

Appendix A

BACKGROUND INFORMATION

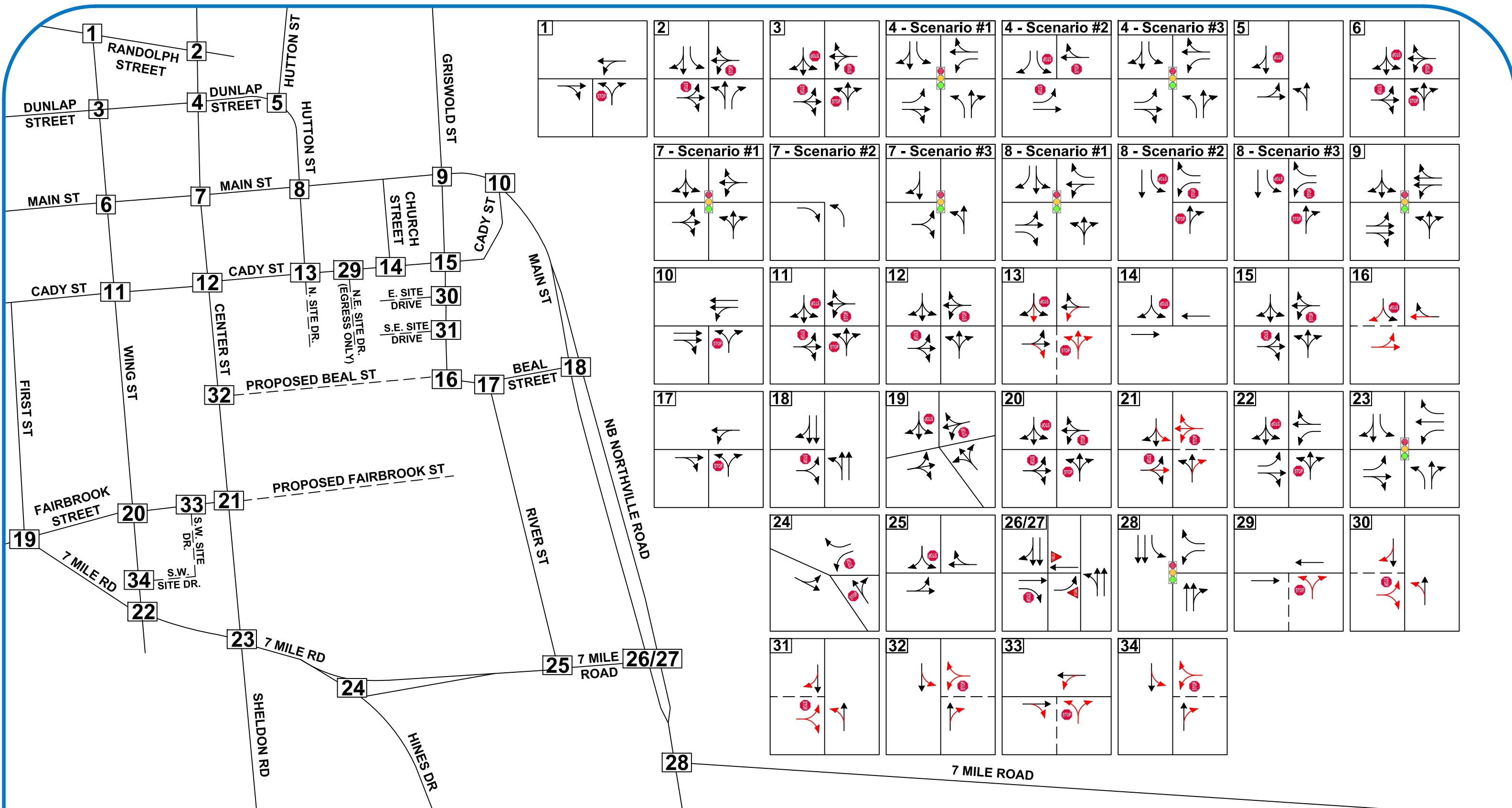


FIGURE 2
LANE USE AND TRAFFIC CONTROL
 NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

	ROADS		EXISTING LANE USE
	PROPOSED ROADS		PROPOSED LANE USE
	SIGNALIZED INTERSECTION		
	UNSIGNALIZED INTERSECTION		

NORTH
 SCALE: NOT TO SCALE





Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU SRA SW

File Name : TMC_1 Main & Center_5-15-18
Site Code : TMC_1
Start Date : 5/15/2018
Page No : 1

4 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning & 4:00 PM - 6:00 PM afternoon peak hours, while school was in session.

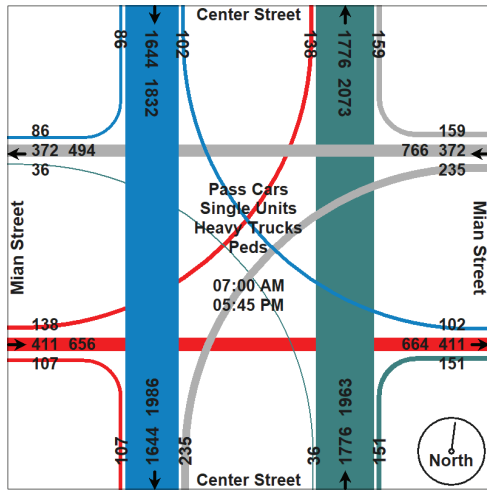
Table with columns: Start Time, Center Street (Southbound, Westbound, Northbound, Eastbound), Int. Total. Rows include time intervals from 07:00 AM to 05:45 PM and Grand Total. Includes a legend for vehicle types (Pass Cars, Single Units, Heavy Trucks, Peds).

TDC Traffic Comments: Signalized intersection with ped. signals for all quadrants. No push buttons. Video VCU camera was located within SW intersection quadrant. Note: Peds. are excluded from peak hour reports.



Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU SRA SW

File Name : TMC_1 Main & Center_5-15-18
Site Code : TMC_1
Start Date : 5/15/2018
Page No : 2



Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU SRA SW

File Name : TMC_1 Main & Center_5-15-18
Site Code : TMC_1
Start Date : 5/15/2018
Page No : 3

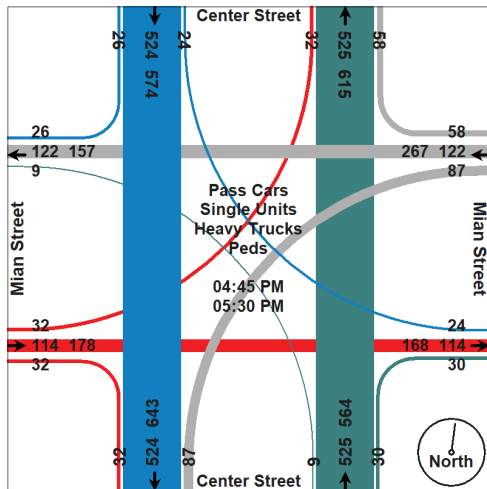
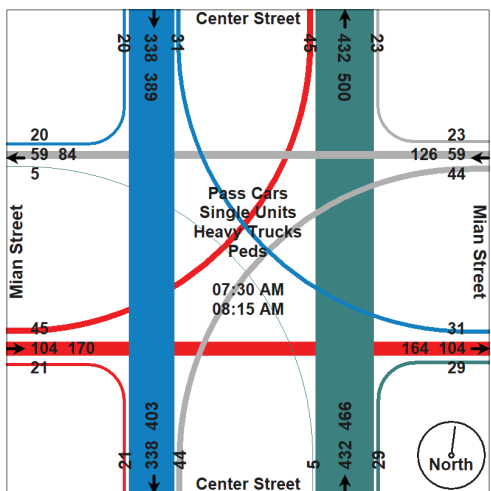
Table with columns: Start Time, Center Street (Southbound, Westbound, Northbound, Eastbound), Int. Total. Rows include time intervals from 07:30 AM to 08:15 AM and Total Volume. Includes a legend for vehicle types.



Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU SRA SW

File Name : TMC_1 Main & Center_5-15-18
Site Code : TMC_1
Start Date : 5/15/2018
Page No : 4

Table with columns: Start Time, Center Street (Southbound, Westbound, Northbound, Eastbound), Int. Total. Rows include time intervals from 04:45 PM to 05:30 PM and Total Volume. Includes a legend for vehicle types.





Project: Northville Down TIS
Study: 4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU SDV SW

File Name : TMC_2 Main & Hutton_5-15-18
Site Code : TMC_2
Start Date : 5/15/2018
Page No : 1

4 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning & 4:00 PM - 6:00 PM afternoon peak hours, while school was in session.

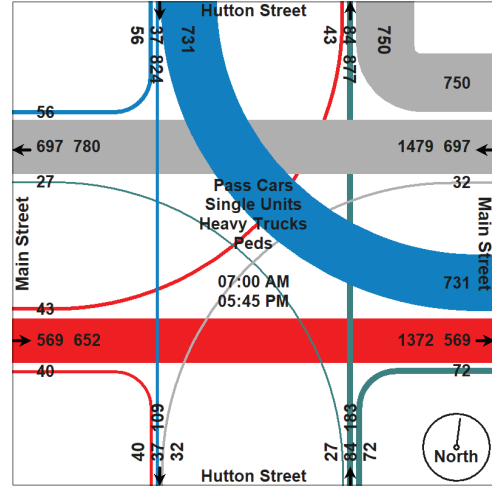
Table with columns for Groups Printed (Pass Cars, Single Units, Heavy Trucks, Peds) and Main Street directions (Southbound, Westbound, Northbound, Eastbound). Rows include Start Time, Right, Thru, Left, App. Total, Int. Total for various time intervals from 07:00 AM to 05:45 PM, and Grand Total at the bottom.

TDC Traffic Comments: Signalized intersection with ped. signals for all quadrants. No push buttons. Video VCU camera was located within SW intersection quadrant. Note: Peds. are excluded from peak hour reports.



Project: Northville Down TIS
Study: 4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU SDV SW

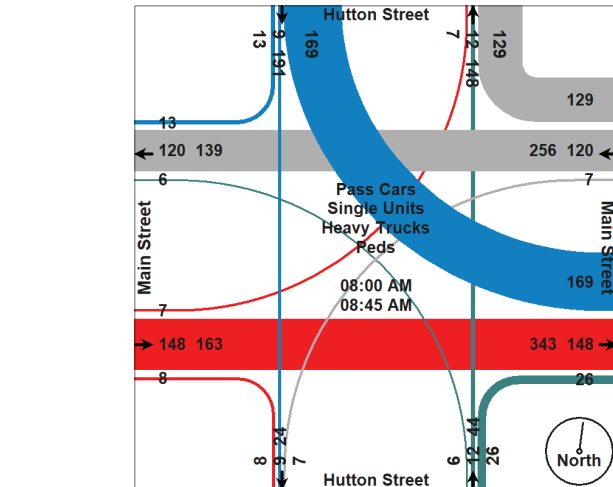
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Site Code : TMC_2
Start Date : 5/15/2018
Page No : 2



Project: Northville Down TIS
Study: 4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU SDV SW

File Name : TMC_2 Main & Hutton_5-15-18
Site Code : TMC_2
Start Date : 5/15/2018
Page No : 3

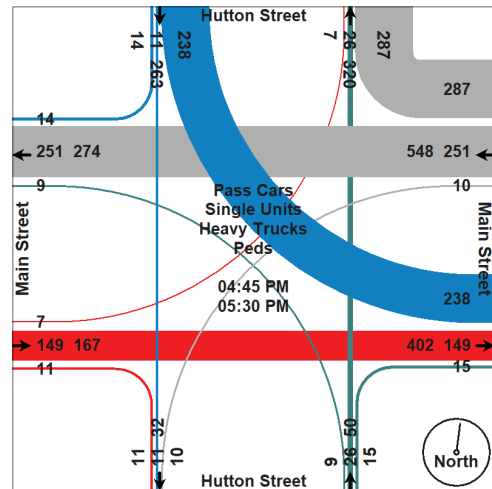
Table with columns for Hutton Street Southbound, Main Street Westbound, Hutton Street Northbound, and Main Street Eastbound. Rows include Start Time, Right, Thru, Left, App. Total, Int. Total for various time intervals from 08:00 AM to 08:45 AM, and Total Volume, PHF, % Pass Cars, % Single Units, % Heavy Trucks, % Peds.



Project: Northville Down TIS
Study: 4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU SDV SW

File Name : TMC_2 Main & Hutton_5-15-18
Site Code : TMC_2
Start Date : 5/15/2018
Page No : 4

Table with columns for Hutton Street Southbound, Main Street Westbound, Hutton Street Northbound, and Main Street Eastbound. Rows include Start Time, Right, Thru, Left, App. Total, Int. Total for various time intervals from 04:45 PM to 05:30 PM, and Total Volume, PHF, % Pass Cars, % Single Units, % Heavy Trucks, % Peds.



Traffic Data Collection, LLC

www.tdcounts.com
 Phone: 586.786.5407

Traffic Study Performed For:
Fleis &VandenBrink



Project: Northville Down TIS
 Study: 4 Hr. Video Turning Movement Count
 Weather: Sunny/Cldy. Dry Deg's 70's
 Count By Miovision Video VCU 61E SE

File Name : TMC_4 Cady & Center_5-15-18
 Site Code : TMC_4
 Start Date : 5/15/2018
 Page No : 1

4 Hour Traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning & 4:00 PM - 6:00 PM afternoon peak hours, while school was in session.

Start Time	Center Street Southbound				Cady Street Westbound				Center Street Northbound				Cady Street Eastbound				Int. Total				
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total					
07:00 AM	3	143	1	0	147	4	1	21	0	26	17	64	2	0	83	1	1	0	0	2	258
07:15 AM	1	93	3	0	97	3	5	9	0	17	24	107	4	0	135	3	1	0	0	4	253
07:30 AM	1	103	0	2	106	1	6	14	0	21	43	119	6	1	169	2	0	0	0	2	296
07:45 AM	2	112	1	0	115	1	4	15	0	20	36	140	6	0	192	1	2	1	1	5	322
Total	7	451	5	2	465	9	16	59	0	84	120	430	18	1	569	7	4	1	1	13	1131

TDC Traffic Comments: Nons-signalized intersection, Cady St. is all-way stop controlled for Center St. Video VCU camera was located within SE intersection quadrant. Note: Peds. are excluded from peak hour reports.

Traffic Data Collection, LLC

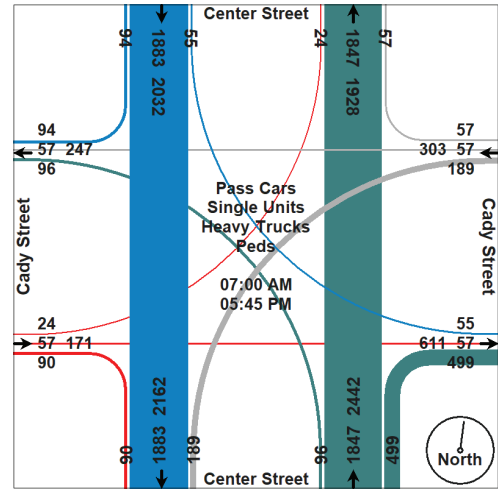
www.tdcounts.com
 Phone: 586.786.5407

Traffic Study Performed For:
Fleis &VandenBrink



Project: Northville Down TIS
 Study: 4 Hr. Video Turning Movement Count
 Weather: Sunny/Cldy. Dry Deg's 70's
 Count By Miovision Video VCU 61E SE

File Name : TMC_4 Cady & Center_5-15-18
 Site Code : TMC_4
 Start Date : 5/15/2018
 Page No : 2



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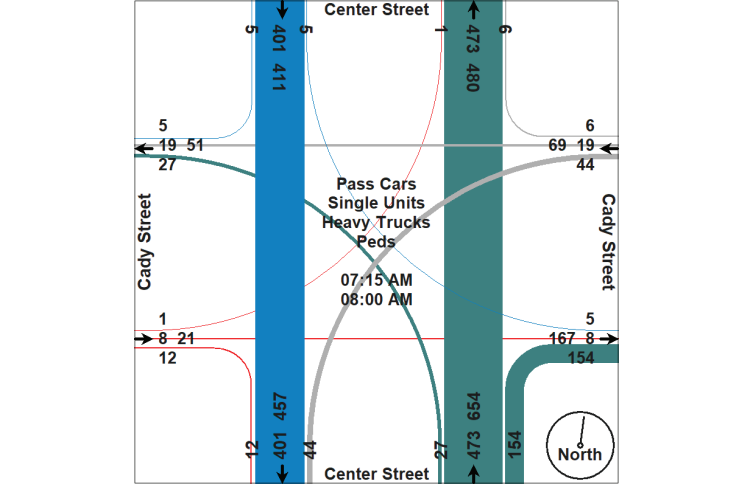
Traffic Study Performed For:
Fleis &VandenBrink



Project: Northville Down TIS
 Study: 4 Hr. Video Turning Movement Count
 Weather: Sunny/Cldy. Dry Deg's 70's
 Count By Miovision Video VCU 61E SE

File Name : TMC_4 Cady & Center_5-15-18
 Site Code : TMC_4
 Start Date : 5/15/2018
 Page No : 3

Start Time	Center Street Southbound				Cady Street Westbound				Center Street Northbound				Cady Street Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
07:00 AM	1	93	3	97	3	5	9	17	24	107	4	135	3	1	0	4	253
07:30 AM	1	103	0	104	1	6	14	21	43	119	6	169	2	0	0	2	296
07:45 AM	2	112	1	115	1	4	15	20	36	140	6	182	1	2	1	4	321
08:00 AM	1	93	1	95	1	4	6	11	51	107	11	169	6	5	0	11	286
Total Volume	5	401	5	411	6	19	44	69	154	473	27	654	12	8	1	21	1155



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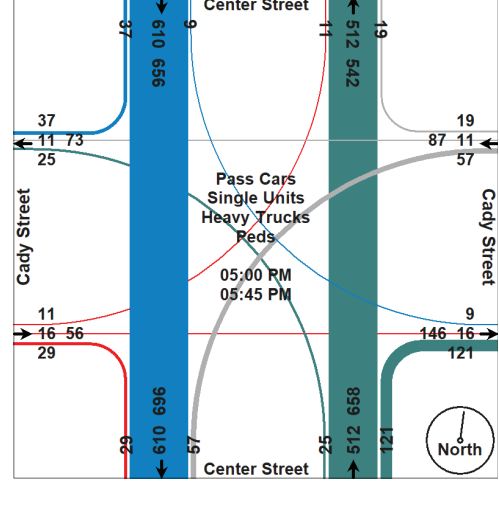
Traffic Study Performed For:
Fleis &VandenBrink



Project: Northville Down TIS
 Study: 4 Hr. Video Turning Movement Count
 Weather: Sunny/Cldy. Dry Deg's 70's
 Count By Miovision Video VCU 61E SE

File Name : TMC_4 Cady & Center_5-15-18
 Site Code : TMC_4
 Start Date : 5/15/2018
 Page No : 4

Start Time	Center Street Southbound				Cady Street Westbound				Center Street Northbound				Cady Street Eastbound				Int. Total
	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
05:00 PM	15	143	3	167	8	3	14	22	34	131	2	167	11	4	3	18	374
05:15 PM	3	165	1	169	3	3	14	20	30	134	8	172	5	4	1	10	371
05:30 PM	13	154	3	170	2	1	14	17	28	128	8	164	7	5	2	14	368
05:45 PM	6	142	2	150	6	4	18	28	29	119	7	155	6	3	2	11	344
Total Volume	37	610	9	656	19	11	57	87	121	512	25	658	29	16	11	56	1457



Project: Northville Down TIS
Study: 4 Hr. Video Turning Movement Count
Weather: Sunny/Cloudy, Dry Deg's 70's
Count By Miovision Video VCU 6H3 SW

File Name : TMC_5 Cady & Hutton_5-15-18
Site Code : TMC_5
Start Date : 5/15/2018
Page No : 1

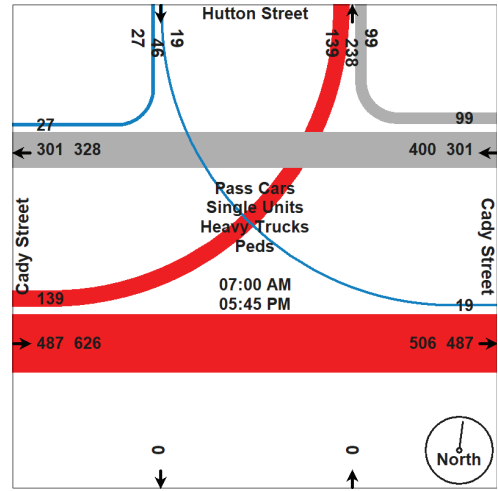
4 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning & 4:00 PM - 6:00 PM afternoon peak hours, while school was in session.

Table with 12 columns: Start Time, Hutton Street Southbound (Right, Left, Peds, App, Total), Cady Street Westbound (Right, Thru, Peds, App, Total), Cady Street Eastbound (Thru, Left, Peds, App, Total), Int. Total. Includes data for morning (07:00-08:45 AM) and afternoon (04:00-05:45 PM) peak periods, a break period, and a Grand Total section.

TDC Traffic Comments: Non-signalized "T" intersection. Hutton St. is stop control for Cady St. Video VCU camera was located within SW intersection quadrant. Note: Peds. are excluded from peak hour reports.

Project: Northville Down TIS
Study: 4 Hr. Video Turning Movement Count
Weather: Sunny/Cloudy, Dry Deg's 70's
Count By Miovision Video VCU 6H3 SW

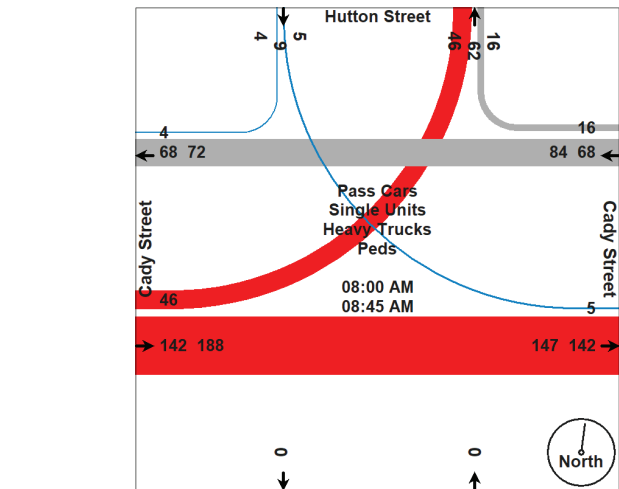
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Site Code : TMC_5
Start Date : 5/15/2018
Page No : 2



Project: Northville Down TIS
Study: 4 Hr. Video Turning Movement Count
Weather: Sunny/Cloudy, Dry Deg's 70's
Count By Miovision Video VCU 6H3 SW

File Name : TMC_5 Cady & Hutton_5-15-18
Site Code : TMC_5
Start Date : 5/15/2018
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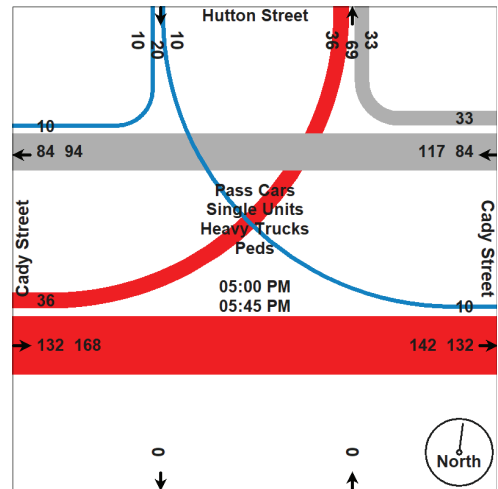
Table with 12 columns: Start Time, Hutton Street Southbound (Right, Left, App, Total), Cady Street Westbound (Right, Thru, App, Total), Cady Street Eastbound (Thru, Left, App, Total), Int. Total. Includes data for peak hour analysis from 07:00 AM to 11:45 AM (Peak 1 of 1) and peak hour for the entire intersection beginning at 08:00 AM.



Project: Northville Down TIS
Study: 4 Hr. Video Turning Movement Count
Weather: Sunny/Cloudy, Dry Deg's 70's
Count By Miovision Video VCU 6H3 SW

File Name : TMC_5 Cady & Hutton_5-15-18
Site Code : TMC_5
Start Date : 5/15/2018
Page No : 4

Table with 12 columns: Start Time, Hutton Street Southbound (Right, Left, App, Total), Cady Street Westbound (Right, Thru, App, Total), Cady Street Eastbound (Thru, Left, App, Total), Int. Total. Includes data for peak hour analysis from 12:00 PM to 05:45 PM (Peak 1 of 1) and peak hour for the entire intersection beginning at 05:00 PM.



Project: Northville Down TIS
Study: 4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy, Dry Deg's 70's
Count By Mivision Video VCU 3CU NW

File Name : TMC_8 Beal & River_5-15-18
Site Code : TMC_8
Start Date : 5/15/2018
Page No : 1

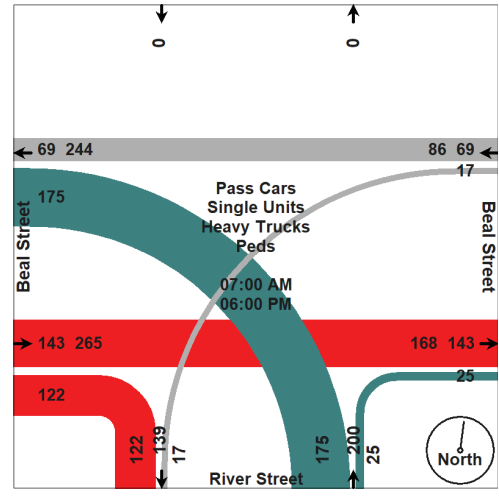
4 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning & 4:00 PM - 6:00 PM afternoon peak hours, while school was in session.

Table with 13 columns: Start Time, Thru, Left, Peds, App. Total, Right, Left, Peds, App. Total, Right, Thru, Left, Peds, App. Total, Int. Total. Includes data for morning (7:00-9:00 AM) and afternoon (4:00-6:00 PM) peaks, and a Grand Total section.

TDC Traffic Comments: Non-signalized "T" intersection. River St is stop controlled for Beal St. Video VCU camera was located within NW intersection quadrant. Note: Peds. are excluded from peak hour reports.

Project: Northville Down TIS
Study: 4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy, Dry Deg's 70's
Count By Mivision Video VCU 3CU NW

File Name : TMC_8 Beal & River_5-15-18
Site Code : TMC_8
Start Date : 5/15/2018
Page No : 2



Project: Northville Down TIS
Study: 4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy, Dry Deg's 70's
Count By Mivision Video VCU 3CU NW

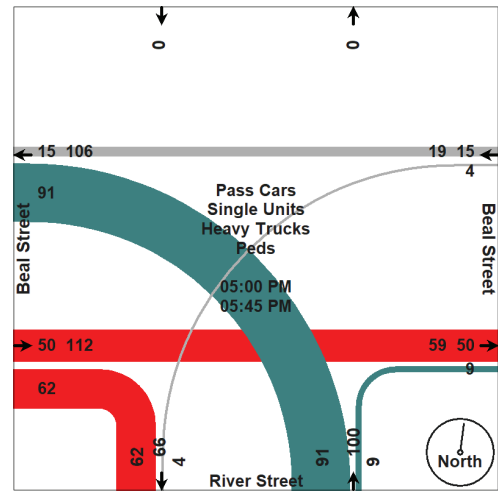
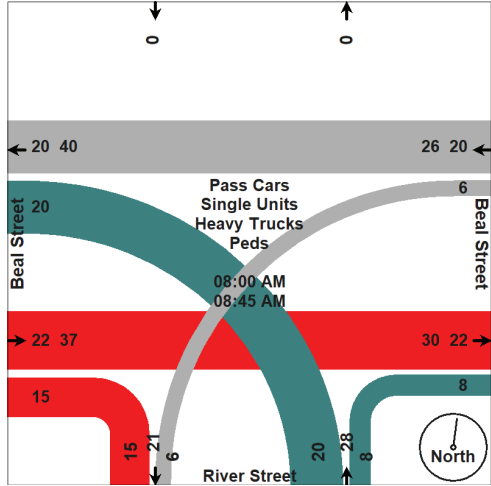
File Name : TMC_8 Beal & River_5-15-18
Site Code : TMC_8
Start Date : 5/15/2018
Page No : 3

Table showing peak hour analysis from 07:00 AM to 11:45 AM. Columns include Start Time, Thru, Left, App. Total, Right, Left, App. Total, Right, Thru, App. Total, Int. Total.

Project: Northville Down TIS
Study: 4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy, Dry Deg's 70's
Count By Mivision Video VCU 3CU NW

File Name : TMC_8 Beal & River_5-15-18
Site Code : TMC_8
Start Date : 5/15/2018
Page No : 4

Table showing peak hour analysis from 12:00 PM to 05:45 PM. Columns include Start Time, Thru, Left, App. Total, Right, Left, App. Total, Right, Thru, App. Total, Int. Total.



Project: Northville Down TIS
Study: 4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 3HT SE

File Name : TMC_12 7Mile & River_5-15-18
Site Code : TMC_12
Start Date : 5/15/2018
Page No : 1

4 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning & 4:00 PM - 6:00 PM afternoon peak hours, while school was in session.

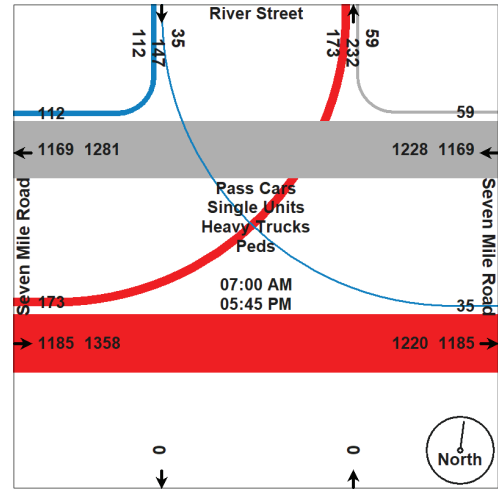
Table with columns: Start Time, River Street (Right, Left, Peds, App. Total), Seven Mile Road Westbound (Right, Thru, Peds, App. Total), Seven Mile Road Eastbound (Thru, Left, Peds, App. Total), Int. Total. Rows include times from 07:00 AM to 08:45 AM.

Table with columns: Start Time, River Street (Right, Left, Peds, App. Total), Seven Mile Road Westbound (Right, Thru, Peds, App. Total), Seven Mile Road Eastbound (Thru, Left, Peds, App. Total), Int. Total. Rows include times from 04:00 PM to 05:45 PM.

TDC Traffic Comments: Non-signalized 'T' intersection. River St. is stop controlled for Seven Mile Road. Trail Xing at west leg of intersection. Video VCU camera was located within SE intersection quadrant. Note: Peds. are excluded from peak hour reports.

Project: Northville Down TIS
Study: 4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 3HT SE

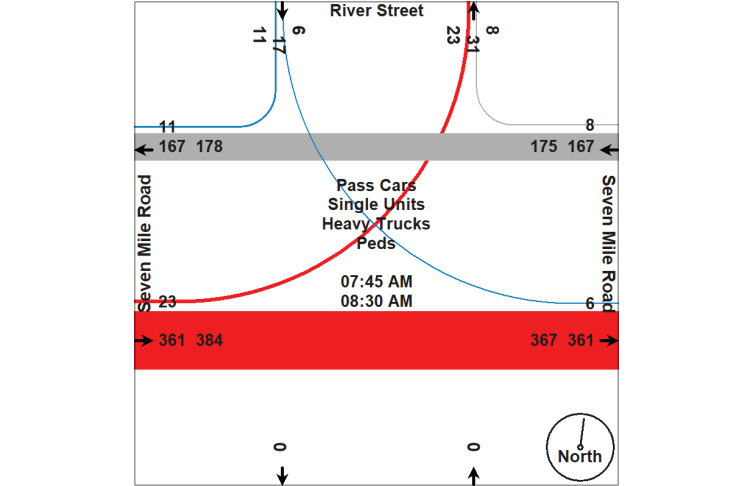
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Site Code : TMC_12
Start Date : 5/15/2018
Page No : 2



Project: Northville Down TIS
Study: 4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 3HT SE

File Name : TMC_12 7Mile & River_5-15-18
Site Code : TMC_12
Start Date : 5/15/2018
Page No : 3

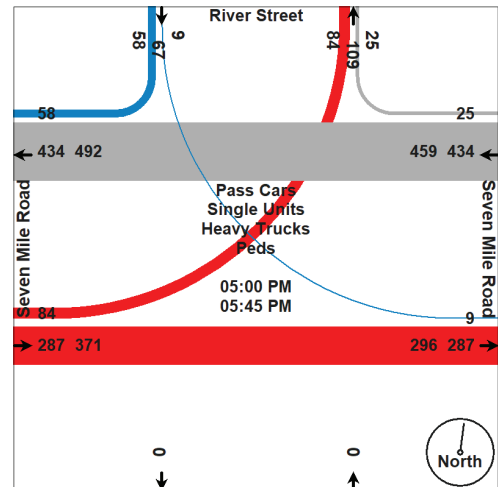
Table with columns: Start Time, River Street Southbound (Right, Left, Peds, App. Total), Seven Mile Road Westbound (Right, Thru, Peds, App. Total), Seven Mile Road Eastbound (Thru, Left, Peds, App. Total), Int. Total. Rows include times from 07:45 AM to 08:30 AM.



Project: Northville Down TIS
Study: 4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 3HT SE

File Name : TMC_12 7Mile & River_5-15-18
Site Code : TMC_12
Start Date : 5/15/2018
Page No : 4

Table with columns: Start Time, River Street Southbound (Right, Left, Peds, App. Total), Seven Mile Road Westbound (Right, Thru, Peds, App. Total), Seven Mile Road Eastbound (Thru, Left, Peds, App. Total), Int. Total. Rows include times from 05:00 PM to 05:45 PM.



Project: Northville Traffic Impact Study
Study: 4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy, Dry Deg's 50's
Count By Miovision Video VCU 24L SE

File Name : TMC_1 Northville & Beal_10-18-18
Site Code : TMC_1
Start Date : 10/18/2018
Page No : 1

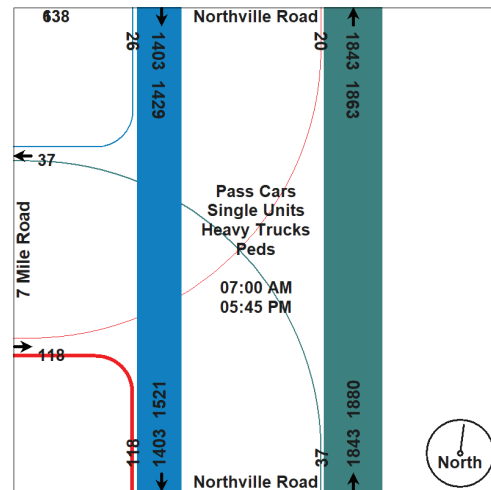
4 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning & 4:00 PM - 6:00 PM afternoon peak hours, while school was in session.

Start Time	Northville Road Southbound			Northville Road Northbound			7 Mile Road Eastbound			Int. Total
	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	
07:00 AM	4	62	66	34	0	34	2	0	0	2
07:15 AM	3	52	55	50	2	52	6	2	0	8
07:30 AM	2	58	60	55	1	56	7	0	0	7
07:45 AM	0	86	86	81	3	84	6	1	0	7
Total	9	238	247	220	6	226	21	3	0	24
08:00 AM	2	63	65	67	2	69	3	1	0	4
08:15 AM	1	74	75	79	2	81	5	1	0	6
08:30 AM	2	71	73	87	4	91	7	4	0	11
08:45 AM	0	81	81	93	3	96	6	0	0	6
Total	5	289	294	326	11	337	21	6	0	27
*** BREAK ***										
04:00 PM	3	96	99	137	5	142	12	0	3	15
04:15 PM	1	86	87	155	1	156	10	1	0	11
04:30 PM	1	93	94	170	2	172	10	1	1	12
04:45 PM	3	124	127	156	4	160	8	1	1	10
Total	8	399	407	618	12	630	40	3	5	48
05:00 PM	1	126	127	156	3	159	12	2	1	15
05:15 PM	1	123	124	181	4	185	12	4	1	17
05:30 PM	1	118	119	172	1	173	12	2	0	14
05:45 PM	1	110	111	170	0	170	0	0	0	0
Total	4	477	481	679	8	687	36	8	2	46
Grand Total	26	1403	1429	1843	37	1880	118	20	7	145
Approach %	1.8	98.2	0	98	2	0	81.4	13.8	4.8	4.2
Total %	0.8	40.8	0	41.4	53.4	1.1	3.4	0.6	0.2	4.2
% Pass Cars	26	1390	0	1416	1815	37	0	1852	117	19
% Single Units	0	11	0	11	22	0	22	1	1	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0

TDC Traffic Comments: Non-signalized intersection. Northville Road is a divided roadway. Video VCU camera was located within SE intersection quadrant. Note: Peds. are excluded from peak hour reports. Traffic study was performed for Northville Traffic Impact Study for Fleis & Vandenbrink.

Project: Northville Traffic Impact Study
Study: 4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy, Dry Deg's 50's
Count By Miovision Video VCU 24L SE

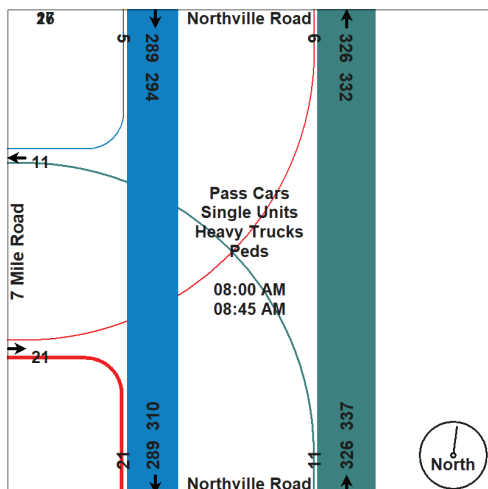
File Name : TMC_1 Northville & Beal_10-18-18
Site Code : TMC_1
Start Date : 10/18/2018
Page No : 2



Project: Northville Traffic Impact Study
Study: 4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy, Dry Deg's 50's
Count By Miovision Video VCU 24L SE

File Name : TMC_1 Northville & Beal_10-18-18
Site Code : TMC_1
Start Date : 10/18/2018
Page No : 3

Start Time	Northville Road Southbound			Northville Road Northbound			7 Mile Road Eastbound			Int. Total
	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	
08:00 AM	2	63	65	67	2	69	3	1	4	
08:15 AM	1	74	75	79	2	81	5	1	6	
08:30 AM	2	71	73	87	4	91	7	4	11	
08:45 AM	0	81	81	93	3	96	6	0	6	
Total	5	289	294	326	11	337	21	6	27	
PHF	625	892	907	876	688	878	750	375	614	
% Pass Cars	5	284	289	316	11	327	21	5	26	
% Single Units	0	5	5	9	0	9	1	1	1	
% Heavy Trucks	0	0	0	0	0	0	0	0	0	
% Peds	0	0	0	0	0	0	0	0	0	



Project: Northville Traffic Impact Study
Study: 4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy, Dry Deg's 50's
Count By Miovision Video VCU 24L SE

File Name : TMC_1 Northville & Beal_10-18-18
Site Code : TMC_1
Start Date : 10/18/2018
Page No : 4

Start Time	Northville Road Southbound			Northville Road Northbound			7 Mile Road Eastbound			Int. Total
	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	
04:45 PM	3	124	127	156	4	160	8	1	9	
05:00 PM	1	126	127	156	3	159	12	2	14	
05:15 PM	1	123	124	181	4	185	12	2	14	
05:30 PM	1	118	119	172	1	173	12	2	14	
Total	6	491	497	665	12	677	44	9	53	
PHF	500	974	978	919	750	915	917	563	828	
% Pass Cars	6	486	492	660	12	672	44	9	53	
% Single Units	0	3	3	4	0	4	0	0	0	
% Heavy Trucks	0	0	0	0	0	0	0	0	0	
% Peds	0	0	0	0	0	0	0	0	0	

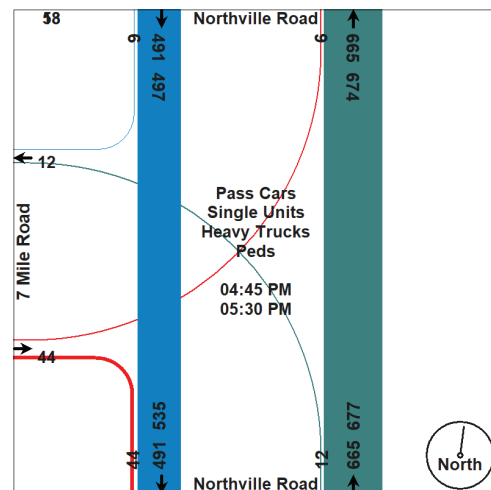


Table with columns for Leg Direction, Time, Randolph Eastbound, Randolph Westbound, Center Northbound, and Center Southbound. Rows include hourly totals and various vehicle type percentages like Approach, Total, Lights, Legals, Single-Unit Trucks, Articulated Trucks, Buses, Bicycles on Road, Bicycles on Crosswalk, and Pedestrians.

* Pedestrians and Bicycles on Crosswalk: L: Left, R: Right, T: Thru, U: U-Turn

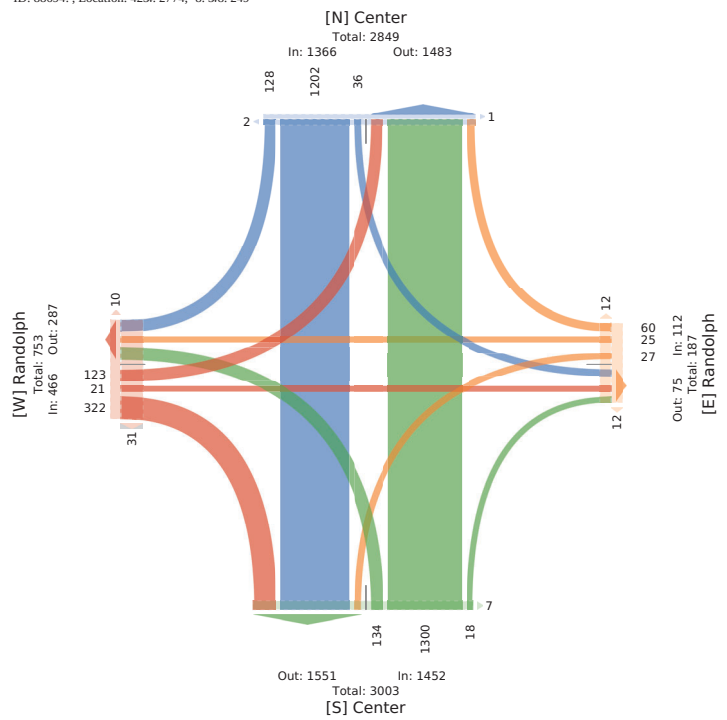
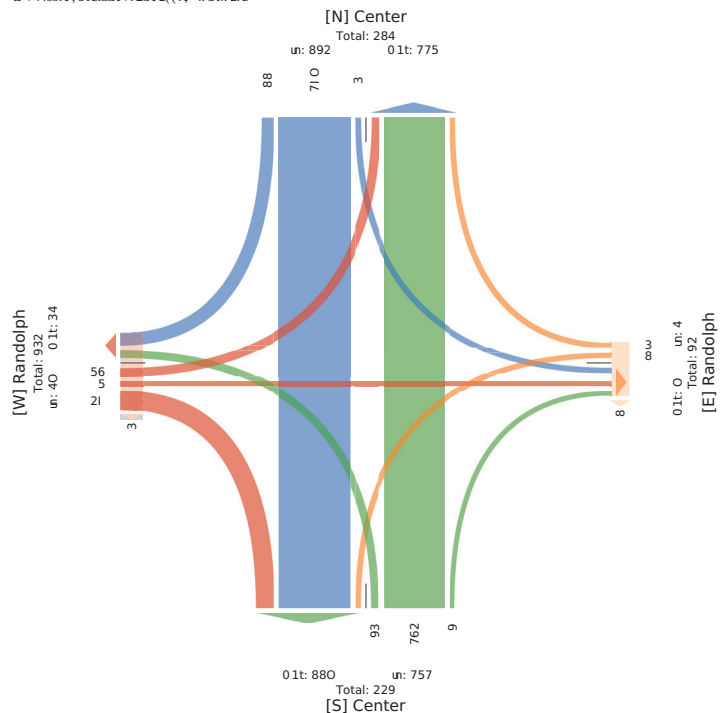


Table with columns for Leg Direction, Time, Randolph Eastbound, Randolph Westbound, Center Northbound, and Center Southbound. Rows include hourly totals and various vehicle type percentages like Approach, Total, Lights, Legals, Single-Unit Trucks, Articulated Trucks, Buses, Bicycles on Road, Bicycles on Crosswalk, and Pedestrians.

