19 Centrepointe Drive

Transportation Impact Assessment

Step 1 Screening Report

Step 2 Scoping Report

Step 3 Forecasting Report

Step 4 Strategy Report

Prepared for:

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PN: 2019-49

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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, the trip generation, location and safety triggers were met, and a TIA is required. This is an Official Plan Amendment and Zoning By-law Amendment application and only the Network Impact Component will be completed as part of this study.

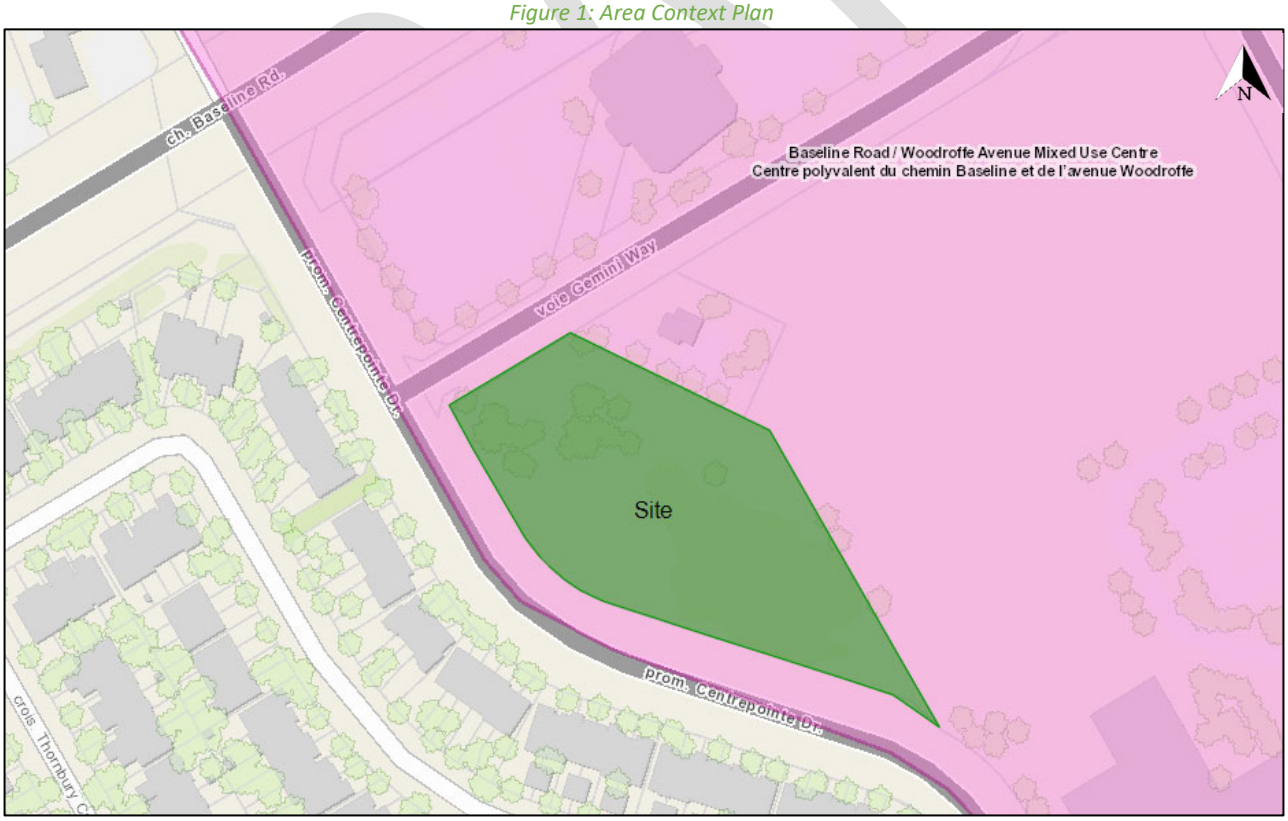
2 Existing and Planned Conditions

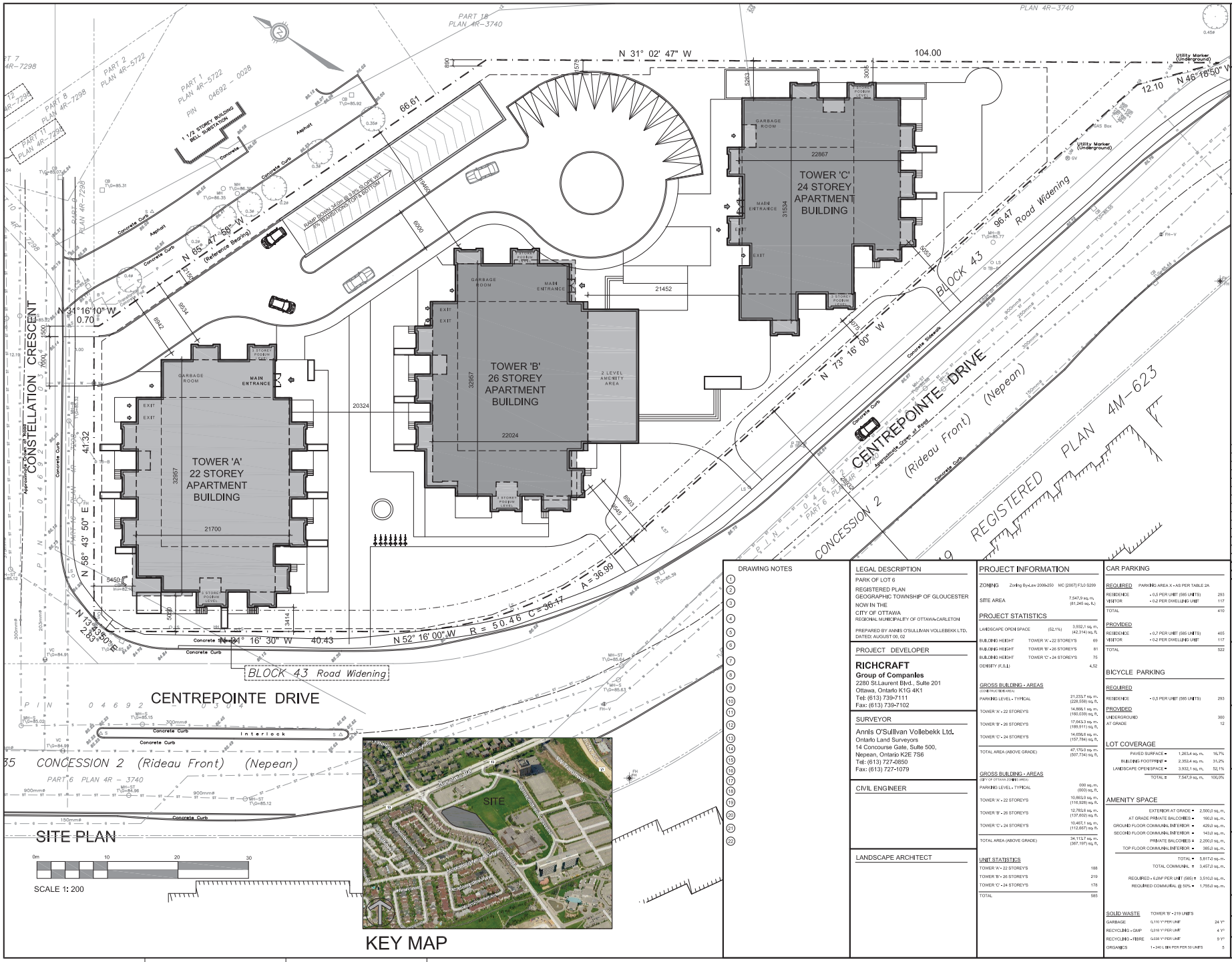
2.1 Proposed Development

The proposed development, located at 19 Centrepointe Drive, is currently zoned as a Mixed-Use Centre Zone. The existing land use is an undeveloped green area. The proposed development is within 600 metres of the Baseline BRT and future LRT Station and therefore TOD principles apply. 19 Centrepointe Drive is also within the Baseline Woodroffe Secondary Plan and Baseline Road/Woodroffe Avenue Mixed-Use Centre Plan.

The proposed residential development consists of approximately 585 units. The concept plan currently splits these units into one 22-storey apartment tower, one 24-storey apartment tower, and one 26-storey apartment tower on a shared podium. Access to the proposed development will be via one full movement access, located approximately 40 metres east of the unsignalized intersection of Centrepointe Drive at Gemini Way. The site includes 312 bicycle parking spaces and 522 auto parking spaces. The anticipated full build-out and occupancy horizon is 2023. Figure 1 illustrates the Study Area Context. Figure 2 illustrates the proposed site plan.

Figure 1: Area Context Plan





SITE PLAN

0m 10 20 30

SCALE 1: 200

KEY MAP

IT IS THE RESPONSIBILITY OF THE APPROPRIATE CONTRACTOR TO CHECK AND VERIFY ALL DIMENSIONS ON SITE AND TO REPORT ALL ERRORS AND/OR OMISSIONS TO THE ARCHITECT.

ALL CONTRACTORS MUST COMPLY WITH ALL PERTINENT CODES AND BY-LAWS.

THIS DRAWING MAY NOT BE USED FOR CONSTRUCTION UNTIL SIGNED BY THE ARCHITECT.

DO NOT SCALE DRAWINGS.

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NOTATION SYMBOLS:

- (W) INDICATES DRAWING NOTES, LISTED ON EACH SHEET.
- (A) INDICATES ASSEMBLIE TYPE; REFER TO TYPICAL ASSEMBLIES SCHEDULE.
- (W) INDICATES WINDOW TYPE; REFER TO WINDOW ELEVATIONS AND DETAILS ON A900 SERIES.
- (D02) INDICATES DOOR TYPE; REFER TO DOOR SCHEDULE AND DETAILS ON A900 SERIES.
- DETAIL NUMBER
- TITLE
- SHEET
- DETAIL REFERENCE PAGE
- DETAIL CROSS REFERENCE PAGE

GENERAL NOTES:

A. REFER TO TYPICAL ASSEMBLIES SHEET FOR WALL, PARTITION, ROOF CEILING & FLOOR TYPES.

B. FOR DOOR TYPES AND HARDWARE REQUIREMENTS REFER TO DOOR SCHEDULE ON A900 SERIES.

C. ALL INTERIOR DIMENSIONS ARE TAKEN FROM THE FACE OF DRYWALL.

D. ALL EXTERIOR DIMENSIONS ARE TAKEN FROM THE FACE OF CLADDING.

E. ALL EXTERIOR WALLS ARE TO BE TYPE 'W1' UNLESS NOTED OTHER WISE.

F. ALL INTERIOR PARTITIONS ARE TO BE TYPE 'P1' UNLESS NOTED OTHER WISE.

No.	DESCRIPTION	DATE
REVISIONS:		
1	NEW CONCEPT DESIGN- GENERAL REVISION	Mar. 13 20
2	NEW CONCEPT DESIGN	Feb. 21 20
3	REVISED BLDG. HT. & TOWER FOOTPRINT	Oct. 11, 11
4	ISSUED FOR ZONING AMENDMENT	July 15, 11

ARCHITECT SEAL:

NORTH ARROW

SEAL DATE/ STAMP DATE

CLIENT:

RICHCRAFT Group Of Companies

ARCHITECT:

rla/architecture
roderick lahey architect inc.
56 beech street, ottawa, ontario K1S 3J6
t. 613.724.9932 f. 613.724.1209 rla@architecture.ca

PROJECT TITLE:

19 CENTREPOINTE DRIVE

OTTAWA ONTARIO

SHEET TITLE:

SITE PLAN

DRAWN:	CHECKED:
RV	R.L.A.
SCALE: 1:200	SHEET No. SP-1
PROJECT No. 1910	

DRAWING NOTES

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22.

LEGAL DESCRIPTION

PARK OF LOT 6
REGISTERED PLAN
GEOGRAPHIC TOWNSHIP OF GLOUCESTER
NOW IN THE
CITY OF OTTAWA
REGIONAL MUNICIPALITY OF OTTAWA-CARLETON

PREPARED BY ANNIS O'SULLIVAN VOLLEBEKK LTD.
DATED: AUGUST 00, 02

PROJECT DEVELOPER

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Nepean, Ontario K2E 7S6
Tel: (613) 727-0850
Fax: (613) 727-1079

CIVIL ENGINEER

LANDSCAPE ARCHITECT

PROJECT INFORMATION

ZONING	Zoning By-Law 2008-250	MC [2007] F(3.0 S299
SITE AREA		7,547.9 sq. m. (81,245 sq. ft.)

PROJECT STATISTICS

LANDSCAPE OPEN SPACE	(52.1%)	3,932.1 sq. m. (42,314) sq. ft.
BUILDING HEIGHT	TOWER 'A' - 22 STOREY'S	69
BUILDING HEIGHT	TOWER 'B' - 26 STOREY'S	81
BUILDING HEIGHT	TOWER 'C' - 24 STOREY'S	75
DENSITY (F.S.I.)		4.52

GROSS BUILDING - AREAS (CONSTRUCTION AREA)

PARKING LEVEL - TYPICAL	21,233.7 sq. m. (228,556) sq. ft.
TOWER 'A' - 22 STOREY'S	14,868.1 sq. m. (160,039) sq. ft.
TOWER 'B' - 26 STOREY'S	17,643.3 sq. m. (189,911) sq. ft.
TOWER 'C' - 24 STOREY'S	14,658.6 sq. m. (157,784) sq. ft.
TOTAL AREA (ABOVE GRADE)	47,170.0 sq. m. (507,734) sq. ft.

GROSS BUILDING - AREAS (CITY OF OTTAWA DEFINED AREA)

PARKING LEVEL - TYPICAL	000 sq. m. (000) sq. ft.
TOWER 'A' - 22 STOREY'S	10,653.0 sq. m. (116,928) sq. ft.
TOWER 'B' - 26 STOREY'S	12,783.6 sq. m. (137,602) sq. ft.
TOWER 'C' - 24 STOREY'S	10,467.1 sq. m. (112,667) sq. ft.
TOTAL AREA (ABOVE GRADE)	34,113.7 sq. m. (367,197) sq. ft.

UNIT STATISTICS

TOWER 'A' - 22 STOREY'S	188
TOWER 'B' - 26 STOREY'S	219
TOWER 'C' - 24 STOREY'S	178
TOTAL	585

CAR PARKING

REQUIRED	PARKING AREA X - AS PER TABLE 2A	
RESIDENCE	- 0.5 PER UNIT (585 UNITS)	293
VISITOR	- 0.2 PER DWELLING UNIT	117
TOTAL		410
PROVIDED		
RESIDENCE	- 0.7 PER UNIT (585 UNITS)	405
VISITOR	- 0.2 PER DWELLING UNIT	117
TOTAL		522

BICYCLE PARKING

REQUIRED		
RESIDENCE	- 0.5 PER UNIT (585 UNITS)	293
PROVIDED		
UNDERGROUND		300
AT GRADE		12

LOT COVERAGE

PAVED SURFACE =	1,263.4 sq. m.	16.7%
BUILDING FOOTPRINT =	2,352.4 sq. m.	31.2%
LANDSCAPE OPEN SPACE =	3,932.1 sq. m.	52.1%
TOTAL =	7,547.9 sq. m.	100.0%

AMENITY SPACE

EXTERIOR AT GRADE =	2,500.0 sq. m.
AT GRADE PRIVATE BALCONIES =	160.0 sq. m.
GROUND FLOOR COMMUNAL INTERIOR =	429.0 sq. m.
SECOND FLOOR COMMUNAL INTERIOR =	143.0 sq. m.
PRIVATE BALCONIES =	2,200.0 sq. m.
TOP FLOOR COMMUNAL INTERIOR =	385.0 sq. m.
TOTAL =	5,817.0 sq. m.
TOTAL COMMUNAL =	3,457.0 sq. m.
REQUIRED - 6.2M² PER UNIT (585) =	3,510.0 sq. m.
REQUIRED COMMUNAL @ 50% =	1,755.0 sq. m.

SOLID WASTE	TOWER 'B' - 219 UNITS	
GARBAGE	0.110 Y³ PER UNIT	24 Y³
RECYCLING - GWP	0.018 Y³ PER UNIT	4 Y³
RECYCLING - FIBRE	0.038 Y³ PER UNIT	9 Y³
ORGANICS	1 - 240 L BIN PER PER 50 UNITS	5

PAPER SIZE: ISO_B1_(707.00_x_1000.00_MM) | PLOT DATE: Friday, March 13, 2020 | PLOT SCALE: 1:1 | PEN STYLE: 0-RLA-MASTER-100%.ctb | F:\2019\1910 - Centrepointe (Richcraft) (previously 1028)\01_Design Development\1910 SP-1 Site Plan 2020 03 04.dwg

2.2 Existing Conditions

2.2.1 Area Road Network

Baseline Road: Baseline Road is a City of Ottawa Arterial road with an urban divided cross-section and a posted speed limit of 60 km/h. Three travel lanes are provided in the eastbound direction and two lanes in the westbound, with a bus lane/right-turn lane developing as the third lane west of Constellation Drive. Sidewalks are provided on both sides of the roadway occasional bike pocket lanes are provided at intersections. The Ottawa Official Plan reserves a 44.5 metre right of way within the Study Area.

Woodroffe Avenue: Woodroffe Avenue is a City of Ottawa Arterial road with a six-lane urban divided cross-section and a posted speed limit of 60 km/h. One of the southbound lanes transitions to a bus lane south of Baseline Road and bike lanes are provided south of Navaho Drive. Sidewalks are provided on both sides of the roadway occasional bike pocket lanes are provided at intersections. The Ottawa Official Plan reserves a 44.5 metre right of way south of Baseline Road and 37.5 to the north.

Centrepointe Drive: Centrepointe Drive is City of Ottawa major collector road with an urban cross-section that fluctuates between two and four lanes and has a posted speed limit of 40 km/h. Intermittent parking is allowed in both directions in the outer lanes between the intersection of Centrepointe Drive East at Baseline Road and Centrepoint Drive at Arbordale Crescent / Kentsdale Drive. Centrepointe Drive has sidewalks on both sides of the road from Baseline Road to Hemmingwood Way on the west side and Baseline Road to Arbordale Crescent on the east side. Centrepointe Drive has a sidewalk on one side between Hemmingwood Way and Arbordale Crescent. The Ottawa Official Plan reserves a 26.0 metre right-of-way from 63 metres north of Hemmingwood Way to Tallwood Drive, and the measured right-of-way is approximately 29.0 metres north of Hemmingwood Way and 25 metres south of Tallwood Drive to the western intersection with Baseline Road.

Tallwood Drive: Tallwood Drive is a City of Ottawa major collector road with a four-lane divided cross-section and a posted speed limit of 40 km/h. Sidewalks are provided on both sides of the roadway and left-turn lanes are provide within the centre median for access to driveways and local roads. The Ottawa Official Plan reserves a 28.0 metre right-of-way within the Study Area.

Constellation Drive: Constellation Drive is a City of Ottawa collector road with an urban cross-section and an unposted speed limit of 50 km/h. The cross-section provides four lanes from Baseline to Sir Guy Carleton Secondary School and two lanes south to Centreponte Drive. A bike lane is present on the west side of the road and a sidewalk is present on both sides of the road, transitioning to a single on the east side south of Sir Guy Carleton Secondary School. Parking is permitted on the South/east side of the roadway. The Ottawa Official Plan reserves a 24-metre right-of-way within the Study Area.

Gemini Way: Gemini Way is a City of Ottawa collector road with a two-lane urban cross-section and an unposted speed limit of 50 km/h. On street parking is allowed on the north side of the road on half the length closest to Centrepointe Drive and no sidewalks are provided. The measured right-of-way is approximately 20.0 metres.

Cobden Road: Cobden Road is a City of Ottawa local road with a two-lane urban cross-section and an unposted speed limit of 50 km/h. On street parking is allowed and a sidewalk is provided on the east side of the roadway. The measured right-of-way is approximately 20.0 metres.

Highgate Road: Highgate Road is a City of Ottawa local road with a two-lane urban cross-section and an unposted speed limit of 50 km/h. A sidewalk is provided on the west side of the roadway. The measured right-of-way is approximately 20.0 metres.

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Transitway: The Transitway is bus rapid transit network operated by OC Transpo. The Baseline Transitway station is located to the east of the proposed development, adjacent to Woodroffe Avenue.

2.2.2 Existing Intersections

Centrepointe Drive/Highgate Road & Baseline Road	The intersection of Centrepointe Drive/Highgate Road and Baseline Road is a signalized intersection. The northbound approach consists of two auxiliary left-turn lanes and a channelized right-turn lane, and the southbound approach consists of an auxiliary left-turn lane and a right-turn lane. The eastbound approach consists of an auxiliary left-turn lane, three through lanes and an auxiliary channelized right-turn lane, and the westbound approach consists of two auxiliary left-turn lanes, two through lanes and an auxiliary channelized right-turn lane. Turn restrictions at this intersection prohibit northbound through and southbound through movements at all times. Eastbound right-turn and westbound U-Turn movements are prohibited from 7 AM to 9 AM on weekdays.
Centrepointe Drive/Cobden Road & Baseline Road	The intersection of Centrepointe Drive/Cobden Road and Baseline Road is a signalized intersection. The northbound approach consists of an auxiliary left-turn lane and a channelized right-turn lane, and the southbound approach consists of an auxiliary left-turn lane and a right-turn lane. The eastbound approach consists of an auxiliary left-turn lane, three through lanes and an auxiliary channelized right-turn lane, and the westbound approach consists of an auxiliary left-turn lane, two through lanes, a bus lane and an auxiliary channelized right-turn lane. Turn restrictions at this intersection prohibit northbound through and southbound through movements at all times. Eastbound right-turn and westbound left-turn movements are prohibited from 7 AM to 9 AM on weekdays. Trucks are not permitted on Cobden Road.
Centrepointe Drive & Gemini Way	The intersection of Centrepointe Drive and Gemini Way is a minor stop-controlled intersection. The northbound approach lanes are an extension of the Baseline Road intersection auxiliary lanes, and the southbound approach consists of a shared left-turn/through lane, a through lane, and the end of a receiving lane from the Baseline intersection. The westbound approach consists of a shared left-turn/right-turn lane. No turn restrictions are noted.
Centrepointe Drive & 117 Centrepointe Drive Access	The intersection of Centrepointe Drive and 117 Centrepointe Drive Access is a signalized intersection. The northbound approach consists of a through lane and shared through/right-turn lane, and the southbound approach consists of a shared left-turn/through lane and a through lane. The westbound approach consists of a shared left-turn/right-turn lane. Parking is permitted between 7am-7pm in the curb side lanes adjacent to the intersection. No turn restrictions are noted.
Centrepointe Drive & Tallwood Drive	The intersection of Centrepointe Drive and Tallwood Drive is a signalized intersection. The northbound approach consists of a

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through lane and an auxiliary right-turn lane, and the southbound approach consists of an auxiliary left-turn lane and a through lane. The westbound approach consists of a left-turn lane and right-turn lane. No turn restrictions are noted.

Constellation Drive & Baseline Road — The intersection of Constellation Drive and Baseline Road is a signalized intersection. The northbound approach consists of two auxiliary left-turn lanes and an auxiliary channelized right-turn lane. The eastbound approach consists of three through lanes and an auxiliary right-turn lane, and the westbound approach consists of two auxiliary left-turn lanes and two through lanes. No turn restrictions are noted.

Constellation Drive & Gemini Way — The intersection of Constellation Drive and Gemini Way is a minor stop-controlled intersection. The northbound approach lanes are an extension of the Baseline Road intersection auxiliary lanes, and the southbound approach consists of a through lane, a shared through/right-lane, and a bike lane. Eastbound left-turns are restricted by a centre median along Constellation and only right-turns are permitted.

Woodroffe Avenue & Baseline Road — The intersection of Woodroffe Avenue and Baseline Road is a signalized intersection. The northbound approach consists of two auxiliary left-turn lanes, three through lanes and a channelized right-turn lane, and the southbound approach consists of a two-auxiliary left-turn lanes, three through lanes and a right-turn lane. The eastbound approach consists of a two-auxiliary left-turn lanes, two through lanes and an auxiliary channelized right-turn lane, and the westbound approach consists of an auxiliary left-turn lane, two through lanes and an auxiliary channelized right-turn lane. No turn restrictions are noted.

2.2.3 Existing Driveways

Within 200 metres of the proposed site, two private accesses are located on the north side of Gemini Way. Both of these accesses connect to the parking lot of the Nepean Medical Centre. One private access to a Bell substation is located on the south side of Gemini Way.

2.2.4 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 roads within the study area except for Gemini Way. Baseline Road and Woodroffe Avenue are spine routes with sections of bike lanes provided, and Centerpointe Drive and Constellation Drive are designated local routes with only Centrepointe Drive currently a suggested route south of Tallwood Drive.

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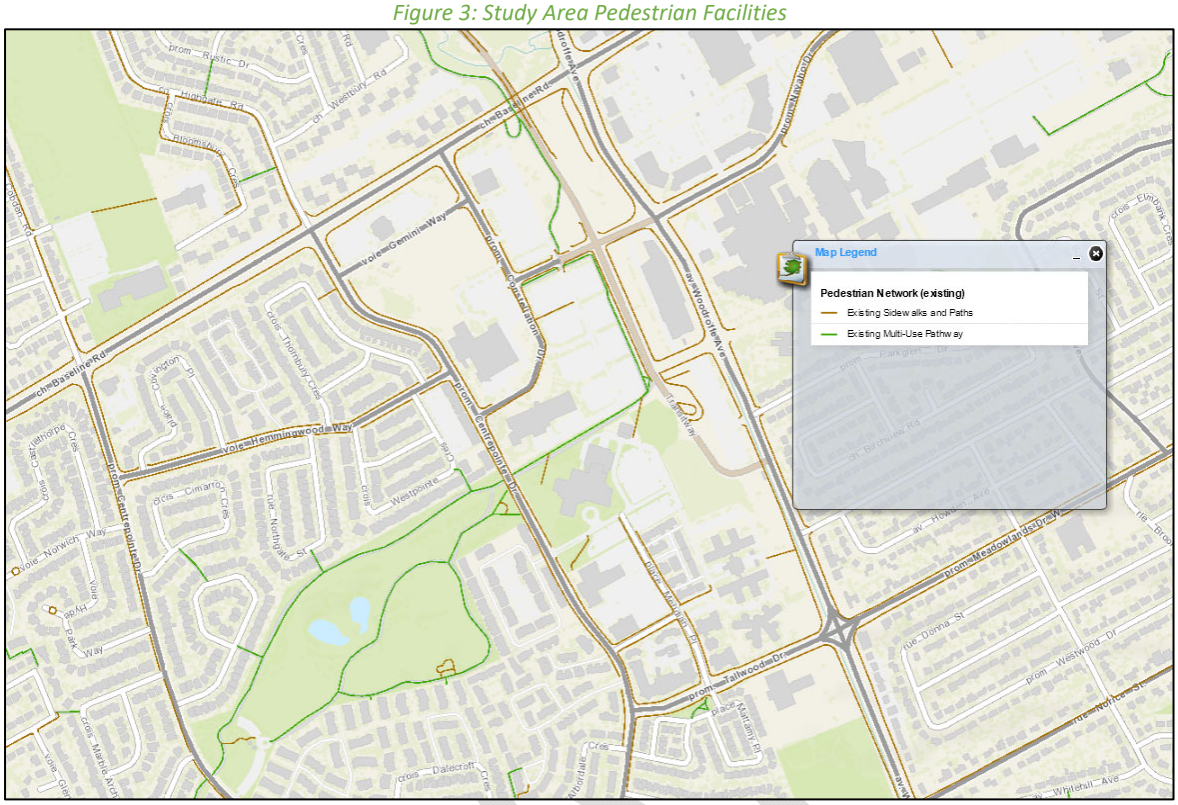
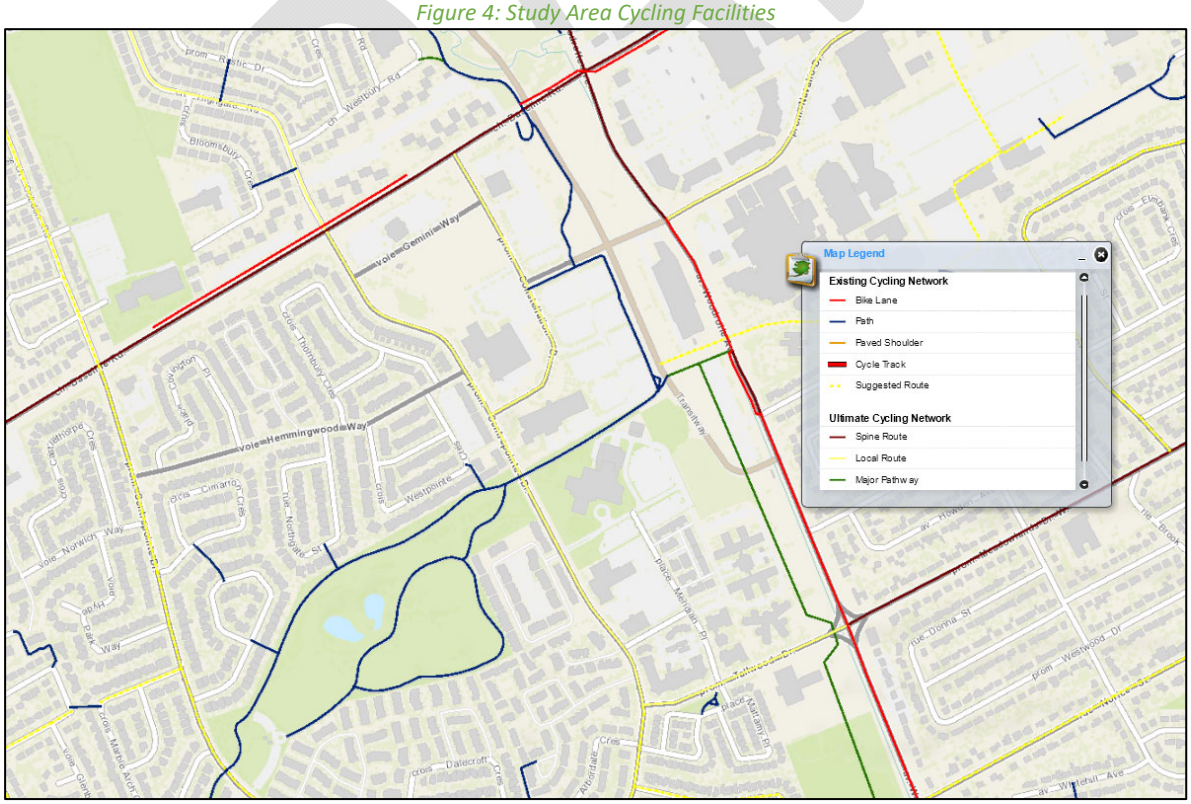
Figure 3: Study Area Pedestrian Facilities



Source: http://maps.ottawa.ca/geoOttawa/ Accessed: October 28, 2019

Figure 4: Study Area Cycling Facilities



Source: http://maps.ottawa.ca/geoOttawa/ Accessed: October 28, 2019

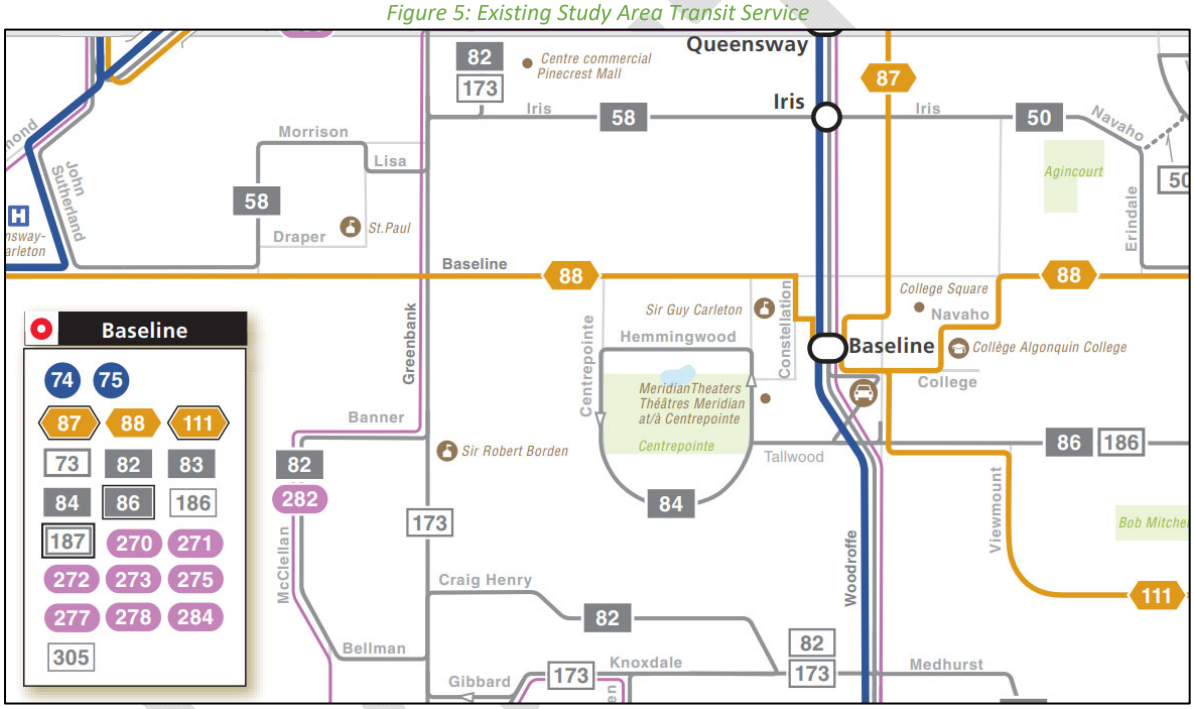
2.2.5 Existing Transit

Within the study area, the routes #84 and 88 travel along Baseline Road, Centrepointe Drive, Tallwood Drive, and Constellation Drive. At Baseline Station, routes #73, 74, 75, 82, 83, 84, 86, 87, 88, 111, 186, 187, 270, 271, 272, 273, 275, 277, 278, 284, 305 all stop at the station. The frequency of these routes within proximity of the proposed site currently are:

- Route #84 – 20-30 minute service between 6AM and 11PM
- Route #88 – 10-15 minute service during all day, 20-30 minute service before 6AM and after 8PM
- Baseline Station – all day routes generally provide 5-30 minute service during the peak periods, peak hour routes providing 15-35 minute service during the peak hours, and route #305 is Friday service only to/from North Gower

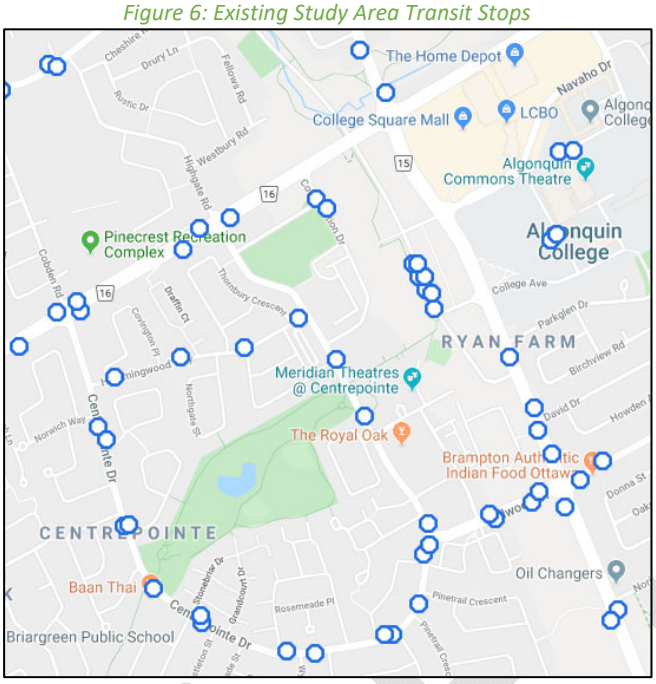
Figure 5 illustrates the transit system map in the study area and Figure 6 illustrates nearby transit stops.

Figure 5: Existing Study Area Transit Service



Source: http://www.octranspo.com/ Accessed: October 28, 2019

Figure 6: Existing Study Area Transit Stops



Source: http://www.octranspo.com/ Accessed: October 28, 2019

2.2.6 Existing Area Traffic Management Measures

The study area traffic calming measures consist of centreline 40km/h posts along Centerpointe Drive, south of Tallwood Drive to Baseline Road, and a designated school zone on Centerpointe Drive between Baseline Road and Constellation Drive. The Centrepointe Drive and Hemmingwood Way Area Traffic Management Study is currently underway.

2.2.7 Existing Peak Hour Travel Demand

Existing turning movement counts were acquired from City counts for the existing Study Area intersection. Table 1 summarizes the intersection count dates.

Table 1: Intersection Count Date

Intersection	Count Date
Baseline Road & Centrepointe Drive/Cobden Road	Thursday, July 21, 2016
Baseline Road & Centrepointe Drive/Highgate Road	Tuesday, January 22, 2019
Baseline Road & Constellation Drive	Wednesday, February 14, 2018
Baseline Road & Woodroffe Avenue	Wednesday, August 10, 2016
Constellation Drive & Gemini Way	Tuesday, April 10, 2018
Centrepointe Drive & Gemini Way	Tuesday, April 10, 2018
Centrepointe Drive & 117 Centrepointe Drive Access	Tuesday, November 8, 2016
Centrepointe Drive & Tallwood Drive	Tuesday, November 8, 2016

Figure 7 illustrates the existing traffic counts and Table 2 summarizes the existing intersection operations. The level of service for signalized intersections is based on the TIA Guidelines for volume to capacity ratio of the lane movements and HCM average delay for the overall intersection, and HCM average delay for unsignalized intersections. The volumes have been balanced on the network. Detailed turning movement count data and signal timing is included in Appendix B and the 2019 Existing Synchro worksheets are provided in Appendix C.

Figure 7: Existing Traffic Counts

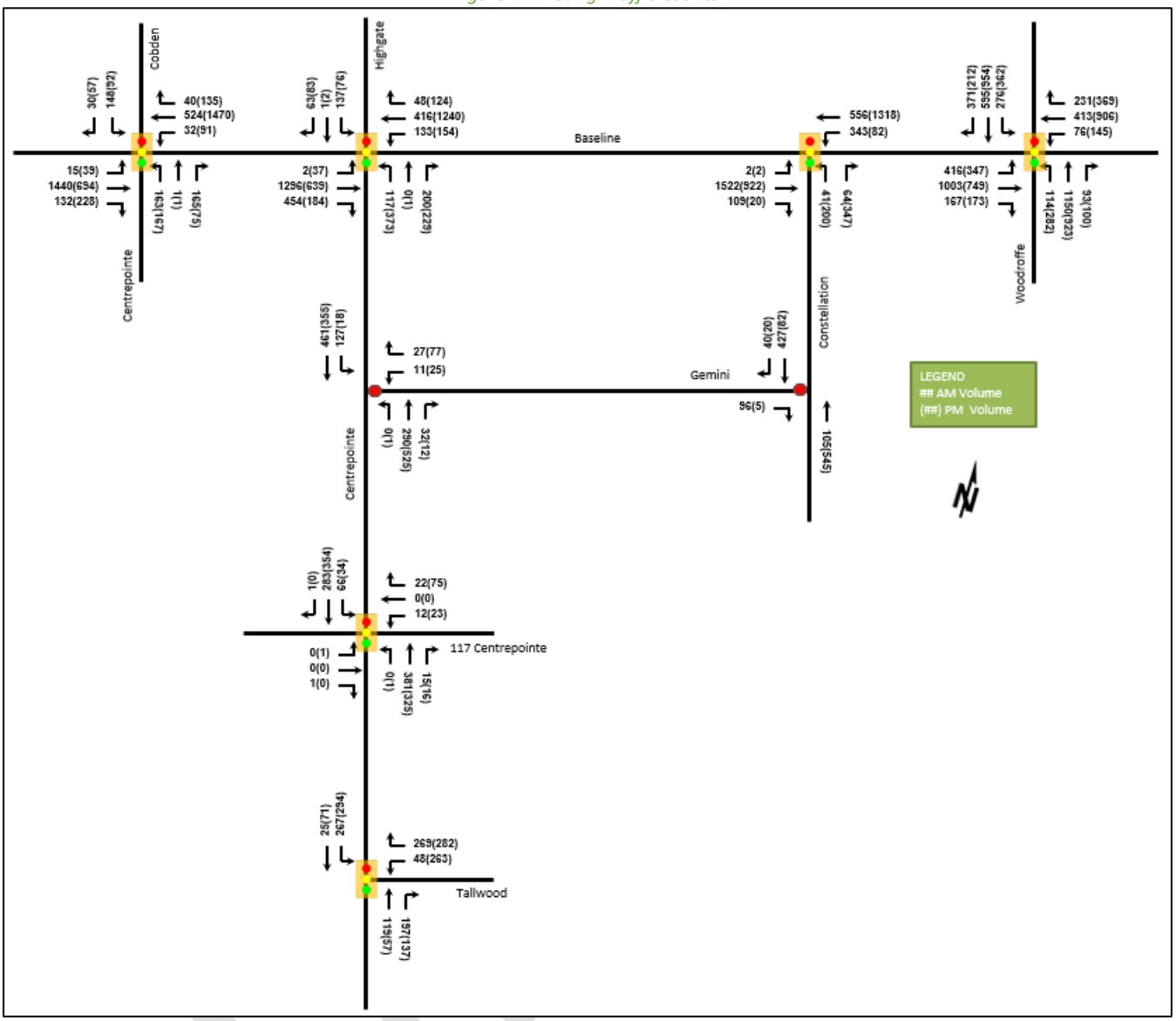


Table 2: Existing Intersection Operations

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Baseline Road & Centrepointe Drive/Cobden Road ***Signalized***	EBL	A	0.19	63.3	12.0	A	0.39	67.1	22.5
	EBT	A	0.49	12.2	107.1	A	0.27	13.4	49.5
	EBR	A	0.14	2.2	8.9	A	0.25	2.5	12.8
	WBL	A	0.34	78.4	18.1	A	0.60	68.5	m35.5
	WBT	A	0.25	3.7	30.7	C	0.75	7.8	63.2
	WBR	A	0.04	0.6	1.0	A	0.15	1.9	m4.0
	NBL/T	C	0.73	69.3	65.6	C	0.74	69.3	67.4
	NBR	A	0.12	0.2	0.0	A	0.06	0.1	0.0
	SBL/T	B	0.66	64.4	60.1	A	0.40	53.2	38.9
	SBR	A	0.11	0.8	0.0	A	0.22	7.6	8.5
	Overall	**B**	-	**16.5**	-	**B**	-	**15.5**	-

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Baseline Road & Centrepointe Drive/Highgate Road ***Signalized***	EBL	A	0.03	60.5	m0.9	A	0.39	64.7	22.5
	EBT	A	0.57	18.2	74.4	A	0.33	29.1	72.6
	EBR	A	0.49	2.8	14.8	A	0.26	10.7	33.0
	WBL	A	0.53	**91.4**	32.2	A	0.57	**81.4**	34.2
	WBT	A	0.22	4.8	15.6	D	0.83	19.0	#238.1
	WBR	A	0.05	0.1	0.0	A	0.17	1.3	1.8
	NBL	A	0.45	60.8	25.9	C	0.76	60.2	66.2
	NBR	B	0.66	16.9	23.7	A	0.55	9.9	22.1
	SBL	D	0.89	**101.6**	#77.5	A	0.55	69.5	37.2
	SBT/R	A	0.26	2.3	0.0	A	0.30	2.6	0.0
	Overall	**C**	-	**22.2**	-	**C**	-	**28.5**	-
Baseline Road & Constellation Drive ***Signalized***	EBT	C	0.74	16.9	84.6	A	0.34	8.9	36.2
	EBR	A	0.11	0.2	m0.4	A	0.02	0.1	m0.2
	WBL	C	0.77	49.5	49.1	A	0.41	**83.0**	m9.8
	WBT	A	0.27	3.4	9.1	A	0.59	4.3	m141.5
	NBL	A	0.07	41.8	10.3	A	0.48	53.3	35.8
	NBR	A	0.19	10.7	12.6	D	0.86	34.1	61.8
	Overall	**B**	-	**17.8**	-	**B**	-	**14.9**	-
Baseline Road & Woodroffe Avenue ***Signalized***	EBL	D	0.86	38.1	#80.3	D	0.85	61.2	#74.7
	EBT	E	0.95	61.9	#198.2	D	0.89	65.9	#158.3
	EBR	A	0.30	22.8	m42.4	A	0.37	22.8	m43.6
	WBL	B	0.66	**82.0**	#41.2	C	0.77	**78.1**	#64.4
	WBT	A	0.52	43.8	70.9	**F**	**1.14**	**119.5**	**#204.6**
	WBR	A	0.46	10.8	30.4	C	0.71	24.9	78.7
	NBL	A	0.50	64.3	26.3	D	0.90	**85.7**	#67.1
	NBT	**F**	**1.02**	**77.6**	**#156.2**	D	0.89	58.1	110.5
	NBR	A	0.19	0.8	0.0	A	0.24	3.4	6.6
	SBL	**F**	**1.03**	**116.2**	**#72.2**	E	0.91	**80.2**	#80.6
	SBT	A	0.50	41.3	66.3	D	0.82	50.4	109.8
	SBR	A	0.60	10.0	38.6	A	0.44	13.4	34.2
	Overall	**D**	-	**54.2**	-	**E**	-	**65.4**	-
Centrepointe Drive East / Gemini Way ***Unsignalized***	WBL/R	B	0.09	13.0	1.8	B	0.22	13.8	5.3
	NBT/R	-	-	-	-	-	-	-	-
	SBL/T	A	0.18	2.7	3.0	A	0.03	0.6	0.5
	Overall	**A**	-	**2.2**	-	**A**	-	**1.6**	-
Constellation Drive East / Gemini Way ***Unsignalized***	EBR	B	0.14	10.7	3.8	A	0.01	8.6	0.1
	NB	-	-	-	-	-	-	-	-
	SBT/R	-	-	-	-	-	-	-	-
	Overall	**A**	-	**1.5**	-	**A**	-	**0.1**	-
Centrepointe Drive East / 117 Centrepointe Drive Access ***Signalized***	EB	A	0.00	0.0	0.0	A	0.00	11.0	0.8
	WB	A	0.07	3.5	3.4	A	0.18	5.7	9.4
	NB	A	0.29	9.2	20.0	A	0.26	9.4	18.1
	SB	A	0.31	9.8	18.8	A	0.32	10.2	21.2
	Overall	**A**	-	**9.2**	-	**A**	-	**9.4**	-

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Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Centrepointe Drive East / Tallwood Drive *Signalized*	WBL	A	0.16	18.9	11.3	B	0.66	26.6	47.6
	WBR	A	0.56	7.5	15.5	A	0.50	5.4	14.1
	NBR/T	A	0.19	2.5	5.6	A	0.13	3.4	7.0
	SBL	A	0.55	12.3	31.1	A	0.58	16.4	56.0
	SBT	A	0.03	5.4	3.7	A	0.09	8.7	11.5
	Overall	**A**	-	**7.7**	-	**B**	-	**13.2**	-

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

In general, the existing intersections are noted to have a few high delays and capacity issues at the Baseline Road and Woodroffe Avenue intersection. During the AM peak, the northbound through and southbound left-turn movements are noted to be over capacity and the westbound through movement is over capacity during the PM peak. As part of downstream capacity constraints, limit opportunity exists to mitigate the congestion issues. Any changes to the signal timing will need to be coordinated within the network.

It is also noted that congestion in the AM peak hour occurs on Baseline Road from Woodroffe Avenue to Highgate Road and at the intersection of Woodroffe Avenue and Baseline Road. One of the limitations of the model is that it is difficult to accurately capture congestion occurring in the study area as a result of lane arrangements and travel patterns. For example, at the intersection of Woodroffe Avenue and Baseline Road, vehicles travelling eastbound through the intersection are caught in a "left-turn trap" where one of the eastbound through travel lanes becomes a left-turn lane at the intersection with little warning. This causes vehicles caught in this "trap" to attempt to merge back into a through lane, creating congestion in the eastbound direction on Baseline Road. As Therefore, operations around the Baseline Road and Woodroffe Avenue intersection may appear "better" than typical operating conditions in the field.

2.2.8 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 3 summarizes the collisions types and conditions in the study area, Figure 8 illustrates the intersections and segments analyzed, and Table 4 summarizes the total collisions for each of these locations. Collision data is included in Appendix D.

Table 3: Study Area Collision Summary, 2014-2018

		Number	%
Total Collisions		**324**	**100%**
Classification	**Fatality**	0	0%
	Non-Fatal Injury	69	21%
	Property Damage Only	255	79%
Initial Impact Type	**Approaching**	2	1%
	Angled	34	10%
	Rear end	185	57%
	Sideswipe	57	18%
	Turning Movement	20	6%
	SMV Unattended	5	2%
	SMV Other	17	5%
	Other	4	1%

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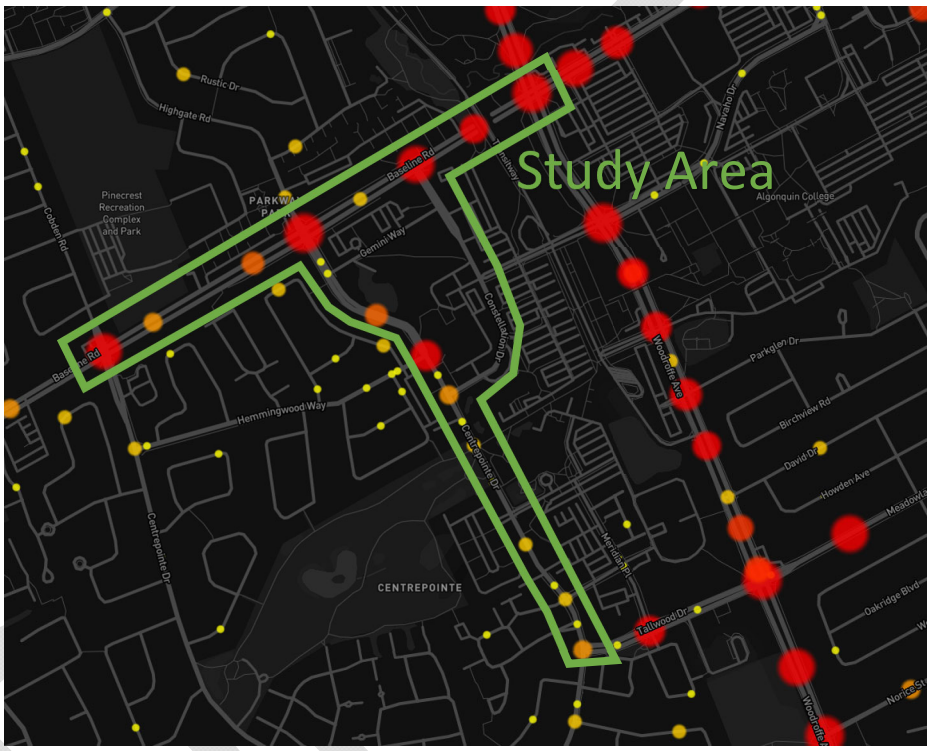
		Number	%
Total Collisions		**324**	**100%**
Road Surface Condition	**Dry**	206	64%
	Wet	72	22%
	Loose Snow	23	7%
	Slush	5	2%
	Packed Snow	7	2%
	Ice	11	3%
Pedestrian Involved		3	1%
Cyclists Involved		3	1%

Figure 8: Study Area Collision Records – Representation of 2014-2016



Source: http://www.octranspo.com/ Accessed: July 2, 2019

Table 4: Summary of Collision Locations, 2014-2018

	Number	%
Intersections / Segments	**326**	**100%**
Baseline Rd @ Centrepointe Dr W/Cobden Rd	44	14%
Baseline Rd @ Centrepointe Dr E/Highgate Rd	22	7%
Baseline Rd @ Constellation Cres	19	6%
Baseline Rd @ Woodroffe Ave	162	50%
Centrepointe Dr @ Gemini Way	2	1%
Centrepointe Dr @ Hemmingwood Way E	8	2%
Centrepointe Dr @ Constellation Cres S	5	2%
Centrepointe Dr @ Rec Path Ben Franklin Pl	3	1%
Centrepointe Dr @ Paseo Priv	1	0%
Centrepointe Dr @ Chrysalis Way/Plunkett Crt	2	1%
Centrepointe Dr @ Castlebrook Lane	1	0%
Centrepointe Dr @ Tallwood Dr	8	2%

Intersections / Segments	Number 326	% 100%
Baseline Rd btwn Cobden Rd & Barbara Ann Priv	6	2%
Baseline Rd btwn Barbara Ann Priv & Highgate Rd	5	2%
Baseline Rd btwn Highgate Rd & Constellation Dr	4	1%
Baseline Rd btwn Constellation Cres & Woodroffe Ave	8	2%
Centrepointe Dr btwn Baseline Rd & Gemini Way	1	0%
Centrepointe Dr btwn Gemini Way & Hemmingwood Way	7	2%
Centrepointe Dr btwn Hemmingwood Way & Constellation Dr	2	1%
Centrepointe Dr btwn Paseo Priv & 90 N of Epsilon Way	1	0%
Centrepointe Dr btwn Rec Path Ben Franklin Pl & Constellation Cres	2	1%
Centrepointe Dr btwn Rec Path Ben Franklin Pl & Paseo Priv	2	1%
Centrepointe Dr btwn 90 N of Epsilon Way & Plunkett Crt	1	0%
Constellation Cres btwn Baseline Rd & Centrepointe Dr	6	2%
Gemini Way btwn Centrepointe Dr & Constellation Dr	2	1%

Within the study area, the intersections along Baseline Road at Centrepointe Drive/Cobden Road, Centrepointe Drive/Highgate Road, and Constellation Crescent were noted to have higher number of collisions. Table 5, Table 6 and Table 7 summarize the collision types and conditions for each of these intersections. The intersection of Baseline Road and Woodroffe Avenue has a significant number of collisions and is beyond the scope of this study to review sufficiently. It is assumed that the City is aware of the significant number of collisions documented at this location and is under review. If not, it is recommended that the City conduct an in-depth review of the intersection for potential improvements.

Table 5: Baseline Road at Centrepointe Drive and Cobden Road Collision Summary

		Number	%
Total Collisions		**22**	**100%**
Classification	**Fatality**	0	0%
	Non-Fatal Injury	8	36%
	Property Damage Only	14	64%
Initial Impact Type	**Angle**	2	9%
	Rear end	10	45%
	Sideswipe	2	9%
	Turning Movement	6	27%
	SMV Other	2	9%
Road Surface Condition	**Dry**	12	55%
	Wet	7	32%
	Loose Snow	2	9%
	Ice	1	5%
Pedestrian Involved		0	0%
Cyclists Involved		0	0%

The Baseline Road at Centrepointe Drive/Cobden Road intersection had a total of 22 collisions during the 2014-2018 time period, with 14 involving property damage only, and the remaining 8 having non-fatal injuries. The collision types are predominantly rear end collisions (10 or 45%) and turning movement (6 or 27%) reflective of congested conditions. Weather conditions do not influence the collisions at this location. No pedestrian or cycling collisions were recorded.

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Table 6: Baseline Road at Centrepointe Drive and Highgate Road Collision Summary

		Number	%
Total Collisions		**44**	**100%**
Classification	**Fatality**	0	
	Non-Fatal Injury	12	27%
	Property Damage Only	32	73%
Initial Impact Type	**Angle**	3	7%
	Rear end	22	50%
	Sideswipe	5	11%
	Turning Movement	9	20%
	SMV Other	5	11%
Road Surface Condition	**Dry**	21	48%
	Wet	12	27%
	Loose Snow	7	16%
	Slush	1	2%
	Packed Snow	1	2%
	Ice	2	5%
Pedestrian Involved		0	0%
Cyclists Involved		0	0%

The Baseline Road at Centrepointe Drive/Highgate Road intersection had a total of 44 collisions during the 2014-2018 time period, with 32 involving property damage only, and the remaining 12 having non-fatal injuries. The collision types are predominantly rear end collisions (22 or 50%) and turning movement (9 or 20%) reflective of congested conditions. Weather conditions do not influence the collisions at this location. No pedestrian or cycling collisions were recorded.

Table 7: Baseline Road at Constellation Drive Collision Summary

		Number	%
Total Collisions		**19**	**100%**
Classification	**Fatality**	0	0%
	Non-Fatal Injury	7	37%
	Property Damage Only	12	63%
Initial Impact Type	**Angle**	2	5%
	Rear End	9	47%
	Sideswipe	2	11%
	Turning Movement	6	32%
	SMV Other	1	5%
Road Surface Condition	**Dry**	11	58%
	Wet	6	32%
	Loose Snow	1	5%
	Ice	1	5%
Pedestrian Involved		0	0%
Cyclists Involved		0	0%

The Baseline Road at Constellation Drive intersection had a total of 19 collisions during the 2014-2018 time period, with 12 involving property damage only, and the remaining 7 having non-fatal injuries. The collision types are predominantly rear end collisions (9 or 47%) and turning movement (6 or 32%) reflective of congested conditions. Weather conditions do not influence the collisions at this location. No pedestrian or cycling collisions were recorded.

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2.3 Planned Conditions

2.3.1 Changes to the Area Transportation Network

The subject development is within the Baseline Road and Woodroffe Avenue Secondary Plan and Baseline Road/Woodroffe Avenue Mixed-Use Centre design priority area. As such, it is subject to the planning policies outlined in the Secondary Plan. The following items are of note:

- Pedestrian/Cycling Facilities – provide 2.0m sidewalks along development frontage, support adjacent cycling facilities, promote connections to Baseline Station
- Reduce parking provided on site to encourage use of transit and other modes
- Transportation Demand Management – these measures include, but are not limited to the following
    - encourage employers to provide transit pass subsidies
    - encourage development of neighbourhoods with a mix of land uses
    - encourage pedestrian, bicycle, and transit friendly land use planning and site design
    - encourage home-based work
    - discourage parking subsidies (including the elimination of free parking)
    - encourage reduced supply of new parking
    - encourage traffic reduction by families and individuals (at a household level)
    - creation of an association to oversee and coordinate the implementation of the private sector's TDM measures.

The Transportation Master Plan identifies the following projects within the Affordable Network:

- LRT Stage 2 – Baseline Station to north (2025)
- Baseline BRT – between Baseline Station and Heron Station/Confederation Station (Trillium Line)
- Baseline Interim Transit Priority Measures – between Richmond Road and Baseline Station
    - In the eastbound direction on Baseline Road, existing bus bays will be filled in and the eastbound curb lane will be converted to a bus only lane
    - Appendix E illustrates the Baseline Interim Transit Priority Measures

Beyond the TMP, the Centrepointe Drive and Hemmingwood Way Area Traffic Management Study presented a recommended plan during the summer of 2019. The improvements in the vicinity of the proposed development include:

- Bike lanes along Centrepointe Drive in both directions
- Left-turn lanes at:
    - Paseo Private – north and south
    - 117 Centrepointe Drive – north and south
    - Plunkett Court/Chrysalis Way – north and south
- Baseline and Centrepointe Drive/Highgate Road – bulb-out to narrow southbound lanes at Baseline Road to two lanes, bike lane and buffer pavement markings, and a reduction to a two-lane road south of Gemini Road
- Centrepointe Drive between Gemini Road and Constellation Drive – on-street parking on the west side of the road, bookended with bulb-outs
- Centrepointe Drive and Hemmingwood Road – pedestrian crossover on the north side of the intersection
- Centrepointe Drive between Hemmingwood Road and Paseo Private – on-street parking on the west side of the road, between curb and bike lane

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- Centrepointe Drive and Tallwood Drive – southbound bike box and curb radii reduction with truck apron on the northeast corner

2.3.2 Other Study Area Developments

2140 Baseline Road

The proposed development includes mixed-use college residence and commercial retail uses and is located on the southwest quadrant of the Baseline Road and Constellation Drive intersection. In total, the site will consist of an 11-storey building with 14,806 sq. ft. of retail and 144 student rooming units (or 484 beds). A total of 75 parking spaces and 200 bicycle parking spaces will be provided. The build-out is estimated to be 2020.

3 Study Area and Time Periods

3.1 Study Area

The study area will include the intersections of:

- Centrepointe Drive at:
  - Baseline Road (west)
  - Baseline Road (east)
  - Gemini Way
  - 117 Centrepointe Drive Access
  - Tallwood Drive
- Constellation Drive at:
  - Baseline Road
  - Gemini Way
- Woodroffe Avenue at:
  - Baseline Road

The other signalized intersections within 1.0km of the site have been excluded along Baseline Road, Woodroffe Avenue, and Iris Street due to the through volume impacts only or unlikely to experience any traffic from the site.

The boundary roads are Centrepointe Drive and Gemini Way. Screenline SL-25 is located directly to the east of the proposed site.

3.2 Time Periods

As the proposed development is composed entirely of residential units the AM and PM peak hours will be examined.

3.3 Horizon Years

The anticipated build-out year is 2023. As a result, the full build-out plus five years horizon year is 2028.

4 Exemption Review

Table 8 summarizes the exemptions for this TIA.

Table 8: Exemption Review

Module	Element	Explanation	Exempt/Required
Design Review Component			
4.1 Development Design	All Elements	Design Review Component to be completed at Site Plan Control	Exempt
4.2 Parking			

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Module	Element	Explanation	Exempt/Required
4.3 Boundary Street Design			
4.4 Access Intersection 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	Exempt *(As of right permits may generates 237 AM and 248 PM two-way person trips, based on 364 units).*

5 Development Generated Travel Demand

5.1 Trip Generation and Travel Modes

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 9 summarizes the person trip rates for the proposed land uses.

Table 9: Trip Generation Person Trip Rates

Dwelling Type	Land Use Code	Peak Hour	Vehicle Trip Rate	Person Trip Rates
High-rise Apartments	222 (TRANS)	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 10 below illustrates the total person trip generation by dwelling type.

Table 10: Total Person Trip Generation

Land Use	Units / GFA	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
High-rise Apartments	585 units	91	289	380	247	151	398

Using the most recent National Capital Region Origin-Destination survey (OD Survey), the existing mode shares for Bayshore / Cedarview have been summarized in Table 11. As the site is located within a TOD, the mode share assumptions for developments in proximity to transit stations is included and will be used to generate the site trips for the proposed residential buildings.

Table 11: Mode Share

Travel Mode	Bayshore / Cedarview	TOD Mode Share
Auto Driver	65%	15%
Auto Passenger	15%	5%
Transit	15%	65%
Cycling	1%	5%
Walking	4%	10%
Total	**100%**	**100%**

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Using the above person trip rates and TOD mode shares, the trips per mode have been projected. Table 12 summarizes the trip generation by mode.

Table 12: Trip Generation by Mode

Travel Mode	Mode Share	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Auto Driver	15%	14	43	57	37	23	60
Auto Passenger	5%	5	14	19	12	8	20
Transit	65%	58	189	247	161	97	258
Cycling	5%	4	14	19	12	7	20
Walking	10%	10	29	38	25	16	40
Total	**100%**	**91**	**289**	**380**	**247**	**151**	**398**

As shown above, 57 AM and 60 PM new peak hour two-way vehicle trips are projected as a result of the proposed development.

5.2 Trip Distribution

To understand the travel patterns of the subject development, the OD Survey has been reviewed to determine the travel patterns that will be applied to the new vehicle trips based on the build-out of Bayshore / Cedarview. Table 13 below summarizes the distributions.

Table 13: OD Survey Existing Mode Share – Bayshore / Cedarview

To/From	% of Trips
North	35%
South	5%
East	35%
West	25%
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. Figure 9 illustrates the new site traffic assignment by percentage and Figure 10 illustrates the new site generated volumes.

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Figure 9: New Site Generation Assignment (%)

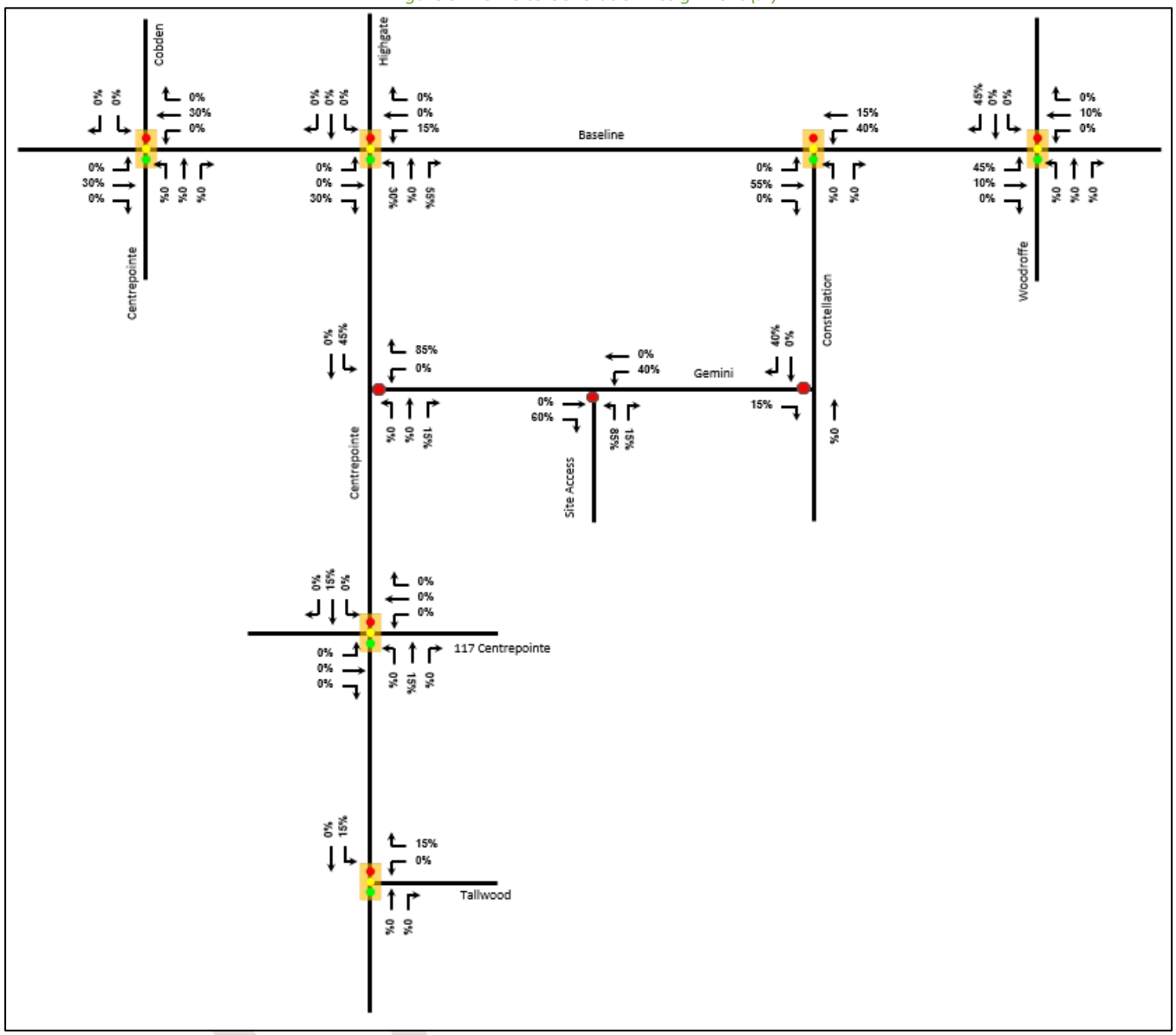
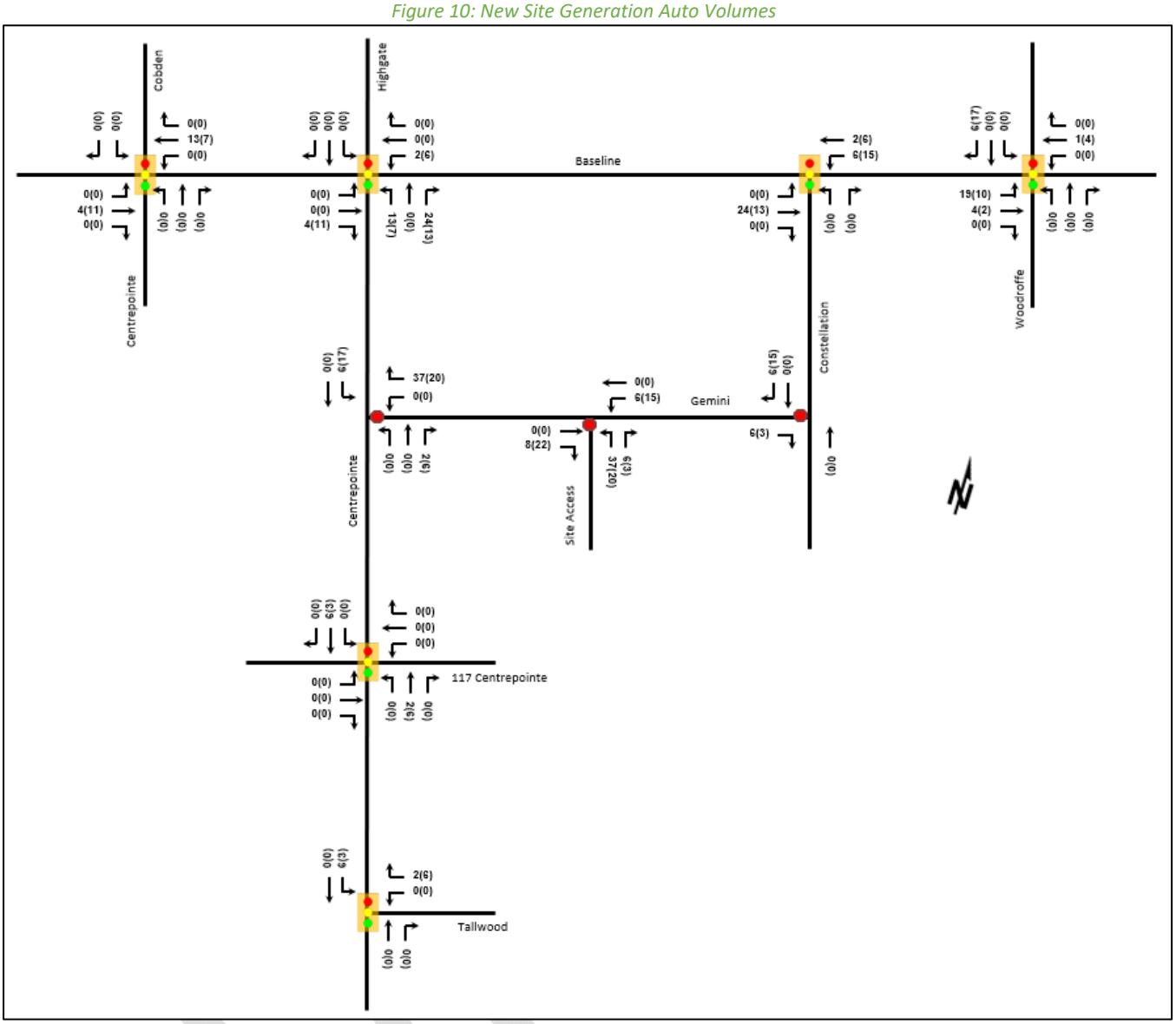


Figure 10: New Site Generation Auto Volumes



6 Background Network Travel Demand

6.1 Transportation Network Plans

The transportation network plans were discussed in Section 2.3.1 and have been incorporated into the future background horizons.

6.2 Background Growth

A review of the background projections from the City's TRANS Regional Model for the 2011 and 2031 horizons was completed to determine the background growth for each of the Study Area roadways. Table 14 summarizes the results of the model and the projections are provided in Appendix F.

Table 14: TRANS Regional Model Projections – Study Area Growth Rates

Street	Direction Growth Percentage	
	Eastbound	**Westbound**
Baseline	0.08%	0.24%
Gemini	n/a	
117 Centrepointe	n/a	
Tallwood	-1.99%	1.00%
	Northbound	**Southbound**
Cobden/Centrepointe	-0.76%	0.74%
Highgate/Centrepointe	-1.37%	1.27%
Constellation	3.93%	0.24%
Woodroffe	-0.02%	1.12%

In general, the growth rates in the study area are projected to range between -1.37% and 1.27%. The exception to this range is the calculated growth rate of 3.93% in the northbound direction on Constellation Crescent. As the surrounding connectivity in this immediate area is limited and this road segment is not considered to be a direct route for drivers, the calculated growth rate of 3.93% is not expected to be realized. As such, a conservative growth rate of 1% will be applied to the through movements at all study area intersections and all movements at the intersection of Baseline Road and Woodroffe Avenue.

6.3 Other Developments

The other area development of 2140 Baseline Road is noted in Section 2.3.2 and will be accounted for in the 2023 and 2028 future background volumes horizons using the projected volumes from the 2140 Baseline Road Transportation Impact Assessment (Stantec, 2018).

7 Demand Rationalization

7.1 2023 Future Background

Figure 11 illustrates the 2023 future background volumes and Table 15 summarizes the intersection operations for the study area intersections. The level of service for signalized intersections is based on the TIA Guidelines for volume to capacity ratio of the lane movements and HCM average delay for the overall intersection, and HCM average delay for unsignalized intersections. The synchro worksheets for the 2023 future background horizon are provided in Appendix G.

