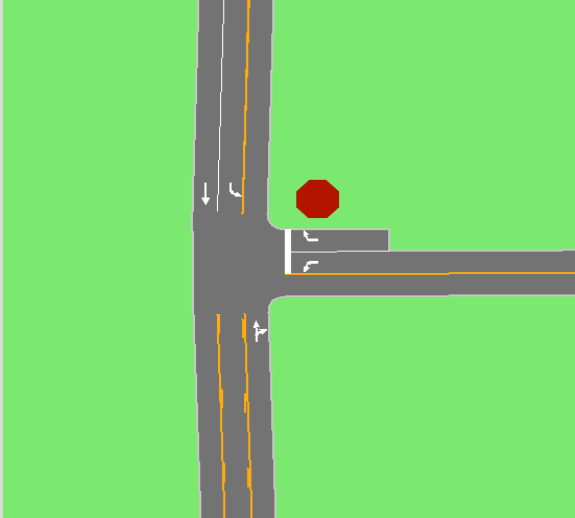
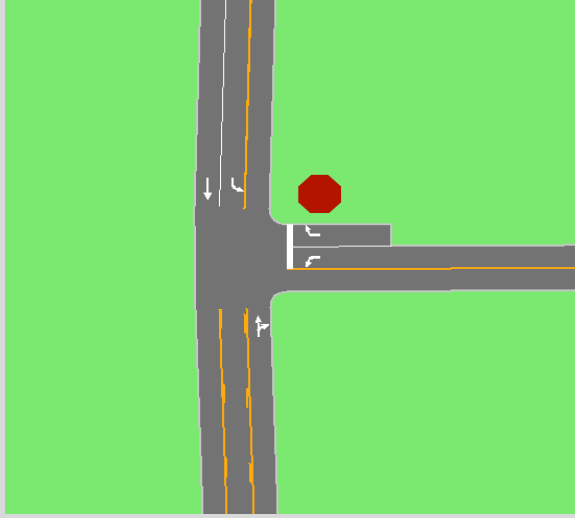
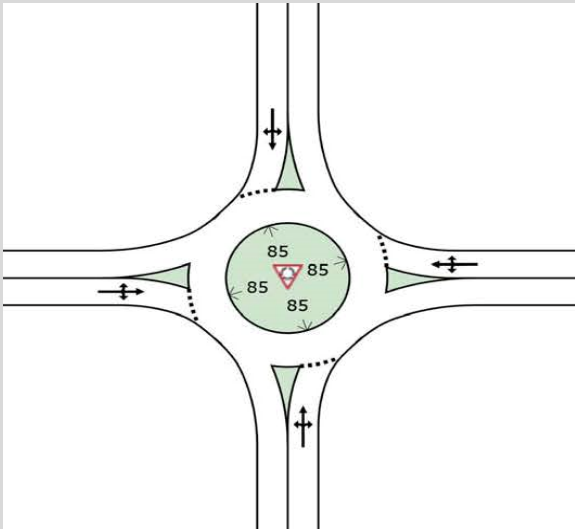
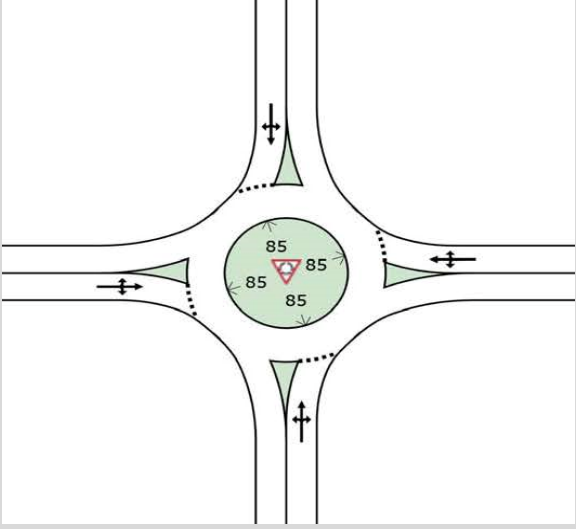


Lincoln Avenue at Bethel Road

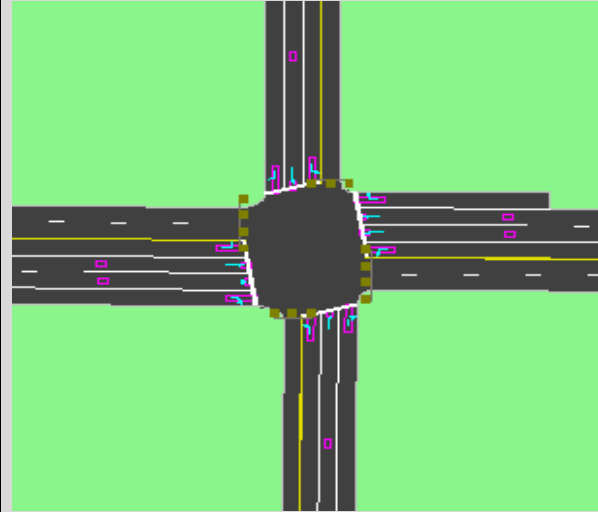
Lincoln Avenue at Bethel Road				
	2017 Existing Configuration	2034 Existing Configuration - Does not meet LOS standards	2034 Configuration 3 - Single Lane Roundabout	2040 Configuration 3 - Single Lane Roundabout
	Total Entering Volume: 1,135	Total Entering Volume: 1,760	Total Entering Volume: 1,760	Total Entering Volume: 1,980
				
