A	A	A		C	A		B	B	
Approach Delay		5.7			9.0			18.9			16.0	
Approach LOS		A			A			B			B	
Queue Length 50th (m)	0.4	17.7	0.0	4.6	42.8		13.1	0.1		1.1	0.6	
Queue Length 95th (m)	2.4	33.8	6.5	14.7	78.6		27.4	10.0		4.8	4.5	
Internal Link Dist (m)		386.9			832.0			135.7			92.3	
Turn Bay Length (m)	52.0		35.0	57.0			25.0			30.0		
Base Capacity (vph)	200	2229	1044	451	2225		505	635		469	620	
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	0.04	0.31	0.14	0.23	0.58		0.26	0.15		0.03	0.02	

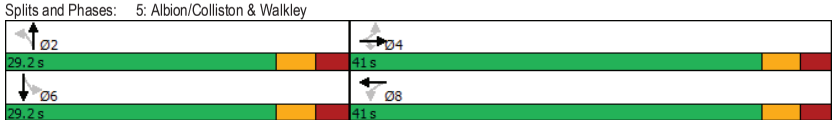
Intersection Summary
Cycle Length: 70.2
Actuated Cycle Length: 59.5
Natural Cycle: 60
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.58

Lanes, Volumes, Timings
5: Albion/Colliston & Walkley

03-25-2019

Intersection Signal Delay: 8.9	Intersection LOS: A
Intersection Capacity Utilization 71.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: Albion/Colliston & Walkley



Lanes, Volumes, Timings
6: Heatherington/HG Mall & Walkley

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	667	118	80	593	26	146	22	99	14	11	35
Future Volume (vph)	67	667	118	80	593	26	146	22	99	14	11	35
Satd. Flow (prot)	1658	3239	0	1658	3316	1483	1658	1530	0	0	1588	0
Flt Permitted	0.401			0.300			0.713				0.903	
Satd. Flow (perm)	700	3239	0	524	3316	1483	1244	1530	0	0	1451	0
Satd. Flow (RTOR)		36				51		108			39	
Lane Group Flow (vph)	74	872	0	89	659	29	162	134	0	0	67	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	4	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	27.2	27.2		27.2	27.2	27.2	34.3	34.3		34.3	34.3	
Total Split (s)	36.0	36.0		36.0	36.0	36.0	34.3	34.3		34.3	34.3	
Total Split (%)	51.2%	51.2%		51.2%	51.2%	51.2%	48.8%	48.8%		48.8%	48.8%	
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)	2.9	2.9		2.9	2.9	2.9	3.0	3.0		3.0	3.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.2	6.2		6.2	6.2	6.2	6.3	6.3			6.3	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max	Max	None	None		None	None	
Act Effct Green (s)	32.6	32.6		32.6	32.6	32.6	13.1	13.1			13.1	
Actuated g/C Ratio	0.56	0.56		0.56	0.56	0.56	0.22	0.22			0.22	
v/c Ratio	0.19	0.48		0.30	0.36	0.03	0.58	0.31			0.19	
Control Delay	9.2	9.1		11.9	8.4	1.6	27.9	7.8			10.5	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay	9.2	9.1		11.9	8.4	1.6	27.9	7.8			10.5	
LOS	A	A		B	A	A	C	A			B	
Approach Delay		9.1			8.5			18.8			10.5	
Approach LOS		A			A			B			B	
Queue Length 50th (m)	3.4	24.7		4.5	18.0	0.0	15.0	2.1			2.3	
Queue Length 95th (m)	12.0	48.0		16.2	35.1	2.0	30.7	12.9			10.1	
Internal Link Dist (m)		832.0			331.8			119.9			86.2	
Turn Bay Length (m)	46.0			37.0			25.0					
Base Capacity (vph)	391	1828		293	1855	852	602	795			722	
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	0.48		0.30	0.36	0.03	0.27	0.17			0.09	

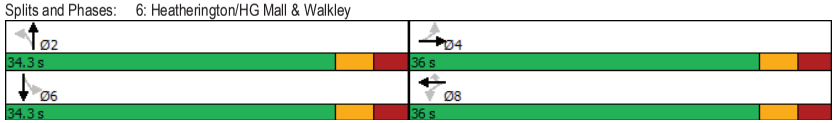
Intersection Summary
Cycle Length: 70.3
Actuated Cycle Length: 58.3
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.58

Lanes, Volumes, Timings
6: Heatherington/HG Mall & Walkley

03-25-2019

Intersection Signal Delay: 10.3	Intersection LOS: B
Intersection Capacity Utilization 64.2%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 6: Heatherington/HG Mall & Walkley