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Figure 11: 2023 Future Background Volumes

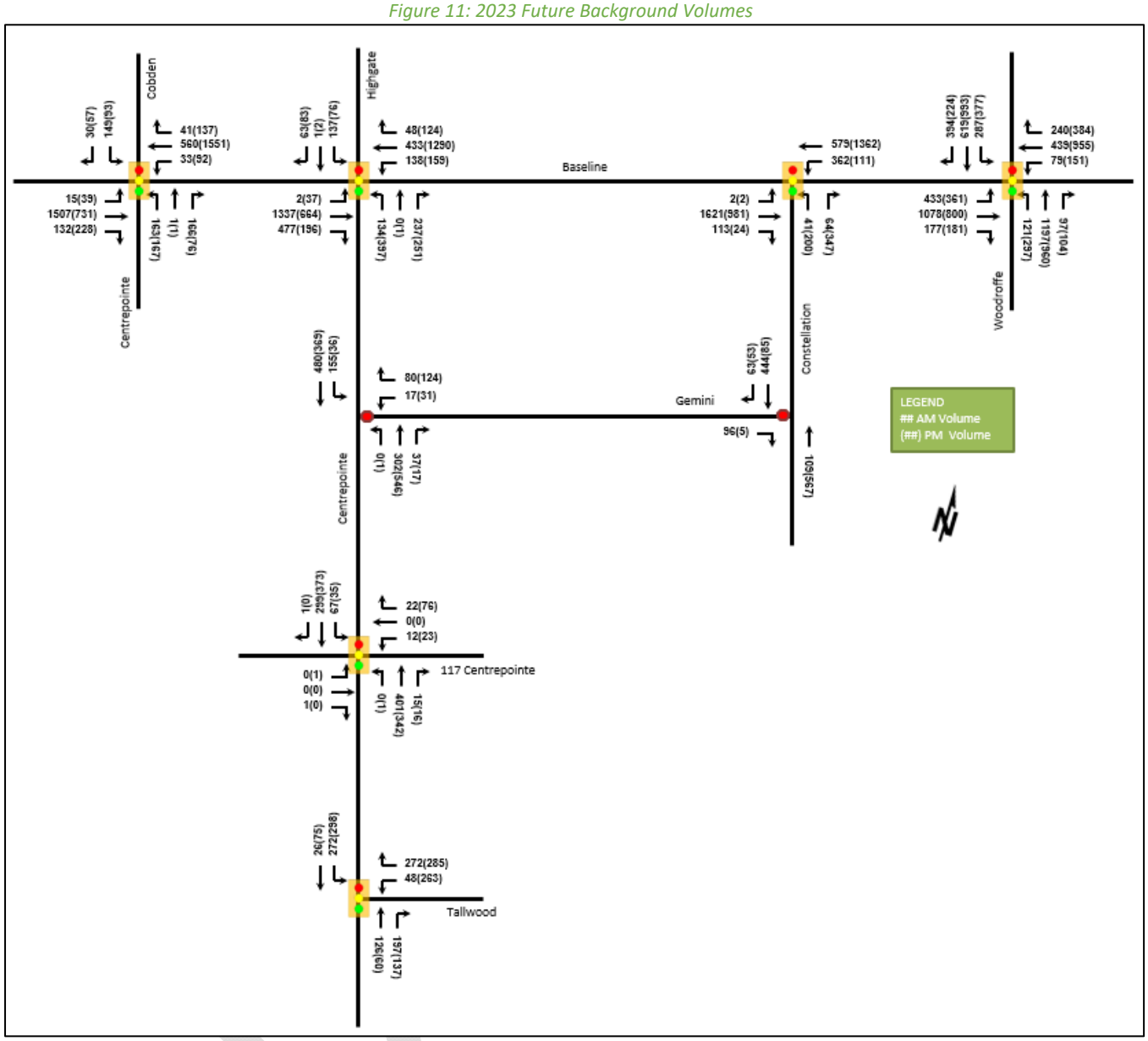

Table 15: 2023 Future Background Intersection Operations

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Baseline Road & Centrepointe Drive/Cobden Road ***Signalized***	EBL	A	0.17	62.9	11.0	A	0.36	66.6	21.0
	EBT	B	0.65	15.1	177.4	A	0.36	13.7	71.8
	EBR	A	0.12	2.1	8.2	A	0.23	2.3	11.8
	WBL	A	0.32	**80.8**	17.2	A	0.58	68.3	m33.7
	WBT	A	0.23	3.3	30.7	B	0.70	6.8	61.4
	WBR	A	0.04	0.4	1.1	A	0.13	1.9	m4.2
	NBL/T	C	0.71	69.4	60.9	B	0.72	69.6	61.8
	NBR	A	0.11	0.2	0.0	A	0.05	0.1	0.0
	SBL/T	B	0.65	65.3	56.0	A	0.40	54.5	36.5
	SBR	A	0.11	0.8	0.0	A	0.21	6.1	6.6
	Overall	**B**	-	**17.8**	-	**B**	-	**14.9**	-

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Baseline Road & Centrepointe Drive/Highgate Road ***Signalized***	EBL	A	0.03	54.0	m0.9	A	0.35	62.5	21.4
	EBT	C	0.76	24.7	126.2	A	0.43	30.7	96.8
	EBR	A	0.47	4.8	33.6	A	0.25	10.7	31.0
	WBL	A	0.51	**92.1**	30.5	A	0.55	**83.0**	32.3
	WBT	A	0.20	4.4	13.4	C	0.77	14.2	#212.6
	WBR	A	0.05	0.1	0.0	A	0.15	0.4	0.2
	NBL	A	0.46	60.8	26.4	C	0.75	60.5	64.0
	NBR	B	0.68	16.9	26.4	A	0.55	10.1	22.0
	SBL	D	0.82	**91.8**	#67.4	A	0.51	67.8	34.2
	SBT/R	A	0.24	2.0	0.0	A	0.28	2.3	0.0
	Overall	**C**	-	**24.9**	-	**C**	-	**26.9**	-
Baseline Road & Constellation Drive ***Signalized***	EBT	B	0.70	16.1	61.4	A	0.34	9.0	33.5
	EBR	A	0.10	0.2	m0.2	A	0.02	0.1	m0.3
	WBL	C	0.75	49.4	46.2	A	0.46	**82.4**	m12.6
	WBT	A	0.25	3.6	9.0	A	0.56	3.1	m5.7
	NBL	A	0.12	43.0	18.6	C	0.75	68.2	70.6
	NBR	A	0.18	11.1	11.9	C	0.73	19.8	45.3
	Overall	**B**	-	**17.5**	-	**B**	-	**14.1**	-
Baseline Road & Woodroffe Avenue ***Signalized***	EBL	D	0.83	37.4	68.6	D	0.82	56.5	#65.5
	EBT	D	0.86	53.4	#187.1	D	0.82	61.2	#149.0
	EBR	A	0.27	22.5	m50.9	A	0.33	22.3	39.4
	WBL	B	0.63	**80.1**	#36.8	C	0.74	**76.2**	59.5
	WBT	A	0.49	42.8	67.6	**F**	**1.03**	**84.0**	**#189.7**
	WBR	A	0.43	8.7	24.4	B	0.65	20.2	67.2
	NBL	A	0.49	64.0	25.1	D	0.86	**80.8**	#62.1
	NBT	E	0.96	64.0	#140.2	D	0.86	56.2	102.1
	NBR	A	0.18	0.7	0.0	A	0.23	2.9	4.7
	SBL	E	0.96	**101.2**	#66.2	D	0.86	**75.1**	#73.2
	SBT	A	0.47	40.5	61.9	C	0.79	49.6	101.6
	SBR	A	0.57	7.9	29.3	A	0.43	11.8	30.2
	Overall	**D**	-	**47.8**	-	**E**	-	**57.3**	-
Centrepointe Drive East / Gemini Way ***Unsignalized***	WBL/R	B	0.17	12.7	3.9	B	0.29	14.3	7.2
	NBT/R	-	-	-	-	-	-	-	-
	SBL/T	B	0.19	2.9	3.3	B	0.06	11.0	0.8
	Overall	**A**	-	**2.9**	-	**A**	-	**2.4**	-
Constellation Drive / Gemini Way ***Unsignalized***	EBR	B	0.13	10.5	3.3	A	0.01	8.7	0.1
	NB	-	-	-	-	-	-	-	-
	SBT/R	-	-	-	-	-	-	-	-
	Overall	**A**	-	**1.4**	-	**A**	-	**0.1**	-
Centrepointe Drive East / 117 Centrepointe Drive Access ***Signalized***	EB	A	0.00	0.0	0.0	A	0.00	11.0	0.8
	WB	A	0.06	3.1	3.1	A	0.17	5.7	8.8
	NB	A	0.27	9.1	18.8	A	0.25	9.3	17.1
	SB	A	0.29	9.6	17.8	A	0.30	10.0	20.1
	Overall	**A**	-	**9.1**	-	**A**	-	**9.3**	-

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Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Centrepointe Drive East / Tallwood Drive *Signalized*	WBL	A	0.15	18.8	10.6	B	0.63	25.8	42.8
	WBR	A	0.53	7.4	15.0	A	0.48	5.6	13.8
	NBR/T	A	0.18	2.6	6.9	A	0.12	3.3	6.4
	SBL	A	0.49	10.8	31.1	A	0.51	13.8	46.1
	SBT	A	0.03	5.2	3.4	A	0.08	8.1	10.5
	Overall	**A**	**-**	**7.2**	**-**	**B**	**-**	**12.3**	**-**

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

The study area intersections generally operate similar to the existing conditions during the 2023 future background horizon.

The peak hour factor adjustments for future horizons account for the increase in intersection operations when compared to the existing conditions. (e.g. lower delays and volume-to-capacity ratios)

7.2 2028 Future Background

Figure 12 illustrates the 2028 future background volumes and Table 16 summarizes the intersection operations for the study area intersections. The level of service for signalized intersections is based on the TIA Guidelines for volume to capacity ratio of the lane movements and HCM average delay for the overall intersection, and HCM average delay for unsignalized intersections. The synchro worksheets for the 2028 future background horizon are provided in Appendix H.

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Figure 12: 2028 Future Background Volumes

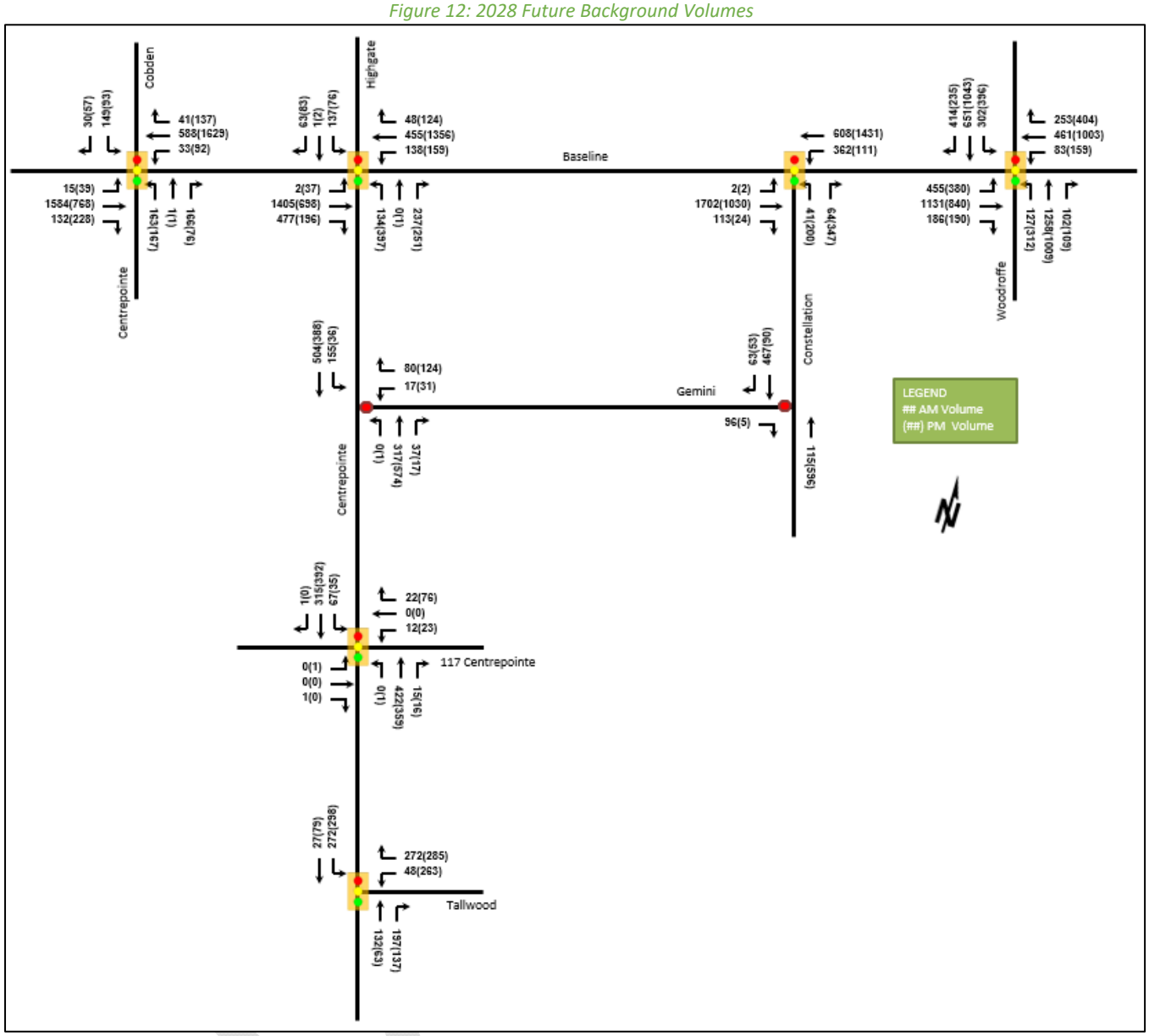

Table 16: 2028 Future Background Intersection Operations

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Baseline Road & Centrepointe Drive/Cobden Road ***Signalized***	EBL	A	0.17	62.9	11.0	A	0.36	66.6	21.0
	EBT	B	0.69	16.1	194.8	A	0.37	14.0	76.2
	EBR	A	0.12	2.1	8.2	A	0.23	2.3	11.8
	WBL	A	0.32	**79.8**	18.1	A	0.58	67.7	m32.6
	WBT	A	0.24	3.4	31.1	C	0.73	7.5	62.4
	WBR	A	0.04	0.4	1.0	A	0.13	1.8	m3.9
	NBL/T	C	0.71	69.4	60.9	C	0.72	69.6	62.4
	NBR	A	0.11	0.2	0.0	A	0.05	0.1	0.0
	SBL/T	B	0.65	65.3	56.0	A	0.40	54.5	36.5
	SBR	A	0.11	0.8	0.0	A	0.21	6.1	6.6
	Overall	**B**	-	**18.1**	-	**B**	-	**15.1**	-

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Baseline Road & Centrepointe Drive/Highgate Road *Signalized*	EBL	A	0.03	55.5	m1.0	A	0.35	62.1	21.5
	EBT	C	0.80	26.4	100.9	A	0.46	31.5	102.3
	EBR	A	0.47	5.2	0.5	A	0.25	11.2	31.7
	WBL	A	0.51	**91.5**	30.5	A	0.55	**82.2**	32.0
	WBT	A	0.21	4.7	15.2	D	0.81	16.0	#231.5
	WBR	A	0.05	0.1	0.0	A	0.15	0.5	0.0
	NBL	A	0.46	60.8	26.4	C	0.75	60.5	64.0
	NBR	B	0.68	16.9	24.3	A	0.55	10.1	22.0
	SBL	D	0.82	**91.8**	#67.4	A	0.51	67.8	34.2
	SBT/R	A	0.24	2.0	0.0	A	0.28	2.3	0.0
	Overall	**C**	-	**25.6**	-	**C**	-	**27.6**	-
Baseline Road & Constellation Drive *Signalized*	EBT	C	0.73	16.6	68.1	A	0.36	8.9	34.3
	EBR	A	0.10	0.2	m0.3	A	0.02	0.1	m0.3
	WBL	C	0.75	49.2	45.6	A	0.46	**82.7**	m11.9
	WBT	A	0.27	3.4	8.8	A	0.59	3.7	m5.6
	NBL	A	0.12	43.0	18.6	C	0.75	68.2	70.6
	NBR	A	0.18	11.1	11.9	C	0.74	21.3	47.8
	Overall	**B**	-	**17.5**	-	**B**	-	**14.2**	-
Baseline Road & Woodroffe Avenue *Signalized*	EBL	D	0.85	38.0	#80.7	D	0.84	58.6	#72.2
	EBT	E	0.96	64.6	#202.8	D	0.89	67.1	#160.7
	EBR	A	0.30	23.2	m51.6	A	0.36	23.4	42.2
	WBL	B	0.65	**81.7**	#40.7	C	0.76	**77.8**	62.6
	WBT	A	0.53	43.7	71.2	**F**	**1.12**	**114.1**	**#203.2**
	WBR	A	0.46	10.3	29.0	B	0.70	23.7	75.8
	NBL	A	0.50	64.3	26.3	D	0.90	**85.2**	#67.1
	NBT	**E**	**1.00**	**74.0**	**#152.5**	D	0.88	57.3	108.3
	NBR	A	0.19	0.8	0.0	A	0.23	3.2	5.9
	SBL	**F**	**1.01**	**112.6**	**#70.6**	D	0.90	**78.7**	#78.7
	SBT	A	0.49	41.1	65.2	D	0.81	50.1	107.8
	SBR	B	0.61	10.2	39.7	A	0.44	13.0	33.4
	Overall	**D**	-	**53.6**	-	**E**	-	**64.3**	-
Centrepointe Drive East / Gemini Way *Unsignalized*	WBL/R	B	0.18	12.9	4.0	B	0.30	14.7	7.5
	NBT/R	-	-	-	-	-	-	-	-
	SBL/T	A	0.20	2.9	3.4	B	0.06	11.2	0.9
	Overall	**A**	-	**2.8**	-	**A**	-	**2.3**	-
Constellation Drive / Gemini Way *Unsignalized*	EBR	B	0.13	10.7	3.4	A	0.01	8.7	0.1
	NB	-	-	-	-	-	-	-	-
	SBT/R	-	-	-	-	-	-	-	-
	Overall	**A**	-	**1.4**	-	**A**	-	**0.1**	-
Centrepointe Drive East / 117 Centrepointe Drive Access *Signalized*	EB	A	0.00	0.0	0.0	A	0.00	11.0	0.8
	WB	A	0.06	3.1	3.1	A	0.17	5.7	8.8
	NB	A	0.28	9.2	19.8	A	0.26	9.4	17.9
	SB	A	0.30	9.7	18.5	A	0.31	10.2	21.0
	Overall	**A**	-	**9.2**	-	**A**	-	**9.4**	-

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Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Centrepointe Drive East / Tallwood Drive ***Signalized***	WBL	A	0.15	18.8	10.6	B	0.63	25.8	42.8
	WBR	A	0.53	7.4	15.0	A	0.48	5.6	13.8
	NBR/T	A	0.18	2.6	7.1	A	0.12	3.4	6.5
	SBL	A	0.49	10.8	31.1	A	0.52	13.9	46.3
	SBT	A	0.03	5.3	3.5	A	0.09	8.1	10.9
	Overall	**A**	-	**7.2**	-	**B**	-	**12.3**	-

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

The study area intersections generally operate similar to the existing and 2023 future background conditions during the 2028 future background horizon.

The peak hour factor adjustments for future horizons account for the increase in intersection operations when compared to the existing conditions. (e.g. lower delays and volume-to-capacity ratios)

8 Transportation Demand Management

8.1 Context for TDM

As the proposed development is within 600 metres of the existing Baseline Station, the future LRT Baseline Station, and three potential Baseline BRT stations, TOD mode shares have been used within the TIA and are likely to be achieved.

A total of 585 apartment units are anticipated within the development.

8.2 Need and Opportunity

The subject site has been assumed to rely predominantly on all travel modes and those assumptions have been carried through the analysis.

8.3 TDM Program

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

The key TDM measures recommended include:

- Provide on-site coordinator for trip planning for new or existing residents
- Posting of pedestrian, cycling, and transit information and maps at primary entrances/exits
- Inclusion of a 1-year Presto card for first time new residents
- Unbundle parking from purchase costs
- Unbundle parking from rental costs
- Provide a multimodal travel option information package to new residents

Additional measures beyond those required for zoning and standard condominium and apartment design include:

- Provide secure bicycle parking spaces equivalent to the number of multi-family and condominium units
- Provide a permanent bike repair station adjacent to the main bicycle parking area
- Provide up to three carshare parking spaces
- Provide separated areas for short-term and long-term parking

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9 Neighbourhood Traffic Management

9.1 Gemini Way

Table 17 summarizes the Gemini Way peak hour volumes, estimated AADT in the peak direction for the proposed development as well as future background volumes.

Table 17: Gemini Way Volumes – NTM Review

East of the Site Access				
Segment	**AM Peak**		**PM Peak**	
	East	**West**	**East**	**West**
19 Centrepointe Dr	6 (60 AADT)	6	3	15 (150 AADT)
2028 FB Volumes	96	97 (970 AADT)	5	155 (1550 AADT)
Total	**102**	**103 (1030 AADT)**	**14**	**170 (1700 AADT)**

West of the Site Access				
Segment	**AM Peak**		**PM Peak**	
	East	**West**	**East**	**West**
19 Centrepointe Dr	8	37 (370 AADT)	22 (220 AADT)	20
2028 FB Volumes	192 (1920 AADT)	97	53	155 (1550 AADT)
Total	**200 (2000 AADT)**	**146**	**79**	**175 (1750 AADT)**

Notes:
1 – AADT generated using a conservative 10:1 ratio.

The TIA guidelines outline a collector road threshold of 2500 vehicle per day (AADT), or 300 vehicles in a given peak hour for Neighbourhood Traffic Management review. As illustrated above, this threshold is not exceeded and as a result, no mitigation measures are required on Gemini Way.

9.2 Constellation Drive

Table 18 summarizes the Constellation Drive peak hour volumes, estimated AADT in the peak direction for the proposed development as well as future background volumes.

Table 18: Constellation Drive Volumes – NTM Review

North of Gemini Road				
Segment	**AM Peak**		**PM Peak**	
	North	**South**	**North**	**South**
19 Centrepointe Dr	0	6 (60 AADT)	0	15 (150 AADT)
2028 FB Volumes	105	530 (5300 AADT)	547 (5470 AADT)	252
Total	**105**	**536 (5360 AADT)**	**547 (5470 AADT)**	**267**

South of Gemini Road				
Segment	**AM Peak**		**PM Peak**	
	North	**South**	**North**	**South**

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19 Centrepointe Dr	0	6 (60 AADT)	0	3 (30 AADT)
2028 FB Volumes	115	563 (5630 AADT)	596 (5960 AADT)	95
Total	**115**	**569 (5690 AADT)**	**596 (5960 AADT)**	**98**

Notes:
1 – AADT generated using a conservative 10:1 ratio.

The TIA guidelines outline a collector road threshold of 2500 vehicle per day (AADT) or 300 vehicles in a given peak hour for Neighbourhood Traffic Management review. This capacity is assumed for a two-lane roadway. Given the four-lane roadway at Gemini Road, the noted thresholds may be considered to be approximately 1.5-2 times higher than outlined above. Given these assumptions, the AADT thresholds will be exceeded along Constellation Drive while the volumes are near the thresholds for the peak hours. Given the proximity to a variety of land uses including office space, a school, and the City Constellation building including community services and courthouse, it is expected that there will be a higher AADT and peak hour volumes on Constellation Drive. As such, no mitigation measures are required at Constellation Drive.

9.3 Centrepointe Drive

Table 19 summarizes the Centrepointe Drive peak hour volumes and estimated AADT in the peak direction on segments subject to the proposed development traffic as well as future background volumes.

Table 19: Centrepointe Drive Volumes – NTM Review

North of Gemini Road				
Segment	**AM Peak**		**PM Peak**	
	North	**South**	**North**	**South**
19 Centrepointe Dr	37 (370 AADT)	6	20 (200 AADT)	17
2028 FB Volumes	371	659 (6590 AADT)	649 (6490 AADT)	424
Total	**408**	**665 (6650 AADT)**	**669 (6690 AADT)**	**441**

North of 117 Centrepointe Drive				
Segment	**AM Peak**		**PM Peak**	
	North	**South**	**North**	**South**
19 Centrepointe Dr	2	6 (60 AADT)	6 (60 AADT)	3
2028 FB Volumes	354	383 (3830 AADT)	593 (5930 AADT)	427
Total	**356**	**389 (3890 AADT)**	**599 (5990 AADT)**	**430**

North of Tallwood Drive				
Segment	**AM Peak**		**PM Peak**	
	North	**South**	**North**	**South**
19 Centrepointe Dr	2	6 (60 AADT)	6 (60 AADT)	3
2028 FB Volumes	437 (4370 AADT)	299	375	377 (3770 AADT)

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Total	**439 (4390 AADT)**	**305**	**381 (3810 AADT)**	**380**

Notes:
1 – AADT generated using a conservative 10:1 ratio.

The TIA guidelines outline a major collector road threshold of 5000 vehicle per day (AADT), or 600 vehicles in a given peak hour for Neighbourhood Traffic Management review. The Centrepointe Drive segment north of Gemini Way initially appears to exceed the AADT and peak hours thresholds. Given that this section of Centerpointe Drive is a four-lane cross-section, the capacity can be considered 1.5-2 times the thresholds outlined in the TIA guidelines. With the additional capacity in this section, the thresholds are not exceeded, and no mitigation measures are required along Centrepointe Drive.

9.4 Tallwood Drive

Table 20 summarizes the Tallwood Drive peak hour volumes, estimated AADT in the peak direction for the proposed development as well as future background volumes.

Table 20: Tallwood Drive Volumes - NTM Review

East of Centrepointe Drive				
Segment	**AM Peak**		**PM Peak**	
	East	**West**	**East**	**West**
19 Centrepointe Dr	6 (60 AADT)	2	3	6 (60 AADT)
2028 FB Volumes	469 (4690 AADT)	320	435	548 (5480 AADT)
Total	**475 (4750 AADT)**	**322**	**438**	**554 (5540 AADT)**

Notes:
1 – AADT generated using a conservative 10:1 ratio.

The TIA guidelines outline a major collector road threshold of 5000 vehicle per day (AADT), or 600 vehicles in a given peak hour for Neighbourhood Traffic Management review. As illustrated above, the AADT threshold is exceeded on Tallwood Drive during the PM peak. This threshold is exceeded by the future background volumes and is not a result of the addition of the proposed development traffic, as such, no mitigation measures are required at Tallwood Drive.

9.5 Centrepointe Drive / Cobden Road

As no site generated traffic is anticipated along the major collector road of Centrepointe Drive or along the local road of Cobden Road, any exceedance of the theoretical lane capacity is not a result of the proposed development.

10 Transit

The transit ridership in the area was provided by OC Transpo for the study area routes, including boarding and alighting and average loads. Table 21 summarizes the OC Transpo data.

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Table 21: OC Transpo Peak Ridership Summary

Routes/Locations				Daily Average				
Intersection	**Stop**	**Route**	**Direction**	**Avg Boarding per trip**	**Total Alighting**	**Avg Boarding per trip**	**Total Boarding**	**Avg Load at Departure**
Baseline / Highgate	4573	88	West	28	22	30	18	30
Baseline / Centrepointe	2909	88	East	16	20	23	35	60
Constellation / Gemini	718	88	North	0	34	1	49	26
	717		South	0	24	1	42	28
Baseline Station	1A	88	North	12	1027	11	996	23
Baseline Station	1B	86, 111	North	13	1539	0	0	12
Baseline Station	1C	73, 74, 75, 82, 83, 84, 186, 284	North	6	188	3	593	8
Baseline Station	1D	73, 74, 75, 187, 270, 271, 272, 273, 275, 277, 278, 284, 305	North	7	2253	16	5134	28
Baseline Station	2A	87, 88, 305	South	10	1343	8	1105	18
Baseline Station	2B	73, 74, 75, 82, 83, 84, 186, 284	South	10	4937	7	3730	17
Baseline Station	Off Only	270, 271, 272, 273, 275, 277, 278	South	2	149	7	404	58

Projected ridership for the Stage 2 LRT to Baseline Station is not available, however it can be assumed that ridership numbers from Baseline Station will be applicable to the LRT station.

The proposed development is anticipated to generate an additional 247 AM peak hour transit trips and 258 PM peak hour transit trips. Of these trips, 189 outbound AM trips and 161 inbound PM trips are anticipated. Capacity is noted on all routes and can accommodate the forecasted development in this area.

10.1 Transit Priority

The addition of the proposed development's site access will not impact transit as there is no existing or planned transit route along Gemini Way. Development-generated transit passenger demands are expected to be met with the future Baseline LRT Station, the interim Baseline Road transit priority measures and the Baseline BRT. As such, transit priority measures are not required as a result of the proposed development.

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11 Network Intersection Design

11.1 Network Intersection Control

The intersection method of control will remain consistent with existing methods of control for all Study Area intersections at both future horizons.

11.2 Network Intersection Design

11.2.1 2023 Total Future

Figure 13 illustrates the 2023 future total volumes and Table 22Table 15 summarizes the intersection operations for the study area intersections. The level of service for signalized intersections is based on the TIA Guidelines for volume to capacity ratio of the lane movements and HCM average delay for the overall intersection, and HCM average delay for unsignalized intersections. The synchro worksheets for the 2023 future total horizon are provided in Appendix J.

Figure 13: Future Total 2023 Volumes

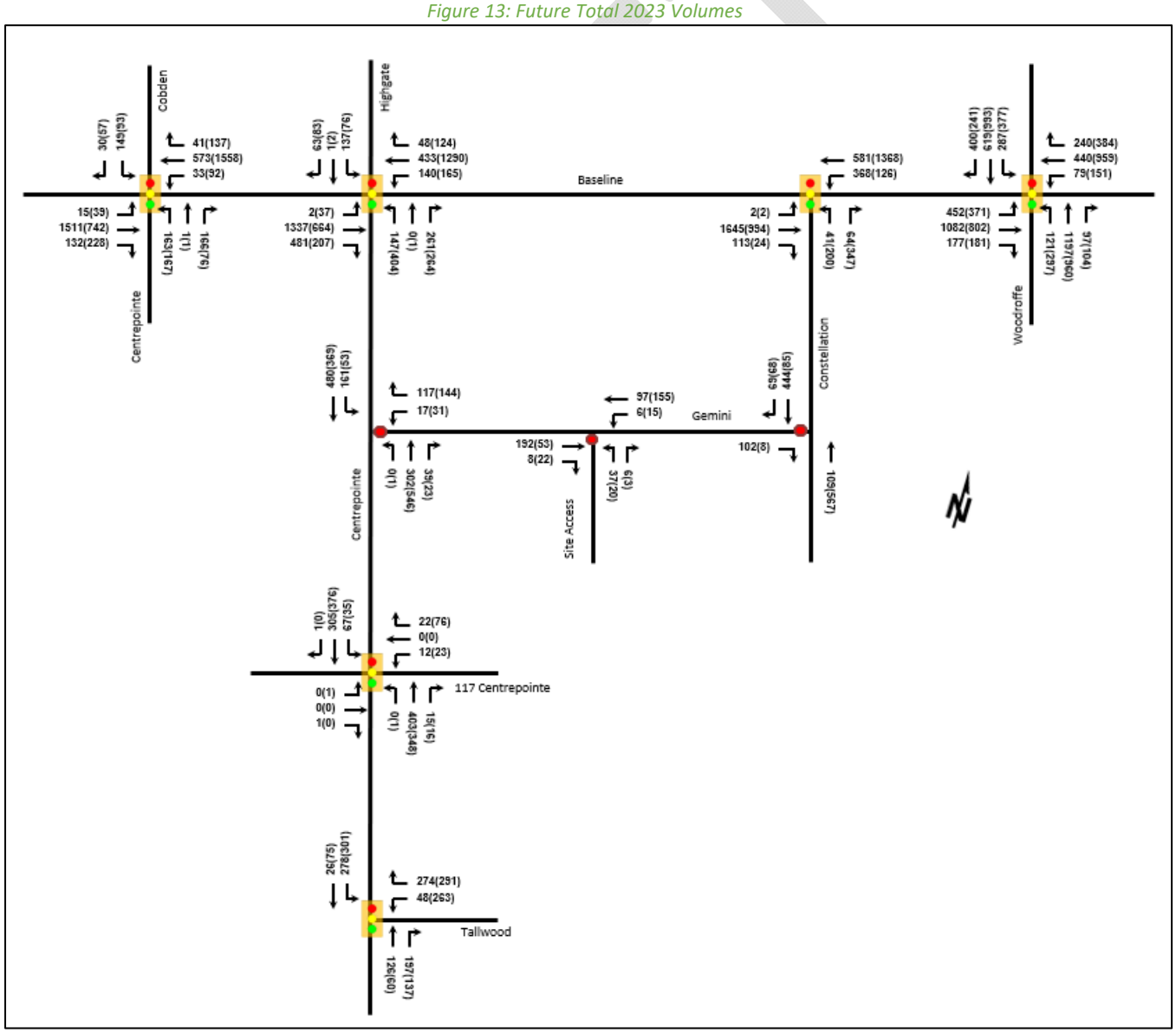

Table 22: 2023 Total Future Intersection Operations

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Baseline Road & Centrepointe Drive/Cobden Road ***Signalized***	EBL	A	0.17	62.9	11.0	A	0.36	66.6	21.0
	EBT	B	0.65	15.2	178.1	A	0.36	13.8	73.2
	EBR	A	0.12	2.1	8.2	A	0.23	2.3	11.8
	WBL	A	0.32	**81.1**	17.7	A	0.58	68.7	m33.5
	WBT	A	0.24	3.4	32.5	B	0.70	6.9	62.4
	WBR	A	0.04	0.4	1.3	A	0.13	1.9	m4.3
	NBL/T	C	0.71	69.4	60.9	C	0.72	69.6	61.8
	NBR	A	0.11	0.2	0.0	A	0.05	0.1	0.0
	SBL/T	B	0.65	65.3	56.0	A	0.40	54.5	36.5
	SBR	A	0.11	0.8	0.0	A	0.21	6.1	6.6
	Overall	**B**	-	**17.7**	-	**B**	-	**14.9**	-
Baseline Road & Centrepointe Drive/Highgate Road ***Signalized***	EBL	A	0.03	54.5	m1.0	A	0.36	62.8	21.5
	EBT	C	0.76	25.1	135.3	A	0.44	31.2	97.3
	EBR	A	0.48	4.9	34.0	A	0.26	10.9	33.0
	WBL	A	0.51	**91.8**	30.3	A	0.56	**82.9**	32.8
	WBT	A	0.20	4.6	13.7	C	0.77	14.6	#212.4
	WBR	A	0.05	0.1	0.0	A	0.15	0.4	0.2
	NBL	A	0.49	61.1	28.4	C	0.75	60.3	65.0
	NBR	B	0.70	16.6	25.5	A	0.56	10.1	22.8
	SBL	D	0.82	**91.8**	#67.4	A	0.51	67.8	34.2
	SBT/R	A	0.24	2.0	0.0	A	0.28	2.3	0.0
	Overall	**C**	-	**25.2**	-	**C**	-	**27.2**	-
Baseline Road & Constellation Drive ***Signalized***	EBT	C	0.71	16.5	61.5	A	0.35	9.2	34.5
	EBR	A	0.10	0.2	m0.3	A	0.02	0.2	m0.0
	WBL	C	0.76	49.5	47.5	A	0.49	**81.4**	m14.0
	WBT	A	0.25	3.5	9.0	A	0.56	3.2	m6.2
	NBL	A	0.12	43.0	18.6	C	0.75	68.2	70.6
	NBR	A	0.18	11.1	11.9	C	0.73	20.4	46.2
	Overall	**B**	-	**17.7**	-	**B**	-	**14.5**	-
Baseline Road & Woodroffe Avenue ***Signalized***	EBL	D	0.85	38.3	#73.5	D	0.83	57.4	#69.2
	EBT	E	0.86	53.3	#188.6	D	0.82	61.0	#149.2
	EBR	A	0.27	22.3	m50.0	A	0.33	22.3	39.7
	WBL	B	0.63	**80.1**	#36.8	C	0.74	**76.2**	59.5
	WBT	A	0.50	43.2	68.0	**F**	**1.04**	**86.7**	**#190.6**
	WBR	A	0.43	9.0	24.9	B	0.65	20.6	67.8
	NBL	A	0.49	64.0	25.1	D	0.86	**80.8**	#62.1
	NBT	**E**	**0.96**	**64.0**	**#140.2**	D	0.86	56.2	102.1
	NBR	A	0.18	0.7	0.0	A	0.23	2.9	4.7
	SBL	**E**	**0.96**	**101.2**	**#66.2**	D	0.86	**75.1**	#73.2
	SBT	A	0.47	40.5	61.9	C	0.79	49.6	101.6
	SBR	B	0.58	8.4	31.5	A	0.45	11.9	31.7
	Overall	**D**	-	**47.8**	-	**E**	-	**57.6**	-
Centrepointe Drive East / Gemini Way ***Unsignalized***	WBL/R	B	0.23	12.8	5.3	C	0.33	15.0	8.5
	NBT/R	-	-	-	-	-	-	-	-
	SBL/T	B	0.20	10.6	3.5	B	0.08	11.3	1.3
	Overall	**A**	-	**3.3**	-	**A**	-	**2.9**	-

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Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Constellation Drive / Gemini Way ***Unsignalized***	EBR	B	0.14	10.6	3.6	A	0.01	8.8	0.2
	NB	-	-	-	-	-	-	-	-
	SBT/R	-	-	-	-	-	-	-	-
	Overall	**A**	**-**	**1.5**	**-**	**A**	**-**	**0.1**	**-**
Centrepointe Drive East / 117 Centrepointe Drive Access ***Signalized***	EBL/T/R	A	0.00	0.0	0.0	A	0.00	11.0	0.8
	WBL/T/R	A	0.06	3.1	3.1	A	0.17	5.7	8.8
	NBL/T/R	A	0.27	9.1	19.0	A	0.25	9.4	17.3
	SBL/T/R	A	0.29	9.6	18.0	A	0.30	10.1	20.3
	Overall	**A**	**-**	**9.1**	**-**	**A**	**-**	**9.3**	**-**
Centrepointe Drive East / Tallwood Drive ***Signalized***	WBL	A	0.15	18.8	10.6	B	0.63	25.8	42.8
	WBR	A	0.54	7.4	15.0	A	0.49	5.6	13.9
	NBR/T	A	0.18	2.6	6.9	A	0.12	3.3	6.4
	SBL	A	0.50	11.0	32.3	A	0.52	13.9	46.6
	SBT	A	0.03	5.3	3.4	A	0.08	8.1	10.5
	Overall	**A**	**-**	**7.3**	**-**	**B**	**-**	**12.3**	**-**
Site Access / Gemini Way ***Unsignalized***	EBT/R	-	-	-	-	-	-	-	-
	WBL/T	A	0.00	7.6	0.1	A	0.01	7.4	0.2
	NBL/R	B	0.06	10.5	1.5	A	0.03	9.9	0.7
	Overall	**A**	**-**	**1.4**	**-**	**A**	**-**	**1.3**	**-**

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

The study area intersections generally operate similar to the 2023 future background operations during the 2023 future background horizon.

11.2.2 2028 Total Future

Figure 14 illustrates the 2028 future total volumes and Table 23Table 15 summarizes the intersection operations for the study area intersections. The level of service for signalized intersections is based on the TIA Guidelines for volume to capacity ratio of the lane movements and HCM average delay for the overall intersection, and HCM average delay for unsignalized intersections. The synchro worksheets for the 2028 future total horizon are provided in Appendix K.

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Figure 14: Future Total 2028 Volumes

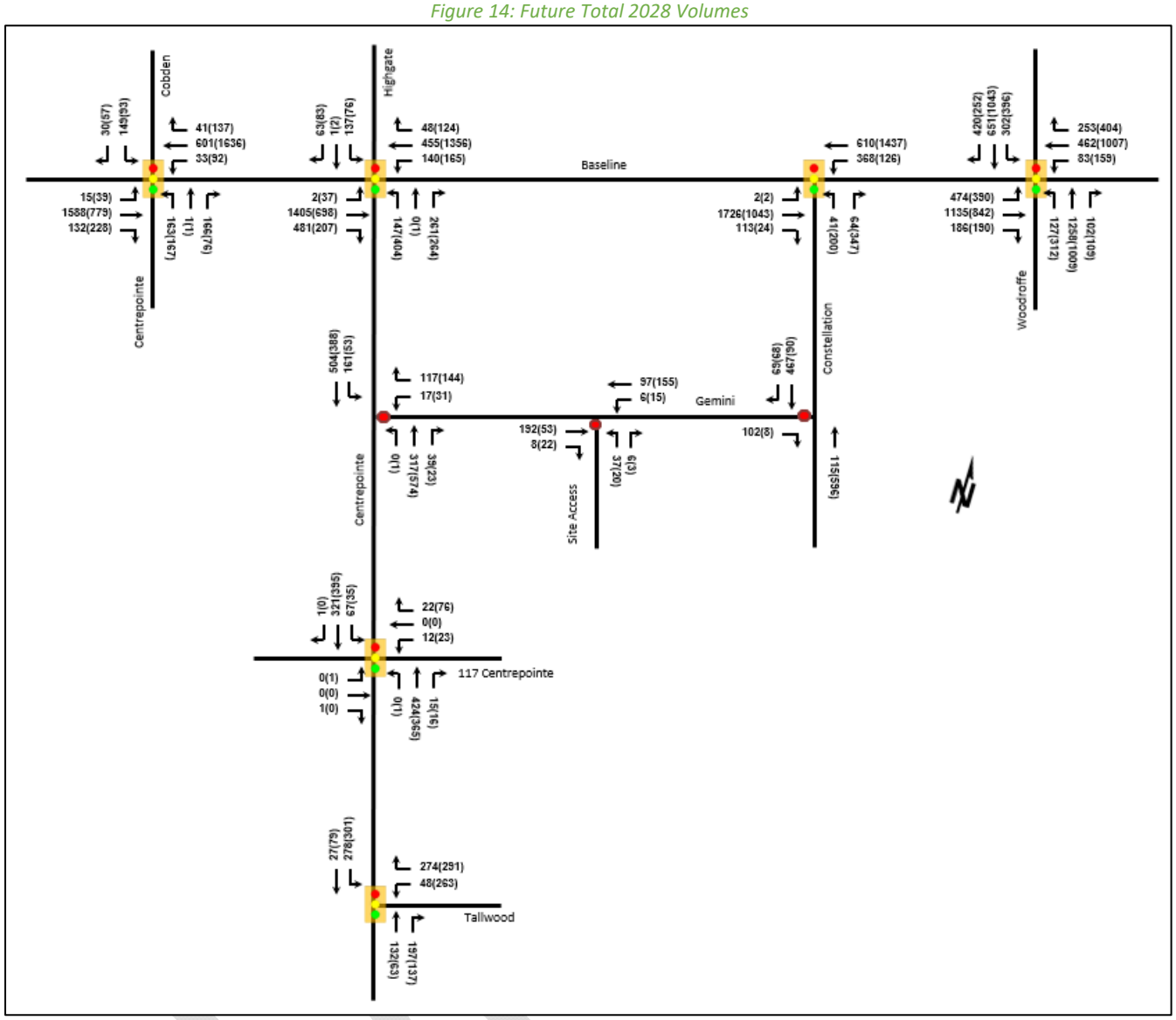

Table 23: 2028 Total Future Intersection Operations

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Baseline Road & Centrepointe Drive/Cobden Road ***Signalized***	EBL	A	0.17	62.9	11.0	A	0.36	66.6	21.0
	EBT	B	0.69	16.1	195.7	A	0.38	14.0	77.5
	EBR	A	0.12	2.1	8.2	A	0.23	2.3	11.8
	WBL	A	0.32	**80.5**	18.2	A	0.58	67.3	m32.1
	WBT	A	0.25	3.4	33.0	C	0.74	7.5	63.3
	WBR	A	0.04	0.4	1.2	A	0.13	1.9	m3.9
	NBL/T	C	0.71	69.4	60.9	C	0.72	69.6	61.8
	NBR	A	0.11	0.2	0.0	A	0.05	0.1	0.0
	SBL/T	B	0.65	65.3	56.0	A	0.40	54.5	36.5
	SBR	A	0.11	0.8	0.0	A	0.21	6.1	6.6
	Overall	**B**	-	**18.0**	-	**B**	-	**15.1**	-

Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Baseline Road & Centrepointe Drive/Highgate Road *Signalized*	EBL	A	0.03	55.5	m0.7	A	0.36	62.3	21.3
	EBT	C	0.80	26.8	#182.7	A	0.46	32.0	102.4
	EBR	A	0.48	5.3	37.6	A	0.26	11.4	33.3
	WBL	A	0.51	**91.2**	30.3	A	0.56	**82.1**	32.8
	WBT	A	0.21	4.9	15.5	D	0.81	16.5	#231.4
	WBR	A	0.05	0.1	0.0	A	0.15	0.5	0.0
	NBL	A	0.49	61.1	28.4	C	0.75	60.3	65.0
	NBR	B	0.70	16.6	25.5	A	0.56	10.1	22.8
	SBL	D	0.82	**91.8**	#67.4	A	0.51	67.8	34.2
	SBT/R	A	0.24	2.0	0.0	A	0.28	2.3	0.0
	Overall	**C**	-	**25.9**	-	**C**	-	**27.9**	-
Baseline Road & Constellation Drive *Signalized*	EBT	C	0.75	17.0	68.1	A	0.36	9.2	35.3
	EBR	A	0.10	0.2	m0.2	A	0.02	0.2	m0.3
	WBL	C	0.76	49.2	47.2	A	0.49	**81.7**	m13.1
	WBT	A	0.27	3.3	8.8	A	0.59	3.7	m6.0
	NBL	A	0.12	43.0	18.6	C	0.75	68.2	70.6
	NBR	A	0.18	11.1	11.9	C	0.74	21.7	47.4
	Overall	**B**	-	**17.8**	-	**B**	-	**14.6**	-
Baseline Road & Woodroffe Avenue *Signalized*	EBL	D	0.87	39.2	#84.2	D	0.86	59.7	#74.5
	EBT	E	0.97	64.8	#204.6	D	0.90	67.1	#161.3
	EBR	A	0.30	23.1	m50.6	A	0.36	23.4	41.9
	WBL	B	0.65	**81.7**	#40.7	C	0.76	**77.8**	62.6
	WBT	A	0.53	44.0	71.3	**F**	**1.14**	**118.0**	**#204.6**
	WBR	A	0.46	10.4	29.3	B	0.70	24.0	76.2
	NBL	A	0.50	64.3	26.3	D	0.90	**85.2**	#67.1
	NBT	**E**	**1.00**	**74.0**	**#152.5**	D	0.88	57.3	108.3
	NBR	A	0.19	0.8	0.0	A	0.23	3.2	5.9
	SBL	**F**	**1.01**	**112.6**	**#70.6**	D	0.90	**78.7**	#78.7
	SBT	A	0.49	41.1	65.2	D	0.81	50.1	107.8
	SBR	B	0.62	10.7	31.7	A	0.47	13.2	35.2
	Overall	**D**	-	**53.7**	-	**E**	-	**64.9**	-
Centrepointe Drive East / Gemini Way *Unsignalized*	WBL/R	B	0.23	13.0	5.4	C	0.34	15.4	8.9
	NBT/R	-	-	-	-	-	-	-	-
	SBL/T	B	0.20	10.7	3.5	B	0.09	11.5	1.3
	Overall	**A**	-	**3.2**	-	**A**	-	**2.8**	-
Constellation Drive / Gemini Way *Unsignalized*	EBR	B	0.14	10.7	3.7	A	0.01	8.8	0.2
	NB	-	-	-	-	-	-	-	-
	SBT/R	-	-	-	-	-	-	-	-
	Overall	**A**	-	**1.4**	-	**A**	-	**0.1**	-
Centrepointe Drive East / 117 Centrepointe Drive Access *Signalized*	EB	A	0.00	0.0	0.0	A	0.00	11.0	0.8
	WB	A	0.06	3.1	3.1	A	0.17	5.7	8.8
	NB	A	0.28	9.3	20.0	A	0.26	9.5	18.2
	SB	A	0.31	9.7	18.8	A	0.31	10.2	21.1
	Overall	**A**	-	**9.2**	-	**A**	-	**9.4**	-

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Intersection	Lane	AM Peak Hour				PM Peak Hour			
		LOS	V/C	Delay	Q (95th)	LOS	V/C	Delay	Q (95th)
Centrepointe Drive East / Tallwood Drive *Signalized*	WBL	A	0.15	18.8	10.6	B	0.63	25.8	42.8
	WBR	A	0.54	7.4	15.0	A	0.49	5.6	13.9
	NBR/T	A	0.18	2.6	7.1	A	0.12	3.4	6.5
	SBL	A	0.51	11.1	32.4	A	0.52	14.0	46.7
	SBT	A	0.03	5.3	3.5	A	0.09	8.1	10.9
	Overall	**A**	**-**	**7.3**	**-**	**B**	**-**	**12.3**	**-**
Site Access / Gemini Way *Unsignalized*	EBT/R	-	-	-	-	-	-	-	-
	WBL/T	A	0.00	7.6	0.1	A	0.01	7.4	0.2
	NBL/R	B	0.06	10.5	1.5	A	0.03	9.9	0.7
	Overall	**A**	**-**	**1.4**	**-**	**A**	**-**	**1.3**	**-**

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

The study area intersections generally operate similar to the 2023 future background operations during the 2023 future background horizon.

11.2.3 Network Intersection MMLOS

11.2.3.1 Existing Network Conditions

Table 24 summarizes the MMLOS analysis for the network signalized intersections in the study area for the existing conditions. The analysis is based on the policy area within 600m of a rapid transit station. The MMLOS worksheets have been provided in Appendix L.

Table 24: Study Area Intersection MMLOS Analysis—Existing Conditions

Intersection	Pedestrian LOS		Bicycle LOS		Transit LOS		Truck LOS		Auto LOS	
	PLOS	Target	BLOS	Target	TLOS	Target	TrLOS	Target	ALOS	Target
Baseline Road & Centrepointe Drive/Cobden Road	**F**	A	**F**	C	**F(F)**	D	C	D	B(B)	E
Baseline Road & Centrepointe Drive/Highgate Road	**F**		**F**		**F(F)**		C		C(C)	
Baseline Road & Constellation Drive	**F**		**F**		D**(F)**		B		B(C)	
Baseline Road & Woodroffe Avenue	**F**		**F**		**F**(C)		A		E(E)	
Centrepointe Drive East / 117 Centrepointe Drive Access	**D**		**D**	B	B(C)			-	A(A)	
Centrepointe Drive East / Tallwood Drive	**C**		**F**		C(C)				A(B)	

The pedestrian and cycling LOS targets are not met at the network intersections due to the crossing distances, lack of cycling facilities and operating speeds in the study area. The transit LOS generally fails to meet the targets as well due to the intersection delays. Truck and auto LOS targets are met. Significant reconstruction is required by the City to address these network deficiencies.

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11.2.3.2 Future 2023 and 2028 Network Conditions

Table 25 summarizes the MMLOS analysis for the network signalized intersections in the study area for both the 2023 and 2028 future conditions. The analysis is based on the policy area within 600m of a rapid transit station. The geometric changes at some of the study area intersections planned as part of the Baseline BRT Transit Priority Measures have been included in the following analysis. The MMLOS worksheets have been provided in Appendix L.

Table 25: Study Area Intersection MMLOS Analysis – 2023 and 2028 Horizons

Intersection	Pedestrian LOS		Bicycle LOS		Transit LOS		Truck LOS		Auto LOS	
	PLOS	Target	BLOS	Target	TLOS	Target	TrLOS	Target	ALOS	Target
Baseline Road & Centrepointe Drive/Cobden Road	**F**	A	**F**	C	**F(F)**	C	C	D	B(B)	E
Baseline Road & Centrepointe Drive/Highgate Road	**F**		**F**		**F(F)**		C		C(C)	
Baseline Road & Constellation Drive	**F**		**F**		**D(E)**		B		C(B)	
Baseline Road & Woodroffe Avenue	**F**		**F**		**F(F)**		A		**F(F)**	
Centrepointe Drive East / 117 Centrepointe Drive Access	**D**		**D**	B	B(C)	D		-	A(A)	
Centrepointe Drive East / Tallwood Drive	**C**		**F**		C(C)				A(B)	

The future MMLOS analysis is similar to the existing conditions with significant deficiencies notes. The Baseline Road and Woodroffe Avenue intersection LOS decreases in the future horizons and does not meet the target. Significant reconstruction is required by the City to address these network deficiencies.

11.2.4 Network Intersection Design Elements

No study area intersection design elements are proposed as part of this study for the network intersections.

12 Summary of Improvements Indicated and Modification Options

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

Proposed Site and Screening

- The proposed site includes 585 apartment units
- An all-movement access will be provided on Gemini Way approximately 40 metres east of Centrepointe Drive
- The development is proposed to be completed as a single phase by 2023
- The proposed development is within 600 metres of existing and future rapid transit stations and therefore TOD principles apply
- The Trip Generation, Location, and Safety triggers were all met through the TIA Screening
- The application for the proposed site is for an Official Plan Amendment and a Zoning By-Law Amendment

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Existing Conditions

- Baseline Road and Woodroffe Avenue form the arterial road network, Centrepointe Drive, Tallwood Drive, Constellation Dive and Gemini Way are all collector roads and the remaining study area roadways are local roads
- The study area roads have sidewalks on both sides of the collectors and arterials with the exception of Gemini Way
- Sections of separated bike lanes are provided along Baseline Road and the remaining study area roadways are mixed traffic conditions
- The existing transit routes #84 and #88 travel along Baseline Road, Centrepointe Drive, Tallwood Drive, and Constellation Drive
- At Baseline Station, routes #73, 74, 75, 82, 83, 84, 86, 87, 88, 111 186 187 270 271 272 273 275 277 278 284 305 all stop at the station
- Operational issues at the intersection of Baseline Road and Woodroffe Avenue are noted for the study area intersections

Development Generated Travel Demand

- The proposed development is forecasted to generate 380 people two-way trips during the AM peak and 398 people two-way trips during the PM peak
- Based on the TOD mode shares, a total of 57 two-way vehicle trips will be generated during the AM peak and 60 two-way vehicle trips during the PM peak
- The distribution of the site trips is estimated to be 35% to the north, 5% to the south, 35% to the east, and 25% to the west

Background Conditions

- Adjacent developments that have either been completed or are under construction have been accounted for in the existing and background conditions
- Additionally, the background growth was identified and applied to all through movements at all study area intersections and all movements at the intersection of Baseline Road and Woodroffe Avenue at a conservative rate of 1.0%
- The future background intersection operations are similar to the existing conditions

TDM

- Supportive TDM measures to be included within the proposed development should include:
  - Provide on-site coordinator for trip planning for new or existing residents
  - Posting of pedestrian, cycling, and transit information and maps at primary entrances/exits
  - Inclusion of a 1-year Presto card for first time new residents
  - Unbundle parking from purchase costs
  - Unbundle parking from rental costs
  - Provide a multimodal travel option information package to new residents
- Additional TDM Supportive Development Design and Infrastructure measures to be included within the proposed development should include:
  - Provide secure bicycle parking spaces equivalent to the number of multi-family units
  - Provide a permanent bike repair station adjacent to the main bicycle parking area
  - Provide up to three carshare parking spaces

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- Provide separated areas for short-term and long-term parking

Transit

- A total of 247 AM peak hour transit trips (58 inbound, 189 outbound) and 258 PM peak hour transit trips (161 inbound, 97 outbound) are forecasted from the site
- The Transportation Master Plan identifies the following transit projects within the Affordable Network:
  - LRT Stage 2 – Baseline Station to north (2025)
  - Baseline BRT – between Baseline Station and Heron Station/Confederation Station (Trillium Line)
  - Baseline Interim Transit Priority Measures – between Richmond Road and Baseline Station
- Existing capacity is noted on the adjacent transit routes and can accommodate the additional trips
- No additional transit priority measures are recommended

Network Intersection Design

- The future total intersection operations are similar to the background and existing conditions
- No improvements for the study area intersections are outlined in this report
- The study area signalized intersections will not meet a combination of pedestrian, bicycle, transit, or truck MMLOS targets due to road widths, mixed traffic conditions, intersection delays, and single receiving lanes/smaller curb corner radii
- Given the limitations of the MMLOS framework, the location of the study area, and limited impact of the proposed site, no mitigation of the existing conditions is recommended as part of this study

13 Next Steps

Following the circulation and review of this Strategy Report, any outstanding comments will be addressed within the context of the zoning by-law amendment submission. Following the completion of the remaining TIA Steps and sign-off has been received from City Transportation Project Manager, a signed and stamped final report will be provided to City staff.

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Appendix A

TIA Screening Form and PM Certification Form

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13 Markham Avenue
Ottawa ON K2G 3Z1

City of Ottawa 2017 TIA Guidelines
Step 1 - Screening Form

Date: 02-Apr-20
Project Number: 2019-49
Project Reference: Richcraft - 19 Centrepointe

1.1 Description of Proposed Development	
Municipal Address	19 Centrepointe Drive
Description of Location	Plan 4M-623 BLK 25 LESS RP;4R-7298 Part 16
Land Use Classification	Mixed-Use Centre (MC[2007]F(3.0)S299)
Development Size	585 Apartent units
Accesses	Single access on Gemini Way
Phase of Development	Single phase
Buildout Year	2023
TIA Requirement	Full TIA Required

1.2 Trip Generation Trigger		
Land Use Type	Townhomes or apartments	
Development Size	585	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?	No
Is the development in a Design Priority Area (DPA) or Transit-oriented Development (TOD) zone?	Yes
Location Trigger	Yes

1.4. Safety Triggers	
Are posted speed limits on a boundary street 80 km/hr or greater?	No
Are there any horizontal/vertical curvatures on a boundary street limits sight lines at a proposed driveway?	Yes
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)?	Yes
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.

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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)
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Appendix B

Turning Movement Count Data

DRAFT

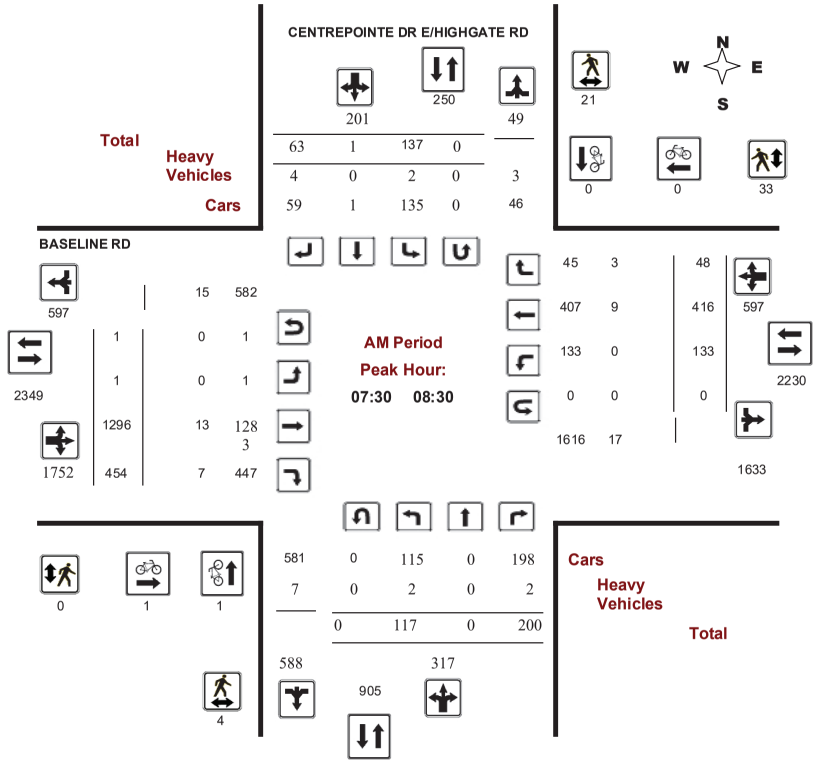
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD

Survey Date: Tuesday, January 22, 2019 **WO No:** 38299

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



Comments

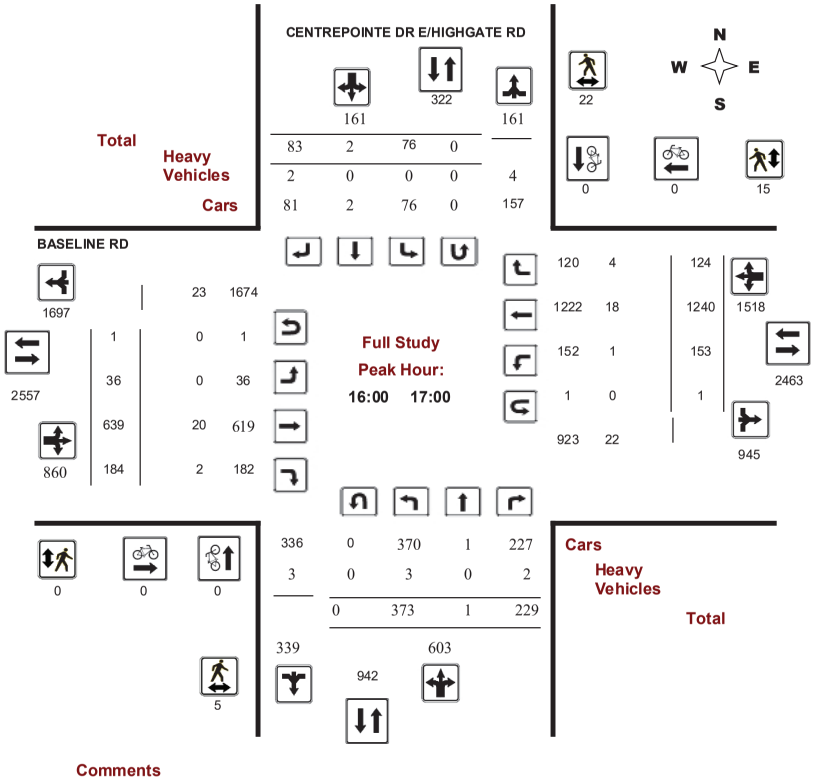
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD

Survey Date: Tuesday, January 22, 2019 **WO No:** 38299

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



Comments

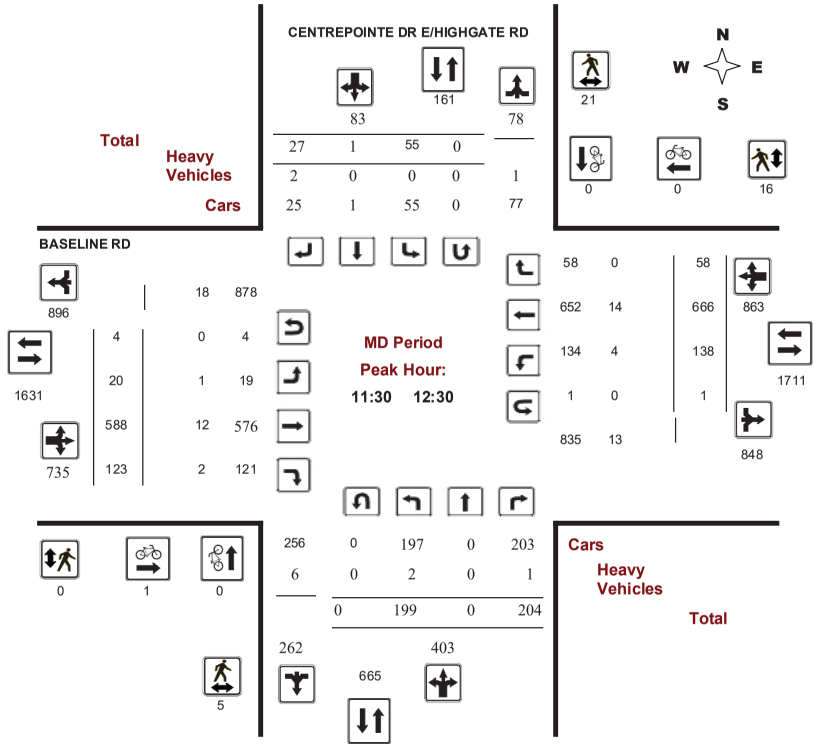
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD

Survey Date: Tuesday, January 22, 2019 **WO No:** 38299

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



Comments

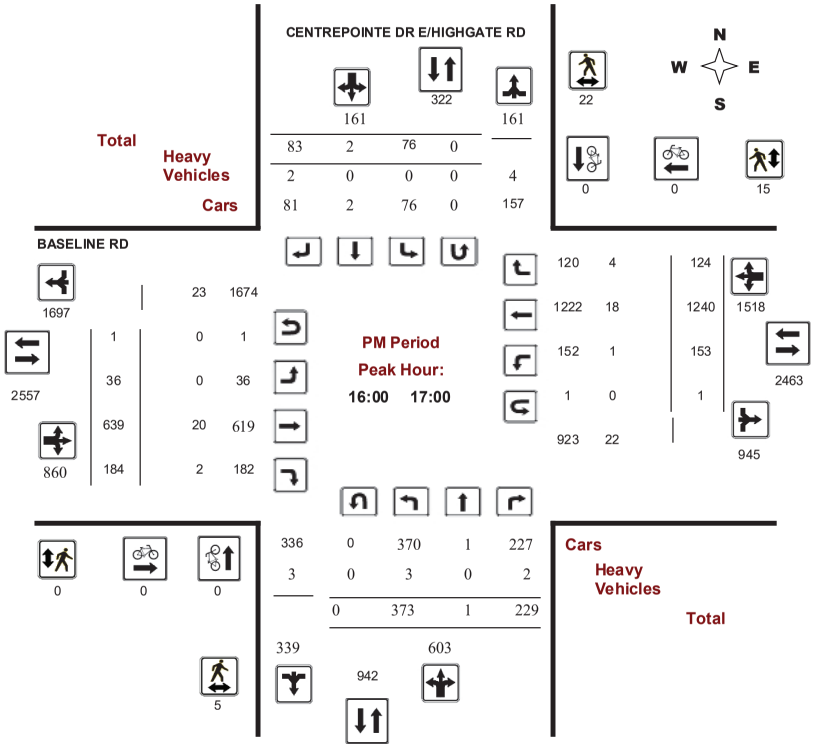
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD

Survey Date: Tuesday, January 22, 2019 **WO No:** 38299

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



Comments

Transportation Services - Traffic Services

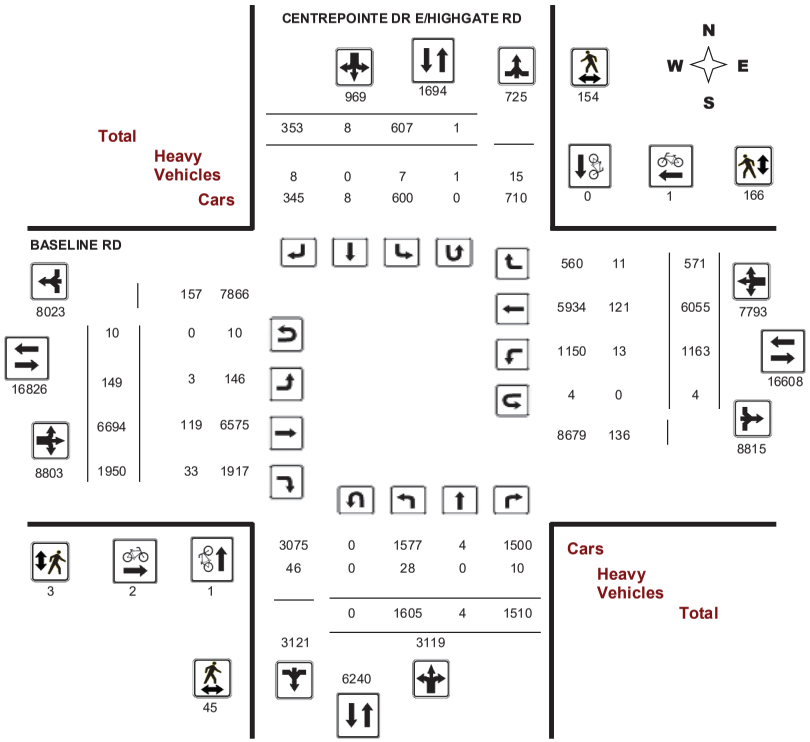
Turning Movement Count - Full Study Diagram

BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD

Survey Date: Tuesday, January 22, 2019

WO#: 38299

Device: Miovision



Comments

Transportation Services - Traffic Services

Work Order 38299

Turning Movement Count - Full Study Summary Report

BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD

Survey Date: Tuesday, January 22, 2019

Total Observed U-Turns

Northbound: 0 Southbound: 1

Eastbound: 10 Westbound: 4

AADT Factor 1.10

Full Study

	CENTREPOINTE DR E/HIGHGATE RD									BASELINE 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	74	0	177	**251**	86	1	34	**121**	**372**	2	1498	368	**1868**	86	356	31	**473**	**2341**	**2713**
08:00 09:00	166	0	185	**351**	147	2	65	**214**	**565**	1	1076	456	**1533**	162	480	59	**701**	**2234**	**2799**
09:00 10:00	127	1	163	**291**	50	0	26	**76**	**367**	20	1094	324	**1438**	131	448	46	**625**	**2063**	**2430**
11:30 12:30	199	0	204	**403**	55	1	27	**83**	**486**	20	588	123	**731**	138	666	58	**862**	**1593**	**2079**
12:30 13:30	132	1	166	**299**	61	0	19	**80**	**379**	17	572	173	**762**	172	608	44	**824**	**1586**	**1965**
15:00 16:00	319	1	209	**529**	67	2	46	**115**	**644**	25	618	177	**820**	171	1145	99	**1415**	**2235**	**2879**
16:00 17:00	373	1	229	**603**	76	2	83	**161**	**764**	36	639	184	**859**	153	1240	124	**1517**	**2376**	**3140**
17:00 18:00	215	0	177	**392**	65	0	53	**118**	**510**	28	609	145	**782**	150	1112	110	**1372**	**2154**	**2664**
Sub Total	1605	4	1510	**3119**	607	8	353	**968**	**4087**	149	6694	1950	**8793**	1163	6055	571	**7789**	**16582**	**20669**
U Turns				**0**				**1**	**1**				**10**				**4**	**14**	**15**
Total	1605	4	1510	**3119**	607	8	353	**969**	**4088**	149	6694	1950	**8803**	1163	6055	571	**7793**	**16596**	**20684**
EQ 12Hr	2231	6	2099	**4335**	844	11	491	**1347**	**5682**	207	9305	2710	**12236**	1617	8416	794	**10832**	**23068**	**28750**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													**1.39**						
AVG 12Hr	2454	6	2309	**4769**	928	12	540	**1482**	**6251**	228	10235	2982	**13460**	1778	9258	873	**11915**	**25375**	**31626**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													**1.10**						
AVG 24Hr	3215	8	3025	**6247**	1216	16	707	**1941**	**8188**	298	13408	3906	**17632**	2329	12128	1144	**15609**	**33241**	**41429**
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. 38299

Turning Movement Count - 15 Minute Summary Report

BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD

Survey Date: Tuesday, January 22, 2019

Total Observed U-Turns

Northbound: 0 Southbound: 1

Eastbound: 10 Westbound: 4

		CENTREPOINTE DR E/HIGHGATE RD									BASELINE 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	14	0	35	**49**	17	0	2	**19**	**68**	1	405	80	**486**	15	57	6	**78**	**564**	**632**
07:15	07:30	22	0	47	**69**	12	0	4	**16**	**85**	0	378	87	**466**	15	92	6	**113**	**579**	**664**
07:30	07:45	17	0	48	**65**	26	0	6	**32**	**97**	1	413	109	**523**	23	105	6	**134**	**657**	**754**
07:45	08:00	21	0	47	**68**	31	1	22	**54**	**122**	0	302	92	**394**	33	102	13	**148**	**542**	**664**
08:00	08:15	36	0	55	**91**	37	0	19	**56**	**147**	0	259	119	**379**	37	113	19	**169**	**548**	**695**
08:15	08:30	43	0	50	**93**	43	0	16	**59**	**152**	0	322	134	**456**	40	96	10	**146**	**602**	**754**
08:30	08:45	47	0	37	**84**	40	1	19	**60**	**144**	1	260	112	**373**	50	110	14	**174**	**547**	**691**
08:45	09:00	40	0	43	**83**	27	1	11	**39**	**122**	0	235	91	**326**	35	161	16	**212**	**538**	**660**
09:00	09:15	29	1	41	**71**	12	0	3	**15**	**86**	2	283	100	**386**	30	121	13	**165**	**551**	**637**
09:15	09:30	29	0	44	**73**	14	0	8	**22**	**95**	7	260	79	**346**	33	108	11	**152**	**498**	**593**
09:30	09:45	34	0	40	**74**	9	0	6	**15**	**89**	3	295	75	**373**	29	99	12	**140**	**513**	**602**
09:45	10:00	35	0	38	**73**	15	0	9	**24**	**97**	8	256	70	**334**	39	120	10	**169**	**503**	**600**
11:30	11:45	44	0	48	**92**	14	0	4	**18**	**110**	4	140	31	**175**	40	175	13	**228**	**403**	**513**
11:45	12:00	62	0	60	**122**	13	1	9	**23**	**145**	2	137	32	**171**	38	150	14	**202**	**373**	**518**
12:00	12:15	53	0	55	**108**	14	0	7	**21**	**129**	7	161	35	**205**	32	171	19	**223**	**428**	**557**
12:15	12:30	40	0	41	**81**	14	0	7	**21**	**102**	7	150	25	**184**	28	170	12	**210**	**394**	**496**
12:30	12:45	35	0	48	**83**	12	0	4	**16**	**99**	2	136	44	**182**	26	176	11	**213**	**395**	**494**
12:45	13:00	33	1	41	**75**	21	0	1	**22**	**97**	4	143	50	**197**	43	156	14	**213**	**410**	**507**
13:00	13:15	44	0	38	**82**	17	0	6	**23**	**105**	5	149	44	**198**	52	130	11	**193**	**391**	**496**
13:15	13:30	20	0	39	**59**	11	0	8	**20**	**79**	6	144	35	**185**	51	146	8	**205**	**390**	**469**
15:00	15:15	87	0	47	**134**	14	0	9	**23**	**157**	1	149	42	**192**	46	260	18	**324**	**516**	**673**
15:15	15:30	75	1	47	**123**	8	0	11	**19**	**142**	7	159	41	**207**	42	270	27	**339**	**546**	**688**
15:30	15:45	84	0	49	**133**	20	0	14	**34**	**167**	7	169	60	**236**	32	303	25	**360**	**596**	**763**
15:45	16:00	73	0	66	**139**	25	2	12	**39**	**178**	10	141	34	**185**	51	312	29	**392**	**577**	**755**
16:00	16:15	114	1	64	**179**	20	0	19	**39**	**218**	6	156	43	**205**	43	292	33	**368**	**573**	**791**
16:15	16:30	94	0	59	**153**	18	1	15	**34**	**187**	8	166	47	**221**	39	331	32	**403**	**624**	**811**
16:30	16:45	91	0	53	**144**	18	0	22	**40**	**184**	10	157	43	**210**	31	324	32	**387**	**597**	**781**
16:45	17:00	74	0	53	**127**	20	1	27	**48**	**175**	12	160	51	**224**	40	293	27	**360**	**584**	**759**
17:00	17:15	78	0	59	**137**	17	0	23	**40**	**177**	7	165	41	**214**	43	285	34	**363**	**577**	**754**
17:15	17:30	66	0	47	**113**	18	0	18	**36**	**149**	6	151	41	**199**	36	304	27	**367**	**566**	**715**
17:30	17:45	36	0	36	**72**	16	0	8	**24**	**96**	12	158	31	**201**	39	254	28	**321**	**522**	**618**
17:45	18:00	35	0	35	**70**	14	0	4	**18**	**88**	3	135	32	**170**	32	269	21	**322**	**492**	**580**
TOTAL:		1605	4	1510	**3119**	607	8	353	**969**	**4088**	149	6694	1950	**8803**	1163	6055	571	**7793**	**16596**	**20684**

Note: U-Turns are included in Totals.