Level of Service (LOS)	Westbound = C Northbound = A Southbound = A Intersection Avg = A	Westbound = E Northbound = A Southbound = A Intersection Avg = A	Eastbound = B Westbound = B Northbound = A Southbound = A Intersection Avg = A	Eastbound = B Westbound = B Northbound = A Southbound = B Intersection Avg = B
Degree of Saturation (v/c)	Westbound = 0.22 Northbound = 0.00 Southbound = 0.03	Westbound = 0.75 Northbound = 0.00 Southbound = 0.02	Eastbound = 0.25 Westbound = 0.32 Northbound = 0.50 Southbound = 0.66	Eastbound = 0.41 Westbound = 0.43 Northbound = 0.57 Southbound = 0.77
Intersection Delay (sec)	Westbound = 17.9 Northbound = 0.0 Southbound = 8.5 Intersection Avg = 1.8	Westbound = 45.6 Northbound = 0.0 Southbound = 8.8 Intersection Avg = 7.0	Eastbound = 11.0 Westbound = 12.6 Northbound = 5.5 Southbound = 7.9 Intersection Avg = 8.0	Eastbound = 13.3 Westbound = 14.6 Northbound = 5.9 Southbound = 11.5 Intersection Avg = 10.1
Intersection Queue (ft)	Westbound = 75 (3.0 vehicles) Northbound = 5 (0.2 vehicles) Southbound = 35 (1.4 vehicles)	Westbound = 460 (18.4 vehicles) Northbound = 5 (0.2 vehicles) Southbound = 25 (1.0 vehicles)	Eastbound = 45 (1.8 vehicles) Westbound = 50 (2.0 vehicles) Northbound = 105 (4.2 vehicles) Southbound = 165 (6.6 vehicles)	Eastbound = 80 (3.2 vehicles) Westbound = 80 (3.2 vehicles) Northbound = 135 (5.4 vehicles) Southbound = 260 (10.4 vehicles)

*Analysis assumes one-way NB Mitchel Rd conversion

Lund Avenue at Bethel Road

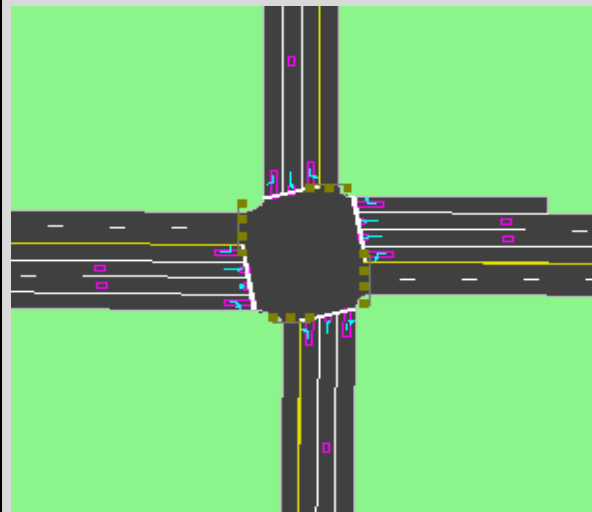
2017 Existing Configuration 1

Total Entering Volume: 3,135



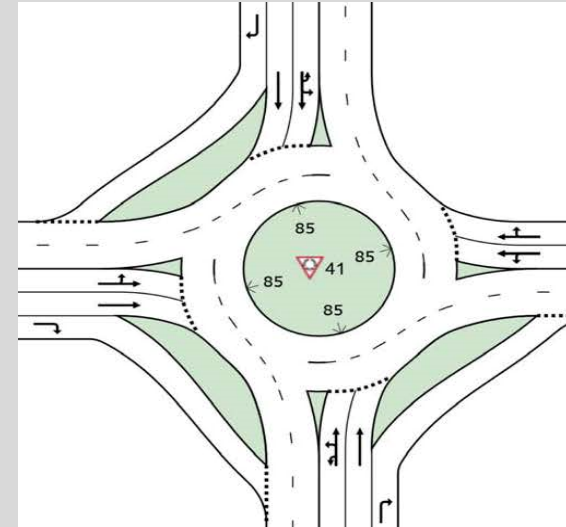
2031 Existing Configuration 1- Does not meet LOS standards

Total Entering Volume: 3,905



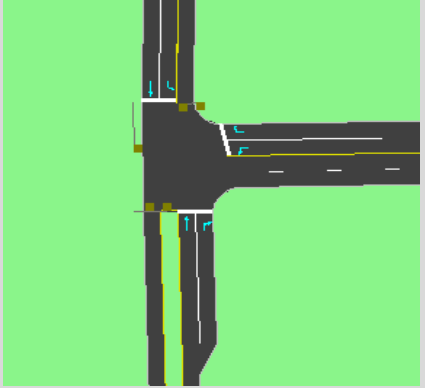
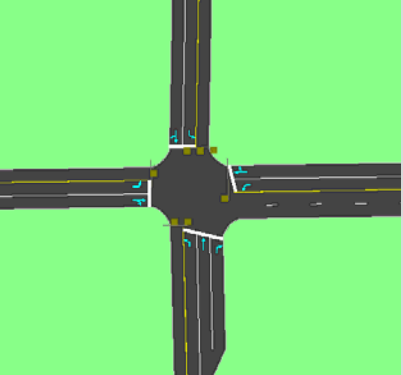
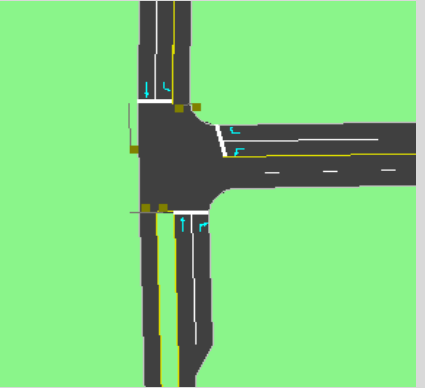
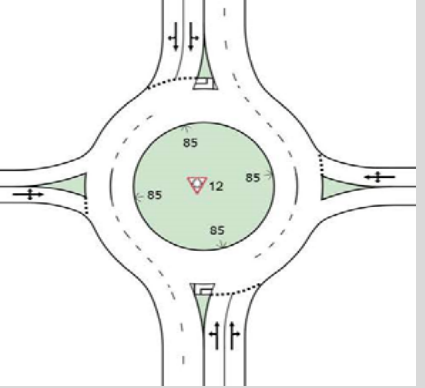
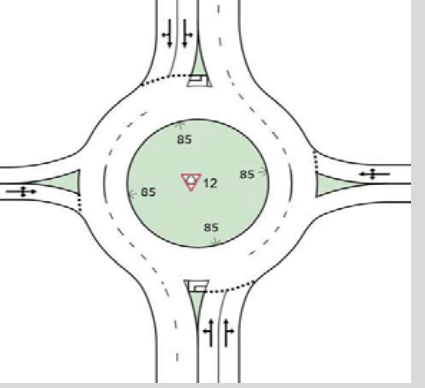
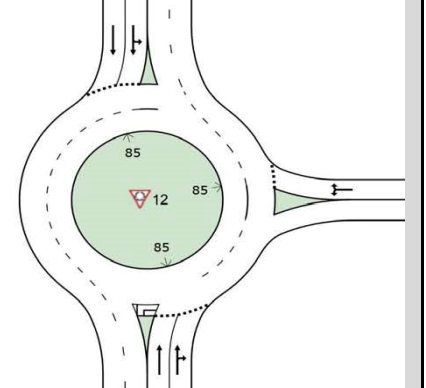
2040 Configuration 2 - Multi-lane Roundabout