Lanes, Volumes, Timings
1: Baycrest/St Pats & Heron

03-25-2019

Lane Group	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Traffic Volume (vph)	2	2	1204	528	250	1041	13	188	2	156	18	7
Future Volume (vph)	2	2	1204	528	250	1041	13	188	2	156	18	7
Satd. Flow (prot)	0	1658	3090	0	1658	3307	0	1658	1456	0	1658	1643
Flt Permitted		0.272			0.054			0.751			0.556	
Satd. Flow (perm)	0	472	3090	0	94	3307	0	1264	1456	0	963	1643
Satd. Flow (RTOR)			80			2			156			3
Lane Group Flow (vph)	0	4	1732	0	250	1054	0	188	158	0	18	10
Turn Type	Perm	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA
Protected Phases			4		3	8			2			6
Permitted Phases	4	4			8			2			6	
Detector Phase	4	4	4		3	8		2	2		6	6
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0
Minimum Split (s)	27.7	27.7	27.7		9.9	27.7		35.0	35.0		35.0	35.0
Total Split (s)	73.2	73.2	73.2		21.0	94.2		35.8	35.8		35.8	35.8
Total Split (%)	56.3%	56.3%	56.3%		16.2%	72.5%		27.5%	27.5%		27.5%	27.5%
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)	1.4	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	Lag	Lag	Lag		Lead							
Lead-Lag Optimize?	Yes	Yes	Yes		Yes							
Recall Mode	Max	Max	Max		None	Max		None	None		None	None
Act Effct Green (s)		68.9	68.9		89.8	89.8		23.9	23.9		23.9	23.9
Actuated g/C Ratio		0.55	0.55		0.72	0.72		0.19	0.19		0.19	0.19
v/c Ratio		0.02	0.99		0.92	0.44		0.78	0.39		0.10	0.03
Control Delay		15.0	47.0		75.1	8.4		68.9	9.4		41.4	33.0
Queue Delay		0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0
Total Delay		15.0	47.0		75.1	8.4		68.9	9.4		41.4	33.0
LOS		B	D		E	A		E	A		D	C
Approach Delay			46.9			21.2			41.7			38.4
Approach LOS			D			C			D			D
Queue Length 50th (m)		0.5	~256.5		51.9	60.8		46.3	0.4		3.9	1.5
Queue Length 95th (m)		2.5	#304.8		#107.4	76.0		73.9	18.7		11.0	6.4
Internal Link Dist (m)			327.1			295.8			181.0			16.2
Turn Bay Length (m)		45.0			50.0							
Base Capacity (vph)		261	1746		273	2386		303	468		231	396
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		0.02	0.99		0.92	0.44		0.62	0.34		0.08	0.03

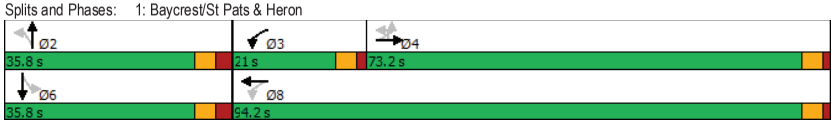
Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 124.4
Natural Cycle: 130
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.99

Lane Group	SBR
Lane Configurations	
Traffic Volume (vph)	3
Future Volume (vph)	3
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Satd. Flow (RTOR)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	
Total Split (%)	
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (m)	
Queue Length 95th (m)	
Internal Link Dist (m)	
Turn Bay Length (m)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary

Intersection Signal Delay: 36.5 Intersection LOS: D
Intersection Capacity Utilization 101.8% 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.

Splits and Phases: 1: Baycrest/St Pats & Heron



Lanes, Volumes, Timings
2: Sandalwood/Briar Hill & Heron

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	1132	190	364	1174	18	121	21	208	8	26	41
Future Volume (vph)	60	1132	190	364	1174	18	121	21	208	8	26	41
Satd. Flow (prot)	1658	3219	0	1658	3307	0	1658	1470	0	1658	1545	0
Flt Permitted	0.237			0.081			0.713			0.379		
Satd. Flow (perm)	412	3219	0	141	3307	0	1211	1470	0	654	1545	0
Satd. Flow (RTOR)		20			2			208			41	
Lane Group Flow (vph)	60	1322	0	364	1192	0	121	229	0	8	67	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	7	4		3	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	10.3	24.3		11.3	24.3		35.1	35.1		35.1	35.1	
Total Split (s)	11.6	48.4		25.8	62.6		35.8	35.8		35.8	35.8	
Total Split (%)	10.5%	44.0%		23.5%	56.9%		32.5%	32.5%		32.5%	32.5%	
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		Lead	Lag							
Lead-Lag Optimize?	Yes	Yes		Yes	Yes							
Recall Mode	None	Max		None	Max		None	None		None	None	
Act Effct Green (s)	49.3	43.2		68.9	59.8		15.0	15.0		15.0	15.0	
Actuated g/C Ratio	0.52	0.45		0.72	0.63		0.16	0.16		0.16	0.16	
v/c Ratio	0.21	0.90		0.85	0.57		0.63	0.56		0.08	0.24	
Control Delay	8.8	34.4		45.4	13.1		52.8	12.5		34.9	19.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	8.8	34.4		45.4	13.1		52.8	12.5		34.9	19.1	
LOS	A	C		D	B		D	B		C	B	
Approach Delay		33.3			20.7			26.4			20.7	
Approach LOS		C			C			C			C	
Queue Length 50th (m)	2.8	118.1		51.5	68.8		22.2	3.5		1.4	4.4	
Queue Length 95th (m)	8.0	#189.1		#114.9	107.4		40.8	24.6		5.6	16.0	
Internal Link Dist (m)		295.8			838.3			333.5			187.5	
Turn Bay Length (m)	55.0			55.0			22.0			35.0		
Base Capacity (vph)	296	1468		428	2074		377	601		203	510	
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	0.20	0.90		0.85	0.57		0.32	0.38		0.04	0.13	