* LeBkCdnr Cnr By sco6CR) dRCU nfg3a 7a eft, w7wsi St, T177Sd, k 7k-Tud



Hutton & Dunlap - TMC

Tue Oct 19, 2021
 Fl Leng h Fl 79 F1 A
 FWH M4e4HP0 C4, a6) M7 s6 TSucg4, F SfcuMeUTSug4 r u4e4,
 LeUe4Sns4, r GckM4 ds Bdnl, r GckM4 ds - S44y nHjA
 FWH doeRest4
 w n (19D, Pdcn6ds mE: DR22, 1, 7 8: D 181



Llo6LlU3kn5 ey nMb nR Gv6s F44c6e4vc:
 12. Gds:4 HU) e v Sbe, EeSds b 6NM vP, 1001 1, i a

Pe	v us MV	v us MV	b urds		
v ftrctis	Hv43dus U	p e43dus U	adut3dus U		
Tiv e	P T i FW LeU	T B i FW LeU	P B i FW LeU		
20217079 (d0F1)	2 9 0 11 0	10 10 0 11 0	10 0 0 10 0		12
(d F1)	1 10 0 11 2	88 12 0 11 2	9 2 0 11 0		11*
(d0F1)	1 10 0 11 2	10 10 0 11 2	18 2 0 1 0		18D
(d F1)	0 1 0 1 1	11 21 0 19 1	11 8 0 19 0		1.8
TtotM	D 28 0 2D	1* 0 282	11 0 0 0		29
% FWSnc	1** 9:28% 0%	7 7 7 7	7 7 7 7		7 7 7 7
% TtotM	0% 0% 0% 0%	7 7 7 7	7 7 7 7		7 7 7 7
Lb G	0:00 0 7 0:581	0:10 0:19 7 0:11	0:0 0:12 7 0:0:1		0:11*
P9 G4	D 281 0 28	1* 0 22*	11 0 0 0		1.1
% P9 G4	100% 9*1% 0%	9*1% 100% 0%	100% *1:1% 0%		9*1%
a6) M1 s6 TSucg4	0 8 0 8	0 0 0 0	0 0 0 0		*
% a6) M1 s6 TSucg4	0% 1.8% 0%	1.2% 2.8% 0% 0%	1** 7 0% 0% 0%		0% 7 1.8%
F SfcuMeUTSug4	0 0 0 0	0 0 0 0	0 0 0 0		0 7 0
% F SfcuMeUTSug4	0% 0% 0%	0% 0% 0%	0% 0% 0%		0% 7 0%
r u4e4	0 0 0 0	0 0 0 0	0 0 0 0		0 7 0
% r u4e4	0% 1% 0%	1** 7 0% 0% 0%	0:1% 7 0% 0% 0%		0% 7 0.9%
r GckM4 ds Bdnl	0 0 0 0	0 0 0 0	0 2 0 2		2 7 2
% r GckM4 ds Bdnl	0% 0% 0%	0% 0% 0%	0% 7 0% 2(1% 0%		81% 7 0.1%
LeUe4Sns4	7 7 7 7	7 7 7 7	7 7 7 7		7 7 7 7
% LeUe4Sns4	7 7 7 7	7 7 7 7	7 7 7 7		7 7 7 7
r GckM4 ds - S44y nHjA	7 7 7 7	7 7 7 7	7 7 7 7		7 7 7 7
% r GckM4 ds - S44y nHjA	7 7 7 7	7 7 7 7	7 7 7 7		7 7 7 7

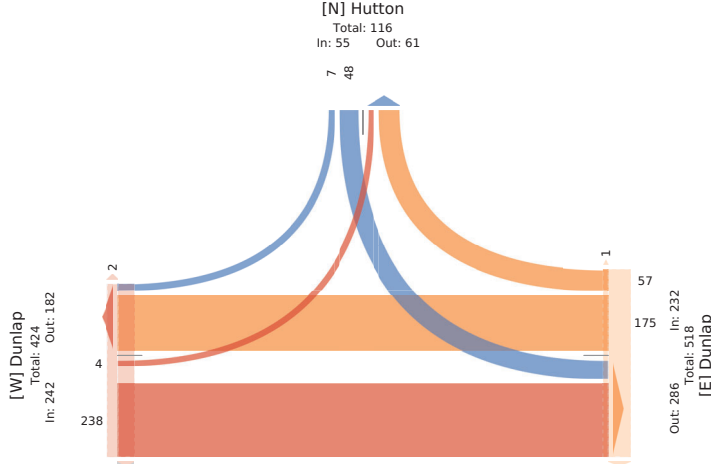
VeLe4Sns4 ns Ur GckM4 ds - S44y nHjA PnPft, Bn9 G, TrnCSu, i m 7TuS

Hutton & Dunlap - TMC

Tue Oct 19, 2021
 PM Peak (4 PM 5 PM - P)) v jkrc 4 HAr, CHo)E Ls H Tuoc (r, P HtuHkag Tuoc (r, hurer,
 aegeri Hsr, h HSc)er ns Unkg, h HSc)er ns v inrrd k(- P)) MnBy estr
 Rwm : 19D, 1 nckl6ns mE: DR22, 1, 5 6D 161



ainBk6g 3Snb ed kJ Gly Bns Prrnc)ter Bc8
 12. Fniert Egoe wiH6e, Veis ns G)Hr, R , 10011, L C



Hutton & Dunlap - TMC

Tue Oct 19, 2021
 Fl Feln gh Fl (7 Fl A) OM-14 Feln P6u-
) 4C4aea gs ISUA, r ikS4(d kit T-ucna,) -ticu4teBT-ucna, y uaea,
 FeBeat-ilka, yicoc6a Gk R6LB, yicoc6a Gk C-6aawLhA
) 4L 6Mv ekta
 nh D : 89h9, s 6clri6kDh2h32271, (3:h: 131



F-6M)B50D ewLA P Lv 146k) a66)Lea r6c:
 827 G5-eat H6Se 1-IM, Ee-k6k P14k, ns , 60061, d r

seS	l i-ectfik	l uk4V	l uk4V	P ut6k		
		HLa50ukB	p eat50ukB	r GuL50ukB		
Tiv e	s T d) W FeBn	T R d) W FeBn	s R d) W FeBn			
2021(10/19 h00F1)	h 8* 0 *1 1h	93 21 0 11h 2	1: 3 0 21 1h		208	
hd7F1	1 81 0 82 3	8h 1* 0 :1 2	19 3 0 22 1		187	
hd0F1	8 87 0 *1 2	91 22 0 113 3	20 1 0 21 2		207	
hd7F1	3 79 0 82 1	:7 27 0 110 3	22 h 0 28 2		19:	
T6L4	1h 272 0 288 20	333 :7 0 h1: 10	*9 11 0 90 19		**h	
% W6L4	7.3% 9h**% 0%	(:9**% 20.3% 0%	((:*:% 12.2% 0%		(((
% T6L4	1:1% 32.8% 0%	3h.3% (13.0% 11.0% 0%	7h.0% (10.2% 1.8% 0%		11.8% (((
FP G	0.700 0.90h (0.923	(0.197 0:70 (0.91*	(0.929 0:8: (0.90		(0.93:	
s ISLA	12 269 0 281 (	332 :3 0 h17 (	** 11 0 : (		98	
% s ISLA	:7.7% 9:~% 0%	9:~% 9*8% 0%	99.3% (9*7% 100% 0%		9*~% (9:~%	
r ikS4(d kit T-ucna	0 1 0 1 (	1 2 0 3 (	1 0 0 1 (		2	
% r ikS4(d kit T-ucna	0% 0.8% 0%	0.8% (0.3% 2.8% 0%	0**% (1.3% 0% 0%		1.1% (0.8%	
) -ticu4teBT-ucna	0 0 0 0 (	0 0 0 0 (	0 0 0 0 (		0 (0	
%) -ticu4teBT-ucna	0% 0% 0%	0% (0% 0% 0%	0% (0% 0% 0%		0% (0%	
y uaea	0 0 0 0 (	0 0 0 0 (	0 0 0 0 (		0 (0	
% y uaea	0% 0% 0%	0% (0% 0% 0%	0% (0% 0% 0%		0% (0%	
yicoc6a Gk R6LB	2 2 0 h (	0 0 0 0 (	1 0 0 1 (		7	
% yicoc6a Gk R6LB	1h.3% 0:~% 0%	1.7% (0% 0% 0%	0% (1.3% 0% 0%		1.1% (0.8%	
FeBeat-ilka	((((19	((((*	((((1:		(
% FeBeat-ilka	((((97.0%	((((*0.0%	((((9h**%		(
yicoc6a Gk C-6aawLh	((((1	((((3	((((1		(
% yicoc6a Gk C-6aawLh	((((7.0%	((((30.9%	((((7.3%		(

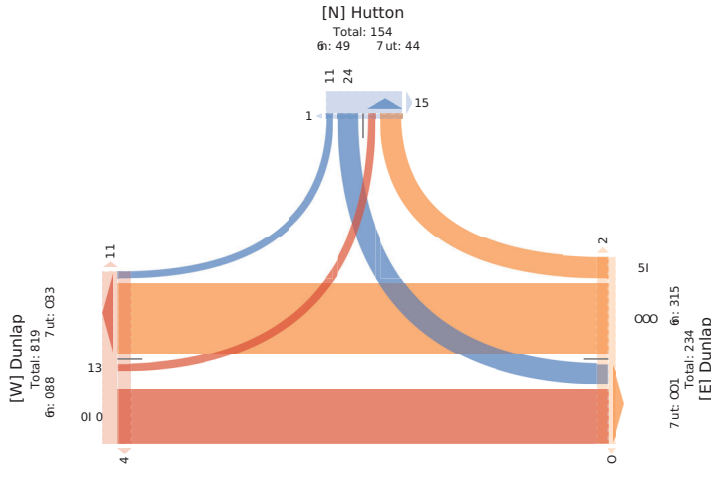
VeBeat-ilka lkb yicoc6a Gk C-6aawLh. s Ds eft, RDRISU, TDTUu, d Dd (Tu-k

Hutton & Dunlap - TMC

Tue Oct 19, 2021
 PM Peak (4 PM : 5 PM - : O) exar Peak 1 Hiv
 o r Ara6C(s li giC h)S)re:n Slt Tvuock, o vtcuMeUTvuock G du6C
 PeU6v6aSC, d leCreCHS y H6U, d leCreCHS AvHCRank-
 o r MH)eweStC
 mh D86949, s HattHSD2.432251, :83.48131



P4) lLkU)bf6C)erRat l awlH6e o (H)E)ateC6c:
 625 FHed EU e l)6e, VeSFS 1 InC, n, 60061, n h



Main & Center - TMC

Tue Oct 19, 2021
 Fl Leng l (7MF1 - 47MF1 P
 F 6) 6K(Chasi Sg Uti 6-k-rst TdugC F dscufneBTdugC y uGc
 LeBeQdnr C y scocfCR wRiB y scocfCR) dRIV nGp
 F 6l RnE erC
 D 74489. Ma Rcnska 7A2A 10(M-4. 3M. 22)



LdRmBb7Gev nF Hni sRr F (RnsneCDe3
 82M5RtG EB e : dne, Ved Re HsR D, 80081, k U

aei	nsr	nsr	nsr	erted	erted
subcsR	EndRurB	eCbrurB	wk FNN LeP	WRSRurB	UrsRurB
2021-10-19 (7MF1)	0 0 2M 0 2M	0 0 2 0 2 0	-8 1 0 0 0	0 0 0 0 0	0 0 0 0 0
47DF1	0 0 .A 0 .A	1 0 0 0 0 0	1 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0
47MF1	0 0 .2 0 .2	1 0 0 0 0 0	-1 0 0 0 0	-1 0 0 0 0	1 0 0 0 1
47DF1	0 0 .22 0 22	1 0 0 0 0 0	2 1A 0 0 0 0	1A 0 0 0 0	0 0 0 0 0
Tdug	0 0 11. 0 11.	0 0 2 0 2 8	111 1 0 0 0	112 10 0 1 0 0 1	10 224
% FNNBcs	0% 0% 100% 0%	-	0% 0% 100% 0%	-	993% 03% 0% 0%
% Tdug	0% 0% 100% 0%	-	0% 0% 100% 0%	-	100% 0% 0% 0%
LH5	- - - 0.8 1 - 0.8 1	- - - - -	03 (1 - - - 03 (1	- - - - -	03 (M
as SC	0 0 110 0 110	0 0 0 0 0 0	109 0 0 0 0	109 - 0 0 0 0 0	219
% as SC	0% 0% 91% 0% 91%	0% 0% 0% 0%	942% 0% 0% 0%	93%	983%
Uri 6-k-rst TdugC	0 0 0 1 0 1	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	1
% Uri 6-k-rst TdugC	0% 0% 03% 0% 03%	0% 0% 0% 0%	0% 0% 0% 0%	0% 0% 0% 0%	03%
F dscufneBTdugC	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0	0 0 0 0 0	0
% F dscufneBTdugC	0% 0% 0% 0% 0%	0% 0% 0% 0%	0% 0% 0% 0%	0% 0% 0% 0%	0%
y uGc	0 0 2 0 2	0 0 0 0 0 0	2 0 0 0 0	2 - 0 0 0 0 0	A
% y uGc	0% 0% 13% 0% 13%	0% 0% 0% 0%	13% 0% 0% 0%	13%	13%
y scocfCR wRiB	0 0 0 0 0	0 0 2 0 2	0 1 0 0 1	0 1 0 0 1	A
% y scocfCR wRiB	0% 0% 0% 0%	0% 0% 100% 0%	100% 0% 0%	100%	12%
LeBeQdnr C	- - - - -	- - - - -	- - - - -	- - - - -	1A
% LeBeQdnr C	- - - - -	- - - - -	- - - - -	- - - - -	403%
y scocfCR) dRIV nGp	- - - - -	- - - - -	- - - - -	- - - - -	2
% y scocfCR) dRIV nGp	- - - - -	- - - - -	- - - - -	- - - - -	123%

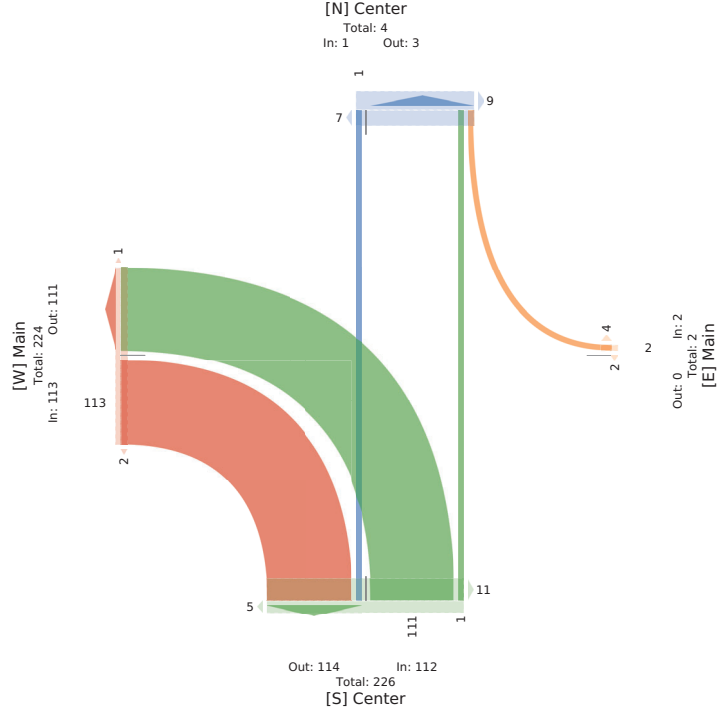
*LeBeQdnr Cnr By scocfCR) dRIV nGp 7a eft, w7wsi S, T7T Sdu, k 7k -Tud

Main & Center - TMC

Tue Oct 19, 2021
 Fl Leng l (7MF1 - 47MF1 P
 F 6) 6K(Chasi Sg Uti 6-k-rst TdugC F dscufneBTdugC y uGc
 LeBeQdnr C y scocfCR wRiB y scocfCR) dRIV nGp
 F 6l RnE erC
 D 74489. Ma Rcnska 7A2A 10(M-4. 3M. 22)



LdRmBb7Gev nF Hni sRr F (RnsneCDe3
 82M5RtG EB e : dne, Ved Re HsR D, 80081, k U



Main & Center - TMC

Tue Oct 19, 2021
 Fl Feln gh Fl (7 Fl A OM-L4Feln P 6u-
) 4C4aaea gs iSlla, r iks4(d kit T-ucna,) -ticu4reBT-ucna, y uaea,
 FeBeat-ilkka, y icoc4a 6k R6LB y icoc4a 6k C-6aawLhA
) 4l 6Mv ekta
 nR D : 798h, s 6C6Li6kD 23 810bh, (: 83 : 822b



F-6M5RtG EB e : dne, Ved Re HsR D, 80081, k U
 72h 56-eat EBSe l -iM, Ve-k6k P14h, nR , 70071, d r

seS	Lik	Lik	Lik	Cektu-	Cektu-
l i-ectik	ELatGukB	p eatGukB	eatGukB	W-LUGukB	r 6urUGukB
2021(10)19 hDhFl	0 0 2b 0 2b	18 0 0 0 0 0	0 21 88 0 0 0 0	88 12 0 0 0 0 0	2: 70
hDhFl	1 0 2. 0 2h	h 0 1 0 0 1	1 : h2 0 0 0 h2	82 0 0 0 0 0	2: bc
hDhFl	0 0 80 0 80	11 0 0 0 0 0	0 8h 8: 0 0 0 8: 2	0 0 0 0 0 0	27 7:
hDhFl	0 0 29 0 29	7 0 1 0 0 1	8: 89 0 0 0 89	17 0 0 0 0 0	bb 7b:
Total	1 0 110 0 111	8h 0 2 0 0 2	1.2 172 0 0 0 172	17 0 0 0 0 0	18h 2b:
% NN6LiC	03% 0% 993% 0%	(0% 100% 0% 0%	(100% 0% 0% 0%	(0% 0% 0% 0%	((((
% Tdug	03% 0% 03% 0%	03%	03%	0%	0%
FP5	((0300 (0300	( ( ( ( ( ( ( (	( 0389 ((0389	( ( ( ( ( ( ( (	( 0312
% iSlla	0 0 10b 0 10b	(0 0 0 0 0 0	(170 0 0 0 170	(0 0 0 0 0	(27b
% s iSlla	0% 0% 963% 0%	973%	93%	93%	982%
r iks4(d kit T-ucna	0 0 1 0 1	(0 0 0 0 0 0	(2 0 0 0 2	(0 0 0 0 0	(8
% r iks4(d kit T-ucna	0% 0% 03% 0%	03%	13%	13%	13%
) -ticu4reBT-ucna	0 0 0 0 0 0	(0 0 0 0 0 0	(0 0 0 0 0	(0 0 0 0 0	(0
%) -ticu4reBT-ucna	0% 0% 0% 0%	0%	0%	0%	0%
y uaea	0 0 0 0 0 0	(0 0 0 0 0 0	(0 0 0 0 0	(0 0 0 0 0	(0
% y uaea	0% 0% 0% 0%	0%	0%	0%	0%
y icoc4a 6k R6LB	1 0 2 0 8	(0 2 0 0 2	(0 0 0 0 0	(0 0 0 0 0	(h
% y icoc4a 6k R6LB	100% 0% 13% 0%	23%	100%	13%	13%
FeBeat-ilkka	((((8h	(((((1.0	(((((:8	(((((187	(
% FeBeat-ilkka	((((100%	((((9.3%	((((9.3%	((((993%	(
y icoc4a 6k C-6aawLhA	(((((0	(((((2	(((((1	(((((1	(
% y icoc4a 6k C-6aawLhA	(((((0%	(((((13%	(((((12%	(((((03%	(

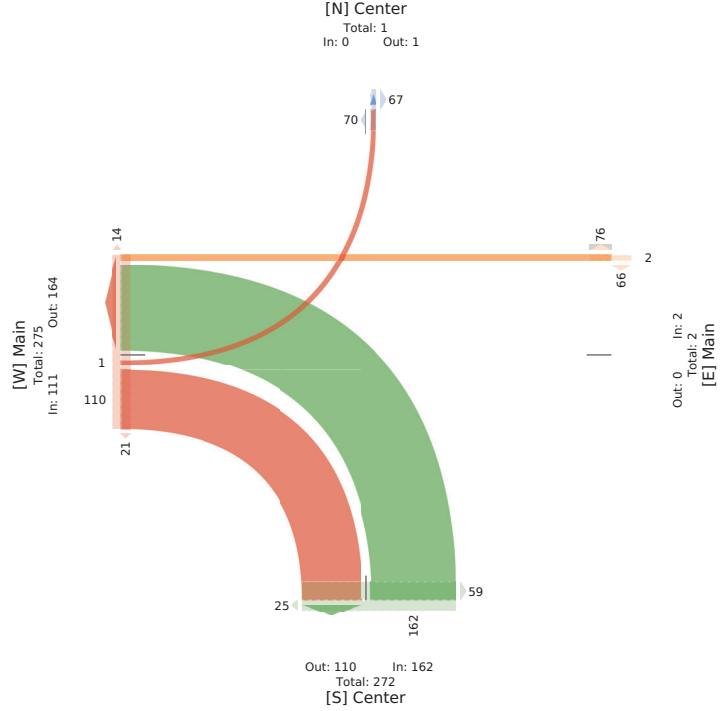
*FeBeat-ilkka l kBy icoc4a 6k C-6aawLhA 3s Ds eft, RDRISLl, TDTUu, d Dd (Tu-k

Main & Center - TMC

Tue Oct 19, 2021
 Fl Feln gh Fl (7 Fl A OM-L4Feln P 6u-
) 4C4aaea gs iSlla, r iks4(d kit T-ucna,) -ticu4reBT-ucna, y uaea,
 FeBeat-ilkka, y icoc4a 6k R6LB y icoc4a 6k C-6aawLhA
) 4l 6Mv ekta
 nR D : 798h, s 6C6Li6kD 23 810bh, (: 83 : 822b



F-6M5RtG EB e : dne, Ved Re HsR D, 80081, k U
 72h 56-eat EBSe l -iM, Ve-k6k P14h, nR , 70071, d r



Cady Street & Center Street - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886928, Location: 42.430207, -83.480946

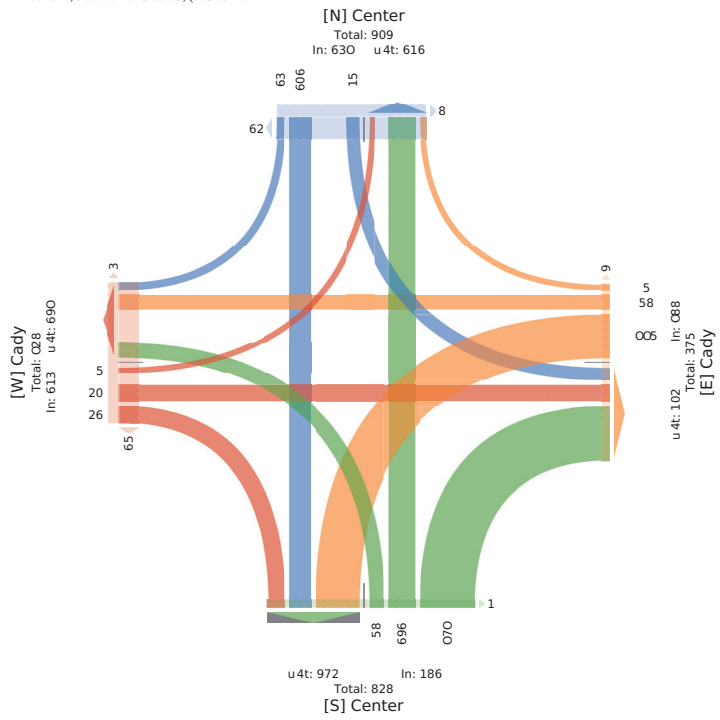


Table with columns for direction (East, West, North, South), time, and various traffic metrics (AWV, Ped, etc.)

*Feat-ILka By icoca-6k C-6awLh3s De ft, RDRISU, TDFUu, d DI (Tu-k)

Cady Street & Center Street - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886928, Location: 42.430207, -83.480946



Hutton Street & Cady Street - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886928, Location: 42.430207, -83.480946

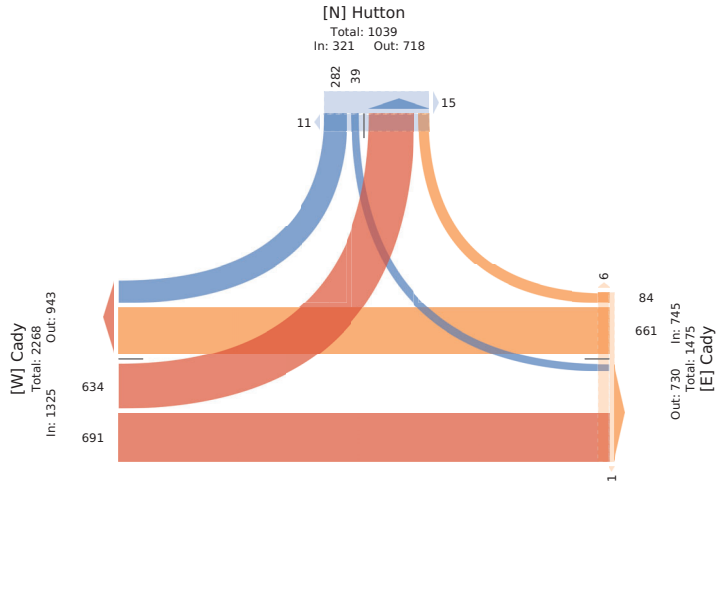


Table with columns for Leg Direction, Time, and various traffic metrics (AWV, Ped, etc.)

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Hutton Street & Cady Street - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886928, Location: 42.430207, -83.480946



Hutton Street & Cady Street - TMC

Tue Oct 19, 2021
 Fl Leng h Fl 79 F1 A
 F Wl M4e4HP9 C4, a6) M7 s6 TSicg4, F S6cuMeUTSicg4, r u4e4
 LeU4S5ns4, r 6ckM4ds Bdnl r 6ckM4ds - Sl44y nMgA
 F Wl docr est14
 w n (192/, Pdcm6ds nE: D020, , 7 8: I 09 I



LSlodLU3kn5 ey nMb nR 6vds F 44c6te4 w:c
 12GH5e4 EU v e Sbe, VeS ds b 6vM vP, 1001, i a

Pe) v f6c6r6s	- nLk Eok3dusU	T B i FVW LetP				b unds aduc3dusU				wt
20217079 (h0F1)	8G 1B 0 0	1	0	0	0	1	22	0	28	8
(h0F1)	89 0 0	9	0	0	0	0	11	0	11	0
(h0F1)	12 0 0	98	0	0	0	10	1	0	11	2
(h0F1)	81 8G 0	1	0	0	0	11	10	0	11	2
Total	118 11 0	881	0	0	0	10	21	0	11	102
% FVW6C	D0.2%	QD(%)	0%	7%	7%	9(%)	10.2%	0%	7%	7%
% T0h	2.1%	2.9%	0%	0%	0%	80(1%)	8.0%	0%	80(1%)	7%
Lb H	0(1G	0(2D	7	0(90	7	0(2G	0(2G	7	0(22	7
P9 C4	112	11	0	829	7	1(8	21	0	200	7
% P9 C4	99.1%	99.1%	0%	99.1%	7	99.0%	100%	0%	99.0%	7
a6) M1 s6 TSicg4	0	1	0	1	7	1	0	0	1	7
% a6) M1 s6 TSicg4	0%	0.1%	0%	0.8%	7	0.0%	0%	0%	0.6%	7
F S6cuMeUTSicg4	0	0	0	0	7	0	0	0	0	7
% F S6cuMeUTSicg4	0%	0%	0%	0%	7	0%	0%	0%	0%	7
r u4e4	1	0	0	1	7	0	0	0	1	7
% r u4e4	0.1%	0%	0%	0.8%	7	0%	0%	0%	0%	7
r 6ckM4ds Bdnl	0	0	0	0	7	0	0	0	0	7
% r 6ckM4ds Bdnl	0%	0%	0%	0%	7	0%	0%	0%	0%	7
LeL4S5ns4	7	7	7	7	7	7	7	7	7	7
% LeL4S5ns4	7	7	7	7	7	7	7	7	7	7
r 6ckM4ds - Sl44y nMg	7	7	7	7	7	7	7	7	7	7
% r 6ckM4ds - Sl44y nMg	7	7	7	7	7	7	7	7	7	7

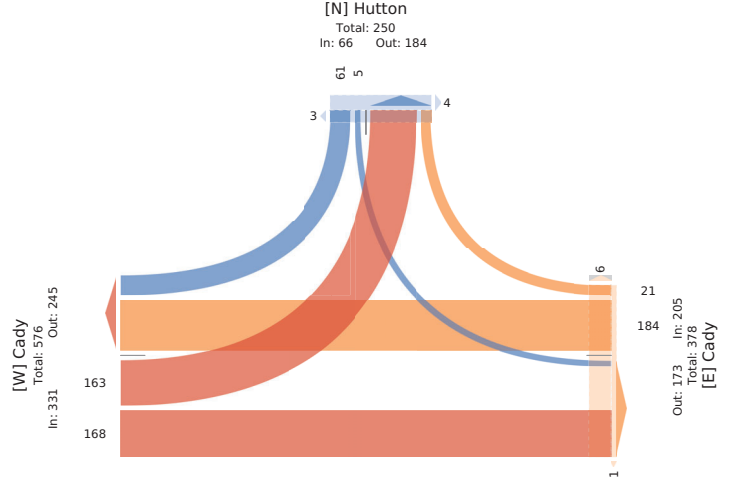
*LeL4S5ns4 ns Ur 6ckM4ds - Sl44y nMg: PnPft, Brn9 C1, TrnCSu, i n 7TuS

Hutton Street & Cady Street - TMC

Tue Oct 19, 2021
 Fl Leng h Fl 79 F1 A
 F Wl M4e4HP9 C4, a6) M7 s6 TSicg4, F S6cuMeUTSicg4, r u4e4
 LeU4S5ns4, r 6ckM4ds Bdnl r 6ckM4ds - Sl44y nMgA
 F Wl docr est14
 w n (192/, Pdcm6ds nE: D020, , 7 8: I 09 I



LSlodLU3kn5 ey nMb nR 6vds F 44c6te4 w:c
 12H5dS4 EU v e Sbe, VeS ds G6vM vP, 1001, i a



Hutton Street & Cady Street - TMC

Tue Oct 19, 2021
 Fl Feln gh Fl (7 Fl A/ OM-L4Feln P 6u-) 4C4aae gs ISUa, r ikS4(d kit T-ucna,) -ticu4teBT-ucna, y uaea, FeBeat-ikla, y icoc4a 6k R6LB y icoc4a 6k C-6aawL4h) 4l 6Mv ekta
 nH D : 792 : , s 6cLi6kD2.830205, (: 3.8: 0987



F-6MvB boLGewL4 P Lv 146k) a6cileA rfc.
 72h H5-eat EBSe I -iM, Ve-k6k P14h, n, 70071, d r

Pe) v f6c6r6s	CLB Elat6ukB	CLB p eab6ukB	Punt6k r 6urL6ukB	wt	
2021(10)19 h0F1	89 h5 0	107	0	1: 2	
h0F1	39 h9 0	9	0	15: 15	
h0F1	h1 h0 0	101	0	3: 19	
h0F1	h1 h9 0	110	0	1: 1	
Total	190 22h 0	81h	0	587	
% W66LCU	8h: %	h8.2%	0%	(((1: : % : 1.2%	
% T0h	2h: h%	30.2%	0%	h8.7% ((25.9% 2.9%	
FPH	0.922	0.983	(0.939	(0.937 0.5: 7 (0.977 (0.759 0.718 (0.72h (0.980	
s ISUa	1: 5	22h 0	81h (20h	22 0 225 (1: : 1: 0 99 (535	
% s ISUa	9: 8%	99.7%	0%	99.0%	(9: .7% 100% 0% 9: 5% (98.5% 9: .: 0% 9: 0% (9: .: %
r ikS4(d kit T-ucna	0	1	0	1 (1 0 0 1 (1 0 0 1 (3	
% r ikS4(d kit T-ucna	0%	0.8%	0%	0.8%	(0.8% 0% 0% 1.0% (0.8%
) -ticu4teBT-ucna	1	0	0	1 (0 0 0 0 0 (0 0 0 0 0 (1	
%) -ticu4teBT-ucna	0.1%	0%	0%	0.2%	(0% 0% 0% 0% (0% 0% 0% 0% (0.1%
y uaea	0	0	0	0 (0 0 0 0 0 (0 0 0 0 0 (0	
% y uaea	0%	0%	0%	0%	(0% 0% 0% 0% (0% 0% 0% 0% (0%
y icoc4a 6k R6LB	2	0	0	2 (2 0 0 2 (0 1 0 1 (h	
% y icoc4a 6k R6LB	1.1%	0%	0%	0.6%	(1.0% 0% 0% 0.9% (0% 1.2% 0% 1.0% (0.5%
FeBeat-ikla	(((((0	(((((0	(((((0	(((((13	
% FeBeat-ikla	(((((0	(((((0	(((((0	(((((100%	
y icoc4a 6k C-6aawL4h	(((((0	(((((0	(((((0	(((((0	
% y icoc4a 6k C-6aawL4h	(((((0	(((((0	(((((0	(((((0%	

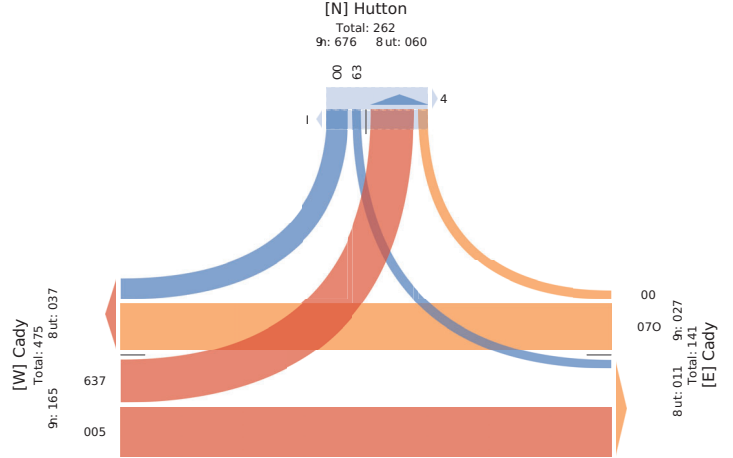
*FeBeat-ikla IkBy icoc4a 6k C-6aawL4h: s Ds eft, RDRISU, TDTUu, d Dd (Tu-k

Hutton Street & Cady Street - TMC

Tue Oct 19, 2021
 Fl Feln gh Fl (7 Fl A/ OM-L4Feln P 6u-) 4C4aae gs ISUa, r ikS4(d kit T-ucna,) -ticu4teBT-ucna, y uaea, FeBeat-ikla, y icoc4a 6k R6LB y icoc4a 6k C-6aawL4h) 4l 6Mv ekta
 nH D : 792 : , s 6cLi6kD2.830205, (: 3.8: 0987



F-6MvB boLGewL4 P Lv 146k) a6cileA rfc.
 72h H5-eat EBSe I -iM, Ve-k6k P14h, n, 70071, d r



Griswold & Cady - TMC

Tue Oct 19, 2021
 Fl Leng h Fl 79 F1 A
 F MW M4e4H9 Q4, a6) M3 s8 TSucg4, F S6cuMeUTSicg4, r u4e4,
 LeU4Sns4, r c6kcM4ds BdnlU r c6kcM4ds - Sl44y nMgA
 F MW dock res14
 w n (1929, Pdnt6s nD:DB08DB, T 8:D (. 2



Lslo4Lk3knb ey nMGnR Qvds F44c6ne4 w:c:
 12H5dS:4 EU) e v Sse, VeS ds G6M vP, 10011, i a

Pe)	v drc6nfs	-nlk En43dasU	-nlk p e43dasU	b S6y dMf W6S C6das U	b S6y dMf adu6C6das U	net
TIR e	P T B I FNNLeP	P T B I FNNLeP	P T B I FNNLeP	P T B I FNNLeP	P T B I FNNLeP	
202170709 (d0F1	89	1	0	0	0	80
(d0F1	DR	D	D	0	0	8
(d0F1	IE	(	D	0	0	1
(d0F1	8.	1	H	0	0	12
Tdnl	1.1	2H	19	0	9	0
% FNNLeC	91%	113%	(	4%	0%	7
% Tdnl	1.1%	1.2%	D.	92	0%	2.2%
LGS	0.22	0.	(	1.0	92	7
PQ C4	1.0	2H	19	0	21D	9
% PQ C4	99.1%	100%	100%	0%	99.1%	7
a6) M3 s8 TSucg4	1	0	0	0	0	1
a6) M3 s8 TSucg4	0	0	0	0	0	0
F S6cuMeUTSicg4	0%	0%	0%	0%	0%	0%
% F S6cuMeUTSicg4	0%	0%	0%	0%	0%	0%
r u4e4	0%	0%	0%	0%	0%	0%
% r u4e4	0%	0%	0%	0%	0%	0%
r c6kcM4ds BdnlU	0%	0%	0%	0%	0%	0%
% r c6kcM4ds BdnlU	0%	0%	0%	0%	0%	0%
LeU4Sns4	7	7	7	7	7	7
% LeU4Sns4	7	7	7	7	7	7
r c6kcM4ds - Sl44y nMgA	7	7	7	7	7	7
% r c6kcM4ds - Sl44y nMgA	7	7	7	7	7	7

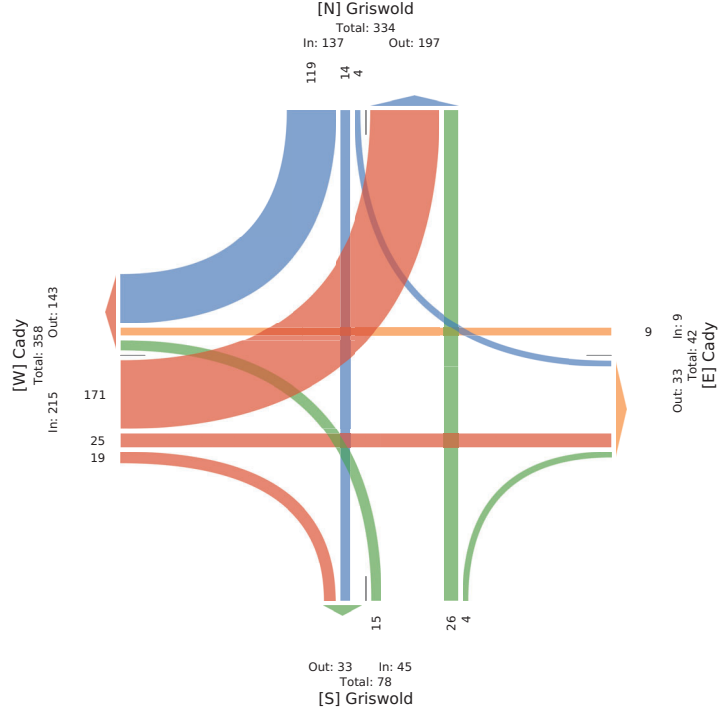
*LeU4Sns4 rs Ur c6kcM4ds - Sl44y nMg: PnPefi, BnB9 Q, Trn CSu, i ni TuS:

Griswold & Cady - TMC

Tue Oct 19, 2021
 Fl Leng h Fl 79 F1 A
 F MW M4e4H9 Q4, a6) M3 s8 TSucg4, F S6cuMeUTSicg4, r u4e4,
 LeU4Sns4, r c6kcM4ds BdnlU r c6kcM4ds - Sl44y nMgA
 F MW dock res14
 w n (1929, Pdnt6s nD:DB08DB, T 8:D (. 2



Lslo4Lk3knb ey nMGnR Qvds F44c6ne4 w:c:
 12H5dS:4 EU) e v Sse, VeS ds G6M vP, 10011, i a



Griswold & Cady - TMC

Tue Oct 19, 2021
 Fl Feln gh Fl (7 Fl A(OM-L4FelN P6u-) 4ICLaaga s iSLu, r iKS4(d kit T-ucna,) -ticu4reBT-ucna, y uaea, FeBeat-ilkka, y icoc6a 6k R6LB, y icoc6a 6k C-6aawL4A) 4I 6Mv ekta r8 D : 7929, s 6cLi6kDB2.830383, (: 3.8b: b2



F-6MBzB G6IHewL4 P Lv I46k) as6cILtea rfc.
 72h 56-eat EBSs I -iM, Ve-k6k P14k, m, 70071, d r

s eS l i-ec6tk	CLib ELat6k6B	CLib p eat6k6B	H-law64B WE-LU6k6B	H-law64B f6uLU6k6B	net
TIR e	S T R d) NN F6P	S T R d) NN F6P	S T R d) NN F6P	S T R d) NN F6P	
202110(19) h0F1	h9	h	7	0	h0
h0F1	h8	:	11	0	h3
h0F1	h7	2	13	0	h1
h0F1	h7	3	11	0	h0
Tdnl	21h	1:	81	0	2h8
% NN6LU	b:	h%	7.7%	1h.0%	0%
% Tdnl	3h.	h%	3.2%	1h.0%	0%
FP5	0.911	0.673	0.679	(	0.98:
s iSLu	21h	1:	39	0	2h1
% s iSLu	99.1%	100%	9h.1%	0%	9.9%
r iKS4(d kit T-ucna	1	0	1	0	2
% r iKS4(d kit T-ucna	0%	0%	2.8%	0%	0.8%
-ticu4reBT-ucna	0	0	0	0	0
% -ticu4reBT-ucna	0%	0%	0%	0%	0%
y uaea	0	0	0	0	0
% y uaea	0%	0%	0%	0%	0%
y icoc6a 6k R6LB	0	0	1	0	1
% y icoc6a 6k R6LB	0%	0%	2.8%	0%	0.8%
FeBeat-ilkka	(((((
% FeBeat-ilkka	(((((
y icoc6a 6k C-6aawL4A	(((((
% y icoc6a 6k C-6aawL4A	(((((