Comment:

Transportation Services - Traffic Services

Turning Movement Count - Cyclist Volume Report

Work Order 38299

BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD

Count Date: Tuesday, January 22, 2019 **Start Time:** 07:00

		CENTREPOINTE DR E/HIGHGATE RD			BASELINE 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	1	0	**1**	1	0	**1**	**2**
09:00	10:00	0	0	**0**	0	0	**0**	**0**
11:30	12:30	0	0	**0**	1	0	**1**	**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	.....	1	0	**1**	2	1	**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. 38299

Turning Movement Count - Heavy Vehicle Report

BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD

Survey Date: Tuesday, January 22, 2019

		CENTREPOINTE DR E/HIGHGATE RD									BASELINE 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	1	**2**	2	0	2	**4**	**6**	0	12	2	**14**	1	10	3	**14**	**28**	**34**
08:00	09:00	9	0	2	**11**	1	0	2	**3**	**14**	0	20	8	**28**	0	11	1	**12**	**40**	**54**
09:00	10:00	6	0	2	**8**	0	0	0	**0**	**8**	1	20	10	**31**	2	16	3	**21**	**52**	**60**
11:30	12:30	2	0	1	**3**	0	0	2	**2**	**5**	1	12	2	**15**	4	14	0	**18**	**33**	**38**
12:30	13:30	4	0	2	**6**	2	0	0	**3**	**9**	1	14	3	**18**	1	11	0	**12**	**30**	**39**
15:00	16:00	2	0	0	**2**	2	0	0	**2**	**4**	0	14	5	**19**	4	23	0	**27**	**46**	**50**
16:00	17:00	3	0	2	**5**	0	0	2	**2**	**7**	0	20	2	**22**	1	18	4	**23**	**45**	**52**
17:00	18:00	1	0	0	**1**	0	0	0	**0**	**1**	0	7	1	**8**	0	18	0	**18**	**26**	**27**
Sub Total		28	0	10	**38**	7	0	8	**16**	**54**	3	119	33	**155**	13	121	11	**145**	**300**	**354**
U-Turns (Heavy Vehicles)					**0**				**1**	**1**				**0**				**0**	**0**	**1**
Total		28	0	10	**0**	7	0	8	**17**	**55**	3	119	33	**155**	13	121	11	**145**	**300**	**355**

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 38299

Turning Movement Count - Pedestrian Volume Report

BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD

Count Date: Tuesday, January 22, 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	5	**5**	0	4	**4**	**9**
07:15	07:30	0	6	**6**	0	10	**10**	**16**
07:30	07:45	1	3	**4**	0	9	**9**	**13**
07:45	08:00	2	8	**10**	0	11	**11**	**21**
07:00	08:00	3	22	**25**	0	34	**34**	**59**
08:00	08:15	1	3	**4**	0	10	**10**	**14**
08:15	08:30	0	7	**7**	0	3	**3**	**10**
08:30	08:45	1	4	**5**	0	4	**4**	**9**
08:45	09:00	0	1	**1**	0	1	**1**	**2**
08:00	09:00	2	15	**17**	0	18	**18**	**35**
09:00	09:15	0	10	**10**	0	9	**9**	**19**
09:15	09:30	2	0	**2**	0	2	**2**	**4**
09:30	09:45	1	0	**1**	0	3	**3**	**4**
09:45	10:00	0	1	**1**	0	2	**2**	**3**
09:00	10:00	3	11	**14**	0	16	**16**	**30**
11:30	11:45	1	2	**3**	0	3	**3**	**6**
11:45	12:00	2	7	**9**	0	6	**6**	**15**
12:00	12:15	1	8	**9**	0	5	**5**	**14**
12:15	12:30	1	4	**5**	0	2	**2**	**7**
11:30	12:30	5	21	**26**	0	16	**16**	**42**
12:30	12:45	4	6	**10**	2	6	**8**	**18**
12:45	13:00	0	7	**7**	0	9	**9**	**16**
13:00	13:15	3	2	**5**	0	1	**1**	**6**
13:15	13:30	2	5	**7**	0	4	**4**	**11**
12:30	13:30	9	20	**29**	2	20	**22**	**51**
15:00	15:15	1	3	**4**	1	8	**9**	**13**
15:15	15:30	2	8	**10**	0	6	**6**	**16**
15:30	15:45	4	6	**10**	0	2	**2**	**12**
15:45	16:00	0	4	**4**	0	7	**7**	**11**
15:00	16:00	7	21	**28**	1	23	**24**	**52**
16:00	16:15	0	8	**8**	0	5	**5**	**13**
16:15	16:30	2	6	**8**	0	6	**6**	**14**
16:30	16:45	2	4	**6**	0	3	**3**	**9**
16:45	17:00	1	4	**5**	0	1	**1**	**6**
16:00	17:00	5	22	**27**	0	15	**15**	**42**
17:00	17:15	3	2	**5**	0	10	**10**	**15**
17:15	17:30	5	5	**10**	0	5	**5**	**15**
17:30	17:45	1	4	**5**	0	4	**4**	**9**
17:45	18:00	2	11	**13**	0	5	**5**	**18**
17:00	18:00	11	22	**33**	0	24	**24**	**57**
Total	.....	45	154	**199**	3	166	**169**	**368**

Comment:

Transportation Services - Traffic Services

Work Order 38299

Turning Movement Count - 15 Min U-Turn Total Report

BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD

Survey Date: Tuesday, January 22, 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	1	0	1
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	1	1	2
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	2	1	3
12:15	12:30	0	0	2	0	2
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	1	0	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	0	0	0
16:00	16:15	0	0	0	0	0
16:15	16:30	0	0	0	1	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	1	2
17:15	17:30	0	0	1	0	1
17:30	17:45	0	0	0	0	0
17:45	18:00	0	0	0	0	0
Total		0	1	10	4	15

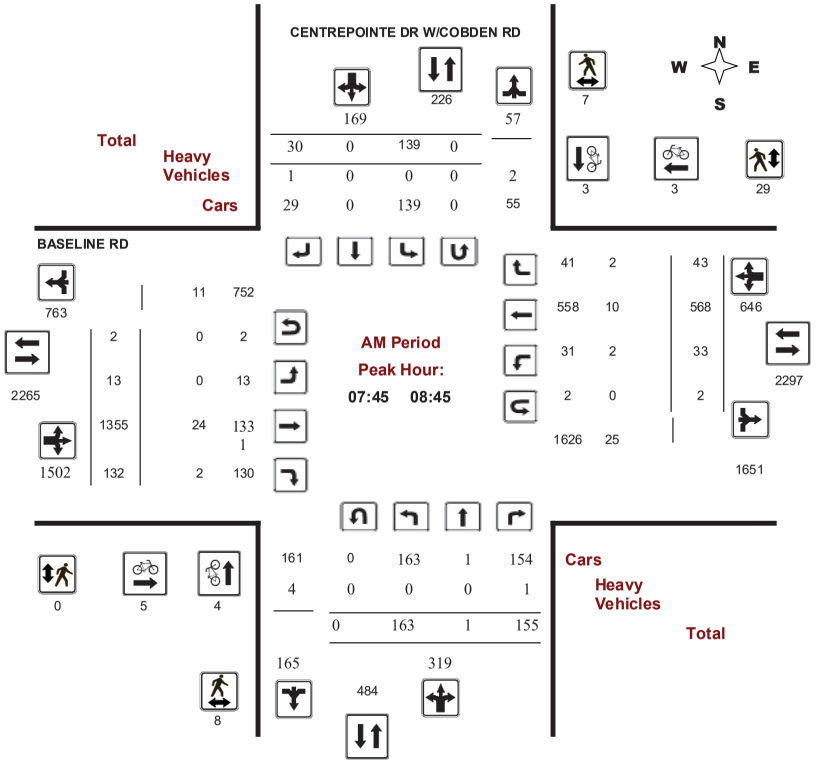
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

BASELINE RD @ CENTREPOINTE DR W/COBDEN RD

Survey Date: Thursday, July 21, 2016 **WO No:** 36067

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



Comments

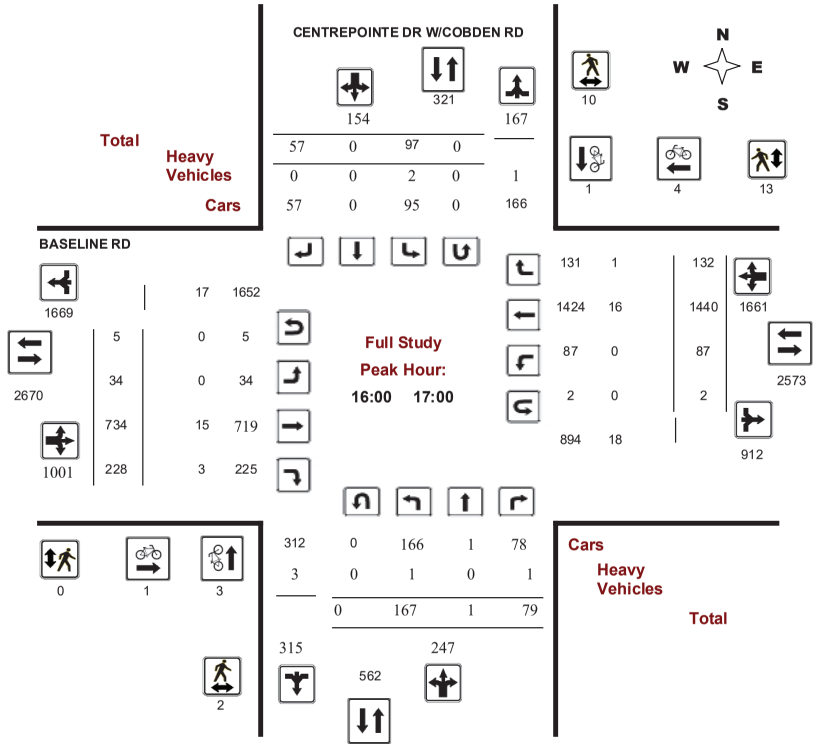
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

BASELINE RD @ CENTREPOINTE DR W/COBDEN RD

Survey Date: Thursday, July 21, 2016 **WO No:** 36067

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



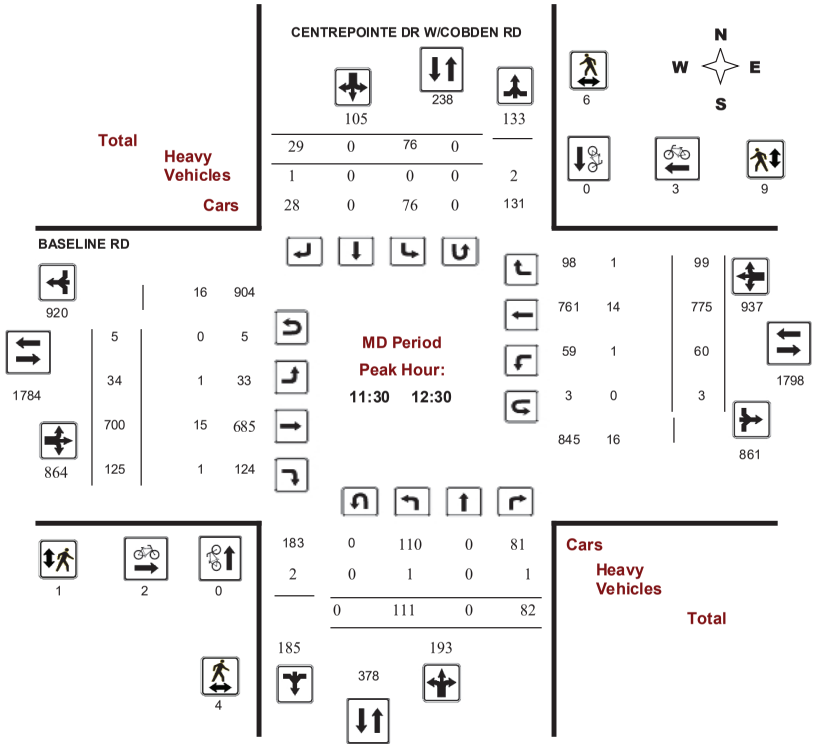
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

BASELINE RD @ CENTREPOINTE DR W/COBDEN RD

Survey Date: Thursday, July 21, 2016 **WO No:** 36067

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



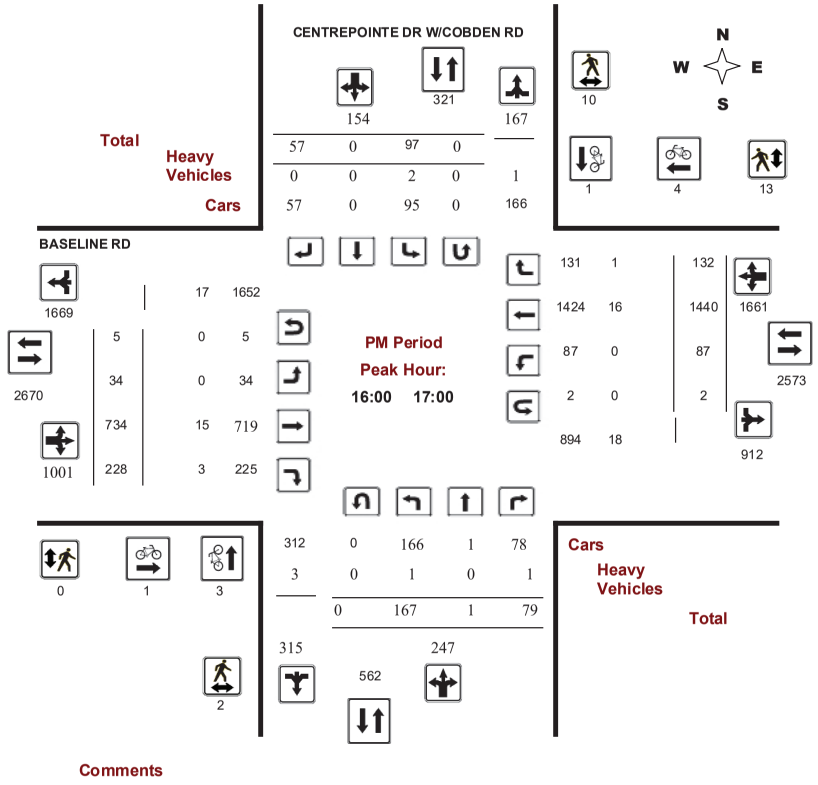
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

BASELINE RD @ CENTREPOINTE DR W/COBDEN RD

Survey Date: Thursday, July 21, 2016 **WO No:** 36067

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



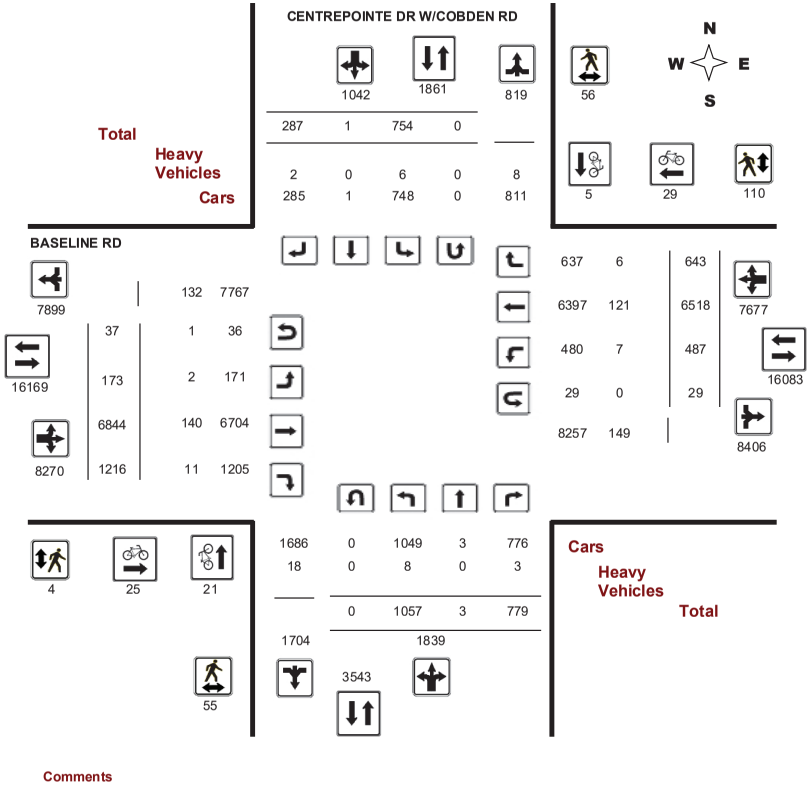
Transportation Services - Traffic Services

Turning Movement Count - Full Study Diagram

BASELINE RD @ CENTREPOINTE DR W/COBDEN RD

Survey Date: Thursday, July 21, 2016 **WO#:** 36067

Device: Miovision



Transportation Services - Traffic Services

Work Order 36067

Turning Movement Count - Full Study Summary Report

BASELINE RD @ CENTREPOINTE DR W/COBDEN RD

Survey Date: Thursday, July 21, 2016

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 37 Westbound: 29

AADT Factor .90

Full Study

	CENTREPOINTE DR W/COBDEN RD									BASELINE 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	99	0	121	**220**	93	0	24	**117**	**337**	6	1330	90	**1426**	29	352	34	**415**	**1841**	**2178**
08:00 09:00	178	1	151	**330**	145	0	28	**173**	**503**	18	1244	129	**1391**	35	606	45	**686**	**2077**	**2580**
09:00 10:00	139	0	109	**248**	75	0	36	**111**	**359**	16	768	114	**898**	40	518	66	**624**	**1522**	**1881**
11:30 12:30	111	0	82	**193**	76	0	29	**105**	**298**	34	700	125	**859**	60	775	99	**934**	**1793**	**2091**
12:30 13:30	114	0	59	**173**	87	0	43	**130**	**303**	20	646	132	**798**	59	751	72	**882**	**1680**	**1983**
15:00 16:00	116	1	83	**200**	73	1	39	**113**	**313**	19	718	154	**891**	57	1145	102	**1304**	**2195**	**2508**
16:00 17:00	167	1	79	**247**	97	0	57	**154**	**401**	34	734	228	**996**	87	1440	132	**1659**	**2655**	**3056**
17:00 18:00	133	0	95	**228**	108	0	31	**139**	**367**	26	704	244	**974**	120	931	93	**1144**	**2118**	**2485**
Sub Total	1057	3	779	**1839**	754	1	287	**1042**	**2881**	173	6844	1216	**8233**	487	6518	643	**7648**	**15881**	**18762**
U Turns				**0**				**0**	**0**				**37**				**29**	**66**	**66**
Total	1057	3	779	**1839**	754	1	287	**1042**	**2881**	173	6844	1216	**8270**	487	6518	643	**7677**	**15947**	**18828**
EQ 12Hr	1469	4	1083	**2556**	1048	1	399	**1448**	**4004**	240	9513	1690	**11495**	677	9060	894	**10671**	**22166**	**26170**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													**1.39**						
AVG 12Hr	1322	4	975	**2301**	943	1	359	**1304**	**3605**	216	8562	1521	**10346**	609	8154	804	**9604**	**19950**	**23555**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													**.90**						
AVG 24Hr	1732	5	1277	**3014**	1236	2	470	**1708**	**4722**	284	11216	1993	**13553**	798	10682	1054	**12581**	**26134**	**30856**
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. 36067

Turning Movement Count - 15 Minute Summary Report

BASELINE RD @ CENTREPOINTE DR W/COBDEN RD

Survey Date: Thursday, July 21, 2016

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 37 Westbound: 29

	CENTREPOINTE DR W/COBDEN RD									BASELINE 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	14	0	25	**39**	15	0	3	**18**	**57**	2	262	10	**274**	4	66	6	**76**	**350**	**407**
07:15 07:30	19	0	30	**49**	19	0	8	**27**	**76**	2	322	20	**344**	4	70	8	**82**	**426**	**502**
07:30 07:45	29	0	25	**54**	33	0	8	**41**	**95**	1	365	29	**395**	10	101	5	**117**	**512**	**607**
07:45 08:00	37	0	41	**78**	26	0	5	**31**	**109**	1	381	31	**413**	11	115	15	**142**	**555**	**664**
08:00 08:15	43	0	35	**78**	41	0	6	**47**	**125**	5	331	31	**367**	6	153	15	**175**	**542**	**667**
08:15 08:30	45	0	43	**88**	44	0	8	**52**	**140**	4	295	37	**337**	7	152	7	**166**	**503**	**643**
08:30 08:45	38	1	36	**75**	28	0	11	**39**	**114**	3	348	33	**385**	9	148	6	**163**	**548**	**662**
08:45 09:00	52	0	37	**89**	32	0	3	**35**	**124**	6	270	28	**305**	13	153	17	**183**	**488**	**612**
09:00 09:15	36	0	35	**71**	26	0	15	**41**	**112**	5	250	31	**286**	10	140	20	**172**	**458**	**570**
09:15 09:30	37	0	28	**65**	18	0	9	**27**	**92**	3	173	31	**207**	8	119	10	**137**	**344**	**436**
09:30 09:45	31	0	24	**55**	12	0	6	**18**	**73**	8	164	26	**198**	13	127	22	**162**	**360**	**433**
09:45 10:00	35	0	22	**57**	19	0	6	**25**	**82**	0	181	26	**207**	9	132	14	**155**	**362**	**444**
11:30 11:45	27	0	24	**51**	19	0	4	**23**	**74**	3	186	25	**215**	15	180	28	**224**	**439**	**513**
11:45 12:00	21	0	26	**47**	17	0	8	**25**	**72**	9	163	24	**196**	15	218	20	**254**	**450**	**522**
12:00 12:15	38	0	13	**51**	23	0	10	**33**	**84**	10	165	35	**210**	11	187	23	**221**	**431**	**515**
12:15 12:30	25	0	19	**44**	17	0	7	**24**	**68**	12	186	41	**243**	19	190	28	**238**	**481**	**549**
12:30 12:45	33	0	13	**46**	16	0	12	**28**	**74**	5	143	28	**177**	13	182	18	**213**	**390**	**464**
12:45 13:00	26	0	18	**44**	26	0	9	**35**	**79**	5	166	45	**218**	12	191	16	**220**	**438**	**517**
13:00 13:15	28	0	17	**45**	26	0	8	**34**	**79**	8	147	21	**179**	17	184	20	**221**	**400**	**479**
13:15 13:30	27	0	11	**38**	19	0	14	**33**	**71**	2	190	38	**232**	17	194	18	**230**	**462**	**533**
15:00 15:15	28	1	21	**50**	16	0	11	**27**	**77**	5	159	31	**198**	13	257	29	**301**	**499**	**576**
15:15 15:30	25	0	19	**44**	14	0	5	**19**	**63**	3	172	39	**215**	15	296	19	**331**	**546**	**609**
15:30 15:45	28	0	22	**50**	21	0	11	**32**	**82**	6	159	41	**209**	11	290	34	**340**	**549**	**631**
15:45 16:00	35	0	21	**56**	22	1	12	**35**	**91**	5	228	43	**279**	18	302	20	**341**	**620**	**711**
16:00 16:15	39	0	13	**52**	26	0	15	**41**	**93**	7	188	42	**237**	22	375	30	**427**	**664**	**757**
16:15 16:30	36	0	24	**60**	18	0	11	**29**	**89**	6	199	72	**279**	22	358	35	**416**	**695**	**784**
16:30 16:45	51	0	30	**81**	33	0	16	**49**	**130**	11	181	63	**255**	27	362	31	**421**	**676**	**806**
16:45 17:00	41	1	12	**54**	20	0	15	**35**	**89**	10	166	51	**230**	16	345	36	**397**	**627**	**716**
17:00 17:15	35	0	21	**56**	26	0	9	**35**	**91**	8	182	61	**252**	25	319	32	**377**	**629**	**720**
17:15 17:30	36	0	16	**52**	41	0	9	**50**	**102**	9	175	61	**245**	23	310	34	**369**	**614**	**716**
17:30 17:45	31	0	28	**59**	21	0	9	**30**	**89**	2	180	59	**242**	25	205	16	**249**	**491**	**580**
17:45 18:00	31	0	30	**61**	20	0	4	**24**	**85**	7	167	63	**241**	47	97	11	**157**	**398**	**483**
TOTAL:	1057	3	779	**1839**	754	1	287	**1042**	**2881**	173	6844	1216	**8270**	487	6518	643	**7677**	**15947**	**18828**

Note: U-Turns are included in Totals.

Comment:

Transportation Services - Traffic Services

Turning Movement Count - Cyclist Volume Report

Work Order 36067

BASELINE RD @ CENTREPOINTE DR W/COBDEN RD

Count Date: Thursday, July 21, 2016 **Start Time:** 07:00

	CENTREPOINTE DR W/COBDEN RD			BASELINE RD			
Time Period	Northbound	Southbound	**Street Total**	Eastbound	Westbound	**Street Total**	**Grand Total**
07:00 08:00	4	0	**4**	4	2	**6**	**10**
08:00 09:00	4	3	**7**	6	4	**10**	**17**
09:00 10:00	2	1	**3**	0	5	**5**	**8**
11:30 12:30	0	0	**0**	2	3	**5**	**5**
12:30 13:30	4	0	**4**	6	3	**9**	**13**
15:00 16:00	2	0	**2**	3	2	**5**	**7**
16:00 17:00	3	1	**4**	1	4	**5**	**9**
17:00 18:00	2	0	**2**	3	6	**9**	**11**
Total	21	5	**26**	25	29	**54**	**80**

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. 36067

Turning Movement Count - Heavy Vehicle Report

BASELINE RD @ CENTREPOINTE DR W/COBDEN RD

Survey Date: Thursday, July 21, 2016

	CENTREPOINTE DR W/COBDEN RD									BASELINE 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	1	**1**	3	0	0	**3**	**4**	0	19	4	**23**	0	14	1	**15**	**38**	**42**
08:00 09:00	0	0	0	**0**	0	0	1	**1**	**1**	0	27	0	**27**	3	10	2	**15**	**42**	**43**
09:00 10:00	1	0	0	**1**	0	0	0	**0**	**1**	0	24	0	**24**	1	19	0	**20**	**44**	**45**
11:30 12:30	1	0	1	**2**	0	0	1	**1**	**3**	1	15	1	**17**	1	14	1	**16**	**33**	**36**
12:30 13:30	2	0	0	**2**	0	0	0	**0**	**2**	1	13	3	**18**	0	14	0	**14**	**32**	**34**
15:00 16:00	2	0	0	**2**	1	0	0	**1**	**3**	0	14	0	**14**	1	27	1	**29**	**43**	**46**
16:00 17:00	1	0	1	**2**	2	0	0	**2**	**4**	0	15	3	**18**	0	16	1	**17**	**35**	**39**
17:00 18:00	1	0	0	**1**	0	0	0	**0**	**1**	0	13	0	**13**	1	7	0	**8**	**21**	**22**
Sub Total	8	0	3	**11**	6	0	2	**8**	**19**	2	140	11	**154**	7	121	6	**134**	**288**	**307**
U-Turns (Heavy Vehicles)				**0**				**0**	**0**				**1**				**0**	**1**	**1**
Total	8	0	3	**0**	6	0	2	**8**	**19**	2	140	11	**155**	7	121	6	**134**	**289**	**308**

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 36067

Turning Movement Count - Pedestrian Volume Report

BASELINE RD @ CENTREPOINTE DR W/COBDEN RD

Count Date: Thursday, July 21, 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	4	**5**	0	6	**6**	**11**
07:15 07:30	1	3	**4**	0	1	**1**	**5**
07:30 07:45	4	1	**5**	0	4	**4**	**9**
07:45 08:00	4	1	**5**	0	8	**8**	**13**
07:00 08:00	10	9	**19**	0	19	**19**	**38**
08:00 08:15	2	3	**5**	0	10	**10**	**15**
08:15 08:30	1	1	**2**	0	5	**5**	**7**
08:30 08:45	1	2	**3**	0	6	**6**	**9**
08:45 09:00	2	1	**3**	0	4	**4**	**7**
08:00 09:00	6	7	**13**	0	25	**25**	**38**
09:00 09:15	4	2	**6**	0	1	**1**	**7**
09:15 09:30	0	0	**0**	0	6	**6**	**6**
09:30 09:45	4	2	**6**	0	5	**5**	**11**
09:45 10:00	3	1	**4**	0	0	**0**	**4**
09:00 10:00	11	5	**16**	0	12	**12**	**28**
11:30 11:45	2	1	**3**	1	2	**3**	**6**
11:45 12:00	1	1	**2**	0	2	**2**	**4**
12:00 12:15	0	2	**2**	0	4	**4**	**6**
12:15 12:30	1	2	**3**	0	1	**1**	**4**
11:30 12:30	4	6	**10**	1	9	**10**	**20**
12:30 12:45	1	2	**3**	0	2	**2**	**5**
12:45 13:00	0	1	**1**	0	2	**2**	**3**
13:00 13:15	3	0	**3**	3	0	**3**	**6**
13:15 13:30	3	0	**3**	0	0	**0**	**3**
12:30 13:30	7	3	**10**	3	4	**7**	**17**
15:00 15:15	1	0	**1**	0	1	**1**	**2**
15:15 15:30	3	4	**7**	0	1	**1**	**8**
15:30 15:45	3	6	**9**	0	3	**3**	**12**
15:45 16:00	0	1	**1**	0	5	**5**	**6**
15:00 16:00	7	11	**18**	0	10	**10**	**28**
16:00 16:15	0	2	**2**	0	5	**5**	**7**
16:15 16:30	2	5	**7**	0	3	**3**	**10**
16:30 16:45	0	3	**3**	0	4	**4**	**7**
16:45 17:00	0	0	**0**	0	1	**1**	**1**
16:00 17:00	2	10	**12**	0	13	**13**	**25**
17:00 17:15	2	2	**4**	0	7	**7**	**11**
17:15 17:30	1	2	**3**	0	4	**4**	**7**
17:30 17:45	2	0	**2**	0	5	**5**	**7**
17:45 18:00	3	1	**4**	0	2	**2**	**6**
17:00 18:00	8	5	**13**	0	18	**18**	**31**
Total	55	56	**111**	4	110	**114**	**225**

Comment:

Transportation Services - Traffic Services

Work Order 36067

Turning Movement Count - 15 Min U-Turn Total Report

BASELINE RD @ CENTREPOINTE DR W/COBDEN RD

Survey Date: Thursday, July 21, 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	1	1
07:45	08:00	0	0	0	1	1
08:00	08:15	0	0	0	1	1
08:15	08:30	0	0	1	0	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	2	2
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	1	1	2
11:45	12:00	0	0	0	1	1
12:00	12:15	0	0	0	0	0
12:15	12:30	0	0	4	1	5
12:30	12:45	0	0	1	0	1
12:45	13:00	0	0	2	1	3
13:00	13:15	0	0	3	0	3
13:15	13:30	0	0	2	1	3
15:00	15:15	0	0	3	2	5
15:15	15:30	0	0	1	1	2
15:30	15:45	0	0	3	5	8
15:45	16:00	0	0	3	1	4
16:00	16:15	0	0	0	0	0
16:15	16:30	0	0	2	1	3
16:30	16:45	0	0	0	1	1
16:45	17:00	0	0	3	0	3
17:00	17:15	0	0	1	1	2
17:15	17:30	0	0	0	2	2
17:30	17:45	0	0	1	3	4
17:45	18:00	0	0	4	2	6
Total		0	0	37	29	66

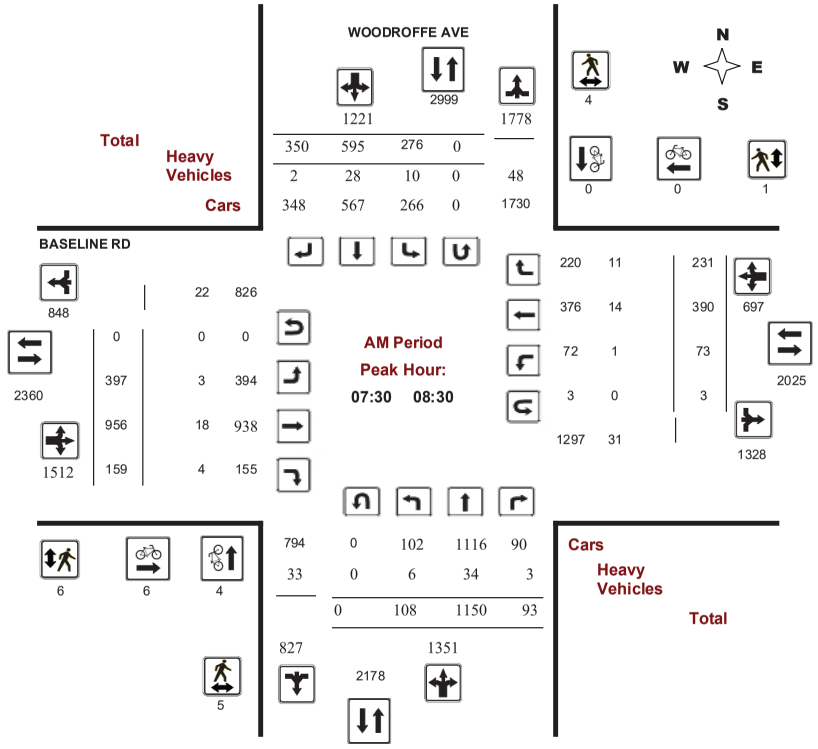
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

BASELINE RD @ WOODROFFE AVE

Survey Date: Wednesday, August 10, 2016 **WO No:** 36158

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



Comments

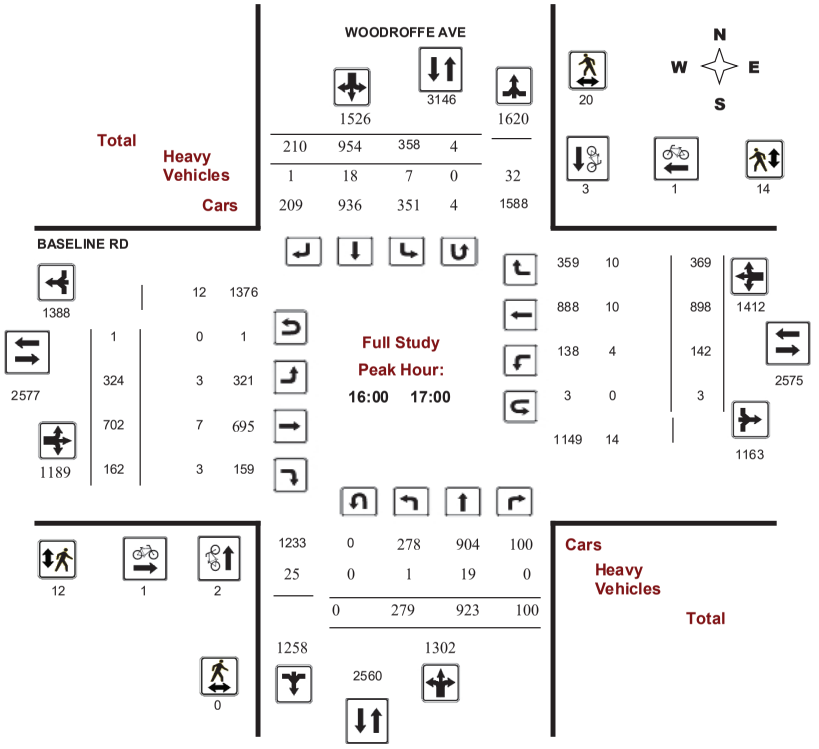
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

BASELINE RD @ WOODROFFE AVE

Survey Date: Wednesday, August 10, 2016 **WO No:** 36158

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



Comments

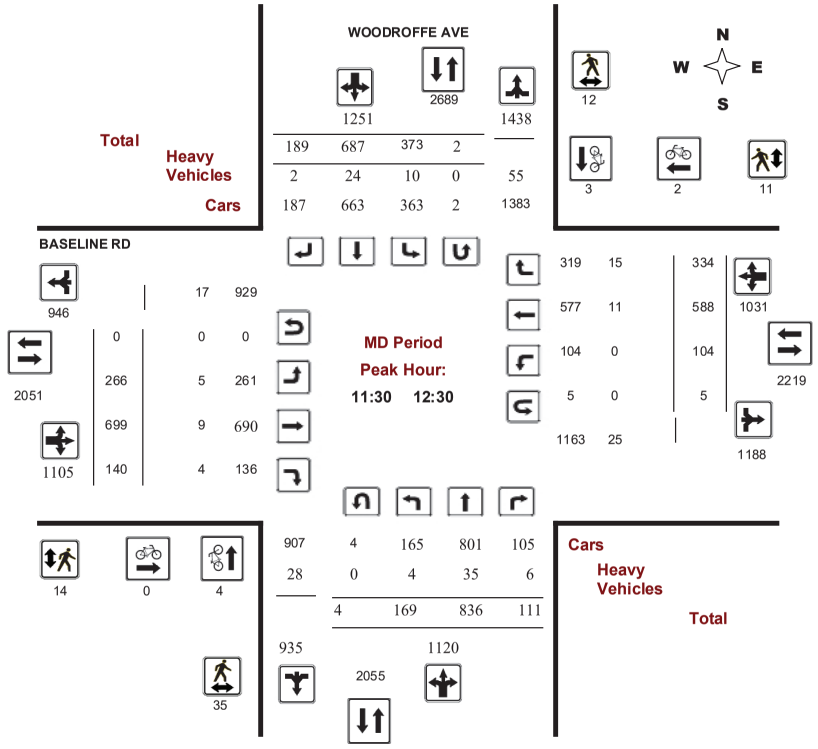
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

BASELINE RD @ WOODROFFE AVE

Survey Date: Wednesday, August 10, 2016 **WO No:** 36158

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



Comments

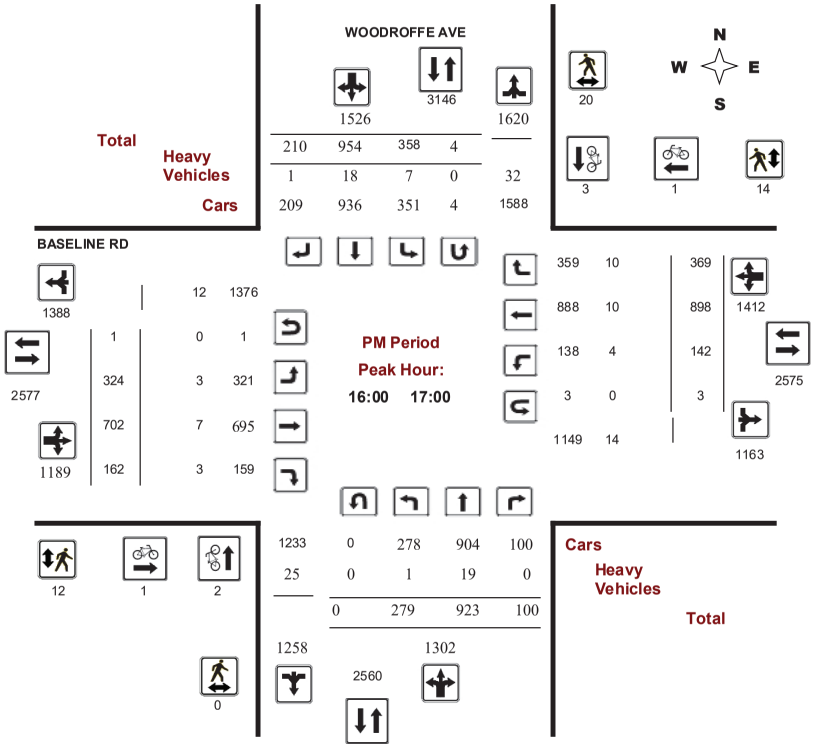
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

BASELINE RD @ WOODROFFE AVE

Survey Date: Wednesday, August 10, 2016 **WO No:** 36158

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



Comments

Transportation Services - Traffic Services

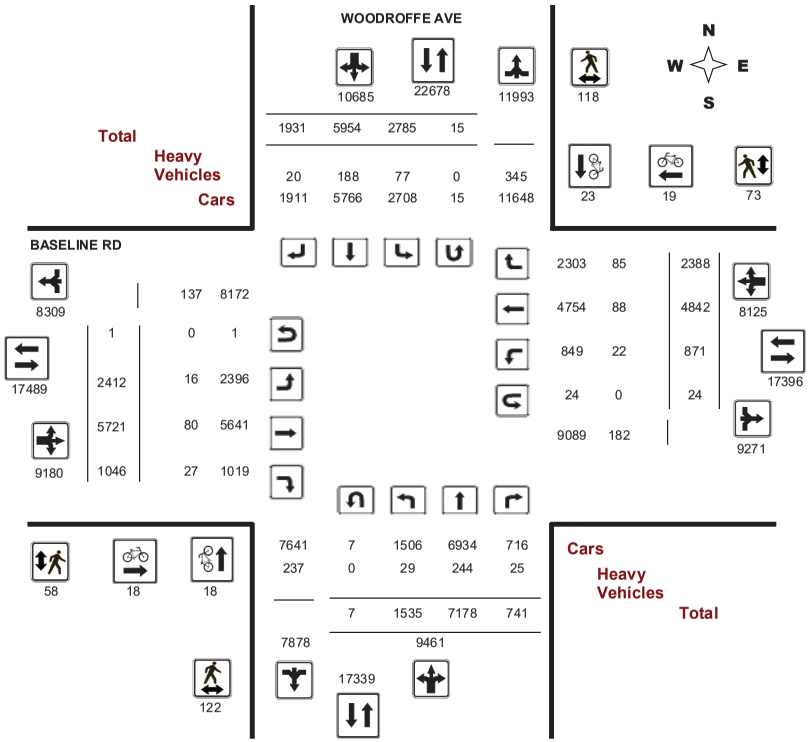
Turning Movement Count - Full Study Diagram

BASELINE RD @ WOODROFFE AVE

Survey Date: Wednesday, August 10, 2016

WO#: 36158

Device: Miovision



Comments

Transportation Services - Traffic Services

Work Order 36158

Turning Movement Count - Full Study Summary Report

BASELINE RD @ WOODROFFE AVE

Survey Date: Wednesday, August 10, 2016

Total Observed U-Turns

Northbound: 7 Southbound: 15

Eastbound: 1 Westbound: 24

AADT Factor .90

Full Study

	WOODROFFE AVE									BASELINE 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	76	1084	88	**1248**	270	536	328	**1134**	**2382**	336	841	124	**1301**	50	335	206	**591**	**1892**	**4274**
08:00 09:00	120	1093	89	**1302**	297	658	296	**1251**	**2553**	390	910	139	**1439**	88	411	274	**773**	**2212**	**4765**
09:00 10:00	130	814	67	**1011**	415	580	184	**1179**	**2190**	277	658	100	**1035**	81	432	226	**739**	**1774**	**3964**
11:30 12:30	169	836	111	**1116**	373	687	189	**1249**	**2365**	266	699	140	**1105**	104	588	334	**1026**	**2131**	**4496**
12:30 13:30	255	753	105	**1113**	371	685	235	**1291**	**2404**	201	643	150	**994**	121	573	316	**1010**	**2004**	**4408**
15:00 16:00	212	860	109	**1181**	337	856	206	**1399**	**2580**	401	649	116	**1166**	142	780	354	**1276**	**2442**	**5022**
16:00 17:00	279	923	100	**1302**	358	954	210	**1522**	**2824**	324	702	162	**1188**	142	898	369	**1409**	**2597**	**5421**
17:00 18:00	294	815	72	**1181**	364	998	283	**1645**	**2826**	217	619	115	**951**	143	825	309	**1277**	**2228**	**5054**
Sub Total	1535	7178	741	**9454**	2785	5954	1931	**10670**	**20124**	2412	5721	1046	**9179**	871	4842	2388	**8101**	**17280**	**37404**
U Turns				**7**				**15**	**22**				**1**				**24**	**25**	**47**
Total	1535	7178	741	**9461**	2785	5954	1931	**10685**	**20146**	2412	5721	1046	**9180**	871	4842	2388	**8125**	**17305**	**37451**
EQ 12Hr	2134	9977	1030	**13151**	3871	8276	2684	**14852**	**28003**	3353	7952	1454	**12760**	1211	6730	3319	**11294**	**24054**	**52057**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.																	**1.39**		
AVG 12Hr	1920	8980	927	**11836**	3484	7448	2416	**13367**	**25203**	3017	7157	1309	**11484**	1090	6057	2987	**10164**	**21648**	**46851**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.																	**.90**		
AVG 24Hr	2516	11763	1214	**15505**	4564	9757	3165	**17511**	**33016**	3953	9376	1714	**15044**	1427	7935	3913	**13315**	**28359**	**61375**
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. 36158

Turning Movement Count - 15 Minute Summary Report

BASELINE RD @ WOODROFFE AVE

Survey Date: Wednesday, August 10, 2016

Total Observed U-Turns

Northbound: 7 Southbound: 15

Eastbound: 1 Westbound: 24

		WOODROFFE AVE									BASELINE 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	16	256	13	**285**	66	103	68	**237**	**522**	65	137	18	**220**	8	51	48	**107**	**327**	**849**
07:15	07:30	10	276	21	**307**	66	132	64	**263**	**570**	75	203	23	**301**	13	83	56	**152**	**453**	**1023**
07:30	07:45	22	278	25	**325**	68	142	93	**303**	**628**	98	271	45	**414**	12	95	60	**168**	**582**	**1210**
07:45	08:00	28	274	29	**331**	70	159	103	**332**	**663**	98	230	38	**366**	17	106	42	**165**	**531**	**1194**
08:00	08:15	27	292	26	**345**	69	129	85	**283**	**628**	105	233	29	**367**	22	83	72	**179**	**546**	**1174**
08:15	08:30	31	306	13	**350**	69	165	69	**303**	**653**	96	222	47	**365**	22	106	57	**185**	**550**	**1203**
08:30	08:45	33	250	33	**316**	79	176	70	**325**	**641**	99	220	35	**354**	22	104	68	**196**	**550**	**1191**
08:45	09:00	29	245	17	**291**	80	188	72	**340**	**631**	90	235	28	**353**	22	118	77	**217**	**570**	**1201**
09:00	09:15	22	217	17	**256**	88	139	59	**287**	**543**	65	187	23	**275**	19	116	62	**197**	**472**	**1015**
09:15	09:30	29	170	16	**216**	72	130	38	**240**	**456**	76	149	24	**249**	23	115	52	**190**	**439**	**895**
09:30	09:45	36	215	21	**272**	139	164	46	**350**	**622**	79	163	28	**270**	19	111	59	**189**	**459**	**1081**
09:45	10:00	43	212	13	**269**	116	147	41	**306**	**575**	57	159	25	**241**	20	90	53	**163**	**404**	**979**
11:30	11:45	32	218	33	**283**	93	176	46	**315**	**598**	60	175	40	**275**	28	142	77	**248**	**523**	**1121**
11:45	12:00	48	187	24	**259**	106	160	38	**305**	**564**	66	164	32	**262**	29	156	78	**264**	**526**	**1090**
12:00	12:15	54	233	23	**312**	81	160	54	**295**	**607**	80	174	33	**287**	28	153	93	**276**	**563**	**1170**
12:15	12:30	35	198	31	**266**	93	191	51	**336**	**602**	60	186	35	**281**	19	137	86	**243**	**524**	**1126**
12:30	12:45	77	195	32	**304**	74	152	41	**267**	**571**	53	166	37	**256**	30	133	80	**247**	**503**	**1074**
12:45	13:00	57	203	33	**293**	105	135	69	**309**	**602**	33	168	45	**246**	33	147	77	**259**	**505**	**1107**
13:00	13:15	56	175	21	**252**	98	214	60	**373**	**625**	65	144	31	**240**	28	150	81	**259**	**499**	**1124**
13:15	13:30	65	180	19	**264**	94	184	65	**343**	**607**	50	165	37	**252**	30	143	78	**251**	**503**	**1110**
15:00	15:15	53	232	19	**304**	80	217	52	**349**	**653**	113	142	29	**284**	30	161	94	**286**	**570**	**1223**
15:15	15:30	52	193	33	**279**	99	235	49	**384**	**663**	77	145	32	**254**	31	209	80	**320**	**574**	**1237**
15:30	15:45	45	230	23	**298**	79	199	52	**330**	**628**	109	181	27	**317**	43	197	94	**335**	**652**	**1280**
15:45	16:00	62	205	34	**301**	79	205	53	**337**	**638**	102	181	28	**311**	38	213	86	**337**	**648**	**1286**
16:00	16:15	61	245	19	**325**	75	214	44	**336**	**661**	100	179	44	**324**	45	220	93	**358**	**682**	**1343**
16:15	16:30	76	223	25	**324**	101	244	47	**392**	**716**	71	180	37	**288**	28	216	106	**351**	**639**	**1355**
16:30	16:45	81	219	25	**325**	102	246	64	**412**	**737**	83	185	41	**309**	36	221	74	**332**	**641**	**1378**
16:45	17:00	61	236	31	**328**	80	250	55	**386**	**714**	70	158	40	**268**	33	241	96	**371**	**639**	**1353**
17:00	17:15	81	206	21	**308**	91	240	77	**409**	**717**	58	187	30	**275**	37	216	90	**343**	**618**	**1335**
17:15	17:30	68	189	17	**274**	95	270	57	**422**	**696**	63	159	29	**251**	44	224	79	**348**	**599**	**1295**
17:30	17:45	69	207	24	**300**	84	231	85	**400**	**700**	56	159	25	**240**	34	175	61	**270**	**510**	**1210**
17:45	18:00	76	213	10	**299**	94	257	64	**416**	**715**	40	114	31	**185**	28	210	79	**319**	**504**	**1219**
TOTAL:		1535	7178	741	**9461**	2785	5954	1931	**10685**	**20146**	2412	5721	1046	**9180**	871	4842	2388	**8125**	**17305**	**37451**

Note: U-Turns are included in Totals.

Comment:

Transportation Services - Traffic Services

Turning Movement Count - Cyclist Volume Report

Work Order 36158

BASELINE RD @ WOODROFFE AVE

Count Date: Wednesday, August 10, 2016 **Start Time:** 07:00

		WOODROFFE AVE			BASELINE RD			
Time Period		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	08:00	0	0	**0**	8	0	**8**	**8**
08:00	09:00	7	1	**8**	4	0	**4**	**12**
09:00	10:00	0	2	**2**	2	0	**2**	**4**
11:30	12:30	4	3	**7**	0	2	**2**	**9**
12:30	13:30	2	1	**3**	0	1	**1**	**4**
15:00	16:00	0	2	**2**	1	11	**12**	**14**
16:00	17:00	2	3	**5**	1	1	**2**	**7**
17:00	18:00	3	11	**14**	2	4	**6**	**20**
Total	.....	18	23	**41**	18	19	**37**	**78**

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. 36158

Turning Movement Count - Heavy Vehicle Report

BASELINE RD @ WOODROFFE AVE

Survey Date: Wednesday, August 10, 2016

		WOODROFFE AVE									BASELINE 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	5	23	2	**30**	3	23	1	**27**	**57**	2	16	5	**23**	2	10	8	**20**	**43**	**100**
08:00	09:00	2	38	3	**43**	16	33	5	**54**	**97**	3	10	1	**14**	5	12	14	**31**	**45**	**142**
09:00	10:00	4	42	6	**52**	19	31	6	**56**	**108**	1	20	5	**26**	0	15	6	**21**	**47**	**155**
11:30	12:30	4	35	6	**45**	10	24	2	**36**	**81**	5	9	4	**18**	0	11	15	**26**	**44**	**125**
12:30	13:30	8	39	4	**51**	14	24	1	**39**	**90**	1	8	4	**13**	6	11	17	**34**	**47**	**137**
15:00	16:00	3	29	4	**36**	5	23	3	**31**	**67**	0	5	1	**6**	2	11	11	**24**	**30**	**97**
16:00	17:00	1	19	0	**20**	7	18	1	**26**	**46**	3	7	3	**13**	4	10	10	**24**	**37**	**83**
17:00	18:00	2	19	0	**21**	3	12	1	**16**	**37**	1	5	4	**10**	3	8	4	**15**	**25**	**62**
Sub Total		29	244	25	**298**	77	188	20	**285**	**583**	16	80	27	**123**	22	88	85	**195**	**318**	**901**
U-Turns (Heavy Vehicles)					**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total		29	244	25	**0**	77	188	20	**285**	**583**	16	80	27	**123**	22	88	85	**195**	**318**	**901**

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 36158

Turning Movement Count - Pedestrian Volume Report

BASELINE RD @ WOODROFFE AVE

Count Date: Wednesday, August 10, 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	3	**4**	2	0	**2**	**6**
07:15	07:30	1	1	**2**	3	0	**3**	**5**
07:30	07:45	2	0	**2**	3	0	**3**	**5**
07:45	08:00	3	4	**7**	3	0	**3**	**10**
07:00	08:00	7	8	**15**	11	0	**11**	**26**
08:00	08:15	0	0	**0**	0	1	**1**	**1**
08:15	08:30	0	0	**0**	0	0	**0**	**0**
08:30	08:45	0	4	**4**	0	8	**8**	**12**
08:45	09:00	0	1	**1**	1	2	**3**	**4**
08:00	09:00	0	5	**5**	1	11	**12**	**17**
09:00	09:15	4	3	**7**	0	0	**0**	**7**
09:15	09:30	3	5	**8**	0	0	**0**	**8**
09:30	09:45	2	6	**8**	0	0	**0**	**8**
09:45	10:00	4	3	**7**	0	0	**0**	**7**
09:00	10:00	13	17	**30**	0	0	**0**	**30**
11:30	11:45	8	3	**11**	6	3	**9**	**20**
11:45	12:00	4	4	**8**	4	3	**7**	**15**
12:00	12:15	7	4	**11**	3	3	**6**	**17**
12:15	12:30	16	1	**17**	1	2	**3**	**20**
11:30	12:30	35	12	**47**	14	11	**25**	**72**
12:30	12:45	9	0	**9**	1	8	**9**	**18**
12:45	13:00	9	1	**10**	1	0	**1**	**11**
13:00	13:15	4	11	**15**	6	0	**6**	**21**
13:15	13:30	4	1	**5**	0	0	**0**	**5**
12:30	13:30	26	13	**39**	8	8	**16**	**55**
15:00	15:15	4	1	**5**	0	1	**1**	**6**
15:15	15:30	2	3	**5**	1	0	**1**	**6**
15:30	15:45	7	4	**11**	2	2	**4**	**15**
15:45	16:00	4	1	**5**	0	3	**3**	**8**
15:00	16:00	17	9	**26**	3	6	**9**	**35**
16:00	16:15	0	4	**4**	0	2	**2**	**6**
16:15	16:30	0	11	**11**	4	5	**9**	**20**
16:30	16:45	0	1	**1**	3	1	**4**	**5**
16:45	17:00	0	4	**4**	5	6	**11**	**15**
16:00	17:00	0	20	**20**	12	14	**26**	**46**
17:00	17:15	1	5	**6**	0	8	**8**	**14**
17:15	17:30	8	12	**20**	4	7	**11**	**31**
17:30	17:45	7	9	**16**	3	4	**7**	**23**
17:45	18:00	8	8	**16**	2	4	**6**	**22**
17:00	18:00	24	34	**58**	9	23	**32**	**90**
Total	.....	122	118	**240**	58	73	**131**	**371**

Comment:

Transportation Services - Traffic Services

Work Order 36158

Turning Movement Count - 15 Min U-Turn Total Report

BASELINE RD @ WOODROFFE AVE

Survey Date: Wednesday, August 10, 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	1	0	0	1
07:30	07:45	0	0	0	1	1
07:45	08:00	0	0	0	0	0
08:00	08:15	0	0	0	2	2
08:15	08:30	0	0	0	0	0
08:30	08:45	0	0	0	2	2
08:45	09:00	0	0	0	0	0
09:00	09:15	0	1	0	0	1
09:15	09:30	1	0	0	0	1
09:30	09:45	0	1	0	0	1
09:45	10:00	1	2	0	0	3
11:30	11:45	0	0	0	1	1
11:45	12:00	0	1	0	1	2
12:00	12:15	2	0	0	2	4
12:15	12:30	2	1	0	1	4
12:30	12:45	0	0	0	4	4
12:45	13:00	0	0	0	2	2
13:00	13:15	0	1	0	0	1
13:15	13:30	0	0	0	0	0
15:00	15:15	0	0	0	1	1
15:15	15:30	1	1	0	0	2
15:30	15:45	0	0	0	1	1
15:45	16:00	0	0	0	0	0
16:00	16:15	0	3	1	0	4
16:15	16:30	0	0	0	1	1
16:30	16:45	0	0	0	1	1
16:45	17:00	0	1	0	1	2
17:00	17:15	0	1	0	0	1
17:15	17:30	0	0	0	1	1
17:30	17:45	0	0	0	0	0
17:45	18:00	0	1	0	2	3
Total		7	15	1	24	47

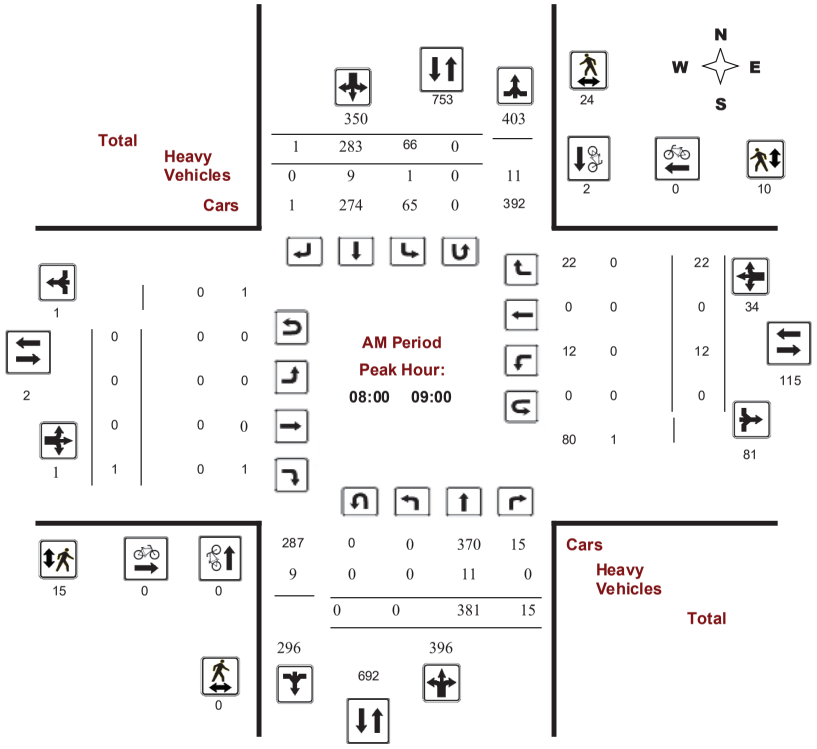
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

CENTREPOINTE DR @ 90 N OF EPSILON WAY

Survey Date: Tuesday, November 08, 2016 **WO No:** 36472

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



Comments

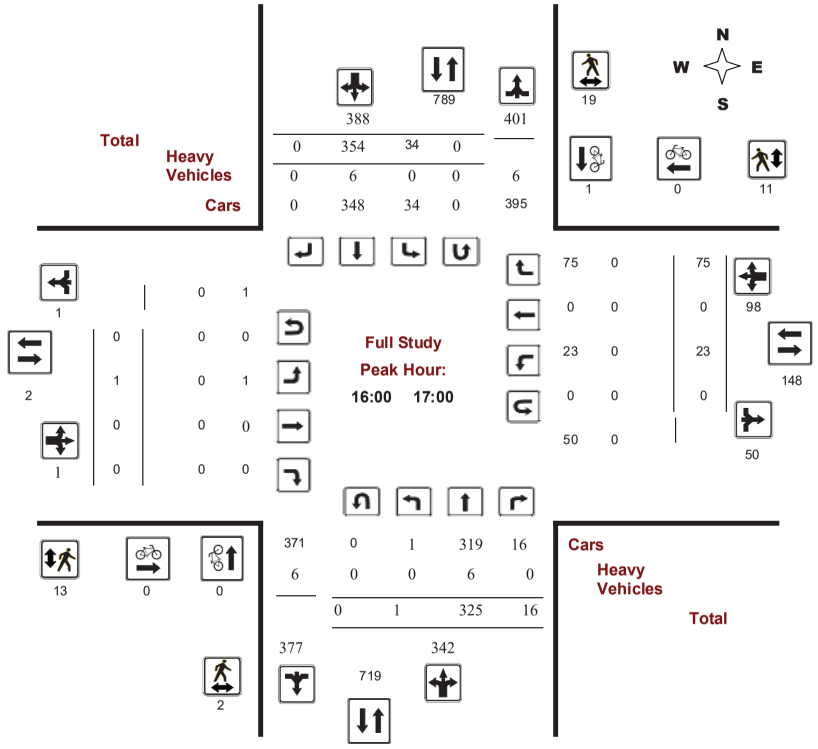
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

CENTREPOINTE DR @ 90 N OF EPSILON WAY

Survey Date: Tuesday, November 08, 2016 **WO No:** 36472

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



Comments

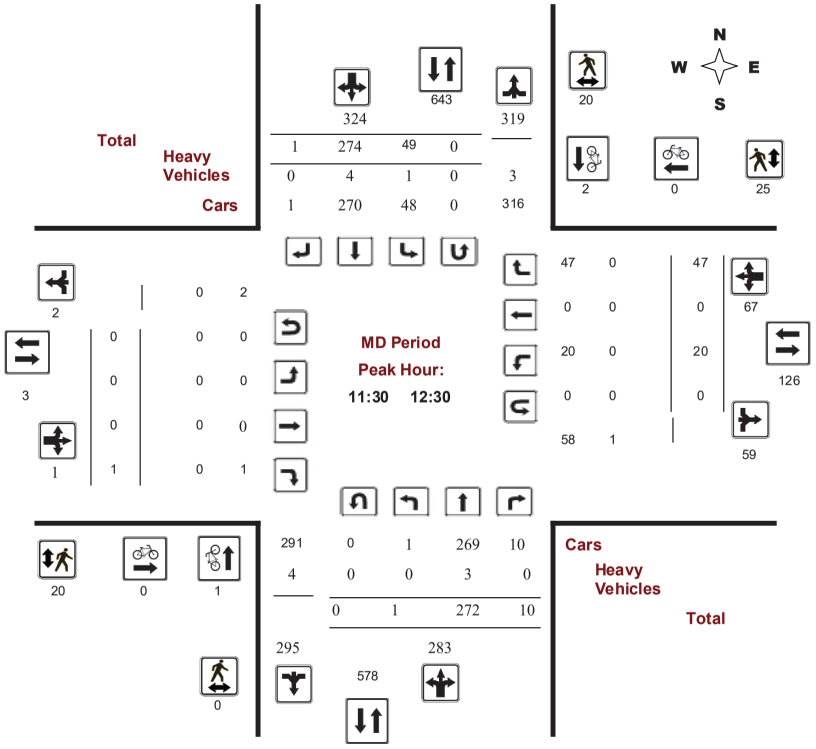
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

CENTREPOINTE DR @ 90 N OF EPSILON WAY

Survey Date: Tuesday, November 08, 2016 **WO No:** 36472

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



Comments

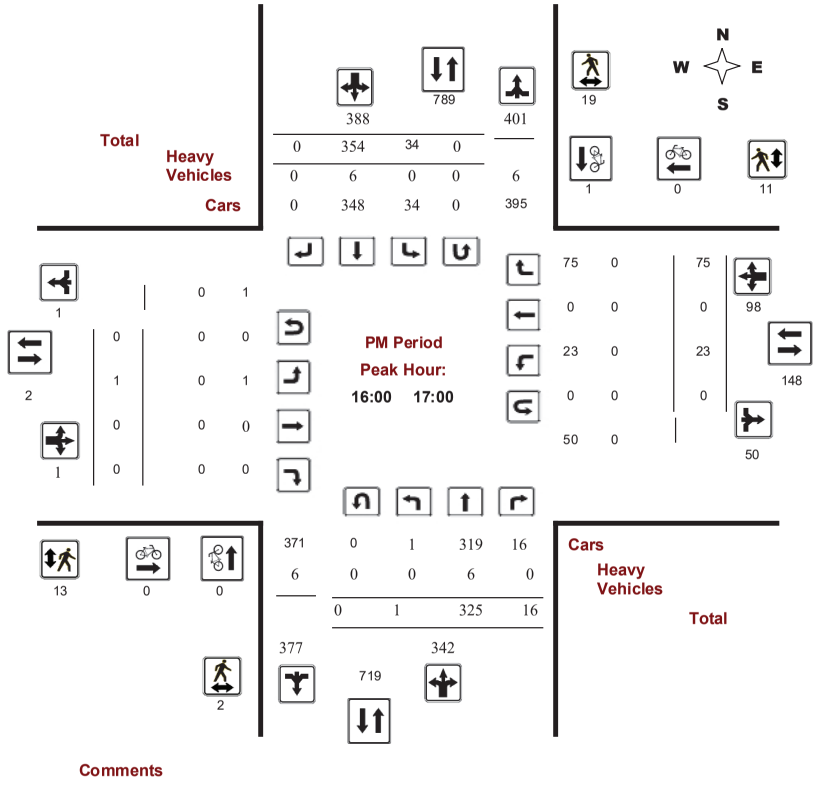
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

CENTREPOINTE DR @ 90 N OF EPSILON WAY

Survey Date: Tuesday, November 08, 2016 **WO No:** 36472

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



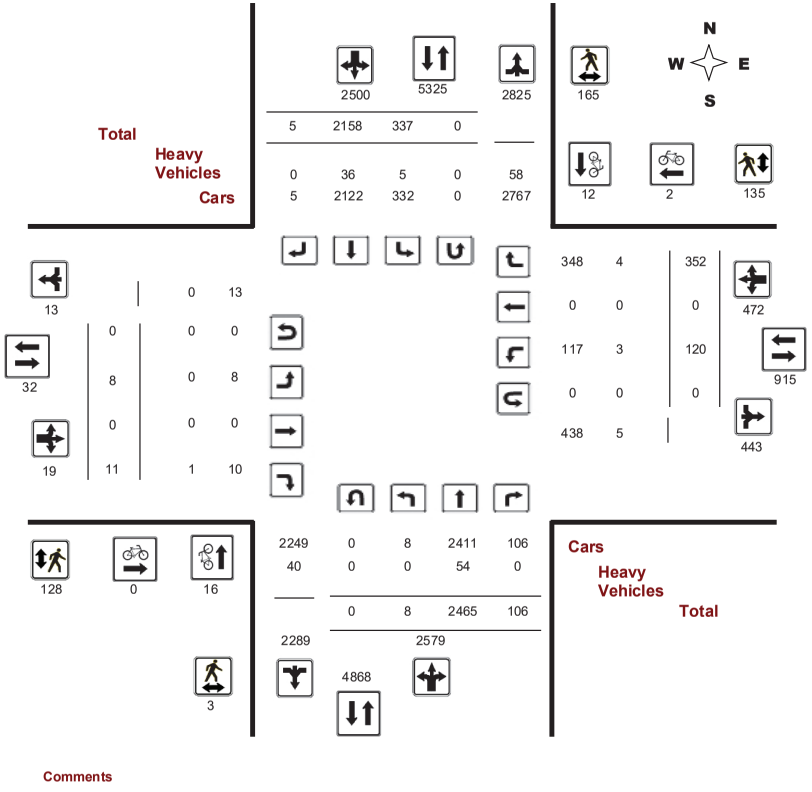
Transportation Services - Traffic Services

Turning Movement Count - Full Study Diagram

CENTREPOINTE DR @ 90 N OF EPSILON WAY

Survey Date: Tuesday, November 08, 2016 **WO#:** 36472

Device: Miovision



Transportation Services - Traffic Services

Work Order 36472

Turning Movement Count - Full Study Summary Report

CENTREPOINTE DR @ 90 N OF EPSILON WAY

Survey Date: Tuesday, November 08, 2016

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

AADT Factor 1.00

Full Study

Period	Northbound				Southbound					Eastbound				Westbound					Grand Total
	LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	
07:00 08:00	1	353	6	**360**	49	199	1	**249**	**609**	0	0	1	**1**	5	0	17	**22**	**23**	**632**
08:00 09:00	0	381	15	**396**	66	283	1	**350**	**746**	0	0	1	**1**	12	0	22	**34**	**35**	**781**
09:00 10:00	0	248	15	**263**	50	180	2	**232**	**495**	1	0	3	**4**	6	0	32	**38**	**42**	**537**
11:30 12:30	1	272	10	**283**	49	274	1	**324**	**607**	0	0	1	**1**	20	0	47	**67**	**68**	**675**
12:30 13:30	1	296	20	**317**	37	216	0	**253**	**570**	2	0	1	**3**	15	0	44	**59**	**62**	**632**
15:00 16:00	2	286	14	**302**	32	342	0	**374**	**676**	3	0	2	**5**	19	0	60	**79**	**84**	**760**
16:00 17:00	1	325	16	**342**	34	354	0	**388**	**730**	1	0	0	**1**	23	0	75	**98**	**99**	**829**
17:00 18:00	2	304	10	**316**	20	310	0	**330**	**646**	1	0	2	**3**	20	0	55	**75**	**78**	**724**
Sub Total	8	2465	106	**2579**	337	2158	5	**2500**	**5079**	8	0	11	**19**	120	0	352	**472**	**491**	**5570**
U Turns				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	8	2465	106	**2579**	337	2158	5	**2500**	**5079**	8	0	11	**19**	120	0	352	**472**	**491**	**5570**
EQ 12Hr	11	3426	147	**3585**	468	3000	7	**3475**	**7060**	11	0	15	**26**	167	0	489	**656**	**682**	**7742**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													**1.39**						
AVG 12Hr	11	3426	147	**3585**	468	3000	7	**3475**	**7060**	11	0	15	**26**	167	0	489	**656**	**682**	**7742**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													**1.00**						
AVG 24Hr	15	4489	193	**4696**	614	3930	9	**4552**	**9248**	15	0	20	**35**	219	0	641	**859**	**894**	**10142**
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. 36472

Turning Movement Count - 15 Minute Summary Report

CENTREPOINTE DR @ 90 N OF EPSILON WAY

Survey Date: Tuesday, November 08, 2016

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

Time Period	Northbound				Southbound					Eastbound				Westbound					Grand Total
	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	
07:00 07:15	0	64	0	**64**	11	38	0	**49**	**113**	0	0	0	**0**	1	0	5	**6**	**6**	**119**
07:15 07:30	0	78	2	**80**	10	37	1	**48**	**128**	0	0	0	**0**	1	0	2	**3**	**3**	**131**
07:30 07:45	1	97	2	**100**	16	58	0	**74**	**174**	0	0	1	**1**	2	0	4	**6**	**7**	**181**
07:45 08:00	0	114	2	**116**	12	66	0	**78**	**194**	0	0	0	**0**	1	0	6	**7**	**7**	**201**
08:00 08:15	0	95	3	**98**	17	77	0	**94**	**192**	0	0	0	**0**	0	0	4	**4**	**4**	**196**
08:15 08:30	0	97	0	**97**	17	65	0	**82**	**179**	0	0	0	**0**	3	0	4	**7**	**7**	**186**
08:30 08:45	0	85	4	**89**	15	75	1	**91**	**180**	0	0	1	**1**	5	0	4	**9**	**10**	**190**
08:45 09:00	0	104	8	**112**	17	66	0	**83**	**195**	0	0	0	**0**	4	0	10	**14**	**14**	**209**
09:00 09:15	0	66	4	**70**	17	45	0	**62**	**132**	0	0	0	**0**	2	0	9	**11**	**11**	**143**
09:15 09:30	0	66	2	**68**	11	37	0	**48**	**116**	0	0	2	**2**	2	0	7	**9**	**11**	**127**
09:30 09:45	0	66	5	**71**	10	45	1	**56**	**127**	0	0	0	**0**	1	0	9	**10**	**10**	**137**
09:45 10:00	0	50	4	**54**	12	53	1	**66**	**120**	1	0	1	**2**	1	0	7	**8**	**10**	**130**
11:30 11:45	0	62	2	**64**	11	97	0	**108**	**172**	0	0	0	**0**	7	0	15	**22**	**22**	**194**
11:45 12:00	0	70	3	**73**	12	61	0	**73**	**146**	0	0	0	**0**	2	0	12	**14**	**14**	**160**
12:00 12:15	0	66	3	**69**	13	62	0	**75**	**144**	0	0	1	**1**	7	0	11	**18**	**19**	**163**
12:15 12:30	1	74	2	**77**	13	54	1	**68**	**145**	0	0	0	**0**	4	0	9	**13**	**13**	**158**
12:30 12:45	0	69	4	**73**	10	75	0	**85**	**158**	0	0	0	**0**	4	0	8	**12**	**12**	**170**
12:45 13:00	0	94	3	**97**	10	45	0	**55**	**152**	0	0	0	**0**	6	0	10	**16**	**16**	**168**
13:00 13:15	1	65	8	**74**	11	67	0	**78**	**152**	2	0	1	**3**	3	0	18	**21**	**24**	**176**
13:15 13:30	0	68	5	**73**	6	29	0	**35**	**108**	0	0	0	**0**	2	0	8	**10**	**10**	**118**
15:00 15:15	0	69	4	**73**	10	79	0	**89**	**162**	1	0	1	**2**	4	0	17	**21**	**23**	**185**
15:15 15:30	0	72	6	**78**	6	81	0	**87**	**165**	0	0	0	**0**	4	0	13	**17**	**17**	**182**
15:30 15:45	1	77	2	**80**	5	99	0	**104**	**184**	1	0	0	**1**	4	0	12	**16**	**17**	**201**
15:45 16:00	1	68	2	**71**	11	83	0	**94**	**165**	1	0	1	**2**	7	0	18	**25**	**27**	**192**
16:00 16:15	0	70	5	**75**	9	107	0	**116**	**191**	0	0	0	**0**	8	0	14	**22**	**22**	**213**
16:15 16:30	1	85	4	**90**	9	71	0	**80**	**170**	1	0	0	**1**	4	0	22	**26**	**27**	**197**
16:30 16:45	0	87	2	**89**	8	93	0	**101**	**190**	0	0	0	**0**	2	0	24	**26**	**26**	**216**
16:45 17:00	0	83	5	**88**	8	83	0	**91**	**179**	0	0	0	**0**	9	0	15	**24**	**24**	**203**
17:00 17:15	1	77	3	**81**	2	90	0	**92**	**173**	0	0	1	**1**	4	0	20	**24**	**25**	**198**
17:15 17:30	1	81	2	**84**	6	93	0	**99**	**183**	0	0	0	**0**	5	0	16	**21**	**21**	**204**
17:30 17:45	0	70	2	**72**	9	65	0	**74**	**146**	0	0	0	**0**	5	0	7	**12**	**12**	**158**
17:45 18:00	0	76	3	**79**	3	62	0	**65**	**144**	1	0	1	**2**	6	0	12	**18**	**20**	**164**
TOTAL:	8	2465	106	**2579**	337	2158	5	**2500**	**5079**	8	0	11	**19**	120	0	352	**472**	**491**	**5570**

Note: U-Turns are included in Totals.