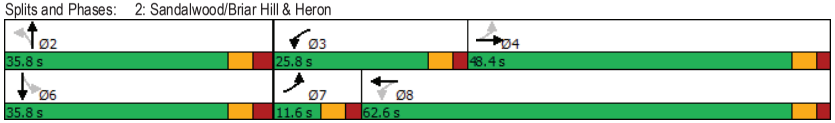
Intersection Summary
Cycle Length: 110
Actuated Cycle Length: 95.4
Natural Cycle: 110
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.90

Lanes, Volumes, Timings
2: Sandalwood/Briar Hill & Heron

03-25-2019

Intersection Signal Delay: 26.5 — Intersection LOS: C
Intersection Capacity Utilization 93.8% — 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: 2: Sandalwood/Briar Hill & Heron

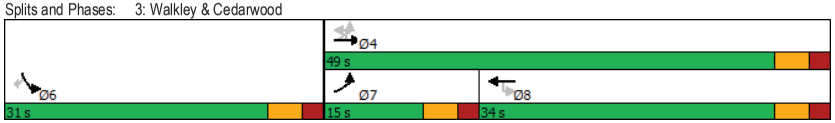


Lane Group	EBU	EBL	EBT	WBU	WBT	WBR	SBL	SBR
Lane Configurations								
Traffic Volume (vph)	1	281	789	2	894	148	60	267
Future Volume (vph)	1	281	789	2	894	148	60	267
Satd. Flow (prot)	0	1658	3316	0	3217	0	1658	1483
Flt Permitted		0.145			0.954		0.950	
Satd. Flow (perm)	0	253	3316	0	3069	0	1645	1429
Satd. Flow (RTOR)					26			267
Lane Group Flow (vph)	0	282	789	0	1044	0	60	267
Turn Type	Perm	pm+pt	NA	Perm	NA		Prot	Perm
Protected Phases		7	4		8		6	
Permitted Phases	4	4		8				6
Detector Phase	4	7	4	8	8		6	6
Switch Phase								
Minimum Initial (s)	10.0	5.0	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	23.5	10.7	23.5	25.5	25.5		29.5	29.5
Total Split (s)	49.0	15.0	49.0	34.0	34.0		31.0	31.0
Total Split (%)	61.3%	18.8%	61.3%	42.5%	42.5%		38.8%	38.8%
Yellow Time (s)	3.3	3.3	3.3	3.3	3.3		3.3	3.3
All-Red Time (s)	2.2	2.2	2.2	2.2	2.2		2.2	2.2
Lost Time Adjust (s)		0.0	0.0		0.0		0.0	0.0
Total Lost Time (s)		5.5	5.5		5.5		5.5	5.5
Lead/Lag		Lead		Lag	Lag			
Lead-Lag Optimize?		Yes		Yes	Yes			
Recall Mode	Max	None	Max	Max	Max		None	None
Act Effct Green (s)		43.5	43.5		28.5		10.6	10.6
Actuated g/C Ratio		0.67	0.67		0.44		0.16	0.16
v/c Ratio		0.76	0.36		0.77		0.22	0.59
Control Delay		24.8	5.4		20.2		25.8	9.5
Queue Delay		0.0	0.0		0.0		0.0	0.0
Total Delay		24.8	5.4		20.2		25.8	9.5
LOS		C	A		C		C	A
Approach Delay			10.5		20.2		12.5	
Approach LOS			B		C		B	
Queue Length 50th (m)		14.0	18.2		53.7		6.7	0.0
Queue Length 95th (m)		#54.0	31.2		84.4		16.2	18.1
Internal Link Dist (m)			340.4		238.6		352.9	
Turn Bay Length (m)		57.0					15.0	
Base Capacity (vph)		373	2214		1357		649	722
Starvation Cap Reductn		0	0		0		0	0
Spillback Cap Reductn		0	0		0		0	0
Storage Cap Reductn		0	0		0		0	0
Reduced v/c Ratio		0.76	0.36		0.77		0.09	0.37

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 65.2
Natural Cycle: 80
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.77

Intersection Signal Delay: 14.9 Intersection LOS: B
Intersection Capacity Utilization 88.1% 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: Walkley & Cedarwood