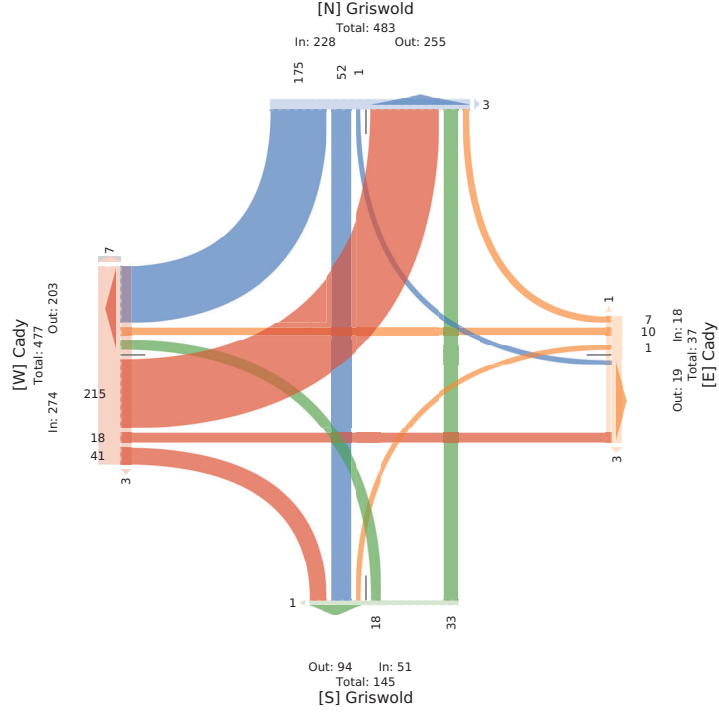
*FeBeat-ilkka LkBy icoc6a 6k C-6aawL4. s Dk eft, RDRISU, TDTUu, d Di (Tu-k

Griswold & Cady - TMC

Tue Oct 19, 2021
 Fl Feln gh Fl (7 Fl A(OM-L4FelN P6u-) 4ICLaaga s iSLu, r iKS4(d kit T-ucna,) -ticu4reBT-ucna, y uaea, FeBeat-ilkka, y icoc6a 6k R6LB, y icoc6a 6k C-6aawL4A) 4I 6Mv ekta r8 D : 7929, s 6cLi6kDB2.830383, (: 3.8b: b2



F-6MBzB G6IHewL4 P Lv I46k) as6cILtea rfc.
 72h 56-eat EBSs I -iM, Ve-k6k P14k, m, 70071, d r



River & Beal - TMC

Tue Oct 19, 2021
 Full Length (7 AM-9 AM, 4 PM-6 PM)
 All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 886947, Location: 42.429186, -83.475603

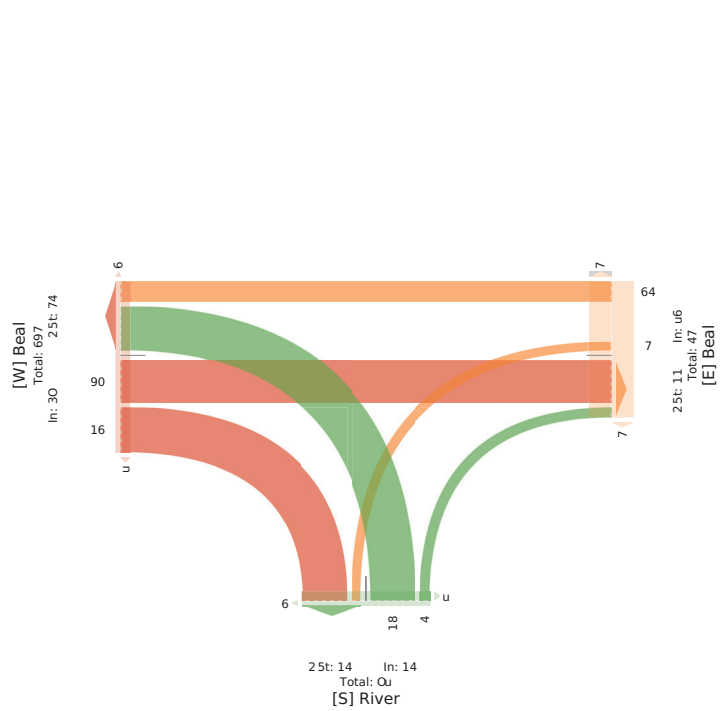


Leg Direction	Beal Eastbound	Main Northbound	Main Southbound	Limit
Time	L R U App Ped*	L T U App Ped*	T R U App Ped*	
2021-10-19 7:00AM	0 1 0 1 0	2 38 0 40 0	37 0 0 37 0	78
7:15AM	1 1 0 2 0	0 41 1 42 0	34 1 0 35 0	79
7:30AM	0 8 0 8 0	0 52 0 52 0	57 0 0 57 0	117
7:45AM	0 5 0 5 0	3 74 1 78 0	72 1 0 73 0	156
Hourly Total	1 15 0 16 0	5 205 2 212 0	200 2 0 202 0	438
8:00AM	1 6 0 7 0	1 81 0 82 0	52 3 0 55 0	144
8:15AM	2 3 0 5 1	2 76 1 79 0	63 0 0 63 0	147
8:30AM	0 6 0 6 2	9 83 0 92 0	73 5 0 78 0	176
8:45AM	0 6 0 6 1	8 98 0 106 0	74 1 0 75 0	187
Hourly Total	3 21 0 24 4	20 338 1 359 0	262 9 0 271 0	654
4:00PM	3 15 0 18 1	0 103 1 104 0	92 5 2 99 0	221
4:15PM	2 6 0 8 0	1 104 0 105 0	100 0 0 100 0	213
4:30PM	0 8 0 8 2	0 146 0 146 0	122 0 0 122 0	276
4:45PM	2 11 0 13 1	6 135 1 142 0	115 0 0 115 0	270
Hourly Total	7 40 0 47 4	7 488 2 497 0	429 5 2 436 0	980
5:00PM	1 9 0 10 1	2 120 1 123 0	114 2 0 116 0	249
5:15PM	2 12 0 14 0	3 155 0 158 0	117 2 0 119 0	291
5:30PM	1 11 0 12 2	2 133 1 136 0	117 1 0 118 0	266
5:45PM	0 10 0 10 0	3 139 0 142 0	90 5 0 95 0	247
Hourly Total	4 42 0 46 3	10 547 2 559 0	438 10 0 448 0	1053
Total	15 118 0 133 11	42 1578 7 1627 0	1329 26 2 1357 0	3117
% Approach	11.3% 88.2% 0%	2.6% 97.0% 0.4%	97.9% 1.9% 0.1%	-
% Total	0.5% 3.0% 0%	1.3% 50.6% 0.2%	42.6% 0.8% 0.1%	43.5%
Lights	15 117 0 132	39 1551 7 1597	1310 22 2 1334	3063
% Lights	100% 99.2% 0%	92.9% 98.3% 100%	98.6% 84.6% 100%	98.3%
Single-Unit Trucks	0 0 0 0	0 15 0 15	7 0 0 7	22
% Single-Unit Trucks	0% 0% 0%	0% 1.0% 0%	0.5% 0% 0%	0.7%
Articulated Trucks	0 0 0 0	2 3 0 5	3 0 0 3	8
% Articulated Trucks	0% 0% 0%	4.8% 0.2% 0%	0.2% 0% 0%	0.2%
Buses	0 1 0 1	1 7 0 8	5 1 0 6	15
% Buses	0% 0.8% 0%	2.4% 0.4% 0%	0.4% 3.8% 0%	0.5%
Bicycles on Road	0 0 0 0	0 2 0 2	4 3 0 7	9
% Bicycles on Road	0% 0% 0%	0% 0.1% 0%	0.3% 11.5% 0%	0.3%
Pedestrians	- - - 9	- - - 0	- - - 0	-
% Pedestrians	- - - 81.8%	- - - 0	- - - 0	-
Bicycles on Crosswalk	- - - 2	- - - 0	- - - 0	-
% Bicycles on Crosswalk	- - - 18.2%	- - - 0	- - - 0	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

River & Beal - TMC

Tue Oct 19, 2021
 Full Length (7 AM-9 AM, 4 PM-6 PM)
 All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 886947, Location: 42.429186, -83.475603



Beal Street & South Main Street - TMC

Tue Oct 19, 2021
 Full Length (7 AM-9 AM, 4 PM-6 PM)
 All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 886947, Location: 42.429186, -83.475603

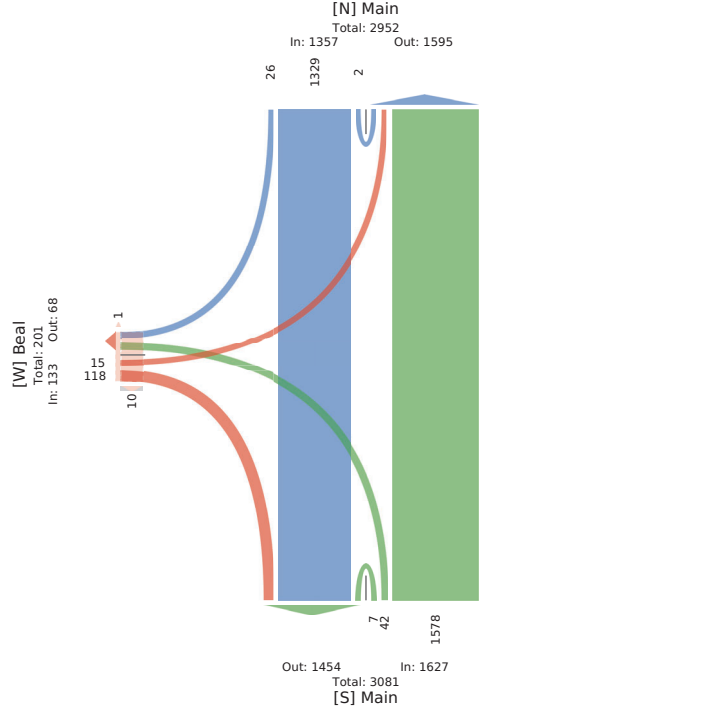


Leg Direction	Beal Eastbound	Main Northbound	Main Southbound	Limit
Time	L R U App Ped*	L T U App Ped*	T R U App Ped*	
2021-10-19 7:00AM	0 1 0 1 0	2 38 0 40 0	37 0 0 37 0	78
7:15AM	1 1 0 2 0	0 41 1 42 0	34 1 0 35 0	79
7:30AM	0 8 0 8 0	0 52 0 52 0	57 0 0 57 0	117
7:45AM	0 5 0 5 0	3 74 1 78 0	72 1 0 73 0	156
Hourly Total	1 15 0 16 0	5 205 2 212 0	200 2 0 202 0	438
8:00AM	1 6 0 7 0	1 81 0 82 0	52 3 0 55 0	144
8:15AM	2 3 0 5 1	2 76 1 79 0	63 0 0 63 0	147
8:30AM	0 6 0 6 2	9 83 0 92 0	73 5 0 78 0	176
8:45AM	0 6 0 6 1	8 98 0 106 0	74 1 0 75 0	187
Hourly Total	3 21 0 24 4	20 338 1 359 0	262 9 0 271 0	654
4:00PM	3 15 0 18 1	0 103 1 104 0	92 5 2 99 0	221
4:15PM	2 6 0 8 0	1 104 0 105 0	100 0 0 100 0	213
4:30PM	0 8 0 8 2	0 146 0 146 0	122 0 0 122 0	276
4:45PM	2 11 0 13 1	6 135 1 142 0	115 0 0 115 0	270
Hourly Total	7 40 0 47 4	7 488 2 497 0	429 5 2 436 0	980
5:00PM	1 9 0 10 1	2 120 1 123 0	114 2 0 116 0	249
5:15PM	2 12 0 14 0	3 155 0 158 0	117 2 0 119 0	291
5:30PM	1 11 0 12 2	2 133 1 136 0	117 1 0 118 0	266
5:45PM	0 10 0 10 0	3 139 0 142 0	90 5 0 95 0	247
Hourly Total	4 42 0 46 3	10 547 2 559 0	438 10 0 448 0	1053
Total	15 118 0 133 11	42 1578 7 1627 0	1329 26 2 1357 0	3117
% Approach	11.3% 88.2% 0%	2.6% 97.0% 0.4%	97.9% 1.9% 0.1%	-
% Total	0.5% 3.0% 0%	1.3% 50.6% 0.2%	42.6% 0.8% 0.1%	43.5%
Lights	15 117 0 132	39 1551 7 1597	1310 22 2 1334	3063
% Lights	100% 99.2% 0%	92.9% 98.3% 100%	98.6% 84.6% 100%	98.3%
Single-Unit Trucks	0 0 0 0	0 15 0 15	7 0 0 7	22
% Single-Unit Trucks	0% 0% 0%	0% 1.0% 0%	0.5% 0% 0%	0.7%
Articulated Trucks	0 0 0 0	2 3 0 5	3 0 0 3	8
% Articulated Trucks	0% 0% 0%	4.8% 0.2% 0%	0.2% 0% 0%	0.2%
Buses	0 1 0 1	1 7 0 8	5 1 0 6	15
% Buses	0% 0.8% 0%	2.4% 0.4% 0%	0.4% 3.8% 0%	0.5%
Bicycles on Road	0 0 0 0	0 2 0 2	4 3 0 7	9
% Bicycles on Road	0% 0% 0%	0% 0.1% 0%	0.3% 11.5% 0%	0.3%
Pedestrians	- - - 9	- - - 0	- - - 0	-
% Pedestrians	- - - 81.8%	- - - 0	- - - 0	-
Bicycles on Crosswalk	- - - 2	- - - 0	- - - 0	-
% Bicycles on Crosswalk	- - - 18.2%	- - - 0	- - - 0	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Beal Street & South Main Street - TMC

Tue Oct 19, 2021
 Full Length (7 AM-9 AM, 4 PM-6 PM)
 All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
 All Movements
 ID: 886947, Location: 42.429186, -83.475603



7 Mile & First Street/Fairbrook - TMC

Tue Oct 19, 2021
File: Felu gh(70 Fl AM70 Fl - A04eH6Felu) GnP
a f65 fllei qSfUkt, dU6Gay BFTRuani, a RfufReo TRuci, Ruiel, FoeoiREB,

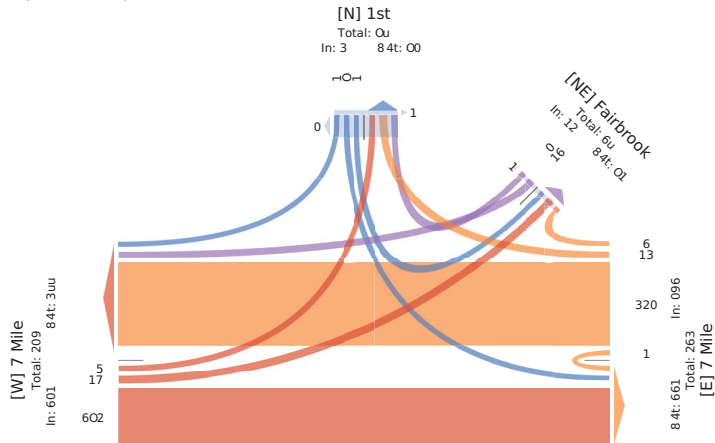


Table with 2 columns for Fairbrook and Wing & Fairbrook directions, showing traffic volume, delay, and percentage data.

*FoeoiREB LB Rfucvci CB iGimlinRS (RelPfiB, Rv(ReLPfkt, S) (Lb f6t, v) (Lb Rfkt, S(Seft, v v lkt, T, Tktb, y (y AuTB

7 Mile & First Street/Fairbrook - TMC

Tue Oct 19, 2021
File: Felu gh(70 Fl AM70 Fl - A04eH6Felu) GnP
a f65 fllei qSfUkt, dU6Gay BFTRuani, a RfufReo TRuci, Ruiel, FoeoiREB,



Wing & Fairbrook - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians,

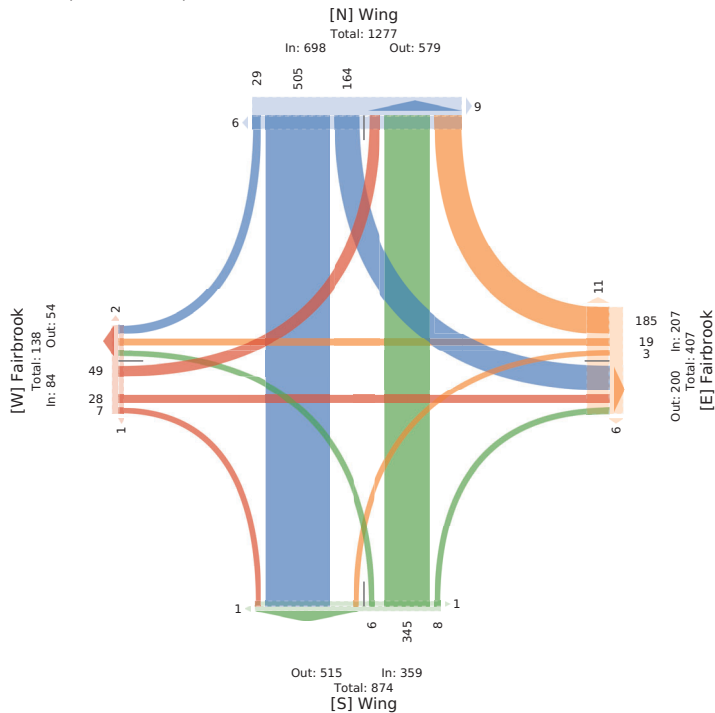


Detailed traffic data table for Wing & Fairbrook with columns for Leg Direction, Fairbrook Eastbound, Fairbrook Westbound, Wing Southbound, Wing Northbound, and various mode percentages.

*Pedestrians and Bicycles on Crosswalk: L: Left, R: Right, T: Thru, U: U-Turn

Wing & Fairbrook - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)



Wing & Fairbrook - TMC

Tue Oct 19, 2021
Fl Leng H (70 F1 M 70 F1 4
FIPs(B))e)ICAs(1), SaLkRM Ur Thucg), Fkaucitred Thucg), Bu(e), Lede)kanU),
Bacyr(B) oU6(ko))wnB(2
FPI) ovrneM(L)
ID7---9A, CocnacU782.82(8A), MA8-8A9

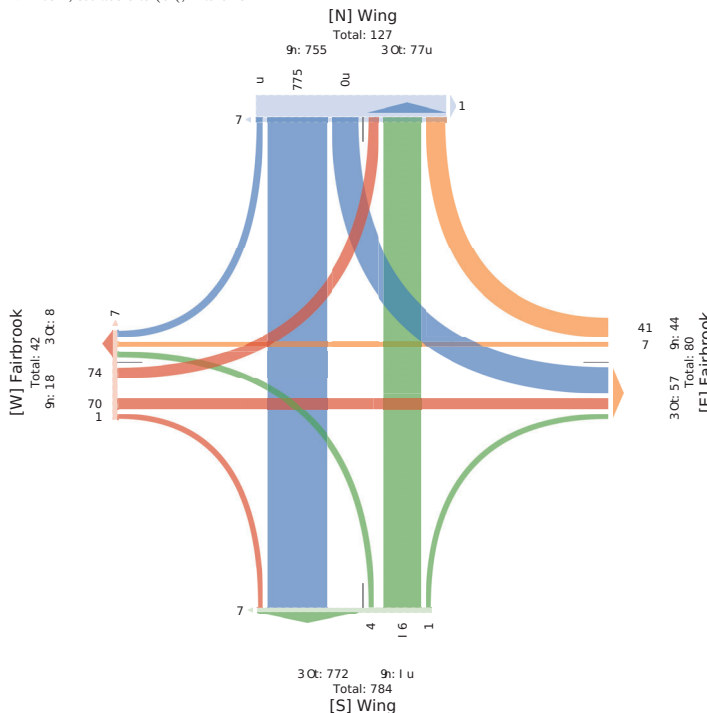


Table with columns: Cas, Date, Time, and various performance metrics (C, T, R, r, FNN, Led, etc.) for different aircraft configurations.

*Lede)kanU) nUd Bacyr(B) oU6(ko))wnB, C7Ceft, R7Rasi t, T7Ti ku, r 7r MukU

Wing & Fairbrook - TMC

Tue Oct 19, 2021
Fl Leng H (70 F1 M 70 F1 4
FIPs(B))e)ICAs(1), SaLkRM Ur Thucg), Fkaucitred Thucg), Bu(e),
Lede)kanU), Bacyr(B) oU6(ko))wnB(2
FPI) ovrneM(L)
ID7---9A, CocnacU782.82(8A), MA8-8A9



Wing & Fairbrook - TMC

Tue Oct 19, 2021
Fl Feln gh(70 F1 AM70 F1 - AO4eH6FelN) CuP
a f6s 6Iiei g6tki, dU6(6Ay B6)TRnci, a R6udf6reo TRnci, Ruiei, Feeei rUIB,
R6uev6i CBv Clo, R6uev6i CBs R1iml6n-
a 6i Giel e6i
D (88.978, S6C1U6X h232bh7b, A738h779

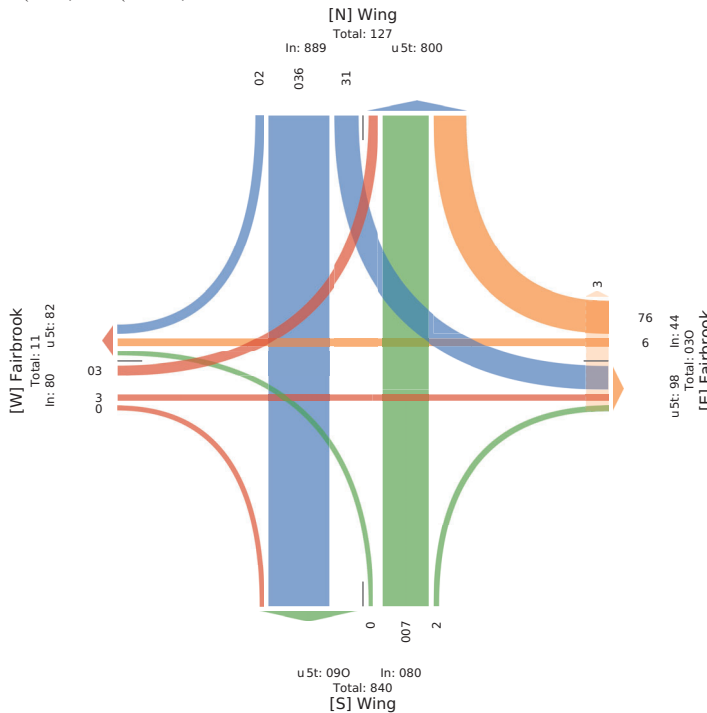


Table with columns: Ser, Date, Time, and various performance metrics (S, T, v, y, a, NN, etc.) for different aircraft configurations.

*Feeei rUIB L6 R6uev6i CBs R1iml6n(S) (Seft, v (v 6tk, T)Tktr, y (y Au)B

Wing & Fairbrook - TMC

Tue Oct 19, 2021
Fl Feln gh(70 F1 AM70 F1 - AO4eH6FelN) CuP
a f6s 6Iiei g6tki, dU6(6Ay B6)TRnci, a R6udf6reo TRnci, Ruiei,
Feeei rUIB, R6uev6i CBv Clo, R6uev6i CBs R1iml6n-
a 6i Giel e6i
D (88.978, S6C1U6X h232bh7b, A738h779



Wing St & Sheldon - TMC

Tue Oct 19, 2021
Fl Leng R Fl 79 Fl A
FNN M4e4H9 Q4 a6s) M3 s8 TScg4 F SfcuMeUTScg4 r u4e4 LeU4S5s4
r fckcM4ds BdnU r fckcM4ds - Sl44y nGA
FNN doeRst4
w n((19D, Pdntfnsn82.821.29, 7(D8(8DE2

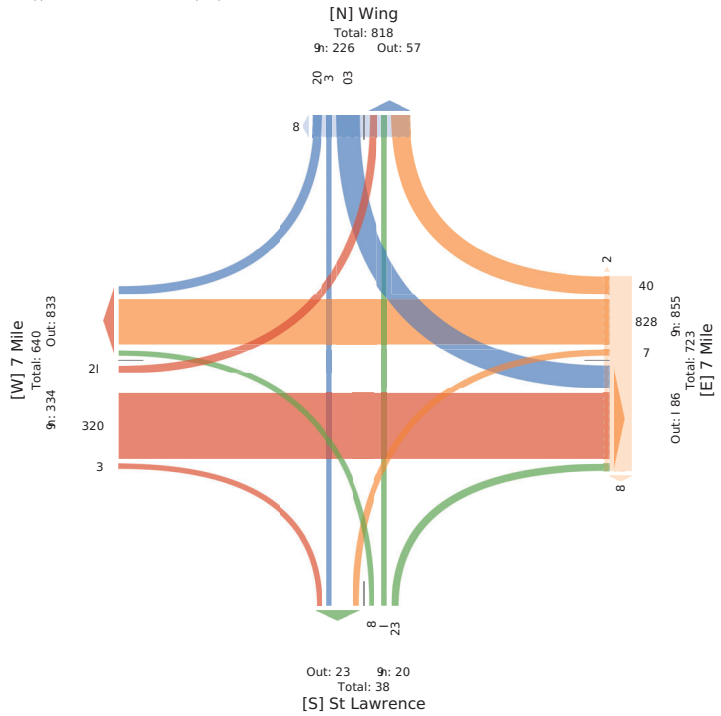


Table with multiple columns for flight statistics including W, T, B, I, FNN, L, P, S, and various performance metrics.

*LeU4S5s4n4r u4e4 fckcM4ds - Sl44y nGA, Pdntfnsn82.821.29, 7(D8(8DE2

Wing St & Sheldon - TMC

Tue Oct 19, 2021
Fl Leng R Fl 79 Fl A
FNN M4e4H9 Q4 a6s) M3 s8 TScg4 F SfcuMeUTScg4 r u4e4
LeU4S5s4 r fckcM4ds BdnU r fckcM4ds - Sl44y nGA
FNN doeRst4
w n((19D, Pdntfnsn82.821.29, 7(D8(8DE2



Wing St & Sheldon - TMC

Tue Oct 19, 2021
Fl Felu gh(70 Fl AM70 Fl - AO4eH6Feln) Clp
a fcs fliei gflkt, dUe fcy BfTRuci, a Rfufdleo TRuci, Ruiei, FoeietRUEB,
Rlvcei CBv Clo, Rlvcei Cbs RJimlfn-
a fl Giel eBf
D (88.973, SClrlfCX h2h2.293, A7bh8h722

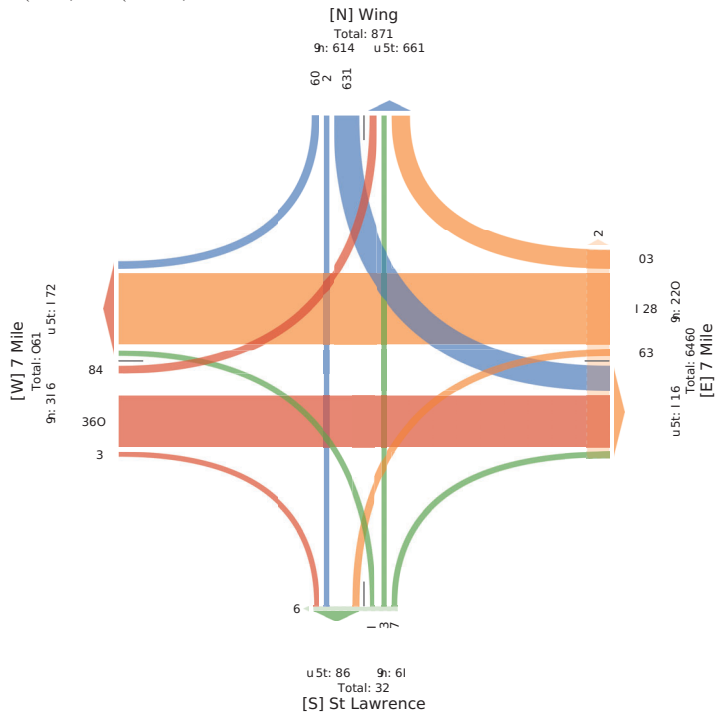


Table with multiple columns for flight statistics including S, T, V, Y, A, NN, F, P, S, and various performance metrics.

*FoeietRUEB Lb Rlvcei Cbs RJimlfnS(Seft, v (v flkt, T (TKr, y (y fTUB

Wing St & Sheldon - TMC

Tue Oct 19, 2021
Fl Felu gh(70 Fl AM70 Fl - AO4eH6Feln) Clp
a fcs fliei gflkt, dUe fcy BfTRuci, a Rfufdleo TRuci, Ruiei,
FoeietRUEB, Rlvcei CBv Clo, Rlvcei Cbs RJimlfn-
a fl Giel eBf
D (88.973, SClrlfCX h2h2.293, A7bh8h722



Center Street/Sheldon & Seven Mile - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 88692 , Location: 4232. 947, -8b382646

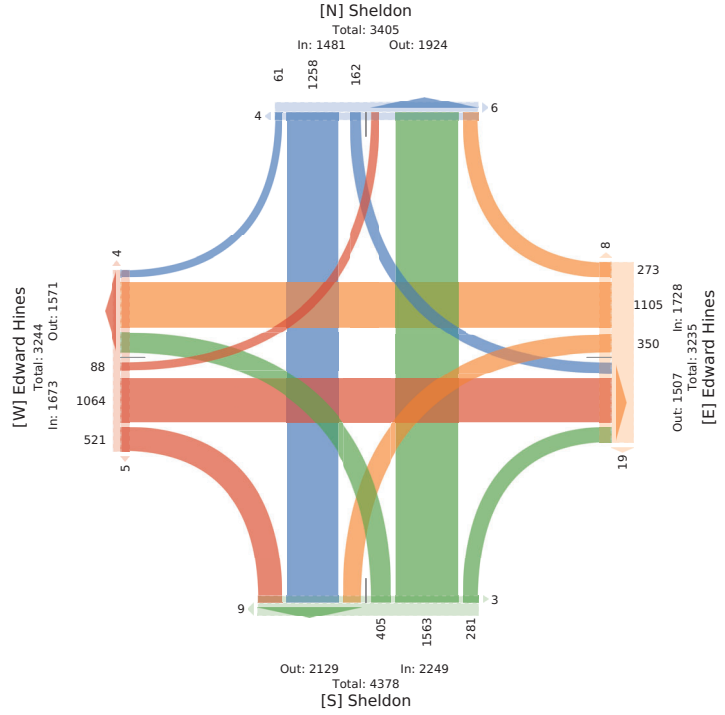


Table with columns for Leg Direction, Time, and various traffic metrics (L, T, R, U, ANN, Ped). Includes summary rows for ANNs, Lights, and vehicle types.

Pedestrians and Bicycles on Crosswalk: Left, R: Right, T: Thru, U: U-Turn

Center Street/Sheldon & Seven Mile - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 88692 , Location: 4232. 947, -8b382646



Center Street/Sheldon & Seven Mile - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 744892M a RntsR 7A2, A2M(A), -43, A428AB

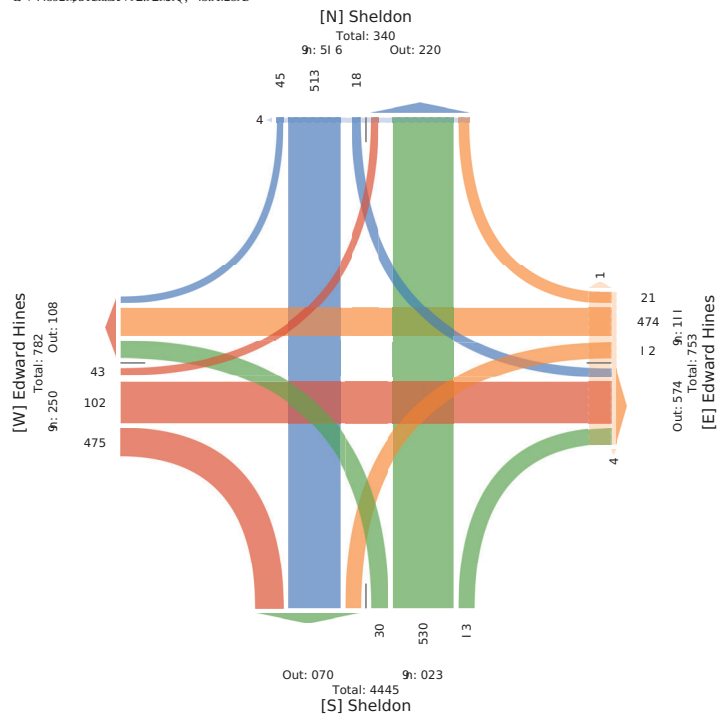


Table with columns for Leg Direction, Time, and various traffic metrics (L, T, R, U, ANN, Ped). Includes summary rows for ANNs, Lights, and vehicle types.

Pedestrians and Bicycles on Crosswalk: Left, R: Right, T: Thru, U: U-Turn

Center Street/Sheldon & Seven Mile - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 744892M a RntsR 7A2, A2M(A), -43, A428AB



Center Street/Sheldon & Seven Mile - TMC

Tue Oct 19, 2021
Fl Feln gh(70 Fl AM/0 Fl - A04eHh6Feln) CUp
a fhs flie ei gkkt, dUk gA y Bt Ttrnci, a Rludfleo TRnci, Ruiei, Foeet(RH,
Rlvcfci CBV Clo, Rlvcfci CBs RlmlfA-
a fl) Gcl eB)
D (88.92MSCLt(CX h232Nhh, A7382. h.

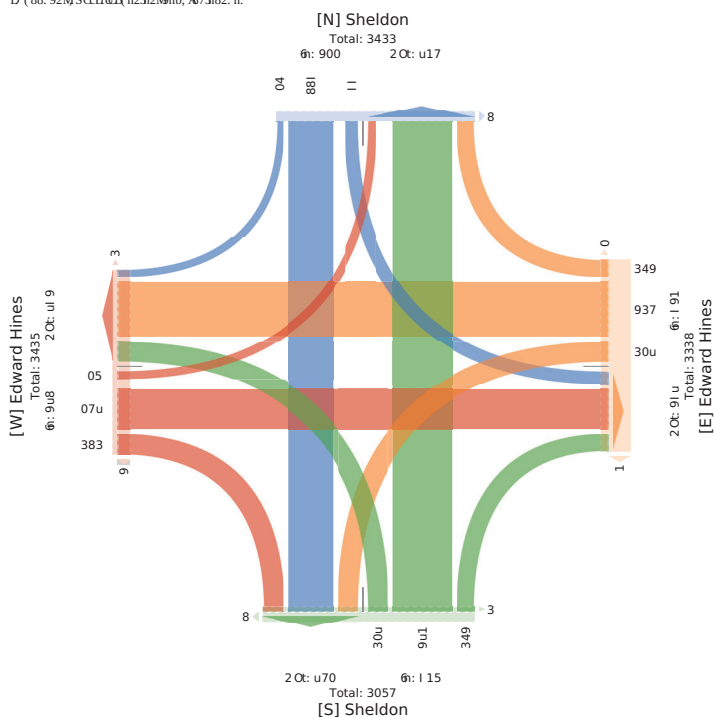


Table with columns for Vehicle Type, Direction, and Counts. Includes categories like TMC, % Total, % Light, % Single-Unit Trucks, etc.

*Foeet(RH, Lb Rlvcfci CBs RlmlfA)S(Seft, v l vkt, T Tkr, y (y A)U)B

Center Street/Sheldon & Seven Mile - TMC

Tue Oct 19, 2021
Fl Feln gh(70 Fl AM/0 Fl - A04eHh6Feln) CUp
a fhs flie ei gkkt, dUk gA y Bt Ttrnci, a Rludfleo TRnci, Ruiei,
Foeet(RH, Rlvcfci CBV Clo, Rlvcfci CBs RlmlfA-
a fl) Gcl eB)
D (88.92MSCLt(CX h232Nhh, A7382. h.



Hines Drive & Seven Mile - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses,
Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 8869. 2, Location: 42342b. b8, -8. 38027.

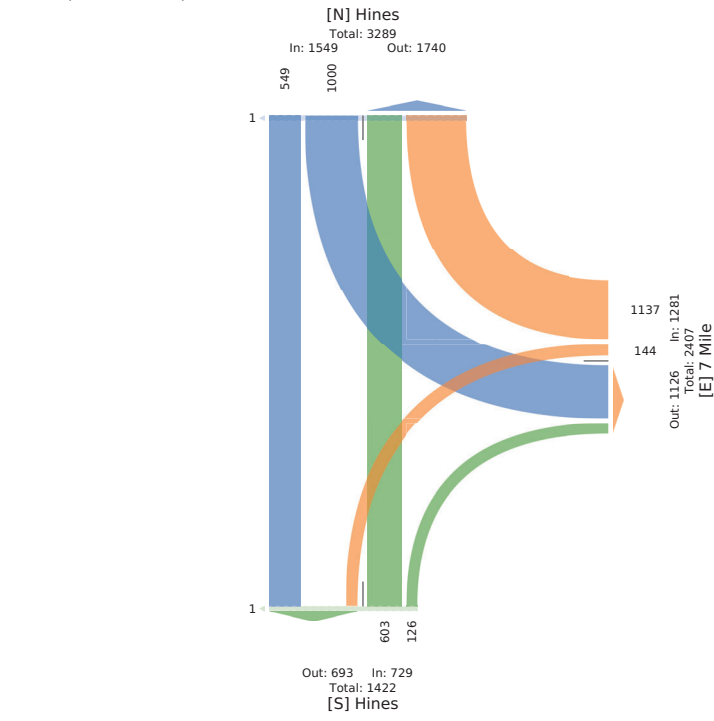


Table with columns for Leg Direction, Time, and Counts. Includes categories like % Total, % Light, % Single-Unit Trucks, etc.

*Pedestrians and Bicycles on Crosswalk: L: Left, R: Right, T: Thru, U: U-Turn

Hines Drive & Seven Mile - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses,
Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 8869. 2, Location: 42342b. b8, -8. 38027.



River & Seven Mile - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 8869.1, Location: 423425607, -8. 3476888



Provided by: Gewalt Hamilton Associates Inc3
625 Forest Edge Drive, Vernon Hills, IL., 60061, US

Table with 12 columns: Leg Direction, Time, 7 Mile Rd Eastbound, 7 Mile Rd Westbound, River Southbound, and various traffic metrics (L, T, U, AVW, Ped, etc.).

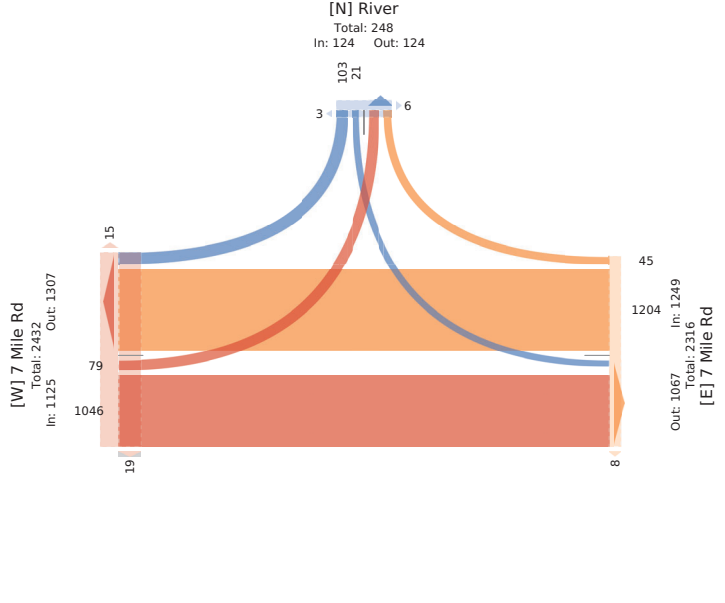
*Pedestrians and Bicycles on Crosswalk: L: Left, R: Right, T: Thru, U: U-Turn

River & Seven Mile - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 8869.1, Location: 423425607, -8. 3476888



Provided by: Gewalt Hamilton Associates Inc3
625 Forest Edge Drive, Vernon Hills, IL., 60061, US



River & Seven Mile - TMC

Tue Oct 19, 2021
F1 Leng H F1 79 F1 A
F NI M444HP0 C1, a6) M1 s8 TSucg4, F S6cuMeUTSicg4, r u4e4
LeUb4Sns 4, r G6kcM4 ds BdnU r G6kcM4 ds - S144y nMGA
F NI doeRes14
w n (19D1, PdcntG6ism 28 2, 103, 7 D8 31 (((



12. H5S4 EU v S9e, VeSds G6W v, 1001 1, i a

Table with 12 columns: Pe) v6c6t6is, 51 08BU En4SdusU, 31 08BU p e4SdusU, B6eS adurCsdusU, and various traffic metrics (P, T, B, i, FVW, LeLP, etc.).

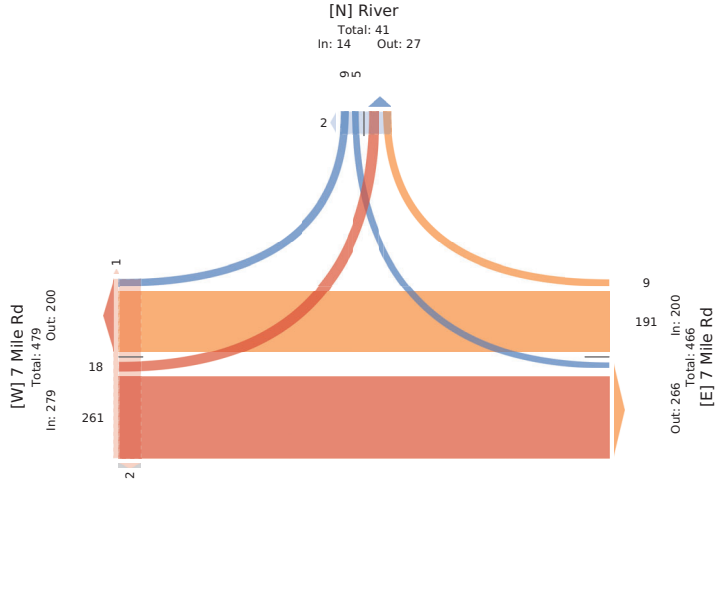
*LeUb4Sns 4 ns Ur G6kcM4 ds - S144y nMGA: PnPeft, BnB0 G, TnFCh, i m 7TuS

River & Seven Mile - TMC

Tue Oct 19, 2021
F1 Leng H F1 79 F1 A
F NI M444HP0 C1, a6) M1 s8 TSucg4, F S6cuMeUTSicg4, r u4e4
LeUb4Sns 4, r G6kcM4 ds BdnU r G6kcM4 ds - S144y nMGA
F NI doeRes14
w n (19D1, PdcntG6ism 28 2, 103, 7 D8 31 (((



12. Sds4 EU v S9e, VeSds H6W v, 1001 1, i a



Northville & 7 Mile (south) - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 88694 , Location: 42324b44, -8b37b927

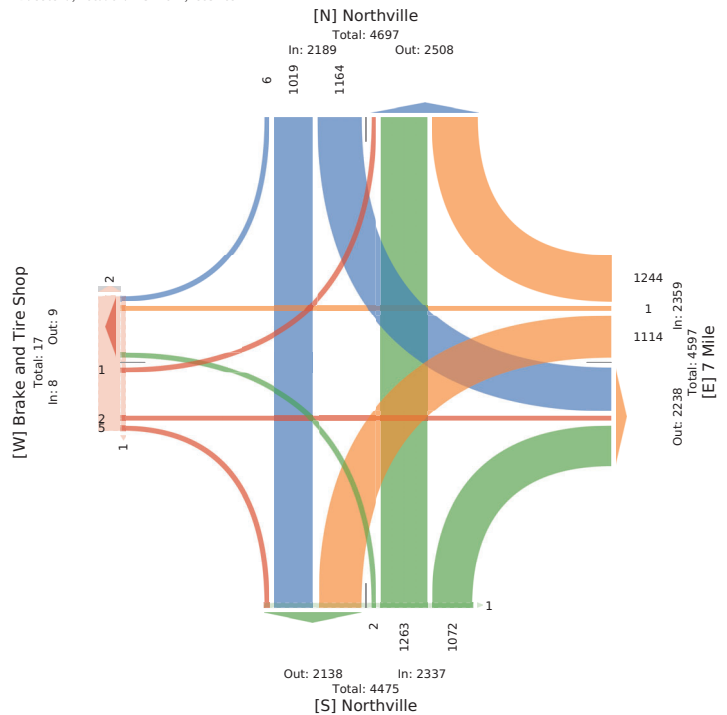


Table with columns: Leg Direction, Brake and Tire Shop, 7 Mile, Northville, Southville. Rows include time intervals (e.g., 7:00AM, 7:10AM) and summary statistics (Total, % Approach, % Total, etc.).