Comment:

Transportation Services - Traffic Services

Turning Movement Count - Cyclist Volume Report

Work Order 36472

CENTREPOINTE DR @ 90 N OF EPSILON WAY

Count Date: Tuesday, November 08, 2016 **Start Time:** 07:00

Time Period	Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00 08:00	8	2	**10**	0	0	**0**	**10**
08:00 09:00	0	2	**2**	0	0	**0**	**2**
09:00 10:00	0	2	**2**	0	0	**0**	**2**
11:30 12:30	1	2	**3**	0	0	**0**	**3**
12:30 13:30	4	0	**4**	0	0	**0**	**4**
15:00 16:00	2	2	**4**	0	2	**2**	**6**
16:00 17:00	0	1	**1**	0	0	**0**	**1**
17:00 18:00	1	1	**2**	0	0	**0**	**2**
Total	16	12	**28**	0	2	**2**	**30**

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. 36472

Turning Movement Count - Heavy Vehicle Report

CENTREPOINTE DR @ 90 N OF EPSILON WAY

Survey Date: Tuesday, November 08, 2016

	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	9	0	**9**	0	3	0	**3**	**12**	0	0	0	**0**	0	0	1	**1**	**1**	**13**
08:00 09:00	0	11	0	**11**	1	9	0	**10**	**21**	0	0	0	**0**	0	0	0	**0**	**0**	**21**
09:00 10:00	0	9	0	**9**	1	3	0	**4**	**13**	0	0	1	**1**	1	0	1	**2**	**3**	**16**
11:30 12:30	0	3	0	**3**	1	4	0	**5**	**8**	0	0	0	**0**	0	0	0	**0**	**0**	**8**
12:30 13:30	0	4	0	**4**	2	1	0	**3**	**7**	0	0	0	**0**	1	0	2	**3**	**3**	**10**
15:00 16:00	0	7	0	**7**	0	9	0	**9**	**16**	0	0	0	**0**	1	0	0	**1**	**1**	**17**
16:00 17:00	0	6	0	**6**	0	6	0	**6**	**12**	0	0	0	**0**	0	0	0	**0**	**0**	**12**
17:00 18:00	0	5	0	**5**	0	1	0	**1**	**6**	0	0	0	**0**	0	0	0	**0**	**0**	**6**
Sub Total	0	54	0	**54**	5	36	0	**41**	**95**	0	0	1	**1**	3	0	4	**7**	**8**	**103**
U-Turns (Heavy Vehicles)				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	0	54	0	**0**	5	36	0	**41**	**95**	0	0	1	**1**	3	0	4	**7**	**8**	**103**

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 36472

Turning Movement Count - Pedestrian Volume Report

CENTREPOINTE DR @ 90 N OF EPSILON WAY

Count Date: Tuesday, November 08, 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	2	2	4	5
07:15 07:30	0	7	7	7	2	9	16
07:30 07:45	0	3	3	3	4	7	10
07:45 08:00	0	3	3	3	3	6	9
07:00 08:00	0	14	14	15	11	26	40
08:00 08:15	0	3	3	2	1	3	6
08:15 08:30	0	9	9	6	5	11	20
08:30 08:45	0	5	5	3	3	6	11
08:45 09:00	0	7	7	4	1	5	12
08:00 09:00	0	24	24	15	10	25	49
09:00 09:15	0	3	3	1	2	3	6
09:15 09:30	0	2	2	1	2	3	5
09:30 09:45	0	1	1	1	5	6	7
09:45 10:00	1	3	4	1	1	2	6
09:00 10:00	1	9	10	4	10	14	24
11:30 11:45	0	7	7	9	4	13	20
11:45 12:00	0	5	5	1	4	5	10
12:00 12:15	0	5	5	6	9	15	20
12:15 12:30	0	3	3	4	8	12	15
11:30 12:30	0	20	20	20	25	45	65
12:30 12:45	0	1	1	2	16	18	19
12:45 13:00	0	8	8	12	4	16	24
13:00 13:15	0	17	17	13	6	19	36
13:15 13:30	0	6	6	7	4	11	17
12:30 13:30	0	32	32	34	30	64	96
15:00 15:15	0	5	5	4	3	7	12
15:15 15:30	0	9	9	5	4	9	18
15:30 15:45	0	4	4	7	5	12	16
15:45 16:00	0	6	6	7	10	17	23
15:00 16:00	0	24	24	23	22	45	69
16:00 16:15	1	5	6	2	3	5	11
16:15 16:30	1	8	9	5	3	8	17
16:30 16:45	0	2	2	2	1	3	5
16:45 17:00	0	4	4	4	4	8	12
16:00 17:00	2	19	21	13	11	24	45
17:00 17:15	0	9	9	1	5	6	15
17:15 17:30	0	6	6	2	4	6	12
17:30 17:45	0	6	6	1	3	4	10
17:45 18:00	0	2	2	0	4	4	6
17:00 18:00	0	23	23	4	16	20	43
Total	3	165	168	128	135	263	431

Comment:

Transportation Services - Traffic Services

Work Order 36472

Turning Movement Count - 15 Min U-Turn Total Report

CENTREPOINTE DR @ 90 N OF EPSILON WAY

Survey Date: Tuesday, November 08, 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	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

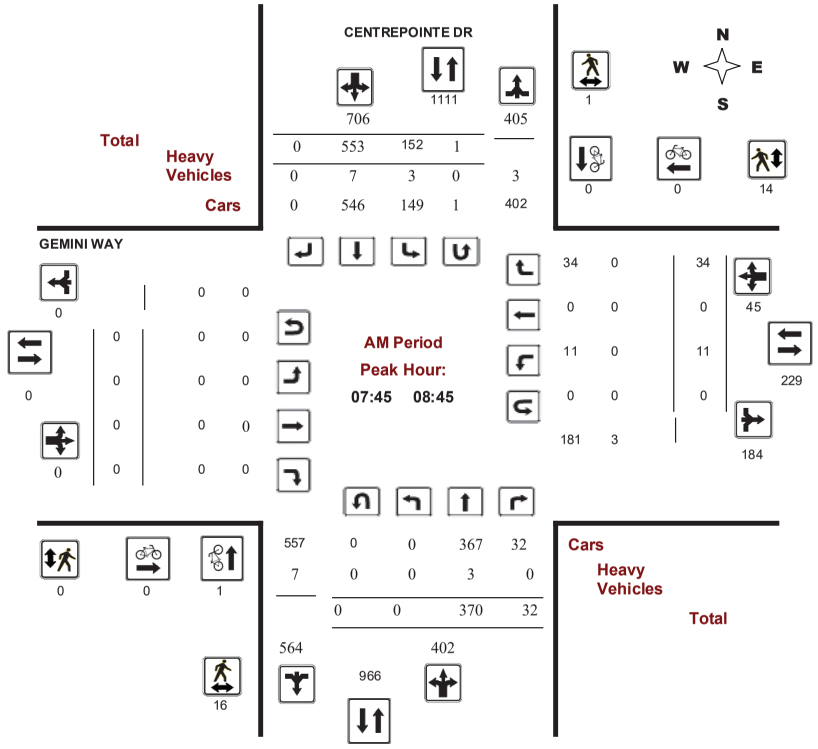
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

CENTREPOINTE DR @ GEMINI WAY

Survey Date: Tuesday, April 10, 2018 **WO No:** 37711

Start Time: 06:00 **Device:** Miovision



Comments

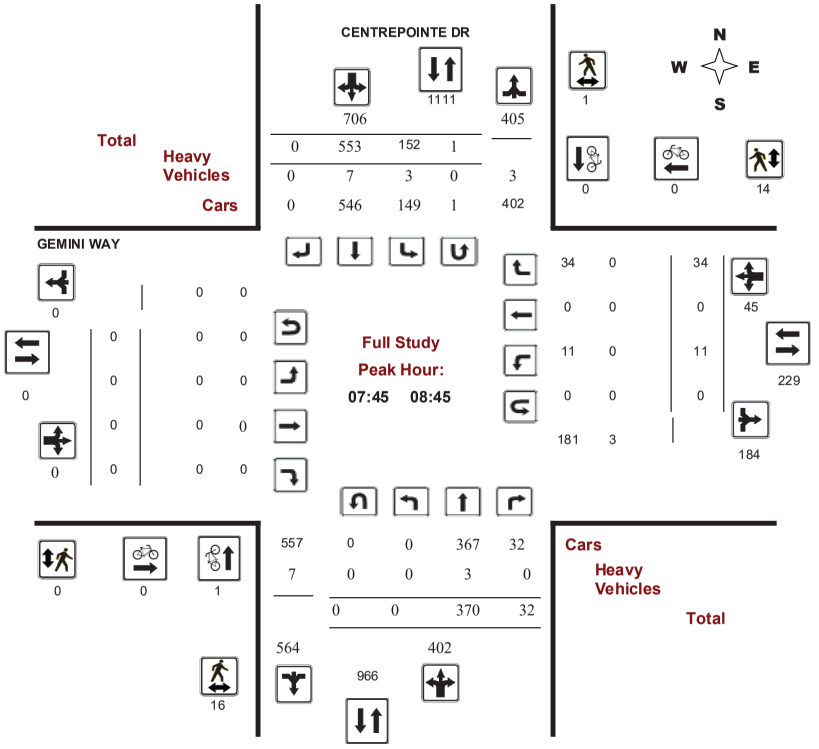
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

CENTREPOINTE DR @ GEMINI WAY

Survey Date: Tuesday, April 10, 2018 **WO No:** 37711

Start Time: 06:00 **Device:** Miovision



Comments

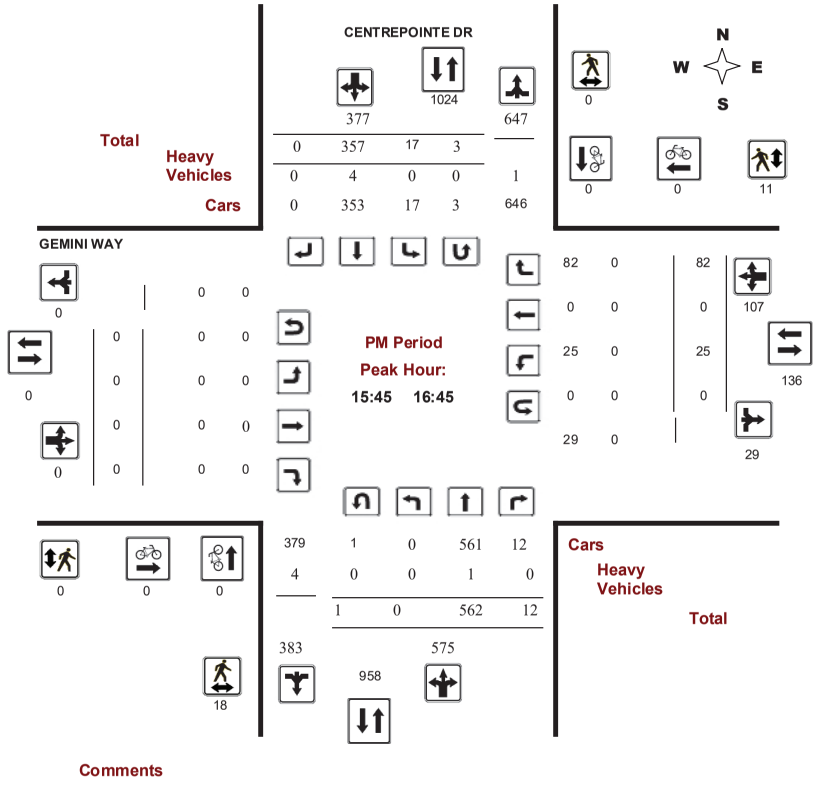
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

CENTREPOINTE DR @ GEMINI WAY

Survey Date: Tuesday, April 10, 2018 **WO No:** 37711

Start Time: 06:00 **Device:** Miovision



Comments

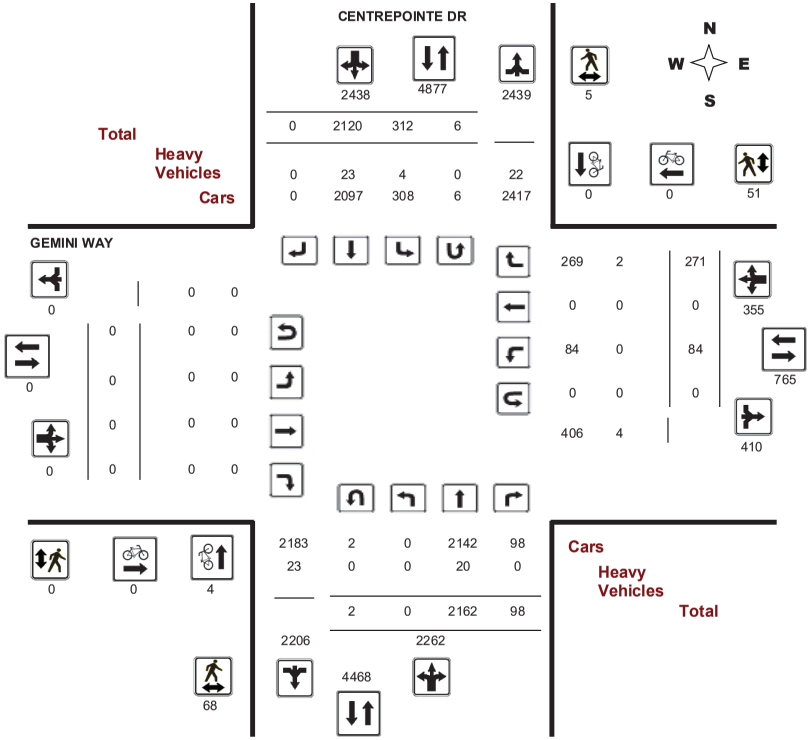
Transportation Services - Traffic Services

Turning Movement Count - Full Study Diagram

CENTREPOINTE DR @ GEMINI WAY

Survey Date: Tuesday, April 10, 2018 **WO#:** 37711

Device: Miovision



Comments

Transportation Services - Traffic Services

Work Order 37711

Turning Movement Count - Full Study Summary (No AADT) Report

CENTREPOINTE DR @ GEMINI WAY

Survey Date: Tuesday, April 10, 2018

Total Observed U-Turns

Northbound: 2 Southbound: 6

Eastbound: 0 Westbound: 0

Full Study

	CENTREPOINTE DR									GEMINI WAY									
	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
06:00 07:00	0	104	3	**107**	20	158	0	**178**	**285**	0	0	0	**0**	3	0	1	**4**	**4**	**289**
07:00 08:00	0	275	25	**300**	110	437	0	**547**	**847**	0	0	0	**0**	7	0	6	**13**	**13**	**860**
08:00 09:00	0	377	34	**411**	126	524	0	**650**	**1061**	0	0	0	**0**	11	0	46	**57**	**57**	**1118**
15:00 16:00	0	474	24	**498**	38	340	0	**378**	**876**	0	0	0	**0**	22	0	106	**128**	**128**	**1004**
16:00 17:00	0	564	10	**574**	13	350	0	**363**	**937**	0	0	0	**0**	27	0	74	**101**	**101**	**1038**
17:00 18:00	0	368	2	**370**	5	311	0	**316**	**686**	0	0	0	**0**	14	0	38	**52**	**52**	**738**
Sub Total	0	2162	98	**2260**	312	2120	0	**2432**	**4692**	0	0	0	**0**	84	0	271	**355**	**355**	**5047**
U Turns				**2**				**6**	**8**				**0**				**0**	**0**	**8**
Total	0	2162	98	**2262**	312	2120	0	**2438**	**4700**	0	0	0	**0**	84	0	271	**355**	**355**	**5055**

Comments:

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

Transportation Services - Traffic Services

W.O. 37711

Turning Movement Count - 15 Minute Summary Report

CENTREPOINTE DR @ GEMINI WAY

Survey Date: Tuesday, April 10, 2018

Total Observed U-Turns

Northbound: 2 Southbound: 6

Eastbound: 0 Westbound: 0

	CENTREPOINTE DR									GEMINI WAY									
	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
06:00 06:15	0	12	0	**12**	1	16	0	**17**	**29**	0	0	0	**0**	2	0	0	**2**	**2**	**31**
06:15 06:30	0	29	2	**31**	3	34	0	**37**	**68**	0	0	0	**0**	0	0	0	**0**	**0**	**68**
06:30 06:45	0	28	0	**28**	5	40	0	**45**	**73**	0	0	0	**0**	0	0	0	**0**	**0**	**73**
06:45 07:00	0	35	1	**36**	11	68	0	**80**	**116**	0	0	0	**0**	1	0	1	**2**	**2**	**118**
07:00 07:15	0	59	3	**62**	7	78	0	**85**	**147**	0	0	0	**0**	0	0	0	**0**	**0**	**147**
07:15 07:30	0	57	6	**63**	15	96	0	**111**	**174**	0	0	0	**0**	1	0	0	**1**	**1**	**175**
07:30 07:45	0	73	7	**80**	43	115	0	**158**	**238**	0	0	0	**0**	1	0	1	**2**	**2**	**240**
07:45 08:00	0	86	9	**95**	45	148	0	**193**	**288**	0	0	0	**0**	5	0	5	**10**	**10**	**298**
08:00 08:15	0	85	4	**89**	30	136	0	**166**	**255**	0	0	0	**0**	2	0	5	**7**	**7**	**262**
08:15 08:30	0	87	6	**93**	43	145	0	**189**	**282**	0	0	0	**0**	1	0	10	**11**	**11**	**293**
08:30 08:45	0	112	13	**125**	34	124	0	**158**	**283**	0	0	0	**0**	3	0	14	**17**	**17**	**300**
08:45 09:00	0	93	11	**104**	19	119	0	**139**	**243**	0	0	0	**0**	5	0	17	**22**	**22**	**265**
15:00 15:15	0	114	4	**118**	15	83	0	**98**	**216**	0	0	0	**0**	9	0	34	**43**	**43**	**259**
15:15 15:30	0	111	12	**123**	7	82	0	**89**	**212**	0	0	0	**0**	5	0	26	**31**	**31**	**243**
15:30 15:45	0	119	3	**122**	7	87	0	**94**	**216**	0	0	0	**0**	5	0	22	**27**	**27**	**243**
15:45 16:00	0	130	5	**135**	9	88	0	**98**	**233**	0	0	0	**0**	3	0	24	**27**	**27**	**260**
16:00 16:15	0	135	5	**140**	6	80	0	**87**	**227**	0	0	0	**0**	8	0	26	**34**	**34**	**261**
16:15 16:30	0	127	2	**129**	1	81	0	**83**	**212**	0	0	0	**0**	9	0	22	**31**	**31**	**243**
16:30 16:45	0	170	0	**171**	1	108	0	**109**	**280**	0	0	0	**0**	5	0	10	**15**	**15**	**295**
16:45 17:00	0	132	3	**136**	5	81	0	**86**	**222**	0	0	0	**0**	5	0	16	**21**	**21**	**243**
17:00 17:15	0	118	1	**119**	2	71	0	**73**	**192**	0	0	0	**0**	5	0	17	**22**	**22**	**214**
17:15 17:30	0	92	1	**93**	0	88	0	**88**	**181**	0	0	0	**0**	5	0	6	**11**	**11**	**192**
17:30 17:45	0	78	0	**78**	1	87	0	**88**	**166**	0	0	0	**0**	2	0	12	**14**	**14**	**180**
17:45 18:00	0	80	0	**80**	2	65	0	**67**	**147**	0	0	0	**0**	2	0	3	**5**	**5**	**152**
TOTAL:	0	2162	98	**2262**	312	2120	0	**2438**	**4700**	0	0	0	**0**	84	0	271	**355**	**355**	**5055**

Note: U-Turns are included in Totals.

Comment:

Transportation Services - Traffic Services

Turning Movement Count - Cyclist Volume Report

Work Order 37711

CENTREPOINTE DR @ GEMINI WAY

Count Date: Tuesday, April 10, 2018 **Start Time:** 06:00

Time Period	CENTREPOINTE DR Northbound	CENTREPOINTE DR Southbound	CENTREPOINTE DR Street Total	GEMINI WAY Eastbound	GEMINI WAY Westbound	GEMINI WAY Street Total	Grand Total
06:00 07:00	0	0	**0**	0	0	**0**	**0**
07:00 08:00	0	0	**0**	0	0	**0**	**0**
08:00 09:00	1	0	**1**	0	0	**0**	**1**
15:00 16:00	1	0	**1**	0	0	**0**	**1**
16:00 17:00	0	0	**0**	0	0	**0**	**0**
17:00 18:00	2	0	**2**	0	0	**0**	**2**
Total	4	0	**4**	0	0	**0**	**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. 37711

Turning Movement Count - Heavy Vehicle Report

CENTREPOINTE DR @ GEMINI WAY

Survey Date: Tuesday, April 10, 2018

Time Period	CENTREPOINTE DR Northbound LT	ST	RT	N TOT	Southbound LT	ST	RT	S TOT	STR TOT	GEMINI WAY Eastbound LT	ST	RT	E TOT	Westbound LT	ST	RT	W TOT	STR TOT	Grand Total
06:00 07:00	0	2	0	**2**	0	2	0	**2**	**4**	0	0	0	**0**	0	0	0	**0**	**0**	**4**
07:00 08:00	0	5	0	**5**	0	7	0	**7**	**12**	0	0	0	**0**	0	0	0	**0**	**0**	**12**
08:00 09:00	0	6	0	**6**	3	5	0	**8**	**14**	0	0	0	**0**	0	0	1	**1**	**1**	**15**
15:00 16:00	0	4	0	**4**	1	7	0	**8**	**12**	0	0	0	**0**	0	0	1	**1**	**1**	**13**
16:00 17:00	0	2	0	**2**	0	1	0	**1**	**3**	0	0	0	**0**	0	0	0	**0**	**0**	**3**
17:00 18:00	0	1	0	**1**	0	1	0	**1**	**2**	0	0	0	**0**	0	0	0	**0**	**0**	**2**
Sub Total	0	20	0	**20**	4	23	0	**27**	**47**	0	0	0	**0**	0	0	2	**2**	**2**	**49**
U-Turns (Heavy Vehicles)				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	0	20	0	**0**	4	23	0	**27**	**47**	0	0	0	**0**	0	0	2	**2**	**2**	**49**

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 37711

Turning Movement Count - Pedestrian Volume Report

CENTREPOINTE DR @ GEMINI WAY

Count Date: Tuesday, April 10, 2018 **Start Time:** 06:00

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
06:00 06:15	1	0	1	0	0	0	1
06:15 06:30	0	0	0	0	0	0	0
06:30 06:45	1	0	1	0	2	2	3
06:45 07:00	0	0	0	0	1	1	1
06:00 07:00	2	0	2	0	3	3	5
07:00 07:15	0	0	0	0	0	0	0
07:15 07:30	3	0	3	0	6	6	9
07:30 07:45	8	0	8	0	2	2	10
07:45 08:00	5	1	6	0	0	0	6
07:00 08:00	16	1	17	0	8	8	25
08:00 08:15	3	0	3	0	4	4	7
08:15 08:30	5	0	5	0	3	3	8
08:30 08:45	3	0	3	0	7	7	10
08:45 09:00	4	1	5	0	2	2	7
08:00 09:00	15	1	16	0	16	16	32
15:00 15:15	3	1	4	0	0	0	4
15:15 15:30	4	1	5	0	3	3	8
15:30 15:45	2	0	2	0	3	3	5
15:45 16:00	5	0	5	0	4	4	9
15:00 16:00	14	2	16	0	10	10	26
16:00 16:15	4	0	4	0	3	3	7
16:15 16:30	6	0	6	0	4	4	10
16:30 16:45	3	0	3	0	0	0	3
16:45 17:00	1	0	1	0	2	2	3
16:00 17:00	14	0	14	0	9	9	23
17:00 17:15	2	1	3	0	0	0	3
17:15 17:30	3	0	3	0	1	1	4
17:30 17:45	1	0	1	0	4	4	5
17:45 18:00	1	0	1	0	0	0	1
17:00 18:00	7	1	8	0	5	5	13
Total	68	5	73	0	51	51	124

Comment:

Transportation Services - Traffic Services

Work Order 37711

Turning Movement Count - 15 Min U-Turn Total Report

CENTREPOINTE DR @ GEMINI WAY

Survey Date: Tuesday, April 10, 2018

Time Period		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
06:00	06:15	0	0	0	0	0
06:15	06:30	0	0	0	0	0
06:30	06:45	0	0	0	0	0
06:45	07:00	0	1	0	0	1
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	1	0	0	1
08:30	08:45	0	0	0	0	0
08:45	09:00	0	1	0	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	1	0	0	1
16:00	16:15	0	1	0	0	1
16:15	16:30	0	1	0	0	1
16:30	16:45	1	0	0	0	1
16:45	17:00	1	0	0	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		2	6	0	0	8

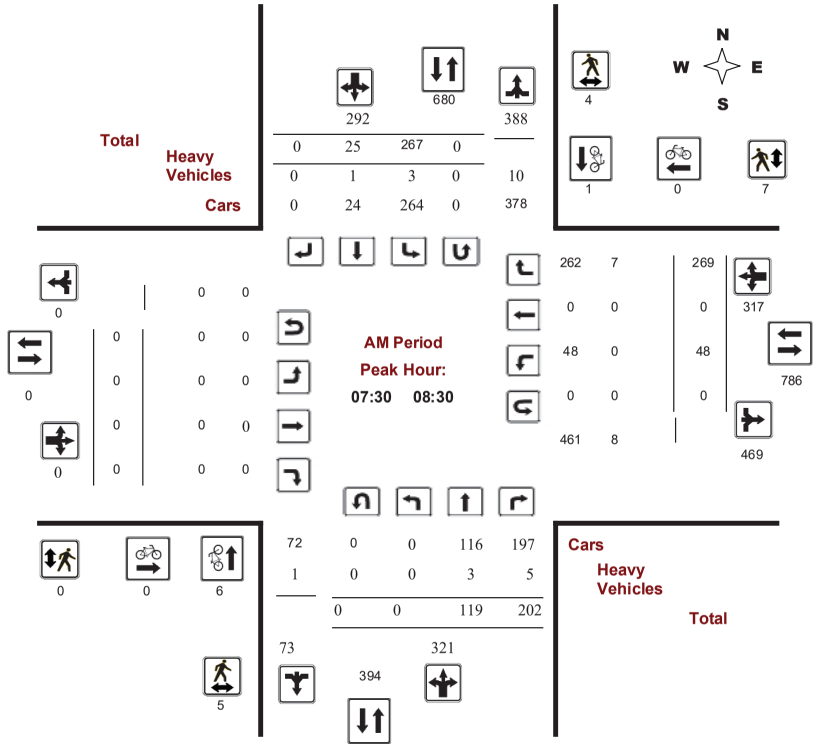
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

CENTREPOINTE DR @ TALLWOOD DR

Survey Date: Tuesday, November 08, 2016 **WO No:** 36467

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



Comments

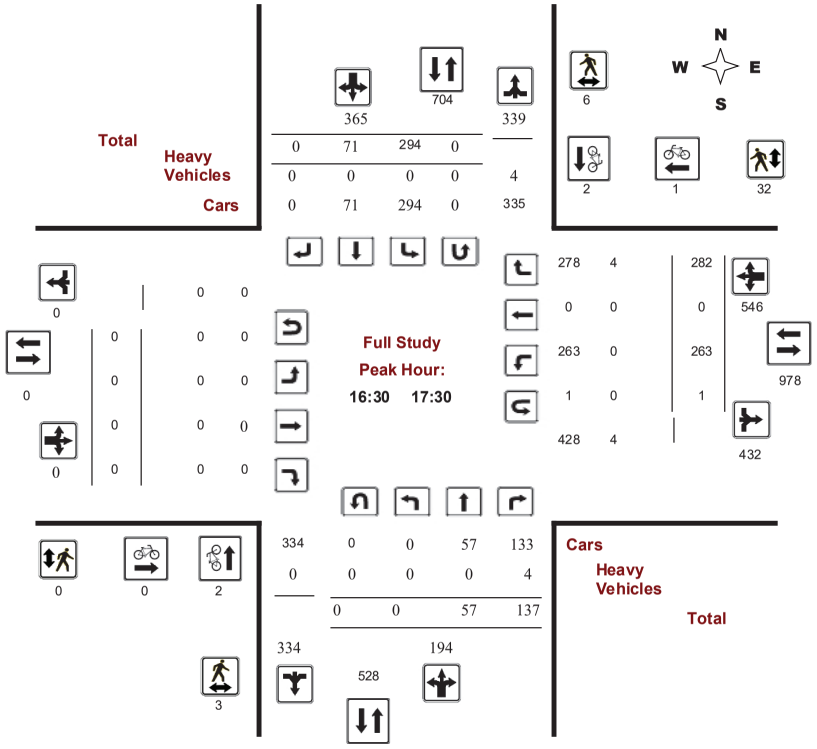
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

CENTREPOINTE DR @ TALLWOOD DR

Survey Date: Tuesday, November 08, 2016 **WO No:** 36467

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



Comments

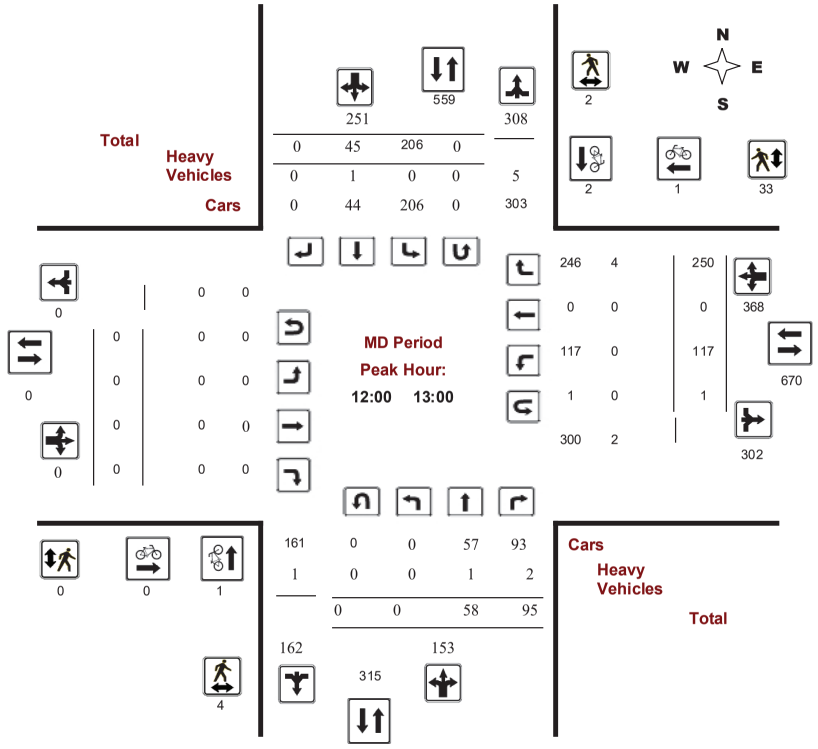
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

CENTREPOINTE DR @ TALLWOOD DR

Survey Date: Tuesday, November 08, 2016 **WO No:** 36467

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



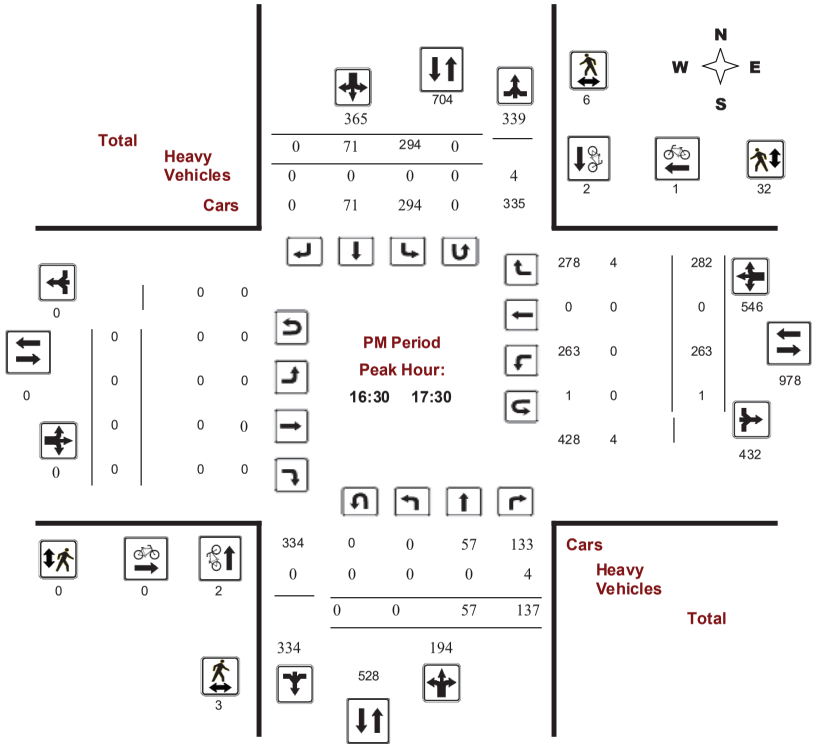
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

CENTREPOINTE DR @ TALLWOOD DR

Survey Date: Tuesday, November 08, 2016 **WO No:** 36467

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



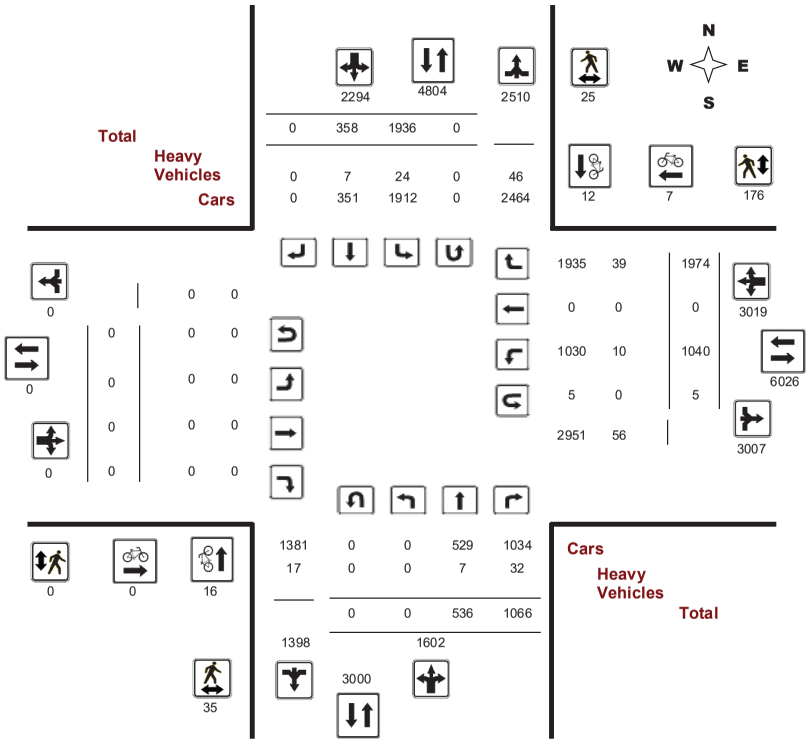
Transportation Services - Traffic Services

Turning Movement Count - Full Study Diagram

CENTREPOINTE DR @ TALLWOOD DR

Survey Date: Tuesday, November 08, 2016 **WO#:** 36467

Device: Miovision



Comments

Transportation Services - Traffic Services

Work Order 36467

Turning Movement Count - Full Study Summary Report

CENTREPOINTE DR @ TALLWOOD DR

Survey Date: Tuesday, November 08, 2016

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 0 Westbound: 5

AADT Factor 1.00

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	100	174	**274**	214	18	0	**232**	**506**	0	0	0	**0**	38	0	253	**291**	**291**	**797**
08:00 09:00	0	115	185	**300**	245	36	0	**281**	**581**	0	0	0	**0**	63	0	258	**321**	**321**	**902**
09:00 10:00	0	56	133	**189**	175	26	0	**201**	**390**	0	0	0	**0**	71	0	197	**268**	**268**	**658**
11:30 12:30	0	47	95	**142**	238	43	0	**281**	**423**	0	0	0	**0**	124	0	220	**344**	**344**	**767**
12:30 13:30	0	58	101	**159**	200	38	0	**238**	**397**	0	0	0	**0**	112	0	259	**371**	**371**	**768**
15:00 16:00	0	56	111	**167**	299	61	0	**360**	**527**	0	0	0	**0**	168	0	247	**415**	**415**	**942**
16:00 17:00	0	52	124	**176**	313	74	0	**387**	**563**	0	0	0	**0**	222	0	297	**519**	**519**	**1082**
17:00 18:00	0	52	143	**195**	252	62	0	**314**	**509**	0	0	0	**0**	242	0	243	**485**	**485**	**994**
Sub Total	0	536	1066	**1602**	1936	358	0	**2294**	**3896**	0	0	0	**0**	1040	0	1974	**3014**	**3014**	**6910**
U Turns				**0**				**0**	**0**				**0**				**5**	**5**	**5**
Total	0	536	1066	**1602**	1936	358	0	**2294**	**3896**	0	0	0	**0**	1040	0	1974	**3019**	**3019**	**6915**
EQ 12Hr	0	745	1482	**2227**	2691	498	0	**3189**	**5416**	0	0	0	**0**	1446	0	2744	**4196**	**4196**	**9612**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													**1.39**						
AVG 12Hr	0	745	1482	**2227**	2691	498	0	**3189**	**5416**	0	0	0	**0**	1446	0	2744	**4196**	**4196**	**9612**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													**1.00**						
AVG 24Hr	0	976	1941	**2917**	3525	652	0	**4177**	**7094**	0	0	0	**0**	1894	0	3594	**5497**	**5497**	**12591**
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. 36467

Turning Movement Count - 15 Minute Summary Report

CENTREPOINTE DR @ TALLWOOD DR

Survey Date: Tuesday, November 08, 2016

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 0 Westbound: 5

		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	19	27	**46**	43	2	0	**45**	**91**	0	0	0	**0**	5	0	48	**54**	**54**	**145**
07:15	07:30	0	19	39	**58**	37	6	0	**43**	**101**	0	0	0	**0**	14	0	62	**76**	**76**	**177**
07:30	07:45	0	30	52	**82**	59	8	0	**67**	**149**	0	0	0	**0**	7	0	80	**87**	**87**	**236**
07:45	08:00	0	32	56	**88**	75	2	0	**77**	**165**	0	0	0	**0**	12	0	63	**75**	**75**	**240**
08:00	08:15	0	27	55	**82**	61	8	0	**69**	**151**	0	0	0	**0**	12	0	65	**77**	**77**	**228**
08:15	08:30	0	30	39	**69**	72	7	0	**79**	**148**	0	0	0	**0**	17	0	61	**78**	**78**	**226**
08:30	08:45	0	29	49	**78**	60	13	0	**73**	**151**	0	0	0	**0**	19	0	65	**84**	**84**	**235**
08:45	09:00	0	29	42	**71**	52	8	0	**60**	**131**	0	0	0	**0**	15	0	67	**82**	**82**	**213**
09:00	09:15	0	15	31	**46**	46	4	0	**50**	**96**	0	0	0	**0**	23	0	47	**70**	**70**	**166**
09:15	09:30	0	16	35	**51**	34	7	0	**41**	**92**	0	0	0	**0**	17	0	43	**60**	**60**	**152**
09:30	09:45	0	14	44	**58**	44	5	0	**49**	**107**	0	0	0	**0**	9	0	59	**68**	**68**	**175**
09:45	10:00	0	11	23	**34**	51	10	0	**61**	**95**	0	0	0	**0**	22	0	48	**70**	**70**	**165**
11:30	11:45	0	5	25	**30**	74	9	0	**83**	**113**	0	0	0	**0**	38	0	54	**92**	**92**	**205**
11:45	12:00	0	15	21	**36**	59	11	0	**70**	**106**	0	0	0	**0**	32	0	53	**85**	**85**	**191**
12:00	12:15	0	19	28	**47**	50	14	0	**64**	**111**	0	0	0	**0**	29	0	46	**75**	**75**	**186**
12:15	12:30	0	8	21	**29**	55	9	0	**64**	**93**	0	0	0	**0**	25	0	67	**93**	**93**	**186**
12:30	12:45	0	14	25	**39**	55	7	0	**62**	**101**	0	0	0	**0**	30	0	74	**104**	**104**	**205**
12:45	13:00	0	17	21	**38**	46	15	0	**61**	**99**	0	0	0	**0**	33	0	63	**96**	**96**	**195**
13:00	13:15	0	17	25	**42**	55	6	0	**61**	**103**	0	0	0	**0**	21	0	59	**80**	**80**	**183**
13:15	13:30	0	10	30	**40**	44	10	0	**54**	**94**	0	0	0	**0**	28	0	63	**91**	**91**	**185**
15:00	15:15	0	17	26	**43**	90	10	0	**100**	**143**	0	0	0	**0**	32	0	52	**85**	**85**	**228**
15:15	15:30	0	10	29	**39**	71	11	0	**82**	**121**	0	0	0	**0**	37	0	64	**101**	**101**	**222**
15:30	15:45	0	13	30	**43**	76	22	0	**98**	**141**	0	0	0	**0**	55	0	77	**132**	**132**	**273**
15:45	16:00	0	16	26	**42**	62	18	0	**80**	**122**	0	0	0	**0**	44	0	54	**98**	**98**	**220**
16:00	16:15	0	12	29	**41**	95	22	0	**117**	**158**	0	0	0	**0**	44	0	64	**108**	**108**	**266**
16:15	16:30	0	10	33	**43**	71	14	0	**85**	**128**	0	0	0	**0**	53	0	76	**130**	**130**	**258**
16:30	16:45	0	16	28	**44**	83	15	0	**98**	**142**	0	0	0	**0**	61	0	81	**142**	**142**	**284**
16:45	17:00	0	14	34	**48**	64	23	0	**87**	**135**	0	0	0	**0**	64	0	76	**140**	**140**	**275**
17:00	17:15	0	9	36	**45**	73	19	0	**92**	**137**	0	0	0	**0**	72	0	58	**131**	**131**	**268**
17:15	17:30	0	18	39	**57**	74	14	0	**88**	**145**	0	0	0	**0**	66	0	67	**133**	**133**	**278**
17:30	17:45	0	12	35	**47**	49	12	0	**61**	**108**	0	0	0	**0**	61	0	64	**125**	**125**	**233**
17:45	18:00	0	13	33	**46**	56	17	0	**73**	**119**	0	0	0	**0**	43	0	54	**97**	**97**	**216**
TOTAL:		0	536	1066	**1602**	1936	358	0	**2294**	**3896**	0	0	0	**0**	1040	0	1974	**3019**	**3019**	**6915**

Note: U-Turns are included in Totals.

Comment:

Transportation Services - Traffic Services

Turning Movement Count - Cyclist Volume Report

Work Order 36467

CENTREPOINTE DR @ TALLWOOD DR

Count Date: Tuesday, November 08, 2016 **Start Time:** 07:00

Time Period		Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00	08:00	8	2	**10**	0	1	**1**	**11**
08:00	09:00	2	1	**3**	0	0	**0**	**3**
09:00	10:00	0	1	**1**	0	0	**0**	**1**
11:30	12:30	0	2	**2**	0	2	**2**	**4**
12:30	13:30	2	2	**4**	0	1	**1**	**5**
15:00	16:00	1	0	**1**	0	0	**0**	**1**
16:00	17:00	0	2	**2**	0	2	**2**	**4**
17:00	18:00	3	2	**5**	0	1	**1**	**6**
Total	.....	16	12	**28**	0	7	**7**	**35**

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. 36467

Turning Movement Count - Heavy Vehicle Report

CENTREPOINTE DR @ TALLWOOD DR

Survey Date: Tuesday, November 08, 2016

Time Period	Northbound				Southbound					Eastbound				Westbound					
	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00 08:00	0	3	7	**10**	2	3	0	**5**	**15**	0	0	0	**0**	1	0	5	**6**	**6**	**21**
08:00 09:00	0	0	5	**5**	7	2	0	**9**	**14**	0	0	0	**0**	1	0	8	**9**	**9**	**23**
09:00 10:00	0	2	1	**3**	3	0	0	**3**	**6**	0	0	0	**0**	2	0	5	**7**	**7**	**13**
11:30 12:30	0	1	2	**3**	1	0	0	**1**	**4**	0	0	0	**0**	0	0	3	**3**	**3**	**7**
12:30 13:30	0	0	0	**0**	1	1	0	**2**	**2**	0	0	0	**0**	1	0	4	**5**	**5**	**7**
15:00 16:00	0	1	6	**7**	7	0	0	**7**	**14**	0	0	0	**0**	5	0	5	**10**	**10**	**24**
16:00 17:00	0	0	7	**7**	3	1	0	**4**	**11**	0	0	0	**0**	0	0	5	**5**	**5**	**16**
17:00 18:00	0	0	4	**4**	0	0	0	**0**	**4**	0	0	0	**0**	0	0	4	**4**	**4**	**8**
Sub Total	0	7	32	**39**	24	7	0	**31**	**70**	0	0	0	**0**	10	0	39	**49**	**49**	**119**
U-Turns (Heavy Vehicles)				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	0	7	32	**0**	24	7	0	**31**	**70**	0	0	0	**0**	10	0	39	**49**	**49**	**119**

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 36467

Turning Movement Count - Pedestrian Volume Report

CENTREPOINTE DR @ TALLWOOD DR

Count Date: Tuesday, November 08, 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**	0	3	**3**	**3**
07:15 07:30	0	0	**0**	0	4	**4**	**4**
07:30 07:45	0	0	**0**	0	2	**2**	**2**
07:45 08:00	2	0	**2**	0	1	**1**	**3**
07:00 08:00	2	0	**2**	0	10	**10**	**12**
08:00 08:15	0	2	**2**	0	3	**3**	**5**
08:15 08:30	3	2	**5**	0	1	**1**	**6**
08:30 08:45	2	0	**2**	0	3	**3**	**5**
08:45 09:00	1	1	**2**	0	2	**2**	**4**
08:00 09:00	6	5	**11**	0	9	**9**	**20**
09:00 09:15	2	1	**3**	0	0	**0**	**3**
09:15 09:30	0	0	**0**	0	8	**8**	**8**
09:30 09:45	1	1	**2**	0	5	**5**	**7**
09:45 10:00	1	0	**1**	0	2	**2**	**3**
09:00 10:00	4	2	**6**	0	15	**15**	**21**
11:30 11:45	0	0	**0**	0	4	**4**	**4**
11:45 12:00	2	1	**3**	0	2	**2**	**5**
12:00 12:15	0	0	**0**	0	7	**7**	**7**
12:15 12:30	0	0	**0**	0	4	**4**	**4**
11:30 12:30	2	1	**3**	0	17	**17**	**20**
12:30 12:45	1	1	**2**	0	19	**19**	**21**
12:45 13:00	3	1	**4**	0	3	**3**	**7**
13:00 13:15	0	1	**1**	0	6	**6**	**7**
13:15 13:30	2	0	**2**	0	5	**5**	**7**
12:30 13:30	6	3	**9**	0	33	**33**	**42**
15:00 15:15	0	0	**0**	0	13	**13**	**13**
15:15 15:30	0	2	**2**	0	6	**6**	**8**
15:30 15:45	0	2	**2**	0	7	**7**	**9**
15:45 16:00	2	1	**3**	0	11	**11**	**14**
15:00 16:00	2	5	**7**	0	37	**37**	**44**
16:00 16:15	2	0	**2**	0	5	**5**	**7**
16:15 16:30	1	1	**2**	0	5	**5**	**7**
16:30 16:45	1	1	**2**	0	3	**3**	**5**
16:45 17:00	0	1	**1**	0	8	**8**	**9**
16:00 17:00	4	3	**7**	0	21	**21**	**28**
17:00 17:15	2	0	**2**	0	7	**7**	**9**
17:15 17:30	0	4	**4**	0	14	**14**	**18**
17:30 17:45	0	0	**0**	0	3	**3**	**3**
17:45 18:00	7	2	**9**	0	10	**10**	**19**
17:00 18:00	9	6	**15**	0	34	**34**	**49**
Total	35	25	**60**	0	176	**176**	**236**

Comment:

Transportation Services - Traffic Services

Work Order 36467

Turning Movement Count - 15 Min U-Turn Total Report

CENTREPOINTE DR @ TALLWOOD DR

Survey Date: Tuesday, November 08, 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	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	1	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	1	1
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	1	1
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	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	0	0
Total		0	0	0	5	5

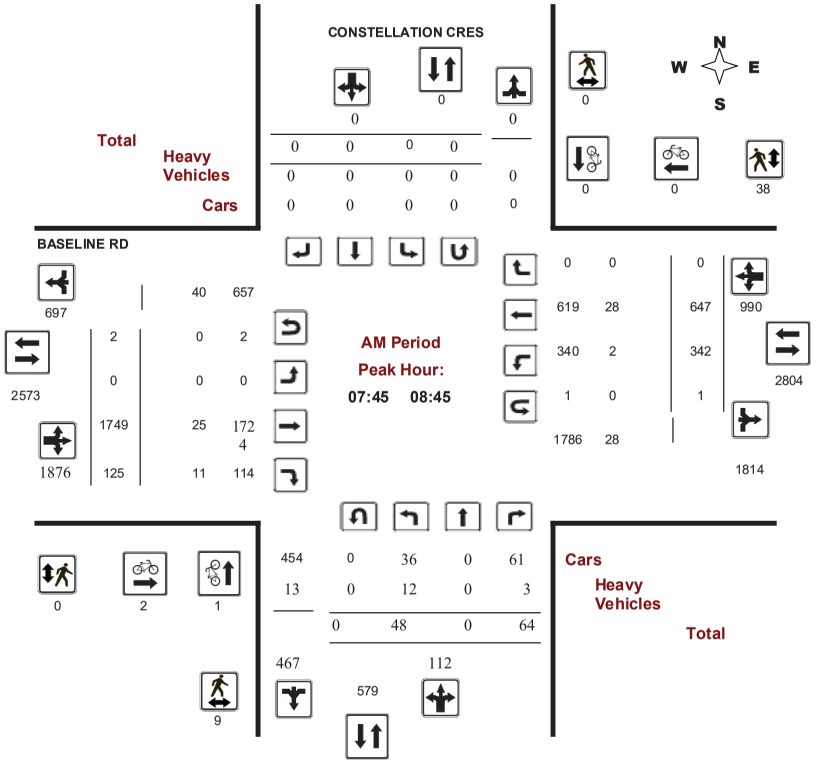
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

CONSTELLATION CRES @ BASELINE RD

Survey Date: Wednesday, February 14, 2018 **WO No:** 37532

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



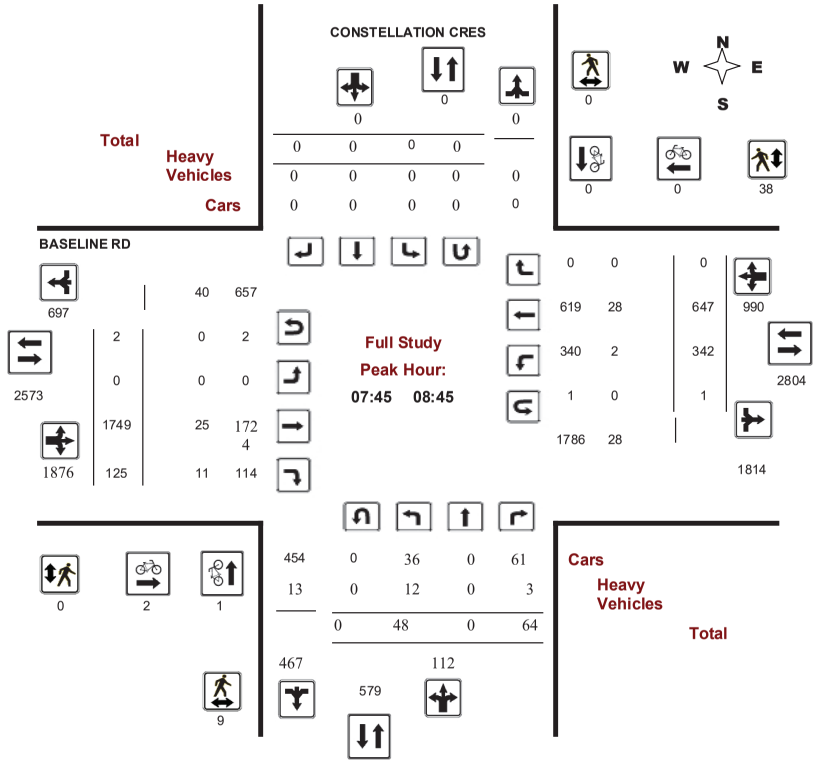
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

CONSTELLATION CRES @ BASELINE RD

Survey Date: Wednesday, February 14, 2018 **WO No:** 37532

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



Comments

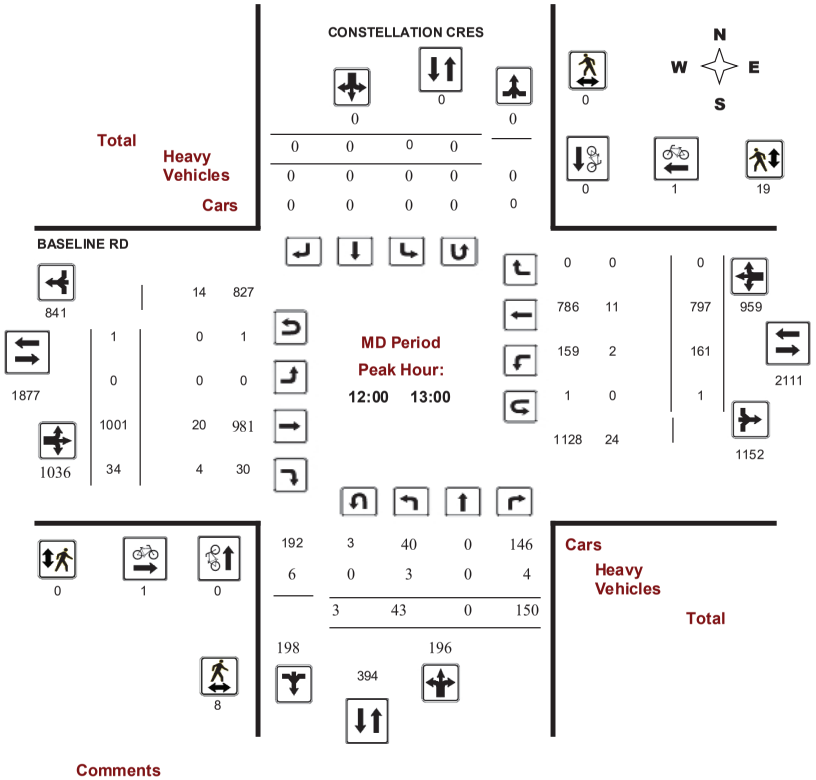
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

CONSTELLATION CRES @ BASELINE RD

Survey Date: Wednesday, February 14, 2018 **WO No:** 37532

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



Comments

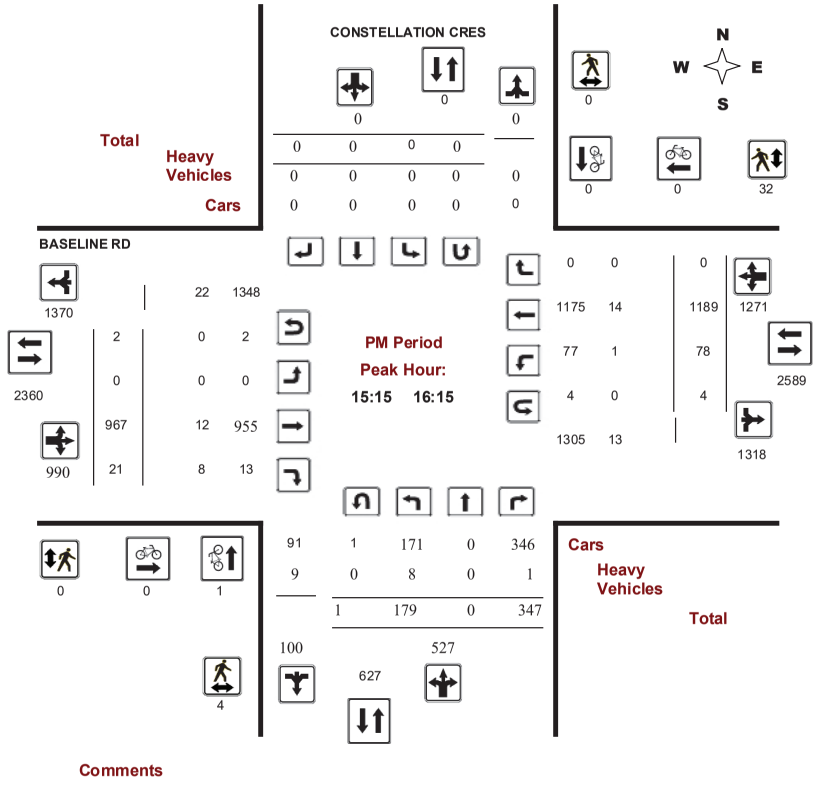
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

CONSTELLATION CRES @ BASELINE RD

Survey Date: Wednesday, February 14, 2018 **WO No:** 37532

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



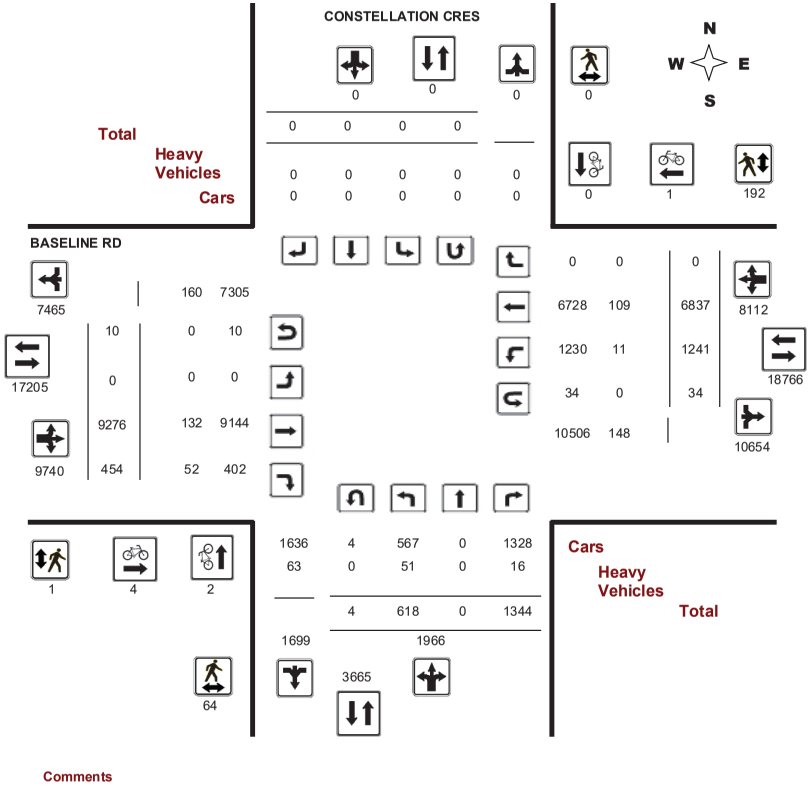
Transportation Services - Traffic Services

Turning Movement Count - Full Study Diagram

CONSTELLATION CRES @ BASELINE RD

Survey Date: Wednesday, February 14, 2018 **WO#:** 37532

Device: Miovision



Transportation Services - Traffic Services

Work Order 37532

Turning Movement Count - Full Study Summary Report

CONSTELLATION CRES @ BASELINE RD

Survey Date: Wednesday, February 14, 2018

Total Observed U-Turns

Northbound: 4 Southbound: 0

Eastbound: 10 Westbound: 34

AADT Factor 1.00

Full Study

	CONSTELLATION CRES									BASELINE 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	22	0	47	**69**	0	0	0	**0**	**69**	0	1667	146	**1813**	322	366	0	**688**	**2501**	**2570**
08:00 09:00	48	0	70	**118**	0	0	0	**0**	**118**	0	1679	103	**1782**	292	722	0	**1014**	**2796**	**2914**
09:00 10:00	30	0	136	**166**	0	0	0	**0**	**166**	0	1061	36	**1097**	168	634	0	**802**	**1899**	**2065**
11:30 12:30	55	0	192	**247**	0	0	0	**0**	**247**	0	1015	27	**1042**	166	684	0	**850**	**1892**	**2139**
12:30 13:30	38	0	116	**154**	0	0	0	**0**	**154**	0	939	67	**1006**	121	876	0	**997**	**2003**	**2157**
15:00 16:00	182	0	341	**523**	0	0	0	**0**	**523**	0	926	26	**952**	102	1189	0	**1291**	**2243**	**2766**
16:00 17:00	177	0	336	**513**	0	0	0	**0**	**513**	0	1045	26	**1071**	40	1043	0	**1083**	**2154**	**2667**
17:00 18:00	66	0	106	**172**	0	0	0	**0**	**172**	0	944	23	**967**	30	1323	0	**1353**	**2320**	**2492**
Sub Total	618	0	1344	**1962**	0	0	0	**0**	**1962**	0	9276	454	**9730**	1241	6837	0	**8078**	**17808**	**19770**
U Turns				**4**				**0**	**4**				**10**				**34**	**44**	**48**
Total	618	0	1344	**1966**	0	0	0	**0**	**1966**	0	9276	454	**9740**	1241	6837	0	**8112**	**17852**	**19818**
EQ 12Hr	859	0	1868	**2733**	0	0	0	**0**	**2733**	0	12894	631	**13539**	1725	9503	0	**11276**	**24815**	**27548**
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.													**1.39**						
AVG 12Hr	859	0	1868	**2733**	0	0	0	**0**	**2733**	0	12894	631	**13539**	1725	9503	0	**11276**	**24815**	**27548**
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.													**1.00**						
AVG 24Hr	1125	0	2447	**3580**	0	0	0	**0**	**3580**	0	16891	827	**17736**	2260	12449	0	**14771**	**32507**	**36087**
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. 37532

Turning Movement Count - 15 Minute Summary Report

CONSTELLATION CRES @ BASELINE RD

Survey Date: Wednesday, February 14, 2018

Total Observed U-Turns

Northbound: 4 Southbound: 0

Eastbound: 10 Westbound: 34

	CONSTELLATION CRES									BASELINE 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	9	**10**	0	0	0	**0**	**10**	0	351	30	**382**	66	68	0	**135**	**517**	**527**
07:15 07:30	5	0	9	**14**	0	0	0	**0**	**14**	0	430	35	**465**	72	93	0	**165**	**630**	**644**
07:30 07:45	7	0	14	**21**	0	0	0	**0**	**21**	0	444	43	**487**	85	100	0	**186**	**673**	**694**
07:45 08:00	9	0	15	**24**	0	0	0	**0**	**24**	0	442	38	**480**	99	105	0	**204**	**684**	**708**
08:00 08:15	8	0	17	**25**	0	0	0	**0**	**25**	0	462	32	**494**	87	164	0	**251**	**745**	**770**
08:15 08:30	15	0	15	**30**	0	0	0	**0**	**30**	0	420	31	**453**	89	181	0	**271**	**724**	**754**
08:30 08:45	16	0	17	**33**	0	0	0	**0**	**33**	0	425	24	**449**	67	197	0	**264**	**713**	**746**
08:45 09:00	9	0	21	**30**	0	0	0	**0**	**30**	0	372	16	**390**	49	180	0	**233**	**623**	**653**
09:00 09:15	7	0	27	**34**	0	0	0	**0**	**34**	0	307	14	**321**	45	151	0	**198**	**519**	**553**
09:15 09:30	12	0	36	**48**	0	0	0	**0**	**48**	0	277	5	**282**	40	147	0	**189**	**471**	**519**
09:30 09:45	7	0	33	**40**	0	0	0	**0**	**40**	0	231	7	**238**	47	163	0	**210**	**448**	**488**
09:45 10:00	4	0	40	**44**	0	0	0	**0**	**44**	0	246	10	**256**	36	173	0	**210**	**466**	**510**
11:30 11:45	11	0	50	**61**	0	0	0	**0**	**61**	0	219	8	**227**	45	175	0	**221**	**448**	**509**
11:45 12:00	21	0	50	**71**	0	0	0	**0**	**71**	0	279	4	**283**	45	167	0	**213**	**496**	**567**
12:00 12:15	9	0	62	**71**	0	0	0	**0**	**71**	0	275	12	**288**	33	161	0	**194**	**482**	**553**
12:15 12:30	14	0	30	**45**	0	0	0	**0**	**45**	0	242	3	**245**	43	181	0	**224**	**469**	**514**
12:30 12:45	9	0	27	**37**	0	0	0	**0**	**37**	0	250	7	**257**	41	221	0	**263**	**520**	**557**
12:45 13:00	11	0	31	**43**	0	0	0	**0**	**43**	0	234	12	**246**	44	234	0	**278**	**524**	**567**
13:00 13:15	9	0	30	**39**	0	0	0	**0**	**39**	0	216	32	**248**	8	164	0	**174**	**422**	**461**
13:15 13:30	9	0	28	**37**	0	0	0	**0**	**37**	0	239	16	**256**	28	257	0	**287**	**543**	**580**
15:00 15:15	61	0	112	**173**	0	0	0	**0**	**173**	0	223	8	**231**	35	271	0	**307**	**538**	**711**
15:15 15:30	42	0	67	**109**	0	0	0	**0**	**109**	0	206	8	**214**	35	297	0	**332**	**546**	**655**
15:30 15:45	48	0	87	**136**	0	0	0	**0**	**136**	0	236	4	**241**	15	294	0	**309**	**550**	**686**
15:45 16:00	31	0	75	**106**	0	0	0	**0**	**106**	0	261	6	**267**	17	327	0	**345**	**612**	**718**
16:00 16:15	58	0	118	**176**	0	0	0	**0**	**176**	0	264	3	**268**	11	271	0	**285**	**553**	**729**
16:15 16:30	35	0	74	**109**	0	0	0	**0**	**109**	0	263	10	**273**	5	256	0	**262**	**535**	**644**
16:30 16:45	51	0	80	**131**	0	0	0	**0**	**131**	0	260	7	**268**	14	247	0	**262**	**530**	**661**
16:45 17:00	33	0	64	**97**	0	0	0	**0**	**97**	0	258	6	**264**	10	269	0	**282**	**546**	**643**
17:00 17:15	26	0	47	**73**	0	0	0	**0**	**73**	0	253	10	**263**	7	361	0	**369**	**632**	**705**
17:15 17:30	19	0	32	**51**	0	0	0	**0**	**51**	0	260	7	**267**	4	324	0	**329**	**596**	**647**
17:30 17:45	9	0	14	**23**	0	0	0	**0**	**23**	0	234	2	**236**	8	305	0	**315**	**551**	**574**
17:45 18:00	12	0	13	**25**	0	0	0	**0**	**25**	0	197	4	**201**	11	333	0	**345**	**546**	**571**
TOTAL:	618	0	1344	**1966**	0	0	0	**0**	**1966**	0	9276	454	**9740**	1241	6837	0	**8112**	**17852**	**19818**

Note: U-Turns are included in Totals.