Lane Group	EBU	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL
Lane Configurations												
Traffic Volume (vph)	1	130	690	18	3	22	923	174	17	11	19	88
Future Volume (vph)	1	130	690	18	3	22	923	174	17	11	19	88
Satd. Flow (prot)	0	1658	3296	0	0	1658	3196	0	0	1597	0	1658
Flt Permitted		0.219				0.371				0.882		0.726
Satd. Flow (perm)	0	379	3296	0	0	634	3196	0	0	1415	0	1241
Satd. Flow (RTOR)			5				41			19		
Lane Group Flow (vph)	0	131	708	0	0	25	1097	0	0	47	0	88
Turn Type	Perm	Perm	NA		Perm	Perm	NA		Perm	NA		Perm
Protected Phases			4				8			2		
Permitted Phases	4	4			8	8			2			6
Detector Phase	4	4	4		8	8	8		2	2		6
Switch Phase												
Minimum Initial (s)	10.0	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	25.9	25.9		31.1	31.1		31.1
Total Split (s)	48.0	48.0	48.0		48.0	48.0	48.0		32.0	32.0		32.0
Total Split (%)	60.0%	60.0%	60.0%		60.0%	60.0%	60.0%		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
All-Red Time (s)	2.6	2.6	2.6		2.6	2.6	2.6		2.8	2.8		2.8
Lost Time Adjust (s)		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
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max	Max		Max	Max	Max		None	None		None
Act Effct Green (s)		48.3	48.3			48.3	48.3			18.5		18.5
Actuated g/C Ratio		0.66	0.66			0.66	0.66			0.25		0.25
v/c Ratio		0.53	0.33			0.06	0.52			0.13		0.28
Control Delay		23.9	9.2			9.4	11.0			14.1		23.7
Queue Delay		0.0	0.0			0.0	0.0			0.0		0.0
Total Delay		23.9	9.2			9.4	11.0			14.1		23.7
LOS		C	A			A	B			B		C
Approach Delay			11.5				10.9			14.1		
Approach LOS			B				B			B		
Queue Length 50th (m)		13.8	32.4			1.8	57.9			3.1		10.2
Queue Length 95th (m)		#43.8	44.8			5.6	78.3			10.5		21.5
Internal Link Dist (m)			238.6				1021.0			32.3		
Turn Bay Length (m)		48.0				40.0						15.0
Base Capacity (vph)		248	2160			415	2107			513		439
Starvation Cap Reductn		0	0			0	0			0		0
Spillback Cap Reductn		0	0			0	0			0		0
Storage Cap Reductn		0	0			0	0			0		0
Reduced v/c Ratio		0.53	0.33			0.06	0.52			0.09		0.20

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 73.7
Natural Cycle: 80
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.53

Lane Group	SBT	SBR
Lane Configurations		
Traffic Volume (vph)	18	78
Future Volume (vph)	18	78
Satd. Flow (prot)	1463	0
Flt Permitted		
Satd. Flow (perm)	1463	0
Satd. Flow (RTOR)	78	
Lane Group Flow (vph)	96	0
Turn Type	NA	
Protected Phases	6	
Permitted Phases		
Detector Phase	6	
Switch Phase		
Minimum Initial (s)	10.0	
Minimum Split (s)	31.1	
Total Split (s)	32.0	
Total Split (%)	40.0%	
Yellow Time (s)	3.3	
All-Red Time (s)	2.8	
Lost Time Adjust (s)	0.0	
Total Lost Time (s)	6.1	
Lead/Lag		
Lead-Lag Optimize?		
Recall Mode	None	
Act Effct Green (s)	18.5	
Actuated g/C Ratio	0.25	
v/c Ratio	0.23	
Control Delay	8.5	
Queue Delay	0.0	
Total Delay	8.5	
LOS	A	
Approach Delay	15.8	
Approach LOS	B	
Queue Length 50th (m)	2.0	
Queue Length 95th (m)	12.4	
Internal Link Dist (m)	109.2	
Turn Bay Length (m)		
Base Capacity (vph)	568	
Starvation Cap Reductn	0	
Spillback Cap Reductn	0	
Storage Cap Reductn	0	
Reduced v/c Ratio	0.17	

Intersection Summary

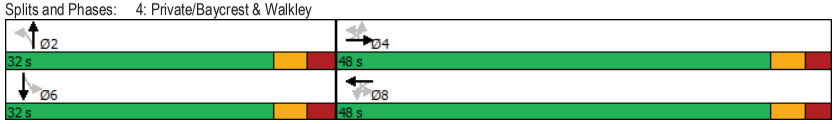
Lanes, Volumes, Timings
4: Private/Baycrest & Walkley

03-25-2019

Intersection Signal Delay: 11.6	Intersection LOS: B
Intersection Capacity Utilization 75.4%	ICU Level of Service D
Analysis Period (min) 15	