Total Entering Volume: 4,600

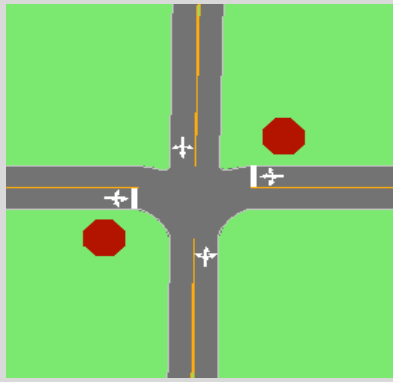
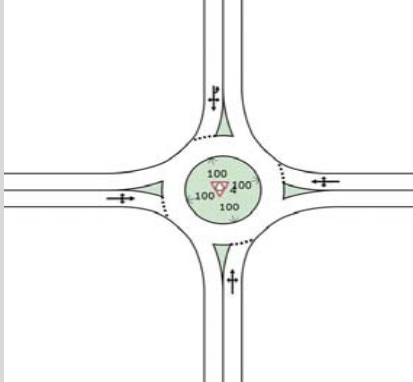
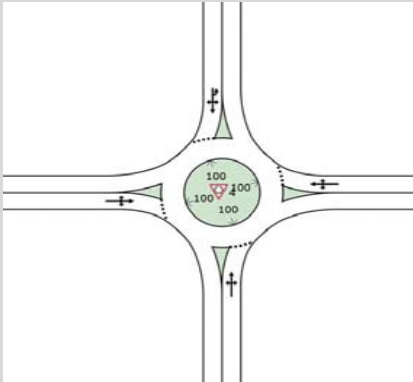





<p>Level of Service (LOS)</p>	<p>Eastbound = C Westbound = D Northbound = C Southbound = D Intersection Avg = C</p>	<p>Eastbound = E Westbound = D Northbound = D Southbound = E Intersection Avg = E</p>	<p>Eastbound = B Westbound = C Northbound = B Southbound = A Intersection Avg = B</p>
<p>Degree of Saturation (v/c)</p>	<p>Eastbound = 0.74 Westbound = 0.64 Northbound = 0.45 Southbound = 0.76</p>	<p>Eastbound = 0.91 Westbound = 0.75 Northbound = 0.69 Southbound = 1.04</p>	<p>Eastbound = 0.63 Westbound = 0.79 Northbound = 0.82 Southbound = 0.67</p>
<p>Intersection Delay (sec)</p>	<p>Eastbound = 33.1 Westbound = 35.2 Northbound = 31.7 Southbound = 35.5 Intersection Avg = 33.7</p>	<p>Eastbound = 59.2 Westbound = 50.4 Northbound = 48.7 Southbound = 67.9 Intersection Avg = 56.9</p>	<p>Eastbound = 10.0 Westbound = 21.4 Northbound = 10.8 Southbound = 9.1 Intersection Avg = 12.1</p>
<p>Intersection Queue (ft)</p>	<p>Eastbound = 295 (11.8 vehicles) Westbound = 150 (6.0 vehicles) Northbound = 485 (19.4 vehicles) Southbound = 640 (25.6 vehicles)</p>	<p>Eastbound = 560 (22.4 vehicles) Westbound = 370 (14.8 vehicles) Northbound = 1150 (46.0 vehicles) Southbound = 4380 (175.2 vehicles)</p>	<p>Eastbound = 150 (6.0 vehicles) Westbound = 210 (8.4 vehicles) Northbound = 215 (8.6 vehicles) Southbound = 155 (6.2 vehicles)</p>

WalMart Driveway at Bethel Road

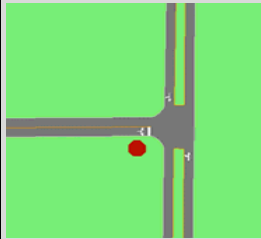
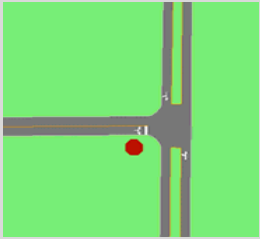
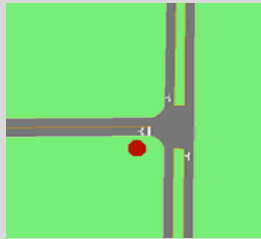
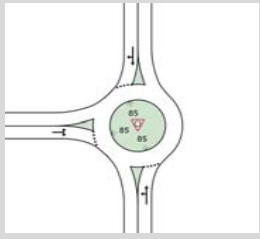
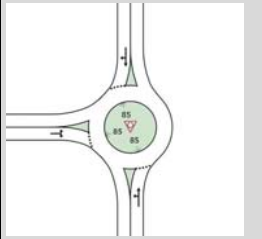
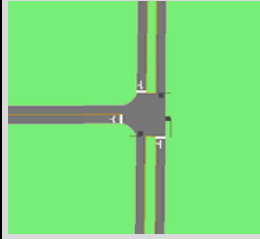
	2017 Existing Configuration 1 Total Entering Volume: 1,750	2036 Configuration 2 - Construction of Connector Total Entering Volume: 2,785	2037 Existing Configuration 1- Does not meet Queue Standards Total Entering Volume: 2,840	2037 Configuration 3 - Multi-lane Roundabout with Connector Total Entering Volume: 2,840	2040 Configuration 3 - Multi-lane Roundabout with Connector Total Entering Volume: 3,000	2040 Configuration 4 - Multi-lane Roundabout without Connector Total Entering Volume: 3,000
						