Comment:

Transportation Services - Traffic Services

Turning Movement Count - Cyclist Volume Report

Work Order 37532

CONSTELLATION CRES @ BASELINE RD

Count Date: Wednesday, February 14, 2018 **Start Time:** 07:00

	CONSTELLATION CRES			BASELINE RD			
Time Period	Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00 08:00	0	0	**0**	1	0	**1**	**1**
08:00 09:00	1	0	**1**	2	0	**2**	**3**
09:00 10:00	0	0	**0**	0	0	**0**	**0**
11:30 12:30	0	0	**0**	1	1	**2**	**2**
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	1	0	**1**	0	0	**0**	**1**
17:00 18:00	0	0	**0**	0	0	**0**	**0**
Total	2	0	**2**	4	1	**5**	**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. 37532

Turning Movement Count - Heavy Vehicle Report

CONSTELLATION CRES @ BASELINE RD

Survey Date: Wednesday, February 14, 2018

	CONSTELLATION CRES								BASELINE 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	7	0	0	**7**	0	0	0	**0**	**7**	0	16	7	**23**	3	17	0	**20**	**43**	**50**
08:00 09:00	10	0	5	**15**	0	0	0	**0**	**15**	0	26	11	**37**	2	22	0	**24**	**61**	**76**
09:00 10:00	4	0	2	**6**	0	0	0	**0**	**6**	0	21	6	**27**	1	13	0	**14**	**41**	**47**
11:30 12:30	4	0	4	**8**	0	0	0	**0**	**8**	0	16	4	**20**	3	19	0	**22**	**42**	**50**
12:30 13:30	4	0	2	**6**	0	0	0	**0**	**6**	0	23	7	**30**	0	8	0	**8**	**38**	**44**
15:00 16:00	11	0	1	**12**	0	0	0	**0**	**12**	0	14	8	**22**	2	14	0	**16**	**38**	**50**
16:00 17:00	5	0	1	**6**	0	0	0	**0**	**6**	0	14	4	**18**	0	9	0	**9**	**27**	**33**
17:00 18:00	6	0	1	**7**	0	0	0	**0**	**7**	0	2	5	**7**	0	7	0	**7**	**14**	**21**
Sub Total	51	0	16	**67**	0	0	0	**0**	**67**	0	132	52	**184**	11	109	0	**120**	**304**	**371**
U-Turns (Heavy Vehicles)				**0**				**0**	**0**				**0**				**0**	**0**	**0**
Total	51	0	16	**0**	0	0	0	**0**	**67**	0	132	52	**184**	11	109	0	**120**	**304**	**371**

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 37532

Turning Movement Count - Pedestrian Volume Report

CONSTELLATION CRES @ BASELINE RD

Count Date: Wednesday, February 14, 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	2	0	**2**	0	4	**4**	**6**
07:15 07:30	3	0	**3**	0	10	**10**	**13**
07:30 07:45	1	0	**1**	0	10	**10**	**11**
07:45 08:00	1	0	**1**	0	9	**9**	**10**
07:00 08:00	7	0	**7**	0	33	**33**	**40**
08:00 08:15	3	0	**3**	0	9	**9**	**12**
08:15 08:30	1	0	**1**	0	12	**12**	**13**
08:30 08:45	4	0	**4**	0	8	**8**	**12**
08:45 09:00	0	0	**0**	0	6	**6**	**6**
08:00 09:00	8	0	**8**	0	35	**35**	**43**
09:00 09:15	3	0	**3**	0	2	**2**	**5**
09:15 09:30	1	0	**1**	0	0	**0**	**1**
09:30 09:45	2	0	**2**	0	5	**5**	**7**
09:45 10:00	0	0	**0**	0	3	**3**	**3**
09:00 10:00	6	0	**6**	0	10	**10**	**16**
11:30 11:45	2	0	**2**	0	1	**1**	**3**
11:45 12:00	3	0	**3**	0	8	**8**	**11**
12:00 12:15	1	0	**1**	0	6	**6**	**7**
12:15 12:30	2	0	**2**	0	5	**5**	**7**
11:30 12:30	8	0	**8**	0	20	**20**	**28**
12:30 12:45	4	0	**4**	0	5	**5**	**9**
12:45 13:00	1	0	**1**	0	3	**3**	**4**
13:00 13:15	2	0	**2**	0	4	**4**	**6**
13:15 13:30	1	0	**1**	0	3	**3**	**4**
12:30 13:30	8	0	**8**	0	15	**15**	**23**
15:00 15:15	5	0	**5**	0	6	**6**	**11**
15:15 15:30	0	0	**0**	0	6	**6**	**6**
15:30 15:45	0	0	**0**	0	8	**8**	**8**
15:45 16:00	3	0	**3**	0	11	**11**	**14**
15:00 16:00	8	0	**8**	0	31	**31**	**39**
16:00 16:15	1	0	**1**	0	7	**7**	**8**
16:15 16:30	3	0	**3**	0	2	**2**	**5**
16:30 16:45	4	0	**4**	0	6	**6**	**10**
16:45 17:00	4	0	**4**	0	6	**6**	**10**
16:00 17:00	12	0	**12**	0	21	**21**	**33**
17:00 17:15	4	0	**4**	0	8	**8**	**12**
17:15 17:30	0	0	**0**	1	5	**6**	**6**
17:30 17:45	1	0	**1**	0	7	**7**	**8**
17:45 18:00	2	0	**2**	0	7	**7**	**9**
17:00 18:00	7	0	**7**	1	27	**28**	**35**
Total	64	0	**64**	1	192	**193**	**257**

Comment:

Transportation Services - Traffic Services

Work Order 37532

Turning Movement Count - 15 Min U-Turn Total Report

CONSTELLATION CRES @ BASELINE RD

Survey Date: Wednesday, February 14, 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	1	1	2
07:15	07:30	0	0	0	0	0
07:30	07:45	0	0	0	1	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	2	1	3
08:30	08:45	0	0	0	0	0
08:45	09:00	0	0	2	4	6
09:00	09:15	0	0	0	2	2
09:15	09:30	0	0	0	2	2
09:30	09:45	0	0	0	0	0
09:45	10:00	0	0	0	1	1
11:30	11:45	0	0	0	1	1
11:45	12:00	0	0	0	1	1
12:00	12:15	0	0	1	0	1
12:15	12:30	1	0	0	0	1
12:30	12:45	1	0	0	1	2
12:45	13:00	1	0	0	0	1
13:00	13:15	0	0	0	2	2
13:15	13:30	0	0	1	2	3
15:00	15:15	0	0	0	1	1
15:15	15:30	0	0	0	0	0
15:30	15:45	1	0	1	0	2
15:45	16:00	0	0	0	1	1
16:00	16:15	0	0	1	3	4
16:15	16:30	0	0	0	1	1
16:30	16:45	0	0	1	1	2
16:45	17:00	0	0	0	3	3
17:00	17:15	0	0	0	1	1
17:15	17:30	0	0	0	1	1
17:30	17:45	0	0	0	2	2
17:45	18:00	0	0	0	1	1
Total		4	0	10	34	48

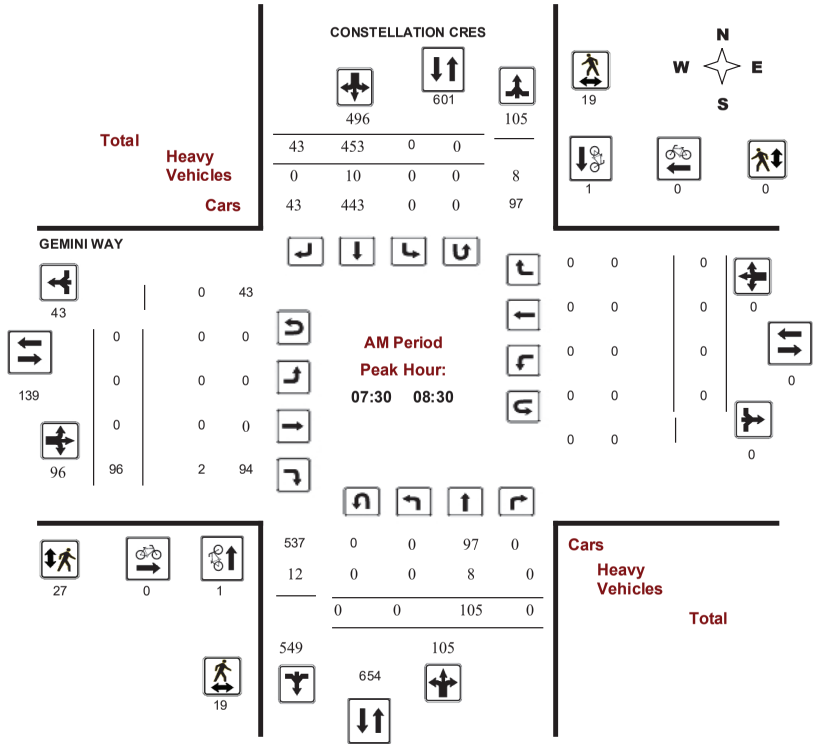
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

CONSTELLATION CRES @ GEMINI WAY

Survey Date: Tuesday, April 10, 2018 **WO No:** 37710

Start Time: 06:00 **Device:** Miovision



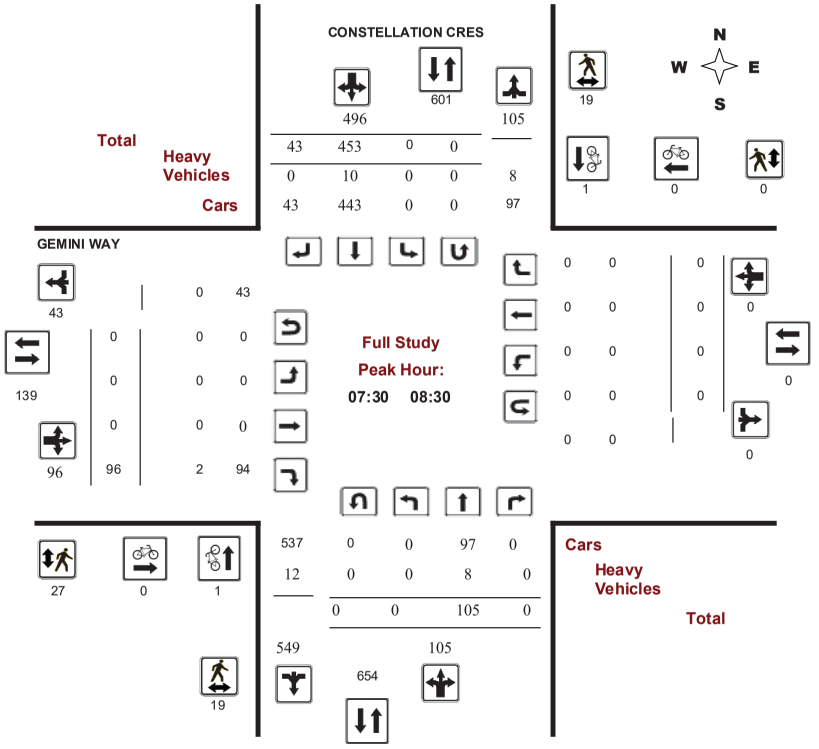
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

CONSTELLATION CRES @ GEMINI WAY

Survey Date: Tuesday, April 10, 2018 **WO No:** 37710

Start Time: 06:00 **Device:** Miovision



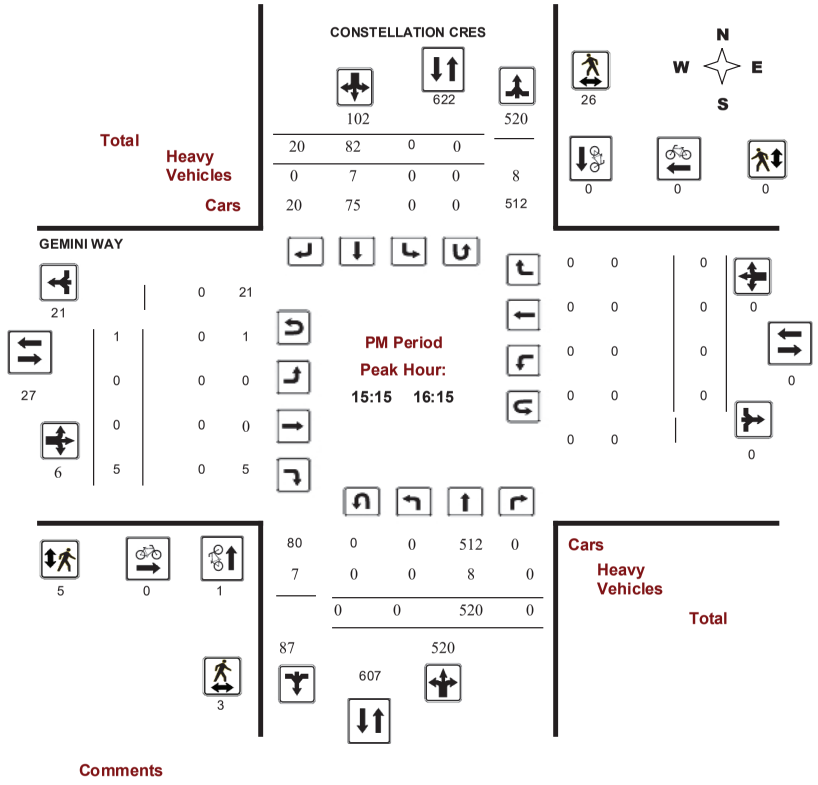
Transportation Services - Traffic Services

Turning Movement Count - Full Study Peak Hour Diagram

CONSTELLATION CRES @ GEMINI WAY

Survey Date: Tuesday, April 10, 2018 **WO No:** 37710

Start Time: 06:00 **Device:** Miovision



Comments

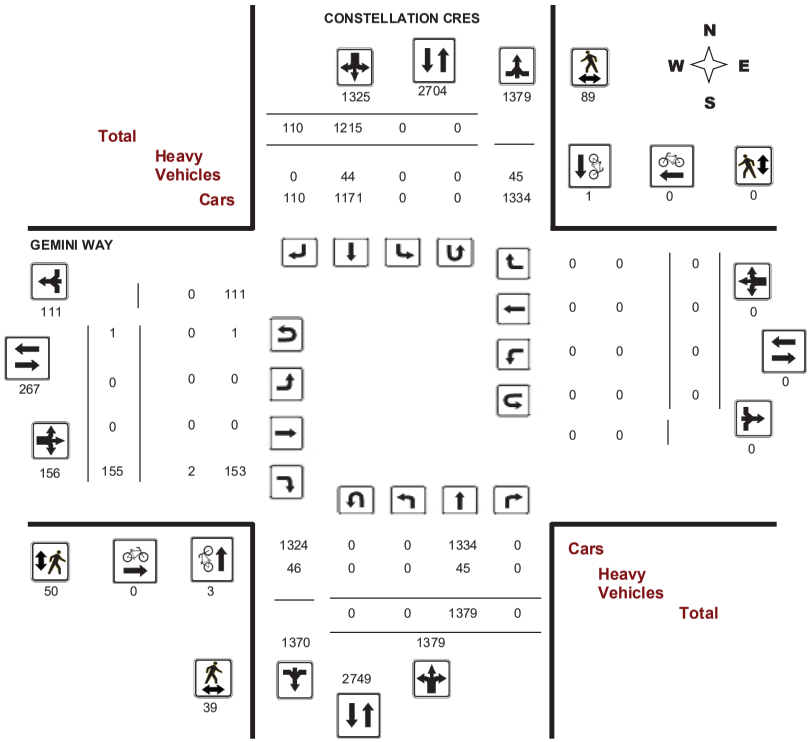
Transportation Services - Traffic Services

Turning Movement Count - Full Study Diagram

CONSTELLATION CRES @ GEMINI WAY

Survey Date: Tuesday, April 10, 2018 **WO#:** 37710

Device: Miovision



Comments

Transportation Services - Traffic Services

Work Order 37710

Turning Movement Count - Full Study Summary (No AADT) Report

CONSTELLATION CRES @ GEMINI WAY

Survey Date: Tuesday, April 10, 2018

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 1 Westbound: 0

Full Study

	CONSTELLATION CRES									GEMINI WAY									
	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
06:00 07:00	0	35	0	**35**	0	206	2	**208**	**243**	0	0	10	**10**	0	0	0	**0**	**10**	**253**
07:00 08:00	0	78	0	**78**	0	438	33	**471**	**549**	0	0	68	**68**	0	0	0	**0**	**68**	**617**
08:00 09:00	0	129	0	**129**	0	372	34	**406**	**535**	0	0	64	**64**	0	0	0	**0**	**64**	**599**
15:00 16:00	0	492	0	**492**	0	102	24	**126**	**618**	0	0	3	**3**	0	0	0	**0**	**3**	**621**
16:00 17:00	0	510	0	**510**	0	48	10	**58**	**568**	0	0	7	**7**	0	0	0	**0**	**7**	**575**
17:00 18:00	0	135	0	**135**	0	49	7	**56**	**191**	0	0	3	**3**	0	0	0	**0**	**3**	**194**
Sub Total	0	1379	0	**1379**	0	1215	110	**1325**	**2704**	0	0	155	**155**	0	0	0	**0**	**155**	**2859**
U Turns				**0**				**0**	**0**				**1**				**0**	**1**	**1**
Total	0	1379	0	**1379**	0	1215	110	**1325**	**2704**	0	0	155	**156**	0	0	0	**0**	**156**	**2860**

Comments:

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

Transportation Services - Traffic Services

W.O. 37710

Turning Movement Count - 15 Minute Summary Report

CONSTELLATION CRES @ GEMINI WAY

Survey Date: Tuesday, April 10, 2018

Total Observed U-Turns

Northbound: 0 Southbound: 0

Eastbound: 1 Westbound: 0

	CONSTELLATION CRES									GEMINI WAY									
	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
06:00 06:15	0	2	0	**2**	0	24	2	**26**	**28**	0	0	1	**1**	0	0	0	**0**	**1**	**29**
06:15 06:30	0	6	0	**6**	0	36	0	**36**	**42**	0	0	3	**3**	0	0	0	**0**	**3**	**45**
06:30 06:45	0	14	0	**14**	0	67	0	**67**	**81**	0	0	4	**4**	0	0	0	**0**	**4**	**85**
06:45 07:00	0	13	0	**13**	0	79	0	**79**	**92**	0	0	2	**2**	0	0	0	**0**	**2**	**94**
07:00 07:15	0	12	0	**12**	0	81	3	**84**	**96**	0	0	5	**5**	0	0	0	**0**	**5**	**101**
07:15 07:30	0	23	0	**23**	0	113	1	**114**	**137**	0	0	12	**12**	0	0	0	**0**	**12**	**149**
07:30 07:45	0	17	0	**17**	0	127	11	**138**	**155**	0	0	22	**22**	0	0	0	**0**	**22**	**177**
07:45 08:00	0	26	0	**26**	0	117	18	**135**	**161**	0	0	29	**29**	0	0	0	**0**	**29**	**190**
08:00 08:15	0	26	0	**26**	0	98	8	**106**	**132**	0	0	22	**22**	0	0	0	**0**	**22**	**154**
08:15 08:30	0	36	0	**36**	0	111	6	**117**	**153**	0	0	23	**23**	0	0	0	**0**	**23**	**176**
08:30 08:45	0	36	0	**36**	0	91	10	**101**	**137**	0	0	13	**13**	0	0	0	**0**	**13**	**150**
08:45 09:00	0	31	0	**31**	0	72	10	**82**	**113**	0	0	6	**6**	0	0	0	**0**	**6**	**119**
15:00 15:15	0	156	0	**156**	0	29	8	**37**	**193**	0	0	0	**0**	0	0	0	**0**	**0**	**193**
15:15 15:30	0	117	0	**117**	0	20	6	**26**	**143**	0	0	1	**2**	0	0	0	**0**	**2**	**145**
15:30 15:45	0	120	0	**120**	0	30	3	**33**	**153**	0	0	2	**2**	0	0	0	**0**	**2**	**155**
15:45 16:00	0	99	0	**99**	0	23	7	**30**	**129**	0	0	0	**0**	0	0	0	**0**	**0**	**129**
16:00 16:15	0	184	0	**184**	0	9	4	**13**	**197**	0	0	2	**2**	0	0	0	**0**	**2**	**199**
16:15 16:30	0	112	0	**112**	0	21	4	**25**	**137**	0	0	2	**2**	0	0	0	**0**	**2**	**139**
16:30 16:45	0	140	0	**140**	0	14	1	**15**	**155**	0	0	0	**0**	0	0	0	**0**	**0**	**155**
16:45 17:00	0	74	0	**74**	0	4	1	**5**	**79**	0	0	3	**3**	0	0	0	**0**	**3**	**82**
17:00 17:15	0	48	0	**48**	0	13	0	**13**	**61**	0	0	1	**1**	0	0	0	**0**	**1**	**62**
17:15 17:30	0	44	0	**44**	0	11	3	**14**	**58**	0	0	0	**0**	0	0	0	**0**	**0**	**58**
17:30 17:45	0	23	0	**23**	0	6	2	**8**	**31**	0	0	1	**1**	0	0	0	**0**	**1**	**32**
17:45 18:00	0	20	0	**20**	0	19	2	**21**	**41**	0	0	1	**1**	0	0	0	**0**	**1**	**42**
TOTAL:	0	1379	0	**1379**	0	1215	110	**1325**	**2704**	0	0	155	**156**	0	0	0	**0**	**156**	**2860**

Note: U-Turns are included in Totals.

Comment:

Transportation Services - Traffic Services

Turning Movement Count - Cyclist Volume Report

Work Order 37710

CONSTELLATION CRES @ GEMINI WAY

Count Date: Tuesday, April 10, 2018 **Start Time:** 06:00

	CONSTELLATION CRES			GEMINI WAY			
Time Period	Northbound	Southbound	**Street Total**	Eastbound	Westbound	**Street Total**	**Grand Total**
06:00 07:00	0	0	**0**	0	0	**0**	**0**
07:00 08:00	1	1	**2**	0	0	**0**	**2**
08:00 09:00	0	0	**0**	0	0	**0**	**0**
15:00 16:00	1	0	**1**	0	0	**0**	**1**
16:00 17:00	1	0	**1**	0	0	**0**	**1**
17:00 18:00	0	0	**0**	0	0	**0**	**0**
Total	3	1	**4**	0	0	**0**	**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

Turning Movement Count - Cyclist Volume Report

Work Order 37710

CONSTELLATION CRES @ GEMINI WAY

Count Date: Tuesday, April 10, 2018 **Start Time:** 06:00

	CONSTELLATION CRES			GEMINI WAY			
Time Period	Northbound	Southbound	**Street Total**	Eastbound	Westbound	**Street Total**	**Grand Total**
06:00 07:00	0	0	**0**	0	0	**0**	**0**
07:00 08:00	1	1	**2**	0	0	**0**	**2**
08:00 09:00	0	0	**0**	0	0	**0**	**0**
15:00 16:00	1	0	**1**	0	0	**0**	**1**
16:00 17:00	1	0	**1**	0	0	**0**	**1**
17:00 18:00	0	0	**0**	0	0	**0**	**0**
Total	3	1	**4**	0	0	**0**	**4**

Comment:

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

2019-Oct-18 Page 1 of 1

Transportation Services - Traffic Services

Work Order 37710

Turning Movement Count - Pedestrian Volume Report

CONSTELLATION CRES @ GEMINI WAY

Count Date: Tuesday, April 10, 2018 **Start Time:** 06:00

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
06:00 06:15	1	2	3	2	0	2	5
06:15 06:30	0	2	2	0	0	0	2
06:30 06:45	0	0	0	0	0	0	0
06:45 07:00	0	7	7	0	0	0	7
06:00 07:00	1	11	12	2	0	2	14
07:00 07:15	2	4	6	2	0	2	8
07:15 07:30	3	5	8	2	0	2	10
07:30 07:45	7	9	16	3	0	3	19
07:45 08:00	7	3	10	5	0	5	15
07:00 08:00	19	21	40	12	0	12	52
08:00 08:15	2	3	5	6	0	6	11
08:15 08:30	3	4	7	13	0	13	20
08:30 08:45	1	1	2	5	0	5	7
08:45 09:00	1	5	6	2	0	2	8
08:00 09:00	7	13	20	26	0	26	46
15:00 15:15	1	6	7	3	0	3	10
15:15 15:30	0	8	8	2	0	2	10
15:30 15:45	1	5	6	3	0	3	9
15:45 16:00	0	4	4	0	0	0	4
15:00 16:00	2	23	25	8	0	8	33
16:00 16:15	2	9	11	0	0	0	11
16:15 16:30	1	2	3	0	0	0	3
16:30 16:45	1	1	2	0	0	0	2
16:45 17:00	1	5	6	0	0	0	6
16:00 17:00	5	17	22	0	0	0	22
17:00 17:15	2	2	4	0	0	0	4
17:15 17:30	1	1	2	2	0	2	4
17:30 17:45	1	1	2	0	0	0	2
17:45 18:00	1	0	1	0	0	0	1
17:00 18:00	5	4	9	2	0	2	11
Total	39	89	128	50	0	50	178

Comment:

Transportation Services - Traffic Services

Work Order 37710

Turning Movement Count - 15 Min U-Turn Total Report

CONSTELLATION CRES @ GEMINI WAY

Survey Date: Tuesday, April 10, 2018

Time Period		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
06:00	06:15	0	0	0	0	0
06:15	06:30	0	0	0	0	0
06:30	06:45	0	0	0	0	0
06:45	07:00	0	0	0	0	0
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
15:00	15:15	0	0	0	0	0
15:15	15:30	0	0	1	0	1
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	1	0	1

Traffic Signal Timing

City of Ottawa, Transportation Services Department

Traffic Operations Unit

Intersection:	**Main:**	Baseline	**Side:**	Woodroffe	
Controller:	**ATC-3**		**TSD:**	5203	
Author:	Matthew Anderson		**Date:**	16-Oct-2019	

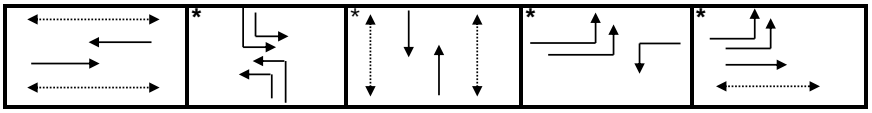
Existing Timing Plans†

	Plan						**Ped Minimum Time**		
	AM Peak	**Off Peak**	**PM Peak**	**Night**	**Weekend**	**Late PM**	***Walk***	***DW***	***A+R***
	1	2	3	4	5	13			
Cycle	130	125	130	105	125	130			
Offset	16	116	21	X	116	21			
EB Thru	52	41	40	40	41	42	7	26	3.7+3.1
WB Thru	40	41	40	40	41	42	7	26	3.7+3.1
NBLT (fp)	19	22	21	14	20	21	-	-	3.7+3.2
SBLT (fp)	19	22	25	14	24	25	-	-	3.7+3.2
NB Thru	41	44	39	37	40	41	7	23	3.7+3.1
SB Thru	41	44	43	37	44	45	7	23	3.7+3.1
EBLT (fp)	30	18	26	14	20	22	-	-	3.7+3.4
WBLT (fp)	18	18	26	14	20	22	-	-	3.7+3.4

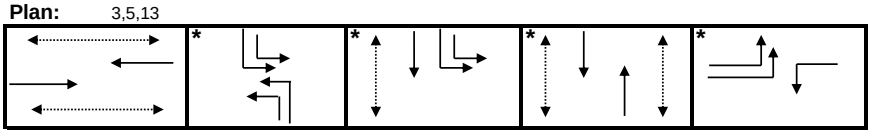
Notes: 1) For all plans, the NB and SB Thru movements have a 10 second minimum recall. 2) For plans 1,2,3,5,13, the SB Left has a minimum recall of 5 seconds.

Phasing Sequence‡

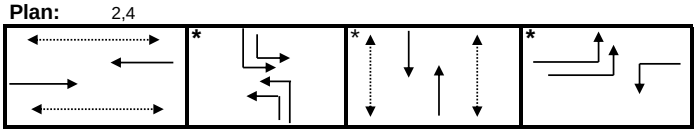
Plan: 1



Plan: 3,5,13



Plan: 2,4



Schedule

Weekday

Time	Plan
0:15	4
6:30	1
9:30	2
15:00	3
15:45	13
18:30	2
22:30	4

Weekend

Time	Plan
0:15	4
7:00	2
8:30	5
18:30	2
22:30	4

Notes

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

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

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $57.63 ($51 + HST)

Traffic Signal Timing

City of Ottawa, Transportation Services Department

Traffic Signal Operations Unit

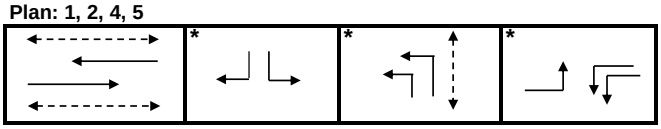
Intersection:	**Main:** Baseline	**Side:**	Centrepointe / Highgate
Controller:	**ATC3**	**TSD:**	**5336**
Author:	Matthew Anderson	**Date:**	16-Oct-2019

Existing Timing Plans†

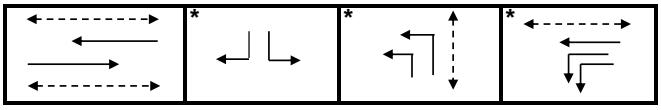
	Plan						Ped Minimum Time		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	**Weekend** 5	**AM Heavy** 11	***Walk***	***DW***	***A+R***
Cycle	130	95	130	95	95	130			
Offset	76	65	71	X	65	76			
EB Thru	47	26	49	26	26	47	7	13	3.7+2.0
WB Thru	47	26	58	26	26	71	7	13	3.7+2.0
SB LT-RT (fp)	20	15	21	16	15	20	-	-	3.3+3.0
NB Left (fp)	39	39	39	39	39	39	7	25	3.0+3.8
EB Left (fp)	24	15	12	14	15	-	-	-	3.7+2.5
WB Left (fp)	24	15	21	14	15	24	-	-	3.7+2.5

Phasing Sequence‡

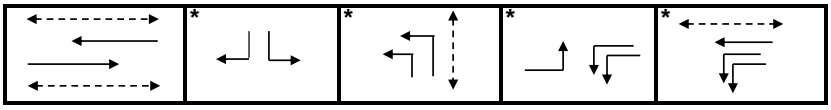
Plan: 1, 2, 4, 5



Plan: 11



Plan: 3



Notes:
1) The EB left and WB right are prohibited between 7:00-9:00 am, Monday to Friday.
2) The NS thru movements are prohibited.
3) For Plans 2 and 5, the NB left is forced off 11s early if the pedestrian phase is not actuated.

Schedule

Weekday

Time	Plan
0:15	4
6:30	1
7:00	11
9:00	1
9:30	2
15:00	3
18:30	2
22:30	4

Weekend

Time	Plan
0:15	4
7:00	2
8:30	5
18:30	2
22:30	4

Notes

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

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

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄- - - -► Pedestrian signal

Cost is $57.63 ($51 + HST)

Traffic Signal Timing

City of Ottawa, Public Works Department

Traffic Operations Unit

Intersection:	**Main:**	Baseline	**Side:**	Centrepointe / Cobden	
Controller:	**MS-3200**			**TSD:**	5339
Author:	Matthew Anderson			**Date:**	16-Oct-2019

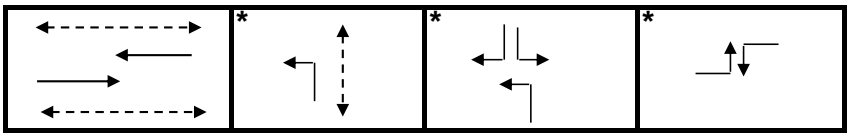
Existing Timing Plans†

	Plan					**Ped Minimum Time**		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	**Weekend** 5	***Walk***	***DW***	***A+R***
Cycle	130	95	130	95	95			
Offset	56	26	80	X	26			
EB Thru	46	30	53	32	30	12	11	3.7+2.3
WB Thru	46	30	53	32	30	12	11	3.7+2.3
NS Ped	35	35	35	35	35	7	22	3.0+3.8
NB Left (fp)	69	51	55	51	51	-	-	3.3+2.7
SB LT-RT (fp)	34	16	20	16	16	-	-	3.3+2.7
EB Left (fp)	15	14	22	12	14	-	-	3.7+2.7
WB Left (fp)	15	14	22	12	14	-	-	3.7+2.7

Notes: 1) For Plans 1, 3, and 4 all unused time will be provided to the EB and WB Thru movements.
2) The EB Left turn movement is prohibited except to authorized vehicles between 7am and 9am.

Phasing Sequence‡

Plan: All



Schedule

Weekday

Time	Plan
0:15	4
6:30	1
9:30	2
15:00	3
18:30	2
22:30	4

Weekend

Time	Plan
0:15	4
7:00	2
8:30	5
18:30	2
20:00	4

Notes

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

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

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $57.63 ($51 + HST)

Traffic Signal Timing

City of Ottawa, Transportation Services Department

Traffic Signal Operations Unit

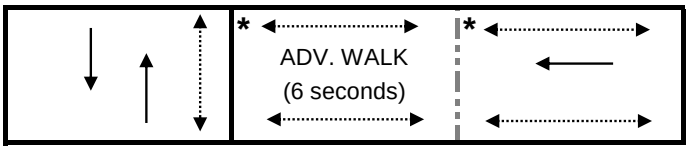
Intersection:	***Main:***	Centrepointe	***Side:***	Tallwood
Controller:	**MS3200**		**TSD:**	**5969**
Author:	Matthew Anderson		**Date:**	16-Oct-2019

Existing Timing Plans†

	Plan			**Ped Minimum Time**		
	Evening 1	**PM Peak** 2	**Day** 4	***Walk***	***DW***	***A+R***
Cycle	Free	Free	Free			
Offset	X	X	X			
NB Thru	max=36.4	max=36.4	max=36.4	7	19	3.0+3.4
SB Thru	max=36.4	max=36.4	max=36.4	-	-	3.0+3.4
WB Thru	max=31.9	max=31.9	max=31.9	10	16	3.0+2.9

Phasing Sequence‡

Plan:



Schedule

Weekday

Time	Plan
0:15	4
15:00	2
18:30	1
22:30	4

Saturday

Time	Plan
0:15	4

Notes

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

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

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $57.63 ($51 + HST)

Traffic Signal Timing

City of Ottawa, Transportation Services Department

Traffic Signal Operations Unit

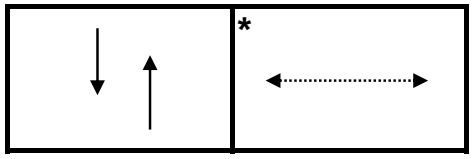
Intersection:	***Main:*** Centrepointe	***Side:***	90m N of Chrysalis
Controller:	**MS 3200A**	**TSD:**	**6342**
Author:	Matthew Anderson	**Date:**	16-Oct-2019

Existing Timing Plans†

	Plan					**Ped Minimum Time**		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	**Weekend** 5	***Walk***	***DW***	***A+R***
Cycle	Free	Free	Free	Free	Free			
Offset	X	X	X	X	X			
NS Thru	min=30.6	min=30.6	min=30.6	min=30.6	min=30.6	-	-	3.0+2.6
EW Walk	max=24	max=24	max=24	max=24	max=24	7	13	3.0+1.0

Phasing Sequence‡

Plan:



Notes: 1) The signal will rest in green for vehicles until a pedestrian actuates the ped signal, at which point the light will change so long as a minimum of 25 seconds of green has passed

Schedule

Weekday

Time	Plan
0:15	4
6:30	1
9:30	2
15:00	3
18:30	2
21:30	4

Saturday

Time	Plan
0:15	4
6:30	2
11:00	5
19:30	2
22:00	4

Sunday

Time	Plan
0:15	4
6:30	2
21:00	4

Notes

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

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

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $57.63 ($51 + HST)

Traffic Signal Timing

City of Ottawa, Transportation Services Department

Traffic Signal Operations Unit

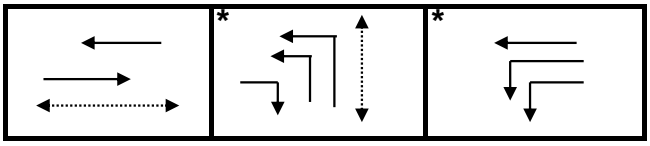
Intersection:	**Main:** Baseline	**Side:**	Constellation
Controller:	**MS-3200**	**TSD:**	**6716**
Author:	Matthew Anderson	**Date:**	16-Oct-2019

Existing Timing Plans†

	Plan					**Ped Minimum Time**		
	AM Peak 1	**Off Peak** 2	**PM Peak** 3	**Night** 4	**Weekend** 5	***Walk***	***DW***	***A+R***
Cycle	130	95	130	95	95			
Offset	74	67	64	X	67			
EB Thru	66	42	70	43	42	7	19	3.7+2.8
WB Thru	96	61	93	60	61	-	-	3.7+2.8
NB Left (fp)	34	34	37	35	34	7	20	3.0+3.9
EB Right	34	34	37	35	34	-	-	3.0+3.9
WB Left (fp)	30	19	23	17	19	-	-	3.7+3.0

Phasing Sequence‡

Plan: All



Schedule

Weekday

Time	Plan
0:15	4
6:30	1
9:30	2
15:00	3
18:30	2
21:30	4

Weekend

Time	Plan
0:15	4
7:00	2
8:30	5
18:30	2
22:30	4

Notes

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

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

Asterisk (*) Indicates actuated phase

(fp): Fully Protected Left Turn

◄·····► Pedestrian signal

Cost is $57.63 ($51 + HST)

Appendix C

Synchro Intersection Worksheets – Existing Conditions

DRAFT

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	15	1440	132	32	524	40	163	165	148	30
Future Volume (vph)	15	1440	132	32	524	40	163	165	148	30
Lane Group Flow (vph)	17	1600	147	36	582	44	181	183	164	33
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	Free	Perm	Perm
Protected Phases	5	2		1	6					
Permitted Phases			2			6	8	Free	4	4
Detector Phase	5	2	2	1	6	6	8		4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	11.4	29.0	29.0	11.4	29.0	29.0	35.0		24.0	24.0
Total Split (s)	15.0	80.0	80.0	15.0	80.0	80.0	35.0		35.0	35.0
Total Split (%)	11.5%	61.5%	61.5%	11.5%	61.5%	61.5%	26.9%		26.9%	26.9%
Maximum Green (s)	8.6	74.0	74.0	8.6	74.0	74.0	29.0		29.0	29.0
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.3		3.3	3.3
All-Red Time (s)	2.7	2.3	2.3	2.7	2.3	2.3	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	0.0
Total Lost Time (s)	6.4	6.0	6.0	6.4	6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None		None	None
Walk Time (s)		12.0	12.0		12.0	12.0	7.0			
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	22.0			
Pedestrian Calls (#/hr)		0	0		0	0	0			
Act Effct Green (s)	6.9	88.9	88.9	8.3	92.7	92.7	19.4	130.0	19.4	19.4
Actuated g/C Ratio	0.05	0.68	0.68	0.06	0.71	0.71	0.15	1.00	0.15	0.15
v/c Ratio	0.19	0.49	0.14	0.34	0.25	0.04	0.73	0.12	0.66	0.11
Control Delay	63.3	12.2	2.2	78.4	3.7	0.6	69.3	0.2	64.4	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	63.3	12.2	2.2	78.4	3.7	0.6	69.3	0.2	64.4	0.8
LOS	E	B	A	E	A	A	E	A	E	A
Approach Delay		11.9			7.6					
Approach LOS		B			A					
Queue Length 50th (m)	4.3	74.7	0.0	9.8	6.5	0.0	44.8	0.0	40.2	0.0
Queue Length 95th (m)	12.0	107.1	8.9	18.1	30.7	1.0	65.6	0.0	60.1	0.0
Internal Link Dist (m)		218.7			480.0					
Turn Bay Length (m)	85.0		105.0	60.0		100.0		80.0		40.0
Base Capacity (vph)	110	3259	1061	118	2364	1080	369	1483	369	392
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.15	0.49	0.14	0.31	0.25	0.04	0.49	0.12	0.44	0.08

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 56 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 80

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 16.5 — Intersection LOS: B
Intersection Capacity Utilization 48.9% — ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 1: Centrepointe/Cobden & Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	2	1296	454	133	416	48	117	200	137	63
Future Volume (vph)	2	1296	454	133	416	48	117	200	137	63
Lane Group Flow (vph)	2	1440	504	148	462	53	130	222	152	70
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Prot
Protected Phases	5	2		1	6		8		7	7
Permitted Phases			2			6		8		
Detector Phase	5	2	2	1	6	6	8	8	7	7
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	11.2	25.7	25.7	11.2	25.7	25.7	38.8	38.8	16.3	16.3
Total Split (s)	24.0	47.0	47.0	24.0	47.0	47.0	39.0	39.0	20.0	20.0
Total Split (%)	18.5%	36.2%	36.2%	18.5%	36.2%	36.2%	30.0%	30.0%	15.4%	15.4%
Maximum Green (s)	17.8	41.3	41.3	17.8	41.3	41.3	32.2	32.2	13.7	13.7
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.0	3.3	3.3
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0	3.8	3.8	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	5.7	5.7	6.2	5.7	5.7	6.8	6.8	6.3	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0		
Flash Dont Walk (s)		13.0	13.0		13.0	13.0	25.0	25.0		
Pedestrian Calls (#/hr)		0	0		0	0	0	0		
Act Effct Green (s)	5.8	68.5	68.5	11.3	83.5	83.5	11.7	11.7	13.5	13.5
Actuated g/C Ratio	0.04	0.53	0.53	0.09	0.64	0.64	0.09	0.09	0.10	0.10
v/c Ratio	0.03	0.57	0.49	0.53	0.22	0.05	0.45	0.66	0.89	0.26
Control Delay	60.5	18.2	2.8	91.4	4.8	0.1	60.8	16.9	101.6	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	60.5	18.2	2.8	91.4	4.8	0.1	60.8	16.9	101.6	2.3
LOS	E	B	A	F	A	A	E	B	F	A
Approach Delay		14.2			23.7					
Approach LOS		B			C					
Queue Length 50th (m)	0.5	58.9	0.0	20.8	8.5	0.0	16.7	0.0	39.0	0.0
Queue Length 95th (m)	m0.9	74.4	14.8	32.2	15.6	0.0	25.9	23.7	#77.5	0.0
Internal Link Dist (m)		480.0			249.4					
Turn Bay Length (m)	52.0		140.0	88.0		100.0			30.0	
Base Capacity (vph)	227	2510	1019	440	2130	1001	796	534	174	274
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.57	0.49	0.34	0.22	0.05	0.16	0.42	0.87	0.26

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 76 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 105

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 22.2 — Intersection LOS: C
Intersection Capacity Utilization 61.3% — ICU Level of Service B
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

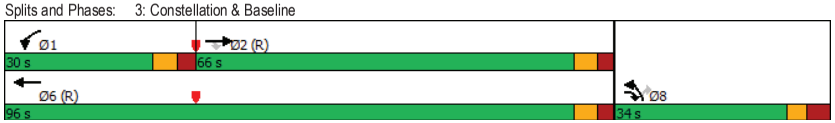
Splits and Phases: 2: Centrepointe/Highgate & Baseline

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1522	109	343	556	41	64
Future Volume (vph)	1522	109	343	556	41	64
Lane Group Flow (vph)	1691	121	381	618	46	71
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	32.5	33.9	11.7	24.5	33.9	33.9
Total Split (s)	66.0	34.0	30.0	96.0	34.0	34.0
Total Split (%)	50.8%	26.2%	23.1%	73.8%	26.2%	26.2%
Maximum Green (s)	59.5	27.1	23.3	89.5	27.1	27.1
Yellow Time (s)	3.7	3.0	3.7	3.7	3.0	3.0
All-Red Time (s)	2.8	3.9	3.0	2.8	3.9	3.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.9	6.7	6.5	6.9	6.9
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	Max	None	C-Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	19.0	20.0			20.0	20.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	62.7	96.3	20.1	89.5	27.1	27.1
Actuated g/C Ratio	0.48	0.74	0.15	0.69	0.21	0.21
v/c Ratio	0.74	0.11	0.77	0.27	0.07	0.19
Control Delay	16.9	0.2	49.5	3.4	41.8	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.9	0.2	49.5	3.4	41.8	10.7
LOS	B	A	D	A	D	B
Approach Delay	15.8			21.0	22.9	
Approach LOS	B			C	C	
Queue Length 50th (m)	93.3	0.0	34.7	9.6	4.9	0.0
Queue Length 95th (m)	84.6	m0.4	49.1	9.1	10.3	12.6
Internal Link Dist (m)	249.4			272.7	77.0	
Turn Bay Length (m)		55.0	90.0		50.0	
Base Capacity (vph)	2299	1115	576	2282	670	365
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	0.74	0.11	0.66	0.27	0.07	0.19

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 64 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 17.8 — Intersection LOS: B
Intersection Capacity Utilization 66.5% — ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Constellation & Baseline



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	416	1003	167	76	413	231	114	1150	93	276	595	371
Future Volume (vph)	416	1003	167	76	413	231	114	1150	93	276	595	371
Lane Group Flow (vph)	462	1114	186	84	459	257	127	1278	103	307	661	412
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	12.1	24.8	24.8	12.1	24.8	24.8	11.9	24.8	24.8	11.9	24.8	24.8
Total Split (s)	30.0	52.0	52.0	18.0	40.0	40.0	19.0	41.0	41.0	19.0	41.0	41.0
Total Split (%)	23.1%	40.0%	40.0%	13.8%	30.8%	30.8%	14.6%	31.5%	31.5%	14.6%	31.5%	31.5%
Maximum Green (s)	22.9	45.2	45.2	10.9	33.2	33.2	12.1	34.2	34.2	12.1	34.2	34.2
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.1	3.1	3.4	3.1	3.1	3.2	3.1	3.1	3.2	3.1	3.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.1	6.8	6.8	7.1	6.8	6.8	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	21.8	46.1	46.1	10.0	34.3	34.3	10.2	34.2	34.2	12.1	36.1	36.1
Actuated g/C Ratio	0.17	0.35	0.35	0.08	0.26	0.26	0.08	0.26	0.26	0.09	0.28	0.28
v/c Ratio	0.86	0.95	0.30	0.66	0.52	0.46	0.50	1.02	0.19	1.03	0.50	0.60
Control Delay	38.1	61.9	22.8	82.0	43.8	10.8	64.3	77.6	0.8	116.2	41.3	10.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.1	61.9	22.8	82.0	43.8	10.8	64.3	77.6	0.8	116.2	41.3	10.0
LOS	D	E	C	F	D	B	E	E	A	F	D	A
Approach Delay		51.6			37.2			71.3			48.6	
Approach LOS		D			D			E			D	
Queue Length 50th (m)	54.6	160.6	31.6	21.1	53.7	7.1	16.3	~126.9	0.0	~43.1	52.3	7.5
Queue Length 95th (m)	#80.3	#198.2	m42.4	#41.2	70.9	30.4	26.3	#156.2	0.0	#72.2	66.3	38.6
Internal Link Dist (m)		272.7			288.4			248.1			234.6	
Turn Bay Length (m)	53.0		30.0	105.0		85.0	120.0		100.0	95.0		50.0
Base Capacity (vph)	566	1175	621	139	875	554	299	1253	544	299	1322	681
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.82	0.95	0.30	0.60	0.52	0.46	0.42	1.02	0.19	1.03	0.50	0.60

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 16 (12%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 120

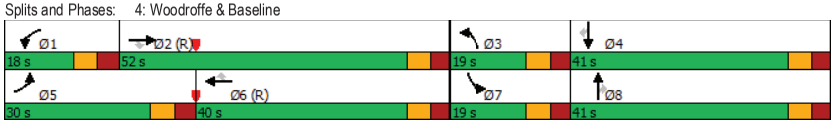
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 54.2 Intersection LOS: D
Intersection Capacity Utilization 88.5% ICU Level of Service E
Analysis Period (min) 15

~ 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.

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

Splits and Phases: 4: Woodroffe & Baseline



Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	11	27	290	32	127	461
Future Vol, veh/h	11	27	290	32	127	461
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	400	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	30	322	36	141	512

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	827	179	0	0	358	0
Stage 1	340	-	-	-	-	-
Stage 2	487	-	-	-	-	-
Critical Hdwy	5.74	7.14	-	-	5.34	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.82	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	379	709	-	-	789	-
Stage 1	600	-	-	-	-	-
Stage 2	533	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	284	709	-	-	789	-
Mov Cap-2 Maneuver	284	-	-	-	-	-
Stage 1	600	-	-	-	-	-
Stage 2	400	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13	0	2.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	495	789	-
HCM Lane V/C Ratio	-	-	0.085	0.179	-
HCM Control Delay (s)	-	-	13	10.6	0.5
HCM Lane LOS	-	-	B	B	A
HCM 95th %tile Q(veh)	-	-	0.3	0.6	-

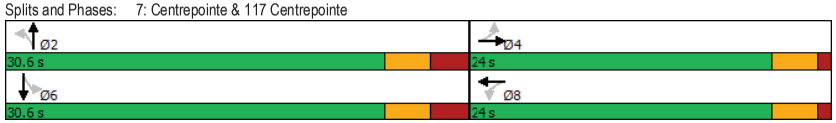
Lane Group	EBT	WBL	WBT	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	12	0	381	66	283
Future Volume (vph)	0	12	0	381	66	283
Lane Group Flow (vph)	1	0	37	440	0	388
Turn Type	NA	Perm	NA	NA	Perm	NA
Protected Phases	4		8	2		6
Permitted Phases		8			6	
Detector Phase	4	8	8	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.0	23.0	23.0	23.6	23.6	23.6
Total Split (s)	24.0	24.0	24.0	30.6	30.6	30.6
Total Split (%)	44.0%	44.0%	44.0%	56.0%	56.0%	56.0%
Maximum Green (s)	20.0	20.0	20.0	25.0	25.0	25.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	2.6	2.6	2.6
Lost Time Adjust (s)	0.0		0.0	0.0		0.0
Total Lost Time (s)	4.0		4.0	5.6		5.6
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Ped	Ped	Ped	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	12.0	12.0	12.0			
Pedestrian Calls (#/hr)	0	0	0			
Act Effct Green (s)	19.0		19.0	25.0		25.0
Actuated g/C Ratio	0.35		0.35	0.47		0.47
v/c Ratio	0.00		0.07	0.29		0.31
Control Delay	0.0		3.5	9.2		9.8
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	0.0		3.5	9.2		9.8
LOS	A		A	A		A
Approach Delay			3.5	9.2		9.8
Approach LOS			A	A		A
Queue Length 50th (m)	0.0		0.0	12.4		11.3
Queue Length 95th (m)	0.0		3.4	20.0		18.8
Internal Link Dist (m)	26.2		47.2	174.9		117.0
Turn Bay Length (m)						
Base Capacity (vph)	846		593	1542		1248
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.00		0.06	0.29		0.31

Intersection Summary
Cycle Length: 54.6
Actuated Cycle Length: 53.6
Natural Cycle: 50
Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.31

Intersection Signal Delay: 9.2	Intersection LOS: A
Intersection Capacity Utilization 43.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Centrepointe & 117 Centrepointe



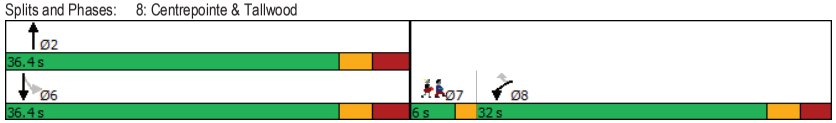
Lane Group	WBL	WBR	NBT	SBL	SBT	Ø7
Lane Configurations						
Traffic Volume (vph)	48	269	119	267	25	
Future Volume (vph)	48	269	119	267	25	
Lane Group Flow (vph)	53	299	351	297	28	
Turn Type	Prot	Perm	NA	Perm	NA	
Protected Phases	8		2		6	7
Permitted Phases		8		6		
Detector Phase	8	8	2	6	6	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	4.0
Minimum Split (s)	31.9	31.9	32.4	24.9	24.9	6.0
Total Split (s)	32.0	32.0	36.4	36.4	36.4	6.0
Total Split (%)	43.0%	43.0%	48.9%	48.9%	48.9%	8%
Maximum Green (s)	26.1	26.1	30.0	30.0	30.0	4.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.9	2.9	3.4	3.4	3.4	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.9	5.9	6.4	6.4	6.4	
Lead/Lag	Lag	Lag				Lead
Lead-Lag Optimize?	Yes	Yes				Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	None
Walk Time (s)	10.0	10.0	7.0			
Flash Dont Walk (s)	16.0	16.0	19.0			
Pedestrian Calls (#/hr)	0	0	0			
Act Effct Green (s)	10.4	10.4	30.0	30.0	30.0	
Actuated g/C Ratio	0.20	0.20	0.57	0.57	0.57	
v/c Ratio	0.16	0.56	0.19	0.55	0.03	
Control Delay	18.9	7.5	2.5	12.3	5.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	18.9	7.5	2.5	12.3	5.4	
LOS	B	A	A	B	A	
Approach Delay	9.2		2.5		11.7	
Approach LOS	A		A		B	
Queue Length 50th (m)	4.2	0.0	2.5	15.0	1.0	
Queue Length 95th (m)	11.3	15.5	7.4	37.3	3.7	
Internal Link Dist (m)	171.0		164.5		174.9	
Turn Bay Length (m)						
Base Capacity (vph)	821	885	1804	537	992	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.06	0.34	0.19	0.55	0.03	

Intersection Summary
Cycle Length: 74.4
Actuated Cycle Length: 52.7
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.56

Intersection Signal Delay: 7.7	Intersection LOS: A
Intersection Capacity Utilization 49.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: Centrepointe & Tallwood



Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	96	0	105	427	40
Future Vol, veh/h	0	96	0	105	427	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	107	0	117	474	44

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	259	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	740	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	740	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	740	-	-
HCM Lane V/C Ratio	-	0.144	-	-
HCM Control Delay (s)	-	10.7	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.5	-	-

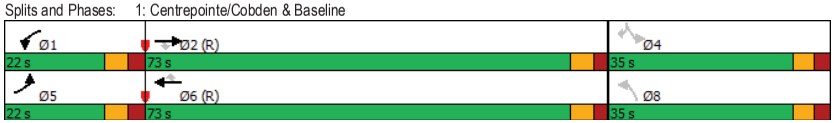
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	39	694	228	91	1470	135	167	75	92	57
Future Volume (vph)	39	694	228	91	1470	135	167	75	92	57
Lane Group Flow (vph)	43	771	253	101	1633	150	186	83	102	63
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Perm	Free	Perm	Perm
Protected Phases	5	2		1	6					
Permitted Phases			2			6	8	Free	4	4
Detector Phase	5	2	2	1	6	6	8		4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	11.4	29.0	29.0	11.4	29.0	29.0	35.0		16.0	16.0
Total Split (s)	22.0	73.0	73.0	22.0	73.0	73.0	35.0		35.0	35.0
Total Split (%)	16.9%	56.2%	56.2%	16.9%	56.2%	56.2%	26.9%		26.9%	26.9%
Maximum Green (s)	15.6	67.0	67.0	15.6	67.0	67.0	29.0		29.0	29.0
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.3		3.3	3.3
All-Red Time (s)	2.7	2.3	2.3	2.7	2.3	2.3	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	0.0
Total Lost Time (s)	6.4	6.0	6.0	6.4	6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None		None	None
Walk Time (s)		12.0	12.0		12.0	12.0	7.0			
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	22.0			
Pedestrian Calls (#/hr)		0	0		0	0	0			
Act Effct Green (s)	8.8	78.7	78.7	13.1	85.4	85.4	19.8	130.0	19.8	19.8
Actuated g/C Ratio	0.07	0.61	0.61	0.10	0.66	0.66	0.15	1.00	0.15	0.15
v/c Ratio	0.39	0.27	0.25	0.60	0.75	0.15	0.74	0.06	0.40	0.22
Control Delay	67.1	13.4	2.5	68.5	7.8	1.9	69.3	0.1	53.2	7.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	67.1	13.4	2.5	68.5	7.8	1.9	69.3	0.1	53.2	7.6
LOS	E	B	A	E	A	A	E	A	D	A
Approach Delay		13.0			10.6					
Approach LOS		B			B					
Queue Length 50th (m)	10.7	32.4	0.0	25.9	56.9	2.8	46.0	0.0	23.9	0.0
Queue Length 95th (m)	22.5	49.5	12.8	m35.5	63.2	m4.0	67.4	0.0	38.9	8.5
Internal Link Dist (m)		218.7			480.0					
Turn Bay Length (m)	85.0		105.0	60.0		100.0		80.0		40.0
Base Capacity (vph)	198	2884	997	204	2178	1022	369	1483	369	392
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.22	0.27	0.25	0.50	0.75	0.15	0.50	0.06	0.28	0.16

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 80 (62%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 100

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 15.5 — Intersection LOS: B
Intersection Capacity Utilization 74.3% — ICU Level of Service D
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Centrepointe/Cobden & Baseline



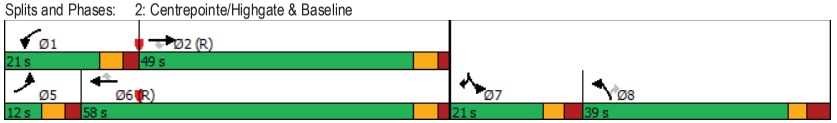
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	37	639	184	154	1240	124	373	229	76	83
Future Volume (vph)	37	639	184	154	1240	124	373	229	76	83
Lane Group Flow (vph)	41	710	204	171	1378	138	414	254	84	92
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Prot
Protected Phases	5	2		1	6		8		7	7
Permitted Phases			2			6		8		
Detector Phase	5	2	2	1	6	6	8	8	7	7
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	11.2	25.7	25.7	11.2	25.7	25.7	38.8	38.8	16.3	16.3
Total Split (s)	12.0	49.0	49.0	21.0	58.0	58.0	39.0	39.0	21.0	21.0
Total Split (%)	9.2%	37.7%	37.7%	16.2%	44.6%	44.6%	30.0%	30.0%	16.2%	16.2%
Maximum Green (s)	5.8	43.3	43.3	14.8	52.3	52.3	32.2	32.2	14.7	14.7
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.0	3.3	3.3
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0	3.8	3.8	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	5.7	5.7	6.2	5.7	5.7	6.8	6.8	6.3	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0		
Flash Dont Walk (s)		13.0	13.0		13.0	13.0	25.0	25.0		
Pedestrian Calls (#/hr)		0	0		0	0	0	0		
Act Effct Green (s)	8.4	58.6	58.6	12.2	64.8	64.8	22.2	22.2	12.1	12.1
Actuated g/C Ratio	0.06	0.45	0.45	0.09	0.50	0.50	0.17	0.17	0.09	0.09
v/c Ratio	0.39	0.33	0.26	0.57	0.83	0.17	0.76	0.55	0.55	0.30
Control Delay	64.7	29.1	10.7	81.4	19.0	1.3	60.2	9.9	69.5	2.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	64.7	29.1	10.7	81.4	19.0	1.3	60.2	9.9	69.5	2.6
LOS	E	C	B	F	B	A	E	A	E	A
Approach Delay		26.7			23.9					
Approach LOS		C			C					
Queue Length 50th (m)	10.4	37.8	0.0	23.5	87.5	0.7	52.7	0.0	21.0	0.0
Queue Length 95th (m)	22.5	72.6	33.0	34.2	#238.1	1.8	66.2	22.1	37.2	0.0
Internal Link Dist (m)		480.0			249.4					
Turn Bay Length (m)	52.0		140.0	88.0		100.0			30.0	
Base Capacity (vph)	107	2146	780	370	1652	807	796	558	187	330
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.38	0.33	0.26	0.46	0.83	0.17	0.52	0.46	0.45	0.28

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 71 (55%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 115

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 28.5 — Intersection LOS: C
Intersection Capacity Utilization 69.1% — 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: 2: Centrepointe/Highgate & Baseline



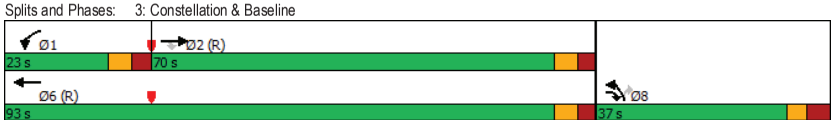
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	922	20	82	1318	200	347
Future Volume (vph)	922	20	82	1318	200	347
Lane Group Flow (vph)	1024	22	91	1464	222	386
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	32.5	34.4	11.7	16.5	34.4	34.4
Total Split (s)	70.0	37.0	23.0	93.0	37.0	37.0
Total Split (%)	53.8%	28.5%	17.7%	71.5%	28.5%	28.5%
Maximum Green (s)	63.5	30.1	16.3	86.5	30.1	30.1
Yellow Time (s)	3.7	3.0	3.7	3.7	3.0	3.0
All-Red Time (s)	2.8	3.9	3.0	2.8	3.9	3.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.9	6.7	6.5	6.9	6.9
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	None	None	C-Max	None	None
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	19.0	20.0			20.0	20.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	82.2	107.3	9.1	98.0	18.6	18.6
Actuated g/C Ratio	0.63	0.83	0.07	0.75	0.14	0.14
v/c Ratio	0.34	0.02	0.41	0.59	0.48	0.86
Control Delay	8.9	0.1	83.0	4.3	53.3	34.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.9	0.1	83.0	4.3	53.3	34.1
LOS	A	A	F	A	D	C
Approach Delay	8.7			8.9	41.1	
Approach LOS	A			A	D	
Queue Length 50th (m)	18.6	0.0	12.7	20.5	27.7	28.9
Queue Length 95th (m)	36.2	m0.2	m9.8	m141.5	35.8	61.8
Internal Link Dist (m)	249.4			272.7	77.0	
Turn Bay Length (m)		55.0	90.0		50.0	
Base Capacity (vph)	3013	1357	403	2499	744	555
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	0.34	0.02	0.23	0.59	0.30	0.70

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 64 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 80

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.86
Intersection Signal Delay: 14.9 — Intersection LOS: B
Intersection Capacity Utilization 58.0% — ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Constellation & Baseline



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	347	749	173	145	906	369	282	923	100	362	954	212
Future Volume (vph)	347	749	173	145	906	369	282	923	100	362	954	212
Lane Group Flow (vph)	386	832	192	161	1007	410	313	1026	111	402	1060	236
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	12.1	39.8	39.8	12.1	39.8	39.8	11.9	36.8	36.8	11.9	36.8	36.8
Total Split (s)	26.0	40.0	40.0	26.0	40.0	40.0	21.0	39.0	39.0	25.0	43.0	43.0
Total Split (%)	20.0%	30.8%	30.8%	20.0%	30.8%	30.8%	16.2%	30.0%	30.0%	19.2%	33.1%	33.1%
Maximum Green (s)	18.9	33.2	33.2	18.9	33.2	33.2	14.1	32.2	32.2	18.1	36.2	36.2
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.1	3.1	3.4	3.1	3.1	3.2	3.1	3.1	3.2	3.1	3.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.1	6.8	6.8	7.1	6.8	6.8	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		26.0	26.0		26.0	26.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	18.3	36.6	36.6	16.4	34.7	34.7	14.1	31.5	31.5	17.9	35.3	35.3
Actuated g/C Ratio	0.14	0.28	0.28	0.13	0.27	0.27	0.11	0.24	0.24	0.14	0.27	0.27
v/c Ratio	0.85	0.89	0.37	0.77	1.14	0.71	0.90	0.89	0.24	0.91	0.82	0.44
Control Delay	61.2	65.9	22.8	78.1	119.5	24.9	85.7	58.1	3.4	80.2	50.4	13.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	61.2	65.9	22.8	78.1	119.5	24.9	85.7	58.1	3.4	80.2	50.4	13.4
LOS	E	E	C	E	F	C	F	E	A	F	D	B
Approach Delay		58.7			90.7			59.9			52.3	
Approach LOS		E			F			E			D	
Queue Length 50th (m)	42.0	118.8	18.7	40.0	~163.4	39.2	41.4	92.8	0.0	52.9	92.6	11.4
Queue Length 95th (m)	#74.7	#158.3	m43.6	#64.4	#204.6	78.7	#67.1	110.5	6.6	#80.6	109.8	34.2
Internal Link Dist (m)		272.7			288.4			248.1			234.6	
Turn Bay Length (m)	53.0		30.0	105.0		85.0	120.0		100.0	95.0		50.0
Base Capacity (vph)	467	932	523	241	884	575	348	1180	479	447	1326	540
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.89	0.37	0.67	1.14	0.71	0.90	0.87	0.23	0.90	0.80	0.44

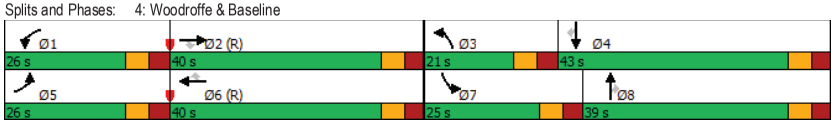
Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 21 (16%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 125

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.14
Intersection Signal Delay: 65.4 Intersection LOS: E
Intersection Capacity Utilization 89.6% ICU Level of Service E
Analysis Period (min) 15

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

Splits and Phases: 4: Woodroffe & Baseline



Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	77	525	12	18	355
Future Vol, veh/h	25	77	525	12	18	355
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	400	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	28	86	583	13	20	394

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	788	298	0	0	596	0
Stage 1	590	-	-	-	-	-
Stage 2	198	-	-	-	-	-
Critical Hdwy	5.74	7.14	-	-	5.34	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.82	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	396	596	-	-	610	-
Stage 1	427	-	-	-	-	-
Stage 2	750	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	379	596	-	-	610	-
Mov Cap-2 Maneuver	379	-	-	-	-	-
Stage 1	427	-	-	-	-	-
Stage 2	719	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.8	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	523	610	-
HCM Lane V/C Ratio	-	-	0.217	0.033	-
HCM Control Delay (s)	-	-	13.8	11.1	0.1
HCM Lane LOS	-	-	B	B	A
HCM 95th %tile Q(veh)	-	-	0.8	0.1	-

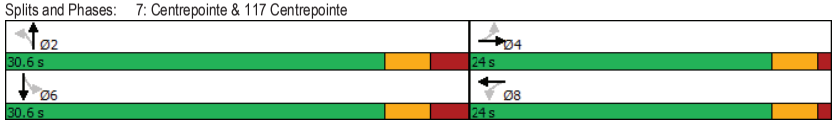
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	1	0	23	0	1	325	34	354
Future Volume (vph)	1	0	23	0	1	325	34	354
Lane Group Flow (vph)	0	1	0	109	0	380	0	431
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector 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)	24.0	24.0	24.0	24.0	15.6	15.6	15.6	15.6
Total Split (s)	24.0	24.0	24.0	24.0	30.6	30.6	30.6	30.6
Total Split (%)	44.0%	44.0%	44.0%	44.0%	56.0%	56.0%	56.0%	56.0%
Maximum Green (s)	20.0	20.0	20.0	20.0	25.0	25.0	25.0	25.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	2.6	2.6	2.6	2.6
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		4.0		4.0		5.6		5.6
Lead/Lag								
Lead-Lag Optimize?								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Ped	Ped	Ped	Ped	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0				
Flash Dont Walk (s)	13.0	13.0	13.0	13.0				
Pedestrian Calls (#/hr)	0	0	0	0				
Act Effct Green (s)		20.0		20.0		25.0		25.0
Actuated g/C Ratio		0.37		0.37		0.46		0.46
v/c Ratio		0.00		0.18		0.26		0.32
Control Delay		11.0		5.7		9.4		10.2
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		11.0		5.7		9.4		10.2
LOS		B		A		A		B
Approach Delay		11.0		5.7		9.4		10.2
Approach LOS		B		A		A		B
Queue Length 50th (m)		0.1		1.6		10.9		13.2
Queue Length 95th (m)		0.8		9.4		18.1		21.2
Internal Link Dist (m)		26.2		47.2		174.9		117.0
Turn Bay Length (m)								
Base Capacity (vph)		486		598		1444		1360
Starvation Cap Reductn		0		0		0		0
Spillback Cap Reductn		0		0		0		0
Storage Cap Reductn		0		0		0		0
Reduced v/c Ratio		0.00		0.18		0.26		0.32

Intersection Summary
Cycle Length: 54.6
Actuated Cycle Length: 54.6
Natural Cycle: 40
Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.32

Intersection Signal Delay: 9.4	Intersection LOS: A
Intersection Capacity Utilization 42.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Centrepointe & 117 Centrepointe



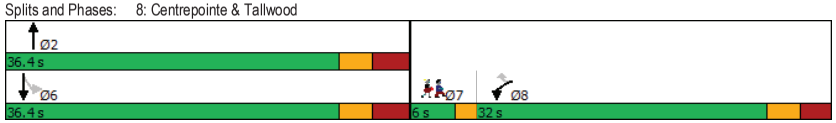
Lane Group	WBL	WBR	NBT	SBL	SBT	Ø7
Lane Configurations						
Traffic Volume (vph)	263	282	57	294	71	
Future Volume (vph)	263	282	57	294	71	
Lane Group Flow (vph)	292	313	215	327	79	
Turn Type	Prot	Perm	NA	Perm	NA	
Protected Phases	8		2		6	7
Permitted Phases		8		6		
Detector Phase	8	8	2	6	6	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	4.0
Minimum Split (s)	31.9	31.9	32.4	16.4	16.4	6.0
Total Split (s)	32.0	32.0	36.4	36.4	36.4	6.0
Total Split (%)	43.0%	43.0%	48.9%	48.9%	48.9%	8%
Maximum Green (s)	26.1	26.1	30.0	30.0	30.0	4.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.9	2.9	3.4	3.4	3.4	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.9	5.9	6.4	6.4	6.4	
Lead/Lag	Lag	Lag				Lead
Lead-Lag Optimize?	Yes	Yes				Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	None
Walk Time (s)	10.0	10.0	7.0			
Flash Dont Walk (s)	16.0	16.0	19.0			
Pedestrian Calls (#/hr)	0	0	0			
Act Effct Green (s)	15.4	15.4	30.2	30.2	30.2	
Actuated g/C Ratio	0.27	0.27	0.52	0.52	0.52	
v/c Ratio	0.66	0.50	0.13	0.58	0.09	
Control Delay	26.6	5.4	3.4	16.4	8.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	26.6	5.4	3.4	16.4	8.7	
LOS	C	A	A	B	A	
Approach Delay	15.6		3.4		14.9	
Approach LOS	B		A		B	
Queue Length 50th (m)	27.2	0.0	1.5	21.2	3.7	
Queue Length 95th (m)	47.6	14.1	7.0	56.0	11.5	
Internal Link Dist (m)	171.0		164.5		174.9	
Turn Bay Length (m)						
Base Capacity (vph)	751	843	1616	560	908	
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	0.39	0.37	0.13	0.58	0.09	

Intersection Summary
Cycle Length: 74.4
Actuated Cycle Length: 57.9
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 13.2	Intersection LOS: B
Intersection Capacity Utilization 56.5%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 8: Centrepointe & Tallwood



Intersection						
Int Delay, s/veh	0.1					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	5	0	545	82	20
Future Vol, veh/h	0	5	0	545	82	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	6	0	606	91	22

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	57	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	997	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	997	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	997	-	-
HCM Lane V/C Ratio	-	0.006	-	-
HCM Control Delay (s)	-	8.6	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Appendix D