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

Splits and Phases: 4: Private/Baycrest & Walkley



Lanes, Volumes, Timings
1: Alta Vista & Heron

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	139	1409	39	107	1081	152	21	208	118	174	413	138
Future Volume (vph)	139	1409	39	107	1081	152	21	208	118	174	413	138
Satd. Flow (prot)	1658	3302	0	1658	3316	1483	1658	1651	0	1658	1679	0
Flt Permitted	0.950			0.950			0.266			0.277		
Satd. Flow (perm)	1658	3302	0	1658	3316	1483	464	1651	0	483	1679	0
Satd. Flow (RTOR)		2				116		22			16	
Lane Group Flow (vph)	154	1609	0	119	1201	169	23	362	0	193	612	0
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		pm+pt	NA	
Protected Phases	7	4		3	8			2		1	6	
Permitted Phases						8	2			6		
Detector Phase	7	4		3	8	8	2	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	10.0	10.0	10.0	10.0		5.0	10.0	
Minimum Split (s)	10.4	22.5		10.4	22.5	22.5	29.9	29.9		9.5	29.9	
Total Split (s)	19.0	49.0		19.0	49.0	49.0	44.0	44.0		18.0	62.0	
Total Split (%)	14.6%	37.7%		14.6%	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	Max		None	Max	Max	Max	Max		None	Max	
Act Effct Green (s)	13.5	44.6		12.6	43.6	43.6	39.0	39.0		57.7	56.1	
Actuated g/C Ratio	0.10	0.34		0.10	0.34	0.34	0.30	0.30		0.44	0.43	
v/c Ratio	0.90	1.42		0.74	1.08	0.29	0.17	0.71		0.58	0.83	
Control Delay	103.1	227.8		84.0	92.2	12.3	38.1	47.0		30.6	43.6	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	103.1	227.8		84.0	92.2	12.3	38.1	47.0		30.6	43.6	
LOS	F	F		F	F	B	D	D		C	D	
Approach Delay		216.9			82.5			46.5			40.4	
Approach LOS		F			F			D			D	
Queue Length 50th (m)	41.7	~313.0		31.5	~190.1	9.8	4.6	82.8		32.2	141.2	
Queue Length 95th (m)	#83.1	#358.2		#59.0	#234.4	27.9	12.9	120.6		50.1	#201.4	
Internal Link Dist (m)		200.1			317.8			368.0			361.8	
Turn Bay Length (m)	65.0			57.0		75.0	21.0			38.0		
Base Capacity (vph)	173	1133		173	1113	574	138	511		338	733	
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	0.89	1.42		0.69	1.08	0.29	0.17	0.71		0.57	0.83	

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 129.9
Natural Cycle: 130
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 1.42

Lanes, Volumes, Timings
1: Alta Vista & Heron

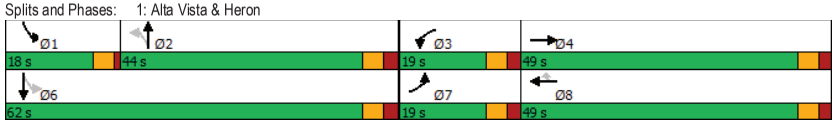
03-25-2019

Intersection Signal Delay: 125.1	Intersection LOS: F
Intersection Capacity Utilization 107.7%	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.

Splits and Phases: 1: Alta Vista & Heron



Lanes, Volumes, Timings
2: Finn & Heron

03-25-2019

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1672	30	14	1267	9	10
Future Volume (vph)	1672	30	14	1267	9	10
Satd. Flow (prot)	3306	0	1658	3316	1658	1483
Flt Permitted			0.096		0.950	
Satd. Flow (perm)	3306	0	168	3316	1658	1483
Satd. Flow (RTOR)	4					11
Lane Group Flow (vph)	1891	0	16	1408	10	11
Turn Type	NA		Perm	NA	Prot	Perm
Protected Phases	4			8	2	
Permitted Phases			8			2
Detector Phase	4		8	8	2	2
Switch Phase						
Minimum Initial (s)	10.0		10.0	10.0	5.0	5.0
Minimum Split (s)	33.0		22.5	22.5	24.8	24.8
Total Split (s)	65.0		65.0	65.0	25.0	25.0
Total Split (%)	72.2%		72.2%	72.2%	27.8%	27.8%
Yellow Time (s)	3.3		3.3	3.3	3.3	3.3
All-Red Time (s)	2.7		2.7	2.7	2.5	2.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0		6.0	6.0	5.8	5.8
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	Max		Max	Max	None	None
Act Effct Green (s)	71.5		71.5	71.5	6.1	6.1
Actuated g/C Ratio	0.91		0.91	0.91	0.08	0.08
v/c Ratio	0.63		0.11	0.47	0.08	0.09
Control Delay	4.0		3.9	2.6	34.3	19.6
Queue Delay	0.0		0.0	0.0	0.0	0.0
Total Delay	4.0		3.9	2.6	34.3	19.6
LOS	A		A	A	C	B
Approach Delay	4.0			2.6	26.6	
Approach LOS	A			A	C	
Queue Length 50th (m)	0.0		0.0	0.0	1.5	0.0
Queue Length 95th (m)	91.3		2.4	49.5	6.1	4.7
Internal Link Dist (m)	317.8			954.9	272.9	
Turn Bay Length (m)			50.0		15.0	
Base Capacity (vph)	2990		152	2999	402	368
Starvation Cap Reductn	0		0	0	0	0
Spillback Cap Reductn	0		0	0	0	0
Storage Cap Reductn	0		0	0	0	0
Reduced v/c Ratio	0.63		0.11	0.47	0.02	0.03