*Pedestrians and Bicycles on Crosswalk: L: Left, R: Right, T: Thru, U: U-Turn

Northville & 7 Mile (south) - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 88694 , Location: 42324b44, -8b37b927



Northville & 7 Mile (south) - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 88694 , Location: 42324b44, -8b37b927

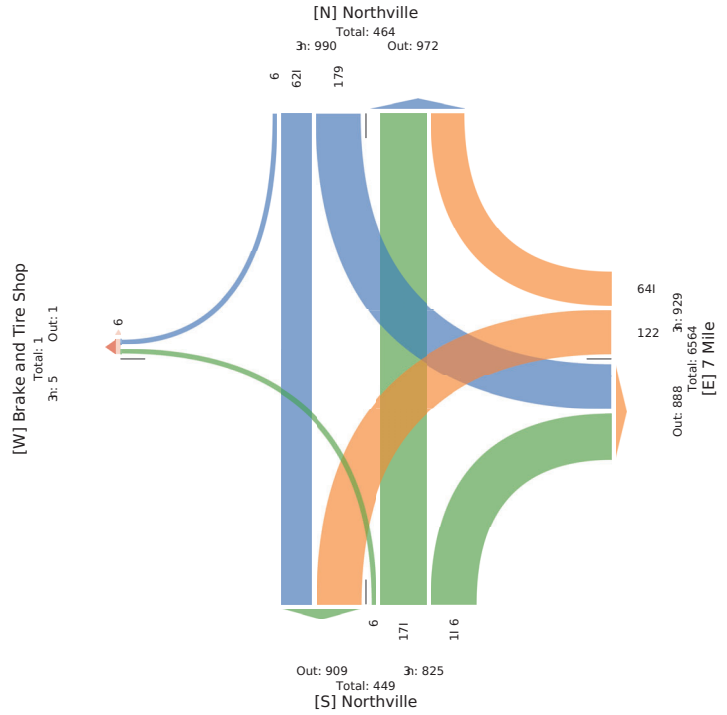


Table with columns: Leg Direction, Brake and Tire Shop, 7 Mile, Northville, Southville. Rows include time intervals and summary statistics.

*Pedestrians and Bicycles on Crosswalk: L: Left, R: Right, T: Thru, U: U-Turn

Northville & 7 Mile (south) - TMC

Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 88694 , Location: 42324b44, -8b37b927



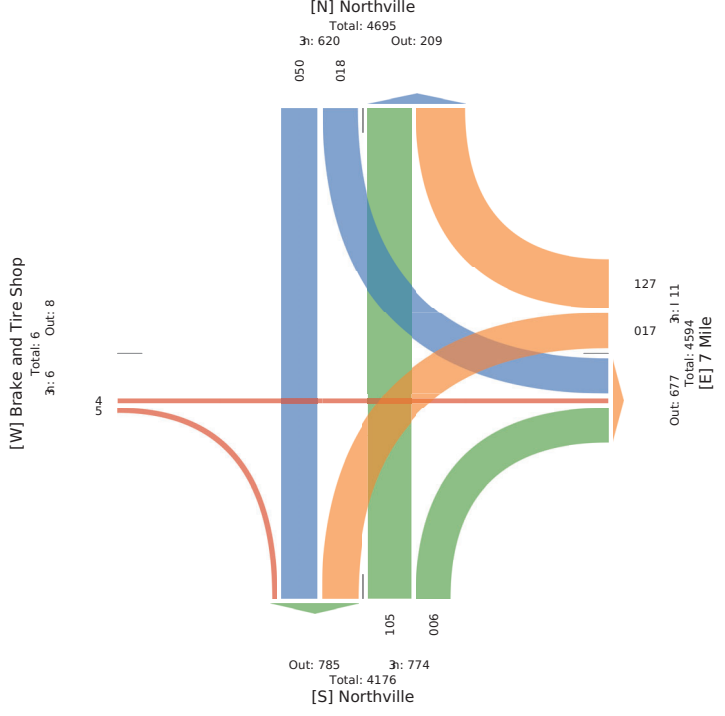
Northville & 7 Mile (south) - TMC
 Tue Oct 19, 2021
 Fl FelN gh(70 Fl AM70 Fl - AO4eHh6Feln) CuP
 a 6s 6l iei gSUrki, dUeAy Bu TRucl, a RluuUleo TRucl, Ruiei,
 FooeitRUeB, Rluuecei CBV Clo, Rluuecei CBS RGlmlfn-
 a 6s 6l iei eH
 D (88.9hM5CcllCQ h3h2h7hh, A73hb792b



Ser	UserIDB		RLne Lb: TUB dKp		b l Ue		WCR:4tfe		WCR:4tfe																				
TIU e	ELI:Club		Nei:Club		Nei:Club		dCluk:Club		dCluk:Club																				
			S	T	v	y	a	pp	FeeP				S	T	v	y	a	pp	FeeP				S	T	v	y	a	pp	FeeP
2021A049h7OFI	0	0	0	0	0	0	109	0	17h	0	2b7	0	0	11M	80	0	19M	0	90	92	0	0	182	0	0	2h			
hMFI	0	1	1	0	2	0	89	0	112	0	201	0	0	9	89	0	18M	0	81	85	0	0	1.8	0	0	MM			
MDFI	0	0	0	0	0	0	89	0	171	0	210	0	0	10b	8b	0	191	0	8	82	0	0	1.8	0	0	MM			
MIPI	0	0	0	0	0	0	80	0	120	0	190	0	0	11b	87	0	200	0	87	92	0	0	18M	0	0	MM			
TQIG																													
% a pp TIG																													
FJ S																													
% SIKI																													
dUeAy Bu TRucl																													
% dUeAy Bu TRucl																													
a RluuUleo TRucl																													
% a RluuUleo TRucl																													
Ruiel																													
% Ruiel																													
Rluuecei CBV Clo																													
% Rluuecei CBV Clo																													
FoeitRUeB																													
% FoeitRUeB																													
Rluuecei CBS RGlmlfn																													
% Rluuecei CBS RGlmlfn																													

FoeitRUeB Lb: Rluuecei CBS RGlmlfn3S(Seft, v(vUkt, T(TkR, y(yAiuB

Northville & 7 Mile (south) - TMC
 Tue Oct 19, 2021
 Fl FelN gh(70 Fl AM70 Fl - AO4eHh6Feln) CuP
 a 6s 6l iei gSUrki, dUeAy Bu TRucl, a RluuUleo TRucl, Ruiei,
 FooeitRUeB, Rluuecei CBV Clo, Rluuecei CBS RGlmlfn-
 a 6s 6l iei eH
 D (88.9hM5CcllCQ h3h2h7hh, A73hb792b



WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES - TRAFFIC SECTION

SOLID STATE TIMING PERMIT

CYCLE LENGTH (OFFSET)	INTERVAL TIMING (SECONDS)											SIGNAL PLAN -- CYCLE SEQUENCE CHART													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
SEC MINIMUM TIME	3.0	4.0	10.0	7.0	3.0	0.6	2.4	3.0	4.0	11.0	10.4	2.6	1.0	2.0											
DIAL 1																									
DIAL 2																									
DIAL 3																									
DIAL 4																									
DESCRIPTION	SIGNAL PLAN -- CYCLE SEQUENCE CHART																								
REMARKS	E.N. HINES - SHELDON																								
FLASHER SCHEDULE	1:00 AM - 6:00 AM																								
ISSUED	08-05-14																								
PREPARED BY	APK																								
APPROVED BY	PW																								
UPDATED PER 2011 MMUTCD	00507																								

WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES - TRAFFIC SECTION

SOLID STATE TIMING PERMIT

CYCLE LENGTH (OFFSET)	INTERVAL TIMING (SECONDS)											SIGNAL PLAN -- CYCLE SEQUENCE CHART													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
SEC MINIMUM TIME	3.0	4.0	7.8	2.5	0.5	2.5	3.0	4.0	7.3	2.2	0.8	2.2													
DIAL 1																									
DIAL 2																									
DIAL 3																									
DIAL 4																									
DESCRIPTION	SIGNAL PLAN -- CYCLE SEQUENCE CHART																								
REMARKS	City of Northville																								
FLASHER SCHEDULE	NONE																								
ISSUED	5-5-17																								
PREPARED BY	AA																								
APPROVED BY	PW																								
UPDATED PER 2011 MMUTCD	08400																								

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	Northville Downs PUD	Organization:	Fleis & VanderBrink Engineering	Project Location:	Northville, Michigan
Scenario Description:	2021	Performed By:	F&V	Date:	12/1/2021
Analysis Year:	2021	Checked By:			
Analysis Period:	AM Street Peak Hour	Date:			

Land Use	Development Data (For Information Only)		Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Total	Entering	Exiting
Office			0		
Retail			41	25	16
Restaurant			0		
Cinema/Entertainment			0		
Residential			226	63	163
Hotel			0		
All Other Land Uses ²			257	88	179

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office	1.10	0%	0%	1.10	0%	0%
Retail	1.10	0%	0%	1.10	0%	0%
Restaurant	1.10	0%	0%	1.10	0%	0%
Cinema/Entertainment	1.10	0%	0%	1.10	0%	0%
Residential	1.10	0%	0%	1.10	0%	0%
Hotel	1.10	0%	0%	1.10	0%	0%
All Other Land Uses ²	1.10	0%	0%	1.10	0%	0%

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office	0	0	0	0	0	0
Retail	0	0	0	0	0	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	2	0	0	0	0
Hotel	0	0	0	0	0	0

	Total	Entering	Exiting
All Person-Trips	294	97	197
Internal Capture Percentage	2%	3%	2%
External Vehicle-Trips ⁵	262	86	176
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	7%	6%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	1%	1%
Hotel	N/A	N/A

¹Land Use Codes (LUCs) from Trip Generation Manual, published by the Institute of Transportation Engineers.
²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
³Enter trips assuming no transit or non-motorized trips (as assumed in ITE Trip Generation Manual).
⁴Enter vehicle occupancy assumed in Table 1-A vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 2-A, 3-A (D and E), Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.
⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.
⁶Person-Trips
Indicates computation that has been rounded to the nearest whole number.
Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

NCHRP 684 Internal Trip Capture Estimation Tool					
Project Name:	Northville Downs PUD	Organization:	Fleis & VanderBrink Engineering	Project Location:	Northville, Michigan
Scenario Description:	2021	Performed By:	F&V	Date:	12/1/2021
Analysis Year:	2021	Checked By:			
Analysis Period:	PM Street Peak Hour	Date:			

Land Use	Development Data (For Information Only)		Estimated Vehicle-Trips ³		
	ITE LUCs ¹	Quantity	Total	Entering	Exiting
Office			0		
Retail			115	58	57
Restaurant			0		
Cinema/Entertainment			0		
Residential			260	153	107
Hotel			0		
All Other Land Uses ²			375	211	164

Land Use	Entering Trips			Exiting Trips		
	Veh. Occ. ⁴	% Transit	% Non-Motorized	Veh. Occ. ⁴	% Transit	% Non-Motorized
Office	1.10	0%	0%	1.10	0%	0%
Retail	1.10	0%	0%	1.10	0%	0%
Restaurant	1.10	0%	0%	1.10	0%	0%
Cinema/Entertainment	1.10	0%	0%	1.10	0%	0%
Residential	1.10	0%	0%	1.10	0%	0%
Hotel	1.10	0%	0%	1.10	0%	0%
All Other Land Uses ²	1.10	0%	0%	1.10	0%	0%

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office						
Retail						
Restaurant						
Cinema/Entertainment						
Residential						
Hotel						

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office	0	0	0	0	0	0
Retail	0	0	0	0	18	0
Restaurant	0	0	0	0	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	0	6	0	0	0	0
Hotel	0	0	0	0	0	0

	Total	Entering	Exiting
All Person-Trips	413	232	181
Internal Capture Percentage	11%	9%	12%
External Vehicle-Trips ⁵	338	191	145
External Transit-Trips ⁶	0	0	0
External Non-Motorized Trips ⁶	0	0	0

Land Use	Entering Trips	Exiting Trips
Office	N/A	N/A
Retail	9%	25%
Restaurant	N/A	N/A
Cinema/Entertainment	N/A	N/A
Residential	10%	5%
Hotel	N/A	N/A

¹Land Use Codes (LUCs) from Trip Generation Manual, published by the Institute of Transportation Engineers.
²Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
³Enter trips assuming no transit or non-motorized trips (as assumed in ITE Trip Generation Manual).
⁴Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be made to Tables 2-P, 3-P (D and E), Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.
⁵Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.
⁶Person-Trips
Indicates computation that has been rounded to the nearest whole number.
Estimation Tool Developed by the Texas A&M Transportation Institute - Version 2013.1

6/1/2018

Community Profiles

[SEMCOG | Southeast Michigan Council of Governments](#)

Community Profiles

YOU ARE VIEWING DATA FOR:

City of Northville

215 W Main St
Northville, MI 48167-1599
<http://www.ci.northville.mi.us/>

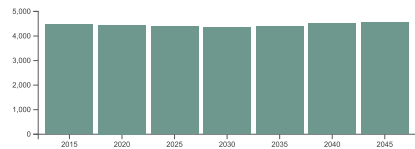


Census 2010 Population: 5,970
Area: 2 square miles

Economy & Jobs

[Link to American Community Survey \(ACS\) Profiles: Select a Year](#) 2012-2016 ▼ Economic

Forecasted Jobs



Source: SEMCOG 2045 Regional Development Forecast

6/1/2018

Community Profiles

Forecasted Jobs by Industry Sector

Forecasted Jobs By Industry Sector	2015	2020	2025	2030	2035	2040	2045	Change 2015-2045	Pct Change 2015-2045
Natural Resources, Mining, & Construction	98	103	97	99	100	102	101	3	3.1%
Manufacturing	120	110	90	83	79	69	59	-61	-50.8%
Wholesale Trade	67	64	68	62	64	63	67	0	0%
Retail Trade	330	307	297	283	267	279	283	-47	-14.2%
Transportation, Warehousing, & Utilities	135	102	86	74	65	60	55	-80	-59.3%
Information & Financial Activities	881	863	822	811	792	849	839	-42	-4.8%
Professional and Technical Services & Corporate HQ	500	501	514	522	549	564	568	68	13.6%
Administrative, Support, & Waste Services	277	287	290	293	301	309	314	37	13.4%
Education Services	486	499	496	494	496	502	506	20	4.1%
Healthcare Services	487	524	536	551	582	617	651	164	33.7%
Leisure & Hospitality	511	529	527	529	535	551	558	47	9.2%
Other Services	432	434	428	424	425	424	419	-13	-3%
Public Administration	136	132	132	132	132	132	132	-4	-2.9%
Total Employment Numbers	4,460	4,455	4,383	4,357	4,387	4,521	4,552	92	2.1%

Source: SEMCOG 2045 Regional Development Forecast

Daytime Population

Daytime Population	SEMCOG and ACS 2015
Jobs	4,460
Non-Working Residents	2,984
Age 15 and under	1,014
Not in labor force	1,724
Unemployed	246
Daytime Population	7,444



Source: SEMCOG 2045 Regional Development Forecast and 2015 American Community Survey 5-Year Estimates

Note: The number of residents attending school outside Southeast Michigan is not available. Likewise, the number of students commuting into Southeast Michigan to attend school is also not known.

Community Profiles

YOU ARE VIEWING DATA FOR:

City of Northville

215 W Main St
Northville, MI 48167-1599
<http://www.ci.northville.mi.us/>

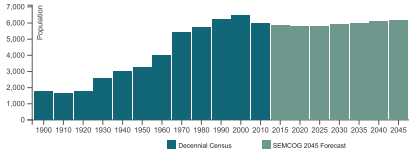


Census 2010 Population: 5,970
Area: 2 square miles

Population and Households

Link to American Community Survey (ACS) Profiles: [Select a Year | 2012-2016](#) | [Social | Demographic](#)
Population and Household Estimates for Southeast Michigan, 2017

Population Forecast



Note for City of Northville : Incorporated as a city in 1955 from Village of Northville. Village of Northville incorporated in 1867. Oakland County portion of the Village of Northville was annexed into the village in the early 1900s but not reported separately in the Census until 1930. Population numbers prior to 1955 are of the village.

Population and Households

Population and Households	Census 2010	Change 2000-2010	Pct Change 2000-2010	SEMCOG Jul 2017	SEMCOG 2045
Total Population	5,970	-489	-7.6%	5,835	6,183
Group Quarters Population	34	-4	-10.5%	34	36
Household Population	5,936	-485	-7.6%	5,801	6,147
Housing Units	2,767	-34	-1.2%	2,648	-
Households (Occupied Units)	2,596	-124	-4.6%	2,495	2,602
Residential Vacancy Rate	6.2%	3.3%	-	5.8%	-
Average Household Size	2.29	-0.07	-	2.33	2.36

Source: U.S. Census Bureau, SEMCOG Population and Household Estimates, and SEMCOG 2045 Regional Development Forecast

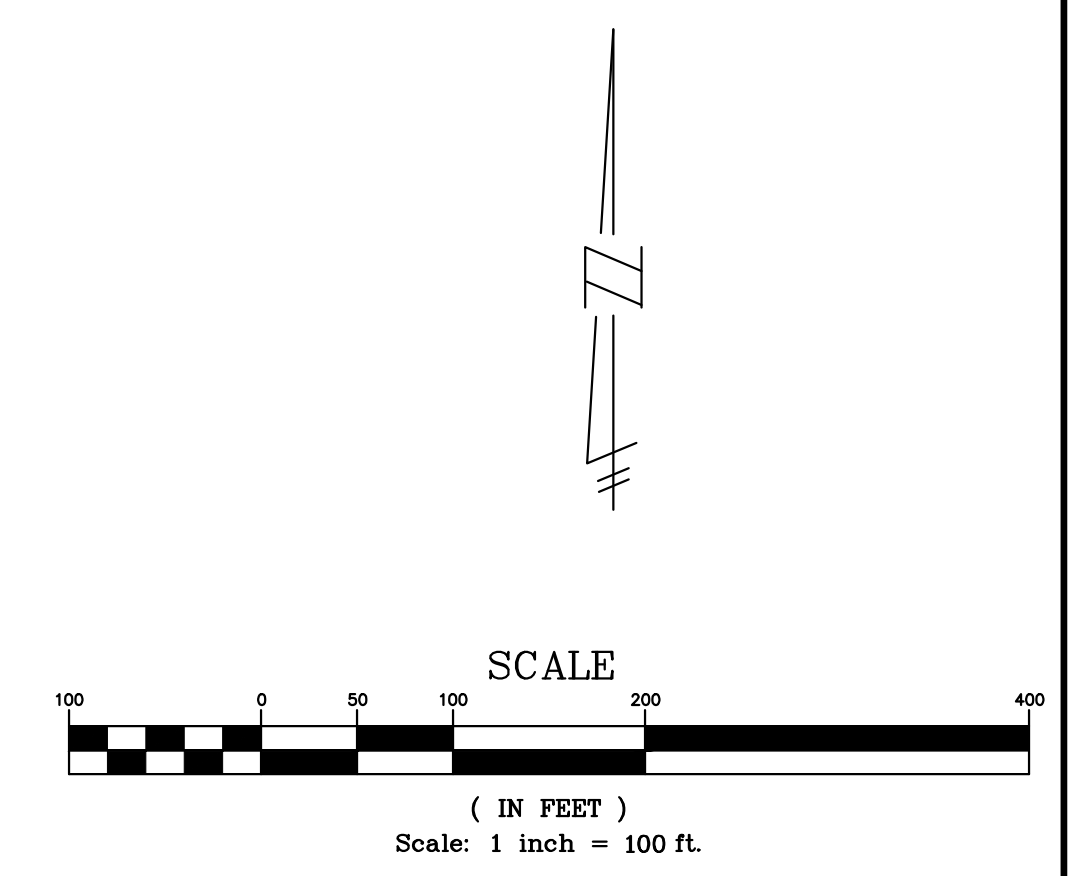
Components of Population Change

Components of Population Change	2000-2005 Avg.	2006-2010 Avg.	2011-2015 Avg.
Natural Increase (Births - Deaths)	109	90	33
Births	231	230	130
Deaths	122	140	97
Net Migration (Movement In - Movement Out)	-157	-140	-61
Population Change (Natural Increase + Net Migration)	-48	-50	-28

Source: Michigan Department of Community Health Vital Statistics, U.S. Census Bureau, and SEMCOG



785
780
775
770
765
760
755



PARK OPEN SPACE

BASIN AREA	= 2.66 AC.
RIVER AREA	= 3.96 AC.
PARK AREA	= 5.37 AC.
TOTAL	= 11.99 AC.

LEGEND	
	EXISTING PAVEMENT (ASPHALT)
	PROPOSED PAVEMENT (ASPHALT)
	EXISTING SIDE WALK (CONCRETE)
	PROPOSED SIDE WALK (CONCRETE)
	EXISTING CONCRETE CURB AND GUTTER
	PROPOSED CONCRETE CURB AND GUTTER
	EXISTING STORM SEWER
	PROPOSED STORM SEWER
	EXISTING SANITARY SEWER
	PROPOSED SANITARY SEWER
	EXISTING WATER MAIN
	PROPOSED WATER MAIN
	EXISTING MANHOLE
	PROPOSED MANHOLE
	EXISTING CATCH BASIN W/STREAM GUARD
	PROPOSED CATCH BASIN W/STREAM GUARD
	EXISTING CURB INLET W/SILT SAC
	PROPOSED CURB INLET W/SILT SAC
	EXISTING END SECTION
	PROPOSED END SECTION
	EXISTING GATE VALVE
	PROPOSED GATE VALVE
	EXISTING HYDRANT
	PROPOSED HYDRANT
	EXISTING FLOOD PLAIN
	PROPOSED FLOOD PLAIN
	EXISTING CONTOURS
	PROPOSED CONTOURS
	EXISTING SPOT ELEVATION
	PROPOSED SPOT ELEVATION
	EXISTING SURFACE DRAINAGE
	PROPOSED SURFACE DRAINAGE
	EXISTING OVERFLOW ROUTE
	PROPOSED OVERFLOW ROUTE
	EXISTING TREE FENCE
	PROPOSED TREE FENCE
	EXISTING SILT FENCE
	PROPOSED SILT FENCE
	EXISTING PROPOSED DRIVEWAY LOCATION
	PROPOSED DRIVEWAY LOCATION
	EXISTING LIMIT OF DISTURBANCE
	PROPOSED LIMIT OF DISTURBANCE

P.U.D. ELIGIBILITY SITE PLAN
SECTION 3, T1S, R8E, CITY OF NORTHVILLE
WAYNE COUNTY, MICHIGAN

REVISIONS		UTILITY WARNING
NO.	ITEM	DATE
		UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THE PLAN, WERE OBTAINED FROM UTILITY OWNER AND NOT FIELD LOCATED.
		Know what's below. Call before you dig.
		THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF AND/OR RELOCATION OF ALL UTILITIES THAT MAY INTERFERE WITH CONSTRUCTION.

DATE: 11-23-21 DESIGNED BY: A.A. JOB NUMBER: 21-001
CHECKED BY: B.E. DWG: 210011-SP-NEW LAYOUT -11-23-21 PR.DWG

PARK OPEN SPACE

	SEIBER, KEAST ENGINEERING, L.L.C. CONSULTING ENGINEERS 39205 COUNTRY CLUB DRIVE • SUITE C8 • FARMINGTON HILLS, MI • 48331 PHONE: 248.308.3331 EMAIL: info@seiberkeast.com	SHEET 1
--	---	----------------

Appendix B

EXISTING TRAFFIC CONDITIONS

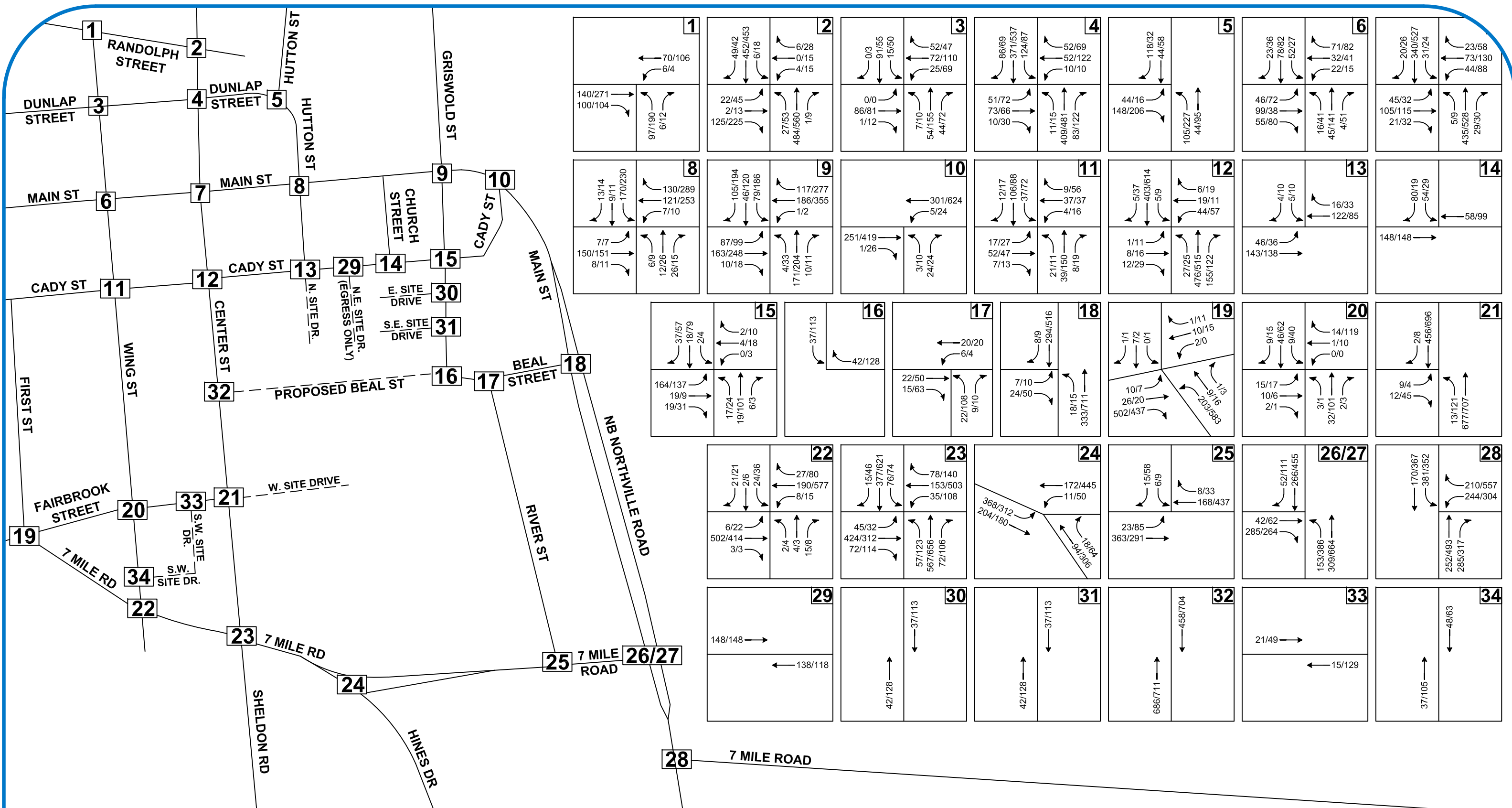
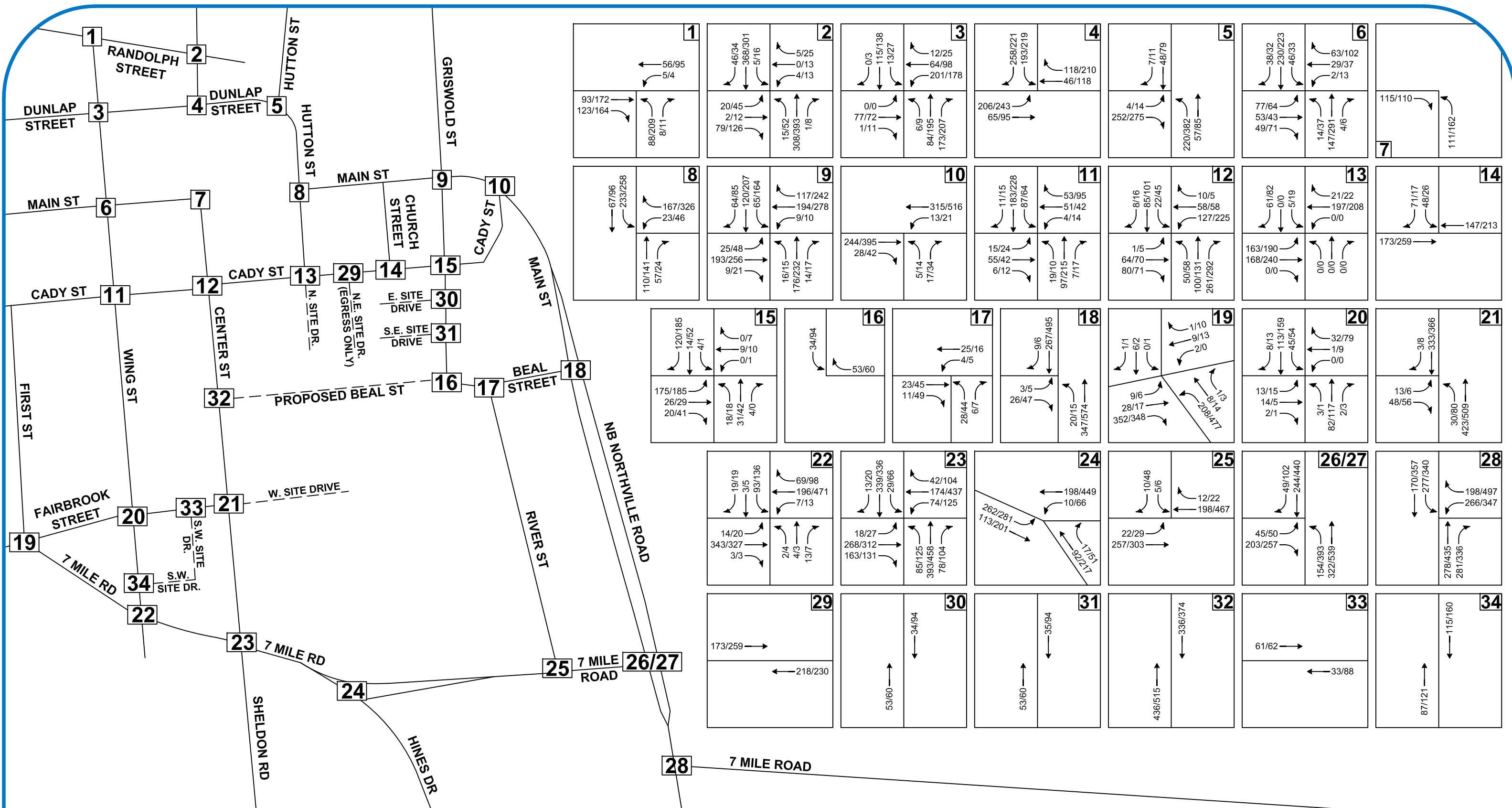


FIGURE 3.1 - SCENARIO #1
EXISTING TRAFFIC VOLUMES
 NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

- ROADS
- PROPOSED ROADS
- TRAFFIC VOLUMES (AM/PM)
- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION

NORTH
SCALE: NOT TO SCALE

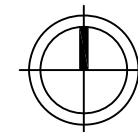


**FIGURE 3.2 - SCENARIO #2
EXISTING TRAFFIC
VOLUMES**

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

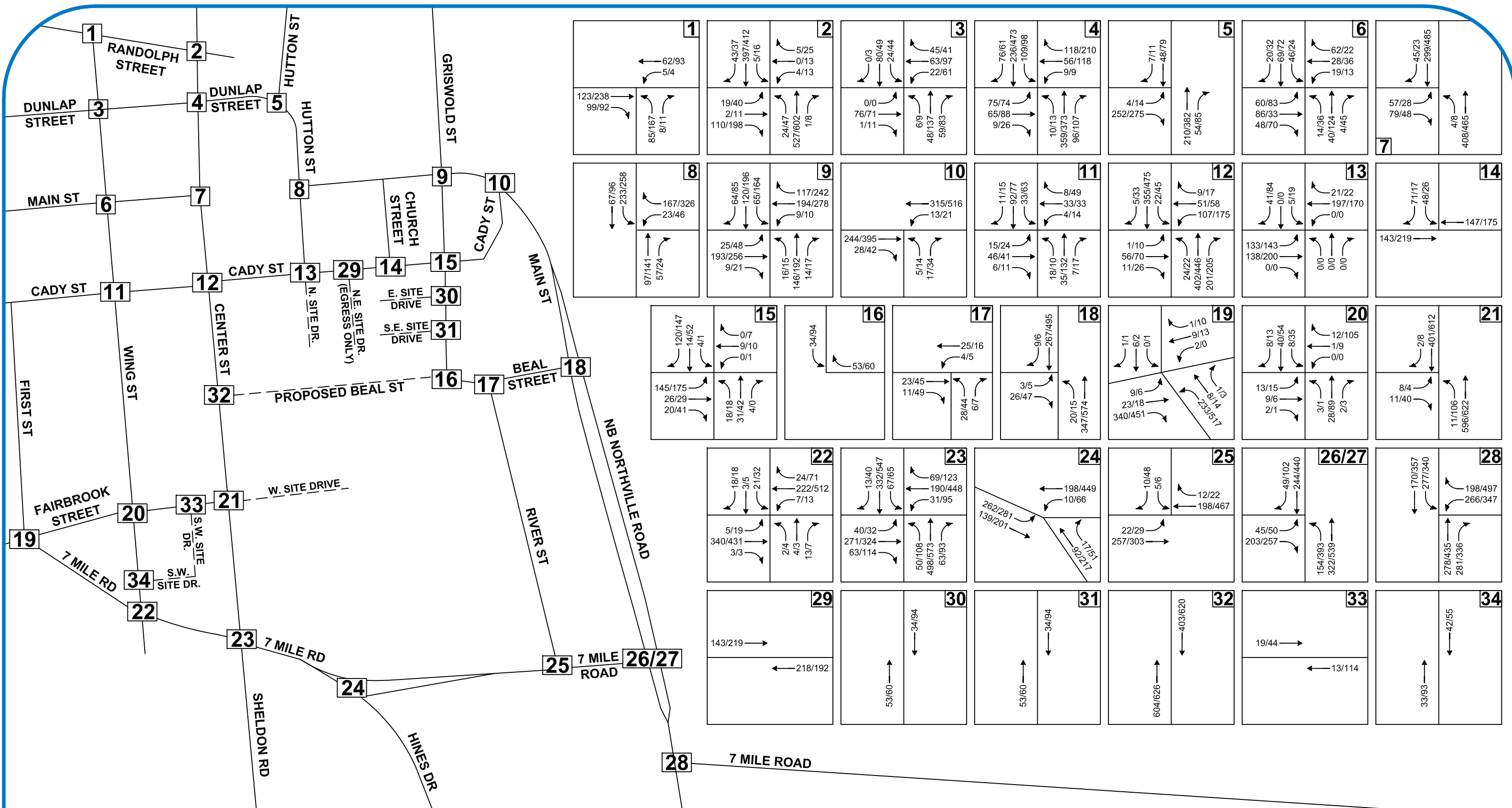
LEGEND

- ROADS
- PROPOSED ROADS
- TRAFFIC VOLUMES (AM/PM)
- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION



NORTH
SCALE: NOT TO SCALE



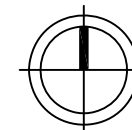


**FIGURE 3.3 - SCENARIO #3
EXISTING TRAFFIC
VOLUMES**

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

- ROADS
- PROPOSED ROADS
- TRAFFIC VOLUMES (AM/PM)
- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION



NORTH
SCALE: NOT TO SCALE



HCM 6th Signalized Intersection Summary
7: Center Street & Main Street

Existing Conditions #1 (Pre-COVID)
AM Peak Hour

Table with 15 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and 50 rows of intersection data including Lane Configurations, Traffic Volume, HCM Platoon Ratio, and various delay metrics.

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
8: Hutton Street & Main Street

Existing Conditions #1 (Pre-COVID)
AM Peak Hour

Table with 15 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and 50 rows of intersection data including Lane Configurations, Traffic Volume, HCM Platoon Ratio, and various delay metrics.

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
9: Griswold Street & Main Street

Existing Conditions #1 (Pre-COVID)
AM Peak Hour

Table with 15 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and 50 rows of intersection data including Lane Configurations, Traffic Volume, HCM Platoon Ratio, and various delay metrics.

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
10: Cady Street & Main Street

Existing Conditions #1 (Pre-COVID)
AM Peak Hour

Table with 15 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and 40 rows of intersection data including Lane Configurations, Traffic Volume, HCM Platoon Ratio, and various delay metrics.

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th AWSC
11: Wing Street & Cady Street

Existing Conditions #1 (Pre-COVID)
AM Peak Hour

Table with 15 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and 40 rows of intersection data including Lane Configurations, Traffic Volume, HCM Platoon Ratio, and various delay metrics.

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
12: Center Street & Cady Street

Existing Conditions #1 (Pre-COVID)
AM Peak Hour

Table with 15 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and 40 rows of intersection data including Lane Configurations, Traffic Volume, HCM Platoon Ratio, and various delay metrics.

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

SimTraffic Performance Report

Existing Conditions #1 (Pre-COVID)

AM Peak Hour

19: Seven Mile Road & Fairbrook Street & First Street Performance by movement

Table with columns: Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR, AI. Rows include Denied Delay, Denied Del/Veh, Total Delay, Total Del/Veh.

Northville Downs TIS
Fleis & VandenBink Engineering

SimTraffic Report
12/11/2021

HCM 6th AWSC

Existing Conditions #1 (Pre-COVID)

AM Peak Hour

20: Wing Street & Fairbrook Street

Table with columns: Intersection, Movement, Lane Configurations, Traffic Vol, Future Vol, Peak Hour Factor, Heavy Vehicles, Mvmt Flow, etc.

Table with columns: Lane, Vol Let, Vol Thru, Vol Right, Sign Control, Traffic Vol by Lane, RT Vol, Lane Flow Rate, Geometry Grp, Degree of Uni, etc.

Northville Downs TIS
Fleis & VandenBink Engineering

Synchro 11 Report
12/10/2021

HCM 6th TWSC

Existing Conditions #1 (Pre-COVID)

AM Peak Hour

21: Center Street & Fairbrook Street/W. Site Drive

Table with columns: Intersection, Movement, Lane Configurations, Traffic Vol, Future Vol, Conflicting Peds, Sign Control, RT Channelized, Storage Length, etc.

Table with columns: Approach, HCM Control Delay, HCM LOS, Minor Lane/Major Mvmt, Capacity, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95th %ile Q(veh).

Northville Downs TIS
Fleis & VandenBink Engineering

Synchro 11 Report
12/10/2021

HCM 6th TWSC

Existing Conditions #1 (Pre-COVID)

AM Peak Hour

22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Table with columns: Intersection, Movement, Lane Configurations, Traffic Vol, Future Vol, Conflicting Peds, Sign Control, RT Channelized, Storage Length, etc.

Table with columns: Major/Minor, Conflicting Flow, Critical Hdwy, Critical Hdwy Stp 1, Critical Hdwy Stp 2, Follow-up Hdwy, Plat Cap-1 Maneuver, Plat Cap-2 Maneuver, etc.

Table with columns: Approach, HCM Control Delay, HCM LOS.

Table with columns: Minor Lane/Major Mvmt, Capacity, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95th %ile Q(veh).

Northville Downs TIS
Fleis & VandenBink Engineering

Synchro 11 Report
12/10/2021

HCM 6th Signalized Intersection Summary

Existing Conditions #1 (Pre-COVID)

AM Peak Hour

23: Sheldon Avenue/Center Street & Seven Mile Road

Table with columns: Movement, Lane Configurations, Traffic Volume, Future Volume, Initial Q, Plat-Side Adj, Work Zone On Approach, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Sat Flow, Grp Volume, Grp Sat Flow, O Serwig, Epcik, Prop In Lane, Lane Grp Cap, V/C Ratio, Avail Delay, HCM Platoon Ratio, Upstream Filler, Uniform Delay, Inor Delay, Initial Q Delay, Site Back, Unsig. Movement Delay, Ln/Grp Delay, Ln/Grp LOS, Approach Vol, Approach Delay, Approach LOS, Timer, Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Exit Time.

Table with columns: Intersection Summary, HCM 6th Ctrl Delay, HCM 6th LOS.

Northville Downs TIS
Fleis & VandenBink Engineering

Synchro 11 Report
12/10/2021

SimTraffic Performance Report

Existing Conditions #1 (Pre-COVID)

AM Peak Hour

24: Hines Drive & Seven Mile Road Performance by movement

Table with columns: Movement, Denied Delay, Denied Del/Veh, Total Delay, Total Del/Veh.

Northville Downs TIS
Fleis & VandenBink Engineering

SimTraffic Report
12/11/2021

HCM 6th AWSC
3: Wing Street & Dunlap Street

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

Table with columns: Intersection, Movement, Lane Configurations, Traffic Volume (veh/h), Future Volume (veh/h), Initial Q (Qb), Veh, Ped-Bike Adj (A_pbt), Work Zone On Approach, Adj Sat Flow, Veh/hln, Adj Flow Rate, Veh/h, Peak Hour Factor, Percent Heavy Veh, Cap, Veh/h, Arrive On Green, Sat Flow, Veh/h, Grp Volume, Veh/h, Grp Sat Flow, Veh/hln, Q Serv, s, Cycle Q Clear, s, Prop In Lane, Lane Grp Cap, Veh/h, V/C Ratio, Avail Cap, Veh/h, HCM Platoon Ratio, Upstream Filter, Uniform Delay, s/veh, Incr Delay, s/veh, Initial Q Delay, s/veh, %ile Back(Q50%), Veh/h, Unsig. Movement Delay, s/veh, LnGrp Delay, s/veh, LnGrp LOS, Approach Vol, Veh/h, Approach Delay, s/veh, Approach LOS, Timer - Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Exit Time.

Table with columns: Lane, Vbl Left, Vbl Thru, Vbl Right, Sign Control, Traffic Vol by Lane, LT Vol, Through Vol, RT Vol, Lane Flow Rate, Geometry Grp, Degree of Utl, Disruptive Hwy, Convergence, Cap, Service Time, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95th-ile Q.