Level of Service (LOS)	Westbound = C Northbound = B Southbound = A Intersection Avg = B	Eastbound = C Westbound = D Northbound = C Southbound = C Intersection Avg = C	Westbound = D Northbound = D Southbound = C Intersection Avg = C	Eastbound = B Westbound = B Northbound = A Southbound = A Intersection Avg = A	Eastbound = B Westbound = B Northbound = A Southbound = A Intersection Avg = A	Westbound = B Northbound = A Southbound = A Intersection Avg = A
Degree of Saturation (v/c)	Westbound = 0.78 Northbound = 0.62 Southbound = 0.53	Eastbound = 0.45 Westbound = 0.69 Northbound = 0.96 Southbound = 0.89	Westbound = 0.83 Northbound = 1.00 Southbound = 0.86	Eastbound = 0.30 Westbound = 0.54 Northbound = 0.66 Southbound = 0.71	Eastbound = 0.34 Westbound = 0.59 Northbound = 0.71 Southbound = 0.76	Westbound = 0.60 Northbound = 0.67 Southbound = 0.82
Intersection Delay (sec)	Westbound = 23.6 Northbound = 11.4 Southbound = 6.5 Intersection Avg = 11.5	Eastbound = 34.4 Westbound = 44.3 Northbound = 31.0 Southbound = 25.8 Intersection Avg = 30.5	Westbound = 43.9 Northbound = 38.3 Southbound = 20.8 Intersection Avg = 30.8	Eastbound = 12.7 Westbound = 13.7 Northbound = 5.5 Southbound = 6.1 Intersection Avg = 6.9	Eastbound = 14.7 Westbound = 15.4 Northbound = 6.4 Southbound = 5.6 Intersection Avg = 7.3	Westbound = 15.9 Northbound = 5.3 Southbound = 6.3 Intersection Avg = 6.8
Intersection Queue (ft)	Westbound = 105 (4.2 vehicles) Northbound = 225 (9.0 vehicles) Southbound = 180 (7.2 vehicles)	Eastbound = 115 (4.6 vehicles) Westbound = 180 (7.2 vehicles) Northbound = 1810 (72.4 vehicles) Southbound = 500 (20.0 vehicles)	Westbound = 140 (5.6 vehicles) Northbound = 1880 (75.2 vehicles) Southbound = 1010 (40.4 vehicles)	Eastbound = 40 (1.6 vehicles) Westbound = 90 (3.6 vehicles) Northbound = 160 (6.4 vehicles) Southbound = 190 (7.6 vehicles)	Eastbound = 50 (2.0 vehicles) Westbound = 100 (4.0 vehicles) Northbound = 190 (7.6 vehicles) Southbound = 235 (9.4 vehicles)	Westbound = 105 (4.2 vehicles) Northbound = 175 (7.0 vehicles) Southbound = 275 (11.0 vehicles)