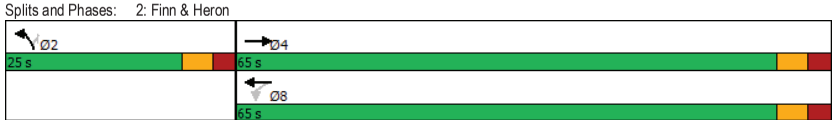
Intersection Summary
Cycle Length: 90
Actuated Cycle Length: 79
Natural Cycle: 80
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.63

Lanes, Volumes, Timings
2: Finn & Heron

03-25-2019

Intersection Signal Delay: 3.5	Intersection LOS: A
Intersection Capacity Utilization 63.8%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 2: Finn & Heron



Lanes, Volumes, Timings
3: HG Mall/Jefferson & Heron

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	1214	96	38	1428	43	73	78	72	37	49	43
Future Volume (vph)	76	1214	96	38	1428	43	73	78	72	37	49	43
Satd. Flow (prot)	1658	3316	1483	1658	3302	0	1658	1745	1483	0	1643	0
Flt Permitted	0.104			0.163			0.665				0.873	
Satd. Flow (perm)	181	3316	1483	284	3302	0	1160	1745	1483	0	1455	0
Satd. Flow (RTOR)			96		5				40		21	
Lane Group Flow (vph)	84	1349	107	42	1635	0	81	87	80	0	143	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2		2	6		
Detector Phase	4	4	4	8	8		2	2	2	6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0	10.0	10.0	10.0	
Minimum Split (s)	30.6	30.6	30.6	30.6	30.6		35.2	35.2	35.2	35.2	35.2	
Total Split (s)	55.0	55.0	55.0	55.0	55.0		35.2	35.2	35.2	35.2	35.2	
Total Split (%)	61.0%	61.0%	61.0%	61.0%	61.0%		39.0%	39.0%	39.0%	39.0%	39.0%	
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	
Total Lost Time (s)	5.6	5.6	5.6	5.6	5.6		6.2	6.2	6.2		6.2	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max	Max	Max	Max		None	None	None	None	None	
Act Effct Green (s)	52.3	52.3	52.3	52.3	52.3		12.3	12.3	12.3		12.3	
Actuated g/C Ratio	0.68	0.68	0.68	0.68	0.68		0.16	0.16	0.16		0.16	
v/c Ratio	0.68	0.59	0.10	0.22	0.72		0.44	0.31	0.30		0.57	
Control Delay	42.2	8.2	1.7	8.7	10.4		35.2	30.0	18.3		33.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0		0.0	
Total Delay	42.2	8.2	1.7	8.7	10.4		35.2	30.0	18.3		33.5	
LOS	D	A	A	A	B		D	C	B		C	
Approach Delay		9.6			10.4			27.9			33.5	
Approach LOS		A			B			C			C	
Queue Length 50th (m)	6.0	45.3	0.4	1.9	64.2		10.7	11.2	5.1		16.3	
Queue Length 95th (m)	#36.2	79.2	5.6	8.2	113.3		23.4	23.4	16.3		33.4	
Internal Link Dist (m)		954.9			280.8			63.4			133.2	
Turn Bay Length (m)	55.0		50.0	50.0			15.0					
Base Capacity (vph)	124	2269	1045	194	2261		442	665	590		568	
Starvation Cap Reductn	0	0	0	0	0		0	0	0		0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0		0	
Storage Cap Reductn	0	0	0	0	0		0	0	0		0	
Reduced v/c Ratio	0.68	0.59	0.10	0.22	0.72		0.18	0.13	0.14		0.25	

Intersection Summary
Cycle Length: 90.2
Actuated Cycle Length: 76.4
Natural Cycle: 100
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.72

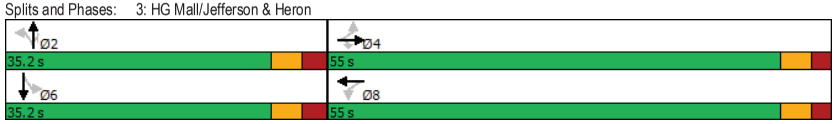
Lanes, Volumes, Timings
3: HG Mall/Jefferson & Heron

03-25-2019

Intersection Signal Delay: 12.2	Intersection LOS: B
Intersection Capacity Utilization 80.3%	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: 3: HG Mall/Jefferson & Heron