Northville Downs TIS
Fleis & VandenBink Engineering

Synchro 11 Report
12/10/2021

HCM 6th Signalized Intersection Summary
4: Center Street & Dunlap Street

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

Table with columns: Movement, Lane Configurations, Traffic Volume (veh/h), Future Volume (veh/h), Initial Q (Qb), Veh, Ped-Bike Adj (A_pbt), Work Zone On Approach, Adj Sat Flow, Veh/hln, Adj Flow Rate, Veh/h, Peak Hour Factor, Percent Heavy Veh, Cap, Veh/h, Arrive On Green, Sat Flow, Veh/h, Grp Volume, Veh/h, Grp Sat Flow, Veh/hln, Q Serv, s, Cycle Q Clear, s, Prop In Lane, Lane Grp Cap, Veh/h, V/C Ratio, Avail Cap, Veh/h, HCM Platoon Ratio, Upstream Filter, Uniform Delay, s/veh, Incr Delay, s/veh, Initial Q Delay, s/veh, %ile Back(Q50%), Veh/h, Unsig. Movement Delay, s/veh, LnGrp Delay, s/veh, LnGrp LOS, Approach Vol, Veh/h, Approach Delay, s/veh, Approach LOS, Timer - Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Exit Time.

Table with columns: Intersection Summary, HCM 6th Ctrl Delay, HCM 6th LOS.

Notes
User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Northville Downs TIS
Fleis & VandenBink Engineering

Synchro 11 Report
12/10/2021

HCM 6th TWSC
5: Dunlap Street & Hutton Street

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

Table with columns: Intersection, Movement, Lane Configurations, Traffic Vol, Veh/h, Future Vol, Veh/h, Conflicting Peds, ft/hr, Sign Control, RT Channelized, Storage Length, Veh in Median Storage, Grade, Peak Hour Factor, Heavy Vehicles, Mvmt Flow.

Table with columns: Major/Minor, Conflicting Flow All, Stage 1, Stage 2, Critical Hwy Stg 1, Critical Hwy Stg 2, Follow-up Hdwy, Plat Cap 1, Plat Cap 2, Stage 1, Stage 2.

Table with columns: Approach, HCM Control Delay, HCM LOS.

Table with columns: Minor Lane/Major Mvmt, Capacity, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95th %ile Q(Veh).

Northville Downs TIS
Fleis & VandenBink Engineering

Synchro 11 Report
12/10/2021

HCM 6th AWSC
6: Wing Street & Main Street

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

Table with columns: Intersection, Movement, Lane Configurations, Traffic Volume (veh/h), Future Volume (veh/h), Initial Q (Qb), Veh, Ped-Bike Adj (A_pbt), Work Zone On Approach, Adj Sat Flow, Veh/hln, Adj Flow Rate, Veh/h, Peak Hour Factor, Percent Heavy Veh, Cap, Veh/h, Arrive On Green, Sat Flow, Veh/h, Grp Volume, Veh/h, Grp Sat Flow, Veh/hln, Q Serv, s, Cycle Q Clear, s, Prop In Lane, Lane Grp Cap, Veh/h, V/C Ratio, Avail Cap, Veh/h, HCM Platoon Ratio, Upstream Filter, Uniform Delay, s/veh, Incr Delay, s/veh, Initial Q Delay, s/veh, %ile Back(Q50%), Veh/h, Unsig. Movement Delay, s/veh, LnGrp Delay, s/veh, LnGrp LOS, Approach Vol, Veh/h, Approach Delay, s/veh, Approach LOS, Timer - Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Exit Time.

Table with columns: Lane, Vbl Left, Vbl Thru, Vbl Right, Sign Control, Traffic Vol by Lane, LT Vol, Through Vol, RT Vol, Lane Flow Rate, Geometry Grp, Degree of Utl, Disruptive Hwy, Convergence, Cap, Service Time, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95th-ile Q.

Northville Downs TIS
Fleis & VandenBink Engineering

Synchro 11 Report
12/10/2021

HCM 6th Signalized Intersection Summary
7: Center Street & Main Street

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

Table with columns: Movement, Lane Configurations, Traffic Volume (veh/h), Future Volume (veh/h), Initial Q (Qb), Veh, Ped-Bike Adj (A_pbt), Work Zone On Approach, Adj Sat Flow, Veh/hln, Adj Flow Rate, Veh/h, Peak Hour Factor, Percent Heavy Veh, Cap, Veh/h, Arrive On Green, Sat Flow, Veh/h, Grp Volume, Veh/h, Grp Sat Flow, Veh/hln, Q Serv, s, Cycle Q Clear, s, Prop In Lane, Lane Grp Cap, Veh/h, V/C Ratio, Avail Cap, Veh/h, HCM Platoon Ratio, Upstream Filter, Uniform Delay, s/veh, Incr Delay, s/veh, Initial Q Delay, s/veh, %ile Back(Q50%), Veh/h, Unsig. Movement Delay, s/veh, LnGrp Delay, s/veh, LnGrp LOS, Approach Vol, Veh/h, Approach Delay, s/veh, Approach LOS, Timer - Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Exit Time.

Table with columns: Intersection Summary, HCM 6th Ctrl Delay, HCM 6th LOS.

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Northville Downs TIS
Fleis & VandenBink Engineering

Synchro 11 Report
12/10/2021

HCM 6th Signalized Intersection Summary
8: Hutton Street & Main Street

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

Table with columns: Movement, Lane Configurations, Traffic Volume (veh/h), Future Volume (veh/h), Initial Q (Qb), Veh, Ped-Bike Adj (A_pbt), Work Zone On Approach, Adj Sat Flow, Veh/hln, Adj Flow Rate, Veh/h, Peak Hour Factor, Percent Heavy Veh, Cap, Veh/h, Arrive On Green, Sat Flow, Veh/h, Grp Volume, Veh/h, Grp Sat Flow, Veh/hln, Q Serv, s, Cycle Q Clear, s, Prop In Lane, Lane Grp Cap, Veh/h, V/C Ratio, Avail Cap, Veh/h, HCM Platoon Ratio, Upstream Filter, Uniform Delay, s/veh, Incr Delay, s/veh, Initial Q Delay, s/veh, %ile Back(Q50%), Veh/h, Unsig. Movement Delay, s/veh, LnGrp Delay, s/veh, LnGrp LOS, Approach Vol, Veh/h, Approach Delay, s/veh, Approach LOS, Timer - Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Exit Time.

Table with columns: Intersection Summary, HCM 6th Ctrl Delay, HCM 6th LOS.

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Northville Downs TIS
Fleis & VandenBink Engineering

Synchro 11 Report
12/10/2021

HCM 6th TWSC
15: Griswold Street & Cady Street

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

Table with columns: Intersection, Int Delay, s/veh; Movement; Lane Configurations; Traffic Vol, veh/h; Future Vol, veh/h; Conflicting Peds, #/hr; Sign Control; RT Channelized; Storage Length; Veh in Median Storage; Grade; Peak Hour Factor; Heavy Vehicles, %; Mvmt Flow; Major/Minor; Conflicting Flow All; Stage 1; Stage 2; Critical Hdwy; Critical Hdwy Stg 1; Critical Hdwy Stg 2; Follow-up Hdwy; Platoon blocked; Mov Cap-1; Mov Cap-2; Approach; HCM Control Delay; HCM LOS; Minor Lane/Major Mvmt; Capacity; HCM Lane V/C Ratio; HCM Control Delay (s); HCM Lane LOS; HCM 95th %ile Q(veh).

Northville Downs TIS
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SimTraffic Performance Report

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

16: Proposed Beal Street/Beal Street & Griswold Street Performance by movement

Table with columns: Movement; Denied Delay (hr); Denied Del/Veh (s); Total Delay (hr); Total Del/Veh (s); Major/Minor; Conflicting Flow All; Stage 1; Stage 2; Critical Hdwy; Critical Hdwy Stg 1; Critical Hdwy Stg 2; Follow-up Hdwy; Platoon blocked; Mov Cap-1; Mov Cap-2; Approach; HCM Control Delay; HCM LOS; Minor Lane/Major Mvmt; Capacity; HCM Lane V/C Ratio; HCM Control Delay (s); HCM Lane LOS; HCM 95th %ile Q(veh).

Northville Downs TIS
Fleis & VandenBink Engineering

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HCM 6th TWSC

17: River Street & Beal Street

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

Table with columns: Intersection; Int Delay, s/veh; Movement; Lane Configurations; Traffic Vol, veh/h; Future Vol, veh/h; Conflicting Peds, #/hr; Sign Control; RT Channelized; Storage Length; Veh in Median Storage; Grade; Peak Hour Factor; Heavy Vehicles, %; Mvmt Flow; Major/Minor; Conflicting Flow All; Stage 1; Stage 2; Critical Hdwy; Critical Hdwy Stg 1; Critical Hdwy Stg 2; Follow-up Hdwy; Platoon blocked; Mov Cap-1; Mov Cap-2; Approach; HCM Control Delay; HCM LOS; Minor Lane/Major Mvmt; Capacity; HCM Lane V/C Ratio; HCM Control Delay (s); HCM Lane LOS; HCM 95th %ile Q(veh).

Northville Downs TIS
Fleis & VandenBink Engineering

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HCM 6th TWSC
18: Main Street/Northville Road & Beal Street

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

Table with columns: Intersection; Int Delay, s/veh; Movement; Lane Configurations; Traffic Vol, veh/h; Future Vol, veh/h; Conflicting Peds, #/hr; Sign Control; RT Channelized; Storage Length; Veh in Median Storage; Grade; Peak Hour Factor; Heavy Vehicles, %; Mvmt Flow; Major/Minor; Conflicting Flow All; Stage 1; Stage 2; Critical Hdwy; Critical Hdwy Stg 1; Critical Hdwy Stg 2; Follow-up Hdwy; Platoon blocked; Mov Cap-1; Mov Cap-2; Approach; HCM Control Delay; HCM LOS; Minor Lane/Major Mvmt; Capacity; HCM Lane V/C Ratio; HCM Control Delay (s); HCM Lane LOS; HCM 95th %ile Q(veh).

Northville Downs TIS
Fleis & VandenBink Engineering

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SimTraffic Performance Report

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

19: Seven Mile Road & Fairbrook Street & First Street Performance by movement

Table with columns: Movement; Denied Delay (hr); Denied Del/Veh (s); Total Delay (hr); Total Del/Veh (s); Major/Minor; Conflicting Flow All; Stage 1; Stage 2; Critical Hdwy; Critical Hdwy Stg 1; Critical Hdwy Stg 2; Follow-up Hdwy; Platoon blocked; Mov Cap-1; Mov Cap-2; Approach; HCM Control Delay; HCM LOS; Minor Lane/Major Mvmt; Capacity; HCM Lane V/C Ratio; HCM Control Delay (s); HCM Lane LOS; HCM 95th %ile Q(veh).

Northville Downs TIS
Fleis & VandenBink Engineering

SimTraffic Report
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HCM 6th AWSC

20: Wing Street & Fairbrook Street

Existing Conditions #1 (Pre-COVID)
PM Peak Hour

Table with columns: Intersection; Int Delay, s/veh; Intersection LOS; Movement; Lane Configurations; Traffic Vol, veh/h; Future Vol, veh/h; Peak Hour Factor; Heavy Vehicles, %; Mvmt Flow; Number of Lanes; Approach; Opposing Approach; Opposing Lanes; Conflicting Approach Left; Conflicting Lanes Left; Conflicting Approach Right; Conflicting Lanes Right; HCM Control Delay; HCM LOS; Lane; Vol Left, %; Vol Thru, %; Vol Right, %; Sign Control; Traffic Vol by Lane; LT Vol; Through Vol; RT Vol; Lane Flow Rate; Geometry Grp; Degree of Util (X); Departure Headway (Hd); Convergence, Y/N; Cap; Service Time; HCM Lane V/C Ratio; HCM Control Delay; HCM Lane LOS; HCM 95th %ile Q.

Northville Downs TIS
Fleis & VandenBink Engineering

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HCM 6th TWSC Existing Conditions #2 (Both Closed)
17: River Street & Beal Street AM Peak Hour

Table with Intersection, Movement, Lane Configurations, and various traffic performance metrics.

Table with Major/Minor, Conflicting Flow All, and various traffic performance metrics.

Table with Approach (EB, WB, NB) and HCM Control Delay, s.

Table with Minor Lane/Major Mvmt and Capacity (veh/h).

Northville Downs TIS, Fies & VandenBink Engineering, Synchro 11 Report 12/10/2021

HCM 6th TWSC Existing Conditions #2 (Both Closed)
18: Main Street/Northville Road & Beal Street AM Peak Hour

Table with Intersection, Movement, Lane Configurations, and various traffic performance metrics.

Table with Major/Minor, Conflicting Flow All, and various traffic performance metrics.

Table with Approach (EB, NB, SB) and HCM Control Delay, s.

Table with Minor Lane/Major Mvmt and Capacity (veh/h).

Northville Downs TIS, Fies & VandenBink Engineering, Synchro 11 Report 12/10/2021

SimTraffic Performance Report Existing Conditions #2 (Both Closed)
19: Seven Mile Road & Fairbrook Street & First Street Performance by movement AM Peak Hour

Table with Movement, Denied Delay (hr), Denied Del/Veh (s), Total Delay (hr), and Total Del/Veh (s).

Northville Downs TIS, Fies & VandenBink Engineering, SimTraffic Report 12/11/2021

HCM 6th AWSC Existing Conditions #2 (Both Closed)
20: Wing Street & Fairbrook Street AM Peak Hour

Table with Intersection, Movement, Lane Configurations, and various traffic performance metrics.

Table with Approach (EB, WB, NB, SB) and Conflicting Approach Left.

Table with Lane, Vol Left, Vol Thru, Vol Right, Sign Control, Traffic Vol by Lane, Through Vol, RT Vol, Lane Flow Rate, Geometry Gp, Degree of Upl (X), Departure Headway (Hd), Convergence, Y/N, Cap, Service Time, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, and HCM 95th %ile Q.

Northville Downs TIS, Fies & VandenBink Engineering, Synchro 11 Report 12/10/2021

HCM 6th TWSC Existing Conditions #2 (Both Closed)
21: Center Street & Fairbrook Street/W. Site Drive AM Peak Hour

Table with Intersection, Movement, Lane Configurations, and various traffic performance metrics.

Table with Major/Minor, Conflicting Flow All, and various traffic performance metrics.

Table with Approach (EB, WB, NB, SB) and HCM Control Delay, s.

Table with Minor Lane/Major Mvmt and Capacity (veh/h).

Northville Downs TIS, Fies & VandenBink Engineering, Synchro 11 Report 12/10/2021

HCM 6th TWSC Existing Conditions #2 (Both Closed)
22: St. Lawrence Blvd/Wing Street & Seven Mile Road AM Peak Hour

Table with Intersection, Movement, Lane Configurations, and various traffic performance metrics.

Table with Major/Minor, Conflicting Flow All, and various traffic performance metrics.

Table with Approach (EB, WB, NB, SB) and HCM Control Delay, s.

Table with Minor Lane/Major Mvmt and Capacity (veh/h).

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SimTraffic Performance Report

Existing Conditions #2 (Both Closed)

PM Peak Hour

19: Seven Mile Road & Fairbrook Street & First Street Performance by movement

Table with columns: Movement, EBL, EBT, EBR, WBL, WBR, NBL, NBT, NBR, SBL, SBT, SBR, All. Rows include Denial Delay, Denied Del/Veh, Total Delay, Total Del/Veh, and Mvmt Flow.

HCM 6th AWSC

Existing Conditions #2 (Both Closed)

PM Peak Hour

20: Wing Street & Fairbrook Street

Table with columns: Intersection, Movement, Lane Configurations, Traffic Vol, Future Vol, Peak Hour Factor, Heavy Vehicles, Mvmt Flow, Number of Lanes, Approach, Opposing Approach, Opposing Lanes, Conflicting Approach Left, Conflicting Lanes Left, Conflicting Approach Right, Conflicting Lanes Right, HCM Control Delay, HCM LOS.

Table with columns: Lane, NBLn1, EBLn1, WBLn1, SBLn1. Rows include Vol Left, Vol Thru, Vol Right, Sign Control, Traffic Vol by Lane, RT Vol, Lane Flow Rate, Geometry Grp, Degree of Util (X), Departing Headway (Hd), Convergence, Y/N, Cap, Service Time, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95th-ile Q.

HCM 6th TWSC

Existing Conditions #2 (Both Closed)

PM Peak Hour

21: Center Street & Fairbrook Street/W. Site Drive

Table with columns: Intersection, Movement, Lane Configurations, Traffic Vol, Future Vol, Conflicting Peds, Sign Control, RT Channelized, Storage Length, Veh in Median Storage, Peak Hour Factor, Heavy Vehicles, Mvmt Flow, Major/Minor, Minor1, Minor2, Major1, Major2, Conflicting Flow All, Stage 1, Stage 2, Critical Hwy, Critical Hwy Stg, Follow-up Hwy, Plat Cap 1 Maneuver, Plat Cap 2 Maneuver, Approach, HCM Control Delay, HCM LOS.

Table with columns: Minor Lane/Major Mvmt, NBL, NBT, NBR, EBLN1, WBLN1, SBL, SBT, SBR. Rows include Capacity, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95th-ile Q(veh).

HCM 6th TWSC

Existing Conditions #2 (Both Closed)

PM Peak Hour

22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Table with columns: Intersection, Movement, Lane Configurations, Traffic Vol, Future Vol, Conflicting Peds, Sign Control, RT Channelized, Storage Length, Veh in Median Storage, Peak Hour Factor, Heavy Vehicles, Mvmt Flow, Major/Minor, Minor1, Minor2, Major1, Major2, Conflicting Flow All, Stage 1, Stage 2, Critical Hwy, Critical Hwy Stg, Follow-up Hwy, Plat Cap 1 Maneuver, Plat Cap 2 Maneuver, Approach, HCM Control Delay, HCM LOS, Minor Lane/Major Mvmt, Capacity, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95th-ile Q(veh).

HCM 6th Signalized Intersection Summary

Existing Conditions #2 (Both Closed)

PM Peak Hour

Table with columns: Movement, Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Parking Bus Adj, Work Zone On Approach, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Sat Flow, Grp Volume, Grp Sat Flow, O Serwig, Cycle Cl Clearing, Prop In Lane, Lane Grp Cap, Veh V/C Ratio, Avail Delay, HCM Platoon Ratio, Upstream Filler, Uniform Delay, In-Gr Delay, Initial Q Delay, Site Back, Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS, Timer - Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Ext Time.

SimTraffic Performance Report

Existing Conditions #2 (Both Closed)

PM Peak Hour

24: Hines Drive & Seven Mile Road Performance by movement

Table with columns: Movement, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, All. Rows include Denied Delay, Denied Del/Veh, Total Delay, Total Del/Veh.

HCM 6th Signalized Intersection Summary
9: Griswold Street & Main Street

Existing Conditions #3 (Main Closed)

Table with 13 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and rows for Lane Configurations, Traffic Volume, Future Volume, Initial Q, Parking, Work Zone, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Grade, Prop In Lane, Lane Grp Cap, V/C Ratio, Initial Delay, Initial Q Delay, %ile BackOfQueue, Urag, Movement Delay, LnCrv, Approach Vol, Approach Delay, Approach LOS, Timer, Phe Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Ext Time, Intersection Summary, HCM 6th Ctrl Delay, HCM 6th LOS.

Notes: * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
10: Cady Street & Main Street

Existing Conditions #3 (Main Closed)

Table with 13 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and rows for Intersection, Int Delay, Movement, Lane Configurations, Traffic Vol, Future Vol, Conflicting Peds, Sign Control, RT Channelized, Storage Length, Veh In Median Storage, Grade, Peak Hour Factor, Heavy Vehicles, Mvmt Flow, Major/Minor, Conflicting Flow, Stage, Critical Hdwy, Pk Cap-1, Platoon blocked, Mov Cap-1, Mov Cap-2, Approach, HCM Control Delay, HCM LOS, Minor Lane/Major Mvmt, Capacity, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95th %ile Q(veh).

Notes: * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th AWSC
11: Wing Street & Cady Street

Existing Conditions #3 (Main Closed)

Table with 13 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and rows for Intersection, Int Delay, Movement, Lane Configurations, Traffic Vol, Future Vol, Peak Hour Factor, Heavy Vehicles, Mvmt Flow, Approach, Opposing Approach, Opposing Lanes, Conflicting Approach Left, Conflicting Lanes Left, Conflicting Approach Right, Conflicting Lanes Right, HCM Control Delay, HCM LOS, Lane, Vol Left, Vol Thru, Vol Right, Sign Control, Traffic Vol by Lane, LT Vol, Through Vol, RT Vol, Lane Flow Rate, Geometry Grp, Degree of X, Departure Headway, Convergence, Cap, Service Time, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95th %ile Q.

Notes: * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
12: Center Street & Cady Street

Existing Conditions #3 (Main Closed)

Table with 13 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and rows for Intersection, Int Delay, Movement, Lane Configurations, Traffic Vol, Future Vol, Conflicting Peds, Sign Control, RT Channelized, Storage Length, Veh In Median Storage, Grade, Peak Hour Factor, Heavy Vehicles, Mvmt Flow, Major/Minor, Conflicting Flow, Stage, Critical Hdwy, Pk Cap-1, Platoon blocked, Mov Cap-1, Mov Cap-2, Approach, HCM Control Delay, HCM LOS, Minor Lane/Major Mvmt, Capacity, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95th %ile Q(veh).

Notes: \$: Volume exceeds capacity; %: Delay exceeds 300%; .: Computation Not Defined; *: All major volume in platoon.

HCM 6th TWSC
13: N. Site Drive/Hutton Street & Cady Street

Existing Conditions #3 (Main Closed)

Table with 13 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and rows for Intersection, Int Delay, Movement, Lane Configurations, Traffic Vol, Future Vol, Conflicting Peds, Sign Control, RT Channelized, Storage Length, Veh In Median Storage, Grade, Peak Hour Factor, Heavy Vehicles, Mvmt Flow, Major/Minor, Conflicting Flow, Stage, Critical Hdwy, Pk Cap-1, Platoon blocked, Mov Cap-1, Mov Cap-2, Approach, HCM Control Delay, HCM LOS, Minor Lane/Major Mvmt, Capacity, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95th %ile Q(veh).

Notes: \$: Volume exceeds capacity; %: Delay exceeds 300%; .: Computation Not Defined; *: All major volume in platoon.

HCM 6th TWSC
14: Cady Street & Church Street

Existing Conditions #3 (Main Closed)

Table with 13 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and rows for Intersection, Int Delay, Movement, Lane Configurations, Traffic Vol, Future Vol, Conflicting Peds, Sign Control, RT Channelized, Storage Length, Veh In Median Storage, Grade, Peak Hour Factor, Heavy Vehicles, Mvmt Flow, Major/Minor, Conflicting Flow, Stage, Critical Hdwy, Pk Cap-1, Platoon blocked, Mov Cap-1, Mov Cap-2, Approach, HCM Control Delay, HCM LOS, Minor Lane/Major Mvmt, Capacity, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95th %ile Q(veh).

Notes: \$: Volume exceeds capacity; %: Delay exceeds 300%; .: Computation Not Defined; *: All major volume in platoon.

HCM 6th Signalized Intersection Summary
23: Sheldon Avenue/Center Street & Seven Mile Road

Existing Conditions #3 (Main Closed)
PM Peak Hour

Table with 17 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and 100 rows of performance metrics including Lane Configurations, Traffic Volume, Future Volume, Delay, and Signal Control.

SimTraffic Performance Report
24: Hines Drive & Seven Mile Road Performance by movement

Existing Conditions #3 (Main Closed)
PM Peak Hour

Table with 14 columns (Movement, WBL, WBT, WBR, NBT, NBR, SBL, SBT, All) and 10 rows of performance metrics including Denied Delay, Delayed Del/Veh, and Total Delay.

HCM 6th TWSC
25: Seven Mile Road & River Street

Existing Conditions #3 (Main Closed)
PM Peak Hour

Table with 10 columns (Intersection, Movement, EBL, EBT, WBT, WBR, SBT, SBR) and 30 rows of performance metrics including Lane Configurations, Traffic Volume, and Signal Control.

HCM Unsignalized Intersection Capacity Analysis
26: SB Northville Road & N. Seven Mile Road

Existing Conditions #3 (Main Closed)
PM Peak Hour

Table with 17 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and 50 rows of performance metrics including Lane Configurations, Traffic Volume, Delay, and Capacity Utilization.

HCM Unsignalized Intersection Capacity Analysis
27: NB Northville Road & N. Seven Mile Road

Existing Conditions #3 (Main Closed)
PM Peak Hour

Table with 14 columns (Movement, EBL, EBR, NBL, NBT, SBT, SBR) and 50 rows of performance metrics including Lane Configurations, Traffic Volume, Delay, and Capacity Utilization.

HCM 6th Signalized Intersection Summary
28: Northville Road & S. Seven Mile Road

Existing Conditions #3 (Main Closed)
PM Peak Hour

Table with 14 columns (Movement, WBL, WBT, NBT, NBR, SBL, SBT) and 40 rows of performance metrics including Lane Configurations, Traffic Volume, Delay, and Signal Control.

HCM 6th Signalized Intersection Summary Existing Conditions #1 (Pre-COVID) w/ IMP

Table with 13 columns for movements (EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and rows for Lane Configurations, Traffic Volume, Future Volume, etc.

Notes: * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th Signalized Intersection Summary Existing Conditions #1 (Pre-COVID) w/ IMP

Table with 13 columns for movements (EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and rows for Lane Configurations, Traffic Volume, Future Volume, etc.

Notes: * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th Signalized Intersection Summary Existing Conditions #1 (Pre-COVID) w/ IMP

Table with 13 columns for movements (EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and rows for Lane Configurations, Traffic Volume, Future Volume, etc.

Notes: * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th Signalized Intersection Summary Existing Conditions #1 (Pre-COVID) w/ IMP

Table with 13 columns for movements (EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and rows for Lane Configurations, Traffic Volume, Future Volume, etc.

Notes: * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th Signalized Intersection Summary Existing Conditions #1 (Pre-COVID) w/ IMP

Table with 13 columns for movements (EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and rows for Lane Configurations, Traffic Volume, Future Volume, etc.

Notes: * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th Signalized Intersection Summary Existing Conditions #1 (Pre-COVID) w/ IMP

Table with 13 columns for movements (EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and rows for Lane Configurations, Traffic Volume, Future Volume, etc.

Notes: * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th Signalized Intersection Summary
8: Hutton Street & Main Street

Existing Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Table with 17 columns (Movement, Lane Configurations, Traffic Volume, etc.) and 17 rows of data for intersection 8.

Notes: * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th Signalized Intersection Summary
9: Griswold Street & Main Street

Existing Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Table with 17 columns (Movement, Lane Configurations, Traffic Volume, etc.) and 17 rows of data for intersection 9.

Notes: * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th Signalized Intersection Summary
12: Center Street & Cady Street

Existing Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Table with 17 columns (Movement, Lane Configurations, Traffic Volume, etc.) and 17 rows of data for intersection 12.

Notes: * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th Signalized Intersection Summary
23: Sheldon Avenue/Center Street & Seven Mile Road

Existing Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Table with 17 columns (Movement, Lane Configurations, Traffic Volume, etc.) and 17 rows of data for intersection 23.

Notes: * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th Signalized Intersection Summary
26: SB Northville Road & S. Seven Mile Road

Existing Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Table with 17 columns (Movement, Lane Configurations, Traffic Volume, etc.) and 17 rows of data for intersection 26.

Notes: * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th Signalized Intersection Summary
28: Northville Road & S. Seven Mile Road

Existing Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Table with 17 columns (Movement, Lane Configurations, Traffic Volume, etc.) and 17 rows of data for intersection 28.

Notes: * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th Signalized Intersection Summary Existing Conditions #2 (Both Closed) w/ IMP 23: Sheldon Avenue/Center Street & Seven Mile Road PM Peak Hour

Table with columns: Movement, Lane Configurations, Traffic Volume (veh/h), Future Volume (veh/h), Initial Q (Qb), Veh, Parking Bus, Adj, Work Zone On Approach, Adj Sat Flow, Veh/hln, Adj Flow Rate, Veh/h, Peak Hour Factor, Percent Heavy Veh, % Cap, Veh/h, Arrive On Green, Sat Flow, Veh/h, Grp Volume (v), Veh/h, Grp Sat Flow (s), Veh/hln, Q Served (s), s, Cycle Q Clearing (c), s, Prop In Lane, Lane Grp Cap (c), Veh/h, V/C Ratio(X), Avail Cap (c), Avail, HCM Platoon Ratio, Upstream Filter(I), Uniform Delay (d), s/veh, Incr Delay (d2), s/veh, Initial Q Delay (d3), s/veh, %ile BackOfQ(50%),veh/ln, Unsig. Movement Delay, s/veh, LnGrp Delay (d), s/veh, LnGrp LOS, Approach Vol, Veh/h, Approach Delay, s/veh, Approach LOS, Timer - Assigned Phs, Phs Duration (G+Y+Rc), s, Change Period (Y+Rc), s, Max Green Setting (Gmax), s, Max Q Clear Time (q, c+1), s, Green Ext Time (p, c), s

Intersection Summary table with columns: HCM 6th Cst Delay, HCM 6th LOS

Notes: * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary Existing Conditions #2 (Both Closed) w/ IMP 26: SB Northville Road & N. Seven Mile Road PM Peak Hour

Table with columns: Movement, Lane Configurations, Traffic Volume (veh/h), Future Volume (veh/h), Initial Q (Qb), Veh, Parking Bus, Adj, Work Zone On Approach, Adj Sat Flow, Veh/hln, Adj Flow Rate, Veh/h, Peak Hour Factor, Percent Heavy Veh, % Cap, Veh/h, Arrive On Green, Sat Flow, Veh/h, Grp Volume (v), Veh/h, Grp Sat Flow (s), Veh/hln, Q Served (s), s, Cycle Q Clearing (c), s, Prop In Lane, Lane Grp Cap (c), Veh/h, V/C Ratio(X), Avail Cap (c), Avail, HCM Platoon Ratio, Upstream Filter(I), Uniform Delay (d), s/veh, Incr Delay (d2), s/veh, Initial Q Delay (d3), s/veh, %ile BackOfQ(50%),veh/ln, Unsig. Movement Delay, s/veh, LnGrp Delay (d), s/veh, LnGrp LOS, Approach Vol, Veh/h, Approach Delay, s/veh, Approach LOS, Timer - Assigned Phs, Phs Duration (G+Y+Rc), s, Change Period (Y+Rc), s, Max Green Setting (Gmax), s, Max Q Clear Time (q, c+1), s, Green Ext Time (p, c), s

Intersection Summary table with columns: HCM 6th Cst Delay, HCM 6th LOS

Notes: * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary Existing Conditions #2 (Both Closed) w/ IMP 28: Northville Road & S. Seven Mile Road PM Peak Hour

Table with columns: Movement, Lane Configurations, Traffic Volume (veh/h), Future Volume (veh/h), Initial Q (Qb), Veh, Parking Bus, Adj, Work Zone On Approach, Adj Sat Flow, Veh/hln, Adj Flow Rate, Veh/h, Peak Hour Factor, Percent Heavy Veh, % Cap, Veh/h, Arrive On Green, Sat Flow, Veh/h, Grp Volume (v), Veh/h, Grp Sat Flow (s), Veh/hln, Q Served (s), s, Cycle Q Clearing (c), s, Prop In Lane, Lane Grp Cap (c), Veh/h, V/C Ratio(X), Avail Cap (c), Avail, HCM Platoon Ratio, Upstream Filter(I), Uniform Delay (d), s/veh, Incr Delay (d2), s/veh, Initial Q Delay (d3), s/veh, %ile BackOfQ(50%),veh/ln, Unsig. Movement Delay, s/veh, LnGrp Delay (d), s/veh, LnGrp LOS, Approach Vol, Veh/h, Approach Delay, s/veh, Approach LOS, Timer - Assigned Phs, Phs Duration (G+Y+Rc), s, Change Period (Y+Rc), s, Max Green Setting (Gmax), s, Max Q Clear Time (q, c+1), s, Green Ext Time (p, c), s

Intersection Summary table with columns: HCM 6th Cst Delay, HCM 6th LOS

Notes: * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary Existing Conditions #3 (Main Closed) w/ IMP 2: Center Street & Randolph Street/Private Drive AM Peak Hour

Table with columns: Movement, Lane Configurations, Traffic Volume (veh/h), Future Volume (veh/h), Initial Q (Qb), Veh, Parking Bus, Adj, Work Zone On Approach, Adj Sat Flow, Veh/hln, Adj Flow Rate, Veh/h, Peak Hour Factor, Percent Heavy Veh, % Cap, Veh/h, Arrive On Green, Sat Flow, Veh/h, Grp Volume (v), Veh/h, Grp Sat Flow (s), Veh/hln, Q Served (s), s, Cycle Q Clearing (c), s, Prop In Lane, Lane Grp Cap (c), Veh/h, V/C Ratio(X), Avail Cap (c), Avail, HCM Platoon Ratio, Upstream Filter(I), Uniform Delay (d), s/veh, Incr Delay (d2), s/veh, Initial Q Delay (d3), s/veh, %ile BackOfQ(50%),veh/ln, Unsig. Movement Delay, s/veh, LnGrp Delay (d), s/veh, LnGrp LOS, Approach Vol, Veh/h, Approach Delay, s/veh, Approach LOS, Timer - Assigned Phs, Phs Duration (G+Y+Rc), s, Change Period (Y+Rc), s, Max Green Setting (Gmax), s, Max Q Clear Time (q, c+1), s, Green Ext Time (p, c), s

Intersection Summary table with columns: HCM 6th Cst Delay, HCM 6th LOS

Notes: * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary Existing Conditions #3 (Main Closed) w/ IMP 23: Center Street & Cady Street AM Peak Hour

Table with columns: Movement, Lane Configurations, Traffic Volume (veh/h), Future Volume (veh/h), Initial Q (Qb), Veh, Parking Bus, Adj, Work Zone On Approach, Adj Sat Flow, Veh/hln, Adj Flow Rate, Veh/h, Peak Hour Factor, Percent Heavy Veh, % Cap, Veh/h, Arrive On Green, Sat Flow, Veh/h, Grp Volume (v), Veh/h, Grp Sat Flow (s), Veh/hln, Q Served (s), s, Cycle Q Clearing (c), s, Prop In Lane, Lane Grp Cap (c), Veh/h, V/C Ratio(X), Avail Cap (c), Avail, HCM Platoon Ratio, Upstream Filter(I), Uniform Delay (d), s/veh, Incr Delay (d2), s/veh, Initial Q Delay (d3), s/veh, %ile BackOfQ(50%),veh/ln, Unsig. Movement Delay, s/veh, LnGrp Delay (d), s/veh, LnGrp LOS, Approach Vol, Veh/h, Approach Delay, s/veh, Approach LOS, Timer - Assigned Phs, Phs Duration (G+Y+Rc), s, Change Period (Y+Rc), s, Max Green Setting (Gmax), s, Max Q Clear Time (q, c+1), s, Green Ext Time (p, c), s

Intersection Summary table with columns: HCM 6th Cst Delay, HCM 6th LOS

Notes: * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary Existing Conditions #3 (Main Closed) w/ IMP 23: Sheldon Avenue/Center Street & Seven Mile Road AM Peak Hour

Table with columns: Movement, Lane Configurations, Traffic Volume (veh/h), Future Volume (veh/h), Initial Q (Qb), Veh, Parking Bus, Adj, Work Zone On Approach, Adj Sat Flow, Veh/hln, Adj Flow Rate, Veh/h, Peak Hour Factor, Percent Heavy Veh, % Cap, Veh/h, Arrive On Green, Sat Flow, Veh/h, Grp Volume (v), Veh/h, Grp Sat Flow (s), Veh/hln, Q Served (s), s, Cycle Q Clearing (c), s, Prop In Lane, Lane Grp Cap (c), Veh/h, V/C Ratio(X), Avail Cap (c), Avail, HCM Platoon Ratio, Upstream Filter(I), Uniform Delay (d), s/veh, Incr Delay (d2), s/veh, Initial Q Delay (d3), s/veh, %ile BackOfQ(50%),veh/ln, Unsig. Movement Delay, s/veh, LnGrp Delay (d), s/veh, LnGrp LOS, Approach Vol, Veh/h, Approach Delay, s/veh, Approach LOS, Timer - Assigned Phs, Phs Duration (G+Y+Rc), s, Change Period (Y+Rc), s, Max Green Setting (Gmax), s, Max Q Clear Time (q, c+1), s, Green Ext Time (p, c), s

Intersection Summary table with columns: HCM 6th Cst Delay, HCM 6th LOS

Notes: * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Queuing and Blocking Report

Existing Conditions #1 (Pre-COVID)

AM Peak Hour

Intersection: 31: Griswold Street & S.E. Site Drive

Table with 10 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh)

Intersection: 32: Center Street & Proposed Beal Street

Table with 10 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh)

Intersection: 33: S.W. Site Drive & Fairbrook Street

Table with 10 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh)

Northville Downs TIS
Fleis & VanderBink Engineering
SimTraffic Report
12/11/2021

Queuing and Blocking Report

Existing Conditions #1 (Pre-COVID)

AM Peak Hour

Intersection: 34: Wing Street & S.W. Site Drive

Table with 10 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh)

Zone Summary

Zone wide Queuing Penalty: 109

Northville Downs TIS
Fleis & VanderBink Engineering
SimTraffic Report
12/11/2021

Queuing and Blocking Report

Existing Conditions #1 (Pre-COVID)

PM Peak Hour

Intersection: 1: Wing Street & Randolph Street

Table with 10 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh)

Intersection: 2: Center Street & Randolph Street/Private Drive

Table with 10 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh)

Intersection: 3: Wing Street & Dunlap Street

Table with 10 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh)

Northville Downs TIS
Fleis & VanderBink Engineering
SimTraffic Report
12/11/2021

Queuing and Blocking Report

Existing Conditions #1 (Pre-COVID)

PM Peak Hour

Intersection: 4: Center Street & Dunlap Street

Table with 10 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh)

Intersection: 5: Dunlap Street & Hutton Street

Table with 10 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh)

Intersection: 6: Wing Street & Main Street

Table with 10 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh)

Northville Downs TIS
Fleis & VanderBink Engineering
SimTraffic Report
12/11/2021

Queuing and Blocking Report

Existing Conditions #1 (Pre-COVID)

PM Peak Hour

Intersection: 7: Center Street & Main Street

Table with 10 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh)

Intersection: 8: Hutton Street & Main Street

Table with 10 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh)

Intersection: 9: Griswold Street & Main Street

Table with 10 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh)

Northville Downs TIS
Fleis & VanderBink Engineering
SimTraffic Report
12/11/2021

Queuing and Blocking Report

Existing Conditions #1 (Pre-COVID)

PM Peak Hour

Intersection: 10: Cady Street & Main Street

Table with 10 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh)

Intersection: 11: Wing Street & Cady Street

Table with 10 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh)

Intersection: 12: Center Street & Cady Street

Table with 10 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh)

Northville Downs TIS
Fleis & VanderBink Engineering
SimTraffic Report
12/11/2021

Queuing and Blocking Report Existing Conditions #1 (Pre-COVID) PM Peak Hour

Intersection: 31: Griswold Street & S.E. Site Drive

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queueing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queueing Penalty (veh)

Intersection: 32: Center Street & Proposed Beal Street

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queueing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queueing Penalty (veh)

Intersection: 33: S.W. Site Drive & Fairbrook Street

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queueing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queueing Penalty (veh)

Queuing and Blocking Report Existing Conditions #1 (Pre-COVID) PM Peak Hour

Intersection: 34: Wing Street & S.W. Site Drive

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queueing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queueing Penalty (veh)

Zone Summary

Zone wide Queueing Penalty: 634

Queuing and Blocking Report Existing Conditions #2 (Both Closed) AM Peak Hour

Intersection: 1: Wing Street & Randolph Street

Movement	WB	NB
Directions Served		
Maximum Queue (ft)		
Average Queue (ft)		
95th Queue (ft)		
Link Distance (ft)		
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	SB
Directions Served				
Maximum Queue (ft)				
Average Queue (ft)				
95th Queue (ft)				
Link Distance (ft)				
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 3: Wing Street & Dunlap Street

Movement	EB	WB	NB	SB
Directions Served				
Maximum Queue (ft)				
Average Queue (ft)				
95th Queue (ft)				
Link Distance (ft)				
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Existing Conditions #2 (Both Closed) AM Peak Hour

Intersection: 4: Dunlap Street & Center Street

Movement	EB	WB	SB
Directions Served			
Maximum Queue (ft)			
Average Queue (ft)			
95th Queue (ft)			
Link Distance (ft)			
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 5: Dunlap Street & Hutton Street

Movement	EB	WB	SB
Directions Served			
Maximum Queue (ft)			
Average Queue (ft)			
95th Queue (ft)			
Link Distance (ft)			
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 6: Wing Street & Main Street

Movement	EB	WB	NB	SB
Directions Served				
Maximum Queue (ft)				
Average Queue (ft)				
95th Queue (ft)				
Link Distance (ft)				
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Existing Conditions #2 (Both Closed) AM Peak Hour

Intersection: 7: Center Street & Main Street

Movement	EB	NB
Directions Served		
Maximum Queue (ft)		
Average Queue (ft)		
95th Queue (ft)		
Link Distance (ft)		
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 8: Hutton Street & Main Street

Movement	WB	WB	NB	SB	SB
Directions Served					
Maximum Queue (ft)					
Average Queue (ft)					
95th Queue (ft)					
Link Distance (ft)					
Upstream Blk Time (%)					
Queueing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queueing Penalty (veh)					

Intersection: 9: Griswold Street & Main Street

Movement	EB	WB	WB	NB	SB
Directions Served					
Maximum Queue (ft)					
Average Queue (ft)					
95th Queue (ft)					
Link Distance (ft)					
Upstream Blk Time (%)					
Queueing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queueing Penalty (veh)					

Queuing and Blocking Report Existing Conditions #2 (Both Closed) AM Peak Hour

Intersection: 10: Cady Street & Main Street

Movement	WB	NB
Directions Served		
Maximum Queue (ft)		
Average Queue (ft)		
95th Queue (ft)		
Link Distance (ft)		
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 11: Wing Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served				
Maximum Queue (ft)				
Average Queue (ft)				
95th Queue (ft)				
Link Distance (ft)				
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served				
Maximum Queue (ft)				
Average Queue (ft)				
95th Queue (ft)				
Link Distance (ft)				
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Existing Conditions #2 (Both Closed) AM Peak Hour

Intersection: 31: Griswold Street & S.E. Site Drive

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queueing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queueing Penalty (veh)

Intersection: 32: Center Street & Proposed Beal Street

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queueing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queueing Penalty (veh)

Intersection: 33: S.W. Site Drive & Fairbrook Street

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queueing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queueing Penalty (veh)

Queuing and Blocking Report Existing Conditions #2 (Both Closed) AM Peak Hour

Intersection: 34: Wing Street & S.W. Site Drive

Movement	SB
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queueing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queueing Penalty (veh)	

Zone Summary

Zone wide Queueing Penalty: 76

Queuing and Blocking Report Existing Conditions #2 (Both Closed) PM Peak Hour

Intersection: 1: Wing Street & Randolph Street

Movement	EB	WB	NB
Directions Served			
Maximum Queue (ft)			
Average Queue (ft)			
95th Queue (ft)			
Link Distance (ft)			
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	SB	SB
Directions Served					
Maximum Queue (ft)					
Average Queue (ft)					
95th Queue (ft)					
Link Distance (ft)					
Upstream Blk Time (%)					
Queueing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queueing Penalty (veh)					

Intersection: 3: Wing Street & Dunlap Street

Movement	EB	WB	NB	SB
Directions Served				
Maximum Queue (ft)				
Average Queue (ft)				
95th Queue (ft)				
Link Distance (ft)				
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Existing Conditions #2 (Both Closed) PM Peak Hour

Intersection: 4: Dunlap Street & Center Street

Movement	EB	WB	SB	SB
Directions Served				
Maximum Queue (ft)				
Average Queue (ft)				
95th Queue (ft)				
Link Distance (ft)				
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 5: Dunlap Street & Hutton Street