Salmonberry Road at Bethel Road

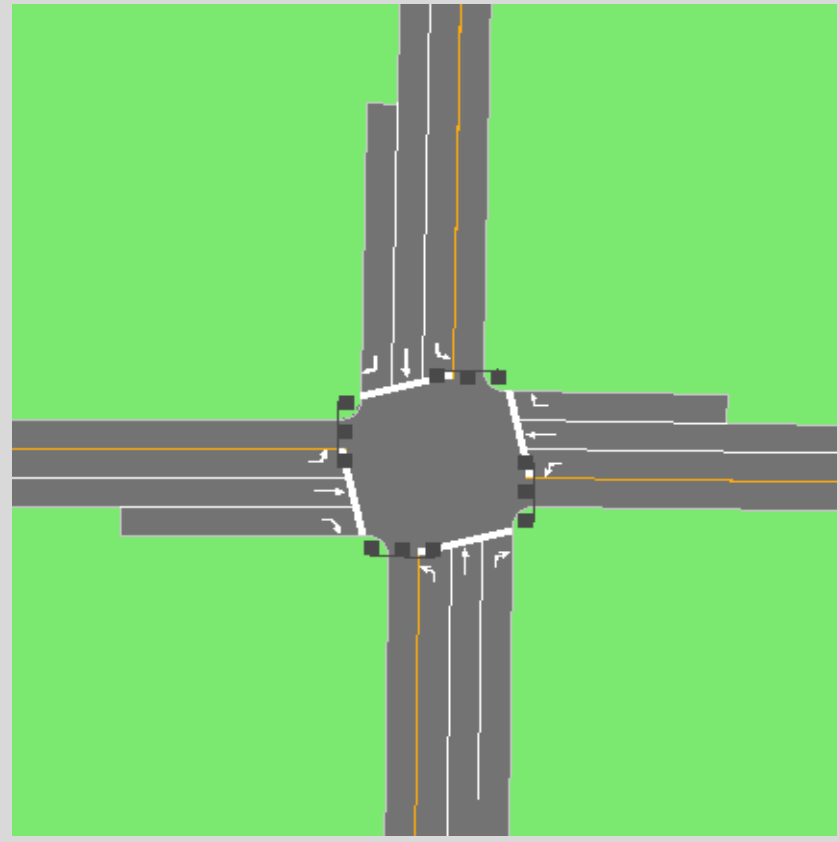
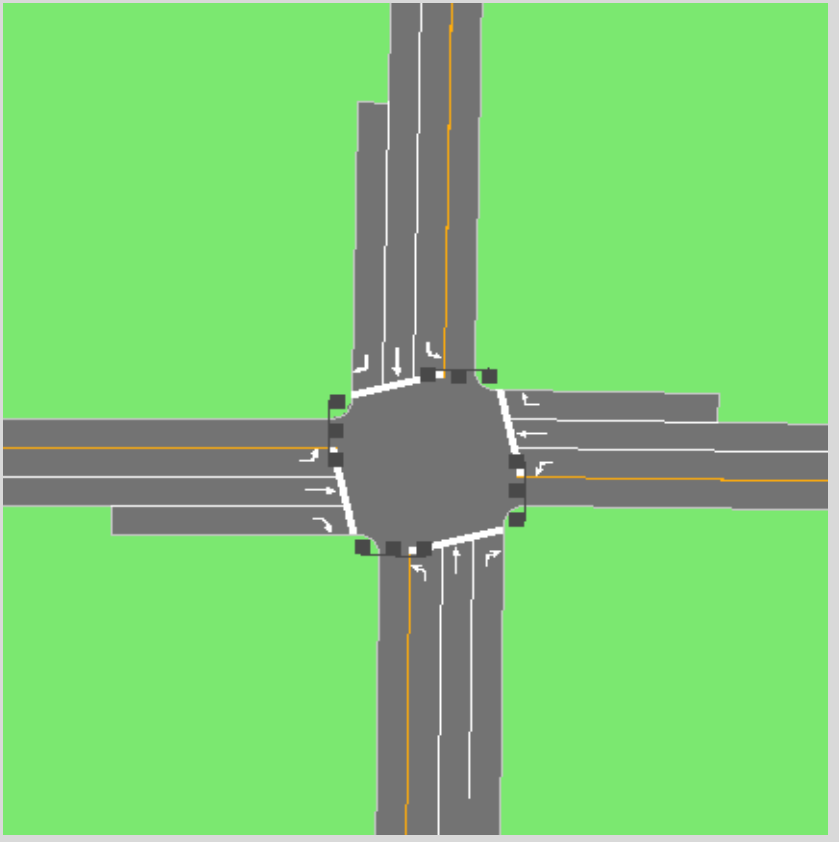
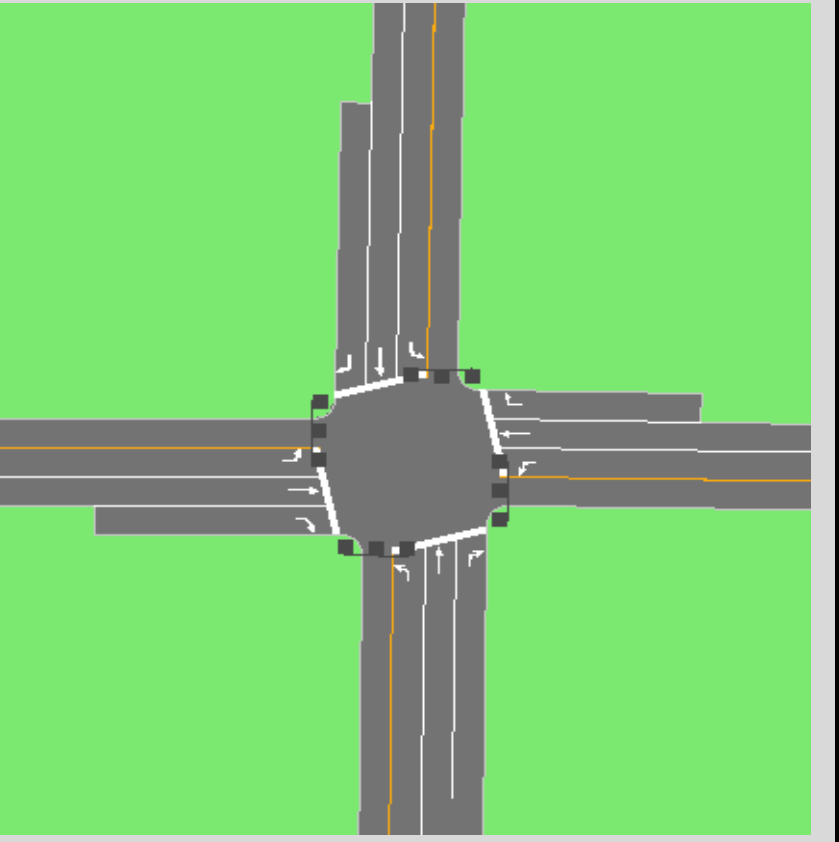
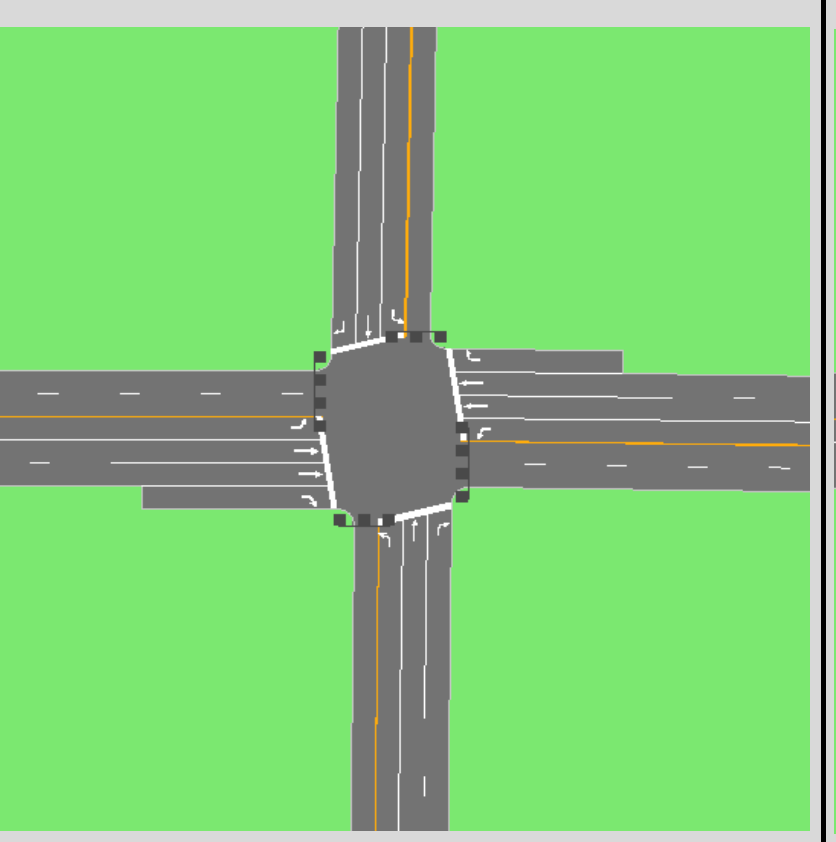
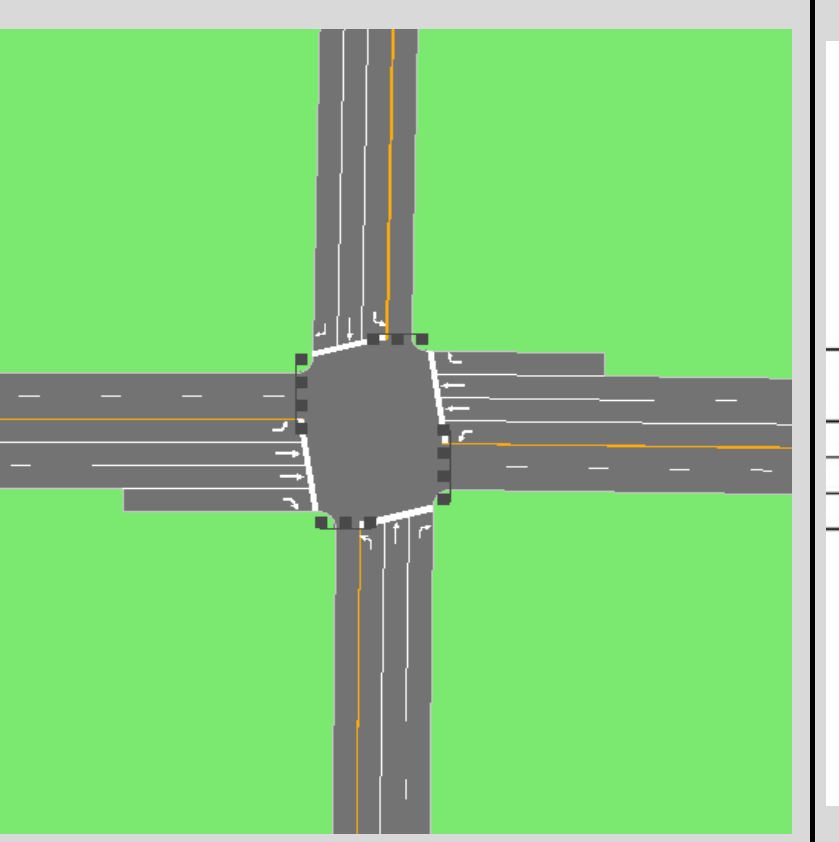
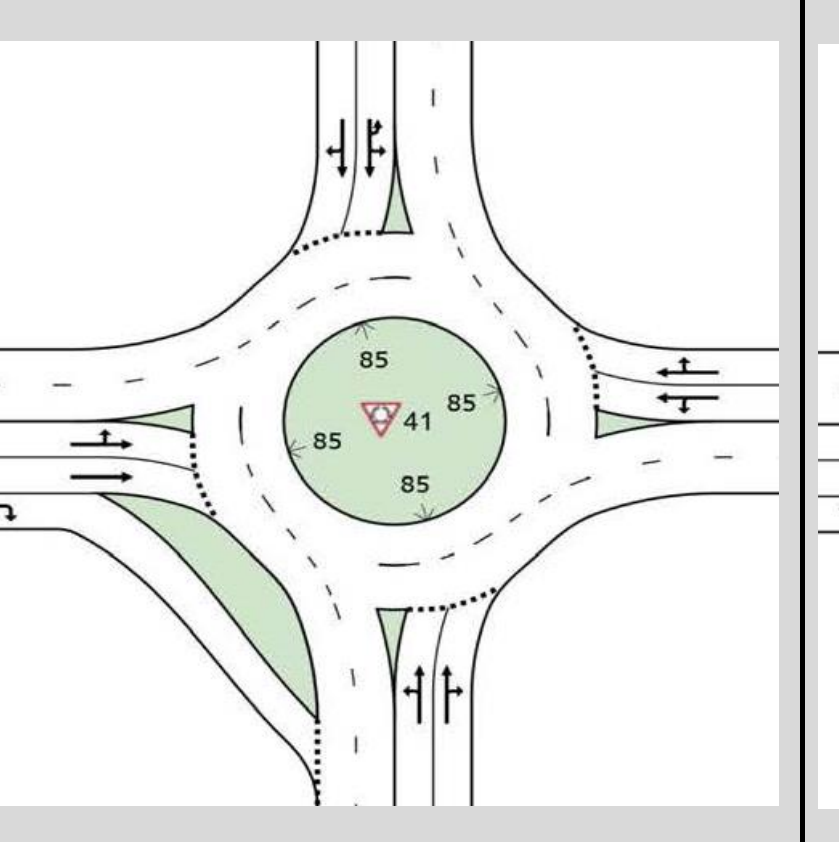
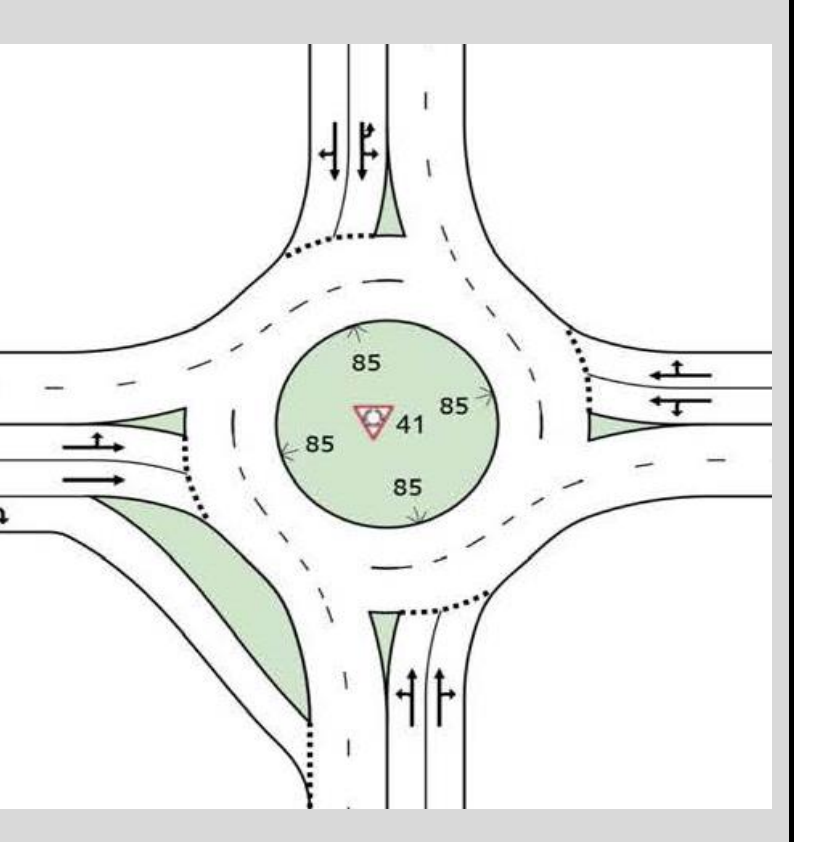
	2017 Existing Configuration 1 Total Entering Volume: 1,565	2017 Configuration 1 - Single Lane Roundabout Total Entering Volume: 1,565	2031 Configuration 1 - Does not meet LOS standards Total Entering Volume: 2,285	2031 Configuration 2 - SB right turn lane Total Entering Volume: 2,285	2035 Configuration 2 - Does not meet LOS standards Total Entering Volume: 2,490	2040 Configuration 3 - 2nd NB and SB through lane Total Entering Volume: 2,750
						