Collision Data

DRAFT

Accident Date	Accident Year	Accident Time	Location	Environment Condition	Light	Traffic Control	Traffic Control Condition	Classification Of Accident	Initial Impact Type	Road Surface Condition
2014-04-22	2014	15:33	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	02 - Rain	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	05 - Turning movement	02 - Wet
2014-05-18	2014	12:38	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	01 - Dry
2014-01-06	2014	2:42	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	04 - Freezing Rain	07 - Dark	01 - Traffic signal		03 - P.D. only	07 - SMV other	06 - Ice
2014-02-14	2014	9:00	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	03 - Snow	01 - Daylight	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	03 - Loose snow
2014-05-01	2014	20:35	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	05 - Dusk	01 - Traffic signal		03 - P.D. only	05 - Turning movement	01 - Dry
2014-05-26	2014	18:27	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	05 - Turning movement	01 - Dry
2014-07-30	2014	10:31	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2014-10-03	2014	21:53	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	07 - Dark	01 - Traffic signal		03 - P.D. only	03 - Rear end	02 - Wet
2014-10-06	2014	13:15	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	02 - Rain	01 - Daylight	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	02 - Wet
2014-10-16	2014	12:33	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	02 - Rain	01 - Daylight	01 - Traffic signal		03 - P.D. only	05 - Turning movement	02 - Wet
2015-10-18	2015	8:06	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	01 - Dry
2015-06-16	2015	11:50	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	02 - Rain	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	02 - Wet
2015-10-31	2015	12:09	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	05 - Turning movement	01 - Dry
2015-01-27	2015	8:19	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2015-08-01	2015	21:04	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	07 - Dark	01 - Traffic signal		03 - P.D. only	05 - Turning movement	01 - Dry
2015-11-23	2015	7:47	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2015-10-13	2015	7:59	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	02 - Rain	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	02 - Wet
2016-03-11	2016	15:30	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	01 - Dry
2016-10-16	2016	9:10	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	02 - Angle	01 - Dry
2016-09-07	2016	15:03	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	07 - Fog, mist, smoke, dust	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	01 - Dry
2016-08-17	2016	6:00	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	02 - Rain	03 - Dawn	01 - Traffic signal		03 - P.D. only	07 - SMV other	02 - Wet
2016-01-29	2016	7:26	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	03 - Snow	03 - Dawn	01 - Traffic signal		03 - P.D. only	02 - Angle	03 - Loose snow
2016-12-15	2016	19:52	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	07 - Dark	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	06 - Ice
2016-12-22	2016	9:00	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	03 - Snow	01 - Daylight	01 - Traffic signal		03 - P.D. only	07 - SMV other	03 - Loose snow
2016-12-04	2016	21:16	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	07 - Dark	01 - Traffic signal		03 - P.D. only	05 - Turning movement	01 - Dry
2017-06-20	2017	19:44	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2017-09-20	2017	9:38	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	05 - Turning movement	01 - Dry
2017-11-26	2017	18:15	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	03 - Snow	07 - Dark	01 - Traffic signal		03 - P.D. only	03 - Rear end	03 - Loose snow
2017-12-14	2017	9:59	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	03 - Loose snow
2017-01-24	2017	22:21	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	03 - Snow	07 - Dark	01 - Traffic signal		03 - P.D. only	02 - Angle	03 - Loose snow
2017-03-08	2017	9:04	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	02 - Wet
2017-03-08	2017	17:27	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	05 - Dusk	01 - Traffic signal		02 - Non-fatal injury	05 - Turning movement	01 - Dry
2017-03-14	2017	16:20	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	03 - Snow	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	05 - Packed snow
2017-04-10	2017	14:30	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	02 - Wet
2017-04-18	2017	8:49	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2018-01-01	2018	12:13	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	01 - Dry
2018-01-27	2018	11:21	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	01 - Dry
2018-02-12	2018	16:04	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	03 - Loose snow
2018-03-16	2018	22:43	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	07 - Dark	01 - Traffic signal		03 - P.D. only	07 - SMV other	01 - Dry
2018-05-31	2018	8:20	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2018-08-25	2018	23:22	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	02 - Rain	07 - Dark	01 - Traffic signal		02 - Non-fatal injury	07 - SMV other	02 - Wet
2018-09-25	2018	8:30	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	02 - Rain	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	02 - Wet
2018-11-02	2018	7:30	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	01 - Clear	03 - Dawn	01 - Traffic signal		03 - P.D. only	03 - Rear end	02 - Wet
2018-11-16	2018	16:27	BASELINE RD @ CENTREPOINTE DR E/HIGHGATE RD	03 - Snow	05 - Dusk	01 - Traffic signal		03 - P.D. only	03 - Rear end	04 - Slush
2014-03-05	2014	15:51	BASELINE RD @ CENTREPOINTE DR W/COBDEN RD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	02 - Wet
2014-07-13	2014	14:06	BASELINE RD @ CENTREPOINTE DR W/COBDEN RD	02 - Rain	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	02 - Angle	02 - Wet
2014-07-22	2014	11:09	BASELINE RD @ CENTREPOINTE DR W/COBDEN RD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	01 - Dry
2014-01-11	2014	7:15	BASELINE RD @ CENTREPOINTE DR W/COBDEN RD	04 - Freezing Rain	03 - Dawn	01 - Traffic signal		03 - P.D. only	02 - Angle	06 - Ice
2014-04-13	2014	22:54	BASELINE RD @ CENTREPOINTE DR W/COBDEN RD	02 - Rain	07 - Dark	01 - Traffic signal		03 - P.D. only	03 - Rear end	02 - Wet
2014-12-11	2014	5:31	BASELINE RD @ CENTREPOINTE DR W/COBDEN RD	03 - Snow	07 - Dark	01 - Traffic signal		03 - P.D. only	07 - SMV other	03 - Loose snow
2014-07-22	2014	14:49	BASELINE RD @ CENTREPOINTE DR W/COBDEN RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	02 - Angle	01 - Dry
2015-11-12	2015	18:45	BASELINE RD @ CENTREPOINTE DR W/COBDEN RD	02 - Rain	07 - Dark	01 - Traffic signal		02 - Non-fatal injury	04 - Sideswipe	02 - Wet
2015-10-22	2015	11:19	BASELINE RD @ CENTREPOINTE DR W/COBDEN RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	04 - Sideswipe	01 - Dry
2015-10-09	2015	14:54	BASELINE RD @ CENTREPOINTE DR W/COBDEN RD	02 - Rain	01 - Daylight	01 - Traffic signal		03 - P.D. only	01 - Approaching	02 - Wet
2015-12-31	2015	17:17	BASELINE RD @ CENTREPOINTE DR W/COBDEN RD	03 - Snow	07 - Dark	01 - Traffic signal		03 - P.D. only	03 - Rear end	05 - Packed snow
2017-10-04	2017	12:04	BASELINE RD @ CENTREPOINTE DR W/COBDEN RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	01 - Dry
2017-11-02	2017	22:24	BASELINE RD @ CENTREPOINTE DR W/COBDEN RD	02 - Rain	07 - Dark	01 - Traffic signal		03 - P.D. only	03 - Rear end	02 - Wet
2017-02-16	2017	9:38	BASELINE RD @ CENTREPOINTE DR W/COBDEN RD	01 - Clear	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	06 - Ice
2017-02-07	2017	18:05	BASELINE RD @ CENTREPOINTE DR W/COBDEN RD	03 - Snow	07 - Dark	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	03 - Loose snow
2017-04-18	2017	8:04	BASELINE RD @ CENTREPOINTE DR W/COBDEN RD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	01 - Dry
2017-12-29	2017	19:09	BASELINE RD @ CENTREPOINTE DR W/COBDEN RD	01 - Clear	07 - Dark	01 - Traffic signal		03 - P.D. only	03 - Rear end	06 - Ice
2017-12-21	2017	14:16	BASELINE RD @ CENTREPOINTE DR W/COBDEN RD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	02 - Angle	01 - Dry
2018-03-05	2018	10:03	BASELINE RD @ CENTREPOINTE DR W/COBDEN RD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	01 - Dry
2018-03-29	2018	14:36	BASELINE RD @ CENTREPOINTE DR W/COBDEN RD	02 - Rain	01 - Daylight	01 - Traffic signal		03 - P.D. only	05 - Turning movement	02 - Wet
2018-06-11	2018	16:30	BASELINE RD @ CENTREPOINTE DR W/COBDEN RD	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	01 - Dry
2018-09-10	2018	17:20	BASELINE RD @ CENTREPOINTE DR W/COBDEN RD	02 - Rain	01 - Daylight	01 - Traffic signal		03 - P.D. only	03 - Rear end	02 - Wet
2014-03-12	2014	11:35	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	01 - Dry
2014-07-02	2014	14:35	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	01 - Dry
2014-02-12	2014	12:15	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	01 - Dry
2014-12-24	2014	18:38	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal		02 - Non-fatal injury	03 - Rear end	01 - Dry
2014-01-02	2014	19:18	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal		03 - P.D. only	03 - Rear end	02 - Wet

2014-01-04	2014	10:45	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	02 - Wet
2014-01-27	2014	11:20	BASELINE RD @ WOODROFFE AVE	03 - Snow	01 - Daylight	01 - Traffic signal	03 - P.D. only	02 - Angle	03 - Loose snow
2014-02-12	2014	14:40	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2014-02-10	2014	21:00	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2014-03-28	2014	18:30	BASELINE RD @ WOODROFFE AVE	02 - Rain	05 - Dusk	01 - Traffic signal	03 - P.D. only	03 - Rear end	02 - Wet
2014-04-06	2014	8:13	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	02 - Angle	01 - Dry
2014-04-11	2014	0:00	BASELINE RD @ WOODROFFE AVE	01 - Clear	00 - Unknown	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2014-03-21	2014	20:00	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2014-03-26	2014	15:52	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2014-05-01	2014	9:00	BASELINE RD @ WOODROFFE AVE	02 - Rain	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	02 - Wet
2014-05-09	2014	12:44	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2014-05-22	2014	11:38	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2014-04-12	2014	14:23	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2014-07-14	2014	9:30	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2014-06-09	2014	15:15	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	02 - Angle	01 - Dry
2014-07-20	2014	9:58	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2014-08-01	2014	20:05	BASELINE RD @ WOODROFFE AVE	01 - Clear	05 - Dusk	01 - Traffic signal	03 - P.D. only	07 - SMV other	01 - Dry
2014-07-29	2014	14:00	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2014-08-02	2014	16:15	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2014-08-13	2014	18:05	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2014-08-22	2014	17:30	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2014-09-22	2014	14:20	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2014-09-12	2014	9:45	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2014-09-29	2014	16:48	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2014-08-13	2014	16:00	BASELINE RD @ WOODROFFE AVE	02 - Rain	01 - Daylight	01 - Traffic signal	03 - P.D. only	02 - Angle	02 - Wet
2014-09-05	2014	15:40	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2014-11-11	2014	14:34	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2014-09-15	2014	22:50	BASELINE RD @ WOODROFFE AVE	02 - Rain	07 - Dark	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	02 - Wet
2014-11-28	2014	9:44	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	02 - Angle	01 - Dry
2014-11-20	2014	14:15	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2014-08-19	2014	22:30	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2014-10-03	2014	16:15	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2014-10-02	2014	19:11	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2014-12-18	2014	19:35	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2014-11-21	2014	11:10	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2015-02-24	2015	10:51	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	01 - Dry
2015-06-26	2015	14:24	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	01 - Dry
2015-09-12	2015	15:59	BASELINE RD @ WOODROFFE AVE	02 - Rain	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	02 - Wet
2015-08-06	2015	10:41	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	01 - Dry
2015-07-16	2015	12:50	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	01 - Dry
2015-11-15	2015	8:22	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	04 - Sideswipe	01 - Dry
2015-01-29	2015	18:45	BASELINE RD @ WOODROFFE AVE	03 - Snow	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	03 - Loose snow
2015-01-23	2015	9:41	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2015-03-06	2015	15:46	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2015-02-05	2015	15:57	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	06 - Ice
2015-02-04	2015	9:15	BASELINE RD @ WOODROFFE AVE	03 - Snow	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	03 - Loose snow
2015-03-27	2015	11:00	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	02 - Wet
2015-01-26	2015	11:45	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2015-02-18	2015	9:30	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2015-02-19	2015	9:12	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2015-01-11	2015	1:55	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	02 - Wet
2015-02-27	2015	7:49	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2015-02-26	2015	9:12	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2015-03-12	2015	15:08	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2015-02-27	2015	19:41	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2015-04-07	2015	8:50	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2015-04-07	2015	9:00	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2015-03-31	2015	14:52	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2015-10-08	2015	16:09	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2015-10-22	2015	11:38	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	05 - Turning movement	01 - Dry
2015-10-18	2015	17:31	BASELINE RD @ WOODROFFE AVE	01 - Clear	05 - Dusk	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2015-12-18	2015	18:21	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2015-11-23	2015	21:00	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2015-12-30	2015	16:58	BASELINE RD @ WOODROFFE AVE	02 - Rain	07 - Dark	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	02 - Wet
2015-12-26	2015	0:41	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	02 - Angle	01 - Dry
2015-11-05	2015	8:50	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2016-10-30	2016	0:27	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	02 - Non-fatal injury	99 - Other	01 - Dry
2016-08-09	2016	16:31	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	04 - Sideswipe	01 - Dry
2016-02-26	2016	8:00	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	01 - Dry
2016-02-09	2016	14:55	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	01 - Dry
2016-10-23	2016	11:14	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	01 - Dry
2016-12-16	2016	15:38	BASELINE RD @ WOODROFFE AVE	03 - Snow	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	02 - Wet

2016-05-14	2016	13:42	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	02 - Wet
2016-03-04	2016	19:20	BASELINE RD @ WOODROFFE AVE	03 - Snow	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	05 - Packed snow
2016-02-13	2016	14:02	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2016-08-15	2016	17:59	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2016-06-19	2016	6:20	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2016-01-11	2016	11:26	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	06 - Ice
2016-09-19	2016	7:50	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2016-03-14	2016	11:43	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2016-04-07	2016	16:07	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	02 - Wet
2016-05-12	2016	9:55	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2016-05-26	2016	7:54	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2016-07-25	2016	16:48	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2016-05-31	2016	16:52	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	02 - Angle	01 - Dry
2016-07-30	2016	13:27	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2016-11-09	2016	13:21	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2016-10-15	2016	8:58	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2016-07-07	2016	8:57	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2016-11-07	2016	15:48	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2016-09-29	2016	9:19	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2016-12-13	2016	10:27	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	02 - Wet
2016-12-16	2016	6:43	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	05 - Turning movement	01 - Dry
2016-12-06	2016	12:50	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	05 - Turning movement	01 - Dry
2017-05-26	2017	17:30	BASELINE RD @ WOODROFFE AVE	02 - Rain	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	02 - Wet
2017-04-29	2017	12:05	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2017-05-17	2017	12:43	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2017-05-29	2017	14:00	BASELINE RD @ WOODROFFE AVE	02 - Rain	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	02 - Wet
2017-07-18	2017	10:57	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2017-07-21	2017	22:10	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	02 - Non-fatal injury	05 - Turning movement	01 - Dry
2017-07-08	2017	9:52	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2017-07-25	2017	18:03	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2017-08-26	2017	13:27	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2017-07-27	2017	16:27	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2017-08-31	2017	14:57	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2017-08-10	2017	9:45	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2017-09-13	2017	18:43	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	01 - Dry
2017-10-16	2017	9:57	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2017-10-31	2017	12:59	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2017-09-09	2017	16:13	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2017-09-09	2017	16:30	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2017-09-26	2017	17:56	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2017-10-19	2017	18:55	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2017-09-11	2017	15:55	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	99 - Other	01 - Dry
2017-11-19	2017	8:20	BASELINE RD @ WOODROFFE AVE	04 - Freezing Rain	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	02 - Angle	05 - Packed snow
2017-11-07	2017	12:11	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2017-11-30	2017	19:21	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2017-11-20	2017	11:05	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	02 - Wet
2017-11-28	2017	16:45	BASELINE RD @ WOODROFFE AVE	01 - Clear	05 - Dusk	01 - Traffic signal	03 - P.D. only	05 - Turning movement	01 - Dry
2017-12-12	2017	13:53	BASELINE RD @ WOODROFFE AVE	03 - Snow	01 - Daylight	01 - Traffic signal	03 - P.D. only	02 - Angle	03 - Loose snow
2017-11-27	2017	12:00	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	01 - Dry
2017-12-11	2017	9:30	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	02 - Angle	01 - Dry
2017-02-15	2017	23:03	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	02 - Non-fatal injury	02 - Angle	05 - Packed snow
2017-01-17	2017	7:10	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2017-01-26	2017	11:00	BASELINE RD @ WOODROFFE AVE	03 - Snow	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	04 - Sideswipe	02 - Wet
2017-01-11	2017	13:36	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	02 - Wet
2017-02-08	2017	19:00	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	02 - Wet
2017-04-14	2017	23:12	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2017-03-13	2017	15:02	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2017-03-09	2017	20:08	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2017-03-31	2017	15:28	BASELINE RD @ WOODROFFE AVE	03 - Snow	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	02 - Wet
2017-03-29	2017	9:06	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2017-12-18	2017	12:05	BASELINE RD @ WOODROFFE AVE	03 - Snow	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	03 - Loose snow
2017-12-19	2017	17:35	BASELINE RD @ WOODROFFE AVE	03 - Snow	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	03 - Loose snow
2018-01-03	2018	19:35	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	01 - Dry
2018-01-05	2018	17:40	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-01-21	2018	11:23	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	01 - Dry
2018-02-24	2018	18:13	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	02 - Non-fatal injury	99 - Other	01 - Dry
2018-03-01	2018	11:29	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-03-02	2018	11:53	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2018-03-16	2018	14:52	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-04-07	2018	15:35	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-04-14	2018	3:44	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-05-09	2018	11:01	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry

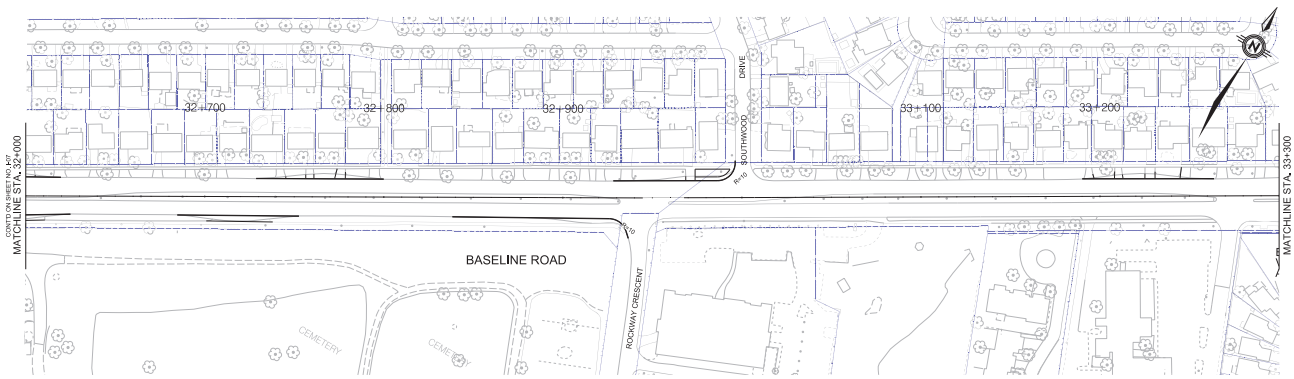
2018-05-15	2018	21:33	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-06-01	2018	19:00	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-06-04	2018	13:12	BASELINE RD @ WOODROFFE AVE	02 - Rain	01 - Daylight	01 - Traffic signal	03 - P.D. only	99 - Other	02 - Wet
2018-06-11	2018	16:08	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-07-04	2018	14:28	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-07-19	2018	7:20	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-07-26	2018	18:00	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	04 - Sideswipe	01 - Dry
2018-09-19	2018	13:00	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-09-28	2018	11:15	BASELINE RD @ WOODROFFE AVE	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-10-31	2018	10:54	BASELINE RD @ WOODROFFE AVE	02 - Rain	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	02 - Wet
2018-11-09	2018	14:20	BASELINE RD @ WOODROFFE AVE	02 - Rain	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	02 - Wet
2018-11-30	2018	22:00	BASELINE RD @ WOODROFFE AVE	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-12-02	2018	13:05	BASELINE RD @ WOODROFFE AVE	02 - Rain	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	02 - Wet
2014-06-13	2014	16:15	BASELINE RD btwn BARBARA ANN PRIV & HIGHGATE RD	01 - Clear	01 - Daylight	10 - No control	02 - Non-fatal injury	03 - Rear end	01 - Dry
2015-08-26	2015	17:57	BASELINE RD btwn BARBARA ANN PRIV & HIGHGATE RD	02 - Rain	01 - Daylight	10 - No control	03 - P.D. only	03 - Rear end	02 - Wet
2016-05-16	2016	7:55	BASELINE RD btwn BARBARA ANN PRIV & HIGHGATE RD	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	04 - Sideswipe	01 - Dry
2016-09-17	2016	22:40	BASELINE RD btwn BARBARA ANN PRIV & HIGHGATE RD	02 - Rain	07 - Dark	10 - No control	03 - P.D. only	03 - Rear end	02 - Wet
2018-09-25	2018	7:20	BASELINE RD btwn BARBARA ANN PRIV & HIGHGATE RD	02 - Rain	03 - Dawn	10 - No control	03 - P.D. only	04 - Sideswipe	02 - Wet
2014-10-22	2014	7:42	BASELINE RD btwn COBDEN RD & BARBARA ANN PRIV	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	03 - Rear end	01 - Dry
2015-06-15	2015	7:52	BASELINE RD btwn COBDEN RD & BARBARA ANN PRIV	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	03 - Rear end	01 - Dry
2015-11-16	2015	10:50	BASELINE RD btwn COBDEN RD & BARBARA ANN PRIV	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	04 - Sideswipe	01 - Dry
2017-02-16	2017	17:05	BASELINE RD btwn COBDEN RD & BARBARA ANN PRIV	01 - Clear	01 - Daylight	10 - No control	02 - Non-fatal injury	03 - Rear end	02 - Wet
2018-09-25	2018	9:00	BASELINE RD btwn COBDEN RD & BARBARA ANN PRIV	02 - Rain	01 - Daylight	10 - No control	03 - P.D. only	03 - Rear end	02 - Wet
2018-10-29	2018	23:06	BASELINE RD btwn COBDEN RD & BARBARA ANN PRIV	01 - Clear	07 - Dark	10 - No control	03 - P.D. only	04 - Sideswipe	01 - Dry
2014-02-13	2014	16:20	BASELINE RD btwn CONSTELLATION CRES & WOODROFFE AVE	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	03 - Rear end	01 - Dry
2014-02-28	2014	11:00	BASELINE RD btwn CONSTELLATION CRES & WOODROFFE AVE	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	04 - Sideswipe	01 - Dry
2014-04-26	2014	20:07	BASELINE RD btwn CONSTELLATION CRES & WOODROFFE AVE	02 - Rain	07 - Dark	10 - No control	03 - P.D. only	07 - SMV other	02 - Wet
2016-01-30	2016	11:48	BASELINE RD btwn CONSTELLATION CRES & WOODROFFE AVE	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	03 - Rear end	01 - Dry
2016-01-16	2016	13:46	BASELINE RD btwn CONSTELLATION CRES & WOODROFFE AVE	03 - Snow	01 - Daylight	10 - No control	03 - P.D. only	03 - Rear end	03 - Loose snow
2016-07-05	2016	16:35	BASELINE RD btwn CONSTELLATION CRES & WOODROFFE AVE	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	03 - Rear end	01 - Dry
2017-05-21	2017	22:55	BASELINE RD btwn CONSTELLATION CRES & WOODROFFE AVE	02 - Rain	07 - Dark	10 - No control	03 - P.D. only	04 - Sideswipe	02 - Wet
2017-09-28	2017	8:32	BASELINE RD btwn CONSTELLATION CRES & WOODROFFE AVE	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	04 - Sideswipe	01 - Dry
2014-12-12	2014	14:01	BASELINE RD btwn HIGHGATE RD & TURN LANE	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	04 - Sideswipe	02 - Wet
2016-05-05	2016	17:20	BASELINE RD btwn HIGHGATE RD & TURN LANE	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	04 - Sideswipe	01 - Dry
2018-01-22	2018	18:40	BASELINE RD btwn HIGHGATE RD & TURN LANE	04 - Freezing Rain	07 - Dark	10 - No control	02 - Non-fatal injury	04 - Sideswipe	06 - Ice
2018-09-26	2018	8:30	BASELINE RD btwn HIGHGATE RD & TURN LANE	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	03 - Rear end	02 - Wet
2016-11-24	2016	9:46	CASTLEBROOK LANE @ CENTREPOINTE DR	03 - Snow	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	03 - Loose snow
2015-02-02	2015	7:28	CENTREPOINTE DR @ CHRYSALIS WAY/PLUNKETT CRT	03 - Snow	01 - Daylight	02 - Stop sign	03 - P.D. only	05 - Turning movement	03 - Loose snow
2016-07-02	2016	18:06	CENTREPOINTE DR @ CHRYSALIS WAY/PLUNKETT CRT	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2015-05-28	2015	15:50	CENTREPOINTE DR @ CONSTELLATION CRES S	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2016-11-10	2016	17:33	CENTREPOINTE DR @ CONSTELLATION CRES S	01 - Clear	07 - Dark	02 - Stop sign	03 - P.D. only	04 - Sideswipe	01 - Dry
2016-12-15	2016	16:00	CENTREPOINTE DR @ CONSTELLATION CRES S	01 - Clear	05 - Dusk	02 - Stop sign	03 - P.D. only	03 - Rear end	01 - Dry
2017-11-15	2017	13:57	CENTREPOINTE DR @ CONSTELLATION CRES S	01 - Clear	01 - Daylight	02 - Stop sign	02 - Non-fatal injury	07 - SMV other	01 - Dry
2018-01-26	2018	8:41	CENTREPOINTE DR @ CONSTELLATION CRES S	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2016-02-04	2016	9:10	CENTREPOINTE DR @ GEMINI WAY	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	02 - Wet
2017-12-22	2017	13:00	CENTREPOINTE DR @ GEMINI WAY	03 - Snow	01 - Daylight	02 - Stop sign	03 - P.D. only	01 - Approaching	06 - Ice
2014-08-02	2014	17:45	CENTREPOINTE DR @ HEMMINGWOOD WAY E	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	05 - Turning movement	01 - Dry
2014-11-05	2014	17:45	CENTREPOINTE DR @ HEMMINGWOOD WAY E	01 - Clear	07 - Dark	02 - Stop sign	03 - P.D. only	03 - Rear end	01 - Dry
2014-11-13	2014	15:24	CENTREPOINTE DR @ HEMMINGWOOD WAY E	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2015-09-23	2015	7:54	CENTREPOINTE DR @ HEMMINGWOOD WAY E	01 - Clear	01 - Daylight	02 - Stop sign	02 - Non-fatal injury	03 - Rear end	01 - Dry
2015-12-02	2015	11:53	CENTREPOINTE DR @ HEMMINGWOOD WAY E	01 - Clear	01 - Daylight	02 - Stop sign	02 - Non-fatal injury	02 - Angle	02 - Wet
2016-08-16	2016	17:11	CENTREPOINTE DR @ HEMMINGWOOD WAY E	02 - Rain	01 - Daylight	02 - Stop sign	03 - P.D. only	02 - Angle	02 - Wet
2016-09-29	2016	10:00	CENTREPOINTE DR @ HEMMINGWOOD WAY E	01 - Clear	01 - Daylight	02 - Stop sign	03 - P.D. only	03 - Rear end	01 - Dry
2017-01-04	2017	15:10	CENTREPOINTE DR @ HEMMINGWOOD WAY E	03 - Snow	01 - Daylight	02 - Stop sign	02 - Non-fatal injury	02 - Angle	04 - Slush
2018-07-14	2018	0:31	CENTREPOINTE DR @ PASEO PRIV	01 - Clear	07 - Dark	02 - Stop sign	03 - P.D. only	02 - Angle	01 - Dry
2014-01-14	2014	7:45	CENTREPOINTE DR @ REC PATH BEN FRANKLIN PL	01 - Clear	03 - Dawn	01 - Traffic signal	03 - P.D. only	03 - Rear end	02 - Wet
2015-08-12	2015	8:20	CENTREPOINTE DR @ REC PATH BEN FRANKLIN PL	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	02 - Angle	01 - Dry
2017-11-15	2017	9:22	CENTREPOINTE DR @ REC PATH BEN FRANKLIN PL	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	07 - SMV other	01 - Dry
2015-04-19	2015	12:04	CENTREPOINTE DR @ TALLWOOD DR	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	02 - Angle	01 - Dry
2016-11-20	2016	15:21	CENTREPOINTE DR @ TALLWOOD DR	03 - Snow	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	03 - Loose snow
2016-12-08	2016	21:15	CENTREPOINTE DR @ TALLWOOD DR	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	05 - Packed snow
2017-06-20	2017	12:28	CENTREPOINTE DR @ TALLWOOD DR	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	02 - Angle	01 - Dry
2017-12-19	2017	19:19	CENTREPOINTE DR @ TALLWOOD DR	03 - Snow	07 - Dark	01 - Traffic signal	03 - P.D. only	03 - Rear end	06 - Ice
2018-02-18	2018	18:45	CENTREPOINTE DR @ TALLWOOD DR	01 - Clear	07 - Dark	01 - Traffic signal	02 - Non-fatal injury	07 - SMV other	01 - Dry
2018-07-23	2018	17:27	CENTREPOINTE DR @ TALLWOOD DR	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-11-08	2018	17:25	CENTREPOINTE DR @ TALLWOOD DR	01 - Clear	07 - Dark	01 - Traffic signal	03 - P.D. only	05 - Turning movement	01 - Dry
2015-07-25	2015	13:59	CENTREPOINTE DR btwn 90 N OF EPSILON WAY & PLUNKETT CRT	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	04 - Sideswipe	01 - Dry
2015-04-21	2015	15:00	CENTREPOINTE DR btwn CENTREPOINTE DR & Continuation of CENTREPOINTE DR	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	6 - SMV unattended vehicl	01 - Dry
2014-01-03	2014	8:19	CENTREPOINTE DR btwn Continuation of CENTREPOINTE DR & HEMMINGWOOD WAY	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	07 - SMV other	06 - Ice
2015-06-09	2015	12:11	CENTREPOINTE DR btwn Continuation of CENTREPOINTE DR & HEMMINGWOOD WAY	02 - Rain	01 - Daylight	10 - No control	03 - P.D. only	05 - Turning movement	02 - Wet
2016-06-01	2016	20:09	CENTREPOINTE DR btwn Continuation of CENTREPOINTE DR & HEMMINGWOOD WAY	01 - Clear	01 - Daylight	10 - No control	02 - Non-fatal injury	07 - SMV other	01 - Dry
2016-11-05	2016	18:56	CENTREPOINTE DR btwn Continuation of CENTREPOINTE DR & HEMMINGWOOD WAY	01 - Clear	07 - Dark	10 - No control	03 - P.D. only	03 - Rear end	01 - Dry

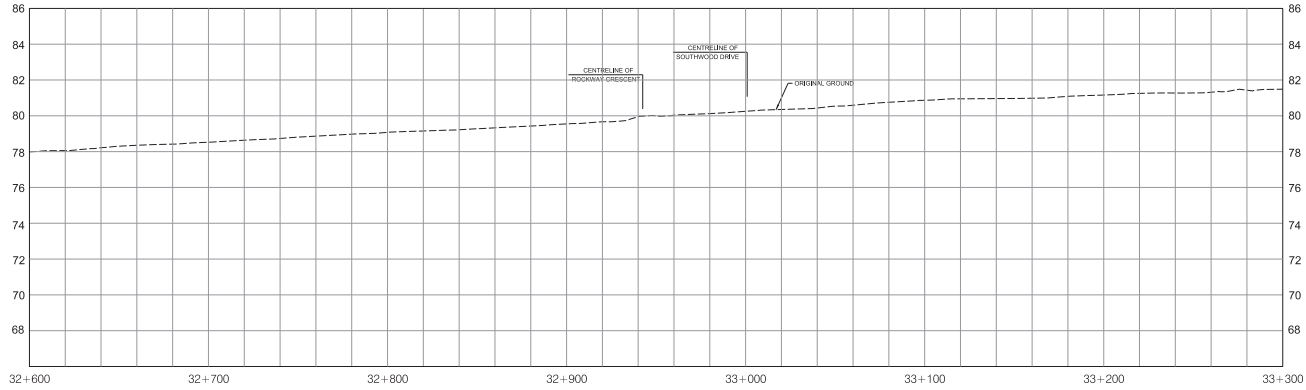
2017-09-03	2017	13:18	CENTREPOINTE DR btwn Continuation of CENTREPOINTE DR & HEMMINGWOOD WAY	02 - Rain	01 - Daylight	10 - No control	02 - Non-fatal injury	07 - SMV other	02 - Wet
2018-04-14	2018	1:03	CENTREPOINTE DR btwn Continuation of CENTREPOINTE DR & HEMMINGWOOD WAY	01 - Clear	07 - Dark	10 - No control	02 - Non-fatal injury	07 - SMV other	01 - Dry
2018-11-16	2018	15:13	CENTREPOINTE DR btwn Continuation of CENTREPOINTE DR & HEMMINGWOOD WAY	03 - Snow	01 - Daylight	10 - No control	03 - P.D. only	07 - SMV other	03 - Loose snow
2015-11-20	2015	19:49	CENTREPOINTE DR btwn HEMMINGWOOD WAY & Continuation of CENTREPOINTE DR	01 - Clear	07 - Dark	10 - No control	03 - P.D. only	05 - Turning movement	01 - Dry
2017-06-23	2017	12:55	CENTREPOINTE DR btwn HEMMINGWOOD WAY & Continuation of CENTREPOINTE DR	02 - Rain	01 - Daylight	10 - No control	02 - Non-fatal injury	04 - Sideswipe	02 - Wet
2014-08-21	2014	14:35	CENTREPOINTE DR btwn PASEO PRIV & 90 N OF EPSILON WAY	02 - Rain	01 - Daylight	10 - No control	03 - P.D. only	02 - Angle	02 - Wet
2015-01-09	2015	13:27	CENTREPOINTE DR btwn PASEO PRIV & 90 N OF EPSILON WAY	03 - Snow	01 - Daylight	10 - No control	03 - P.D. only	04 - Sideswipe	03 - Loose snow
2015-12-10	2015	11:38	CENTREPOINTE DR btwn REC PATH BEN FRANKLIN PL & CONSTELLATION CRES	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	6 - SMV unattended vehicl	01 - Dry
2016-02-08	2016	9:07	CENTREPOINTE DR btwn REC PATH BEN FRANKLIN PL & PASEO PRIV	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	04 - Sideswipe	01 - Dry
2017-10-12	2017	21:15	CENTREPOINTE DR btwn REC PATH BEN FRANKLIN PL & PASEO PRIV	01 - Clear	07 - Dark	10 - No control	03 - P.D. only	07 - SMV other	01 - Dry
2014-02-03	2014	8:46	CONSTELLATION CRES @ BASELINE RD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	04 - Slush
2014-02-05	2014	7:10	CONSTELLATION CRES @ BASELINE RD	01 - Clear	03 - Dawn	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2014-02-14	2014	10:00	CONSTELLATION CRES @ BASELINE RD	03 - Snow	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	03 - Loose snow
2014-03-07	2014	15:55	CONSTELLATION CRES @ BASELINE RD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	02 - Wet
2014-04-09	2014	13:20	CONSTELLATION CRES @ BASELINE RD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2014-05-14	2014	16:00	CONSTELLATION CRES @ BASELINE RD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2014-11-19	2014	8:52	CONSTELLATION CRES @ BASELINE RD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	02 - Wet
2015-10-28	2015	19:20	CONSTELLATION CRES @ BASELINE RD	02 - Rain	07 - Dark	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	02 - Wet
2015-06-26	2015	15:31	CONSTELLATION CRES @ BASELINE RD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2015-07-30	2015	15:15	CONSTELLATION CRES @ BASELINE RD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2016-05-13	2016	9:15	CONSTELLATION CRES @ BASELINE RD	02 - Rain	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	02 - Wet
2016-04-06	2016	19:00	CONSTELLATION CRES @ BASELINE RD	03 - Snow	05 - Dusk	01 - Traffic signal	03 - P.D. only	02 - Angle	04 - Slush
2016-03-29	2016	13:51	CONSTELLATION CRES @ BASELINE RD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2017-02-16	2017	8:11	CONSTELLATION CRES @ BASELINE RD	03 - Snow	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	05 - Packed snow
2018-01-25	2018	17:04	CONSTELLATION CRES @ BASELINE RD	01 - Clear	05 - Dusk	01 - Traffic signal	03 - P.D. only	04 - Sideswipe	01 - Dry
2018-02-14	2018	12:54	CONSTELLATION CRES @ BASELINE RD	01 - Clear	01 - Daylight	01 - Traffic signal	02 - Non-fatal injury	03 - Rear end	02 - Wet
2018-06-18	2018	18:20	CONSTELLATION CRES @ BASELINE RD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	01 - Dry
2018-11-27	2018	16:50	CONSTELLATION CRES @ BASELINE RD	03 - Snow	05 - Dusk	01 - Traffic signal	03 - P.D. only	03 - Rear end	02 - Wet
2018-11-28	2018	9:04	CONSTELLATION CRES @ BASELINE RD	01 - Clear	01 - Daylight	01 - Traffic signal	03 - P.D. only	03 - Rear end	02 - Wet
2014-01-02	2014	14:30	CONSTELLATION CRES btwn TURN LANE & CENTREPOINTE DR	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	04 - Sideswipe	01 - Dry
2015-06-02	2015	17:55	CONSTELLATION CRES btwn TURN LANE & CENTREPOINTE DR	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	02 - Angle	01 - Dry
2017-06-30	2017	9:25	CONSTELLATION CRES btwn TURN LANE & CENTREPOINTE DR	01 - Clear	01 - Daylight	10 - No control	02 - Non-fatal injury	6 - SMV unattended vehicl	02 - Wet
2018-03-07	2018	10:03	CONSTELLATION CRES btwn TURN LANE & CENTREPOINTE DR	01 - Clear	01 - Daylight	10 - No control	03 - P.D. only	6 - SMV unattended vehicl	01 - Dry
2018-11-15	2018	23:10	CONSTELLATION CRES btwn TURN LANE & CENTREPOINTE DR	03 - Snow	07 - Dark	10 - No control	03 - P.D. only	03 - Rear end	04 - Slush
2015-10-28	2015	15:14	CONSTELLATION CRES btwn TURN LANE & TURN LANE	02 - Rain	01 - Daylight	10 - No control	03 - P.D. only	04 - Sideswipe	02 - Wet
2017-04-06	2017	16:20	GEMINI WAY btwn CENTREPOINTE DR & TURN LANE	02 - Rain	01 - Daylight	10 - No control	03 - P.D. only	04 - Sideswipe	02 - Wet
2018-01-03	2018	Unknown	GEMINI WAY btwn CENTREPOINTE DR & TURN LANE	01 - Clear	00 - Unknown	10 - No control	03 - P.D. only	6 - SMV unattended vehicl	03 - Loose snow

Appendix E

Baseline Road Transit Priority Measures

DRAFT





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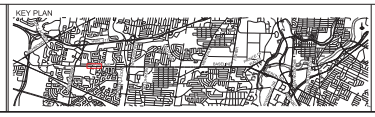


LEGEND:

- TRANSIT LANES
- TRANSIT STATION
- BOULEVARD
- CYCLE TRACK
- SIDEWALK
- MULTI-USE PATHWAY
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY

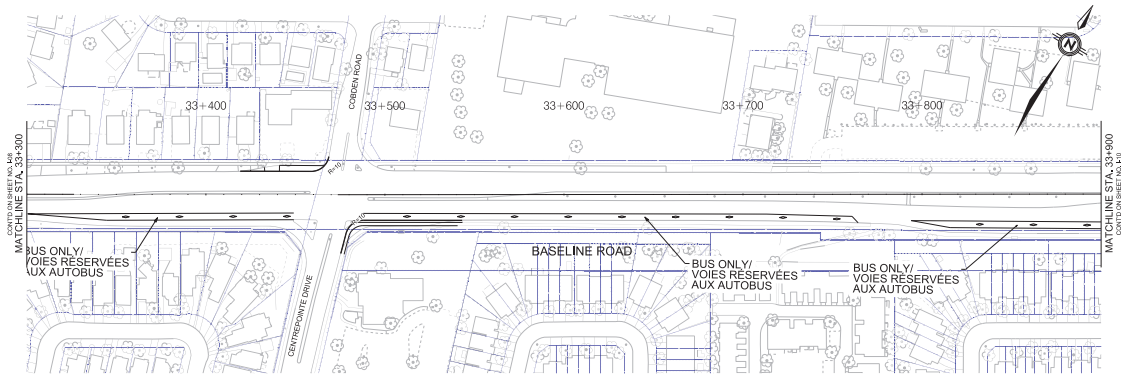
PARSONS

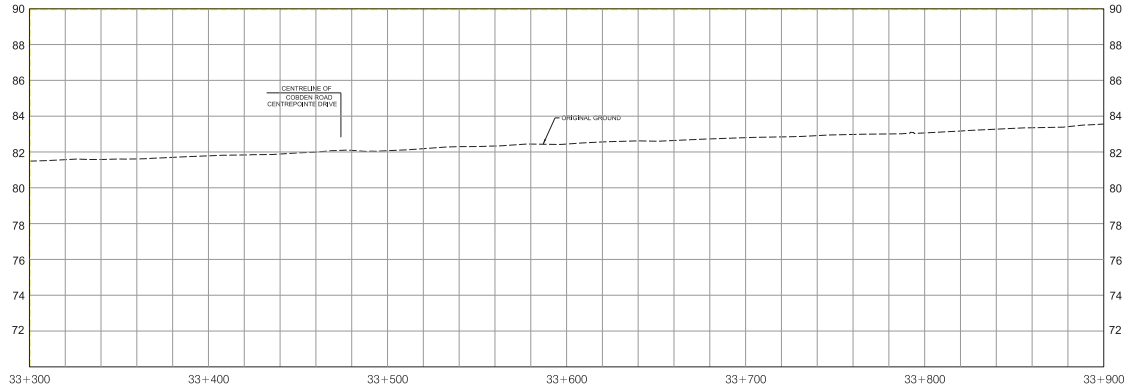
Ottawa

Baseline Road Bus Rapid Transit
Corridor Planning And EA Study
Transit Priority Measures

Baseline Road Sta.32+600 TO Sta.33+300

CAD File Name: TO3097TOF-GRD-08 INT.DGN
Plot Date: 10/6/2015
Drawings No.: TO3097TOF-GRD-08 INT
Number of: 1-38





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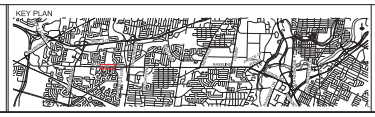


LEGEND:

- TRANSIT LANES
- TRANSIT STATION
- BOULEVARD
- CYCLE TRACK
- SIDEWALK
- MULTI-USE PATHWAY
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY

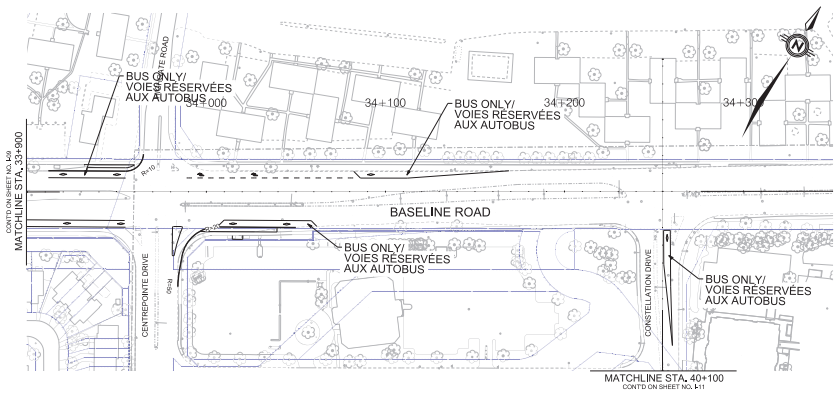
PARSONS

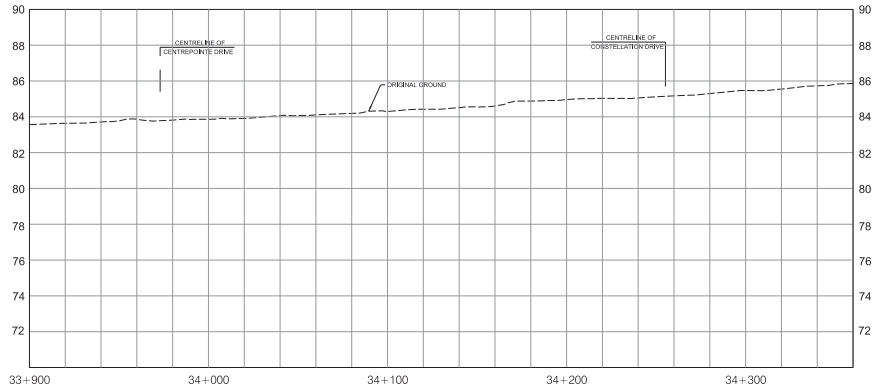
Ottawa

Baseline Road Bus Rapid Transit
Corridor Planning And EA Study
Transit Priority Measures

Baseline Sta.33+300 TO Sta.33+900

CAD File Name: TO3097TOF-GRD-09 INT.DGN
Plot Date: 12/14/2016
Drawings No.: TO3097TOF-GRD-09 INT
Number of: 1-39





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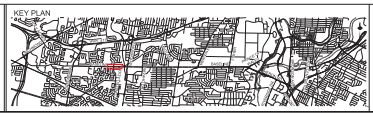


LEGEND:

- TRANSIT LANES
- TRANSIT STATION
- BOULEVARD
- CYCLE TRACK
- SIDEWALK
- MULTI-USE PATHWAY
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY

PARSONS

Date: JANUARY 2017	Designed By: D.H., R.C.	Drawn By: MAJ.R.
Project Manager: D.H.	Discipline Engineer:	Checked By:
Scale:	HORIZONTAL	
CAD File Name: TO3097TOF-GRD-10 INT.DGN	Plot Date: 12/14/2016	

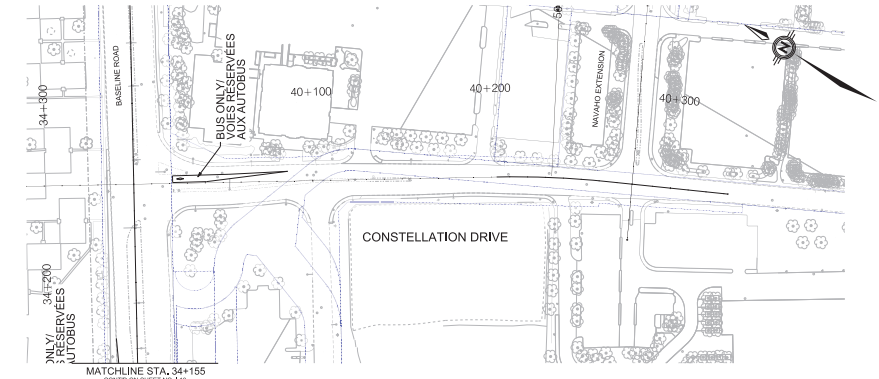
Ottawa

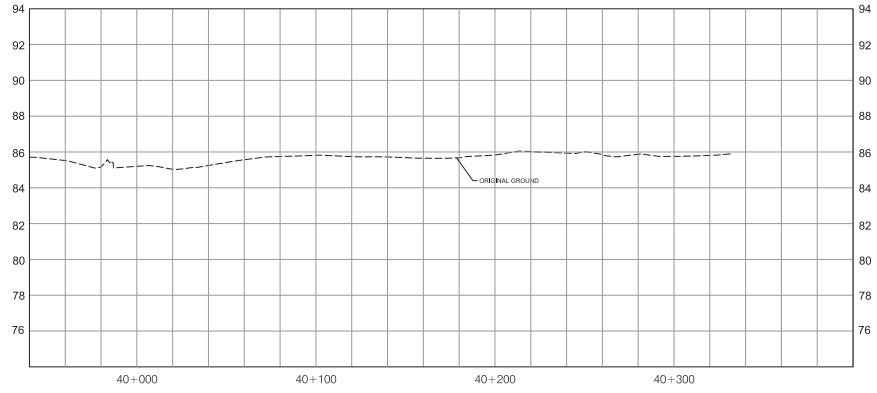
Baseline Road Bus Rapid Transit Corridor Planning And EA Study

Transit Priority Measures

Baseline Road Sta.33+900 TO Sta.34+300

Drawings No.: TO3097TOF-GRD-10 INT	Revision: 00	Sheet No.: I-10





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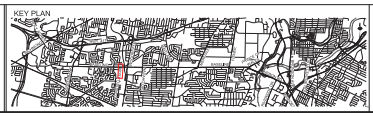
KEY PLAN



LEGEND:

- TRANSIT LANES
- TRANSIT STATION
- BOULEVARD
- CYCLE TRACK
- SIDEWALK
- MULTI-USE PATHWAY
- EXISTING RIGHT-OF-WAY
- PROPOSED RIGHT-OF-WAY

PARSONS

Date: JANUARY 2017	Designed By: D.H., R.C.	Drawn By: MAJ.R.
Project Manager: D.H.	Discipline Engineer:	Checked By:
Scale:	HORIZONTAL	
CAD File Name: TO3097TOF-GRD-11 INT.DGN	Plot Date: 10/6/2015	

Ottawa

Baseline Road Bus Rapid Transit Corridor Planning And EA Study

Transit Priority Measures

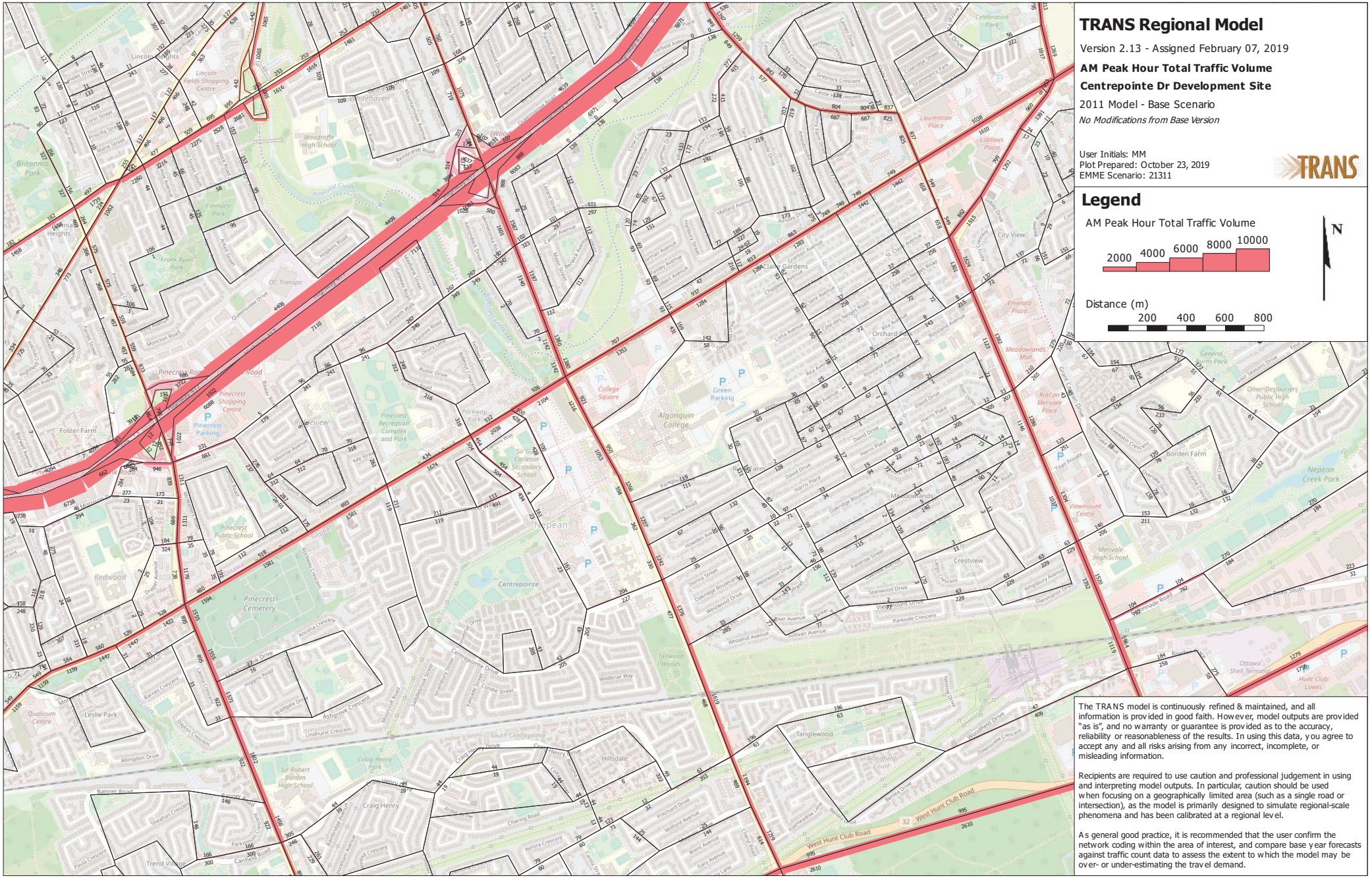
Constellation Drive Sta.40+020 TO Sta.40+270

Drawings No.: TO3097TOF-GRD-11 INT	Revision: 00	Sheet No.: I-11

Appendix F

TRANS Regional Model Projections

DRAFT



TRANS Regional Model

Version 2.13 - Assigned February 07, 2019

AM Peak Hour Total Traffic Volume

Centrepointe Dr Development Site

2011 Model - Base Scenario

No Modifications from Base Version

User Initials: MM
Plot Prepared: October 23, 2019
EMME Scenario: 21311

TRANS

Legend

AM Peak Hour Total Traffic Volume

2000 4000 6000 8000 10000

Distance (m)

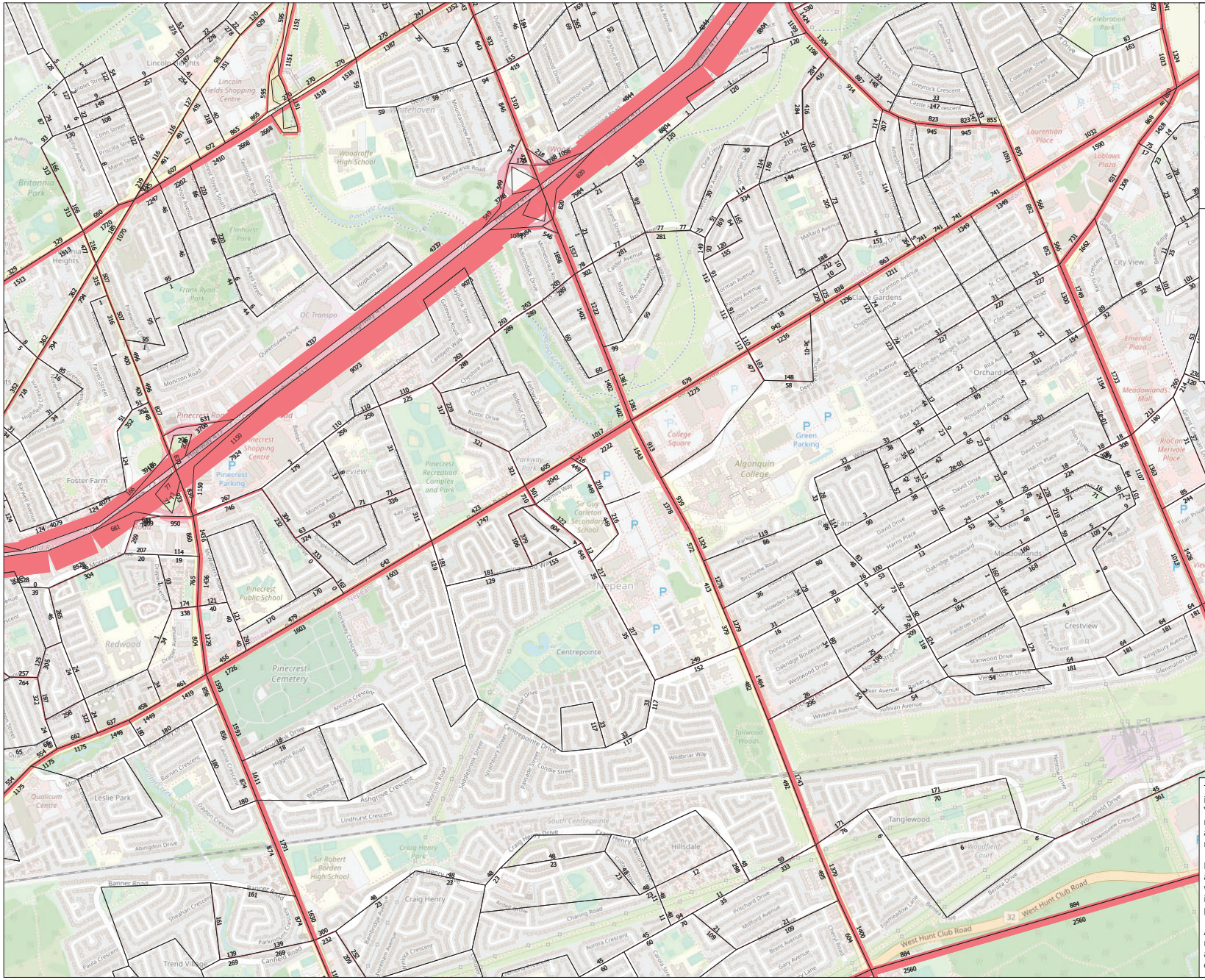
200 400 600 800

N

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

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

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



TRANS Regional Model

Version 2.11 - Assigned July 26, 2019

AM Peak Hour Total Traffic Volume

Centrepointe Dr Development Site

2031 Model - Affordable Road & Transit Network

No Modifications from Base Version

User Initials: MM
Plot Prepared: October 23, 2019
EMME Scenario: 21131

TRANS

Legend

AM Peak Hour Total Traffic Volume

2000 4000 6000 8000 10000

Distance (m)

200 400 600 800

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.

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

Appendix G

Synchro Intersection Worksheets – 2023 Future Background

DRAFT

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	15	1507	132	33	560	41	163	166	149	30
Future Volume (vph)	15	1507	132	33	560	41	163	166	149	30
Lane Group Flow (vph)	15	1507	132	33	560	41	163	166	149	30
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Free	Perm	Perm
Protected Phases	5	2		1	6		8			
Permitted Phases			2			6		Free	4	4
Detector Phase	5	2	2	1	6	6	8		4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	11.4	29.0	29.0	11.4	29.0	29.0	35.0		24.0	24.0
Total Split (s)	15.0	80.0	80.0	15.0	80.0	80.0	35.0		35.0	35.0
Total Split (%)	11.5%	61.5%	61.5%	11.5%	61.5%	61.5%	26.9%		26.9%	26.9%
Maximum Green (s)	8.6	74.0	74.0	8.6	74.0	74.0	29.0		29.0	29.0
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.3		3.3	3.3
All-Red Time (s)	2.7	2.3	2.3	2.7	2.3	2.3	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	0.0
Total Lost Time (s)	6.4	6.0	6.0	6.4	6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None		None	None
Walk Time (s)		12.0	12.0		12.0	12.0	7.0			
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	22.0			
Pedestrian Calls (#/hr)		0	0		0	0	0			
Act Effct Green (s)	6.8	90.4	90.4	8.1	94.2	94.2	18.1	130.0	18.1	18.1
Actuated g/C Ratio	0.05	0.70	0.70	0.06	0.72	0.72	0.14	1.00	0.14	0.14
v/c Ratio	0.17	0.65	0.12	0.32	0.23	0.04	0.71	0.11	0.65	0.11
Control Delay	62.9	15.1	2.1	80.8	3.3	0.4	69.4	0.2	65.3	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.9	15.1	2.1	80.8	3.3	0.4	69.4	0.2	65.3	0.8
LOS	E	B	A	F	A	A	E	A	E	A
Approach Delay		14.5			7.2					
Approach LOS		B			A					
Queue Length 50th (m)	3.8	118.3	0.0	8.8	5.2	0.0	40.5	0.0	36.6	0.0
Queue Length 95th (m)	11.0	177.4	8.2	17.7	30.7	1.1	60.9	0.0	56.0	0.0
Internal Link Dist (m)		218.7			480.0					
Turn Bay Length (m)	85.0		105.0	60.0		100.0		80.0		40.0
Base Capacity (vph)	109	2307	1071	117	2402	1095	369	1483	369	392
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.65	0.12	0.28	0.23	0.04	0.44	0.11	0.40	0.08

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 56 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 17.8 — Intersection LOS: B
Intersection Capacity Utilization 63.5% — ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: Centrepointe/Cobden & Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	2	1337	477	138	433	48	134	237	137	63
Future Volume (vph)	2	1337	477	138	433	48	134	237	137	63
Lane Group Flow (vph)	2	1337	477	138	433	48	134	237	137	63
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Prot
Protected Phases	5	2		1	6		8		7	7
Permitted Phases			2			6		8		
Detector Phase	5	2	2	1	6	6	8	8	7	7
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	11.2	25.7	25.7	11.2	25.7	25.7	38.8	38.8	16.3	16.3
Total Split (s)	24.0	47.0	47.0	24.0	47.0	47.0	39.0	39.0	20.0	20.0
Total Split (%)	18.5%	36.2%	36.2%	18.5%	36.2%	36.2%	30.0%	30.0%	15.4%	15.4%
Maximum Green (s)	17.8	41.3	41.3	17.8	41.3	41.3	32.2	32.2	13.7	13.7
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.0	3.3	3.3
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0	3.8	3.8	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	5.7	5.7	6.2	5.7	5.7	6.8	6.8	6.3	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0		
Flash Dont Walk (s)		13.0	13.0		13.0	13.0	25.0	25.0		
Pedestrian Calls (#/hr)		0	0		0	0	0	0		
Act Effct Green (s)	5.8	69.1	69.1	10.9	83.7	83.7	11.8	11.8	13.1	13.1
Actuated g/C Ratio	0.04	0.53	0.53	0.08	0.64	0.64	0.09	0.09	0.10	0.10
v/c Ratio	0.03	0.76	0.47	0.51	0.20	0.05	0.46	0.68	0.82	0.24
Control Delay	54.0	24.7	4.8	92.1	4.4	0.1	60.8	16.9	91.8	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.0	24.7	4.8	92.1	4.4	0.1	60.8	16.9	91.8	2.0
LOS	D	C	A	F	A	A	E	B	F	A
Approach Delay		19.5			23.6					
Approach LOS		B			C					
Queue Length 50th (m)	0.5	78.8	0.1	19.4	7.8	0.0	17.2	0.0	34.8	0.0
Queue Length 95th (m)	m0.9	126.2	33.6	30.5	13.4	0.0	26.4	24.3	#67.4	0.0
Internal Link Dist (m)		480.0			124.6					
Turn Bay Length (m)	52.0		140.0	88.0		100.0			30.0	
Base Capacity (vph)	227	1763	1011	440	2135	1003	796	545	174	274
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.76	0.47	0.31	0.20	0.05	0.17	0.43	0.79	0.23

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 76 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 125

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 24.9 Intersection LOS: C
Intersection Capacity Utilization 76.3% 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.
m Volume for 95th percentile queue is metered by upstream signal.

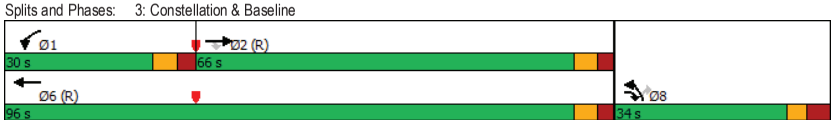
Splits and Phases: 2: Centrepointe/Highgate & Baseline

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1621	113	362	579	41	64
Future Volume (vph)	1621	113	362	579	41	64
Lane Group Flow (vph)	1621	113	362	579	41	64
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	32.5	33.9	11.7	24.5	33.9	33.9
Total Split (s)	66.0	34.0	30.0	96.0	34.0	34.0
Total Split (%)	50.8%	26.2%	23.1%	73.8%	26.2%	26.2%
Maximum Green (s)	59.5	27.1	23.3	89.5	27.1	27.1
Yellow Time (s)	3.7	3.0	3.7	3.7	3.0	3.0
All-Red Time (s)	2.8	3.9	3.0	2.8	3.9	3.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.9	6.7	6.5	6.9	6.9
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	Max	None	C-Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	19.0	20.0			20.0	20.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	63.3	96.9	19.5	89.5	27.1	27.1
Actuated g/C Ratio	0.49	0.75	0.15	0.69	0.21	0.21
v/c Ratio	0.70	0.10	0.75	0.25	0.12	0.18
Control Delay	16.1	0.2	49.4	3.6	43.0	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.1	0.2	49.4	3.6	43.0	11.1
LOS	B	A	D	A	D	B
Approach Delay	15.1			21.2	23.5	
Approach LOS	B			C	C	
Queue Length 50th (m)	50.4	0.0	32.8	9.6	8.6	0.0
Queue Length 95th (m)	61.4	m0.2	46.2	9.0	18.6	11.9
Internal Link Dist (m)	100.8			272.7	77.0	
Turn Bay Length (m)		55.0	90.0		50.0	
Base Capacity (vph)	2320	1124	576	2282	345	359
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	0.70	0.10	0.63	0.25	0.12	0.18

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 64 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 17.5 — Intersection LOS: B
Intersection Capacity Utilization 69.0% — ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Constellation & Baseline



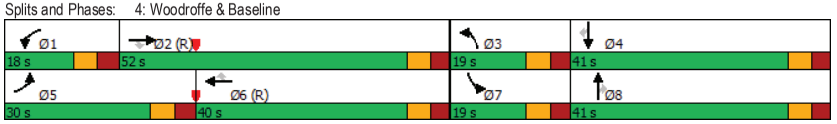
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	433	1078	177	79	439	240	121	1197	97	287	619	394
Future Volume (vph)	433	1078	177	79	439	240	121	1197	97	287	619	394
Lane Group Flow (vph)	433	1078	177	79	439	240	121	1197	97	287	619	394
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	12.1	24.8	24.8	12.1	24.8	24.8	11.9	24.8	24.8	11.9	24.8	24.8
Total Split (s)	30.0	52.0	52.0	18.0	40.0	40.0	19.0	41.0	41.0	19.0	41.0	41.0
Total Split (%)	23.1%	40.0%	40.0%	13.8%	30.8%	30.8%	14.6%	31.5%	31.5%	14.6%	31.5%	31.5%
Maximum Green (s)	22.9	45.2	45.2	10.9	33.2	33.2	12.1	34.2	34.2	12.1	34.2	34.2
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.1	3.1	3.4	3.1	3.1	3.2	3.1	3.1	3.2	3.1	3.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.1	6.8	6.8	7.1	6.8	6.8	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	21.2	49.1	49.1	9.8	34.9	34.9	10.0	34.2	34.2	12.1	36.3	36.3
Actuated g/C Ratio	0.16	0.38	0.38	0.08	0.27	0.27	0.08	0.26	0.26	0.09	0.28	0.28
v/c Ratio	0.83	0.86	0.27	0.63	0.49	0.43	0.49	0.96	0.18	0.96	0.47	0.57
Control Delay	37.4	53.4	22.5	80.1	42.8	8.7	64.0	64.0	0.7	101.2	40.5	7.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	37.4	53.4	22.5	80.1	42.8	8.7	64.0	64.0	0.7	101.2	40.5	7.9
LOS	D	D	C	F	D	A	E	E	A	F	D	A
Approach Delay		46.1			35.9			59.6			44.0	
Approach LOS		D			D			E			D	
Queue Length 50th (m)	50.5	155.3	27.3	19.8	50.8	3.1	15.5	111.0	0.0	38.4	48.3	2.3
Queue Length 95th (m)	68.6	#187.1	m50.9	#36.8	67.6	24.4	25.1	#140.2	0.0	#66.2	61.9	29.3
Internal Link Dist (m)		272.7			288.4			248.1			234.6	
Turn Bay Length (m)	53.0		30.0	105.0		85.0	120.0		100.0	95.0		50.0
Base Capacity (vph)	566	1251	652	139	890	561	299	1253	544	299	1330	689
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.86	0.27	0.57	0.49	0.43	0.40	0.96	0.18	0.96	0.47	0.57

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 16 (12%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 100

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 47.8 Intersection LOS: D
Intersection Capacity Utilization 92.1% ICU Level of Service F
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Woodroffe & Baseline



Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	80	302	37	155	480
Future Vol, veh/h	17	80	302	37	155	480
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	400	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	80	302	37	155	480

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	823	170	0	0	339	0
Stage 1	321	-	-	-	-	-
Stage 2	502	-	-	-	-	-
Critical Hdwy	5.74	7.14	-	-	5.34	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.82	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	380	718	-	-	805	-
Stage 1	615	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	280	718	-	-	805	-
Mov Cap-2 Maneuver	280	-	-	-	-	-
Stage 1	615	-	-	-	-	-
Stage 2	386	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.7	0	2.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	564	805	-
HCM Lane V/C Ratio	-	-	0.172	0.193	-
HCM Control Delay (s)	-	-	12.7	10.5	0.5
HCM Lane LOS	-	-	B	B	A
HCM 95th %tile Q(veh)	-	-	0.6	0.7	-

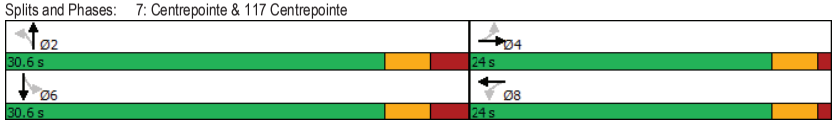
Lane Group	EBT	WBL	WBT	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	12	0	401	67	299
Future Volume (vph)	0	12	0	401	67	299
Lane Group Flow (vph)	1	0	34	416	0	367
Turn Type	NA	Perm	NA	NA	Perm	NA
Protected Phases	4		8	2		6
Permitted Phases		8			6	
Detector Phase	4	8	8	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.0	23.0	23.0	23.6	23.6	23.6
Total Split (s)	24.0	24.0	24.0	30.6	30.6	30.6
Total Split (%)	44.0%	44.0%	44.0%	56.0%	56.0%	56.0%
Maximum Green (s)	20.0	20.0	20.0	25.0	25.0	25.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	2.6	2.6	2.6
Lost Time Adjust (s)	0.0		0.0	0.0		0.0
Total Lost Time (s)	4.0		4.0	5.6		5.6
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Ped	Ped	Ped	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	12.0	12.0	12.0			
Pedestrian Calls (#/hr)	0	0	0			
Act Effct Green (s)	19.0		19.0	25.0		25.0
Actuated g/C Ratio	0.35		0.35	0.47		0.47
v/c Ratio	0.00		0.06	0.27		0.29
Control Delay	0.0		3.1	9.1		9.6
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	0.0		3.1	9.1		9.6
LOS	A		A	A		A
Approach Delay			3.1	9.1		9.6
Approach LOS			A	A		A
Queue Length 50th (m)	0.0		0.0	11.6		10.6
Queue Length 95th (m)	0.0		3.1	18.8		17.8
Internal Link Dist (m)	26.2		47.2	174.9		117.0
Turn Bay Length (m)						
Base Capacity (vph)	858		594	1543		1268
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.00		0.06	0.27		0.29

Intersection Summary
Cycle Length: 54.6
Actuated Cycle Length: 53.6
Natural Cycle: 50
Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.29

Intersection Signal Delay: 9.1	Intersection LOS: A
Intersection Capacity Utilization 44.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Centrepointe & 117 Centrepointe



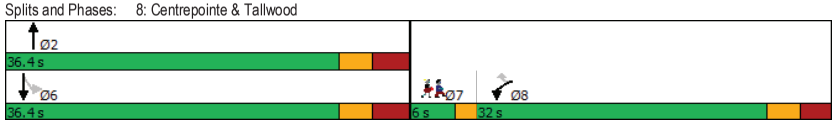
Lane Group	WBL	WBR	NBT	SBL	SBT	Ø7
Lane Configurations						
Traffic Volume (vph)	48	272	126	272	26	
Future Volume (vph)	48	272	126	272	26	
Lane Group Flow (vph)	48	272	323	272	26	
Turn Type	Prot	Perm	NA	Perm	NA	
Protected Phases	8		2		6	7
Permitted Phases		8		6		
Detector Phase	8	8	2	6	6	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	4.0
Minimum Split (s)	31.9	31.9	32.4	24.9	24.9	6.0
Total Split (s)	32.0	32.0	36.4	36.4	36.4	6.0
Total Split (%)	43.0%	43.0%	48.9%	48.9%	48.9%	8%
Maximum Green (s)	26.1	26.1	30.0	30.0	30.0	4.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.9	2.9	3.4	3.4	3.4	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.9	5.9	6.4	6.4	6.4	
Lead/Lag	Lag	Lag				Lead
Lead-Lag Optimize?	Yes	Yes				Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	None
Walk Time (s)	10.0	10.0	7.0			
Flash Dont Walk (s)	16.0	16.0	19.0			
Pedestrian Calls (#/hr)	0	0	0			
Act Effct Green (s)	10.3	10.3	30.0	30.0	30.0	
Actuated g/C Ratio	0.20	0.20	0.57	0.57	0.57	
v/c Ratio	0.15	0.53	0.18	0.49	0.03	
Control Delay	18.8	7.4	2.6	10.8	5.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	18.8	7.4	2.6	10.8	5.2	
LOS	B	A	A	B	A	
Approach Delay	9.1		2.6		10.3	
Approach LOS	A		A		B	
Queue Length 50th (m)	3.8	0.0	2.3	13.0	0.9	
Queue Length 95th (m)	10.6	15.0	6.9	31.1	3.4	
Internal Link Dist (m)	171.0		164.5		174.9	
Turn Bay Length (m)						
Base Capacity (vph)	822	872	1802	553	994	
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	0.06	0.31	0.18	0.49	0.03	

Intersection Summary
Cycle Length: 74.4
Actuated Cycle Length: 52.6
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 7.2	Intersection LOS: A
Intersection Capacity Utilization 50.2%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: Centrepointe & Tallwood



Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	96	0	109	444	63
Future Vol, veh/h	0	96	0	109	444	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	96	0	109	444	63

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	254	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	745	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	745	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	745	-	-
HCM Lane V/C Ratio	-	0.129	-	-
HCM Control Delay (s)	-	10.5	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-

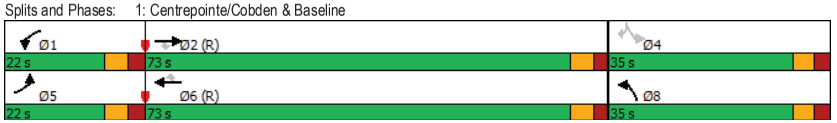
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	39	731	228	92	1551	137	167	76	93	57
Future Volume (vph)	39	731	228	92	1551	137	167	76	93	57
Lane Group Flow (vph)	39	731	228	92	1551	137	167	76	93	57
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Free	Perm	Perm
Protected Phases	5	2		1	6		8			
Permitted Phases			2			6		Free	4	4
Detector Phase	5	2	2	1	6	6	8		4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	11.4	29.0	29.0	11.4	29.0	29.0	35.0		24.0	24.0
Total Split (s)	22.0	73.0	73.0	22.0	73.0	73.0	35.0		35.0	35.0
Total Split (%)	16.9%	56.2%	56.2%	16.9%	56.2%	56.2%	26.9%		26.9%	26.9%
Maximum Green (s)	15.6	67.0	67.0	15.6	67.0	67.0	29.0		29.0	29.0
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.3		3.3	3.3
All-Red Time (s)	2.7	2.3	2.3	2.7	2.3	2.3	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	0.0
Total Lost Time (s)	6.4	6.0	6.0	6.4	6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None		None	None
Walk Time (s)		12.0	12.0		12.0	12.0	7.0			
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	22.0			
Pedestrian Calls (#/hr)		0	0		0	0	0			
Act Effct Green (s)	8.5	80.7	80.7	12.5	87.1	87.1	18.4	130.0	18.4	18.4
Actuated g/C Ratio	0.07	0.62	0.62	0.10	0.67	0.67	0.14	1.00	0.14	0.14
v/c Ratio	0.36	0.36	0.23	0.58	0.70	0.13	0.72	0.05	0.40	0.21
Control Delay	66.6	13.7	2.3	68.3	6.8	1.9	69.6	0.1	54.5	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.6	13.7	2.3	68.3	6.8	1.9	69.6	0.1	54.5	6.1
LOS	E	B	A	E	A	A	E	A	D	A
Approach Delay		13.2			9.6					
Approach LOS		B			A					
Queue Length 50th (m)	9.8	45.1	0.0	23.1	54.9	2.6	41.4	0.0	22.0	0.0
Queue Length 95th (m)	21.0	71.8	11.8	m33.7	61.4	m4.2	61.8	0.0	36.5	6.6
Internal Link Dist (m)		218.7			480.0					
Turn Bay Length (m)	85.0		105.0	60.0		100.0		80.0		40.0
Base Capacity (vph)	198	2059	1007	203	2222	1039	369	1483	369	392
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.36	0.23	0.45	0.70	0.13	0.45	0.05	0.25	0.15

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 80 (62%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 14.9 Intersection LOS: B
Intersection Capacity Utilization 76.7% ICU Level of Service D
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Centrepointe/Cobden & Baseline