Movement	EB	WB	SB
Directions Served			
Maximum Queue (ft)			
Average Queue (ft)			
95th Queue (ft)			
Link Distance (ft)			
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 6: Wing Street & Main Street

Movement	EB	WB	NB	SB
Directions Served				
Maximum Queue (ft)				
Average Queue (ft)				
95th Queue (ft)				
Link Distance (ft)				
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Existing Conditions #2 (Both Closed) PM Peak Hour

Intersection: 7: Center Street & Main Street

Movement	EB	NB
Directions Served		
Maximum Queue (ft)		
Average Queue (ft)		
95th Queue (ft)		
Link Distance (ft)		
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 8: Hutton Street & Main Street

Movement	WB	WB	NB	SB	SB
Directions Served					
Maximum Queue (ft)					
Average Queue (ft)					
95th Queue (ft)					
Link Distance (ft)					
Upstream Blk Time (%)					
Queueing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queueing Penalty (veh)					

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	NB	SB
Directions Served						
Maximum Queue (ft)						
Average Queue (ft)						
95th Queue (ft)						
Link Distance (ft)						
Upstream Blk Time (%)						
Queueing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queueing Penalty (veh)						

Queuing and Blocking Report Existing Conditions #2 (Both Closed) PM Peak Hour

Intersection: 10: Cady Street & Main Street

Movement	WB	NB
Directions Served		
Maximum Queue (ft)		
Average Queue (ft)		
95th Queue (ft)		
Link Distance (ft)		
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 11: Wing Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served				
Maximum Queue (ft)				
Average Queue (ft)				
95th Queue (ft)				
Link Distance (ft)				
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served				
Maximum Queue (ft)				
Average Queue (ft)				
95th Queue (ft)				
Link Distance (ft)				
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Existing Conditions #2 (Both Closed) PM Peak Hour

Intersection: 31: Griswold Street & S.E. Site Drive

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queueing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queueing Penalty (veh)

Intersection: 32: Center Street & Proposed Beal Street

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queueing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queueing Penalty (veh)

Intersection: 33: S.W. Site Drive & Fairbrook Street

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queueing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queueing Penalty (veh)

Queuing and Blocking Report Existing Conditions #2 (Both Closed) PM Peak Hour

Intersection: 34: Wing Street & S.W. Site Drive

Movement	SB
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queueing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queueing Penalty (veh)	

Zone Summary

Zone wide Queueing Penalty: 331

Queuing and Blocking Report Existing Conditions #3 (Main Closed) AM Peak Hour

Intersection: 1: Wing Street & Randolph Street

Movement	NB
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queueing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queueing Penalty (veh)	

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	SB
Directions Served				
Maximum Queue (ft)				
Average Queue (ft)				
95th Queue (ft)				
Link Distance (ft)				
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 3: Wing Street & Dunlap Street

Movement	EB	WB	NB	SB
Directions Served				
Maximum Queue (ft)				
Average Queue (ft)				
95th Queue (ft)				
Link Distance (ft)				
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Existing Conditions #3 (Main Closed) AM Peak Hour

Intersection: 4: Center Street & Dunlap Street

Movement	EB	WB	WB	NB	SB	SB
Directions Served						
Maximum Queue (ft)						
Average Queue (ft)						
95th Queue (ft)						
Link Distance (ft)						
Upstream Blk Time (%)						
Queueing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queueing Penalty (veh)						

Intersection: 5: Dunlap Street & Hutton Street

Movement	EB	WB	SB
Directions Served			
Maximum Queue (ft)			
Average Queue (ft)			
95th Queue (ft)			
Link Distance (ft)			
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 6: Wing Street & Main Street

Movement	EB	WB	NB	SB
Directions Served				
Maximum Queue (ft)				
Average Queue (ft)				
95th Queue (ft)				
Link Distance (ft)				
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Existing Conditions #3 (Main Closed) AM Peak Hour

Intersection: 7: Center Street & Main Street

Movement	EB	NB	SB
Directions Served			
Maximum Queue (ft)			
Average Queue (ft)			
95th Queue (ft)			
Link Distance (ft)			
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 8: Hutton Street & Main Street

Movement	WB	WB	NB	SB	SB
Directions Served					
Maximum Queue (ft)					
Average Queue (ft)					
95th Queue (ft)					
Link Distance (ft)					
Upstream Blk Time (%)					
Queueing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queueing Penalty (veh)					

Intersection: 9: Griswold Street & Main Street

Movement	EB	WB	WB	NB	SB
Directions Served					
Maximum Queue (ft)					
Average Queue (ft)					
95th Queue (ft)					
Link Distance (ft)					
Upstream Blk Time (%)					
Queueing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queueing Penalty (veh)					

Queuing and Blocking Report Existing Conditions #3 (Main Closed) AM Peak Hour

Intersection: 10: Cady Street & Main Street

Movement	WB	NB
Directions Served		
Maximum Queue (ft)		
Average Queue (ft)		
95th Queue (ft)		
Link Distance (ft)		
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 11: Wing Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served				
Maximum Queue (ft)				
Average Queue (ft)				
95th Queue (ft)				
Link Distance (ft)				
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served				
Maximum Queue (ft)				
Average Queue (ft)				
95th Queue (ft)				
Link Distance (ft)				
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 31: Griswold Street & S.E. Site Drive

Table with 11 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 32: Center Street & Proposed Beal Street

Table with 11 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distances (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 33: S.W. Site Drive & Fairbrook Street

Table with 11 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 34: Wing Street & S.W. Site Drive

Table with 11 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Zone Summary

Zone wide Queuing Penalty: 63

Intersection: 1: Wing Street & Randolph Street

Table with 11 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 2: Center Street & Randolph Street/Private Drive

Table with 11 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 3: Wing Street & Dunlap Street

Table with 11 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 4: Center Street & Dunlap Street

Table with 11 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 5: Dunlap Street & Hutton Street

Table with 11 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 6: Wing Street & Main Street

Table with 11 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 7: Center Street & Main Street

Table with 11 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 8: Hutton Street & Main Street

Table with 11 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 9: Griswold Street & Main Street

Table with 11 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 10: Cady Street & Main Street

Table with 11 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 11: Wing Street & Cady Street

Table with 11 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 12: Center Street & Cady Street

Table with 11 rows: Movement, Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 31: Griswold Street & S.E. Site Drive

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queueing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queueing Penalty (veh)	

Intersection: 32: Center Street & Proposed Beal Street

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queueing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queueing Penalty (veh)	

Intersection: 33: S.W. Site Drive & Fairbrook Street

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queueing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queueing Penalty (veh)	

Intersection: 34: Wing Street & S.W. Site Drive

Movement	
Directions Served	
Maximum Queue (ft)	
Average Queue (ft)	
95th Queue (ft)	
Link Distance (ft)	
Upstream Blk Time (%)	
Queueing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queueing Penalty (veh)	

Zone Summary

Zone wide Queueing Penalty: 557

Scheme Summary

Control Data

Control Data and Model Parameters

Northville Downs - RDBT @ Central/Sheldon & 7 Mile	2021 PHF Flow Profile (veh)
Existing Conditions - Scenario #1 (Pre-COVID)	7.5 min Time Slice
Rodel-Win1	Queueing Delays (sec)
Right Hand Drive	Daylight conditions
AM Peak Hour	Peak 60/15 min Results
Full Geometry	Output flows: Vehicles
English Units (ft)	50% Confidence Level

Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle Phi
1	Central SB	0	0	12.00	1	14.00	1	100.00	90.00	30.00
2	7 Mile EB	90	0	12.00	1	14.00	1	100.00	90.00	30.00
3	Sheldon NB	180	0	12.00	1	14.00	1	100.00	90.00	30.00
4	7 Mile WB	270	0	12.00	1	28.00	2	100.00	90.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nrx
1	Central SB	120.00	30.00	2	16.00	1	12.00	1
2	7 Mile EB	120.00	18.00	1	16.00	1	12.00	1
3	Sheldon NB	120.00	18.00	1	16.00	1	12.00	1
4	7 Mile WB	120.00	18.00	1	16.00	1	12.00	1

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road			Exit Road		
		Capacity	XWak Factor	Intercept	Slope Factor	V (ft)	Default Capacity	Calib Capacity	V (ft)	Default Capacity	Calib Capacity
1	Central SB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0
2	7 Mile EB	0	1.000	0	1.000	20.00	1792	0	12.00	1792	0
3	Sheldon NB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0
4	7 Mile WB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0

Bypass Geometry

Bypass Approach Geometry (ft)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvT
1	Central SB	Exclusive	15	12	1	12	1	12	1
3	Sheldon NB	Exclusive	72	12	1	12	1	12	1

Bypass Entry and Exit Geometry (ft)

Leg	Leg Names	Entry Geometry						Exit Lanes				
		Eb	neb	Lb	Lt	Rb	Phlb	nex	Nmx			
1	Central SB	12	1	0	100	66.00080	045	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00080	045	30	4	7 Mile WB	1	2

Traffic Flow Data (veh/hr)

2021 AM Peak Peak Hour Flows

Leg	Leg Names	U-Turn	Turning Flows				Trucks %	Flow Factor	Peak Hour Factor
			Exit-3	Exit-2	Exit-1	Bypass			
1	Central SB	0	76	377	0	15	2.0	1.00	0.860
2	7 Mile EB	0	45	424	72	0	1.0	1.00	0.850
3	Sheldon NB	0	57	567	0	72	2.0	1.00	0.920
4	7 Mile WB	0	35	153	78	0	4.0	1.00	0.920

Operational Results

2021 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)				Capacity (veh/hr)				Average VCR
			Arrival Flow		Opposing Flow		Exit Flow		Capacity		
			Entry	Bypass	Entry	Bypass	Exit	Flow	Entry	Bypass		Entry	Bypass
1	Central SB	Exclusive	695	46	733	733	827	944	719	0.7365	0.0640
2	7 Mile EB	None	458		802		671	798		0.5741	
3	Sheldon NB	Exclusive	779	106	418	418	842	989	700	0.7879	0.1515
4	7 Mile WB	None	751		810		492	1257		0.5973	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			85% Queue (veh)		Level of Service		Leg
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	
1	Central SB	Exclusive	13.61	5.31	13.09	8.29	0.20	B	A	B
2	7 Mile EB	None	10.27		10.27	4.55		B		B
3	Sheldon NB	Exclusive	15.91	6.01	14.72	10.95	0.51	C	A	B
4	7 Mile WB	None	8.60		8.60	5.52		A		A

Global Results

Performance and Accidents

2021 PM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	2683	152	2835
Capacity	veh/hr	3988	1418	5406
Average Delay	sec/veh	12.30	5.80	11.95
L.O.S. (Signal)	A - F	B	A	B
L.O.S. (Unsig)	A - F	B	A	B
Total Delay	veh.hrs	9.17	0.24	9.41

Scheme Summary

Control Data

Control Data and Model Parameters

Control Data	Model Parameters
Northville Downs - RDBT @ Central/Sheldon & 7 Mile	2021 PHF Flow Profile (veh)
Existing Conditions - Scenario #2 (Both Closed)	7.5 min Time Slice
Rodel-Win1	Queuing Delays (sec)
Right Hand Drive	Daylight conditions
AM Peak Hour	Peak 60/15 min Results
Full Geometry	Output flows: Vehicles
English Units (ft)	50% Confidence Level

Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle Phi
1	Central SB	0	0	12.00	1	14.00	1	100.00	90.00	30.00
2	7 Mile EB	90	0	12.00	1	14.00	1	100.00	90.00	30.00
3	Sheldon NB	180	0	12.00	1	14.00	1	100.00	90.00	30.00
4	7 Mile WB	270	0	12.00	1	28.00	2	100.00	90.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nrx
1	Central SB	120.00	30.00	2	16.00	1	12.00	1
2	7 Mile EB	120.00	18.00	1	16.00	1	12.00	1
3	Sheldon NB	120.00	18.00	1	16.00	1	12.00	1
4	7 Mile WB	120.00	18.00	1	16.00	1	12.00	1

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road			Exit Road		
		Capacity + or -	XWak Factor	Intercept + or -	Slope Factor	V (ft)	Default Capacity	Calib Capacity	V (ft)	Default Capacity	Calib Capacity
1	Central SB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0
2	7 Mile EB	0	1.000	0	1.000	20.00	1792	0	12.00	1792	0
3	Sheldon NB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0
4	7 Mile WB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0

Bypass Geometry

Bypass Approach Geometry (ft)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
1	Central SB	Exclusive	13	12	1	12	1	12	1
3	Sheldon NB	Exclusive	78	12	1	12	1	12	1

Bypass Entry and Exit Geometry (ft)

Leg	Leg Names	Entry Geometry						Exit Lanes			
		Eb	neb	Lb	Lt	Rb	Phib	nex	Nmx		
1	Central SB	12	1	0	100	66.00081735	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00081735	30	4	7 Mile WB	1	2

Traffic Flow Data (veh/hr)

2021 AM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows					Flow Modifiers		
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	Central SB	0	29	339	0	13	2.0	1.00	0.730
2	7 Mile EB	0	18	268	163	0	3.0	1.00	0.860
3	Sheldon NB	0	85	393	0	78	2.0	1.00	0.920
4	7 Mile WB	0	74	174	42	0	5.0	1.00	0.880

Operational Results

2021 AM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	Central SB	Exclusive	368	13	333	333	453	1086	959	0.3390	0.0136
2	7 Mile EB	None	449		442		272	957		0.4690	
3	Sheldon NB	Exclusive	478	78	315	315	576	1046	919	0.4568	0.0849
4	7 Mile WB	None	290		496		375	1436		0.2019	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)		85% Queue (veh)		Level of Service		Leg	
			Entry	Bypass	Entry	Bypass	Entry	Bypass		
1	Central SB	Exclusive	4.95	3.60	4.90	2.19	0.05	A	A	A
2	7 Mile EB	None	6.85		6.85	3.39		A	A	A
3	Sheldon NB	Exclusive	6.05	4.24	5.79	2.55	0.28	A	A	A
4	7 Mile WB	None	3.92		3.92	1.02		A	A	A

Global Results

Performance and Accidents

2021 AM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	1585	91	1676
Capacity	veh/hr	4526	1879	6405
Average Delay	sec/veh	5.63	4.15	5.55
L.O.S. (Signal)	A - F	A	A	A
L.O.S. (Unsig)	A - F	A	A	A
Total Delay	veh.hrs	2.48	0.10	2.58

Scheme Summary

Control Data

Control Data and Model Parameters

Control Data	Model Parameters
Northville Downs - RDBT @ Central/Sheldon & 7 Mile	2021 PHF Flow Profile (veh)
Existing Conditions - Scenario #2 (Both Closed)	7.5 min Time Slice
Rodel-Win1	Queueing Delays (sec)
Right Hand Drive	Daylight conditions
PM Peak Hour	Peak 60/15 min Results
Full Geometry	Output flows: Vehicles
English Units (ft)	50% Confidence Level

Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle Phi
1	Central SB	0	0	12.00	1	14.00	1	100.00	90.00	30.00
2	7 Mile EB	90	0	12.00	1	14.00	1	100.00	90.00	30.00
3	Sheldon NB	180	0	12.00	1	14.00	1	100.00	90.00	30.00
4	7 Mile WB	270	0	12.00	1	28.00	2	100.00	90.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nrx
1	Central SB	120.00	30.00	2	16.00	1	12.00	1
2	7 Mile EB	120.00	18.00	1	16.00	1	12.00	1
3	Sheldon NB	120.00	18.00	1	16.00	1	12.00	1
4	7 Mile WB	120.00	18.00	1	16.00	1	12.00	1

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity Capacity + or -	Entry Calibration XWak Factor	Intercept + or -	Slope Factor	Approach Road			Exit Road		
						V (ft)	Default Capacity	Calib Capacity	V (ft)	Default Capacity	Calib Capacity
1	Central SB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0
2	7 Mile EB	0	1.000	0	1.000	20.00	1792	0	12.00	1792	0
3	Sheldon NB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0
4	7 Mile WB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0

Bypass Geometry

Bypass Approach Geometry (ft)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvT
1	Central SB	Exclusive	20	12	1	12	1	12	1
3	Sheldon NB	Exclusive	104	12	1	12	1	12	1

Bypass Entry and Exit Geometry (ft)

Leg	Leg Names	Entry Geometry						Exit Lanes			
		Eb	neb	Lb	Lt	Rb	Phib	nex	Nmx		
1	Central SB	12	1	0	100	66.00082	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00082	30	4	7 Mile WB	1	2

Traffic Flow Data (veh/hr)

2021 PM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows					Trucks %	Flow Factor	Peak Hour Factor
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass			
1	Central SB	0	66	336	0	20	0.0	1.00	0.930
2	7 Mile EB	0	27	312	131	0	1.0	1.00	0.880
3	Sheldon NB	0	125	458	0	104	1.0	1.00	0.900
4	7 Mile WB	0	125	437	104	0	1.0	1.00	0.880

Global Results

Performance and Accidents

2021 AM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	1611	76	1687
Capacity	veh/hr	4504	1873	6377
Average Delay	sec/veh	5.73	4.21	5.67
L.O.S. (Signal)	A - F	A	A	A
L.O.S. (Unsig)	A - F	A	A	A
Total Delay	veh.hrs	2.57	0.09	2.66

Scheme Summary

Control Data

Control Data and Model Parameters

Northville Downs - RDBT @ Central/Sheldon & 7 Mile Existing Conditions - Scenario #3 (Main Closed) Rodel-Win1 Right Hand Drive PM Peak Hour Full Geometry English Units (ft)	2021 PHF Flow Profile (veh) 7.5 min Time Slice Queuing Delays (sec) Daylight conditions Peak 60/15 min Results Output flows: Vehicles 50% Confidence Level
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Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L	Entry Radius R	Entry Angle Phi
1	Central SB	0	0	12.00	1	14.00	1	100.00	90.00	30.00
2	7 Mile EB	90	0	12.00	1	14.00	1	100.00	90.00	30.00
3	Sheldon NB	180	0	12.00	1	14.00	1	100.00	90.00	30.00
4	7 Mile WB	270	0	12.00	1	28.00	2	100.00	90.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	Central SB	120.00	30.00	2	16.00	1	12.00	1
2	7 Mile EB	120.00	18.00	1	16.00	1	12.00	1
3	Sheldon NB	120.00	18.00	1	16.00	1	12.00	1
4	7 Mile WB	120.00	18.00	1	16.00	1	12.00	1

Bypass Geometry

Bypass Approach Geometry (ft)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nyt
1	Central SB	Exclusive	40	12	1	12	1	12	1
3	Sheldon NB	Exclusive	93	12	1	12	1	12	1

Bypass Entry and Exit Geometry (ft)

Leg	Leg Names	Entry Geometry					Leg	Leg Names	Exit Lanes		
		Eb	neb	Lb	Lt	Rb			Phib	nex	Nmx
1	Central SB	12	1	0	100	66,000/79 834	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66,000/79 834	30	4	7 Mile WB	1	2

Operational Results

2021 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)				Capacity (veh/hr)				
			Arrival Flow	Opposing Flow	Exit Flow	Capacity	Average VCR	Bypass			
Entry	Bypass	Entry	Bypass	Entry	Entry	Bypass	Entry	VCR			
1	Central SB	Exclusive	612	40	651	651	728	984	855	0.6219	0.0468
2	7 Mile EB	None	470	707	596	596	851	1010	866	0.8744	0.1074
3	Sheldon NB	Exclusive	661	93	421	421	756	1010	866	0.8744	0.1074
4	7 Mile WB	None	666	713	482	482	1360			0.4697	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)			Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Leg	Entry	Bypass	Leg
1	Central SB	Exclusive	9.27	4.38	8.97	4.79	0.14	A	A	A	
2	7 Mile EB	None	9.15		9.15	4.08		A	A	A	
3	Sheldon NB	Exclusive	10.43	4.62	9.73	6.06	0.34	B	A	A	
4	7 Mile WB	None	6.29		6.29	3.48		A	A	A	

Global Results

Performance and Accidents

2021 PM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	2429	133	2562
Capacity	veh/hr	4205	1721	5926
Average Delay	sec/veh	8.75	4.55	8.53
L.O.S. (Signal)	A - F	A	A	A
L.O.S. (Unsig)	A - F	A	A	A
Total Delay	veh.hrs	5.91	0.17	6.07

Queuing and Blocking Report Existing Conditions #1 (Pre-COVID) w/ Roundabout AM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	LT	TR	LT	R	LT
Maximum Queue (ft)	355	75	34	2844	75	201
Average Queue (ft)	180	27	1	1653	67	78
95th Queue (ft)	372	60	11	3147	105	164
Link Distance (ft)	344	541	541	21410		
Upstream Blk Time (%)	11					
Queuing Penalty (veh)	57					
Storage Bay Dist (ft)				50	250	
Storage Blk Time (%)			97	0		
Queuing Penalty (veh)			70	2		

Queuing and Blocking Report Existing Conditions #1 (Pre-COVID) w/ Roundabout PM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	LT	TR	LT	R	LT
Maximum Queue (ft)	379	560	647	14324	75	300
Average Queue (ft)	192	518	599	5631	34	297
95th Queue (ft)	454	637	785	12659	95	301
Link Distance (ft)	344	541	541	21410		491
Upstream Blk Time (%)	41	57	73			98
Queuing Penalty (veh)	178	213	276			729
Storage Bay Dist (ft)				50	250	
Storage Blk Time (%)			99	0	100	40
Queuing Penalty (veh)			105	1	46	271

Queuing and Blocking Report Existing Conditions #2 (Both Closed) w/ Roundabout AM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	LT	TR	LT	R	LT
Maximum Queue (ft)	156	132	49	319	75	158
Average Queue (ft)	73	44	5	155	53	65
95th Queue (ft)	128	78	26	287	108	130
Link Distance (ft)	344	541	541	21410		490
Upstream Blk Time (%)						
Queuing Penalty (veh)					50	
Storage Bay Dist (ft)					50	
Storage Blk Time (%)				34	0	
Queuing Penalty (veh)				27	1	

Queuing and Blocking Report Existing Conditions #2 (Both Closed) w/ Roundabout PM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	LT	TR	LT	R	LT
Maximum Queue (ft)	261	365	274	1924	75	291
Average Queue (ft)	80	176	88	992	69	105
95th Queue (ft)	174	336	224	1978	101	209
Link Distance (ft)	344	541	541	21410		490
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				50		
Storage Blk Time (%)			87	0		
Queuing Penalty (veh)			91	1		

Queuing and Blocking Report Existing Conditions #3 (Main Closed) w/ Roundabout AM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	LT	TR	LT	R	LT
Maximum Queue (ft)	193	96	53	616	75	179
Average Queue (ft)	57	45	7	249	43	53
95th Queue (ft)	115	83	32	495	104	109
Link Distance (ft)	344	541	541	21410		
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				50	250	
Storage Blk Time (%)			63	0		
Queuing Penalty (veh)			40	1		

Queuing and Blocking Report Existing Conditions #3 (Main Closed) w/ Roundabout PM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	LT	TR	LT	R	LT
Maximum Queue (ft)	376	551	645	13222	75	300
Average Queue (ft)	193	344	348	5522	34	297
95th Queue (ft)	425	664	787	11813	95	301
Link Distance (ft)	344	541	541	21410		491
Upstream Blk Time (%)	35	40	41			96
Queuing Penalty (veh)	156	127	132			624
Storage Bay Dist (ft)				50	250	
Storage Blk Time (%)				99	0	100
Queuing Penalty (veh)				91	1	40

HCM 6th Signalized Intersection Summary Existing Conditions #1 (Pre-COVID) w/ Signal OPT 23: Sheldon Avenue/Center Street & Seven Mile Road

Table with 13 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and 50 rows of traffic metrics including Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Parking Bus, Work Zone, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Sat Flow, Grp Volume, Grp Sat Flow, Q Serwig, Cycle Q Clearing, Prop In Lane, Lane Grp Cap, V/C Ratio, Avail Cap, HCM Platoon Ratio, Upstream Filter, Uniform Delay, Incr Delay, Initial Q Delay, %ile BackOfQueue, Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS, Timer - Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Ext Time.

Northville Downs TIS Synchro 11 Report
Fleis & VanderBink Engineering 12/13/2021

HCM 6th Signalized Intersection Summary Existing Conditions #1 (Pre-COVID) w/ Signal OPT 23: Sheldon Avenue/Center Street & Seven Mile Road

Table with 13 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and 50 rows of traffic metrics including Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Parking Bus, Work Zone, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Sat Flow, Grp Volume, Grp Sat Flow, Q Serwig, Cycle Q Clearing, Prop In Lane, Lane Grp Cap, V/C Ratio, Avail Cap, HCM Platoon Ratio, Upstream Filter, Uniform Delay, Incr Delay, Initial Q Delay, %ile BackOfQueue, Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS, Timer - Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Ext Time.

Northville Downs TIS Synchro 11 Report
Fleis & VanderBink Engineering 12/13/2021

HCM 6th Signalized Intersection Summary Existing Conditions #2 (Both Closed) w/ Signal OPT 23: Sheldon Avenue/Center Street & Seven Mile Road

Table with 13 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and 50 rows of traffic metrics including Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Parking Bus, Work Zone, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Sat Flow, Grp Volume, Grp Sat Flow, Q Serwig, Cycle Q Clearing, Prop In Lane, Lane Grp Cap, V/C Ratio, Avail Cap, HCM Platoon Ratio, Upstream Filter, Uniform Delay, Incr Delay, Initial Q Delay, %ile BackOfQueue, Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS, Timer - Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Ext Time.

Northville Downs TIS Synchro 11 Report
Fleis & VanderBink Engineering 12/13/2021

HCM 6th Signalized Intersection Summary Existing Conditions #2 (Both Closed) w/ Signal OPT 23: Sheldon Avenue/Center Street & Seven Mile Road

Table with 13 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and 50 rows of traffic metrics including Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Parking Bus, Work Zone, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Sat Flow, Grp Volume, Grp Sat Flow, Q Serwig, Cycle Q Clearing, Prop In Lane, Lane Grp Cap, V/C Ratio, Avail Cap, HCM Platoon Ratio, Upstream Filter, Uniform Delay, Incr Delay, Initial Q Delay, %ile BackOfQueue, Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS, Timer - Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Ext Time.

Northville Downs TIS Synchro 11 Report
Fleis & VanderBink Engineering 12/13/2021

HCM 6th Signalized Intersection Summary Existing Conditions #3 (Main Closed) w/ Signal OPT 23: Sheldon Avenue/Center Street & Seven Mile Road

Table with 13 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and 50 rows of traffic metrics including Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Parking Bus, Work Zone, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Sat Flow, Grp Volume, Grp Sat Flow, Q Serwig, Cycle Q Clearing, Prop In Lane, Lane Grp Cap, V/C Ratio, Avail Cap, HCM Platoon Ratio, Upstream Filter, Uniform Delay, Incr Delay, Initial Q Delay, %ile BackOfQueue, Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS, Timer - Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Ext Time.

Northville Downs TIS Synchro 11 Report
Fleis & VanderBink Engineering 12/13/2021

HCM 6th Signalized Intersection Summary Existing Conditions #3 (Main Closed) w/ Signal OPT 23: Sheldon Avenue/Center Street & Seven Mile Road

Table with 13 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and 50 rows of traffic metrics including Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Parking Bus, Work Zone, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Sat Flow, Grp Volume, Grp Sat Flow, Q Serwig, Cycle Q Clearing, Prop In Lane, Lane Grp Cap, V/C Ratio, Avail Cap, HCM Platoon Ratio, Upstream Filter, Uniform Delay, Incr Delay, Initial Q Delay, %ile BackOfQueue, Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS, Timer - Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Ext Time.

Northville Downs TIS Synchro 11 Report
Fleis & VanderBink Engineering 12/13/2021

Queuing and Blocking Report Existing Conditions #1 (Pre-COVID) w/ Signal OPT
AM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	385	424	44	123	50	73	1016	72	332
Average Queue (ft)	30	223	21	66	13	27	415	38	145
95th Queue (ft)	144	371	43	117	35	61	781	72	258
Link Distance (ft)	386		578		578		21448		532
Upstream Blk Time (%)	0		1						
Queuing Penalty (veh)	0		9						
Storage Bay Dist (ft)	500		150		50		250		
Storage Blk Time (%)	0		1		46		1		
Queuing Penalty (veh)	0		1		4		26		1

Queuing and Blocking Report Existing Conditions #1 (Pre-COVID) w/ Signal OPT
PM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	57	382	250	471	357	60	4454	300	524
Average Queue (ft)	16	227	107	249	88	47	2631	81	323
95th Queue (ft)	44	363	261	401	252	73	4614	243	509
Link Distance (ft)	386		578		578		21448		532
Upstream Blk Time (%)	0								1
Queuing Penalty (veh)	2								8
Storage Bay Dist (ft)	500		150		50		250		
Storage Blk Time (%)	0		0		29		11		55
Queuing Penalty (veh)	0		1		31		85		67

Queuing and Blocking Report Existing Conditions #2 (Both Closed) w/ Signal OPT
AM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	53	382	67	169	103	69	520	71	270
Average Queue (ft)	11	173	33	56	10	35	228	22	116
95th Queue (ft)	32	301	62	125	42	74	431	53	224
Link Distance (ft)	386		578		578		21448		532
Upstream Blk Time (%)	0								
Queuing Penalty (veh)	2								
Storage Bay Dist (ft)	500		150		50		250		
Storage Blk Time (%)	0		1		3		34		1
Queuing Penalty (veh)	0		0		15		29		0

Queuing and Blocking Report Existing Conditions #2 (Both Closed) w/ Signal OPT
PM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	159	400	249	393	298	59	666	85	255
Average Queue (ft)	22	230	89	194	69	43	418	35	147
95th Queue (ft)	91	385	207	329	216	74	640	69	235
Link Distance (ft)	386		578		578		21448		532
Upstream Blk Time (%)	0		3						
Queuing Penalty (veh)	0		14						
Storage Bay Dist (ft)	500		150		50		250		
Storage Blk Time (%)	0		3		0		20		5
Queuing Penalty (veh)	0		1		2		25		27

Queuing and Blocking Report Existing Conditions #3 (Main Closed) w/ Signal OPT
AM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	44	329	65	181	67	68	518	92	229
Average Queue (ft)	17	129	19	76	12	29	263	39	104
95th Queue (ft)	40	234	45	137	35	72	446	73	183
Link Distance (ft)	386		578		578		21448		532
Upstream Blk Time (%)	0								
Queuing Penalty (veh)	0								
Storage Bay Dist (ft)	500		150		50		250		
Storage Blk Time (%)	0		0		1		35		
Queuing Penalty (veh)	0		0		4		18		

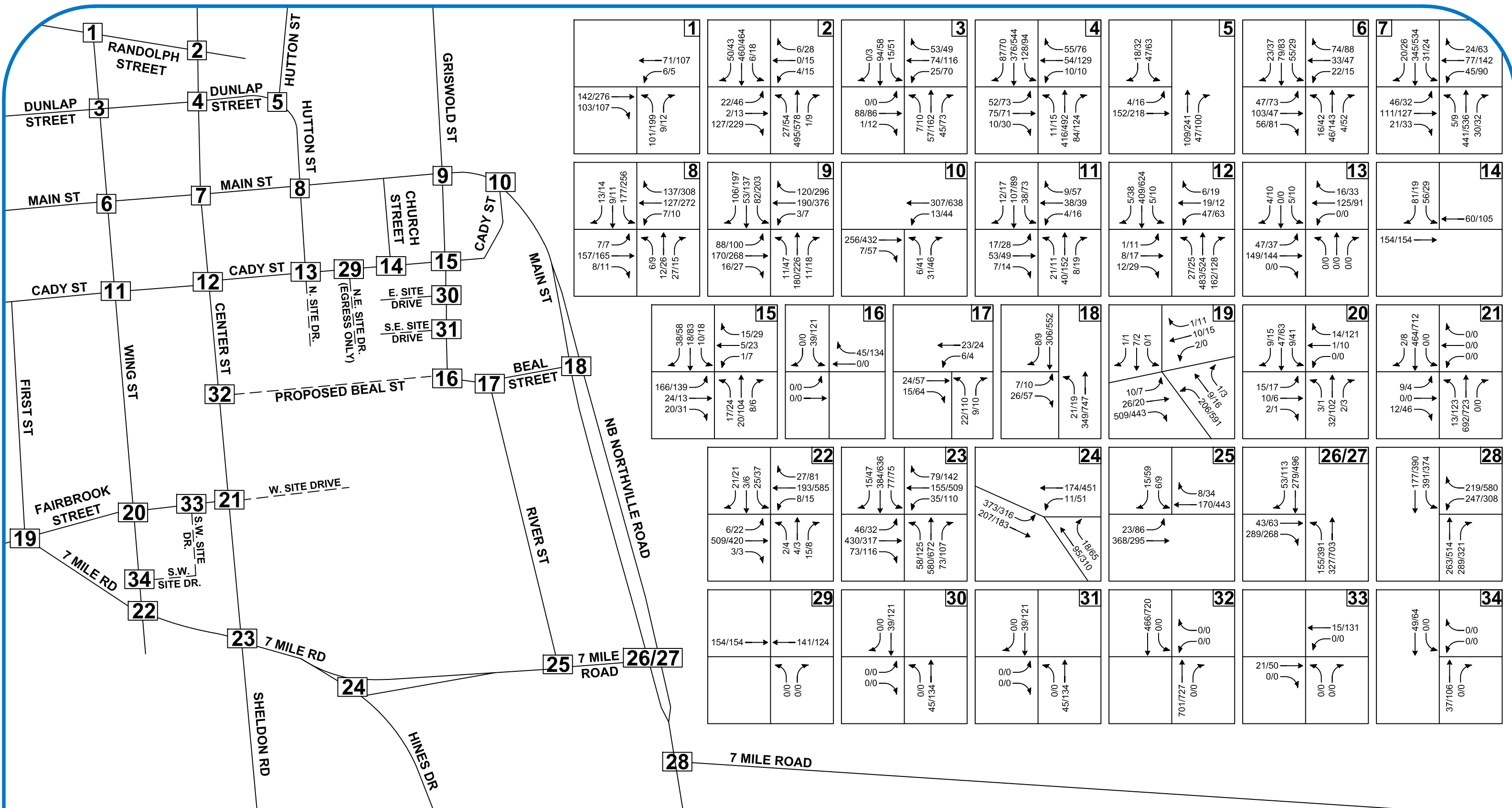
Queuing and Blocking Report Existing Conditions #3 (Main Closed) w/ Signal OPT
PM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	157	388	249	351	268	60	2010	300	527
Average Queue (ft)	22	204	81	205	66	46	1150	64	297
95th Queue (ft)	92	325	204	325	197	74	2210	201	486
Link Distance (ft)	386		578		578		21448		532
Upstream Blk Time (%)	0		0						1
Queuing Penalty (veh)	0		3						7
Storage Bay Dist (ft)	500		150		50		250		
Storage Blk Time (%)	0		0		20		13		53
Queuing Penalty (veh)	0		0		19		90		57

Appendix C

BACKGROUND TRAFFIC CONDITIONS



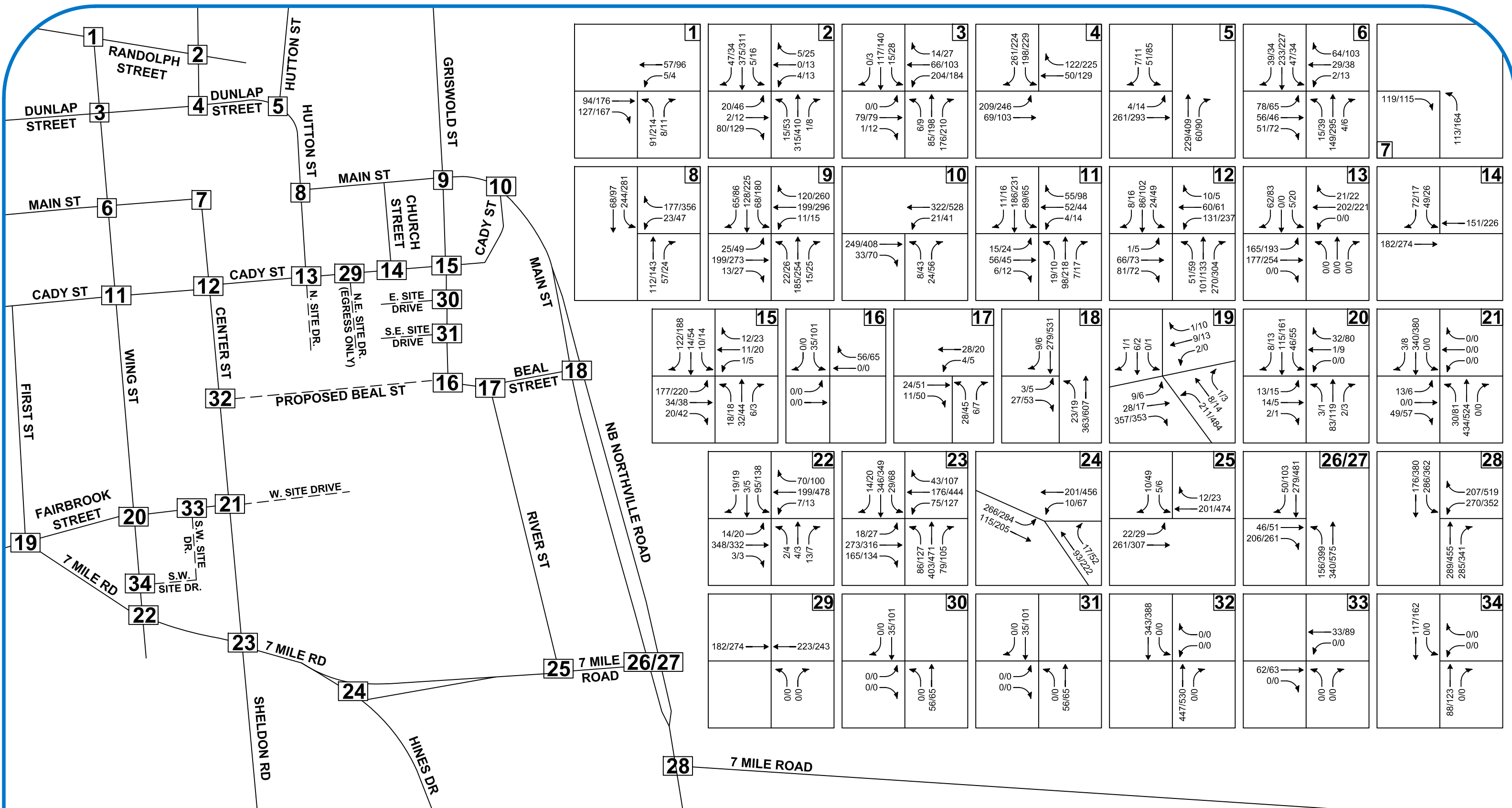
**FIGURE 4.1 - SCENARIO #1
BACKGROUND TRAFFIC
VOLUMES**
NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

- ROADS
- PROPOSED ROADS
- TRAFFIC VOLUMES (AM/PM)
- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION

NORTH
SCALE: NOT TO SCALE





**FIGURE 4.2 - SCENARIO #2
BACKGROUND TRAFFIC
VOLUMES**

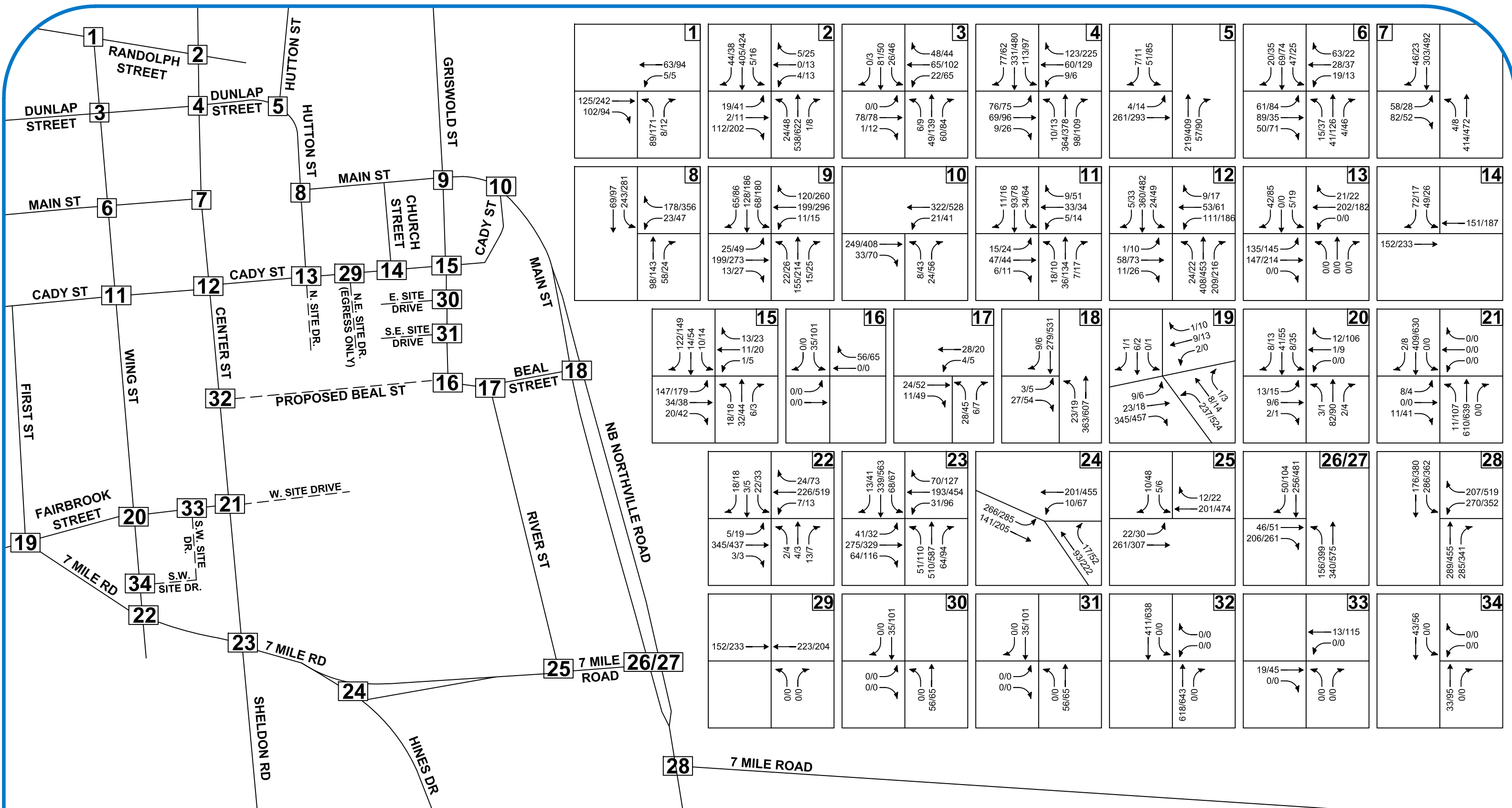
NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

- ROADS
- PROPOSED ROADS
- TRAFFIC VOLUMES (AM/PM)
- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION

NORTH
SCALE: NOT TO SCALE



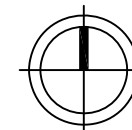


**FIGURE 4.3 - SCENARIO #3
BACKGROUND TRAFFIC
VOLUMES**

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

- ROADS
- PROPOSED ROADS
- TRAFFIC VOLUMES (AM/PM)
- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION



NORTH
SCALE: NOT TO SCALE



HCM 6th TWSC Background Conditions #1 (Pre-COVID) 1: Wing Street & Randolph Street AM Peak Hour