Lanes, Volumes, Timings
4: Hampstead/Jim Durrell RC & Walkley

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	1095	15	10	1185	39	8	0	11	22	1	41
Future Volume (vph)	41	1095	15	10	1185	39	8	0	11	22	1	41
Satd. Flow (prot)	1658	3309	0	1658	3299	0	0	1577	0	1658	1489	0
Flt Permitted	0.179			0.210				0.839		0.744		
Satd. Flow (perm)	312	3309	0	366	3299	0	0	1351	0	1298	1489	0
Satd. Flow (RTOR)		3			6			42			43	
Lane Group Flow (vph)	46	1234	0	11	1360	0	0	21	0	24	47	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Detector Phase	4	4		8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	32.1	32.1		32.1	32.1		29.9	29.9		29.9	29.9	
Total Split (s)	50.0	50.0		50.0	50.0		30.0	30.0		30.0	30.0	
Total Split (%)	62.5%	62.5%		62.5%	62.5%		37.5%	37.5%		37.5%	37.5%	
Yellow Time (s)	3.3	3.3		3.3	3.3		3.3	3.3		3.3	3.3	
All-Red Time (s)	2.8	2.8		2.8	2.8		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Lost Time (s)	6.1	6.1		6.1	6.1			5.9		5.9	5.9	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max		Max	Max		None	None		None	None	
Act Effct Green (s)	56.0	56.0		56.0	56.0			10.1		10.1	10.1	
Actuated g/C Ratio	0.81	0.81		0.81	0.81			0.15		0.15	0.15	
v/c Ratio	0.18	0.46		0.04	0.51			0.09		0.13	0.19	
Control Delay	6.1	4.6		4.1	5.0			4.9		27.6	12.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0		0.0	0.0	
Total Delay	6.1	4.6		4.1	5.0			4.9		27.6	12.0	
LOS	A	A		A	A			A		C	B	
Approach Delay		4.7			5.0			4.9			17.3	
Approach LOS		A			A			A			B	
Queue Length 50th (m)	1.9	36.7		0.4	43.0			0.0		3.4	0.6	
Queue Length 95th (m)	6.5	50.8		1.9	59.8			3.1		8.9	8.7	
Internal Link Dist (m)		181.7			386.9			131.2			67.6	
Turn Bay Length (m)	60.0			54.0						25.0		
Base Capacity (vph)	254	2693		298	2686			503		457	552	
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	0.18	0.46		0.04	0.51			0.04		0.05	0.09	

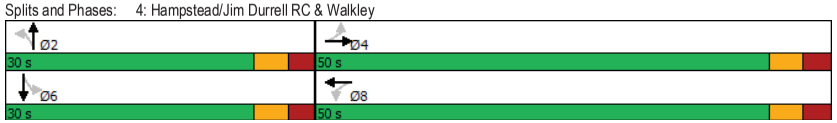
Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 68.8
Natural Cycle: 65
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.51

Lanes, Volumes, Timings
4: Hampstead/Jim Durrell RC & Walkley

03-25-2019

Intersection Signal Delay: 5.2	Intersection LOS: A
Intersection Capacity Utilization 54.3%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 4: Hampstead/Jim Durrell RC & Walkley



Lanes, Volumes, Timings
5: Albion/Colliston & Walkley

03-25-2019

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	980	131	149	1067	20	168	6	78	9	4	0
Future Volume (vph)	17	980	131	149	1067	20	168	6	78	9	4	0
Satd. Flow (prot)	1658	3316	1483	1658	3306	0	1658	1503	0	1658	1745	0
Flt Permitted	0.187			0.223			0.755			0.696		
Satd. Flow (perm)	326	3316	1483	389	3306	0	1318	1503	0	1215	1745	0
Satd. Flow (RTOR)			137		4			78				
Lane Group Flow (vph)	19	1089	146	166	1208	0	187	94	0	10	4	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2			6		
Detector Phase	4	4	4	8	8		2	2		6	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	28.0	28.0	28.0	28.0	28.0		29.2	29.2		29.2	29.2	
Total Split (s)	50.0	50.0	50.0	50.0	50.0		30.0	30.0		30.0	30.0	
Total Split (%)	62.5%	62.5%	62.5%	62.5%	62.5%		37.5%	37.5%		37.5%	37.5%	
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)	2.7	2.7	2.7	2.7	2.7		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	
Total Lost Time (s)	6.0	6.0	6.0	6.0	6.0		6.2	6.2		6.2	6.2	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Max	Max	Max	Max	Max		None	None		None	None	
Act Effct Green (s)	47.0	47.0	47.0	47.0	47.0		15.8	15.8		15.8	15.8	
Actuated g/C Ratio	0.63	0.63	0.63	0.63	0.63		0.21	0.21		0.21	0.21	
v/c Ratio	0.09	0.52	0.15	0.68	0.58		0.68	0.25		0.04	0.01	
Control Delay	8.9	9.8	2.2	30.0	10.5		38.8	9.3		21.4	20.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	8.9	9.8	2.2	30.0	10.5		38.8	9.3		21.4	20.8	
LOS	A	A	A	C	B		D	A		C	C	
Approach Delay		8.9			12.9			28.9			21.2	
Approach LOS		A			B			C			C	
Queue Length 50th (m)	1.0	40.5	0.4	13.8	47.5		24.3	1.8		1.1	0.5	
Queue Length 95th (m)	4.8	74.2	8.1	#57.0	86.6		44.3	12.3		4.7	2.6	
Internal Link Dist (m)		386.9			832.0			135.7			92.3	
Turn Bay Length (m)	52.0		35.0	57.0			25.0			30.0		
Base Capacity (vph)	203	2076	979	243	2071		420	532		387	556	
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	0.09	0.52	0.15	0.68	0.58		0.45	0.18		0.03	0.01	