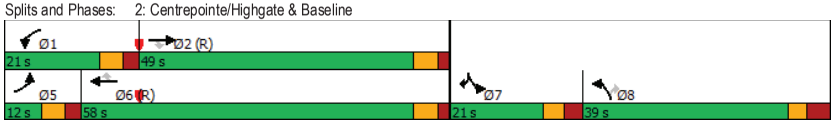
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	37	664	196	159	1290	124	397	251	76	83
Future Volume (vph)	37	664	196	159	1290	124	397	251	76	83
Lane Group Flow (vph)	37	664	196	159	1290	124	397	251	76	83
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Prot
Protected Phases	5	2		1	6		8		7	7
Permitted Phases			2			6		8		
Detector Phase	5	2	2	1	6	6	8	8	7	7
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	11.2	25.7	25.7	11.2	25.7	25.7	38.8	38.8	16.3	16.3
Total Split (s)	12.0	49.0	49.0	21.0	58.0	58.0	39.0	39.0	21.0	21.0
Total Split (%)	9.2%	37.7%	37.7%	16.2%	44.6%	44.6%	30.0%	30.0%	16.2%	16.2%
Maximum Green (s)	5.8	43.3	43.3	14.8	52.3	52.3	32.2	32.2	14.7	14.7
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.0	3.3	3.3
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0	3.8	3.8	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	5.7	5.7	6.2	5.7	5.7	6.8	6.8	6.3	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0		
Flash Dont Walk (s)		13.0	13.0		13.0	13.0	25.0	25.0		
Pedestrian Calls (#/hr)		0	0		0	0	0	0		
Act Effct Green (s)	8.2	60.0	60.0	11.7	65.8	65.8	21.5	21.5	11.8	11.8
Actuated g/C Ratio	0.06	0.46	0.46	0.09	0.51	0.51	0.17	0.17	0.09	0.09
v/c Ratio	0.35	0.43	0.25	0.55	0.77	0.15	0.75	0.55	0.51	0.28
Control Delay	62.5	30.7	10.7	83.0	14.2	0.4	60.5	10.1	67.8	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.5	30.7	10.7	83.0	14.2	0.4	60.5	10.1	67.8	2.3
LOS	E	C	B	F	B	A	E	B	E	A
Approach Delay		27.6			20.1					
Approach LOS		C			C					
Queue Length 50th (m)	9.3	51.7	0.2	22.3	39.9	0.0	50.6	0.0	19.0	0.0
Queue Length 95th (m)	21.4	96.8	31.0	32.3	#212.6	0.2	64.0	22.0	34.2	0.0
Internal Link Dist (m)		480.0			113.5					
Turn Bay Length (m)	52.0		140.0	88.0		100.0			30.0	
Base Capacity (vph)	105	1529	789	367	1678	818	796	556	187	330
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.43	0.25	0.43	0.77	0.15	0.50	0.45	0.41	0.25

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 71 (55%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 115

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 26.9 Intersection LOS: C
Intersection Capacity Utilization 71.3% 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: 2: Centrepointe/Highgate & Baseline

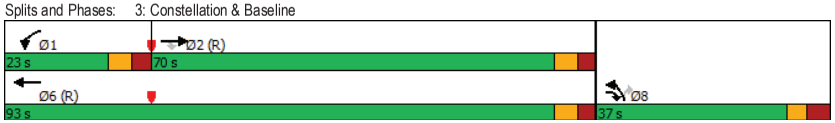


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	981	24	111	1362	200	347
Future Volume (vph)	981	24	111	1362	200	347
Lane Group Flow (vph)	981	24	111	1362	200	347
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	32.5	34.4	11.7	16.5	34.4	34.4
Total Split (s)	70.0	37.0	23.0	93.0	37.0	37.0
Total Split (%)	53.8%	28.5%	17.7%	71.5%	28.5%	28.5%
Maximum Green (s)	63.5	30.1	16.3	86.5	30.1	30.1
Yellow Time (s)	3.7	3.0	3.7	3.7	3.0	3.0
All-Red Time (s)	2.8	3.9	3.0	2.8	3.9	3.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.9	6.7	6.5	6.9	6.9
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	None	None	C-Max	None	None
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	19.0	20.0			20.0	20.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	79.0	106.6	9.8	95.5	21.1	21.1
Actuated g/C Ratio	0.61	0.82	0.08	0.73	0.16	0.16
v/c Ratio	0.34	0.02	0.46	0.56	0.75	0.73
Control Delay	9.0	0.1	82.4	3.1	68.2	19.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.0	0.1	82.4	3.1	68.2	19.8
LOS	A	A	F	A	E	B
Approach Delay	8.8			9.1	37.5	
Approach LOS	A			A	D	
Queue Length 50th (m)	19.0	0.0	14.6	10.1	49.5	14.5
Queue Length 95th (m)	33.5	m0.3	m12.6	m5.7	70.6	45.3
Internal Link Dist (m)	111.9			272.7	77.0	
Turn Bay Length (m)		55.0	90.0		50.0	
Base Capacity (vph)	2894	1321	403	2437	383	560
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	0.34	0.02	0.28	0.56	0.52	0.62

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 64 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 80

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 14.1 — Intersection LOS: B
Intersection Capacity Utilization 62.6% — ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Constellation & Baseline



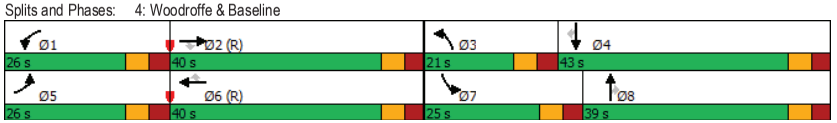
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	361	800	181	151	955	384	297	960	104	377	993	224
Future Volume (vph)	361	800	181	151	955	384	297	960	104	377	993	224
Lane Group Flow (vph)	361	800	181	151	955	384	297	960	104	377	993	224
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	12.1	39.8	39.8	12.1	39.8	39.8	11.9	36.8	36.8	11.9	36.8	36.8
Total Split (s)	26.0	40.0	40.0	26.0	40.0	40.0	21.0	39.0	39.0	25.0	43.0	43.0
Total Split (%)	20.0%	30.8%	30.8%	20.0%	30.8%	30.8%	16.2%	30.0%	30.0%	19.2%	33.1%	33.1%
Maximum Green (s)	18.9	33.2	33.2	18.9	33.2	33.2	14.1	32.2	32.2	18.1	36.2	36.2
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.1	3.1	3.4	3.1	3.1	3.2	3.1	3.1	3.2	3.1	3.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.1	6.8	6.8	7.1	6.8	6.8	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		26.0	26.0		26.0	26.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	17.9	38.2	38.2	16.0	36.3	36.3	14.0	30.6	30.6	17.6	34.2	34.2
Actuated g/C Ratio	0.14	0.29	0.29	0.12	0.28	0.28	0.11	0.24	0.24	0.14	0.26	0.26
v/c Ratio	0.82	0.82	0.33	0.74	1.03	0.65	0.86	0.86	0.23	0.86	0.79	0.43
Control Delay	56.5	61.2	22.3	76.2	84.0	20.2	80.8	56.2	2.9	75.1	49.6	11.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	56.5	61.2	22.3	76.2	84.0	20.2	80.8	56.2	2.9	75.1	49.6	11.8
LOS	E	E	C	E	F	C	F	E	A	E	D	B
Approach Delay		54.7			66.8			57.5			50.3	
Approach LOS		D			E			E			D	
Queue Length 50th (m)	39.4	113.5	18.1	37.6	~148.8	30.4	39.1	85.3	0.0	49.2	85.2	8.6
Queue Length 95th (m)	#65.5	#149.0	39.4	59.5	#189.7	67.2	#62.1	102.1	4.7	#73.2	101.6	30.2
Internal Link Dist (m)		272.7			288.4			248.1			234.6	
Turn Bay Length (m)	53.0		30.0	105.0		85.0	120.0		100.0	95.0		50.0
Base Capacity (vph)	467	974	541	241	925	594	348	1180	479	447	1326	542
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.77	0.82	0.33	0.63	1.03	0.65	0.85	0.81	0.22	0.84	0.75	0.41

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 21 (16%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 125

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.03
Intersection Signal Delay: 57.3 Intersection LOS: E
Intersection Capacity Utilization 92.7% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: Woodroffe & Baseline



Intersection	
Int Delay, s/veh	2.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	124	546	17	36	369
Future Vol, veh/h	31	124	546	17	36	369
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	400	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	124	546	17	36	369

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	775	282	0	0	563	0
Stage 1	555	-	-	-	-	-
Stage 2	220	-	-	-	-	-
Critical Hdwy	5.74	7.14	-	-	5.34	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.82	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	402	610	-	-	633	-
Stage 1	448	-	-	-	-	-
Stage 2	731	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	373	610	-	-	633	-
Mov Cap-2 Maneuver	373	-	-	-	-	-
Stage 1	448	-	-	-	-	-
Stage 2	678	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.3	0	1.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	541	633	-
HCM Lane V/C Ratio	-	-	0.287	0.057	-
HCM Control Delay (s)	-	-	14.3	11	0.2
HCM Lane LOS	-	-	B	B	A
HCM 95th %tile Q(veh)	-	-	1.2	0.2	-

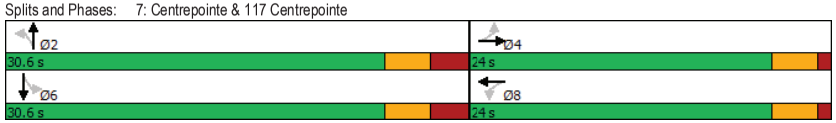
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	1	0	23	0	1	342	35	373
Future Volume (vph)	1	0	23	0	1	342	35	373
Lane Group Flow (vph)	0	1	0	99	0	359	0	408
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector 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)	24.0	24.0	24.0	24.0	15.6	15.6	15.6	15.6
Total Split (s)	24.0	24.0	24.0	24.0	30.6	30.6	30.6	30.6
Total Split (%)	44.0%	44.0%	44.0%	44.0%	56.0%	56.0%	56.0%	56.0%
Maximum Green (s)	20.0	20.0	20.0	20.0	25.0	25.0	25.0	25.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	2.6	2.6	2.6	2.6
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		4.0		4.0		5.6		5.6
Lead/Lag								
Lead-Lag Optimize?								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Ped	Ped	Ped	Ped	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0				
Flash Dont Walk (s)	13.0	13.0	13.0	13.0				
Pedestrian Calls (#/hr)	0	0	0	0				
Act Effct Green (s)		20.0		20.0		25.0		25.0
Actuated g/C Ratio		0.37		0.37		0.46		0.46
v/c Ratio		0.00		0.17		0.25		0.30
Control Delay		11.0		5.7		9.3		10.0
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		11.0		5.7		9.3		10.0
LOS		B		A		A		B
Approach Delay		11.0		5.7		9.3		10.0
Approach LOS		B		A		A		B
Queue Length 50th (m)		0.1		1.4		10.2		12.4
Queue Length 95th (m)		0.8		8.8		17.1		20.1
Internal Link Dist (m)		26.2		47.2		174.9		117.0
Turn Bay Length (m)								
Base Capacity (vph)		495		595		1444		1369
Starvation Cap Reductn		0		0		0		0
Spillback Cap Reductn		0		0		0		0
Storage Cap Reductn		0		0		0		0
Reduced v/c Ratio		0.00		0.17		0.25		0.30

Intersection Summary
Cycle Length: 54.6
Actuated Cycle Length: 54.6
Natural Cycle: 40
Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.30

Intersection Signal Delay: 9.3	Intersection LOS: A
Intersection Capacity Utilization 43.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Centrepointe & 117 Centrepointe



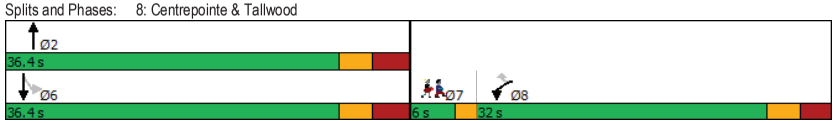
Lane Group	WBL	WBR	NBT	SBL	SBT	Ø7
Lane Configurations						
Traffic Volume (vph)	263	285	60	298	75	
Future Volume (vph)	263	285	60	298	75	
Lane Group Flow (vph)	263	285	197	298	75	
Turn Type	Prot	Perm	NA	Perm	NA	
Protected Phases	8		2		6	7
Permitted Phases		8		6		
Detector Phase	8	8	2	6	6	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	4.0
Minimum Split (s)	31.9	31.9	32.4	16.4	16.4	6.0
Total Split (s)	32.0	32.0	36.4	36.4	36.4	6.0
Total Split (%)	43.0%	43.0%	48.9%	48.9%	48.9%	8%
Maximum Green (s)	26.1	26.1	30.0	30.0	30.0	4.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.9	2.9	3.4	3.4	3.4	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.9	5.9	6.4	6.4	6.4	
Lead/Lag	Lag	Lag				Lead
Lead-Lag Optimize?	Yes	Yes				Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	None
Walk Time (s)	10.0	10.0	7.0			
Flash Dont Walk (s)	16.0	16.0	19.0			
Pedestrian Calls (#/hr)	0	0	0			
Act Effct Green (s)	14.4	14.4	30.1	30.1	30.1	
Actuated g/C Ratio	0.25	0.25	0.53	0.53	0.53	
v/c Ratio	0.63	0.48	0.12	0.51	0.08	
Control Delay	25.8	5.6	3.3	13.8	8.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	25.8	5.6	3.3	13.8	8.1	
LOS	C	A	A	B	A	
Approach Delay	15.3		3.3		12.7	
Approach LOS	B		A		B	
Queue Length 50th (m)	24.0	0.0	1.3	17.5	3.4	
Queue Length 95th (m)	42.8	13.8	6.4	46.1	10.5	
Internal Link Dist (m)	171.0		164.5		174.9	
Turn Bay Length (m)						
Base Capacity (vph)	764	837	1638	580	924	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.34	0.34	0.12	0.51	0.08	

Intersection Summary
Cycle Length: 74.4
Actuated Cycle Length: 56.9
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 12.3	Intersection LOS: B
Intersection Capacity Utilization 56.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 8: Centrepointe & Tallwood



Intersection						
Int Delay, s/veh	0.1					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	5	0	567	85	53
Future Vol, veh/h	0	5	0	567	85	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	0	567	85	53

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	69	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	980	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	980	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	980	-	-
HCM Lane V/C Ratio	-	0.005	-	-
HCM Control Delay (s)	-	8.7	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Appendix H

Synchro Intersection Worksheets – 2028 Future Background

DRAFT

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	15	1584	132	33	588	41	163	166	149	30
Future Volume (vph)	15	1584	132	33	588	41	163	166	149	30
Lane Group Flow (vph)	15	1584	132	33	588	41	163	166	149	30
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Free	Perm	Perm
Protected Phases	5	2		1	6		8			
Permitted Phases			2			6		Free	4	4
Detector Phase	5	2	2	1	6	6	8		4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	11.4	29.0	29.0	11.4	29.0	29.0	35.0		24.0	24.0
Total Split (s)	15.0	80.0	80.0	15.0	80.0	80.0	35.0		35.0	35.0
Total Split (%)	11.5%	61.5%	61.5%	11.5%	61.5%	61.5%	26.9%		26.9%	26.9%
Maximum Green (s)	8.6	74.0	74.0	8.6	74.0	74.0	29.0		29.0	29.0
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.3		3.3	3.3
All-Red Time (s)	2.7	2.3	2.3	2.7	2.3	2.3	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	0.0
Total Lost Time (s)	6.4	6.0	6.0	6.4	6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None		None	None
Walk Time (s)		12.0	12.0		12.0	12.0	7.0			
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	22.0			
Pedestrian Calls (#/hr)		0	0		0	0	0			
Act Effct Green (s)	6.8	90.4	90.4	8.1	94.2	94.2	18.1	130.0	18.1	18.1
Actuated g/C Ratio	0.05	0.70	0.70	0.06	0.72	0.72	0.14	1.00	0.14	0.14
v/c Ratio	0.17	0.69	0.12	0.32	0.24	0.04	0.71	0.11	0.65	0.11
Control Delay	62.9	16.1	2.1	79.8	3.4	0.4	69.4	0.2	65.3	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.9	16.1	2.1	79.8	3.4	0.4	69.4	0.2	65.3	0.8
LOS	E	B	A	E	A	A	E	A	E	A
Approach Delay		15.4			7.0					
Approach LOS		B			A					
Queue Length 50th (m)	3.8	129.7	0.0	8.8	6.6	0.0	40.5	0.0	36.6	0.0
Queue Length 95th (m)	11.0	194.8	8.2	18.1	31.1	1.0	60.9	0.0	56.0	0.0
Internal Link Dist (m)		218.7			480.0					
Turn Bay Length (m)	85.0		105.0	60.0		100.0		80.0		40.0
Base Capacity (vph)	109	2307	1071	117	2402	1095	369	1483	369	392
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.69	0.12	0.28	0.24	0.04	0.44	0.11	0.40	0.08

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 56 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 100

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 18.1 Intersection LOS: B
Intersection Capacity Utilization 65.8% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: Centrepointe/Cobden & Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	2	1405	477	138	455	48	134	237	137	63
Future Volume (vph)	2	1405	477	138	455	48	134	237	137	63
Lane Group Flow (vph)	2	1405	477	138	455	48	134	237	137	63
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Prot
Protected Phases	5	2		1	6		8		7	7
Permitted Phases			2			6		8		
Detector Phase	5	2	2	1	6	6	8	8	7	7
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	11.2	25.7	25.7	11.2	25.7	25.7	38.8	38.8	16.3	16.3
Total Split (s)	24.0	47.0	47.0	24.0	47.0	47.0	39.0	39.0	20.0	20.0
Total Split (%)	18.5%	36.2%	36.2%	18.5%	36.2%	36.2%	30.0%	30.0%	15.4%	15.4%
Maximum Green (s)	17.8	41.3	41.3	17.8	41.3	41.3	32.2	32.2	13.7	13.7
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.0	3.3	3.3
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0	3.8	3.8	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	5.7	5.7	6.2	5.7	5.7	6.8	6.8	6.3	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0		
Flash Dont Walk (s)		13.0	13.0		13.0	13.0	25.0	25.0		
Pedestrian Calls (#/hr)		0	0		0	0	0	0		
Act Effct Green (s)	5.8	69.1	69.1	10.9	83.7	83.7	11.8	11.8	13.1	13.1
Actuated g/C Ratio	0.04	0.53	0.53	0.08	0.64	0.64	0.09	0.09	0.10	0.10
v/c Ratio	0.03	0.80	0.47	0.51	0.21	0.05	0.46	0.68	0.82	0.24
Control Delay	55.5	26.4	5.2	91.5	4.7	0.1	60.8	16.9	91.8	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.5	26.4	5.2	91.5	4.7	0.1	60.8	16.9	91.8	2.0
LOS	E	C	A	F	A	A	E	B	F	A
Approach Delay		21.1			23.0					
Approach LOS		C			C					
Queue Length 50th (m)	0.5	82.3	0.0	19.4	8.1	0.0	17.2	0.0	34.8	0.0
Queue Length 95th (m)	m0.7	161.1	37.0	30.5	15.2	0.0	26.4	24.3	#67.4	0.0
Internal Link Dist (m)		480.0			124.6					
Turn Bay Length (m)	52.0		140.0	88.0		100.0			30.0	
Base Capacity (vph)	227	1763	1011	440	2135	1003	796	545	174	274
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.80	0.47	0.31	0.21	0.05	0.17	0.43	0.79	0.23

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 76 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 125

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 25.6 Intersection LOS: C
Intersection Capacity Utilization 78.2% 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.
m Volume for 95th percentile queue is metered by upstream signal.

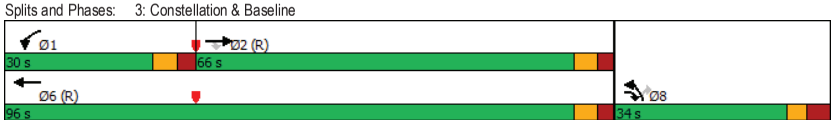
Splits and Phases: 2: Centrepointe/Highgate & Baseline

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1702	113	362	608	41	64
Future Volume (vph)	1702	113	362	608	41	64
Lane Group Flow (vph)	1702	113	362	608	41	64
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	32.5	33.9	11.7	24.5	33.9	33.9
Total Split (s)	66.0	34.0	30.0	96.0	34.0	34.0
Total Split (%)	50.8%	26.2%	23.1%	73.8%	26.2%	26.2%
Maximum Green (s)	59.5	27.1	23.3	89.5	27.1	27.1
Yellow Time (s)	3.7	3.0	3.7	3.7	3.0	3.0
All-Red Time (s)	2.8	3.9	3.0	2.8	3.9	3.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.9	6.7	6.5	6.9	6.9
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	Max	None	C-Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	19.0	20.0			20.0	20.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	63.3	96.9	19.5	89.5	27.1	27.1
Actuated g/C Ratio	0.49	0.75	0.15	0.69	0.21	0.21
v/c Ratio	0.73	0.10	0.75	0.27	0.12	0.18
Control Delay	16.6	0.2	49.2	3.4	43.0	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.6	0.2	49.2	3.4	43.0	11.1
LOS	B	A	D	A	D	B
Approach Delay	15.6			20.5	23.5	
Approach LOS	B			C	C	
Queue Length 50th (m)	65.8	0.0	32.2	9.4	8.6	0.0
Queue Length 95th (m)	68.1	m0.3	45.6	8.8	18.6	11.9
Internal Link Dist (m)	100.8			272.7	77.0	
Turn Bay Length (m)		55.0	90.0		50.0	
Base Capacity (vph)	2320	1124	576	2282	345	359
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	0.73	0.10	0.63	0.27	0.12	0.18

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 64 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 17.5 — Intersection LOS: B
Intersection Capacity Utilization 70.7% — ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Constellation & Baseline



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	455	1131	186	83	461	253	127	1258	102	302	651	414
Future Volume (vph)	455	1131	186	83	461	253	127	1258	102	302	651	414
Lane Group Flow (vph)	455	1131	186	83	461	253	127	1258	102	302	651	414
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	12.1	24.8	24.8	12.1	24.8	24.8	11.9	24.8	24.8	11.9	24.8	24.8
Total Split (s)	30.0	52.0	52.0	18.0	40.0	40.0	19.0	41.0	41.0	19.0	41.0	41.0
Total Split (%)	23.1%	40.0%	40.0%	13.8%	30.8%	30.8%	14.6%	31.5%	31.5%	14.6%	31.5%	31.5%
Maximum Green (s)	22.9	45.2	45.2	10.9	33.2	33.2	12.1	34.2	34.2	12.1	34.2	34.2
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.1	3.1	3.4	3.1	3.1	3.2	3.1	3.1	3.2	3.1	3.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.1	6.8	6.8	7.1	6.8	6.8	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	21.7	46.1	46.1	10.0	34.4	34.4	10.2	34.2	34.2	12.1	36.1	36.1
Actuated g/C Ratio	0.17	0.35	0.35	0.08	0.26	0.26	0.08	0.26	0.26	0.09	0.28	0.28
v/c Ratio	0.85	0.96	0.30	0.65	0.53	0.46	0.50	1.00	0.19	1.01	0.49	0.61
Control Delay	38.0	64.6	23.2	81.7	43.7	10.3	64.3	74.0	0.8	112.6	41.1	10.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.0	64.6	23.2	81.7	43.7	10.3	64.3	74.0	0.8	112.6	41.1	10.2
LOS	D	E	C	F	D	B	E	E	A	F	D	B
Approach Delay		53.4			37.1			68.2			47.6	
Approach LOS		D			D			E			D	
Queue Length 50th (m)	54.0	163.1	30.4	20.9	54.0	6.1	16.3	~119.3	0.0	~40.9	51.4	8.1
Queue Length 95th (m)	#74.7	#202.7	m51.6	#40.7	71.2	29.0	26.3	#152.5	0.0	#70.6	65.2	39.7
Internal Link Dist (m)		272.7			288.4			248.1			234.6	
Turn Bay Length (m)	53.0		30.0	105.0		85.0	120.0		100.0	95.0		50.0
Base Capacity (vph)	566	1176	622	139	878	556	299	1253	544	299	1322	680
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.96	0.30	0.60	0.53	0.46	0.42	1.00	0.19	1.01	0.49	0.61

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 16 (12%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 120

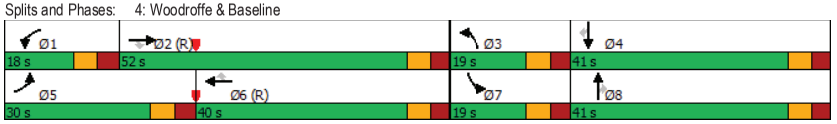
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 53.6 Intersection LOS: D
Intersection Capacity Utilization 95.6% ICU Level of Service F
Analysis Period (min) 15

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

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

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

Splits and Phases: 4: Woodroffe & Baseline



Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	80	317	37	155	504
Future Vol, veh/h	17	80	317	37	155	504
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	400	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	80	317	37	155	504

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	848	177	0	0	354	0
Stage 1	336	-	-	-	-	-
Stage 2	512	-	-	-	-	-
Critical Hdwy	5.74	7.14	-	-	5.34	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.82	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	370	711	-	-	793	-
Stage 1	603	-	-	-	-	-
Stage 2	517	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	270	711	-	-	793	-
Mov Cap-2 Maneuver	270	-	-	-	-	-
Stage 1	603	-	-	-	-	-
Stage 2	377	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.9	0	2.9
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	553	793	-
HCM Lane V/C Ratio	-	-	0.175	0.195	-
HCM Control Delay (s)	-	-	12.9	10.6	0.5
HCM Lane LOS	-	-	B	B	A
HCM 95th %tile Q(veh)	-	-	0.6	0.7	-

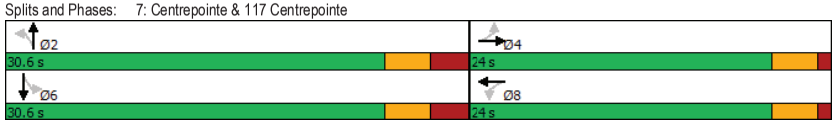
Lane Group	EBT	WBL	WBT	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	12	0	422	67	315
Future Volume (vph)	0	12	0	422	67	315
Lane Group Flow (vph)	1	0	34	437	0	383
Turn Type	NA	Perm	NA	NA	Perm	NA
Protected Phases	4		8	2		6
Permitted Phases		8			6	
Detector Phase	4	8	8	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.0	23.0	23.0	23.6	23.6	23.6
Total Split (s)	24.0	24.0	24.0	30.6	30.6	30.6
Total Split (%)	44.0%	44.0%	44.0%	56.0%	56.0%	56.0%
Maximum Green (s)	20.0	20.0	20.0	25.0	25.0	25.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	2.6	2.6	2.6
Lost Time Adjust (s)	0.0		0.0	0.0		0.0
Total Lost Time (s)	4.0		4.0	5.6		5.6
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Ped	Ped	Ped	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	12.0	12.0	12.0			
Pedestrian Calls (#/hr)	0	0	0			
Act Effct Green (s)	19.0		19.0	25.0		25.0
Actuated g/C Ratio	0.35		0.35	0.47		0.47
v/c Ratio	0.00		0.06	0.28		0.30
Control Delay	0.0		3.1	9.2		9.7
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	0.0		3.1	9.2		9.7
LOS	A		A	A		A
Approach Delay			3.1	9.2		9.7
Approach LOS			A	A		A
Queue Length 50th (m)	0.0		0.0	12.3		11.1
Queue Length 95th (m)	0.0		3.1	19.8		18.5
Internal Link Dist (m)	26.2		47.2	174.9		117.0
Turn Bay Length (m)						
Base Capacity (vph)	845		594	1542		1268
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.00		0.06	0.28		0.30

Intersection Summary
Cycle Length: 54.6
Actuated Cycle Length: 53.6
Natural Cycle: 50
Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.30

Intersection Signal Delay: 9.2	Intersection LOS: A
Intersection Capacity Utilization 45.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Centrepointe & 117 Centrepointe



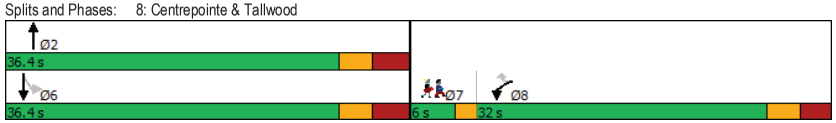
Lane Group	WBL	WBR	NBT	SBL	SBT	Ø7
Lane Configurations						
Traffic Volume (vph)	48	272	132	272	27	
Future Volume (vph)	48	272	132	272	27	
Lane Group Flow (vph)	48	272	329	272	27	
Turn Type	Prot	Perm	NA	Perm	NA	
Protected Phases	8		2		6	7
Permitted Phases		8		6		
Detector Phase	8	8	2	6	6	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	4.0
Minimum Split (s)	31.9	31.9	32.4	24.9	24.9	6.0
Total Split (s)	32.0	32.0	36.4	36.4	36.4	6.0
Total Split (%)	43.0%	43.0%	48.9%	48.9%	48.9%	8%
Maximum Green (s)	26.1	26.1	30.0	30.0	30.0	4.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.9	2.9	3.4	3.4	3.4	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.9	5.9	6.4	6.4	6.4	
Lead/Lag	Lag	Lag				Lead
Lead-Lag Optimize?	Yes	Yes				Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	None
Walk Time (s)	10.0	10.0	7.0			
Flash Dont Walk (s)	16.0	16.0	19.0			
Pedestrian Calls (#/hr)	0	0	0			
Act Effct Green (s)	10.3	10.3	30.0	30.0	30.0	
Actuated g/C Ratio	0.20	0.20	0.57	0.57	0.57	
v/c Ratio	0.15	0.53	0.18	0.49	0.03	
Control Delay	18.8	7.4	2.6	10.8	5.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	18.8	7.4	2.6	10.8	5.3	
LOS	B	A	A	B	A	
Approach Delay	9.1		2.6		10.3	
Approach LOS	A		A		B	
Queue Length 50th (m)	3.8	0.0	2.5	13.1	1.0	
Queue Length 95th (m)	10.6	15.0	7.1	31.3	3.5	
Internal Link Dist (m)	171.0		164.5		174.9	
Turn Bay Length (m)						
Base Capacity (vph)	822	872	1804	550	994	
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	0.06	0.31	0.18	0.49	0.03	

Intersection Summary
Cycle Length: 74.4
Actuated Cycle Length: 52.6
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.53

Intersection Signal Delay: 7.2	Intersection LOS: A
Intersection Capacity Utilization 50.4%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: Centrepointe & Tallwood



Intersection						
Int Delay, s/veh	1.4					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	96	0	115	467	63
Future Vol, veh/h	0	96	0	115	467	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	96	0	115	467	63

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	265	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	733	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	733	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	733	-	-
HCM Lane V/C Ratio	-	0.131	-	-
HCM Control Delay (s)	-	10.7	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.5	-	-

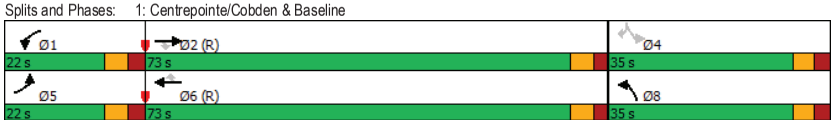
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	39	768	228	92	1629	137	167	76	93	57
Future Volume (vph)	39	768	228	92	1629	137	167	76	93	57
Lane Group Flow (vph)	39	768	228	92	1629	137	167	76	93	57
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Free	Perm	Perm
Protected Phases	5	2		1	6		8			
Permitted Phases			2			6		Free	4	4
Detector Phase	5	2	2	1	6	6	8		4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	11.4	29.0	29.0	11.4	29.0	29.0	35.0		24.0	24.0
Total Split (s)	22.0	73.0	73.0	22.0	73.0	73.0	35.0		35.0	35.0
Total Split (%)	16.9%	56.2%	56.2%	16.9%	56.2%	56.2%	26.9%		26.9%	26.9%
Maximum Green (s)	15.6	67.0	67.0	15.6	67.0	67.0	29.0		29.0	29.0
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.3		3.3	3.3
All-Red Time (s)	2.7	2.3	2.3	2.7	2.3	2.3	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	0.0
Total Lost Time (s)	6.4	6.0	6.0	6.4	6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None		None	None
Walk Time (s)		12.0	12.0		12.0	12.0	7.0			
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	22.0			
Pedestrian Calls (#/hr)		0	0		0	0	0			
Act Effct Green (s)	8.5	80.7	80.7	12.5	87.1	87.1	18.4	130.0	18.4	18.4
Actuated g/C Ratio	0.07	0.62	0.62	0.10	0.67	0.67	0.14	1.00	0.14	0.14
v/c Ratio	0.36	0.37	0.23	0.58	0.73	0.13	0.72	0.05	0.40	0.21
Control Delay	66.6	14.0	2.3	67.7	7.5	1.8	69.6	0.1	54.5	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.6	14.0	2.3	67.7	7.5	1.8	69.6	0.1	54.5	6.1
LOS	E	B	A	E	A	A	E	A	D	A
Approach Delay		13.4			10.0					
Approach LOS		B			B					
Queue Length 50th (m)	9.8	48.1	0.0	23.1	55.9	2.5	41.4	0.0	22.0	0.0
Queue Length 95th (m)	21.0	76.2	11.8	m32.6	62.4	m3.9	61.8	0.0	36.5	6.6
Internal Link Dist (m)		218.7			480.0					
Turn Bay Length (m)	85.0		105.0	60.0		100.0		80.0		40.0
Base Capacity (vph)	198	2059	1007	203	2222	1036	369	1483	369	392
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.37	0.23	0.45	0.73	0.13	0.45	0.05	0.25	0.15

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 80 (62%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 100

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 15.1 — Intersection LOS: B
Intersection Capacity Utilization 79.0% — ICU Level of Service D
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Centrepointe/Cobden & Baseline



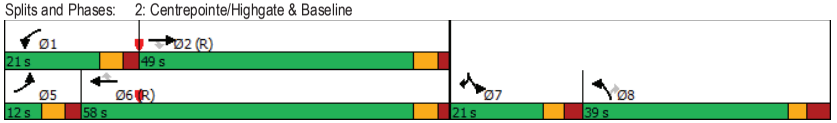
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	37	698	196	159	1356	124	397	251	76	83
Future Volume (vph)	37	698	196	159	1356	124	397	251	76	83
Lane Group Flow (vph)	37	698	196	159	1356	124	397	251	76	83
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Prot
Protected Phases	5	2		1	6		8		7	7
Permitted Phases			2			6		8		
Detector Phase	5	2	2	1	6	6	8	8	7	7
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	11.2	25.7	25.7	11.2	25.7	25.7	38.8	38.8	16.3	16.3
Total Split (s)	12.0	49.0	49.0	21.0	58.0	58.0	39.0	39.0	21.0	21.0
Total Split (%)	9.2%	37.7%	37.7%	16.2%	44.6%	44.6%	30.0%	30.0%	16.2%	16.2%
Maximum Green (s)	5.8	43.3	43.3	14.8	52.3	52.3	32.2	32.2	14.7	14.7
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.0	3.3	3.3
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0	3.8	3.8	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	5.7	5.7	6.2	5.7	5.7	6.8	6.8	6.3	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0		
Flash Dont Walk (s)		13.0	13.0		13.0	13.0	25.0	25.0		
Pedestrian Calls (#/hr)		0	0		0	0	0	0		
Act Effct Green (s)	8.2	60.0	60.0	11.7	65.8	65.8	21.5	21.5	11.8	11.8
Actuated g/C Ratio	0.06	0.46	0.46	0.09	0.51	0.51	0.17	0.17	0.09	0.09
v/c Ratio	0.35	0.46	0.25	0.55	0.81	0.15	0.75	0.55	0.51	0.28
Control Delay	62.1	31.5	11.2	82.2	16.0	0.5	60.5	10.1	67.8	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.1	31.5	11.2	82.2	16.0	0.5	60.5	10.1	67.8	2.3
LOS	E	C	B	F	B	A	E	B	E	A
Approach Delay		28.4			21.3					
Approach LOS		C			C					
Queue Length 50th (m)	9.3	54.4	0.1	22.4	46.4	0.0	50.6	0.0	19.0	0.0
Queue Length 95th (m)	21.5	102.3	31.7	32.0	#231.5	0.0	64.0	22.0	34.2	0.0
Internal Link Dist (m)		480.0			113.5					
Turn Bay Length (m)	52.0		140.0	88.0		100.0			30.0	
Base Capacity (vph)	105	1529	789	367	1678	818	796	556	187	330
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.46	0.25	0.43	0.81	0.15	0.50	0.45	0.41	0.25

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 71 (55%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 115

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 27.6 Intersection LOS: C
Intersection Capacity Utilization 73.2% ICU Level of Service D
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 2: Centrepointe/Highgate & Baseline



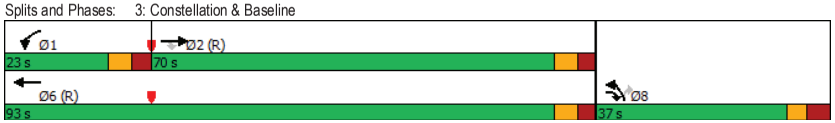
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1030	24	111	1431	200	347
Future Volume (vph)	1030	24	111	1431	200	347
Lane Group Flow (vph)	1030	24	111	1431	200	347
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	32.5	34.4	11.7	16.5	34.4	34.4
Total Split (s)	70.0	37.0	23.0	93.0	37.0	37.0
Total Split (%)	53.8%	28.5%	17.7%	71.5%	28.5%	28.5%
Maximum Green (s)	63.5	30.1	16.3	86.5	30.1	30.1
Yellow Time (s)	3.7	3.0	3.7	3.7	3.0	3.0
All-Red Time (s)	2.8	3.9	3.0	2.8	3.9	3.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.9	6.7	6.5	6.9	6.9
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	None	None	C-Max	None	None
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	19.0	20.0			20.0	20.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	79.0	106.6	9.8	95.5	21.1	21.1
Actuated g/C Ratio	0.61	0.82	0.08	0.73	0.16	0.16
v/c Ratio	0.36	0.02	0.46	0.59	0.75	0.74
Control Delay	8.9	0.1	82.7	3.7	68.2	21.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	8.9	0.1	82.7	3.7	68.2	21.3
LOS	A	A	F	A	E	C
Approach Delay	8.7			9.4	38.5	
Approach LOS	A			A	D	
Queue Length 50th (m)	20.1	0.0	14.7	17.0	49.5	16.5
Queue Length 95th (m)	34.3	m0.3	m11.9	m5.6	70.6	47.8
Internal Link Dist (m)	111.9			272.7	77.0	
Turn Bay Length (m)		55.0	90.0		50.0	
Base Capacity (vph)	2894	1321	403	2437	383	554
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	0.36	0.02	0.28	0.59	0.52	0.63

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 64 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 80

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 14.2 Intersection LOS: B
Intersection Capacity Utilization 64.6% ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Constellation & Baseline



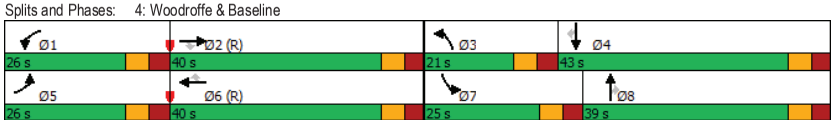
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	380	840	190	159	1003	404	312	1009	109	396	1043	235
Future Volume (vph)	380	840	190	159	1003	404	312	1009	109	396	1043	235
Lane Group Flow (vph)	380	840	190	159	1003	404	312	1009	109	396	1043	235
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	12.1	39.8	39.8	12.1	39.8	39.8	11.9	36.8	36.8	11.9	36.8	36.8
Total Split (s)	26.0	40.0	40.0	26.0	40.0	40.0	21.0	39.0	39.0	25.0	43.0	43.0
Total Split (%)	20.0%	30.8%	30.8%	20.0%	30.8%	30.8%	16.2%	30.0%	30.0%	19.2%	33.1%	33.1%
Maximum Green (s)	18.9	33.2	33.2	18.9	33.2	33.2	14.1	32.2	32.2	18.1	36.2	36.2
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.1	3.1	3.4	3.1	3.1	3.2	3.1	3.1	3.2	3.1	3.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.1	6.8	6.8	7.1	6.8	6.8	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		26.0	26.0		26.0	26.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	18.2	36.9	36.9	16.3	35.0	35.0	14.1	31.3	31.3	17.9	35.1	35.1
Actuated g/C Ratio	0.14	0.28	0.28	0.13	0.27	0.27	0.11	0.24	0.24	0.14	0.27	0.27
v/c Ratio	0.84	0.89	0.36	0.76	1.12	0.70	0.90	0.88	0.23	0.90	0.81	0.44
Control Delay	58.6	67.1	23.4	77.8	114.1	23.7	85.2	57.3	3.2	78.7	50.1	13.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.6	67.1	23.4	77.8	114.1	23.7	85.2	57.3	3.2	78.7	50.1	13.0
LOS	E	E	C	E	F	C	F	E	A	E	D	B
Approach Delay		58.9			87.1			59.3			51.7	
Approach LOS		E			F			E			D	
Queue Length 50th (m)	42.3	119.8	20.1	39.5	~162.3	37.1	41.3	90.8	0.0	52.0	90.6	10.8
Queue Length 95th (m)	#72.2	#160.7	42.2	62.6	#203.2	75.8	#67.1	108.3	5.9	#78.7	107.8	33.4
Internal Link Dist (m)		272.7			288.4			248.1			234.6	
Turn Bay Length (m)	53.0		30.0	105.0		85.0	120.0		100.0	95.0		50.0
Base Capacity (vph)	467	940	527	241	892	579	348	1180	479	447	1326	542
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.81	0.89	0.36	0.66	1.12	0.70	0.90	0.86	0.23	0.89	0.79	0.43

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 21 (16%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 125

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.12
Intersection Signal Delay: 64.3 Intersection LOS: E
Intersection Capacity Utilization 96.2% 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: 4: Woodroffe & Baseline



Intersection	
Int Delay, s/veh	2.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	124	574	17	36	388
Future Vol, veh/h	31	124	574	17	36	388
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	400	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	124	574	17	36	388

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	810	296	0	0	591	0
Stage 1	583	-	-	-	-	-
Stage 2	227	-	-	-	-	-
Critical Hdwy	5.74	7.14	-	-	5.34	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.82	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	386	597	-	-	614	-
Stage 1	431	-	-	-	-	-
Stage 2	725	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	357	597	-	-	614	-
Mov Cap-2 Maneuver	357	-	-	-	-	-
Stage 1	431	-	-	-	-	-
Stage 2	671	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.7	0	1.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	526	614	-
HCM Lane V/C Ratio	-	-	0.295	0.059	-
HCM Control Delay (s)	-	-	14.7	11.2	0.2
HCM Lane LOS	-	-	B	B	A
HCM 95th %tile Q(veh)	-	-	1.2	0.2	-

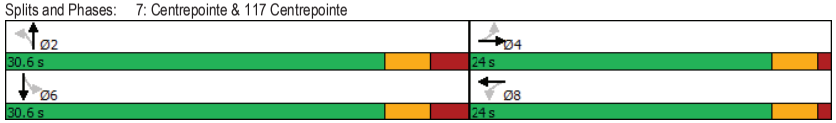
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	1	0	23	0	1	359	35	392
Future Volume (vph)	1	0	23	0	1	359	35	392
Lane Group Flow (vph)	0	1	0	99	0	376	0	427
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector 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)	24.0	24.0	24.0	24.0	15.6	15.6	15.6	15.6
Total Split (s)	24.0	24.0	24.0	24.0	30.6	30.6	30.6	30.6
Total Split (%)	44.0%	44.0%	44.0%	44.0%	56.0%	56.0%	56.0%	56.0%
Maximum Green (s)	20.0	20.0	20.0	20.0	25.0	25.0	25.0	25.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	2.6	2.6	2.6	2.6
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		4.0		4.0		5.6		5.6
Lead/Lag								
Lead-Lag Optimize?								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Ped	Ped	Ped	Ped	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0				
Flash Dont Walk (s)	13.0	13.0	13.0	13.0				
Pedestrian Calls (#/hr)	0	0	0	0				
Act Effct Green (s)		20.0		20.0		25.0		25.0
Actuated g/C Ratio		0.37		0.37		0.46		0.46
v/c Ratio		0.00		0.17		0.26		0.31
Control Delay		11.0		5.7		9.4		10.2
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		11.0		5.7		9.4		10.2
LOS		B		A		A		B
Approach Delay		11.0		5.7		9.4		10.2
Approach LOS		B		A		A		B
Queue Length 50th (m)		0.1		1.4		10.8		13.0
Queue Length 95th (m)		0.8		8.8		17.9		21.0
Internal Link Dist (m)		26.2		47.2		174.9		117.0
Turn Bay Length (m)								
Base Capacity (vph)		495		595		1445		1369
Starvation Cap Reductn		0		0		0		0
Spillback Cap Reductn		0		0		0		0
Storage Cap Reductn		0		0		0		0
Reduced v/c Ratio		0.00		0.17		0.26		0.31

Intersection Summary
Cycle Length: 54.6
Actuated Cycle Length: 54.6
Natural Cycle: 40
Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.31

Intersection Signal Delay: 9.4	Intersection LOS: A
Intersection Capacity Utilization 44.6%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Centrepointe & 117 Centrepointe



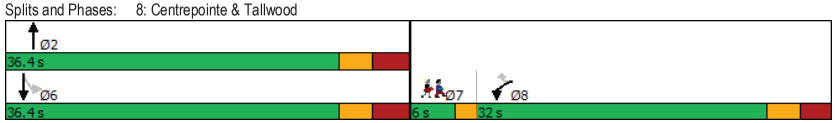
Lane Group	WBL	WBR	NBT	SBL	SBT	Ø7
Lane Configurations						
Traffic Volume (vph)	263	285	63	298	79	
Future Volume (vph)	263	285	63	298	79	
Lane Group Flow (vph)	263	285	200	298	79	
Turn Type	Prot	Perm	NA	Perm	NA	
Protected Phases	8		2		6	7
Permitted Phases		8		6		
Detector Phase	8	8	2	6	6	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	4.0
Minimum Split (s)	31.9	31.9	32.4	16.4	16.4	6.0
Total Split (s)	32.0	32.0	36.4	36.4	36.4	6.0
Total Split (%)	43.0%	43.0%	48.9%	48.9%	48.9%	8%
Maximum Green (s)	26.1	26.1	30.0	30.0	30.0	4.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.9	2.9	3.4	3.4	3.4	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.9	5.9	6.4	6.4	6.4	
Lead/Lag	Lag	Lag				Lead
Lead-Lag Optimize?	Yes	Yes				Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	None
Walk Time (s)	10.0	10.0	7.0			
Flash Dont Walk (s)	16.0	16.0	19.0			
Pedestrian Calls (#/hr)	0	0	0			
Act Effct Green (s)	14.4	14.4	30.1	30.1	30.1	
Actuated g/C Ratio	0.25	0.25	0.53	0.53	0.53	
v/c Ratio	0.63	0.48	0.12	0.52	0.09	
Control Delay	25.8	5.6	3.4	13.9	8.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	25.8	5.6	3.4	13.9	8.1	
LOS	C	A	A	B	A	
Approach Delay	15.3		3.4		12.7	
Approach LOS	B		A		B	
Queue Length 50th (m)	24.0	0.0	1.4	17.5	3.5	
Queue Length 95th (m)	42.8	13.8	6.5	46.3	10.9	
Internal Link Dist (m)	171.0		164.5		174.9	
Turn Bay Length (m)						
Base Capacity (vph)	764	837	1640	578	924	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.34	0.34	0.12	0.52	0.09	

Intersection Summary
Cycle Length: 74.4
Actuated Cycle Length: 56.9
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 12.3	Intersection LOS: B
Intersection Capacity Utilization 56.7%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 8: Centrepointe & Tallwood



Intersection						
Int Delay, s/veh	0.1					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	5	0	596	90	53
Future Vol, veh/h	0	5	0	596	90	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	5	0	596	90	53

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	72	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	975	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	975	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	975	-	-
HCM Lane V/C Ratio	-	0.005	-	-
HCM Control Delay (s)	-	8.7	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Appendix I

TDM Checklists

DRAFT

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

Legend

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

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

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

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

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

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

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

Legend

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

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

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

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

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

Appendix J

Synchro Intersection Worksheets – 2023 Future Total

DRAFT

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	15	1511	132	33	573	41	163	166	149	30
Future Volume (vph)	15	1511	132	33	573	41	163	166	149	30
Lane Group Flow (vph)	15	1511	132	33	573	41	163	166	149	30
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Free	Perm	Perm
Protected Phases	5	2		1	6		8			
Permitted Phases			2			6		Free	4	4
Detector Phase	5	2	2	1	6	6	8		4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	11.4	29.0	29.0	11.4	29.0	29.0	35.0		24.0	24.0
Total Split (s)	15.0	80.0	80.0	15.0	80.0	80.0	35.0		35.0	35.0
Total Split (%)	11.5%	61.5%	61.5%	11.5%	61.5%	61.5%	26.9%		26.9%	26.9%
Maximum Green (s)	8.6	74.0	74.0	8.6	74.0	74.0	29.0		29.0	29.0
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.3		3.3	3.3
All-Red Time (s)	2.7	2.3	2.3	2.7	2.3	2.3	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	0.0
Total Lost Time (s)	6.4	6.0	6.0	6.4	6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None		None	None
Walk Time (s)		12.0	12.0		12.0	12.0	7.0			
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	22.0			
Pedestrian Calls (#/hr)		0	0		0	0	0			
Act Effct Green (s)	6.8	90.4	90.4	8.1	94.2	94.2	18.1	130.0	18.1	18.1
Actuated g/C Ratio	0.05	0.70	0.70	0.06	0.72	0.72	0.14	1.00	0.14	0.14
v/c Ratio	0.17	0.65	0.12	0.32	0.24	0.04	0.71	0.11	0.65	0.11
Control Delay	62.9	15.2	2.1	81.1	3.4	0.4	69.4	0.2	65.3	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.9	15.2	2.1	81.1	3.4	0.4	69.4	0.2	65.3	0.8
LOS	E	B	A	F	A	A	E	A	E	A
Approach Delay		14.6			7.1					
Approach LOS		B			A					
Queue Length 50th (m)	3.8	118.9	0.0	8.9	5.4	0.0	40.5	0.0	36.6	0.0
Queue Length 95th (m)	11.0	178.1	8.2	17.7	32.5	1.3	60.9	0.0	56.0	0.0
Internal Link Dist (m)		218.7			480.0					
Turn Bay Length (m)	85.0		105.0	60.0		100.0		80.0		40.0
Base Capacity (vph)	109	2307	1071	117	2402	1095	369	1483	369	392
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.65	0.12	0.28	0.24	0.04	0.44	0.11	0.40	0.08

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 56 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 17.7 Intersection LOS: B
Intersection Capacity Utilization 63.6% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: Centrepointe/Cobden & Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	2	1337	481	140	433	48	147	261	137	63
Future Volume (vph)	2	1337	481	140	433	48	147	261	137	63
Lane Group Flow (vph)	2	1337	481	140	433	48	147	261	137	63
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Prot
Protected Phases	5	2		1	6		8		7	7
Permitted Phases			2			6		8		
Detector Phase	5	2	2	1	6	6	8	8	7	7
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	11.2	25.7	25.7	11.2	25.7	25.7	38.8	38.8	16.3	16.3
Total Split (s)	24.0	47.0	47.0	24.0	47.0	47.0	39.0	39.0	20.0	20.0
Total Split (%)	18.5%	36.2%	36.2%	18.5%	36.2%	36.2%	30.0%	30.0%	15.4%	15.4%
Maximum Green (s)	17.8	41.3	41.3	17.8	41.3	41.3	32.2	32.2	13.7	13.7
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.0	3.3	3.3
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0	3.8	3.8	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	5.7	5.7	6.2	5.7	5.7	6.8	6.8	6.3	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0		
Flash Dont Walk (s)		13.0	13.0		13.0	13.0	25.0	25.0		
Pedestrian Calls (#/hr)		0	0		0	0	0	0		
Act Effct Green (s)	5.8	68.7	68.7	11.0	83.4	83.4	12.2	12.2	13.1	13.1
Actuated g/C Ratio	0.04	0.53	0.53	0.08	0.64	0.64	0.09	0.09	0.10	0.10
v/c Ratio	0.03	0.76	0.48	0.51	0.20	0.05	0.49	0.70	0.82	0.24
Control Delay	54.5	25.1	4.9	91.8	4.6	0.1	61.1	16.6	91.8	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	54.5	25.1	4.9	91.8	4.6	0.1	61.1	16.6	91.8	2.0
LOS	D	C	A	F	A	A	E	B	F	A
Approach Delay		19.8			23.9					
Approach LOS		B			C					
Queue Length 50th (m)	0.6	78.9	0.1	19.6	7.8	0.0	18.9	0.0	34.8	0.0
Queue Length 95th (m)	m0.9	135.2	34.0	30.3	13.7	0.0	28.4	25.5	#67.4	0.0
Internal Link Dist (m)		480.0			124.6					
Turn Bay Length (m)	52.0		140.0	88.0		100.0			30.0	
Base Capacity (vph)	227	1752	1010	440	2126	1000	796	563	174	274
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.76	0.48	0.32	0.20	0.05	0.18	0.46	0.79	0.23

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 76 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 125

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 25.2 Intersection LOS: C
Intersection Capacity Utilization 77.8% ICU Level of Service D
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

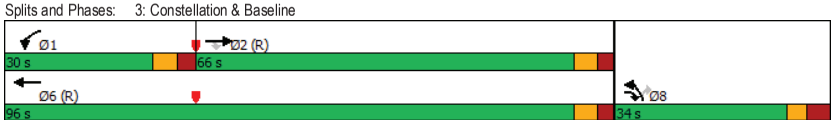
Splits and Phases: 2: Centrepointe/Highgate & Baseline

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1645	113	368	581	41	64
Future Volume (vph)	1645	113	368	581	41	64
Lane Group Flow (vph)	1645	113	368	581	41	64
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	32.5	33.9	11.7	24.5	33.9	33.9
Total Split (s)	66.0	34.0	30.0	96.0	34.0	34.0
Total Split (%)	50.8%	26.2%	23.1%	73.8%	26.2%	26.2%
Maximum Green (s)	59.5	27.1	23.3	89.5	27.1	27.1
Yellow Time (s)	3.7	3.0	3.7	3.7	3.0	3.0
All-Red Time (s)	2.8	3.9	3.0	2.8	3.9	3.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.9	6.7	6.5	6.9	6.9
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	Max	None	C-Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	19.0	20.0			20.0	20.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	63.1	96.7	19.7	89.5	27.1	27.1
Actuated g/C Ratio	0.49	0.74	0.15	0.69	0.21	0.21
v/c Ratio	0.71	0.10	0.76	0.25	0.12	0.18
Control Delay	16.5	0.2	49.5	3.5	43.0	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.5	0.2	49.5	3.5	43.0	11.1
LOS	B	A	D	A	D	B
Approach Delay	15.5			21.3	23.5	
Approach LOS	B			C	C	
Queue Length 50th (m)	52.0	0.0	33.2	9.6	8.6	0.0
Queue Length 95th (m)	61.5	m0.3	47.5	9.0	18.6	11.9
Internal Link Dist (m)	100.8			272.7	77.0	
Turn Bay Length (m)		55.0	90.0		50.0	
Base Capacity (vph)	2313	1121	576	2282	345	359
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	0.71	0.10	0.64	0.25	0.12	0.18

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 64 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 17.7 — Intersection LOS: B
Intersection Capacity Utilization 69.7% — ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Constellation & Baseline



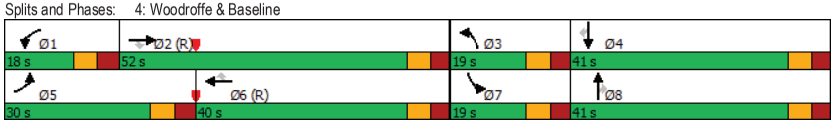
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	452	1082	177	79	440	240	121	1197	97	287	619	400
Future Volume (vph)	452	1082	177	79	440	240	121	1197	97	287	619	400
Lane Group Flow (vph)	452	1082	177	79	440	240	121	1197	97	287	619	400
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	12.1	24.8	24.8	12.1	24.8	24.8	11.9	24.8	24.8	11.9	24.8	24.8
Total Split (s)	30.0	52.0	52.0	18.0	40.0	40.0	19.0	41.0	41.0	19.0	41.0	41.0
Total Split (%)	23.1%	40.0%	40.0%	13.8%	30.8%	30.8%	14.6%	31.5%	31.5%	14.6%	31.5%	31.5%
Maximum Green (s)	22.9	45.2	45.2	10.9	33.2	33.2	12.1	34.2	34.2	12.1	34.2	34.2
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.1	3.1	3.4	3.1	3.1	3.2	3.1	3.1	3.2	3.1	3.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.1	6.8	6.8	7.1	6.8	6.8	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	21.6	49.1	49.1	9.8	34.5	34.5	10.0	34.2	34.2	12.1	36.3	36.3
Actuated g/C Ratio	0.17	0.38	0.38	0.08	0.27	0.27	0.08	0.26	0.26	0.09	0.28	0.28
v/c Ratio	0.85	0.86	0.27	0.63	0.50	0.43	0.49	0.96	0.18	0.96	0.47	0.58
Control Delay	38.3	53.3	22.3	80.1	43.2	9.0	64.0	64.0	0.7	101.2	40.5	8.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	38.3	53.3	22.3	80.1	43.2	9.0	64.0	64.0	0.7	101.2	40.5	8.4
LOS	D	D	C	F	D	A	E	E	A	F	D	A
Approach Delay		46.2			36.2			59.6			44.0	
Approach LOS		D			D			E			D	
Queue Length 50th (m)	53.3	155.8	27.5	19.8	51.2	3.5	15.5	111.0	0.0	38.4	48.3	3.4
Queue Length 95th (m)	#73.5	#188.6	m50.0	#36.8	68.0	24.9	25.1	#140.2	0.0	#66.2	61.9	31.5
Internal Link Dist (m)		272.7			288.4			248.1			234.6	
Turn Bay Length (m)	53.0		30.0	105.0		85.0	120.0		100.0	95.0		50.0
Base Capacity (vph)	566	1251	652	139	879	556	299	1253	544	299	1330	689
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.80	0.86	0.27	0.57	0.50	0.43	0.40	0.96	0.18	0.96	0.47	0.58

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 16 (12%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 100

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 47.8 Intersection LOS: D
Intersection Capacity Utilization 92.2% 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.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Woodroffe & Baseline



Intersection	
Int Delay, s/veh	3.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	117	302	39	161	480
Future Vol, veh/h	17	117	302	39	161	480
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	400	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	117	302	39	161	480

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	836	171	0	0	341	0
Stage 1	322	-	-	-	-	-
Stage 2	514	-	-	-	-	-
Critical Hdwy	5.74	7.14	-	-	5.34	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.82	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	375	717	-	-	804	-
Stage 1	614	-	-	-	-	-
Stage 2	516	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	273	717	-	-	804	-
Mov Cap-2 Maneuver	273	-	-	-	-	-
Stage 1	614	-	-	-	-	-
Stage 2	375	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.8	0	3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	594	804	-
HCM Lane V/C Ratio	-	-	0.226	0.2	-
HCM Control Delay (s)	-	-	12.8	10.6	0.5
HCM Lane LOS	-	-	B	B	A
HCM 95th %tile Q(veh)	-	-	0.9	0.7	-

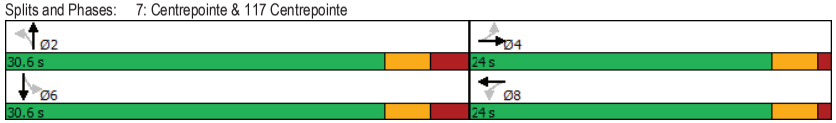
Lane Group	EBT	WBL	WBT	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	12	0	403	67	305
Future Volume (vph)	0	12	0	403	67	305
Lane Group Flow (vph)	1	0	34	418	0	373
Turn Type	NA	Perm	NA	NA	Perm	NA
Protected Phases	4		8	2		6
Permitted Phases		8			6	
Detector Phase	4	8	8	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.0	23.0	23.0	23.6	23.6	23.6
Total Split (s)	24.0	24.0	24.0	30.6	30.6	30.6
Total Split (%)	44.0%	44.0%	44.0%	56.0%	56.0%	56.0%
Maximum Green (s)	20.0	20.0	20.0	25.0	25.0	25.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	2.6	2.6	2.6
Lost Time Adjust (s)	0.0		0.0	0.0		0.0
Total Lost Time (s)	4.0		4.0	5.6		5.6
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Ped	Ped	Ped	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	12.0	12.0	12.0			
Pedestrian Calls (#/hr)	0	0	0			
Act Effct Green (s)	19.0		19.0	25.0		25.0
Actuated g/C Ratio	0.35		0.35	0.47		0.47
v/c Ratio	0.00		0.06	0.27		0.29
Control Delay	0.0		3.1	9.1		9.6
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	0.0		3.1	9.1		9.6
LOS	A		A	A		A
Approach Delay			3.1	9.1		9.6
Approach LOS			A	A		A
Queue Length 50th (m)	0.0		0.0	11.7		10.8
Queue Length 95th (m)	0.0		3.1	19.0		18.0
Internal Link Dist (m)	26.2		47.2	174.9		117.0
Turn Bay Length (m)						
Base Capacity (vph)	853		594	1543		1270
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.00		0.06	0.27		0.29

Intersection Summary
Cycle Length: 54.6
Actuated Cycle Length: 53.6
Natural Cycle: 50
Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.29

Intersection Signal Delay: 9.1	Intersection LOS: A
Intersection Capacity Utilization 44.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Centrepointe & 117 Centrepointe



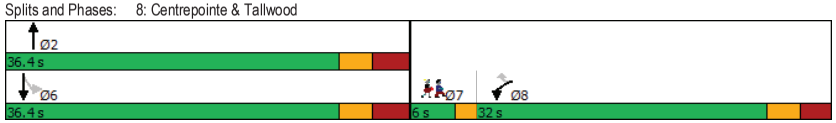
Lane Group	WBL	WBR	NBT	SBL	SBT	Ø7
Lane Configurations						
Traffic Volume (vph)	48	274	126	278	26	
Future Volume (vph)	48	274	126	278	26	
Lane Group Flow (vph)	48	274	323	278	26	
Turn Type	Prot	Perm	NA	Perm	NA	
Protected Phases	8		2		6	7
Permitted Phases		8		6		
Detector Phase	8	8	2	6	6	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	4.0
Minimum Split (s)	31.9	31.9	32.4	24.9	24.9	6.0
Total Split (s)	32.0	32.0	36.4	36.4	36.4	6.0
Total Split (%)	43.0%	43.0%	48.9%	48.9%	48.9%	8%
Maximum Green (s)	26.1	26.1	30.0	30.0	30.0	4.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.9	2.9	3.4	3.4	3.4	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.9	5.9	6.4	6.4	6.4	
Lead/Lag	Lag	Lag				Lead
Lead-Lag Optimize?	Yes	Yes				Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	None
Walk Time (s)	10.0	10.0	7.0			
Flash Dont Walk (s)	16.0	16.0	19.0			
Pedestrian Calls (#/hr)	0	0	0			
Act Effct Green (s)	10.3	10.3	30.0	30.0	30.0	
Actuated g/C Ratio	0.20	0.20	0.57	0.57	0.57	
v/c Ratio	0.15	0.54	0.18	0.50	0.03	
Control Delay	18.8	7.4	2.6	11.0	5.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	18.8	7.4	2.6	11.0	5.3	
LOS	B	A	A	B	A	
Approach Delay	9.1		2.6		10.5	
Approach LOS	A		A		B	
Queue Length 50th (m)	3.8	0.0	2.3	13.4	0.9	
Queue Length 95th (m)	10.6	15.0	6.9	32.3	3.4	
Internal Link Dist (m)	171.0		164.5		174.9	
Turn Bay Length (m)						
Base Capacity (vph)	822	873	1802	552	994	
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	0.06	0.31	0.18	0.50	0.03	

Intersection Summary
Cycle Length: 74.4
Actuated Cycle Length: 52.6
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 7.3	Intersection LOS: A
Intersection Capacity Utilization 50.5%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: Centrepointe & Tallwood



Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	102	0	109	444	69
Future Vol, veh/h	0	102	0	109	444	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	102	0	109	444	69

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	257	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	742	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	742	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	742	-	-
HCM Lane V/C Ratio	-	0.137	-	-
HCM Control Delay (s)	-	10.6	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.5	-	-

Lane Group	EBT	WBT	NBL
Lane Configurations			
Traffic Volume (vph)	192	97	37
Future Volume (vph)	192	97	37
Lane Group Flow (vph)	200	103	43
Sign Control	Free	Free	Stop

Intersection Summary		
Control Type: Unsignalized		
Intersection Capacity Utilization 21.2%		ICU Level of Service A
Analysis Period (min) 15		

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	192	8	6	97	37	6
Future Vol, veh/h	192	8	6	97	37	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	192	8	6	97	37	6

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	200	0	305	196
Stage 1	-	-	-	-	196	-
Stage 2	-	-	-	-	109	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1372	-	687	845
Stage 1	-	-	-	-	837	-
Stage 2	-	-	-	-	916	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1372	-	684	845
Mov Cap-2 Maneuver	-	-	-	-	684	-
Stage 1	-	-	-	-	837	-
Stage 2	-	-	-	-	911	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	703	-	-	1372	-
HCM Lane V/C Ratio	0.061	-	-	0.004	-
HCM Control Delay (s)	10.5	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

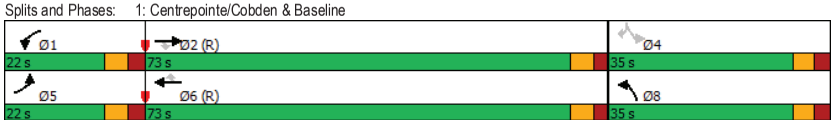
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	39	742	228	92	1558	137	167	76	93	57
Future Volume (vph)	39	742	228	92	1558	137	167	76	93	57
Lane Group Flow (vph)	39	742	228	92	1558	137	167	76	93	57
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Free	Perm	Perm
Protected Phases	5	2		1	6		8			
Permitted Phases			2			6		Free	4	4
Detector Phase	5	2	2	1	6	6	8		4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	11.4	29.0	29.0	11.4	29.0	29.0	35.0		24.0	24.0
Total Split (s)	22.0	73.0	73.0	22.0	73.0	73.0	35.0		35.0	35.0
Total Split (%)	16.9%	56.2%	56.2%	16.9%	56.2%	56.2%	26.9%		26.9%	26.9%
Maximum Green (s)	15.6	67.0	67.0	15.6	67.0	67.0	29.0		29.0	29.0
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.3		3.3	3.3
All-Red Time (s)	2.7	2.3	2.3	2.7	2.3	2.3	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	0.0
Total Lost Time (s)	6.4	6.0	6.0	6.4	6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None		None	None
Walk Time (s)		12.0	12.0		12.0	12.0	7.0			
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	22.0			
Pedestrian Calls (#/hr)		0	0		0	0	0			
Act Effct Green (s)	8.5	80.7	80.7	12.5	87.1	87.1	18.4	130.0	18.4	18.4
Actuated g/C Ratio	0.07	0.62	0.62	0.10	0.67	0.67	0.14	1.00	0.14	0.14
v/c Ratio	0.36	0.36	0.23	0.58	0.70	0.13	0.72	0.05	0.40	0.21
Control Delay	66.6	13.8	2.3	67.8	6.9	1.9	69.6	0.1	54.5	6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	66.6	13.8	2.3	67.8	6.9	1.9	69.6	0.1	54.5	6.1
LOS	E	B	A	E	A	A	E	A	D	A
Approach Delay		13.3			9.7					
Approach LOS		B			A					
Queue Length 50th (m)	9.8	46.0	0.0	23.1	55.8	2.6	41.4	0.0	22.0	0.0
Queue Length 95th (m)	21.0	73.2	11.8	m33.5	62.4	m4.3	61.8	0.0	36.5	6.6
Internal Link Dist (m)		218.7			480.0					
Turn Bay Length (m)	85.0		105.0	60.0		100.0		80.0		40.0
Base Capacity (vph)	198	2059	1007	203	2222	1038	369	1483	369	392
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.36	0.23	0.45	0.70	0.13	0.45	0.05	0.25	0.15

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 80 (62%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.72
Intersection Signal Delay: 14.9 Intersection LOS: B
Intersection Capacity Utilization 76.9% ICU Level of Service D
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1: Centrepointe/Cobden & Baseline



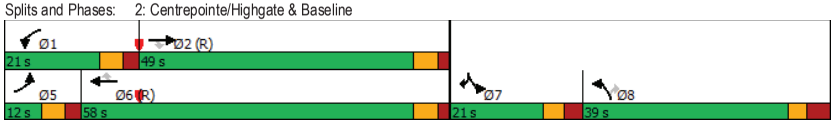
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	37	664	207	165	1290	124	404	264	76	83
Future Volume (vph)	37	664	207	165	1290	124	404	264	76	83
Lane Group Flow (vph)	37	664	207	165	1290	124	404	264	76	83
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Prot
Protected Phases	5	2		1	6		8		7	7
Permitted Phases			2			6		8		
Detector Phase	5	2	2	1	6	6	8	8	7	7
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	11.2	25.7	25.7	11.2	25.7	25.7	38.8	38.8	16.3	16.3
Total Split (s)	12.0	49.0	49.0	21.0	58.0	58.0	39.0	39.0	21.0	21.0
Total Split (%)	9.2%	37.7%	37.7%	16.2%	44.6%	44.6%	30.0%	30.0%	16.2%	16.2%
Maximum Green (s)	5.8	43.3	43.3	14.8	52.3	52.3	32.2	32.2	14.7	14.7
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.0	3.3	3.3
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0	3.8	3.8	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	5.7	5.7	6.2	5.7	5.7	6.8	6.8	6.3	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0		
Flash Dont Walk (s)		13.0	13.0		13.0	13.0	25.0	25.0		
Pedestrian Calls (#/hr)		0	0		0	0	0	0		
Act Effct Green (s)	8.2	59.4	59.4	12.0	65.6	65.6	21.8	21.8	11.8	11.8
Actuated g/C Ratio	0.06	0.46	0.46	0.09	0.50	0.50	0.17	0.17	0.09	0.09
v/c Ratio	0.36	0.44	0.26	0.56	0.77	0.15	0.75	0.56	0.51	0.28
Control Delay	62.8	31.2	10.9	82.9	14.6	0.4	60.3	10.1	67.8	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.8	31.2	10.9	82.9	14.6	0.4	60.3	10.1	67.8	2.3
LOS	E	C	B	F	B	A	E	B	E	A
Approach Delay		27.9			20.6					
Approach LOS		C			C					
Queue Length 50th (m)	9.3	51.7	0.0	0.0	47.8	0.0	51.4	0.0	19.0	0.0
Queue Length 95th (m)	21.5	97.3	33.0	32.8	#212.4	0.2	65.0	22.8	34.2	0.0
Internal Link Dist (m)		480.0			113.5					
Turn Bay Length (m)	52.0		140.0	88.0		100.0			30.0	
Base Capacity (vph)	105	1515	790	369	1672	815	796	565	187	330
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.44	0.26	0.45	0.77	0.15	0.51	0.47	0.41	0.25

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 71 (55%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 115

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 27.2 — Intersection LOS: C
Intersection Capacity Utilization 71.5% — 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: 2: Centrepointe/Highgate & Baseline

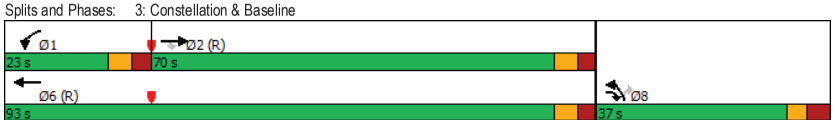


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	994	24	126	1368	200	347
Future Volume (vph)	994	24	126	1368	200	347
Lane Group Flow (vph)	994	24	126	1368	200	347
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	32.5	34.4	11.7	16.5	34.4	34.4
Total Split (s)	70.0	37.0	23.0	93.0	37.0	37.0
Total Split (%)	53.8%	28.5%	17.7%	71.5%	28.5%	28.5%
Maximum Green (s)	63.5	30.1	16.3	86.5	30.1	30.1
Yellow Time (s)	3.7	3.0	3.7	3.7	3.0	3.0
All-Red Time (s)	2.8	3.9	3.0	2.8	3.9	3.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.9	6.7	6.5	6.9	6.9
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	None	None	C-Max	None	None
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	19.0	20.0			20.0	20.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	78.4	106.0	10.4	95.5	21.1	21.1
Actuated g/C Ratio	0.60	0.82	0.08	0.73	0.16	0.16
v/c Ratio	0.35	0.02	0.49	0.56	0.75	0.73
Control Delay	9.2	0.2	81.4	3.2	68.2	20.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.2	0.2	81.4	3.2	68.2	20.4
LOS	A	A	F	A	E	C
Approach Delay	9.0			9.8	37.9	
Approach LOS	A			A	D	
Queue Length 50th (m)	19.7	0.0	16.3	9.8	49.5	15.3
Queue Length 95th (m)	34.5	m0.0	m14.0	m6.2	70.6	46.2
Internal Link Dist (m)	111.9			272.7	77.0	
Turn Bay Length (m)		55.0	90.0		50.0	
Base Capacity (vph)	2873	1314	403	2437	383	558
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	0.35	0.02	0.31	0.56	0.52	0.62