Intersection										
Int Delay, s/veh										
3.4										
Movement										
EBT	EBR	WBL	WBT	NBL	NBR					
EBT	EBR	WBL	WBT	NBL	NBR					
142	103	6	71	101	9					
142	103	6	71	101	9					
Conflicting Peds, #/hr										
0 0 0 0 0 0										
Sign Control										
Free Free Free Free Stop Stop										
RT Channelized										
None - None - None - None										
Storage Length										
- - - - - 0 - -										
Veh In Median Storage, #										
- - - - - 0 - -										
Grade, %										
0 - - - - - 0 - -										
Peak Hour Factor										
95 95 60 60 77 77										
Heavy Vehicles, %										
3 3 2 2 4 4										
Mvmt Flow										
149 108 10 118 131 12										

HCM 6th TWSC Background Conditions #1 (Pre-COVID) 2: Center Street & Randolph Street/Private Drive AM Peak Hour

Intersection										
Int Delay, s/veh										
6.8										
Movement										
EBL	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR		
EBL	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR		
22	2	127	4	0	6	27	495	1	6	460
22	2	127	4	0	6	27	495	1	6	460
Conflicting Peds, #/hr										
0 0 0 0 0 0 5 0 4 0 5										
Sign Control										
Stop Stop Stop Stop Stop Free Free Free Free										
RT Channelized										
None - None - None - None - None - None										
Storage Length										
- - - - - 500 - - 500 - -										
Veh In Median Storage, #										
- - - - - 0 - - 0 - -										
Grade, %										
0 - - - - - 0 - - 0 - -										
Peak Hour Factor										
66 66 66 75 75 75 91 91 91 69 69 69										
Heavy Vehicles, %										
1 1 1 0 0 0 2 2 2 2 2 2										
Mvmt Flow										
33 3 192 5 0 8 30 544 1 9 667 72										

HCM 6th AWSC Background Conditions #1 (Pre-COVID) 3: Wing Street & Dunlap Street AM Peak Hour

Intersection											
Intersection Delay, s/veh											
8.8											
Intersection LOS											
A											
Movement											
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
0	88	1	25	74	53	7	57	45	15	94	0
0	88	1	25	74	53	7	57	45	15	94	0
Peak Hour Factor											
0.78 0.78 0.78 0.73 0.73 0.73 0.84 0.84 0.84 0.88 0.88 0.88											
Heavy Vehicles, %											
0 0 0 0 0 0 0 3 3 3 4 4											
Mvmt Flow											
0 113 1 34 101 73 8 68 54 17 107 0											
Number of Lanes											
0 1 0 0 1 0 0 1 0 0 1 0											

HCM 6th Signalized Intersection Summary Background Conditions #1 (Pre-COVID) 4: Center Street & Dunlap Street AM Peak Hour

Intersection											
Int Delay, s/veh											
2.2											
Movement											
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
4	152	109	47	47	18						
4	152	109	47	47	18						
Conflicting Peds, #/hr											
0 0 0 0 0 5 5											
Sign Control											
Free Free Free Stop Stop											
RT Channelized											
None - None - None - None											
Storage Length											
- - - - - 0 - - 0 - -											
Veh In Median Storage, #											
- - - - - 0 - - 0 - -											
Grade, %											
0 - - - - - 0 - - 0 - -											
Peak Hour Factor											
93 93 84 84 74 74											
Heavy Vehicles, %											
3 3 2 2 0 0											
Mvmt Flow											
4 163 130 56 64 24											

HCM 6th TWSC Background Conditions #1 (Pre-COVID) 5: Dunlap Street & Hutton Street AM Peak Hour

Intersection										
Int Delay, s/veh										
2.2										
Movement										
EBL	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR		
EBL	EBT	WBL	WBT	NBL	NBR	SBL	SBT	SBR		
4	152	109	47	47	18					
4	152	109	47	47	18					
Conflicting Peds, #/hr										
0 0 0 0 0 5 5										
Sign Control										
Free Free Free Stop Stop										
RT Channelized										
None - None - None - None										
Storage Length										
- - - - - 0 - - 0 - -										
Veh In Median Storage, #										
- - - - - 0 - - 0 - -										
Grade, %										
0 - - - - - 0 - - 0 - -										
Peak Hour Factor										
93 93 84 84 74 74										
Heavy Vehicles, %										
3 3 2 2 0 0										
Mvmt Flow										
4 163 130 56 64 24										

HCM 6th AWSC Background Conditions #1 (Pre-COVID) 6: Wing Street & Main Street AM Peak Hour

Intersection											
Intersection Delay, s/veh											
9.7											
Intersection LOS											
A											
Movement											
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
47	103	56	22	33	74	16	46	4	55	79	23
47	103	56	22	33	74	16	46	4	55	79	23
Peak Hour Factor											
0.81 0.81 0.81 0.76 0.76 0.76 0.93 0.93 0.93 0.78 0.78 0.78											
Heavy Vehicles, %											
2 2 2 2 2 2 5 5 5 5 2 2											
Mvmt Flow											
58 127 69 29 43 97 17 49 4 71 101 29											
Number of Lanes											
0 1 0 0 1 0 0 1 0 0 1 0											

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC Background Conditions #1 (Pre-COVID)
13: N. Site Drive/Hutton Street & Cady Street AM Peak Hour

Intersection												
Int Delay, s/veh	1.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕											
Traffic Vol, veh/h	47	149	0	0	125	16	0	0	5	0	4	4
Future Vol, veh/h	47	149	0	0	125	16	0	0	5	0	4	4
Conflicting Peds, #/hr	4	0	0	0	4	0	0	0	3	3	0	1
Sign Control	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0
Peak Hour Factor	84	84	84	66	66	66	92	92	92	75	75	75
Heavy Vehicles, %	1	1	1	1	1	1	2	2	2	11	11	11
Mvmt Flow	56	177	0	0	189	24	0	0	7	0	5	5
Major/Minor												
Conflicting Flow All	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	217			0			494			505 180 497 494 206		
Stage 1	-			-			-			-		
Stage 2	-			-			-			-		
Critical Hdwy	4.11			-			-			-		
Critical Hdwy Stg 1	-			-			-			-		
Critical Hdwy Stg 2	-			-			-			-		
Follow-up Hdwy	2.209			-			-			-		
Plat Cap-1 Maneuver	1359			-			-			-		
Stage 1	-			-			-			-		
Stage 2	-			-			-			-		
Platoon blocked, %	-			-			-			-		
Mov Cap-1 Maneuver	1354			-			-			-		
Mov Cap-2 Maneuver	-			-			-			-		
Stage 1	-			-			-			-		
Stage 2	-			-			-			-		
Approach												
HCM Control Delay, s	EB			WB			NB			SB		
HCM Control Delay, s	1.9			0			0			11.6		
HCM LOS	B			A			A			B		
Minor Lane/Major Mvmt												
Capacity (veh/h)	NBLn1			EBL			EBR			WBL		
Capacity (veh/h)	-			-			-			-		
HCM Lane V/C Ratio	-			-			-			-		
HCM Control Delay (s)	-			-			-			-		
HCM Lane LOS	A			A			A			B		
HCM 95th %ile Q(veh)	-			-			-			-		

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HCM 6th TWSC Background Conditions #1 (Pre-COVID)
14: Cady Street & Chruh Street AM Peak Hour

Intersection												
Int Delay, s/veh	4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕											
Traffic Vol, veh/h	0	154	60	0	56	81	0	0	0	0	0	0
Future Vol, veh/h	0	154	60	0	56	81	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-	-	0	-	-	-	0
Grade, %	-	0	0	-	0	-	-	0	-	-	-	0
Peak Hour Factor	81	81	64	64	76	76	76	76	76	76	76	76
Heavy Vehicles, %	1	1	1	1	1	1	0	0	0	0	0	0
Mvmt Flow	0	190	94	0	74	107	0	0	0	0	0	0
Major/Minor												
Conflicting Flow All	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	-			-			-			-		
Stage 1	-			-			-			-		
Stage 2	-			-			-			-		
Critical Hdwy	-			-			-			-		
Critical Hdwy Stg 1	-			-			-			-		
Critical Hdwy Stg 2	-			-			-			-		
Follow-up Hdwy	-			-			-			-		
Plat Cap-1 Maneuver	-			-			-			-		
Stage 1	-			-			-			-		
Stage 2	-			-			-			-		
Platoon blocked, %	-			-			-			-		
Mov Cap-1 Maneuver	-			-			-			-		
Mov Cap-2 Maneuver	-			-			-			-		
Stage 1	-			-			-			-		
Stage 2	-			-			-			-		
Approach												
HCM Control Delay, s	EB			WB			NB			SB		
HCM Control Delay, s	0			0			10.4			9.1		
HCM LOS	B			A			B			B		
Minor Lane/Major Mvmt												
Capacity (veh/h)	NBLn1			EBT			WBT			SBLn1		
Capacity (veh/h)	-			-			-			-		
HCM Lane V/C Ratio	-			-			-			-		
HCM Control Delay (s)	-			-			-			-		
HCM Lane LOS	-			-			-			-		
HCM 95th %ile Q(veh)	-			-			-			-		

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HCM 6th TWSC Background Conditions #1 (Pre-COVID)
15: Griswold Street & Cady Street AM Peak Hour

Intersection												
Int Delay, s/veh	8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕											
Traffic Vol, veh/h	166	24	20	1	5	15	17	20	8	10	18	38
Future Vol, veh/h	166	24	20	1	5	15	17	20	8	10	18	38
Conflicting Peds, #/hr	5	0	0	0	0	5	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	-	0
Grade, %	-	0	-	-	0	-	-	0	-	-	-	0
Peak Hour Factor	91	91	91	60	60	60	85	85	85	76	76	76
Heavy Vehicles, %	1	1	1	0	0	0	0	0	0	4	4	4
Mvmt Flow	182	26	22	2	8	25	20	24	9	13	24	50
Major/Minor												
Conflicting Flow All	Minor2			Major1			Major2			Minor2		
Conflicting Flow All	168			151			168			172		
Stage 1	-			-			-			-		
Stage 2	-			-			-			-		
Critical Hdwy	7.11			6.21			7.1			6.5		
Critical Hdwy Stg 1	-			-			-			-		
Critical Hdwy Stg 2	-			-			-			-		
Follow-up Hdwy	3.509			4.009			3.309			3.5		
Plat Cap-1 Maneuver	798			742			1019			800		
Stage 1	-			-			-			-		
Stage 2	-			-			-			-		
Platoon blocked, %	-			-			-			-		
Mov Cap-1 Maneuver	753			723			1016			748		
Mov Cap-2 Maneuver	-			-			-			-		
Stage 1	-			-			-			-		
Stage 2	-			-			-			-		
Approach												
HCM Control Delay, s	EB			WB			NB			SB		
HCM Control Delay, s	11.7			9.1			11.7			2.8		
HCM LOS	B			A			A			1.1		
Minor Lane/Major Mvmt												
Capacity (veh/h)	NBL			NBT			NBR			EBLn1		
Capacity (veh/h)	-			-			-			-		
HCM Lane V/C Ratio	-			-			-			-		
HCM Control Delay (s)	-			-			-			-		
HCM Lane LOS	A			A			A			A		
HCM 95th %ile Q(veh)	-			-			-			-		

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SimTraffic Performance Report Background Conditions #1 (Pre-COVID)
16: Proposed Beal Street/Beal Street & Griswold Street Performance by movement AM Peak Hour

Movement	WBT	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	1.0	0.3	3.8	2.0

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HCM 6th TWSC Background Conditions #1 (Pre-COVID)
17: River Street & Beal Street AM Peak Hour

Intersection												
Int Delay, s/veh	3.1											
Movement	EBT	EBR	WBL	WBT	NBL	NBR						
Lane Configurations	↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕											
Traffic Vol, veh/h	24	15	6	23	22	9						
Future Vol, veh/h	24	15	6	23	22	9						
Conflicting Peds, #/hr	0	0	0	0	1	1						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	-	-	None	-	-	None						
Storage Length	-	-	-	-	-	-						
Veh in Median Storage, #	0	-	-	0	-	-						
Grade, %	0	-	-	0	-	-						
Peak Hour Factor	62	62	72	72	70	70						
Heavy Vehicles, %	5	5	0	0	7	7						
Mvmt Flow	39	24	8	32	31	13						
Major/Minor												
Conflicting Flow All	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	0			0			63			100		
Stage 1	-			-			-			-		
Stage 2	-			-			-			-		
Critical Hdwy	-			-			-			-		
Critical Hdwy Stg 1	-			-			-			-		
Critical Hdwy Stg 2	-			-			-			-		
Follow-up Hdwy	-			-			-			-		
Plat Cap-1 Maneuver	-			-			-			-		
Stage 1	-			-			-			-		
Stage 2	-			-			-			-		
Platoon blocked, %	-			-			-			-		
Mov Cap-1 Maneuver	-			-			-			-		
Mov Cap-2 Maneuver	-			-			-			-		
Stage 1	-			-			-			-		
Stage 2	-			-			-			-		
Approach												
HCM Control Delay, s	EB			WB			NB			SB		
HCM Control Delay, s	0			1.5			9.1			10.6		
HCM LOS	B			A			A			B		
Minor Lane/Major Mvmt												
Capacity (veh/h)	NBLn1			EBT			WBL			WBT		
Capacity (veh/h)	914			-			-			-		
HCM Lane V/C Ratio	0.048			-			-			-		
HCM Control Delay (s)	9.1			-			-			-		
HCM Lane LOS	A			-			-			-		
HCM 95th %ile Q(veh)	0.2			-			-			-		

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HCM 6th TWSC Background Conditions #1 (Pre-COVID)
18: Main Street/Northville Road & Beal Street AM Peak Hour

Intersection												
Int Delay, s/veh	1											
Movement	EBL	EBR	NBL	NBT	SBL	SBR						
Lane Configurations	↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕											
Traffic Vol, veh/h	7	26	21	349	306	8						

HCM 6th TWSC Background Conditions #1 (Pre-COVID)
25: Seven Mile Road & River Street
AM Peak Hour

Intersection						
Int Delay, s/veh	0.8					
Movement		EBL	EBT	EBR	WBL	WBR
Lane Configurations	4					
Traffic Vol, veh/h	23 368 170 8 6 15					
Future Vol, veh/h	23 368 170 8 6 15					
Conflicting Peds, #/hr	3 0 0 2 3					
Sign Control	Free Free Free Stop Stop					
RT Channelized	None - None - None					
Storage Length	- - - - -					
Vehicle in Median Storage, #	- - - - -					
Grade, %	- - - - -					
Peak Hour Factor	91 91 83 83 71 71					
Heavy Vehicles, %	2 2 5 5 6 6					
Mvmt Flow	25 404 205 10 8 21					
Major/Minor		Major1	Minor2			
Conflicting Flow All	218 0 - - 669 216					
Stage 1	- - - - 213 -					
Stage 2	- - - - 456 -					
Critical Hdwy	4.12 - - - 6.46 6.26					
Critical Hdwy Stg 1	- - - - 5.46 -					
Critical Hdwy Stg 2	- - - - 5.46 -					
Follow-up Hdwy	2.218 - - - 3.554 3.354					
Rel Cap 1 Maneuver	1352 - - - 417 814					
Stage 1	- - - - 913 -					
Stage 2	- - - - 630 -					
Platoon blocked, %	- - - - -					
Max Cap 1 Maneuver	1348 - - - 404 809					
Max Cap 2 Maneuver	- - - - 404 -					
Stage 1	- - - - 791 -					
Stage 2	- - - - 628 -					
Approach		EB	WB	SB		
HCM Control Delay, s	0.5 0 11 - -					
HCM LOS	- - - - B					
Minor Lane/Major Mvmt		EBL	EBT	WBT	WBR	SBL
Capacity (veh/h)	1348 - - - - 629					
HCM Lane V/C Ratio	0.019 - - - - 0.047					
HCM Control Delay (s)	7.7 0 - - - - 11					
HCM Lane LOS	A A - - - - B					
HCM 95th %ile Q(veh)	0.1 - - - - 0.1					

HCM Unsignalized Intersection Capacity Analysis Background Conditions #1 (Pre-COVID)
26: SB Northville Road & N. Seven Mile Road
AM Peak Hour

Movement		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4 4 4												
Traffic Volume (veh/h)	0 43 289 0 155 0 0 0 0 0 0 0 279 53												
Future Volume (veh/h)	0 43 289 0 155 0 0 0 0 0 0 0 279 53												
Sign Control	Stop Yield Free Free												
Grade	0% 0% 0% 0% 0%												
Peak Hour Factor	0.81 0.81 0.81 0.88 0.88 0.88 0.92 0.92 0.92 0.95 0.95 0.95 0.95												
Hourly flow rate (vph)	0 53 357 0 176 0 0 0 0 0 0 0 294 56												
Pedestrians	- - - - -												
Lane Width (ft)	- - - - -												
Walking Speed (ft/s)	- - - - -												
Percent Blockage	- - - - -												
Right turn flare (veh)	- - - - -												
Median type	None None												
Median storage (veh)	- - - - -												
Upstream signal (ft)	- - - - -												
pK, platoon unblocked	410 322 175 530 350 0 350												
vC, conflicting volume	- - - - -												
ICU, stage 1 conf vol	- - - - -												
vC2, stage 2 conf vol	- - - - -												
vOu, unblocked vol	410 322 175 530 350 0 350												
IC, single (s)	7.5 6.5 6.9 7.6 6.6 7.0 4.1 4.1												
IC, 2 stage (s)	- - - - -												
IF (s)	3.5 4.0 3.3 3.5 4.0 3.3 2.2 2.2												
p0 queue free %	100 91 57 100 69 100 100 100												
capacity (veh/h)	399 594 638 227 566 1075 1206 1629												
Direction, Lane #		EB1	EB2	WB1	WB2	SB1	SB2						
Volume Total	53 357 176 196 154												
Volume Left	0 0 0 0 0												
Volume Right	0 357 0 0 56												
vSH	594 638 596 1700 1700												
Volume to Capacity	0.09 0.43 0.31 0.12 0.09												
Queue Length 95th (ft)	7 54 33 0 0												
Control Delay (s)	11.7 12.4 14.2 0.0 0.0												
Lane LOS	B B B												
Approach Delay (s)	12.3 14.2 0.0												
Approach LOS	B B												
Intersection Summary													
Average Delay	8.1												
Intersection Capacity Utilization	47.5%												
ICU Level of Service	A												
Analysis Period (min)	15												

HCM Unsignalized Intersection Capacity Analysis Background Conditions #1 (Pre-COVID)
27: NB Northville Road & N. Seven Mile Road
AM Peak Hour

Movement		EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	4 4 4 4						
Traffic Volume (veh/h)	43 0 155 327 0 0						
Future Volume (veh/h)	43 0 155 327 0 0						
Sign Control	Yield Free Free Free						
Grade	0% 0% 0% 0%						
Peak Hour Factor	0.81 0.81 0.88 0.88 0.92 0.92						
Hourly flow rate (vph)	53 0 176 372 0 0						
Pedestrians	- - - - -						
Lane Width (ft)	- - - - -						
Walking Speed (ft/s)	- - - - -						
Percent Blockage	- - - - -						
Right turn flare (veh)	- - - - -						
Median type	None None						
Median storage (veh)	- - - - -						
Upstream signal (ft)	511						
pK, platoon unblocked	538 0 0						
vC, conflicting volume	- - - - -						
ICU, stage 1 conf vol	- - - - -						
vC2, stage 2 conf vol	- - - - -						
vOu, unblocked vol	538 0 0						
IC, single (s)	6.8 6.9 4.2						
IC, 2 stage (s)	- - - - -						
IF (s)	3.5 3.3 2.2						
p0 queue free %	87 100 89						
capacity (veh/h)	421 1084 1600						
Direction, Lane #		EB1	NB1	NB2			
Volume Total	53 300 248						
Volume Left	53 176 0						
Volume Right	0 0 0						
vSH	421 1600 1700						
Volume to Capacity	0.13 0.11 0.15						
Queue Length 95th (ft)	11 9 0						
Control Delay (s)	14.8 4.8 0.0						
Lane LOS	B A						
Approach Delay (s)	14.8 2.8						
Approach LOS	B						
Intersection Summary							
Average Delay	3.7						
Intersection Capacity Utilization	48.8%						
ICU Level of Service	A						
Analysis Period (min)	15						

HCM 6th Signalized Intersection Summary Background Conditions #1 (Pre-COVID)
28: Northville Road & S. Seven Mile Road
AM Peak Hour

Movement		WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	4 4 4 4 4						
Traffic Volume (veh/h)	247 219 263 289 391 177						
Future Volume (veh/h)	247 219 263 289 391 177						
Initial Q (Qb), veh	0 0 0 0 0 0						
Post-Bar A/C (p0T)	1.00 1.00 1.00 1.00 1.00						
Parking Bids, Ad	1.00 1.00 1.00 1.00 1.00						
Work Zone On Approach	No No						
Adj Sat Flow, veh/hln	1953 1953 1938 1938 1984 1984						
Adj Flow Rate, veh/h	287 255 277 304 449 203						
Peak Hour Factor	0.86 0.86 0.95 0.95 0.87 0.87						
Percent Heavy Veh. %	3 3 4 4 1 1						
Cap, veh/h	665 923 377 337 468 1829						
Arrive On Green	0.36 0.36 0.20 0.20 0.20 0.49						
Sat Flow, veh/h	1860 1655 1938 1642 1890 3870						
Grp Volume (v), veh/h	287 255 277 304 449 203						
Grp Sat Flow (s), veh/hln	1860 1655 1841 1642 1890 1885						
Q (serv), s, s	8.4 0.0 11.3 14.4 14.9 2.3						
Cycle Q (Clear), s	8.4 0.0 11.3 14.4 14.9 2.3						
Prop In Lane	1.00 1.00 1.00 1.00						
Lane Grp Cap (C), veh/h	665 923 377 337 468 1829						
V/C Ratio (C)	0.43 0.28 0.73 0.90 0.96 0.11						
Rel Cap 1 Maneuver	665 923 377 337 468 1829						
HCM Platoon Ratio	1.00 1.00 1.00 1.00 1.00						
Upstream Filter (f)	1.00 1.00 1.00 1.00 1.00						
Uniform Delay (d), s/veh	15.9 3.3 29.8 31.0 30.1 11.2						
Int Delay (d2), s/veh	2.0 0.7 12.0 29.7 32.6 0.1						
Initial Q Delay (d3), s/veh	0.0 0.0 0.0 0.0 0.0 0.0						
%ile Back (Q)(50%), veh/in	4.2 2.2 5.9 8.1 11.6 0.9						
LnGrp Movement Delay, s/veh	21.6 10.0 41.7 60.7 62.7 11.3						
LnGrp LOS	C B D E E B						
Approach Vol, veh/h	542 581 652						
Approach Delay, s/veh	16.1 51.6 46.7						
Approach LOS	D D D						
Timer - Assigned Phs	1 2 6 8						
Phs Duration (G+Y+R), s	22.4 22.6 45.2 34.8						
Change Period (Y+R), s	6.4 6.4 6.4 6.2						
Max Green Setting (Gmax), s	16.0 16.4 38.8 28.6						
Max Q Clear Time (q_c+1), s	15.9 16.4 4.3 11.4						
Green Ext Time (p_c+1), s	0.0 0.0 1.3 1.6						
Intersection Summary							
HCM 6th Ctrl Delay	39.0						
HCM 6th LOS	D						

HCM 6th TWSC Background Conditions #1 (Pre-COVID)
1: Wing Street & Randolph Street
PM Peak Hour

Intersection								
Int Delay, s/veh	6.4							
Movement		EBT	EBR	WBT	NBL	NBR		
Lane Configurations	4 4 4 4 4							
Traffic Vol, veh/h	276 107 5 107 199 12							
Future Vol, veh/h	276 107 5 107 199 12							
Conflicting Peds, #/hr	0 11 11 0 4							
Sign Control	Free Free Free Stop Stop							
RT Channelized	None - None - None							
Storage Length	- - - - -							
Vehicle in Median Storage, #	- - - - -							
Grade, %	0 - - - - 0							
Peak Hour Factor	87 87 81 81 78 78							
Heavy Vehicles, %	0 0 0 0 1 1							
Mvmt Flow	317 123 6 132 255 15							
Major/Minor		Major1	Minor2	Minor1				
Conflicting Flow All	0 0 451 0 534 394							
Stage 1	- - - - 390 -							
Stage 2	- - - - 144 -							
Critical Hdwy	- - - 4.1 - 6.41 6.21							
Critical Hdwy Stg 1	- - - - 5.41 -							
Critical Hdwy Stg 2	- - - - 5.41 -							
Follow-up Hdwy	- - - 2.2 - 3.509 3.309							
Rel Cap 1 Maneuver	- - - 1120 - 569 657							
Stage 1	- - - - 686 -							
Stage 2	- - - - 886 -							
Platoon blocked, %	- - - - -							
Max Cap 1 Maneuver	- - - 1108 - 501 648							
Max Cap 2 Maneuver	- - - - 501 -							
Stage 1	- - - - 679 -							
Stage 2	- - - - 881 -							
Approach		EB	WB	NB				
HCM Control Delay, s	0 0.4 19.9							
HCM LOS	C C							
Minor Lane/Major Mvmt		NBL	NBT	EBL	WBL	WBT		
Capacity (veh/h)	508 - - - 1108 -							
HCM Lane V/C Ratio	0.533 - - - 0.006 -							
HCM Control Delay (s)	19.9 - - - 6.3 0							
HCM Lane LOS	C - - - A A							
HCM 95th %ile Q(veh)	3.1 - - - 0 -							

HCM 6th TWSC Background Conditions #1 (Pre-COVID)
2: Center Street & Randolph Street/Private Drive
PM Peak Hour

Intersection														
Int Delay, s/veh	63.7													
Movement		EBL	EBR	NBL	NBT	NBR	SBL	SBT	SBR					
Lane Configurations	4 4 4 4 4 4 4 4													
Traffic Vol, veh/h	46 13 229 15 15 28 54 578 9 18 464 43													
Future Vol, veh/h	46 13 229 15 15 28 54 578 9 18 464 43													
Conflicting Peds, #/hr	2 0 5 5 0 2 15 0 12 12 0 15													
Sign Control	Stop Stop Stop Stop Stop Free Free Free Free													
RT Channelized	None - None - None - None - None													
Storage Length	- - - - - 500 - 500 - -													
Vehicle in Median Storage, #	- - - - - 0 - - - - -													
Grade, %	0 - - - - 0 - - - - -													
Peak Hour Factor	84 84 84 91 91 87 87 73 73 73													
Heavy Vehicles, %	0 0 0 0 0 0 0 0 1 1 1													
Mvmt Flow	55 15 273 16 16 31 62 664 10 25 636 59													
Major/Minor		Minor2	Minor1	Major1	Major2									
Conflicting Flow All	1550 1541 686 1670 1565 683 710 0 0 686 0 0													
Stage 1	731 731 - 805 805 - - - - -													
Stage 2	819 810 - 865 760 - - - - -													
Critical Hdwy	7.1 6.5 6.2 7.1 6.5 6.2 4.1 - - - 4.11 - -													
Critical Hdwy Stg 1	6.1 5.5 - 6.1 5.5 - - - - -													
Critical Hdwy Stg 2	6.1 5.5 - 6.1 5.5 - - - - -													
Follow-up Hdwy	3.5 4 3.3 3.5 4 3.3 2.2 - - - 2.209 - -													
Rel Cap 1 Maneuver	54 116 451 77 113 453 889 - - - 912 - -													
Stage 1	416 430 - 379 358 - - - - -													
Stage 2	372 396 - 351 417 - - - - -													
Platoon blocked, %	- - - - -													
Max Cap 1 Maneuver	70 102 442 24 100 447 886 - - - 902 - -													
Max Cap 2 Maneuver	70 102 - 24 100 - - - - -													
Stage 1	381 412 - 348 366 - - - - -													
Stage 2	307 364 - 125 399 - - - - -													
Approach		EB	WB	NB	SB									
HCM Control Delay, s	308.9 188.3 0.8 0.3													
HCM LOS	F F													
Minor Lane/Major Mvmt		NBL	NBT	NBR	EBL	WBL	N1	SBL	SBT	SBR				
Capacity (veh/h)	886 - - - 221 69 902 - - -													
HCM Lane V/C Ratio	0.07 - - - 1.551 0.324 0.027 - - -													
HCM Control Delay (s)	9.4 - - - 308.9 188.3 9.1 - - -													
HCM Lane LOS	A - - - F F A - - -													
HCM 95th %ile Q(veh)	0.2 - - - 21.3 4.6 0.1 - - -													
Notes														
- Volume exceeds capacity \$ Delay exceeds 300s * Computation Not Defined ** All major volume in platoon														

HCM 6th AWSC
3: Wing Street & Dunlap Street

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Table with 11 columns: Intersection, Lane Configurations, Movement, Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Work Zone, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Sat Flow, Grp Volume, Grp Sat Flow, Q Serv, OpSig, Prop In Lane, Lane Grp Cap, V/C Ratio, Avail Cap, HCM Platoon Ratio, Upstream Filter, Uniform Delay, Incr Delay, Initial Q Delay, %ile BackOfQ, %ile BackOfQ, Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS. Includes a small diagram above the table.

Table with 5 columns: Lane, Vol Left, Vol Thru, Vol Right, Sign Control, Traffic Vol by Lane, LT Vol, Through Vol, RT Vol, Lane Flow Rate, Geometry Grp, Degree of Utl, Disruptive Hwy, Convergence, Cap, Service Time, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95th-Q.

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HCM 6th Signalized Intersection Summary
4: Center Street & Dunlap Street

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Table with 11 columns: Movement, Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Work Zone, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Sat Flow, Grp Volume, Grp Sat Flow, Q Serv, OpSig, Prop In Lane, Lane Grp Cap, V/C Ratio, Avail Cap, HCM Platoon Ratio, Upstream Filter, Uniform Delay, Incr Delay, Initial Q Delay, %ile BackOfQ, %ile BackOfQ, Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS. Includes a small diagram above the table.

Notes
User approved pedestrian interval to be less than phase max green.
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th TWSC
5: Dunlap Street & Hutton Street

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Table with 11 columns: Intersection, Lane Configurations, Movement, Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Work Zone, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Sat Flow, Grp Volume, Grp Sat Flow, Q Serv, OpSig, Prop In Lane, Lane Grp Cap, V/C Ratio, Avail Cap, HCM Platoon Ratio, Upstream Filter, Uniform Delay, Incr Delay, Initial Q Delay, %ile BackOfQ, %ile BackOfQ, Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS. Includes a small diagram above the table.

Table with 5 columns: Minor Lane/Major Mvmt, Capacity, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95th-Q.

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HCM 6th AWSC
6: Wing Street & Main Street

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Table with 11 columns: Intersection, Lane Configurations, Movement, Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Work Zone, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Sat Flow, Grp Volume, Grp Sat Flow, Q Serv, OpSig, Prop In Lane, Lane Grp Cap, V/C Ratio, Avail Cap, HCM Platoon Ratio, Upstream Filter, Uniform Delay, Incr Delay, Initial Q Delay, %ile BackOfQ, %ile BackOfQ, Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS. Includes a small diagram above the table.

Table with 5 columns: Lane, Vol Left, Vol Thru, Vol Right, Sign Control, Traffic Vol by Lane, LT Vol, Through Vol, RT Vol, Lane Flow Rate, Geometry Grp, Degree of Utl, Disruptive Hwy, Convergence, Cap, Service Time, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95th-Q.

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HCM 6th Signalized Intersection Summary
7: Center Street & Main Street

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Table with 11 columns: Movement, Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Work Zone, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Sat Flow, Grp Volume, Grp Sat Flow, Q Serv, OpSig, Prop In Lane, Lane Grp Cap, V/C Ratio, Avail Cap, HCM Platoon Ratio, Upstream Filter, Uniform Delay, Incr Delay, Initial Q Delay, %ile BackOfQ, %ile BackOfQ, Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS. Includes a small diagram above the table.

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th Signalized Intersection Summary
8: Hutton Street & Main Street

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Table with 11 columns: Movement, Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Work Zone, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Sat Flow, Grp Volume, Grp Sat Flow, Q Serv, OpSig, Prop In Lane, Lane Grp Cap, V/C Ratio, Avail Cap, HCM Platoon Ratio, Upstream Filter, Uniform Delay, Incr Delay, Initial Q Delay, %ile BackOfQ, %ile BackOfQ, Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS. Includes a small diagram above the table.

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM Unsignalized Intersection Capacity Analysis Background Conditions #1 (Pre-COVID)
27: NB Northville Road & N. Seven Mile Road PM Peak Hour

Diagram and table for HCM Unsignalized Intersection Capacity Analysis. Includes Lane Configurations, Traffic Volume, Sign Control, and Intersection Summary.

HCM 6th Signalized Intersection Summary Background Conditions #1 (Pre-COVID)
28: Northville Road & S. Seven Mile Road PM Peak Hour

Diagram and table for HCM 6th Signalized Intersection Summary. Includes Lane Configurations, Traffic Volume, Sign Control, and Intersection Summary.

HCM 6th TWSC Background Conditions #1 (Pre-COVID)
29: N.E. Site Drive (Egress Only) & Cady Street PM Peak Hour

Diagram and table for HCM 6th TWSC. Includes Lane Configurations, Traffic Volume, Sign Control, and Intersection Summary.

HCM 6th TWSC Background Conditions #1 (Pre-COVID)
30: Griswold Street & E. Site Drive PM Peak Hour

Diagram and table for HCM 6th TWSC. Includes Lane Configurations, Traffic Volume, Sign Control, and Intersection Summary.

HCM 6th TWSC Background Conditions #1 (Pre-COVID)
31: Griswold Street & S.E. Site Drive PM Peak Hour

Diagram and table for HCM 6th TWSC. Includes Lane Configurations, Traffic Volume, Sign Control, and Intersection Summary.

HCM 6th TWSC Background Conditions #1 (Pre-COVID)
32: Center Street & Proposed Beal Street PM Peak Hour

Diagram and table for HCM 6th TWSC. Includes Lane Configurations, Traffic Volume, Sign Control, and Intersection Summary.

HCM 6th TWSC
5: Dunlap Street & Hutton Street

Background Conditions #2 (Both Closed)
AM Peak Hour

Table with 12 columns for lane configurations and movements. Includes data for Intersection, Movement, Lane Configurations, HCM LOS, and HCM 95th %ile Q(veh).

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HCM 6th AWSC
6: Wing Street & Main Street

Background Conditions #2 (Both Closed)
AM Peak Hour

Table with 12 columns for lane configurations and movements. Includes data for Intersection, Movement, Lane Configurations, HCM LOS, and HCM 95th %ile Q.

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HCM 6th AWSC
7: Center Street & Main Street

Background Conditions #2 (Both Closed)
AM Peak Hour

Table with 12 columns for lane configurations and movements. Includes data for Intersection, Movement, Lane Configurations, HCM LOS, and HCM 95th %ile Q.

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HCM 6th AWSC
8: Hutton Street & Main Street

Background Conditions #2 (Both Closed)
AM Peak Hour

Table with 12 columns for lane configurations and movements. Includes data for Intersection, Movement, Lane Configurations, HCM LOS, and HCM 95th %ile Q(veh).

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HCM 6th Signalized Intersection Summary

Background Conditions #2 (Both Closed)
AM Peak Hour

Table with 12 columns for lane configurations and movements. Includes a signal timing diagram at the top and detailed HCM data for lane configurations, HCM LOS, and HCM 95th %ile Q.

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th TWSC
10: Cady Street & Main Street

Background Conditions #2 (Both Closed)
AM Peak Hour

Table with 12 columns for lane configurations and movements. Includes data for Intersection, Movement, Lane Configurations, HCM LOS, and HCM 95th %ile Q(veh).

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HCM 6th AWSC Background Conditions #2 (Both Closed) AM Peak Hour
11: Wing Street & Cady Street

Intersection table with columns for Int Delay, s/veh, Lane Configurations, Traffic Vol, Sign Control, etc.

Lane table with columns for Lane, NBLn1, EBLn1, WBLn1, SBLn1, Vol Left, Vol Thru, etc.

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HCM 6th TWSC Background Conditions #2 (Both Closed) AM Peak Hour
12: Center Street & Cady Street

Intersection table with columns for Int Delay, s/veh, Lane Configurations, Traffic Vol, Sign Control, etc.

Lane table with columns for Lane, NBLn1, EBLn1, WBLn1, SBLn1, Vol Left, Vol Thru, etc.

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HCM 6th TWSC Background Conditions #2 (Both Closed) AM Peak Hour
13: N. Site Drive/Hutton Street & Cady Street

Intersection table with columns for Int Delay, s/veh, Lane Configurations, Traffic Vol, Sign Control, etc.

Lane table with columns for Lane, NBLn1, EBLn1, WBLn1, SBLn1, Vol Left, Vol Thru, etc.

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HCM 6th TWSC Background Conditions #2 (Both Closed) AM Peak Hour
14: Cady Street & Church Street

Intersection table with columns for Int Delay, s/veh, Lane Configurations, Traffic Vol, Sign Control, etc.

Approach table with columns for Approach, HCM Control Delay, HCM LOS, Minor Lane, Capacity, etc.

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HCM 6th TWSC Background Conditions #2 (Both Closed) AM Peak Hour
15: Griswold Street & Cady Street

Intersection table with columns for Int Delay, s/veh, Lane Configurations, Traffic Vol, Sign Control, etc.

Approach table with columns for Approach, HCM Control Delay, HCM LOS, Minor Lane, Capacity, etc.

Northville Downs TIS Synchro 11 Report
Fleis & VandenBink Engineering 12/10/2021

SimTraffic Performance Report Background Conditions #2 (Both Closed) AM Peak Hour
16: Proposed Beal Street/Beal Street & Griswold Street Performance by movement

Performance table with columns for Movement, Denied Delay, Denied Del, Total Delay, Total Del.