Level of Service (LOS)	Eastbound = D Westbound = E Northbound = A Southbound = A Intersection Avg = A	Eastbound = B Westbound = A Northbound = A Southbound = A Intersection Avg = A	Eastbound = D Westbound = B Northbound = B Southbound = C Intersection Avg = C	Eastbound = C Westbound = B Northbound = B Southbound = A Intersection Avg = B	Eastbound = F Westbound = C Northbound = D Southbound = A Intersection Avg = C	Eastbound = F Westbound = C Northbound = B Southbound = A Intersection Avg = B
Degree of Saturation (v/c)	Eastbound = 0.11 Westbound = 0.58 Northbound = 0.01 Southbound = 0.05	Eastbound = 0.04 Westbound = 0.16 Northbound = 0.64 Southbound = 0.50	Eastbound = 0.66 Westbound = 0.50 Northbound = 0.88 Southbound = 1.01	Eastbound = 0.55 Westbound = 0.50 Northbound = 0.88 Southbound = 0.73	Eastbound = 0.91 Westbound = 0.66 Northbound = 1.01 Southbound = 0.80	Eastbound = 1.03 Westbound = 0.65 Northbound = 0.73 Southbound = 0.79
Intersection Delay (sec)	Eastbound = 34.4 Westbound = 48.8 Northbound = 9.2 Southbound = 9.2 Intersection Avg = 3.8	Eastbound = 9.1 Westbound = 9.8 Northbound = 6.0 Southbound = 6.1 Intersection Avg = 6.4	Eastbound = 36.5 Westbound = 18.7 Northbound = 14.1 Southbound = 24.5 Intersection Avg = 21.2	Eastbound = 29.7 Westbound = 18.7 Northbound = 14.2 Southbound = 5.8 Intersection Avg = 12.0	Eastbound = 84.8 Westbound = 29.1 Northbound = 36.0 Southbound = 6.7 Intersection Avg = 26.4	Eastbound = 86.8 Westbound = 20.3 Northbound = 10.0 Southbound = 8.2 Intersection Avg = 18.4
Intersection Queue (ft)	Eastbound = 10 (0.4 vehicles) Westbound = 80 (3.1 vehicles) Northbound = 0 Southbound = 0	Eastbound = 5 (0.2 vehicles) Westbound = 25 (1.0 vehicles) Northbound = 140 (5.6 vehicles) Southbound = 105 (4.1 vehicles)	Eastbound = 175 (7.0 vehicles) Westbound = 115 (4.5 vehicles) Northbound = 430 (16.8 vehicles) Southbound = 1105 (43.4 vehicles)	Eastbound = 135 (5.3 vehicles) Westbound = 115 (4.5 vehicles) Northbound = 430 (16.8 vehicles) Southbound = 220 (8.6 vehicles)	Eastbound = 390 (15.4 vehicles) Westbound = 185 (7.2 vehicles) Northbound = 885 (34.8 vehicles) Southbound = 290 (11.4 vehicles)	Eastbound = 490 (19.5 vehicles) Westbound = 130 (5.2 vehicles) Northbound = 240 (9.6 vehicles) Southbound = 290 (11.5 vehicles)