Intersection Summary
Cycle Length: 80
Actuated Cycle Length: 75
Natural Cycle: 80
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.68

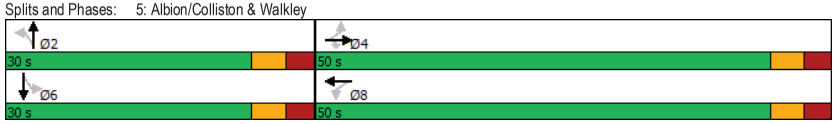
Lanes, Volumes, Timings
5: Albion/Colliston & Walkley

03-25-2019

Intersection Signal Delay: 12.7	Intersection LOS: B
Intersection Capacity Utilization 71.8%	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: 5: Albion/Colliston & Walkley



Lanes, Volumes, Timings
6: Heatherington/HG Mall & Walkley

03-25-2019

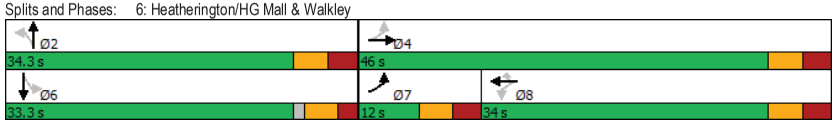
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	667	138	110	892	49	127	35	97	46	38	102
Future Volume (vph)	102	667	138	110	892	49	127	35	97	46	38	102
Satd. Flow (prot)	1658	3229	0	1658	3316	1483	1658	1553	0	0	1597	0
Flt Permitted	0.168			0.318			0.568				0.881	
Satd. Flow (perm)	293	3229	0	555	3316	1483	991	1553	0	0	1424	0
Satd. Flow (RTOR)		43				129		108			85	
Lane Group Flow (vph)	113	894	0	122	991	54	141	147	0	0	206	0
Turn Type	pm+pt	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4			8			2			6	
Permitted Phases	4			8		8	2			6		
Detector Phase	7	4		8	8	8	2	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		10.0	10.0	10.0	10.0	10.0		10.0	10.0	
Minimum Split (s)	11.2	27.2		27.2	27.2	27.2	34.3	34.3		33.3	33.3	
Total Split (s)	12.0	46.0		34.0	34.0	34.0	34.3	34.3		33.3	33.3	
Total Split (%)	14.9%	57.3%		42.3%	42.3%	42.3%	42.7%	42.7%		41.5%	41.5%	
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)	2.9	2.9		2.9	2.9	2.9	3.0	3.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Lost Time (s)	6.2	6.2		6.2	6.2	6.2	6.3	6.3			5.3	
Lead/Lag	Lead			Lag	Lag	Lag						
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Recall Mode	None	Max		Max	Max	Max	None	None		None	None	
Act Effct Green (s)	40.1	40.1		30.6	30.6	30.6	14.5	14.5			15.5	
Actuated g/C Ratio	0.60	0.60		0.46	0.46	0.46	0.22	0.22			0.23	
v/c Ratio	0.39	0.46		0.48	0.66	0.07	0.66	0.35			0.52	
Control Delay	10.9	8.7		25.0	18.8	0.2	39.3	10.1			18.0	
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay	10.9	8.7		25.0	18.8	0.2	39.3	10.1			18.0	
LOS	B	A		C	B	A	D	B			B	
Approach Delay		8.9			18.6			24.4			18.0	
Approach LOS		A			B			C			B	
Queue Length 50th (m)	5.5	27.5		11.2	53.4	0.0	16.9	4.1			13.3	
Queue Length 95th (m)	15.1	53.2		#37.2	90.3	0.0	34.2	17.0			31.3	
Internal Link Dist (m)		832.0			331.8			119.9			86.2	
Turn Bay Length (m)	46.0			37.0			25.0					
Base Capacity (vph)	293	1945		253	1511	746	415	713			666	
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	0.39	0.46		0.48	0.66	0.07	0.34	0.21			0.31	

Intersection Summary
Cycle Length: 80.3
Actuated Cycle Length: 67.1
Natural Cycle: 75
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.66

Lanes, Volumes, Timings
6: Heatherington/HG Mall & Walkley

03-25-2019

Intersection Signal Delay: 15.5	Intersection LOS: B
Intersection Capacity Utilization 72.2%	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: 6: Heatherington/HG Mall & Walkley