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 64 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 80

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.75
Intersection Signal Delay: 14.5 — Intersection LOS: B
Intersection Capacity Utilization 62.8% — ICU Level of Service B
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Constellation & Baseline



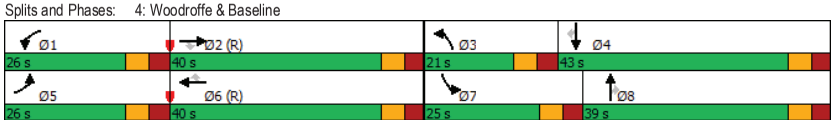
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	371	802	181	151	959	384	297	960	104	377	993	241
Future Volume (vph)	371	802	181	151	959	384	297	960	104	377	993	241
Lane Group Flow (vph)	371	802	181	151	959	384	297	960	104	377	993	241
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	12.1	39.8	39.8	12.1	39.8	39.8	11.9	36.8	36.8	11.9	36.8	36.8
Total Split (s)	26.0	40.0	40.0	26.0	40.0	40.0	21.0	39.0	39.0	25.0	43.0	43.0
Total Split (%)	20.0%	30.8%	30.8%	20.0%	30.8%	30.8%	16.2%	30.0%	30.0%	19.2%	33.1%	33.1%
Maximum Green (s)	18.9	33.2	33.2	18.9	33.2	33.2	14.1	32.2	32.2	18.1	36.2	36.2
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.1	3.1	3.4	3.1	3.1	3.2	3.1	3.1	3.2	3.1	3.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.1	6.8	6.8	7.1	6.8	6.8	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		26.0	26.0		26.0	26.0		23.0	23.0		23.0	23.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	18.1	38.2	38.2	16.0	36.1	36.1	14.0	30.6	30.6	17.6	34.2	34.2
Actuated g/C Ratio	0.14	0.29	0.29	0.12	0.28	0.28	0.11	0.24	0.24	0.14	0.26	0.26
v/c Ratio	0.83	0.82	0.33	0.74	1.04	0.65	0.86	0.86	0.23	0.86	0.79	0.45
Control Delay	57.4	61.0	22.3	76.2	86.7	20.6	80.8	56.2	2.9	75.1	49.6	11.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.4	61.0	22.3	76.2	86.7	20.6	80.8	56.2	2.9	75.1	49.6	11.9
LOS	E	E	C	E	F	C	F	E	A	E	D	B
Approach Delay		54.9			68.7			57.5			49.9	
Approach LOS		D			E			E			D	
Queue Length 50th (m)	40.8	114.0	18.4	37.6	~150.0	30.9	39.1	85.3	0.0	49.2	85.2	9.2
Queue Length 95th (m)	#69.2	#149.2	39.7	59.5	#190.6	67.8	#62.1	102.1	4.7	#73.2	101.6	31.7
Internal Link Dist (m)		272.7			288.4			248.1			234.6	
Turn Bay Length (m)	53.0		30.0	105.0		85.0	120.0		100.0	95.0		50.0
Base Capacity (vph)	467	974	541	241	921	591	348	1180	479	447	1326	552
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.82	0.33	0.63	1.04	0.65	0.85	0.81	0.22	0.84	0.75	0.44

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 21 (16%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 125

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.04
Intersection Signal Delay: 57.6 Intersection LOS: E
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: 4: Woodroffe & Baseline



Intersection	
Int Delay, s/veh	2.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	144	546	23	53	369
Future Vol, veh/h	31	144	546	23	53	369
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	400	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	144	546	23	53	369

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	812	285	0	0	569	0
Stage 1	558	-	-	-	-	-
Stage 2	254	-	-	-	-	-
Critical Hdwy	5.74	7.14	-	-	5.34	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.82	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	385	607	-	-	628	-
Stage 1	446	-	-	-	-	-
Stage 2	702	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	344	607	-	-	628	-
Mov Cap-2 Maneuver	344	-	-	-	-	-
Stage 1	446	-	-	-	-	-
Stage 2	628	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15	0	1.7
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	535	628	-
HCM Lane V/C Ratio	-	-	0.327	0.084	-
HCM Control Delay (s)	-	-	15	11.3	0.3
HCM Lane LOS	-	-	C	B	A
HCM 95th %tile Q(veh)	-	-	1.4	0.3	-

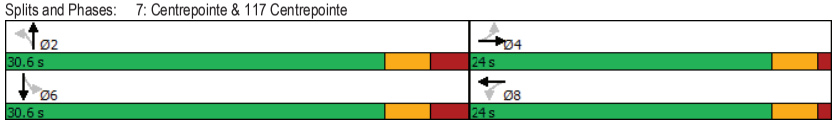
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	1	0	23	0	1	348	35	376
Future Volume (vph)	1	0	23	0	1	348	35	376
Lane Group Flow (vph)	0	1	0	99	0	365	0	411
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	NA
Protected Phases		4		8		2		6
Permitted Phases	4		8		2		6	
Detector 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)	24.0	24.0	24.0	24.0	15.6	15.6	15.6	15.6
Total Split (s)	24.0	24.0	24.0	24.0	30.6	30.6	30.6	30.6
Total Split (%)	44.0%	44.0%	44.0%	44.0%	56.0%	56.0%	56.0%	56.0%
Maximum Green (s)	20.0	20.0	20.0	20.0	25.0	25.0	25.0	25.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	1.0	2.6	2.6	2.6	2.6
Lost Time Adjust (s)		0.0		0.0		0.0		0.0
Total Lost Time (s)		4.0		4.0		5.6		5.6
Lead/Lag								
Lead-Lag Optimize?								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Ped	Ped	Ped	Ped	Max	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0	7.0				
Flash Dont Walk (s)	13.0	13.0	13.0	13.0				
Pedestrian Calls (#/hr)	0	0	0	0				
Act Effct Green (s)		20.0		20.0		25.0		25.0
Actuated g/C Ratio		0.37		0.37		0.46		0.46
v/c Ratio		0.00		0.17		0.25		0.30
Control Delay		11.0		5.7		9.4		10.1
Queue Delay		0.0		0.0		0.0		0.0
Total Delay		11.0		5.7		9.4		10.1
LOS		B		A		A		B
Approach Delay		11.0		5.7		9.4		10.1
Approach LOS		B		A		A		B
Queue Length 50th (m)		0.1		1.4		10.4		12.4
Queue Length 95th (m)		0.8		8.8		17.3		20.3
Internal Link Dist (m)		26.2		47.2		174.9		117.0
Turn Bay Length (m)								
Base Capacity (vph)		495		595		1444		1367
Starvation Cap Reductn		0		0		0		0
Spillback Cap Reductn		0		0		0		0
Storage Cap Reductn		0		0		0		0
Reduced v/c Ratio		0.00		0.17		0.25		0.30

Intersection Summary
Cycle Length: 54.6
Actuated Cycle Length: 54.6
Natural Cycle: 40
Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.30

Intersection Signal Delay: 9.3	Intersection LOS: A
Intersection Capacity Utilization 43.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Centrepointe & 117 Centrepointe



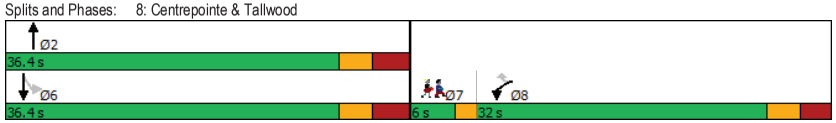
Lane Group	WBL	WBR	NBT	SBL	SBT	Ø7
Lane Configurations						
Traffic Volume (vph)	263	291	60	301	75	
Future Volume (vph)	263	291	60	301	75	
Lane Group Flow (vph)	263	291	197	301	75	
Turn Type	Prot	Perm	NA	Perm	NA	
Protected Phases	8		2		6	7
Permitted Phases		8		6		
Detector Phase	8	8	2	6	6	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	4.0
Minimum Split (s)	31.9	31.9	32.4	16.4	16.4	6.0
Total Split (s)	32.0	32.0	36.4	36.4	36.4	6.0
Total Split (%)	43.0%	43.0%	48.9%	48.9%	48.9%	8%
Maximum Green (s)	26.1	26.1	30.0	30.0	30.0	4.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.9	2.9	3.4	3.4	3.4	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.9	5.9	6.4	6.4	6.4	
Lead/Lag	Lag	Lag				Lead
Lead-Lag Optimize?	Yes	Yes				Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	None
Walk Time (s)	10.0	10.0	7.0			
Flash Dont Walk (s)	16.0	16.0	19.0			
Pedestrian Calls (#/hr)	0	0	0			
Act Effct Green (s)	14.4	14.4	30.1	30.1	30.1	
Actuated g/C Ratio	0.25	0.25	0.53	0.53	0.53	
v/c Ratio	0.63	0.49	0.12	0.52	0.08	
Control Delay	25.8	5.6	3.3	13.9	8.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	25.8	5.6	3.3	13.9	8.1	
LOS	C	A	A	B	A	
Approach Delay	15.2		3.3		12.8	
Approach LOS	B		A		B	
Queue Length 50th (m)	24.0	0.0	1.3	17.8	3.4	
Queue Length 95th (m)	42.8	13.9	6.4	46.6	10.5	
Internal Link Dist (m)	171.0		164.5		174.9	
Turn Bay Length (m)						
Base Capacity (vph)	764	840	1638	580	924	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.34	0.35	0.12	0.52	0.08	

Intersection Summary
Cycle Length: 74.4
Actuated Cycle Length: 56.9
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.63

Intersection Signal Delay: 12.3	Intersection LOS: B
Intersection Capacity Utilization 56.9%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 8: Centrepointe & Tallwood



Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	8	0	567	85	68
Future Vol, veh/h	0	8	0	567	85	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	8	0	567	85	68

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	77	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	968	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	968	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	968	-	-
HCM Lane V/C Ratio	-	0.008	-	-
HCM Control Delay (s)	-	8.8	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Appendix K

Synchro Intersection Worksheets – 2028 Future Total

DRAFT

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	15	1588	132	33	601	41	163	166	149	30
Future Volume (vph)	15	1588	132	33	601	41	163	166	149	30
Lane Group Flow (vph)	15	1588	132	33	601	41	163	166	149	30
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Free	Perm	Perm
Protected Phases	5	2		1	6		8			
Permitted Phases			2			6		Free	4	4
Detector Phase	5	2	2	1	6	6	8		4	4
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0		10.0	10.0
Minimum Split (s)	11.4	29.0	29.0	11.4	29.0	29.0	35.0		24.0	24.0
Total Split (s)	15.0	80.0	80.0	15.0	80.0	80.0	35.0		35.0	35.0
Total Split (%)	11.5%	61.5%	61.5%	11.5%	61.5%	61.5%	26.9%		26.9%	26.9%
Maximum Green (s)	8.6	74.0	74.0	8.6	74.0	74.0	29.0		29.0	29.0
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.3		3.3	3.3
All-Red Time (s)	2.7	2.3	2.3	2.7	2.3	2.3	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	0.0
Total Lost Time (s)	6.4	6.0	6.0	6.4	6.0	6.0	6.0		6.0	6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag				
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes				
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None		None	None
Walk Time (s)		12.0	12.0		12.0	12.0	7.0			
Flash Dont Walk (s)		11.0	11.0		11.0	11.0	22.0			
Pedestrian Calls (#/hr)		0	0		0	0	0			
Act Effct Green (s)	6.8	90.4	90.4	8.1	94.2	94.2	18.1	130.0	18.1	18.1
Actuated g/C Ratio	0.05	0.70	0.70	0.06	0.72	0.72	0.14	1.00	0.14	0.14
v/c Ratio	0.17	0.69	0.12	0.32	0.25	0.04	0.71	0.11	0.65	0.11
Control Delay	62.9	16.1	2.1	80.5	3.4	0.4	69.4	0.2	65.3	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	62.9	16.1	2.1	80.5	3.4	0.4	69.4	0.2	65.3	0.8
LOS	E	B	A	F	A	A	E	A	E	A
Approach Delay		15.4			7.0					
Approach LOS		B			A					
Queue Length 50th (m)	3.8	130.4	0.0	8.9	6.8	0.0	40.5	0.0	36.6	0.0
Queue Length 95th (m)	11.0	195.7	8.2	18.2	33.0	1.2	60.9	0.0	56.0	0.0
Internal Link Dist (m)		218.7			480.0					
Turn Bay Length (m)	85.0		105.0	60.0		100.0		80.0		40.0
Base Capacity (vph)	109	2307	1071	117	2402	1095	369	1483	369	392
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.69	0.12	0.28	0.25	0.04	0.44	0.11	0.40	0.08

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 56 (43%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 100

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 18.0 — Intersection LOS: B
Intersection Capacity Utilization 65.9% — ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 1: Centrepointe/Cobden & Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR
Lane Configurations										
Traffic Volume (vph)	2	1405	481	140	455	48	147	261	137	63
Future Volume (vph)	2	1405	481	140	455	48	147	261	137	63
Lane Group Flow (vph)	2	1405	481	140	455	48	147	261	137	63
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	Perm	Prot	Prot
Protected Phases	5	2		1	6		8		7	7
Permitted Phases			2			6		8		
Detector Phase	5	2	2	1	6	6	8	8	7	7
Switch Phase										
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	11.2	25.7	25.7	11.2	25.7	25.7	38.8	38.8	16.3	16.3
Total Split (s)	24.0	47.0	47.0	24.0	47.0	47.0	39.0	39.0	20.0	20.0
Total Split (%)	18.5%	36.2%	36.2%	18.5%	36.2%	36.2%	30.0%	30.0%	15.4%	15.4%
Maximum Green (s)	17.8	41.3	41.3	17.8	41.3	41.3	32.2	32.2	13.7	13.7
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.0	3.0	3.3	3.3
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0	3.8	3.8	3.0	3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.2	5.7	5.7	6.2	5.7	5.7	6.8	6.8	6.3	6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0	7.0	7.0		
Flash Dont Walk (s)		13.0	13.0		13.0	13.0	25.0	25.0		
Pedestrian Calls (#/hr)		0	0		0	0	0	0		
Act Effct Green (s)	5.8	68.7	68.7	11.0	83.4	83.4	12.2	12.2	13.1	13.1
Actuated g/C Ratio	0.04	0.53	0.53	0.08	0.64	0.64	0.09	0.09	0.10	0.10
v/c Ratio	0.03	0.80	0.48	0.51	0.21	0.05	0.49	0.70	0.82	0.24
Control Delay	55.5	26.8	5.3	91.2	4.9	0.1	61.1	16.6	91.8	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.5	26.8	5.3	91.2	4.9	0.1	61.1	16.6	91.8	2.0
LOS	E	C	A	F	A	A	E	B	F	A
Approach Delay		21.4			23.4					
Approach LOS		C			C					
Queue Length 50th (m)	0.5	82.4	0.0	19.7	8.1	0.0	18.9	0.0	34.8	0.0
Queue Length 95th (m)	m0.7	#182.7	37.6	30.3	15.5	0.0	28.4	25.5	#67.4	0.0
Internal Link Dist (m)		480.0			124.6					
Turn Bay Length (m)	52.0		140.0	88.0		100.0			30.0	
Base Capacity (vph)	227	1752	1010	440	2126	1000	796	563	174	274
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.80	0.48	0.32	0.21	0.05	0.18	0.46	0.79	0.23

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 76 (58%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 125

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 25.9 Intersection LOS: C
Intersection Capacity Utilization 79.8% ICU Level of Service D
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 2: Centrepointe/Highgate & Baseline

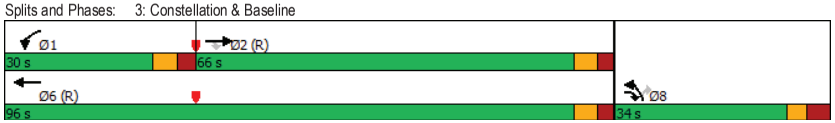
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1726	113	368	610	41	64
Future Volume (vph)	1726	113	368	610	41	64
Lane Group Flow (vph)	1726	113	368	610	41	64
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	32.5	33.9	11.7	24.5	33.9	33.9
Total Split (s)	66.0	34.0	30.0	96.0	34.0	34.0
Total Split (%)	50.8%	26.2%	23.1%	73.8%	26.2%	26.2%
Maximum Green (s)	59.5	27.1	23.3	89.5	27.1	27.1
Yellow Time (s)	3.7	3.0	3.7	3.7	3.0	3.0
All-Red Time (s)	2.8	3.9	3.0	2.8	3.9	3.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.9	6.7	6.5	6.9	6.9
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	C-Max	Max	None	C-Max	Max	Max
Walk Time (s)	7.0	7.0			7.0	7.0
Flash Dont Walk (s)	19.0	20.0			20.0	20.0
Pedestrian Calls (#/hr)	0	0			0	0
Act Effct Green (s)	63.1	96.7	19.7	89.5	27.1	27.1
Actuated g/C Ratio	0.49	0.74	0.15	0.69	0.21	0.21
v/c Ratio	0.75	0.10	0.76	0.27	0.12	0.18
Control Delay	17.0	0.2	49.2	3.3	43.0	11.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	17.0	0.2	49.2	3.3	43.0	11.1
LOS	B	A	D	A	D	B
Approach Delay	16.0			20.6	23.5	
Approach LOS	B			C	C	
Queue Length 50th (m)	67.8	0.0	33.0	9.3	8.6	0.0
Queue Length 95th (m)	68.1	m0.2	47.2	8.8	18.6	11.9
Internal Link Dist (m)	100.8			272.7	77.0	
Turn Bay Length (m)		55.0	90.0		50.0	
Base Capacity (vph)	2313	1121	576	2282	345	359
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	0.75	0.10	0.64	0.27	0.12	0.18

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 64 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 90

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.76
Intersection Signal Delay: 17.8 — Intersection LOS: B
Intersection Capacity Utilization 71.4% — ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 3: Constellation & Baseline



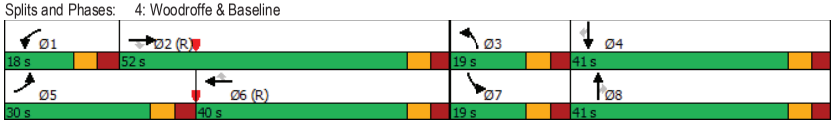
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	474	1135	186	83	462	253	127	1258	102	302	651	420
Future Volume (vph)	474	1135	186	83	462	253	127	1258	102	302	651	420
Lane Group Flow (vph)	474	1135	186	83	462	253	127	1258	102	302	651	420
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	12.1	24.8	24.8	12.1	24.8	24.8	11.9	24.8	24.8	11.9	24.8	24.8
Total Split (s)	30.0	52.0	52.0	18.0	40.0	40.0	19.0	41.0	41.0	19.0	41.0	41.0
Total Split (%)	23.1%	40.0%	40.0%	13.8%	30.8%	30.8%	14.6%	31.5%	31.5%	14.6%	31.5%	31.5%
Maximum Green (s)	22.9	45.2	45.2	10.9	33.2	33.2	12.1	34.2	34.2	12.1	34.2	34.2
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.1	3.1	3.4	3.1	3.1	3.2	3.1	3.1	3.2	3.1	3.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.1	6.8	6.8	7.1	6.8	6.8	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Walk Time (s)		7.0	7.0		7.0	7.0		7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0	11.0		11.0	11.0		11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0	0		0	0		0	0		0	0
Act Effct Green (s)	22.0	46.1	46.1	10.0	34.1	34.1	10.2	34.2	34.2	12.1	36.1	36.1
Actuated g/C Ratio	0.17	0.35	0.35	0.08	0.26	0.26	0.08	0.26	0.26	0.09	0.28	0.28
v/c Ratio	0.87	0.97	0.30	0.65	0.53	0.46	0.50	1.00	0.19	1.01	0.49	0.62
Control Delay	39.2	64.8	23.1	81.7	44.0	10.4	64.3	74.0	0.8	112.6	41.1	10.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.2	64.8	23.1	81.7	44.0	10.4	64.3	74.0	0.8	112.6	41.1	10.7
LOS	D	E	C	F	D	B	E	E	A	F	D	B
Approach Delay		53.7			37.3			68.2			47.5	
Approach LOS		D			D			E			D	
Queue Length 50th (m)	57.0	163.6	30.5	20.9	54.1	6.3	16.3	~119.3	0.0	~40.9	51.4	9.2
Queue Length 95th (m)	#84.2	#204.6	m50.6	#40.7	71.3	29.3	26.3	#152.5	0.0	#70.6	65.2	41.7
Internal Link Dist (m)		272.7			288.4			248.1			234.6	
Turn Bay Length (m)	53.0		30.0	105.0		85.0	120.0		100.0	95.0		50.0
Base Capacity (vph)	566	1176	622	139	869	552	299	1253	544	299	1322	680
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.84	0.97	0.30	0.60	0.53	0.46	0.42	1.00	0.19	1.01	0.49	0.62

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 16 (12%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 120

Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 53.7 Intersection LOS: D
Intersection Capacity Utilization 95.7% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 4: Woodroffe & Baseline



Intersection	
Int Delay, s/veh	3.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	117	317	39	161	504
Future Vol, veh/h	17	117	317	39	161	504
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	400	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	117	317	39	161	504

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	861	178	0	0	356	0
Stage 1	337	-	-	-	-	-
Stage 2	524	-	-	-	-	-
Critical Hdwy	5.74	7.14	-	-	5.34	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.82	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	364	710	-	-	791	-
Stage 1	602	-	-	-	-	-
Stage 2	510	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	261	710	-	-	791	-
Mov Cap-2 Maneuver	261	-	-	-	-	-
Stage 1	602	-	-	-	-	-
Stage 2	366	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13	0	3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	583	791	-
HCM Lane V/C Ratio	-	-	0.23	0.204	-
HCM Control Delay (s)	-	-	13	10.7	0.5
HCM Lane LOS	-	-	B	B	A
HCM 95th %tile Q(veh)	-	-	0.9	0.8	-

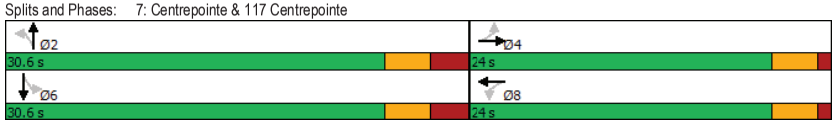
Lane Group	EBT	WBL	WBT	NBT	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	12	0	424	67	321
Future Volume (vph)	0	12	0	424	67	321
Lane Group Flow (vph)	1	0	34	439	0	389
Turn Type	NA	Perm	NA	NA	Perm	NA
Protected Phases	4		8	2		6
Permitted Phases		8			6	
Detector Phase	4	8	8	2	6	6
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	10.0
Minimum Split (s)	23.0	23.0	23.0	23.6	23.6	23.6
Total Split (s)	24.0	24.0	24.0	30.6	30.6	30.6
Total Split (%)	44.0%	44.0%	44.0%	56.0%	56.0%	56.0%
Maximum Green (s)	20.0	20.0	20.0	25.0	25.0	25.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	1.0	1.0	1.0	2.6	2.6	2.6
Lost Time Adjust (s)	0.0		0.0	0.0		0.0
Total Lost Time (s)	4.0		4.0	5.6		5.6
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	Ped	Ped	Ped	Max	Max	Max
Walk Time (s)	7.0	7.0	7.0			
Flash Dont Walk (s)	12.0	12.0	12.0			
Pedestrian Calls (#/hr)	0	0	0			
Act Effct Green (s)	19.0		19.0	25.0		25.0
Actuated g/C Ratio	0.35		0.35	0.47		0.47
v/c Ratio	0.00		0.06	0.28		0.31
Control Delay	0.0		3.1	9.3		9.7
Queue Delay	0.0		0.0	0.0		0.0
Total Delay	0.0		3.1	9.3		9.7
LOS	A		A	A		A
Approach Delay			3.1	9.3		9.7
Approach LOS			A	A		A
Queue Length 50th (m)	0.0		0.0	12.4		11.3
Queue Length 95th (m)	0.0		3.1	20.0		18.8
Internal Link Dist (m)	26.2		47.2	174.9		117.0
Turn Bay Length (m)						
Base Capacity (vph)	840		594	1542		1270
Starvation Cap Reductn	0		0	0		0
Spillback Cap Reductn	0		0	0		0
Storage Cap Reductn	0		0	0		0
Reduced v/c Ratio	0.00		0.06	0.28		0.31

Intersection Summary
Cycle Length: 54.6
Actuated Cycle Length: 53.6
Natural Cycle: 50
Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.31

Intersection Signal Delay: 9.2	Intersection LOS: A
Intersection Capacity Utilization 45.8%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: Centrepointe & 117 Centrepointe



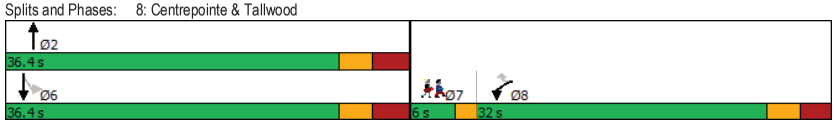
Lane Group	WBL	WBR	NBT	SBL	SBT	Ø7
Lane Configurations						
Traffic Volume (vph)	48	274	132	278	27	
Future Volume (vph)	48	274	132	278	27	
Lane Group Flow (vph)	48	274	329	278	27	
Turn Type	Prot	Perm	NA	Perm	NA	
Protected Phases	8		2		6	7
Permitted Phases		8		6		
Detector Phase	8	8	2	6	6	
Switch Phase						
Minimum Initial (s)	10.0	10.0	10.0	10.0	10.0	4.0
Minimum Split (s)	31.9	31.9	32.4	24.9	24.9	6.0
Total Split (s)	32.0	32.0	36.4	36.4	36.4	6.0
Total Split (%)	43.0%	43.0%	48.9%	48.9%	48.9%	8%
Maximum Green (s)	26.1	26.1	30.0	30.0	30.0	4.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	2.0
All-Red Time (s)	2.9	2.9	3.4	3.4	3.4	0.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	5.9	5.9	6.4	6.4	6.4	
Lead/Lag	Lag	Lag				Lead
Lead-Lag Optimize?	Yes	Yes				Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	Max	Max	Max	None
Walk Time (s)	10.0	10.0	7.0			
Flash Dont Walk (s)	16.0	16.0	19.0			
Pedestrian Calls (#/hr)	0	0	0			
Act Effct Green (s)	10.3	10.3	30.0	30.0	30.0	
Actuated g/C Ratio	0.20	0.20	0.57	0.57	0.57	
v/c Ratio	0.15	0.54	0.18	0.51	0.03	
Control Delay	18.8	7.4	2.6	11.1	5.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	18.8	7.4	2.6	11.1	5.3	
LOS	B	A	A	B	A	
Approach Delay	9.1		2.6		10.6	
Approach LOS	A		A		B	
Queue Length 50th (m)	3.8	0.0	2.5	13.5	1.0	
Queue Length 95th (m)	10.6	15.0	7.1	32.4	3.5	
Internal Link Dist (m)	171.0		164.5		174.9	
Turn Bay Length (m)						
Base Capacity (vph)	822	873	1804	550	994	
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	0.06	0.31	0.18	0.51	0.03	

Intersection Summary
Cycle Length: 74.4
Actuated Cycle Length: 52.6
Natural Cycle: 75
Control Type: Semi Act-Uncoord

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 7.3	Intersection LOS: A
Intersection Capacity Utilization 50.7%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 8: Centrepointe & Tallwood



Intersection						
Int Delay, s/veh	1.4					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	102	0	115	467	69
Future Vol, veh/h	0	102	0	115	467	69
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	102	0	115	467	69

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	268	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	730	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	730	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	730	-	-
HCM Lane V/C Ratio	-	0.14	-	-
HCM Control Delay (s)	-	10.7	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.5	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	779	228	92	1636	137	167	0	76	93	0	57
Future Volume (vph)	39	779	228	92	1636	137	167	0	76	93	0	57
Satd. Flow (prot)	1658	3316	1483	1658	3316	1483	1658	0	1483	1658	0	1483
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1658	3316	1483	1658	3316	1483	1658	0	1483	1658	0	1483
Satd. Flow (RTOR)			228			129			129			79
Lane Group Flow (vph)	39	779	228	92	1636	137	167	0	76	93	0	57
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot		Free	Perm		Perm
Protected Phases	5	2		1	6		8					
Permitted Phases			2			6			Free	4		4
Detector Phase	5	2	2	1	6	6	8			4		4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0			10.0		10.0
Minimum Split (s)	11.4	29.0	29.0	11.4	29.0	29.0	35.0			24.0		24.0
Total Split (s)	22.0	73.0	73.0	22.0	73.0	73.0	35.0			35.0		35.0
Total Split (%)	16.9%	56.2%	56.2%	16.9%	56.2%	56.2%	26.9%			26.9%		26.9%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.3			3.3		3.3
All-Red Time (s)	2.7	2.3	2.3	2.7	2.3	2.3	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		0.0
Total Lost Time (s)	6.4	6.0	6.0	6.4	6.0	6.0	6.0			6.0		6.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag						
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes						
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None			None		None
Act Effct Green (s)	8.5	80.7	80.7	12.5	87.1	87.1	18.4		130.0	18.4		18.4
Actuated g/C Ratio	0.07	0.62	0.62	0.10	0.67	0.67	0.14		1.00	0.14		0.14
v/c Ratio	0.36	0.38	0.23	0.58	0.74	0.13	0.72		0.05	0.40		0.21
Control Delay	66.6	14.0	2.3	67.3	7.5	1.9	69.6		0.1	54.5		6.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	66.6	14.0	2.3	67.3	7.5	1.9	69.6		0.1	54.5		6.1
LOS	E	B	A	E	A	A	E		A	D		A
Approach Delay		13.4			10.1			47.8			36.1	
Approach LOS		B			B			D			D	
Queue Length 50th (m)	9.8	49.0	0.0	23.1	56.8	2.5	41.4		0.0	22.0		0.0
Queue Length 95th (m)	21.0	77.5	11.8	m32.1	63.3	m3.9	61.8		0.0	36.5		6.6
Internal Link Dist (m)		218.7			480.0			161.9			126.9	
Turn Bay Length (m)	85.0		105.0	60.0		100.0			80.0			40.0
Base Capacity (vph)	198	2059	1007	203	2222	1036	369		1483	369		392
Starvation Cap Reductn	0	0	0	0	0	0	0		0	0		0
Spillback Cap Reductn	0	0	0	0	0	0	0		0	0		0
Storage Cap Reductn	0	0	0	0	0	0	0		0	0		0
Reduced v/c Ratio	0.20	0.38	0.23	0.45	0.74	0.13	0.45		0.05	0.25		0.15

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 80 (62%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.74

Intersection Signal Delay: 15.1	Intersection LOS: B
Intersection Capacity Utilization 79.2%	ICU Level of Service D
Analysis Period (min) 15	

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

Splits and Phases: 1: Centrepointe/Cobden & Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	698	207	165	1356	124	404	0	264	76	0	83
Future Volume (vph)	37	698	207	165	1356	124	404	0	264	76	0	83
Satd. Flow (prot)	1658	3316	1483	3216	3316	1483	3216	0	1483	1658	0	1483
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1658	3316	1483	3216	3316	1483	3216	0	1483	1658	0	1483
Satd. Flow (RTOR)			207			137			264			184
Lane Group Flow (vph)	37	698	207	165	1356	124	404	0	264	76	0	83
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot		Perm	Prot		Prot
Protected Phases	5	2		1	6		8			7		7
Permitted Phases			2			6			8			
Detector Phase	5	2	2	1	6	6	8		8	7		7
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	10.0		10.0	10.0		10.0
Minimum Split (s)	11.2	25.7	25.7	11.2	25.7	25.7	38.8		38.8	16.3		16.3
Total Split (s)	12.0	49.0	49.0	21.0	58.0	58.0	39.0		39.0	21.0		21.0
Total Split (%)	9.2%	37.7%	37.7%	16.2%	44.6%	44.6%	30.0%		30.0%	16.2%		16.2%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.0		3.0	3.3		3.3
All-Red Time (s)	2.5	2.0	2.0	2.5	2.0	2.0	3.8		3.8	3.0		3.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Lost Time (s)	6.2	5.7	5.7	6.2	5.7	5.7	6.8		6.8	6.3		6.3
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag		Lag	Lead		Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None		None	None		None
Act Effct Green (s)	8.2	59.4	59.4	12.0	65.6	65.6	21.8		21.8	11.8		11.8
Actuated g/C Ratio	0.06	0.46	0.46	0.09	0.50	0.50	0.17		0.17	0.09		0.09
v/c Ratio	0.36	0.46	0.26	0.56	0.81	0.15	0.75		0.56	0.51		0.28
Control Delay	62.3	32.0	11.4	82.1	16.5	0.5	60.3		10.1	67.8		2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0		0.0
Total Delay	62.3	32.0	11.4	82.1	16.5	0.5	60.3		10.1	67.8		2.3
LOS	E	C	B	F	B	A	E		B	E		A
Approach Delay		28.7			21.8			40.5			33.6	
Approach LOS		C			C			D			C	
Queue Length 50th (m)	9.3	54.3	0.0	0.0	55.7	0.0	51.4		0.0	19.0		0.0
Queue Length 95th (m)	21.3	102.4	33.3	32.8	#231.4	0.0	65.0		22.8	34.2		0.0
Internal Link Dist (m)		480.0			113.5			81.0			126.2	
Turn Bay Length (m)	52.0		140.0	88.0		100.0				30.0		
Base Capacity (vph)	105	1515	790	369	1672	815	796		565	187		330
Starvation Cap Reductn	0	0	0	0	0	0	0		0	0		0
Spillback Cap Reductn	0	0	0	0	0	0	0		0	0		0
Storage Cap Reductn	0	0	0	0	0	0	0		0	0		0
Reduced v/c Ratio	0.35	0.46	0.26	0.45	0.81	0.15	0.51		0.47	0.41		0.25

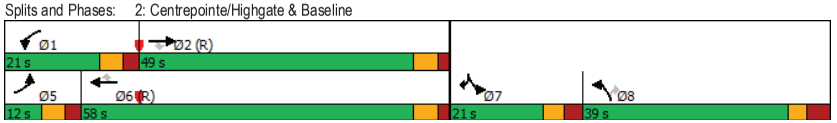
Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 71 (55%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 115
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.81

Intersection Signal Delay: 27.9	Intersection LOS: C
Intersection Capacity Utilization 73.4%	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: 2: Centrepointe/Highgate & Baseline



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	1043	24	126	1437	200	347
Future Volume (vph)	1043	24	126	1437	200	347
Satd. Flow (prot)	4764	1483	3216	3316	1658	1483
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	4764	1483	3216	3316	1658	1483
Satd. Flow (RTOR)		24				273
Lane Group Flow (vph)	1043	24	126	1437	200	347
Turn Type	NA	pm+ov	Prot	NA	Prot	Perm
Protected Phases	2	8	1	6	8	
Permitted Phases		2				8
Detector Phase	2	8	1	6	8	8
Switch Phase						
Minimum Initial (s)	10.0	10.0	5.0	10.0	10.0	10.0
Minimum Split (s)	32.5	34.4	11.7	16.5	34.4	34.4
Total Split (s)	70.0	37.0	23.0	93.0	37.0	37.0
Total Split (%)	53.8%	28.5%	17.7%	71.5%	28.5%	28.5%
Yellow Time (s)	3.7	3.0	3.7	3.7	3.0	3.0
All-Red Time (s)	2.8	3.9	3.0	2.8	3.9	3.9
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.9	6.7	6.5	6.9	6.9
Lead/Lag	Lag		Lead			
Lead-Lag Optimize?	Yes		Yes			
Recall Mode	C-Max	None	None	C-Max	None	None
Act Effct Green (s)	78.4	106.0	10.4	95.5	21.1	21.1
Actuated g/C Ratio	0.60	0.82	0.08	0.73	0.16	0.16
v/c Ratio	0.36	0.02	0.49	0.59	0.75	0.74
Control Delay	9.2	0.2	81.7	3.7	68.2	21.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.2	0.2	81.7	3.7	68.2	21.7
LOS	A	A	F	A	E	C
Approach Delay	9.0			10.0	38.7	
Approach LOS	A			B	D	
Queue Length 50th (m)	21.3	0.0	16.4	16.5	49.5	17.0
Queue Length 95th (m)	35.3	m0.3	m13.1	m6.0	70.6	48.4
Internal Link Dist (m)	111.9			272.7	77.0	
Turn Bay Length (m)		55.0	90.0		50.0	
Base Capacity (vph)	2873	1314	403	2437	383	553
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	0.36	0.02	0.31	0.59	0.52	0.63

Intersection Summary

Cycle Length: 130
Actuated Cycle Length: 130
Offset: 64 (49%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.75
Intersection Signal Delay: 14.6 — Intersection LOS: B
Intersection Capacity Utilization 64.8% — ICU Level of Service C
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

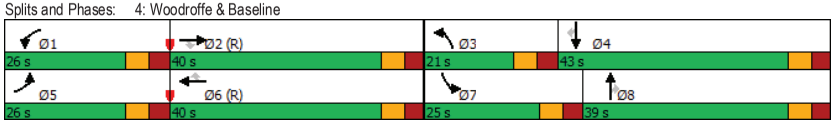
Splits and Phases: 3: Constellation & Baseline

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	390	842	190	159	1007	404	312	1009	109	396	1043	252
Future Volume (vph)	390	842	190	159	1007	404	312	1009	109	396	1043	252
Satd. Flow (prot)	3216	3316	1483	1658	3316	1483	3216	4764	1483	3216	4764	1483
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	3216	3316	1483	1658	3316	1483	3216	4764	1483	3216	4764	1483
Satd. Flow (RTOR)			149			246			149			192
Lane Group Flow (vph)	390	842	190	159	1007	404	312	1009	109	396	1043	252
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases			2			6			8			4
Detector Phase	5	2	2	1	6	6	3	8	8	7	4	4
Switch Phase												
Minimum Initial (s)	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0	5.0	10.0	10.0
Minimum Split (s)	12.1	39.8	39.8	12.1	39.8	39.8	11.9	36.8	36.8	11.9	36.8	36.8
Total Split (s)	26.0	40.0	40.0	26.0	40.0	40.0	21.0	39.0	39.0	25.0	43.0	43.0
Total Split (%)	20.0%	30.8%	30.8%	20.0%	30.8%	30.8%	16.2%	30.0%	30.0%	19.2%	33.1%	33.1%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7	3.7
All-Red Time (s)	3.4	3.1	3.1	3.4	3.1	3.1	3.2	3.1	3.1	3.2	3.1	3.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.1	6.8	6.8	7.1	6.8	6.8	6.9	6.8	6.8	6.9	6.8	6.8
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	C-Max	None	C-Max	C-Max	None	None	None	None	None	None
Act Effct Green (s)	18.4	36.9	36.9	16.3	34.8	34.8	14.1	31.3	31.3	17.9	35.1	35.1
Actuated g/C Ratio	0.14	0.28	0.28	0.13	0.27	0.27	0.11	0.24	0.24	0.14	0.27	0.27
v/c Ratio	0.86	0.90	0.36	0.76	1.14	0.70	0.90	0.88	0.23	0.90	0.81	0.47
Control Delay	59.7	67.1	23.4	77.8	118.0	24.0	85.2	57.3	3.2	78.7	50.1	13.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	59.7	67.1	23.4	77.8	118.0	24.0	85.2	57.3	3.2	78.7	50.1	13.2
LOS	E	E	C	E	F	C	F	E	A	E	D	B
Approach Delay		59.2			89.7			59.3			51.3	
Approach LOS		E			F			E			D	
Queue Length 50th (m)	44.0	120.2	20.5	39.5	~163.4	37.4	41.3	90.8	0.0	52.0	90.6	11.6
Queue Length 95th (m)	#74.5	#161.3	41.9	62.6	#204.6	76.2	#67.1	108.3	5.9	#78.7	107.8	35.2
Internal Link Dist (m)		272.7			288.4			248.1			234.6	
Turn Bay Length (m)	53.0		30.0	105.0		85.0	120.0		100.0	95.0		50.0
Base Capacity (vph)	468	940	527	241	887	576	348	1180	479	447	1326	551
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.83	0.90	0.36	0.66	1.14	0.70	0.90	0.86	0.23	0.89	0.79	0.46

Intersection Summary
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 21 (16%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 125
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.14
Intersection Signal Delay: 64.9 — Intersection LOS: E
Intersection Capacity Utilization 96.6% — ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 4: Woodroffe & Baseline



Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	31	144	574	23	53	388
Future Vol, veh/h	31	144	574	23	53	388
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	400	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	31	144	574	23	53	388

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	847	299	0	0	597	0
Stage 1	586	-	-	-	-	-
Stage 2	261	-	-	-	-	-
Critical Hdwy	5.74	7.14	-	-	5.34	-
Critical Hdwy Stg 1	6.64	-	-	-	-	-
Critical Hdwy Stg 2	6.04	-	-	-	-	-
Follow-up Hdwy	3.82	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	370	595	-	-	610	-
Stage 1	429	-	-	-	-	-
Stage 2	696	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	329	595	-	-	610	-
Mov Cap-2 Maneuver	329	-	-	-	-	-
Stage 1	429	-	-	-	-	-
Stage 2	619	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.4	0	1.6
HCM LOS	C		

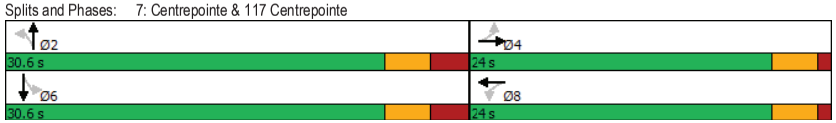
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	520	610	-
HCM Lane V/C Ratio	-	-	0.337	0.087	-
HCM Control Delay (s)	-	-	15.4	11.5	0.3
HCM Lane LOS	-	-	C	B	A
HCM 95th %tile Q(veh)	-	-	1.5	0.3	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	0	0	23	0	76	1	365	16	35	395	0
Future Volume (vph)	1	0	0	23	0	76	1	365	16	35	395	0
Satd. Flow (prot)	0	1658	0	0	1546	0	0	3296	0	0	3302	0
Flt Permitted		0.776			0.955			0.954			0.902	
Satd. Flow (perm)	0	1354	0	0	1493	0	0	3144	0	0	2991	0
Satd. Flow (RTOR)					76			11				
Lane Group Flow (vph)	0	1	0	0	99	0	0	382	0	0	430	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)	24.0	24.0		24.0	24.0		15.6	15.6		15.6	15.6	
Total Split (s)	24.0	24.0		24.0	24.0		30.6	30.6		30.6	30.6	
Total Split (%)	44.0%	44.0%		44.0%	44.0%		56.0%	56.0%		56.0%	56.0%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	1.0	1.0		1.0	1.0		2.6	2.6		2.6	2.6	
Lost Time Adjust (s)		0.0			0.0			0.0			0.0	
Total Lost Time (s)		4.0			4.0			5.6			5.6	
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	Ped	Ped		Ped	Ped		Max	Max		Max	Max	
Act Effct Green (s)		20.0			20.0			25.0			25.0	
Actuated g/C Ratio		0.37			0.37			0.46			0.46	
v/c Ratio		0.00			0.17			0.26			0.31	
Control Delay		11.0			5.7			9.5			10.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		11.0			5.7			9.5			10.2	
LOS		B			A			A			B	
Approach Delay		11.0			5.7			9.5			10.2	
Approach LOS		B			A			A			B	
Queue Length 50th (m)		0.1			1.4			11.0			13.1	
Queue Length 95th (m)		0.8			8.8			18.2			21.1	
Internal Link Dist (m)		26.2			47.2			174.9			117.0	
Turn Bay Length (m)												
Base Capacity (vph)		495			595			1445			1369	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.00			0.17			0.26			0.31	

Intersection Summary
Cycle Length: 54.6
Actuated Cycle Length: 54.6
Natural Cycle: 40
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.31

Intersection Signal Delay: 9.4 Intersection LOS: A
Intersection Capacity Utilization 44.8% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 7: Centrepointe & 117 Centrepointe

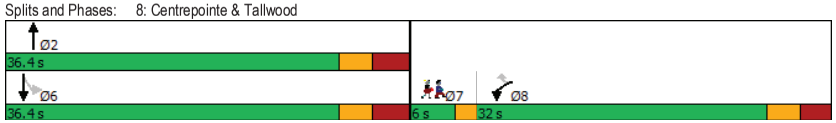


Lane Group	WBL	WBR	NBT	NBR	SBL	SBT	Ø7
Lane Configurations							
Traffic Volume (vph)	263	291	63	137	301	79	
Future Volume (vph)	263	291	63	137	301	79	
Satd. Flow (prot)	1658	1483	2974	0	1658	1745	
Flt Permitted	0.950				0.626		
Satd. Flow (perm)	1658	1483	2974	0	1092	1745	
Satd. Flow (RTOR)		291	137				
Lane Group Flow (vph)	263	291	200	0	301	79	
Turn Type	Prot	Perm	NA		Perm	NA	
Protected Phases	8		2			6	7
Permitted Phases		8			6		
Detector Phase	8	8	2		6	6	
Switch Phase							
Minimum Initial (s)	10.0	10.0	10.0		10.0	10.0	4.0
Minimum Split (s)	31.9	31.9	32.4		16.4	16.4	6.0
Total Split (s)	32.0	32.0	36.4		36.4	36.4	6.0
Total Split (%)	43.0%	43.0%	48.9%		48.9%	48.9%	8%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0	2.0
All-Red Time (s)	2.9	2.9	3.4		3.4	3.4	0.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0	
Total Lost Time (s)	5.9	5.9	6.4		6.4	6.4	
Lead/Lag	Lag	Lag					Lead
Lead-Lag Optimize?	Yes	Yes					Yes
Recall Mode	None	None	Max		Max	Max	None
Act Effct Green (s)	14.4	14.4	30.1		30.1	30.1	
Actuated g/C Ratio	0.25	0.25	0.53		0.53	0.53	
v/c Ratio	0.63	0.49	0.12		0.52	0.09	
Control Delay	25.8	5.6	3.4		14.0	8.1	
Queue Delay	0.0	0.0	0.0		0.0	0.0	
Total Delay	25.8	5.6	3.4		14.0	8.1	
LOS	C	A	A		B	A	
Approach Delay	15.2		3.4			12.8	
Approach LOS	B		A			B	
Queue Length 50th (m)	24.0	0.0	1.4		17.8	3.5	
Queue Length 95th (m)	42.8	13.9	6.5		46.7	10.9	
Internal Link Dist (m)	171.0		164.5			174.9	
Turn Bay Length (m)							
Base Capacity (vph)	764	840	1640		578	924	
Starvation Cap Reductn	0	0	0		0	0	
Spillback Cap Reductn	0	0	0		0	0	
Storage Cap Reductn	0	0	0		0	0	
Reduced v/c Ratio	0.34	0.35	0.12		0.52	0.09	

Intersection Summary
Cycle Length: 74.4
Actuated Cycle Length: 56.9
Natural Cycle: 75
Control Type: Semi Act-Uncoord
Maximum v/c Ratio: 0.63

Intersection Signal Delay: 12.3 Intersection LOS: B
Intersection Capacity Utilization 56.9% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 8: Centrepointe & Tallwood



Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	8	0	596	90	68
Future Vol, veh/h	0	8	0	596	90	68
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	8	0	596	90	68

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	-	79	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.94	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.32	-	-	-	-
Pot Cap-1 Maneuver	0	965	0	-	-	-
Stage 1	0	-	0	-	-	-
Stage 2	0	-	0	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	-	965	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	965	-	-
HCM Lane V/C Ratio	-	0.008	-	-
HCM Control Delay (s)	-	8.8	-	-
HCM Lane LOS	-	A	-	-
HCM 95th %tile Q(veh)	-	0	-	-

Appendix L

MMLOS Worksheets

DRAFT

Multi-Modal Level of Service - Intersections Form

Consultant	CGH Transportation Inc.	**Project**	2019-49
Scenario	Existing	**Date**	12-Dec-19
Comments			

INTERSECTIONS		Baseline Rd & Centrepointe Dr/Cobden Rd								Baseline Rd & Centrepointe Dr/Highgate Rd							
	Crossing Side	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
Pedestrian	Lanes	3	0 - 2	6						3	4	7					
	Median	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m						No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m					
	Conflicting Left Turns	Protected	Protected	Permissive						Protected	Protected	Protected					
	Conflicting Right Turns	Permissive or yield control	Permissive or yield control	Permissive or yield control						Permissive or yield control	Permissive or yield control	Permissive or yield control					
	Right Turns on Red (RToR) ?	RTOR allowed	RTOR allowed	RTOR allowed						RTOR allowed	RTOR allowed	RTOR allowed					
	Ped Signal Leading Interval?	No	No	No						No	No	No					
	Right Turn Channel	No Channel	Conventional with Receiving Lane	Conv'tl without Receiving Lane						No Channel	Conventional with Receiving Lane	No Channel					
	Corner Radius	15-25m	15-25m	15-25m	15-25m					5-10m	15-25m	>25m					
	Crosswalk Type	Std transverse markings	Std transverse markings	Std transverse markings						Std transverse markings	Std transverse markings	Std transverse markings					
	PETSI Score	**76**	**92**	**22**						**79**	**60**	**9**					
	Ped. Exposure to Traffic LoS	**B**	**A**	**F**	-	-	-	-	-	**B**	**C**	**F**	-	-	-	-	-
	Cycle Length																
	Effective Walk Time																
	Average Pedestrian Delay																
	Pedestrian Delay LoS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Level of Service	**B**	**A**	**F**	**-**	**-**	**-**	**-**	**-**	**B**	**C**	**F**	**-**	**-**	**-**	**-**	**-**
		F				**-**				**F**				**-**			
	Approach From	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
Bicycle	Bicycle Lane Arrangement on Approach	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic					Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic				
	Right Turn Lane Configuration	≤ 50 m	> 50 m	> 50 m	> 50 m					> 50 m	> 50 m	> 50 m	> 50 m				
	Right Turning Speed	≤ 25 km/h	≤ 25 km/h	≤ 25 km/h	≤ 25 km/h					≤ 25 km/h	≤ 25 km/h	≤ 25 km/h	≤ 25 km/h				
	Cyclist relative to RT motorists	**D**	**F**	**F**	**F**	-	-	-	-	**F**	**F**	**F**	**F**	-	-	-	-
	Separated or Mixed Traffic	**Mixed Traffic**	**Mixed Traffic**	**Mixed Traffic**	**Mixed Traffic**	-	-	-	-	**Mixed Traffic**	**Mixed Traffic**	**Mixed Traffic**	**Mixed Traffic**				
	Left Turn Approach	No lane crossed	No lane crossed	One lane crossed	One lane crossed					No lane crossed	No lane crossed	One lane crossed	≥ 2 lanes crossed				
	Operating Speed	> 50 to < 60 km/h	> 40 to ≤ 50 km/h	≥ 60 km/h	≥ 60 km/h					> 50 to < 60 km/h	> 40 to ≤ 50 km/h	≥ 60 km/h	≥ 60 km/h				
	Left Turning Cyclist	**C**	**B**	**F**	**F**	-	-	-	-	**C**	**B**	**F**	**F**	-	-	-	-
	Level of Service	**D**	**F**	**F**	**F**	**-**	**-**	**-**	**-**	**F**	**F**	**F**	**F**	**-**	**-**	**-**	**-**
		F				**-**				**F**				**-**			
Transit	Average Signal Delay	> 40 sec	≤ 40 sec	≤ 10 sec	≤ 20 sec	≤ 40 sec	> 40 sec	≤ 20 sec	≤ 20 sec	> 40 sec	≤ 40 sec	≤ 30 sec	≤ 20 sec	≤ 40 sec	> 40 sec	≤ 30 sec	≤ 30 sec
	Level of Service	**F**	**E**	**B**	**C**	**E**	**F**	**C**	**C**	**F**	**E**	**D**	**C**	**E**	**F**	**D**	**D**
		F				**F**				**F**				**F**			
Truck	Effective Corner Radius				> 15 m							> 15 m	> 15 m				
	Number of Receiving Lanes on Departure from Intersection				1							1	≥ 2				
	Level of Service	-	-	-	**C**	-	-	-	-	-	-	**C**	**A**	-	-	-	-
		C				**-**				**C**				**-**			
Auto	Volume to Capacity Ratio	0.61 - 0.70				0.61 - 0.70				0.71 - 0.80				0.71 - 0.80			
	Level of Service	**B**				**B**				**C**				**C**			

Baseline Rd & Constellation Dr								Baseline Rd & Woodroffe Ave							
NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
	4	7						8	8	6	6				
	No Median - 2.4 m	No Median - 2.4 m						No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m				
	Protected	No left turn / Prohib.						Protected	Protected	Protected	Protected				
	Permissive or yield control	Permissive or yield control						Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control				
	RTOR allowed	RTOR allowed						RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed				
	No	No						No	No	No	No				
	Conv'tl without Receiving Lane	No Right Turn						Conv'tl without Receiving Lane	Conventional with Receiving Lane	Conv'tl without Receiving Lane	Conventional with Receiving Lane				
	>25m	No Right Turn						>25m	>25m	>25m	15-25m				
	Std transverse markings	Std transverse markings						Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings				
	62	**22**						**-3**	**-6**	**29**	**27**				
-	**C**	**F**	-	-	-	-	-	**F**	**F**	**F**	**F**	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	**C**	**F**	**-**	**-**	**-**	**-**	**-**	**F**	**F**	**F**	**F**	**-**	**-**	**-**	**-**
F				**-**				**F**				**-**			
NORTH	**SOUTH**	**EAST**	**WEST**	**NORTH**	**SOUTH**	**EAST**	**WEST**	**NORTH**	**SOUTH**	**EAST**	**WEST**	**NORTH**	**SOUTH**	**EAST**	**WEST**
	Mixed Traffic	Mixed Traffic	Mixed Traffic					Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic				
	> 50 m		> 50 m					≤ 50 m	> 50 m	> 50 m	≤ 50 m				
	≤ 25 km/h		≤ 25 km/h					≤ 25 km/h	≤ 25 km/h	≤ 25 km/h	≤ 25 km/h				
-	F	#N/A	F	-	-	-	-	D	F	F	D	-	-	-	-
-	**Mixed Traffic**	**Mixed Traffic**	**Mixed Traffic**	-	-	-	-	**Mixed Traffic**	**Mixed Traffic**	**Mixed Traffic**	**Mixed Traffic**	-	-	-	-
	No lane crossed	One lane crossed						One lane crossed	≥ 2 lanes crossed	One lane crossed	One lane crossed				
	> 50 to < 60 km/h	≥ 60 km/h						≥ 60 km/h	≥ 60 km/h	≥ 60 km/h	≥ 60 km/h				
-	C	F	-	-	-	-	-	F	F	F	F	-	-	-	-
-	**F**	**#N/A**	**-**	**-**	**-**	**-**	**-**	**F**	**F**	**F**	**F**	**-**	**-**	**-**	**-**
#N/A				**-**				**F**				**-**			
	≤ 30 sec	≤ 30 sec	≤ 20 sec		> 40 sec	≤ 10 sec	≤ 10 sec	> 40 sec	> 40 sec	≤ 40 sec	> 40 sec	> 40 sec	> 40 sec	> 40 sec	> 40 sec
-	**D**	**D**	**C**	-	**F**	**B**	**B**	**F**	**F**	**E**	**F**	**F**	**F**	**F**	**F**
D				**F**				**F**				**F**			
			10 - 15 m					> 15 m	> 15 m	> 15 m	> 15 m				
			≥ 2					≥ 2	≥ 2	≥ 2	≥ 2				
-	-	-	B	-	-	-	-	A	A	A	A	-	-	-	-
B				**-**				**A**				**-**			
0.61 - 0.70				0.71 - 0.80				0.91 - 1.00				0.91 - 1.00			
B				**C**				**E**				**E**			

Centrepointe Dr East / 117 Centrepointe Dr Access

NORTH	SOUTH	EAST	WEST
4		0 - 2	0 - 2
No Median - 2.4 m		No Median - 2.4 m	No Median - 2.4 m
Permissive		Permissive	Permissive
Permissive or yield control		Permissive or yield control	Permissive or yield control
RTOR allowed		RTOR allowed	RTOR allowed
No		No	No
No Channel		No Channel	No Channel
3-5m		5-10m	5-10m
Std transverse markings		Std transverse markings	Std transverse markings
55		**86**	**86**
D	-	**B**	**B**
-	-	-	-
D	-	**B**	**B**
D			
NORTH	**SOUTH**	**EAST**	**WEST**
Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic
≤ 50 m	≤ 50 m	≤ 50 m	≤ 50 m
≤ 25 km/h	≤ 25 km/h	≤ 25 km/h	≤ 25 km/h
D	**D**	**D**	**D**
Mixed Traffic	**Mixed Traffic**	**Mixed Traffic**	**Mixed Traffic**
No lane crossed	No lane crossed	No lane crossed	No lane crossed
> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	≤ 40 km/h	≤ 40 km/h
B	**B**	**B**	**B**
D	**D**	**D**	**D**
D			
≤ 10 sec	≤ 10 sec	≤ 10 sec	≤ 10 sec
B	**B**	**B**	**B**
B			
< 10 m	< 10 m		
1	1		
F	**F**	-	-
F			
0.0 - 0.60			
A			

NORTH	SOUTH	EAST	WEST
-	-	-	-
-	-	-	-
-	-	-	-
-	**-**	**-**	**-**
-			
NORTH	**SOUTH**	**EAST**	**WEST**
-	-	-	-
-	-	-	-
-	-	-	-
-	**-**	**-**	**-**
-			
≤ 20 sec	≤ 10 sec	≤ 10 sec	≤ 20 sec
C	**B**	**B**	**C**
C			
-	**-**	**-**	**-**
-			
0.0 - 0.60			
A			

Centrepointe Dr East / Tallwood Dr

NORTH	SOUTH	EAST	WEST
4	4	3	
No Median - 2.4 m	No Median - 2.4 m	Median > 2.4 m	
No left turn / Prohib.	Protected	Permissive	
Permissive or yield control	No right turn	Permissive or yield control	
RTOR allowed	RTOR allowed	RTOR allowed	
No	No	No	
No Right Turn	No Channel	No Channel	
No Right Turn	10-15m	15-25m	
Std transverse markings	Std transverse markings	Std transverse markings	
71	**66**	**68**	
C	**C**	**C**	-
-	-	-	-
C	**C**	**C**	**-**
C			
NORTH	**SOUTH**	**EAST**	**WEST**
Mixed Traffic	Mixed Traffic	Mixed Traffic	
	≤ 50 m	> 50 m	
	≤ 25 km/h	≤ 25 km/h	
#N/A	**D**	**F**	-
Mixed Traffic	**Mixed Traffic**	**Mixed Traffic**	-
No lane crossed		No lane crossed	
> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	
B	-	**B**	-
#N/A	-	**F**	-
#N/A			
≤ 20 sec	≤ 10 sec	≤ 10 sec	
C	**B**	**B**	**-**
C			
10 - 15 m		> 15 m	
1		≥ 2	
E	-	**A**	-
E			
0.0 - 0.60			
A			

NORTH	SOUTH	EAST	WEST
-	-	-	-
-	-	-	-
-	-	-	-
-	**-**	**-**	**-**
-			
NORTH	**SOUTH**	**EAST**	**WEST**
-	-	-	-
-	-	-	-
-	-	-	-
-	**-**	**-**	**-**
-			
≤ 20 sec	≤ 10 sec	≤ 20 sec	
C	**B**	**C**	**-**
C			
-	**-**	**-**	**-**
-			
0.61 - 0.70			
B			

Multi-Modal Level of Service - Segments Form

Consultant	CGH Transportation Inc.	**Project**	2019-49
Scenario	Existing	**Date**	12-Dec-19
Comments			

SEGMENTS		Street A	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	Section 8	Section 9
Pedestrian	Sidewalk Width Boulevard Width	########									
	Avg Daily Curb Lane Traffic Volume										
	Operating Speed On-Street Parking										
	Exposure to Traffic PLoS			-	-	-	-	-	-	-	-
	Effective Sidewalk Width										
	Pedestrian Volume										
	Crowding PLoS			-	-	-	-	-	-	-	-
	Level of Service			-	-	-	-	-	-	-	-
Bicycle	Type of Cycling Facility	-									
	Number of Travel Lanes										
	Operating Speed										
	# of Lanes & Operating Speed LoS		-	-	-	-	-	-	-	-	-
	Bike Lane (+ Parking Lane) Width										
	Bike Lane Width LoS		-	-	-	-	-	-	-	-	-
	Bike Lane Blockages										
	Blockage LoS		-	-	-	-	-	-	-	-	-
	Median Refuge Width (no median = < 1.8 m)										
	No. of Lanes at Unsignalized Crossing										
	Sidestreet Operating Speed										
	Unsignalized Crossing - Lowest LoS		-	-	-	-	-	-	-	-	-
	Level of Service		-	-	-	-	-	-	-	-	-
Transit	Facility Type	-									
	Friction or Ratio Transit:Posted Speed										
	Level of Service		-	-	-	-	-	-	-	-	-
Truck	Truck Lane Width	-									
	Travel Lanes per Direction										
	Level of Service		-	-	-	-	-	-	-	-	-

Multi-Modal Level of Service - Intersections Form

Consultant	CGH Transportation Inc.	**Project**	2019-49
Scenario	2023/2028 Future	**Date**	02-Apr-20
Comments			

INTERSECTIONS		Baseline Rd & Centrepointe Dr/Cobden Rd								Baseline Rd & Centrepointe Dr/Highgate Rd							
	Crossing Side	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
Pedestrian	Lanes	3	0 - 2	6						3	4	7					
	Median	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m						No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m					
	Conflicting Left Turns	Protected	Protected	Permissive						Protected	Protected	Protected					
	Conflicting Right Turns	Permissive or yield control	Permissive or yield control	Permissive or yield control						Permissive or yield control	Permissive or yield control	Permissive or yield control					
	Right Turns on Red (RToR) ?	RTOR allowed	RTOR allowed	RTOR allowed						RTOR allowed	RTOR allowed	RTOR allowed					
	Ped Signal Leading Interval?	No	No	No						No	No	No					
	Right Turn Channel	No Channel	No Channel	Conv'tl without Receiving Lane						No Channel	Conv'tl without Receiving Lane	No Channel					
	Corner Radius	5-10m	10-15m	15-25m						5-10m	15-25m	>25m					
	Crosswalk Type	Std transverse markings	Std transverse markings	Std transverse markings						Std transverse markings	Std transverse markings	Std transverse markings					
	PETSI Score	**79**	**93**	**22**						**79**	**63**	**9**					
	Ped. Exposure to Traffic LoS	**B**	**A**	**F**	-	-	-	-	-	**B**	**C**	**F**	-	-	-	-	-
	Cycle Length																
	Effective Walk Time																
	Average Pedestrian Delay																
	Pedestrian Delay LoS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Level of Service	**B**	**A**	**F**	**-**	**-**	**-**	**-**	**-**	**B**	**C**	**F**	**-**	**-**	**-**	**-**	**-**
		F				**-**				**F**				**-**			
	Approach From	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
Bicycle	Bicycle Lane Arrangement on Approach	Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic					Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic				
	Right Turn Lane Configuration	≤ 50 m	> 50 m	> 50 m	> 50 m					> 50 m	> 50 m	> 50 m	> 50 m				
	Right Turning Speed	≤ 25 km/h	≤ 25 km/h	≤ 25 km/h	≤ 25 km/h					≤ 25 km/h	≤ 25 km/h	≤ 25 km/h	≤ 25 km/h				
	Cyclist relative to RT motorists	**D**	**F**	**F**	**F**	-	-	-	-	**F**	**F**	**F**	**F**	-	-	-	-
	Separated or Mixed Traffic	**Mixed Traffic**	**Mixed Traffic**	**Mixed Traffic**	**Mixed Traffic**	-	-	-	-	**Mixed Traffic**	**Mixed Traffic**	**Mixed Traffic**	**Mixed Traffic**	-	-	-	-
	Left Turn Approach	No lane crossed	No lane crossed	One lane crossed	One lane crossed					No lane crossed	No lane crossed	One lane crossed	One lane crossed				
	Operating Speed	> 50 to < 60 km/h	> 40 to ≤ 50 km/h	≥ 60 km/h	≥ 60 km/h					> 50 to < 60 km/h	> 40 to ≤ 50 km/h	≥ 60 km/h	≥ 60 km/h				
	Left Turning Cyclist	**C**	**B**	**F**	**F**	-	-	-	-	**C**	**B**	**F**	**F**	-	-	-	-
	Level of Service	**D**	**F**	**F**	**F**	**-**	**-**	**-**	**-**	**F**	**F**	**F**	**F**	**-**	**-**	**-**	**-**
		F				**-**				**F**				**-**			
Transit	Average Signal Delay	> 40 sec	≤ 40 sec	≤ 10 sec	≤ 20 sec	≤ 40 sec	> 40 sec	≤ 20 sec	≤ 20 sec	> 40 sec	≤ 40 sec	≤ 30 sec	≤ 30 sec	≤ 40 sec	> 40 sec	≤ 30 sec	≤ 30 sec
	Level of Service	**F**	**E**	**B**	**C**	**E**	**F**	**C**	**C**	**F**	**E**	**D**	**D**	**E**	**F**	**D**	**D**
		F				**F**				**F**				**F**			
Truck	Effective Corner Radius				> 15 m							> 15 m	> 15 m				
	Number of Receiving Lanes on Departure from Intersection				1							1	≥ 2				
	Level of Service	-	-	-	**C**	-	-	-	-	-	-	**C**	**A**	-	-	-	-
		C				**-**				**C**				**-**			
Auto	Volume to Capacity Ratio	0.61 - 0.70				0.61 - 0.70				0.71 - 0.80				0.71 - 0.80			
	Level of Service	**B**				**B**				**C**				**C**			

Baseline Rd & Constellation Dr

NORTH	SOUTH	EAST	WEST
	4	7	
	No Median - 2.4 m	No Median - 2.4 m	
	Protected	No left turn / Prohib.	
	Permissive or yield control	Permissive or yield control	
	RTOR allowed	RTOR allowed	
	No	No	
	Conv'tl without Receiving Lane	No Right Turn	
	>25m	No Right Turn	
	Std transverse markings	Std transverse markings	
	62	**22**	
-	**C**	**F**	-
-	-	-	-
-	-	-	-
-	**C**	**F**	**-**
F			
NORTH	**SOUTH**	**EAST**	**WEST**
	Mixed Traffic	Mixed Traffic	Pocket Bike Lane
	> 50 m		> 50 m Introduced right turn lane
	≤ 25 km/h		>25 to 30 km/h
-	**F**	**#N/A**	**D**
-	**Mixed Traffic**	**Mixed Traffic**	**Separated**
	No lane crossed	One lane crossed	
	> 50 to < 60 km/h	≥ 60 km/h	
-	**C**	**F**	-
-	**F**	**#N/A**	**-**
#N/A			
	≤ 30 sec	≤ 30 sec	≤ 20 sec
-	**D**	**D**	**C**
D			
			10 - 15 m
			≥ 2
-	**-**	**-**	**B**
B			
0.71 - 0.80			
C			

NORTH	SOUTH	EAST	WEST
-	-	-	-
-	-	-	-
-	**-**	**-**	**-**
-			
NORTH	**SOUTH**	**EAST**	**WEST**
-	-	-	-
-	-	-	-
-	-	-	-
-	**-**	**-**	**-**
-			
	≤ 40 sec	≤ 10 sec	≤ 10 sec
-	**E**	**B**	**B**
E			
-	**-**	**-**	**-**
-			
0.61 - 0.70			
B			

Baseline Rd & Woodroffe Ave

NORTH	SOUTH	EAST	WEST
8	8	6	6
No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m	No Median - 2.4 m
Protected	Protected	Protected	Protected
Permissive or yield control	Permissive or yield control	Permissive or yield control	Permissive or yield control
RTOR allowed	RTOR allowed	RTOR allowed	RTOR allowed
No	No	No	No
Conv'tl without Receiving Lane	Conventional with Receiving Lane	Conv'tl without Receiving Lane	Conventional with Receiving Lane
>25m	>25m	>25m	15-25m
Std transverse markings	Std transverse markings	Std transverse markings	Std transverse markings
-3	**-6**	**29**	**27**
F	**F**	**F**	**F**
-	-	-	-
-	-	-	-
F	**F**	**F**	**F**
F			
NORTH	**SOUTH**	**EAST**	**WEST**
Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic
≤ 50 m	> 50 m	> 50 m	≤ 50 m
≤ 25 km/h	≤ 25 km/h	≤ 25 km/h	≤ 25 km/h
D	**F**	**F**	**D**
Mixed Traffic	**Mixed Traffic**	**Mixed Traffic**	**Mixed Traffic**
≥ 2 lanes crossed	≥ 2 lanes crossed	One lane crossed	One lane crossed
≥ 60 km/h	≥ 60 km/h	≥ 60 km/h	≥ 60 km/h
F	**F**	**F**	**F**
F	**F**	**F**	**F**
F			
> 40 sec	> 40 sec	≤ 40 sec	> 40 sec
F	**F**	**E**	**F**
F			
> 15 m	> 15 m	> 15 m	> 15 m
≥ 2	≥ 2	≥ 2	≥ 2
A	**A**	**A**	**A**
A			
> 1.00			
F			

NORTH	SOUTH	EAST	WEST
-	-	-	-
-	-	-	-
-	**-**	**-**	**-**
-			
NORTH	**SOUTH**	**EAST**	**WEST**
-	-	-	-
-	-	-	-
-	-	-	-
-	**-**	**-**	**-**
-			
> 40 sec	> 40 sec	> 40 sec	> 40 sec
F	**F**	**F**	**F**
F			
-	**-**	**-**	**-**
-			
> 1.00			
F			

Centrepointe Dr East / 117 Centrepointe Dr Access								Centrepointe Dr East / Tallwood Dr							
NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST	NORTH	SOUTH	EAST	WEST
4		0 - 2	0 - 2					4	4	3					
No Median - 2.4 m		No Median - 2.4 m	No Median - 2.4 m					No Median - 2.4 m	No Median - 2.4 m	Median > 2.4 m					
Permissive		Permissive	Permissive					No left turn / Prohib.	Protected	Permissive					
Permissive or yield control		Permissive or yield control	Permissive or yield control					Permissive or yield control	No right turn	Permissive or yield control					
RTOR allowed		RTOR allowed	RTOR allowed					RTOR allowed	RTOR allowed	RTOR allowed					
No		No	No					No	No	No					
No Channel		No Channel	No Channel					No Right Turn	No Channel	No Channel					
3-5m		5-10m	5-10m					No Right Turn	10-15m	15-25m					
Std transverse markings		Std transverse markings	Std transverse markings					Std transverse markings	Std transverse markings	Std transverse markings					
55		**86**	**86**					**71**	**66**	**68**					
D	-	**B**	**B**	-	-	-	-	**C**	**C**	**C**	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D	**-**	**B**	**B**	**-**	**-**	**-**	**-**	**C**	**C**	**C**	**-**	**-**	**-**	**-**	**-**
D				**-**				**C**				**-**			
NORTH	**SOUTH**	**EAST**	**WEST**	**NORTH**	**SOUTH**	**EAST**	**WEST**	**NORTH**	**SOUTH**	**EAST**	**WEST**	**NORTH**	**SOUTH**	**EAST**	**WEST**
Mixed Traffic	Mixed Traffic	Mixed Traffic	Mixed Traffic					Mixed Traffic	Mixed Traffic	Mixed Traffic					
≤ 50 m	≤ 50 m	≤ 50 m	≤ 50 m						≤ 50 m	> 50 m					
≤ 25 km/h	≤ 25 km/h	≤ 25 km/h	≤ 25 km/h						≤ 25 km/h	≤ 25 km/h					
D	**D**	**D**	**D**	-	-	-	-	**#N/A**	**D**	**F**	-	-	-	-	-
Mixed Traffic	**Mixed Traffic**	**Mixed Traffic**	**Mixed Traffic**	-	-	-	-	**Mixed Traffic**	**Mixed Traffic**	**Mixed Traffic**	-				-
No lane crossed	No lane crossed	No lane crossed	No lane crossed					No lane crossed		No lane crossed					
> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	≤ 40 km/h	≤ 40 km/h					> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h	> 40 to ≤ 50 km/h					
B	**B**	**B**	**B**	-	-	-	-	**B**	-	**B**	-	-	-	-	-
D	**D**	**D**	**D**	**-**	**-**	**-**	**-**	**#N/A**	**-**	**F**	**-**	**-**	**-**	**-**	**-**
D				**-**				**#N/A**				**-**			
≤ 10 sec	≤ 10 sec	≤ 10 sec	≤ 10 sec	≤ 20 sec	≤ 10 sec	≤ 10 sec	≤ 20 sec	≤ 20 sec	≤ 10 sec	≤ 10 sec		≤ 20 sec	≤ 10 sec	≤ 20 sec	
B	**B**	**B**	**B**	**C**	**B**	**B**	**C**	**C**	**B**	**B**	**-**	**C**	**B**	**C**	**-**
B				**C**				**C**				**C**			
< 10 m	< 10 m							10 - 15 m		> 15 m					
1	1							1		≥ 2					
F	**F**	**-**	**-**	**-**	**-**	**-**	**-**	**E**	**-**	**A**	**-**	**-**	**-**	**-**	**-**
F				**-**				**E**				**-**			
0.0 - 0.60				0.0 - 0.60				0.0 - 0.60				0.61 - 0.70			
A				**A**				**A**				**B**			