*Meets Peak Hour Signal Warrants

Blueberry Road at Bethel Road

	2017 Existing Configuration Total Entering Volume: 1,450	2018 Existing Configuration - LOS F Total Entering Volume: 1,485	2027 Existing Configuration - V/C over 1.0 Total Entering Volume: 1,840	2018 Configuration 1 - Single Lane Roundabout Total Entering Volume: 1,485	2040 Configuration 1 - Single Lane Roundabout Total Entering Volume: 2,355	2040 Configuration 2 - Traffic Signal Total Entering Volume: 2,355
						
Level of Service (LOS)	Eastbound = E Northbound = A Southbound = A Intersection Avg = A	Eastbound = F Northbound = A Southbound = A Intersection Avg = A	Eastbound = F Northbound = B Southbound = A Intersection Avg = A	Eastbound = B Northbound = A Southbound = A Intersection Avg = A	Eastbound = C Northbound = A Southbound = A Intersection Avg = A	Eastbound = C Northbound = A Southbound = A Intersection Avg = A
Degree of Saturation (v/c)	Eastbound = 0.46 Northbound = 0.01 Southbound = 0.00	Eastbound = 0.49 Northbound = 0.01 Southbound = 0.00	Eastbound = 1.02 Northbound = 0.02 Southbound = 0.00	Eastbound = 0.12 Northbound = 0.68 Southbound = 0.76	Eastbound = 0.25 Northbound = 0.83 Southbound = 0.91	Eastbound = 0.76 Northbound = 0.66 Southbound = 0.79
Intersection Delay (sec)	Eastbound = 49.9 Northbound = 9.6 Southbound = 0.0 Intersection Avg = 2.1	Eastbound = 54.6 Northbound = 9.6 Southbound = 0.0 Intersection Avg = 2.3	Eastbound = 205.4 Northbound = 10.6 Southbound = 0.0 Intersection Avg = 7.9	Eastbound = 15.7 Northbound = 4.8 Southbound = 4.2 Intersection Avg = 4.9	Eastbound = 21.0 Northbound = 5.3 Southbound = 4.7 Intersection Avg = 5.6	Eastbound = 28.0 Northbound = 3.1 Southbound = 4.3 Intersection Avg = 4.7
Intersection Queue (ft)	Eastbound = 70 (2.8 vehicles) Northbound = 30 (1.2 vehicles) Southbound = 45 (1.8 vehicles)	Eastbound = 65 (2.6 vehicles) Northbound = 95 (3.8 vehicles) Southbound = 0 (0.0 vehicles)	Eastbound = 85 (3.4 vehicles) Northbound = 105 (4.2 vehicles) Southbound = 5 (0.2 vehicles)	Eastbound = 20 (0.8 vehicles) Northbound = 205 (8.2 vehicles) Southbound = 290 (11.6 vehicles)	Eastbound = 45 (7.0 vehicles) Northbound = 385 (15.4 vehicles) Southbound = 855 (34.2 vehicles)	Eastbound = 75 (3.0 vehicles) Northbound = 265 (10.6 vehicles) Southbound = 270 (10.8 vehicles)

Sedgwick Road at Bethel Road

	2017 Existing Configuration - Traffic Signal	2020 Existing Configuration - Traffic Signal: EB queue reaches interchange	2024 Existing Configuration - Traffic Signal: Does not meet LOS standards	2024 Configuration 1 - Traffic Signal with Sedgwick Widened	2031 Configuration 1 - Traffic Signal with Sedgwick Widened: Does not meet queue standards	2031 Configuration 2 - Two-Lane RAB	2040 Configuration 2 - Two-Lane RAB
	Total Entering Volume: 2,935 	Total Entering Volume: 2,815 	Total Entering Volume: 3,040 	Total Entering Volume: 3,040 	Total Entering Volume: 3,435 	Total Entering Volume: 3,435 	Total Entering Volume: 3,940 
Level of Service (LOS)	Eastbound = D Westbound = D Northbound = D Southbound = D Intersection Avg = D	Eastbound = D Westbound = D Northbound = D Southbound = D Intersection Avg = D	Eastbound = E Westbound = D Northbound = E Southbound = E Intersection Avg = E	Eastbound = D Westbound = D Northbound = E Southbound = C Intersection Avg = D	Eastbound = D Westbound = D Northbound = F Southbound = D Intersection Avg = D	Eastbound = A Westbound = B Northbound = B Southbound = A Intersection Avg = B	Eastbound = B Westbound = B Northbound = C Southbound = B Intersection Avg = B
Degree of Saturation (v/c)	Eastbound = 0.93 Westbound = 0.81 Northbound = 0.85 Southbound = 0.71	Eastbound = 0.93 Westbound = 0.88 Northbound = 0.87 Southbound = 0.77	Eastbound = 0.98 Westbound = 0.90 Northbound = 0.89 Southbound = 0.91	Eastbound = 0.63 Westbound = 0.82 Northbound = 0.91 Southbound = 0.68	Eastbound = 0.70 Westbound = 0.83 Northbound = 1.02 Southbound = 0.82	Eastbound = 0.61 Westbound = 0.48 Northbound = 0.70 Southbound = 0.63	Eastbound = 0.78 Westbound = 0.64 Northbound = 0.97 Southbound = 0.79
Intersection Delay (sec)	Eastbound = 46.9 Westbound = 45.4 Northbound = 51.4 Southbound = 37.1 Intersection Avg = 45.4	Eastbound = 44.0 Westbound = 54.7 Northbound = 54.6 Southbound = 42.6 Intersection Avg = 47.6	Eastbound = 55.6 Westbound = 56.1 Northbound = 63.8 Southbound = 56.5 Intersection Avg = 57.5	Eastbound = 35.3 Westbound = 49.4 Northbound = 62.2 Southbound = 34.4 Intersection Avg = 42.5	Eastbound = 44.0 Westbound = 49.9 Northbound = 90.6 Southbound = 40.4 Intersection Avg = 53.3	Eastbound = 9.0 Westbound = 11.0 Northbound = 13.9 Southbound = 9.9 Intersection Avg = 10.5	Eastbound = 11.5 Westbound = 16.6 Northbound = 30.7 Southbound = 12.7 Intersection Avg = 16.3
Intersection Queue (ft)	Eastbound = 2735 (109.4 vehicles) Westbound = 465 (18.6 vehicles) Northbound = 320 (12.8 vehicles) Southbound = 525 (21.0 vehicles)	Eastbound = 4015 (160.6 vehicles) Westbound = 770 (30.8 vehicles) Northbound = 405 (16.2 vehicles) Southbound = 1740 (69.6 vehicles)	Eastbound = 5755 (230.2 vehicles) Westbound = 1095 (43.8 vehicles) Northbound = 410 (16.4 vehicles) Southbound = 3670 (146.8 vehicles)	Eastbound = 300 (12.0 vehicles) Westbound = 200 (8.0 vehicles) Northbound = 520 (20.8 vehicles) Southbound = 495 (19.8 vehicles)	Eastbound = 425 (17.0 vehicles) Westbound = 230 (9.2 vehicles) Northbound = 1875 (75.0 vehicles) Southbound = 1770 (70.8 vehicles)	Eastbound = 125 (5.0 vehicles) Westbound = 85 (3.4 vehicles) Northbound = 135 (5.4 vehicles) Southbound = 120 (4.8 vehicles)	Eastbound = 215 (8.6 vehicles) Westbound = 145 (5.8 vehicles) Northbound = 355 (14.2 vehicles) Southbound = 210 (8.4 vehicles)

Roundabout Operations Analysis Summary

SEDGWICK ROAD

Sedgwick (SR 160) and Bravo Terrace

		2040 Forecasted Volume	Single-lane Roundabout			Two-lane Roundabout		
			V/C Ratio	Delay (sec)	LOS	V/C Ratio	Delay (sec)	LOS
EB	L	1	1.35	166.1	F	0.45	5.2	A
	T	1508						
	R	157						
WB	L	141	1.01	15.3	B	0.59	5.1	A
	T	1163						
	R	1						
NB	L	85	0.50	22.3	C	0.28	10.3	B
	T	1						
	R	93						
SB	L	1	0.01	25.1	C	0.00	8.5	A
	T	1						
	R	1						
Intersection		3,153		95.4	F		5.5	A

Sedgwick (SR 160) and New Connector

		2040 Forecasted Volume	Single-lane Roundabout			Two-lane Roundabout		
			V/C Ratio	Delay (sec)	LOS	V/C Ratio	Delay (sec)	LOS
EB	L	232	1.29	139.9	F	0.57	5.9	A
	T	1353						
	R	1						
WB	L	121	0.97	21.9	C	0.48	7.1	A
	T	947						
	R	19						
NB	L	197	1.90	441.8	F	0.87	21.0	C
	T	8						
	R	324						
SB	L	24	0.31	16.4	B	0.16	8.2	A
	T	12						
	R	72						
Intersection		3,310		145.4	F		8.8	A

Sedgwick (SR 160) and Bethel Road

		2040 Forecasted Volume	Single-lane Roundabout			Two-lane Roundabout		
			V/C Ratio	Delay (sec)	LOS	V/C Ratio	Delay (sec)	LOS
EB	L	542				0.78	11.5	B
	T	903						
	R	322						
WB	L	103				0.64	16.6	B
	T	445						
	R	176						
NB	L	299				0.97	30.7	C
	T	486						
	R	114						
SB	L	309				0.79	12.7	B
	T	557						
	R	433						
Intersection		4,690					16.3	B