Northville Downs TIS Synchro 11 Report
Fleis & VandenBink Engineering 12/10/2021

HCM 6th TWSC
17: River Street & Beal Street

Background Conditions #2 (Both Closed)
AM Peak Hour

Intersection						
Int Delay, s/veh	3.4					
Movement						
	EBL	EBT	EBR	WBL	WBT	WBR
Lane Configurations	↓	←	↘	←	←	←
Traffic Vol, veh/h	24	11	4	28	26	6
Future Vol, veh/h	24	11	4	28	26	6
Conflicting Peds, #/hr	0	1	0	1	0	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-
Grade, %	0	-	-	0	-	-
Peak Hour Factor	83	83	61	61	71	71
Heavy Vehicles, %	0	0	5	5	3	3
Mvmt Flow	29	13	7	46	39	8

Major/Minor			
	Major2	Major1	Minor1
Conflicting Flow All	0	0	43
Stage 1	-	-	37
Stage 2	-	-	61
Critical Hdwy	-	4.15	6.43
Critical Hdwy Stg 1	-	-	5.43
Critical Hdwy Stg 2	-	-	5.43
Follow-up Hdwy	-	2.245	3.527
Platoon blocked, %	-	1547	699
Stage 1	-	-	993
Stage 2	-	-	959
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1546	893
Mov Cap-2 Maneuver	-	-	893
Stage 1	-	-	982
Stage 2	-	-	953

Approach			
	EB	WB	NB
HCM Control Delay, s	0	0.9	9.2
HCM LOS	A	A	A

Minor Lane/Major Mvmt					
	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	914	-	-	-	-
HCM Lane V/C Ratio	0.052	-	-	-	-
HCM Control Delay (s)	9.2	-	-	-	-
HCM Lane LOS	A	-	-	-	-
HCM 95th %ile Q(veh)	0.2	-	-	-	-

HCM 6th TWSC
18: Main Street/Northville Road & Beal Street

Background Conditions #2 (Both Closed)
AM Peak Hour

Intersection						
Int Delay, s/veh	0.8					
Movement						
	EBL	EBT	EBR	NBL	NBT	NBR
Lane Configurations	↘	↘	↘	↙	↙	↙
Traffic Vol, veh/h	3	27	23	363	279	9
Future Vol, veh/h	3	27	23	363	279	9
Conflicting Peds, #/hr	0	0	4	0	0	4
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-
Grade, %	0	-	-	0	-	-
Peak Hour Factor	86	86	85	85	87	87
Heavy Vehicles, %	0	0	4	4	3	3
Mvmt Flow	3	31	27	427	321	10

Major/Minor			
	Minor2	Major1	Major2
Conflicting Flow All	998	170	335
Stage 1	330	-	-
Stage 2	268	-	-
Critical Hdwy	6.8	6.9	4.18
Critical Hdwy Stg 1	5.8	-	-
Critical Hdwy Stg 2	5.8	-	-
Follow-up Hdwy	3.5	3.3	2.24
Platoon blocked, %	438	651	1207
Stage 1	707	-	-
Stage 2	759	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	422	848	1202
Mov Cap-2 Maneuver	422	-	-
Stage 1	684	-	-
Stage 2	756	-	-

Approach			
	EB	NB	SB
HCM Control Delay, s	0.9	0.6	0
HCM LOS	A	A	A

Minor Lane/Major Mvmt					
	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1202	-	-	-	-
HCM Lane V/C Ratio	0.023	-	-	-	-
HCM Control Delay (s)	8.1	0.1	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %ile Q(veh)	0.1	-	0.1	-	-

SimTraffic Performance Report

Background Conditions #2 (Both Closed)
AM Peak Hour

19: Seven Mile Road & Fairbrook Street & First Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	1.3	0.9	0.9	9.9	6.0	4.2	1.4	1.2	0.9	10.6	5.6	12

HCM 6th AWSC
20: Wing Street & Fairbrook Street

Background Conditions #2 (Both Closed)
AM Peak Hour

Intersection												
Int Delay, s/veh	8.5											
Intersection LOS	A											
Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↘	↘	↙	↙	↙	↙	↙	↙	↙	↙	↙
Traffic Vol, veh/h	13	14	2	0	1	32	3	83	2	46	115	8
Future Vol, veh/h	13	14	2	0	1	32	3	83	2	46	115	8
Peak Hour Factor	0.73	0.73	0.73	0.69	0.69	0.69	0.75	0.75	0.75	0.74	0.74	0.74
Heavy Vehicles, %	0	0	0	0	0	0	11	11	11	4	4	4
Mvmt Flow	18	19	3	0	1	46	4	111	3	62	155	11
Number of Lanes	0	1	0	0	1	0	1	0	1	0	1	0

Approach				
	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.1	7.4	8.3	8.9
HCM LOS	A	A	A	A

Lane					
	NBLn1	EBLn1	WBLn1	SBLn1	SBLn1
V/Lt, %	3%	45%	0%	27%	-
V/L Thru, %	94%	48%	3%	68%	-
V/L Right, %	2%	7%	97%	5%	-
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	88	29	33	169	-
LT Vol	3	13	0	46	-
Through Vol	83	14	1	115	-
RT Vol	2	2	32	8	-
Lane Flow Rate	117	40	48	228	-
Geometry Grp	1	1	1	1	-
Degree of Util (X)	0.147	0.053	0.055	0.269	-
Departure Headway (Hd)	4518	4788	416	4236	-
Convergence, Y/N	Yes	Yes	Yes	Yes	-
Cap	797	751	867	834	-
Service Time	2.529	2.795	2.159	2.334	-
HCM Lane V/C Ratio	0.147	0.053	0.055	0.273	-
HCM Control Delay	8.3	8.1	7.4	8.9	-
HCM Lane LOS	A	A	A	A	-
HCM 95th %ile Q	0.5	0.2	0.2	1.1	-

HCM 6th TWSC
21: Center Street & Fairbrook Street/W. Site Drive

Background Conditions #2 (Both Closed)
AM Peak Hour

Intersection												
Int Delay, s/veh	1.4											
Intersection LOS	B											
Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↘	↘	↙	↙	↙	↙	↙	↙	↙	↙	↙
Traffic Vol, veh/h	13	0	49	0	0	30	434	0	0	340	3	3
Future Vol, veh/h	13	0	49	0	0	30	434	0	0	340	3	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	92	92	92	95	95	95	77	77	77	77
Heavy Vehicles, %	3	3	2	2	2	1	1	1	2	2	2	2
Mvmt Flow	17	0	64	0	0	32	457	0	0	442	4	4

Major/Minor				
	Minor2	Minor1	Major1	Major2
Conflicting Flow All	965	965	444	997
Stage 1	444	444	-	-
Stage 2	521	521	-	-
Critical Hdwy	7.13	6.53	6.23	7.12
Critical Hdwy Stg 1	6.13	5.53	-	6.12
Critical Hdwy Stg 2	6.13	5.53	-	6.12
Follow-up Hdwy	3.527	4.027	3.327	3.518
Platoon blocked, %	233	254	612	223
Stage 1	591	573	-	533
Stage 2	537	530	-	570
Platoon blocked, %	226	244	612	194
Mov Cap-1 Maneuver	226	244	-	194
Mov Cap-2 Maneuver	226	244	-	194
Stage 1	569	573	-	519
Stage 2	517	510	-	510

Approach				
	EB	WB	NB	SB
HCM Control Delay, s	14.7	0	0.5	0
HCM LOS	B	A	A	A

Minor Lane/Major Mvmt					
	NBL	NBT	NBR	EBLn1	WBLn1
Capacity (veh/h)	1120	-	-	-	-
HCM Lane V/C Ratio	0.028	-	-	-	-
HCM Control Delay (s)	9.3	0	14.7	0	-
HCM Lane LOS	A	A	B	A	A
HCM 95th %ile Q(veh)	0.1	-	0.7	-	-

HCM 6th TWSC
22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Background Conditions #2 (Both Closed)
AM Peak Hour

Intersection												
Int Delay, s/veh	4											
Intersection LOS	B											
Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↘	↘	↘	↙	↙	↙	↙	↙	↙	↙	↙	↙
Traffic Vol, veh/h	14	348	3	7	199	70	2	4	13	95	3	19
Future Vol, veh/h	14	348	3	7	199	70	2	4	13	95	3	19
Conflicting Peds, #/hr	2	0	0	0	2	0	0	0	3	3	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop

HCM 6th Signalized Intersection Summary
23: Sheldon Avenue/Center Street & Seven Mile Road

Background Conditions #2 (Both Closed)

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗
Traffic Volume (veh/h)	18	273	165	75	176	43	86	403	79	29	346	14
Future Volume (veh/h)	18	273	165	75	176	43	86	403	79	29	346	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/lane	1953	1953	1922	1922	1922	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	21	317	192	85	200	49	93	438	86	40	474	19
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Percent Heavy Veh, %	3	3	3	5	5	2	2	2	2	2	2	2
Cap, veh/h	420	418	253	197	706	598	374	779	153	348	916	37
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1121	1128	850	869	1922	1627	903	1998	314	676	1860	75
Grp Volume(v), veh/h	21	0	509	85	200	49	93	0	524	40	0	493
Grp Sat Flow(s), veh/h	1121	0	1828	869	1922	1627	903	0	1911	878	0	1955
Q Served, s/h	1.1	0.0	19.5	7.6	5.9	1.6	6.3	0.0	15.5	2.7	0.0	13.8
Cycle Q Clear(g_c), s	7.0	0.0	19.5	27.1	5.9	1.6	20.1	0.0	15.5	18.2	0.0	13.8
Prop In Lane	1.00	0.38	1.00	1.00	1.00	1.00	0.16	1.00	0.00	1.00	0.04	0.04
Lane Grp Cap(c), veh/h	420	0	672	197	706	598	374	0	932	348	0	953
V/C Ratio(x)	0.05	0.00	0.76	0.43	0.28	0.08	0.25	0.00	0.56	0.11	0.00	0.52
Avail Cap(c), veh/h	420	0	872	197	706	598	374	0	932	348	0	953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(f)	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.3	0.0	22.2	34.1	17.9	16.5	20.9	0.0	14.5	20.9	0.0	14.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfJ(50%),veh/ln	0.3	0.0	9.2	1.9	2.6	0.6	1.4	0.0	6.6	0.6	0.0	6.0
Unsig. Movement Delay, s/veh	20.5	0.0	30.0	40.8	18.9	16.8	22.5	0.0	16.9	21.6	0.0	16.1
LnCp LOS	C	A	C	D	B	B	C	A	B	C	A	B
Approach Vol., veh/h	530			334				617				533
Approach Delay, s/veh	29.6			24.1				17.8				16.5
Approach LOS	C			B				B				B
Timer - Assigned Phs	2			4				6				8
Phs Duration (G+Y+R), s	45.0			35.0				45.0				35.0
Change Period (Y+R), s	6.0			6.0				6.0				6.0
Max Green Setting (Gmax), s	38.0			29.4				39.0				29.4
Max Q Clear Time (g_c+1), s	22.1			21.5				20.2				29.1
Green Ext Time (g_ext), s	3.6			2.1				3.1				0.1
Intersection Summary												
HCM 6th Cst Delay	21.6											
HCM 6th LOS	C											

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SimTraffic Performance Report

Background Conditions #2 (Both Closed)

24: Hines Drive & Seven Mile Road Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.3	0.0	0.2	0.1	0.8
Total Del/Veh (s)	12.4	0.4	0.6	13.0	9.1	2.8	4.0	3.9

Northville Downs TIS Synchro 11 Report
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HCM 6th TWSC

Background Conditions #2 (Both Closed)

25: Seven Mile Road & River Street

Intersection						
Inlt Delay, s/veh	0.8					
Movement						
	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗
Traffic Vol, veh/h	22	261	201	12	5	10
Future Vol, veh/h	22	261	201	12	5	10
Conflicting Peds, #/hr	2	0	0	2	0	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None	- None	- None	- None	- None	- None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	89	60	60
Heavy Vehicles, %	3	3	4	4	7	7
Mvmt Flow	25	293	226	13	8	17

Major	Minor2		
Conflicting Flow All	241	0	578 238
Stage 1	-	-	- 235 -
Stage 2	-	-	- 343 -
Critical Hdwy	4.13	-	- 6.47 6.27
Critical Hdwy Stg 1	-	-	- 5.47 -
Critical Hdwy Stg 2	-	-	- 5.47 -
Follow-up Hdwy	2.227	-	- 3.563 3.363
Rot Cap(1) Maneuver	1320	-	- 470 789
Stage 1	-	-	- 752 -
Stage 2	-	-	- 708 -
Platoon blocked, %	-	-	-
Mov Cap(1) Maneuver	1317	-	- 457 785
Mov Cap(2) Maneuver	-	-	- 457 -
Stage 1	-	-	- 772 -
Stage 2	-	-	- 707 -

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	10.9
HCM LOS			B

Minor Lane	Major	WBL	WBT	WBR	SBL	SBR
Capacity (veh/h)	1317	-	-	-	-	633
HCM Lane V/C Ratio	0.019	-	-	-	-	0.039
HCM Control Delay (s)	7.8	-	-	-	-	18.9
HCM Lane LOS	A	-	-	-	-	B
HCM 95th %ile Q(veh)	0.1	-	-	-	-	0.1

Northville Downs TIS Synchro 11 Report
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HCM Unsignalized Intersection Capacity Analysis

Background Conditions #2 (Both Closed)

26: SB Northville Road & N. Seven Mile Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗
Traffic Volume (veh/h)	0	46	206	0	151	0	0	0	0	0	0	256
Future Volume (Veh/h)	0	46	206	0	156	0	0	0	0	0	0	256
Sign Control	Stop	Stop	Yield	Stop	Yield	Stop	Free	Free	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.92	0.92	0.92	0.90	0.90	0.90
Hourly flow rate (vph)	0	54	242	0	184	0	0	0	0	0	0	284
Pedestrians												
Lane Width (ft)							None	None				None
Median type												
Median storage (veh)												
Upstream signal (ft)												
pX platoon unblocked												
vC1, conflicting volume	404	312	170	411	340	0	340			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vC1, unblocked vol	404	312	170	411	340	0	340			0		
IC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.1			4.2		
IC, 2 stage (s)												
IF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
pQ queue free %	100	91	71	100	68	100	100			100		
cM capacity (veh/h)	398	599	841	345	576	1078	1216			1614		
Approach Lane #		EBL	EBT	EBR	NBL	NBR	SBL	SBT	SBR			
Volume Total	54	242	184	189	151							
Volume Left	0	0	0	0	0							
Volume Right	0	242	0	0	56							
ESH	599	841	576	1700	1700							
Volume to Capacity	0.09	0.29	0.32	0.11	0.09							
Queue Length 95th (ft)	7	30	34	0	0							
Control Delay (s)	11.6	11.0	14.2	0.0	0.0							
Lane LOS	B	B	B									
Approach Delay (s)	11.1	14.2	0.0									
Approach LOS	B	B										
Intersection Summary												
Average Delay	7.2											
Intersection Capacity Utilization	42.3%											
Analysis Period (min)	15											

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HCM Unsignalized Intersection Capacity Analysis

Background Conditions #2 (Both Closed)

27: NB Northville Road & N. Seven Mile Road

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗	↖ ↗
Traffic Volume (veh/h)	46	0	156	340	0	0
Future Volume (Veh/h)	46	0	156	340	0	0
Sign Control	Yield	Yield	Free	Free		

HCM 6th TWSC Background Conditions #2 (Both Closed) PM Peak Hour

Intersection										
Int Delay, s/veh										
Movement										
Lane Configurations										
Traffic Vol, veh/h	176	167	4	96	214	11				
Future Vol, veh/h	176	167	4	96	214	11				
Conflicting Peds, #/hr	0	11	11	0	0	4				
Sign Control	Free	Free	Free	Free	Stop	Stop				
RT Channelized	None	None	None	None	None	None				
Storage Length	-	-	-	-	0	-				
Veh in Median Storage, #	-	-	-	-	0	-				
Grade, %	0	-	-	0	0	-				
Peak Hour Factor	87	87	81	81	78	78				
Heavy Vehicles, %	0	0	0	0	0	1				
Mvmt Flow	202	192	5	119	274	14				
Approach										
HCM Control Delay, s										
HCM LOS										
Minor Lane/Major Mvmt										
Capacity (veh/h)										
HCM Lane V/C Ratio										
HCM Control Delay (s)										
HCM Lane LOS										
HCM 95th %ile Q(veh)										

HCM 6th TWSC Background Conditions #2 (Both Closed) PM Peak Hour

Intersection										
Int Delay, s/veh										
Movement										
Lane Configurations										
Traffic Vol, veh/h	46	12	129	13	13	25	53	410	8	16
Future Vol, veh/h	46	12	129	13	13	25	53	410	8	16
Conflicting Peds, #/hr	2	0	5	5	0	15	0	12	12	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None				
Storage Length	-	-	-	-	-	500	-	500	-	-
Veh in Median Storage, #	-	-	-	-	-	0	-	0	-	-
Grade, %	0	-	0	-	0	-	-	0	-	-
Peak Hour Factor	84	84	91	91	91	87	87	87	73	73
Heavy Vehicles, %	0	0	0	0	0	0	0	0	1	1
Mvmt Flow	55	14	154	14	14	27	61	471	9	22
Approach										
HCM Control Delay, s										
HCM LOS										
Minor Lane/Major Mvmt										
Capacity (veh/h)										
HCM Lane V/C Ratio										
HCM Control Delay (s)										
HCM Lane LOS										
HCM 95th %ile Q(veh)										

HCM 6th AWSC Background Conditions #2 (Both Closed) PM Peak Hour

Intersection										
Intersection Delay, s/veh										
Intersection LOS										
Movement										
Lane Configurations										
Traffic Vol, veh/h	0	79	12	184	103	27	9	198	210	28
Future Vol, veh/h	0	79	12	184	103	27	9	198	210	28
Peak Hour Factor	0.77	0.77	0.77	0.75	0.75	0.87	0.87	0.87	0.87	0.73
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1
Mvmt Flow	0	103	16	245	137	36	10	228	241	38
Number of Lanes	0	1	0	0	1	0	0	1	0	0
Approach										
Opposing Approach										
Opposing Lanes										
Conflicting Approach Left										
Conflicting Lanes Left										
Conflicting Approach Right										
Conflicting Lanes Right										
HCM Control Delay										
HCM LOS										
Lane										
Vol Left, %										
Vol Thru, %										
Vol Right, %										
Sign Control										
Traffic Vol by Lane										
LT Vol										
Through Vol										
RT Vol										
Lane Flow Rate										
Geometry Grp										
Degree of U/I (X)										
Departure Headway (Hd)										
Convergence, Y/N										
Cap										
Service Time										
HCM Lane V/C Ratio										
HCM Control Delay										
HCM Lane LOS										
HCM 95th-ile Q										

HCM 6th AWSC Background Conditions #2 (Both Closed) PM Peak Hour

Intersection										
Intersection Delay, s/veh										
Intersection LOS										
Movement										
Lane Configurations										
Traffic Vol, veh/h	246	103	129	225	229	224				
Future Vol, veh/h	246	103	129	225	229	224				
Peak Hour Factor	0.88	0.88	0.92	0.92	0.78	0.78				
Heavy Vehicles, %	0	0	0	0	0	0				
Mvmt Flow	280	117	140	245	294	287				
Number of Lanes	1	1	0	1	1	1				
Approach										
Opposing Approach										
Opposing Lanes										
Conflicting Approach Left										
Conflicting Lanes Left										
Conflicting Approach Right										
Conflicting Lanes Right										
HCM Control Delay										
HCM LOS										
Lane										
Vol Left, %										
Vol Thru, %										
Vol Right, %										
Sign Control										
Traffic Vol by Lane										
LT Vol										
Through Vol										
RT Vol										
Lane Flow Rate										
Geometry Grp										
Degree of U/I (X)										
Departure Headway (Hd)										
Convergence, Y/N										
Cap										
Service Time										
HCM Lane V/C Ratio										
HCM Control Delay										
HCM Lane LOS										
HCM 95th-ile Q										

HCM 6th TWSC Background Conditions #2 (Both Closed) PM Peak Hour

Intersection										
Int Delay, s/veh										
Movement										
Lane Configurations										
Traffic Vol, veh/h	14	293	409	90	85	11				
Future Vol, veh/h	14	293	409	90	85	11				
Conflicting Peds, #/hr	19	0	0	19	10	20				
Sign Control	Free	Free	Free	Free	Stop	Stop				
RT Channelized	None	None	None	None	None	None				
Storage Length	-	-	-	-	0	-				
Veh in Median Storage, #	-	0	0	-	0	-				
Grade, %	-	0	0	-	0	-				
Peak Hour Factor	92	92	92	89	89	89				
Heavy Vehicles, %	0	0	1	1	1	1				
Mvmt Flow	15	318	445	98	96	12				
Approach										
HCM Control Delay, s										
HCM LOS										
Minor Lane/Major Mvmt										
Capacity (veh/h)										
HCM Lane V/C Ratio										
HCM Control Delay (s)										
HCM Lane LOS										
HCM 95th %ile Q(veh)										

HCM 6th AWSC Background Conditions #2 (Both Closed) PM Peak Hour

Intersection										
Intersection Delay, s/veh										
Intersection LOS										
Movement										
Lane Configurations										
Traffic Vol, veh/h	65	46	72	13	38	103	39	295	6	34
Future Vol, veh/h	65	46	72	13	38	103	39	295	6	34
Peak Hour Factor	0.82	0.82	0.82	0.80	0.80	0.91	0.91	0.91	0.76	0.76
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	0
Mvmt Flow	79	56	88	16	48	129	43	324	7	45
Number of Lanes	0	1	0	0	1	0	0	1	0	0
Approach										
Opposing Approach										
Opposing Lanes										
Conflicting Approach Left										
Conflicting Lanes Left										
Conflicting Approach Right										
Conflicting Lanes Right										
HCM Control Delay										
HCM LOS										
Lane										
Vol Left, %										
Vol Thru, %										
Vol Right, %										
Sign Control										
Traffic Vol by Lane										
LT Vol										
Through Vol										
RT Vol										
Lane Flow Rate										
Geometry Grp										
Degree of U/I (X)										
Departure Headway (Hd)										
Convergence, Y/N										
Cap										
Service Time										
HCM Lane V/C Ratio										
HCM Control Delay										
HCM Lane LOS										
HCM 95th-ile Q										

HCM 6th AWSC
7: Center Street & Main Street

Background Conditions #2 (Both Closed)
PM Peak Hour

Table with 15 columns: Intersection, Delay, LOS, Movement, Lane Configurations, Traffic Vol, Future Vol, Peak Hour Factor, Heavy Vehicles, Mvmt Flow, Number of Lanes, Approach, Opposing Approach, Opposing Lanes, Conflicting Approach, Conflicting Lanes, Conflicting Approach Right, Conflicting Lanes Right, HCM Control Delay, HCM LOS.

Table with 15 columns: Lane, Vbl Left, Vbl Thru, Vbl Right, Sign Control, Traffic Vol by Lane, LT Vol, Through Vol, RT Vol, Lane Flow Rate, Geometry Gp, Degree of Util, Departure Headway, Convergence, Y/N, Cap, Service Time, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95thile Q.

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HCM 6th AWSC
8: Hutton Street & Main Street

Background Conditions #2 (Both Closed)
PM Peak Hour

Table with 15 columns: Intersection, Delay, LOS, Movement, Lane Configurations, Traffic Vol, Future Vol, Peak Hour Factor, Heavy Vehicles, Mvmt Flow, Number of Lanes, Approach, Opposing Approach, Opposing Lanes, Conflicting Approach, Conflicting Lanes, Conflicting Approach Right, Conflicting Lanes Right, HCM Control Delay, HCM LOS.

Table with 15 columns: Lane, Vbl Left, Vbl Thru, Vbl Right, Sign Control, Traffic Vol by Lane, LT Vol, Through Vol, RT Vol, Lane Flow Rate, Geometry Gp, Degree of Util, Departure Headway, Convergence, Y/N, Cap, Service Time, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95thile Q.

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HCM 6th Signalized Intersection Summary
9: Grinswold Street & Main Street

Background Conditions #2 (Both Closed)
PM Peak Hour

Table with 15 columns: Movement, Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Work Zone On Approach, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Sat Flow, Grp Volume, Grp Sat Flow, Q Serveg, Cycle Q Clearing, Prop In Lane, Lane Grp Cap, V/C Ratio, Avail Cap, HCM Platoon Ratio, Upstream Filter, Uniform Delay, Incr Delay, Initial Q, %ile BackOfQ, Unsig, Movement Delay, Lncn Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS, Timer - Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Ext Time.

Table with 2 columns: HCM 6th Std Delay, HCM 6th LOS.

Notes: HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th TWSC
10: Cady Street & Main Street

Background Conditions #2 (Both Closed)
PM Peak Hour

Table with 15 columns: Intersection, Delay, LOS, Movement, Lane Configurations, Traffic Vol, Future Vol, Peak Hour Factor, Heavy Vehicles, Mvmt Flow, Number of Lanes, Approach, Opposing Approach, Opposing Lanes, Conflicting Approach, Conflicting Lanes, Conflicting Approach Right, Conflicting Lanes Right, HCM Control Delay, HCM LOS, Major/Minor, Conflicting Flow All, Critical Hdwy, Critical Hdwy Stg 1, Critical Hdwy Stg 2, Follow-up Hdwy, Platoon blocked, Mov Cap-1 Maneuver, Mov Cap-2 Maneuver, Approach, HCM Control Delay, HCM LOS, Minor Lane/Major Mvmt, Capacity, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95thile Q(veh).

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HCM 6th AWSC
11: Wing Street & Cady Street

Background Conditions #2 (Both Closed)
PM Peak Hour

Table with 15 columns: Intersection, Delay, LOS, Movement, Lane Configurations, Traffic Vol, Future Vol, Peak Hour Factor, Heavy Vehicles, Mvmt Flow, Number of Lanes, Approach, Opposing Approach, Opposing Lanes, Conflicting Approach, Conflicting Lanes, Conflicting Approach Right, Conflicting Lanes Right, HCM Control Delay, HCM LOS, Lane, Vbl Left, Vbl Thru, Vbl Right, Sign Control, Traffic Vol by Lane, LT Vol, Through Vol, RT Vol, Lane Flow Rate, Geometry Gp, Degree of Util, Departure Headway, Convergence, Y/N, Cap, Service Time, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95thile Q.

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HCM 6th TWSC
12: Center Street & Cady Street

Background Conditions #2 (Both Closed)
PM Peak Hour

Table with 15 columns: Intersection, Delay, LOS, Movement, Lane Configurations, Traffic Vol, Future Vol, Peak Hour Factor, Heavy Vehicles, Mvmt Flow, Major/Minor, Conflicting Flow All, Critical Hdwy, Critical Hdwy Stg 1, Critical Hdwy Stg 2, Follow-up Hdwy, Platoon blocked, Mov Cap-1 Maneuver, Mov Cap-2 Maneuver, Approach, HCM Control Delay, HCM LOS, Minor Lane/Major Mvmt, Capacity, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95thile Q(veh).

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Synchro 11 Report
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HCM 6th TWSC Background Conditions #2 (Both Closed) PM Peak Hour
 13: N. Site Drive/Hutton Street & Cady Street

Intersection
 Int Delay, s/veh 4.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	193	254	0	0	221	22	0	0	20	0	83	
Future Vol, veh/h	193	254	0	0	221	22	0	0	20	0	83	
Conflicting Peds, #/hr	13	0	0	0	13	0	0	0	0	0	3	
Sign Control	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	None	-	-	None	-	-	None	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	
Vel in Median Storage, #	-	-	-	-	-	-	-	-	-	-	-	
Grade, %	-	-	0	-	0	-	-	0	-	-	0	
Peak Hour Factor	94	94	94	95	95	95	92	92	93	63	63	
Heavy Vehicles, %	1	1	1	0	0	0	2	2	2	1	1	
Mvmt Flow	205	270	0	0	233	23	0	0	0	32	0	132

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	269	0	0	994
Stage 1	-	-	-	680
Stage 2	-	-	-	314
Critical Hdwy	4.11	-	4.1	-
Critical Hdwy Stg 1	-	-	-	6.12
Critical Hdwy Stg 2	-	-	-	6.12
Follow-up Hdwy	2.209	-	2.2	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	1300	-	1305	-
Mov Cap-2 Maneuver	-	-	-	441
Stage 1	-	-	-	697
Stage 2	-	-	-	687
Mov Cap-1 Maneuver	1284	-	1305	-
Mov Cap-2 Maneuver	-	-	-	158
Stage 1	-	-	-	358
Stage 2	-	-	-	366

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.6	0	0	15.3
HCM LOS	C	A	A	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1284	-	-	1305	-	-	504
HCM Lane V/C Ratio	-	0.16	-	-	-	-	-	0.324
HCM Control Delay (s)	-	0	8.3	0	0	-	-	15.5
HCM Lane LOS	-	A	A	A	A	-	-	C
HCM 95th %ile Q(veh)	-	0.6	-	-	0	-	-	1.4

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HCM 6th TWSC Background Conditions #2 (Both Closed) PM Peak Hour
 14: Cady Street & Chruh Street

Intersection
 Int Delay, s/veh 1.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	274	226	0	26	17						
Future Vol, veh/h	0	274	226	0	26	17						
Conflicting Peds, #/hr	14	0	0	14	0	0						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	-	None	-	None	-	None						
Storage Length	-	-	-	-	-	-						
Vel in Median Storage, #	-	0	0	-	0	-						
Grade, %	-	0	0	-	0	-						
Peak Hour Factor	95	95	90	90	72	72						
Heavy Vehicles, %	0	0	1	0	1	0						
Mvmt Flow	0	288	251	0	36	24						

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	0	539
Stage 1	-	-	-	251
Stage 2	-	-	-	288
Critical Hdwy	-	-	-	6.4
Critical Hdwy Stg 1	-	-	-	5.4
Critical Hdwy Stg 2	-	-	-	5.4
Follow-up Hdwy	-	-	-	3.5
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	0	-	-	507
Mov Cap-2 Maneuver	-	-	-	795
Stage 1	-	-	-	795
Stage 2	-	-	-	766

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.8
HCM LOS	C	C	B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	591
HCM Lane V/C Ratio	-	-	0.101
HCM Control Delay (s)	-	-	11.8
HCM Lane LOS	-	-	B
HCM 95th %ile Q(veh)	-	-	0.3

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HCM 6th TWSC Background Conditions #2 (Both Closed) PM Peak Hour
 15: Griswold Street & Cady Street

Intersection
 Int Delay, s/veh 9.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	220	38	42	5	20	23	18	44	3	14	54	188
Future Vol, veh/h	220	38	42	5	20	23	18	44	3	14	54	188
Conflicting Peds, #/hr	3	0	0	1	0	3	10	0	4	0	10	
Sign Control	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	-	None	-	-	None	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	
Vel in Median Storage, #	-	-	-	-	-	-	-	-	-	-	-	
Grade, %	-	0	-	0	-	0	-	0	-	-	0	
Peak Hour Factor	95	95	95	64	64	64	86	86	86	88	88	
Heavy Vehicles, %	1	1	1	0	0	0	0	0	0	0	0	
Mvmt Flow	232	40	44	8	31	36	21	51	3	16	61	214

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	341	310	179
Stage 1	210	210	-
Stage 2	131	100	-
Critical Hdwy	7.11	6.51	-
Critical Hdwy Stg 1	6.11	5.51	-
Critical Hdwy Stg 2	6.11	5.51	-
Follow-up Hdwy	3.509	4.009	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	615	606	-
Mov Cap-2 Maneuver	794	730	-
Stage 1	875	814	-
Stage 2	875	814	-
Mov Cap-1 Maneuver	546	580	-
Mov Cap-2 Maneuver	546	590	-
Stage 1	773	713	-
Stage 2	795	797	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	11	2.2	0.4
HCM LOS	C	C	B	B

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1277	-	-	580	670	1533	-	-
HCM Lane V/C Ratio	0.016	-	-	0.544	0.112	0.01	-	-
HCM Control Delay (s)	7.9	0	0	18.4	11	7.3	0	-
HCM Lane LOS	A	A	A	C	B	A	A	-
HCM 95th %ile Q(veh)	0.1	-	-	3.3	0.4	0	-	-

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SimTraffic Performance Report Background Conditions #2 (Both Closed) PM Peak Hour
 16: Proposed Beal Street/Beal Street & Griswold Street Performance by movement

Movement	WBT	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.1	0.1
Total Del/Veh (s)	0.6	0.4	3.8	2.4

HCM 6th TWSC Background Conditions #2 (Both Closed) PM Peak Hour
 17: River Street & Beal Street

Intersection
 Int Delay, s/veh 3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	51	50	5	20	45	7
Future Vol, veh/h	51	50	5	20	45	7
Conflicting Peds, #/hr	0	3	0	3	10	
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Vel in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	66	66	70	70
Heavy Vehicles, %	1	1	0	0	2	2
Mvmt Flow	55	54	8	30	64	10

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	112
Stage 1	-	-	85
Stage 2	-	-	49
Critical Hdwy	-	-	4.1
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	-	-	2.2
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1486
Mov Cap-2 Maneuver	-	-	851
Stage 1	-	-	935
Stage 2	-	-	965

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.5	9.6	A
HCM LOS	C	A	A	

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	863	-	-	1486	-
HCM Lane V/C Ratio	0.068	-	-	0.005	-
HCM Control Delay (s)	9.6	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %ile Q(veh)	0.3	-	-	0	-

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HCM 6th TWSC Background Conditions #2 (Both Closed) PM Peak Hour
 18: Main Street/Northville Road & Beal Street

Intersection
 Int Delay, s/veh 0.8

Movement	EBL	EBR	NBL	NBT	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	53	19	607	531	6
Future Vol, veh/h	5	53	19	607	531	6
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	-	-	-	-	-
Vel in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	80	80	90	90	95	95
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	6	66	21	674	559	6

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	945	287	569
Stage 1	566	-	-
Stage 2	379	-	-
Critical Hdwy	6.8	-	-
Critical Hdwy Stg 1	5.8	-	-
Critical Hdwy Stg 2	5.8	-	-
Follow-up Hdwy	3.5	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	284	-	-
Mov Cap-2 Maneuver	537	-	-
Stage 1	668	-	-
Stage 2	668	-	-
Mov Cap-1 Maneuver	253	-	-
Mov Cap-2 Maneuver	253	-	-
Stage 1	517	-	-
Stage 2			

19: Seven Mile Road & Fairbrook Street & First Street Performance by movement

Table with 13 columns: Movement, EBL, EBT, EBR, WBL, WBR, NBL, NBT, NBR, SBL, SBT, SBR, All. Rows include Denied Delay, Denied Del/Veh, Total Delay, Total Del/Veh, and Total Del/Veh (s).

20: Wing Street & Fairbrook Street

Table with 13 columns: Intersection, Movement, Lane Configurations, Traffic Vol, Future Vol, Peak Hour Factor, Heavy Vehicles, Mvmt Flow, Number of Lanes, Approach, Opposing Approach, Opposing Lanes, Conflicting Approach Left, Conflicting Lanes Left, Conflicting Approach Right, Conflicting Lanes Right, HCM Control Delay, HCM LOS, Lane, Vol Left, Vol Thru, Vol Right, Sign Control, Traffic Vol by Lane, LT Vol, Through Vol, RT Vol, Lane Flow Rate, Geometry Grp, Degree of Util (X), Disjointing Headway, Convergence, Y/N, Cap, Service Time, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95th-ile Q.

21: Center Street & Fairbrook Street/W. Site Drive

Table with 13 columns: Intersection, Movement, Lane Configurations, Traffic Vol, Future Vol, Conflicting Peds, Sign Control, RT Channelized, Storage Length, Veh in Median Storage, Peak Hour Factor, Heavy Vehicles, Mvmt Flow, Major/Minor, Minor1, Minor2, Minor1, Major1, Major2, Conflicting Flow All, Stage 1, Stage 2, Critical Hdwy, Critical Hdwy Stg 1, Critical Hdwy Stg 2, Follow-up Hdwy, Plat Cap-1 Maneuver, Mov Cap-1 Maneuver, Plat Cap-2 Maneuver, Stage 1, Stage 2, Approach, HCM Control Delay, HCM LOS, Minor Lane/Major Mvmt, Capacity, HCM Lane V/C Ratio, HCM Control Delay (s), HCM Lane LOS, HCM 95th-ile Q(veh).

22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Table with 13 columns: Intersection, Movement, Lane Configurations, Traffic Vol, Future Vol, Conflicting Peds, Sign Control, RT Channelized, Storage Length, Veh in Median Storage, Peak Hour Factor, Heavy Vehicles, Mvmt Flow, Major/Minor, Minor1, Minor2, Minor1, Major1, Major2, Conflicting Flow All, Stage 1, Stage 2, Critical Hdwy, Critical Hdwy Stg 1, Critical Hdwy Stg 2, Follow-up Hdwy, Plat Cap-1 Maneuver, Mov Cap-1 Maneuver, Plat Cap-2 Maneuver, Stage 1, Stage 2, Approach, HCM Control Delay, HCM LOS, Minor Lane/Major Mvmt, Capacity, HCM Lane V/C Ratio, HCM Control Delay (s), HCM Lane LOS, HCM 95th-ile Q(veh).

Table with 13 columns: Movement, Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Side Adj, Parking Bus Adj, Work Zone On Approach, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Sat Flow, Grp Volume, Grp Sat Flow, O Serwig, Cycle Cl Clearing, Prop In Lane, Lane Grp Cap, V/C Ratio, Avail Delay, HCM Platoon Ratio, Uniform Delay, In-Gr Delay, Initial Q Delay, Site Backlog, Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS, Timer - Assigned Pts, Pts Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Ext Time.

24: Hines Drive & Seven Mile Road Performance by movement

Table with 13 columns: Movement, Denied Delay, Denied Del/Veh, Total Delay, Total Del/Veh.

HCM 6th TWSC Background Conditions #2 (Both Closed) 25: Seven Mile Road & River Street PM Peak Hour

Intersection	1,3										
Int Delay, s/veh	1.3										
Lane Configurations	EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR										
Traffic Volume (veh/h)	29	307	474	23	6	49					
Future Volume (veh/h)	29	307	474	23	6	49					
Conflicting Peds. #/hr	4	0	0	0	0	12					
Sign Control	Free	Free	Free	Free	Stop	Stop					
RT Channelized	-	None	-	None	-	None					
Storage Length	-	0	-	0	-	0					
Vehicle in Median Storage, #	-	0	-	0	-	0					
Grade, %	-	0	-	0	-	0					
Peak Hour Factor	92	92	90	90	77	77					
Heavy Vehicles, %	2	2	1	1	6	6					
Mvmt Flow	32	334	527	26	8	64					
Major/Minor	Major1	Major2									
Conflicting Flow All	557	0	-	0	948	556					
Stage 1	-	-	-	-	-	544					
Stage 2	-	-	-	-	-	404					
Critical Hdwy Stg 1	4.12	-	-	-	-	6.46	6.26				
Critical Hdwy Stg 2	-	-	-	-	-	5.46	-				
Follow-up Hdwy	2.218	-	-	-	-	3.554	3.354				
Platoon Maneuver	1014	-	-	-	-	295	323				
Stage 1	-	-	-	-	-	374	-				
Stage 2	-	-	-	-	-	666	-				
Platoon blocked, %	-	-	-	-	-	-	-				
Max Cap-1 Maneuver	1010	-	-	-	-	272	515				
Max Cap-2 Maneuver	-	-	-	-	-	272	-				
Stage 1	-	-	-	-	-	549	-				
Stage 2	-	-	-	-	-	663	-				
Approach	EB	WB	SB								
HCM Control Delay, s	0.7	0	14.1								
HCM LOS	B	-	B								
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBL1						
Capacity (veh/h)	1010	-	-	-	-	469					
HCM Lane V/C Ratio	0.031	-	-	-	-	0.152					
HCM Control Delay (s)	8.7	-	-	-	-	14.1					
HCM Lane LOS	A	-	-	-	-	B					
HCM 95th %ile Q(veh)	0.1	-	-	-	-	0.5					

HCM Unsignalized Intersection Capacity Analysis Background Conditions #2 (Both Closed) 26: SB Northville Road & N. Seven Mile Road PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	0	1	1	0	1	1	0	0	0	0	1	1
Traffic Volume (veh/h)	0	51	261	0	399	0	0	0	0	0	481	103
Future Volume (veh/h)	0	51	261	0	399	0	0	0	0	0	481	103
Sign Control	Stop	Yield	Yield	Free	Free	Free	0%	0%	0%	0%	0%	0%
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95
Hourly flow rate (vph)	0	56	287	0	424	0	0	0	0	0	506	108
Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-
Lane Width (ft)	-	-	-	-	-	-	-	-	-	-	-	-
Walking Speed (ft/s)	-	-	-	-	-	-	-	-	-	-	-	-
Percent Blockage	-	-	-	-	-	-	-	-	-	-	-	-
Right turn flare (veh)	-	-	-	-	-	-	None	-	-	None	-	-
Median storage (veh)	-	-	-	-	-	-	-	-	-	-	-	-
Upstream signal (ft)	-	-	-	-	-	-	-	-	-	-	-	-
pX platoon unblocked	-	-	-	-	-	-	-	-	-	-	-	-
vC, conflicting volume	772	560	307	568	614	0	614	-	-	0	-	-
ICU stage 1 conf vol	-	-	-	-	-	-	-	-	-	-	-	-
vC2, stage 2 conf vol	-	-	-	-	-	-	-	-	-	-	-	-
vOu, unblocked vol	772	560	307	568	614	0	614	-	-	0	-	-
IC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1	-	-	4.1	-	-
IC, 2-stage (s)	-	-	-	-	-	-	-	-	-	-	-	-
IF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2	-	-	2.2	-	-
p0 queue free %	0	87	58	100	0	100	100	-	-	100	-	-
m capacity (veh/h)	0	436	689	214	408	1088	961	-	-	1629	-	-
Direction Lane #	EB 1	EB 2	WB 1	SBL	SBR 2							
Volume Total	56	287	424	337	277							
Volume Left	0	0	0	0	0							
Volume Right	0	287	0	108	0							
vSH	436	689	408	1700	1700							
Volume to Capacity	0.13	0.42	1.04	0.20	0.16							
Queue Length 95th (ft)	11	51	342	0	0							
Control Delay (s)	14.5	13.9	87.8	0.0	0.0							
Lane LOS	B	B	F	-	-							
Approach Delay (s)	14.0	87.8	0.0	-	-							
Approach LOS	B	F	-	-	-							
Intersection Summary												
Average Delay	30.4											
Intersection Capacity Utilization	65.9%											
ICU Level of Service	C											
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Background Conditions #2 (Both Closed) 27: NB Northville Road & N. Seven Mile Road PM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	1	1	1	1	1	1
Traffic Volume (veh/h)	51	0	399	575	0	0
Future Volume (veh/h)	51	0	399	575	0	0
Sign Control	Yield	Free	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.91	0.91	0.94	0.94	0.92	0.92
Hourly flow rate (vph)	56	0	424	612	0	0
Pedestrians	-	-	-	-	-	-
Lane Width (ft)	-	-	-	-	-	-
Walking Speed (ft/s)	-	-	-	-	-	-
Percent Blockage	-	-	-	-	-	-
Right turn flare (veh)	-	-	-	-	None	None
Median storage (veh)	-	-	-	-	-	-
Upstream signal (ft)	-	-	-	-	-	511
pX platoon unblocked	-	-	-	-	-	0.87
vC, conflicting volume	1154	0	0	-	-	-
ICU stage 1 conf vol	-	-	-	-	-	-
vC2, stage 2 conf vol	-	-	-	-	-	-
vOu, unblocked vol	878	0	0	-	-	-
IC, single (s)	6.8	6.9	4.1	-	-	-
IC, 2-stage (s)	-	-	-	-	-	-
IF (s)	3.5	3.3	2.2	-	-	-
p0 queue free %	70	100	74	-	-	-
m capacity (veh/h)	185	1084	1629	-	-	-
Direction Lane #	EB 1	NBL 1	NB 2			
Volume Total	56	628	468			
Volume Left	56	424	0			
Volume Right	0	0	0			
vSH	185	1629	1700			
Volume to Capacity	0.30	0.28	0.24			
Queue Length 95th (ft)	30	26	0			
Control Delay (s)	32.7	6.2	0.0			
Lane LOS	D	A	-			
Approach Delay (s)	32.7	3.7	-			
Approach LOS	D	-	-			
Intersection Summary						
Average Delay	5.2					
Intersection Capacity Utilization	67.2%					
ICU Level of Service	C					
Analysis Period (min)	15					

HCM 6th Signalized Intersection Summary Background Conditions #2 (Both Closed) 28: Northville Road & S. Seven Mile Road PM Peak Hour

Movement	WBL	WBT	NBT	NBR	SBL	SBT
Lane Configurations	1	1	1	1	1	1
Traffic Volume (veh/h)	352	519	455	341	362	380
Future Volume (veh/h)	352	519	455	341	362	380
Initial Q (Obs), veh	0	0	0	0	0	0
Ped-Bike Adj (pbT)	1.00	1.00	-	-	1.00	1.00
Parking Bids, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	405	597	473	359	381	400
Peak Hour Factor	0.87	0.87	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	1	1
Cap, veh/h	676	938	421	315	468	1829
Arrive On Green	0.36	0.36	0.20	0.20	0.20	0.49
Sat Flow, veh/h	1890	1882	2155	1537	1890	3870
Grp Volume(v), veh/h	405	597	439	359	381	400
Grp Sat Flow(s), veh/h/ln	1890	1882	1885	1708	1890	1885
Q Serv(s), s	14.0	3.5	16.4	16.4	11.4	4.9
Circle Q (Clear), s	14.0	3.5	16.4	16.4	11.4	4.9
Prop In Lane	1.00	1.00	0.90	1.00	-	-
Lane Grp Cap(c), veh/h	676	938	386	350	468	1829
V/C Ratio(V)	0.60	0.64	1.14	1.14	0.81	0.22
Right Cap-1 Adj	876	938	386	350	468	1829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(1)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.0	12.1	31.3	31.3	28.8	11.9
Int Delay (d), s/veh	3.9	3.3	88.3	91.5	14.4	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	6.5	7.1	16.4	15.2	7.8	1.9
Unsig. Movement Delay, s/veh	-	-	-	-	-	-
LnCrp Delay(d), s/veh	24.9	15.4	120.1	123.3	43.2	12.1
LnCrp LOS	C	B	F	F	D	B
Approach Vol, veh/h	1002	838	-	-	-	781
Approach Delay, s/veh	19.3	121.6	-	-	-	27.3
Approach LOS	B	F	-	-	-	C
Timer - Assigned Phs	1	2	-	-	-	6
Phs Duration (G+Y+R), s	22.4	22.8	-	-	-	45.2
Change Period (Y+R), s	6.4	6.4	-	-	-	6.4
Max Green Setting (Gmax), s	16.0	16.4	-	-	-	38.8
Max Q Clear Time (g, c+1), s	13.4	13.4	-	-	-	6.9
Green Ext Time (p, c), s	0.3	0.0	-	-	-	2.7
Intersection Summary						
HCM 6th Ctrl Delay	54.4					
HCM 6th LOS	D					

HCM 6th TWSC Background Conditions #3 (Main Closed) 1: Wing Street & Randolph Street AM Peak Hour

Movement	WBL	WBT	NBL	NBR
Lane Configurations	1	1	1	1
Traffic Volume (veh/h)	125	102	5	63
Future Volume (veh/h)	125	102	5	63
Conflicting Peds. #/hr				

HCM 6th AWSC Background Conditions #3 (Main Closed) 3: Wing Street & Dunlap Street AM Peak Hour

Intersection												
Intersection Delay, s/veh	8.6											
Intersection LOS	A											
Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	78	1	22	65	48	6	49	60	26	81	0
Future Vol, veh/h	0	78	31	22	65	48	6	49	60	26	81	0
Peak Hour Factor	0.78	0.78	0.78	0.73	0.73	0.84	0.84	0.84	0.88	0.88	0.88	0.88
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	4	4	4
Mvmt Flow	0	100	1	30	89	66	7	58	71	30	92	0
Number of Lanes	0	1	0	1	0	1	0	1	0	1	0	1
Approach												
	EB	WB		NB		SB						
Opposing Approach	WB	EB	SB	SB	EB	WB	WB					
Opposing Lanes	1	1		1		1						
Conflicting Approach Left	SB	NB		EB		WB						
Conflicting Lanes Left	1	1		1		1						
Conflicting Approach Right	NB	SB		WB		EB						
Conflicting Lanes Right	1	1		1		1						
HCM Control Delay	8.5	8.8		8.4		8.8						
HCM LOS	A	A		A		A						
Lane												
	NBLn1	EBLn1	WBLn1	SBLn1								
Vol Left, %	5%	0%	16%	24%								
Vol Thru, %	43%	99%	48%	76%								
Vol Right, %	52%	1%	36%	0%								
Sign Control	Stop	Stop	Stop	Stop								
Traffic Vol by Lane	115	79	135	107								
LT Vol	6	0	22	26								
Through Vol	49	78	65	81								
RT Vol	60	1	48	0								
Lane Flow Rate	137	101	185	122								
Geometry Grp	1	1		1		1						
Degree of Upl (X)	0.17	0.133	0.228	0.163								
Departure Headway (Hd)	4.459	4.713	4.447	4.835								
Convergence, Y/N	Yes	Yes		Yes		Yes						
Cap	802	759	806	740								
Service Time	2.499	2.755	2.485	2.877								
HCM Lane V/C Ratio	0.171	0.133	0.223	0.165								
HCM Control Delay	8.4	8.8		8.8								
HCM Lane LOS	A	A		A								
HCM 95th-ile Q	0.6	0.5		0.9								

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HCM 6th Signalized Intersection Summary Background Conditions #3 (Main Closed) 4: Center Street & Dunlap Street AM Peak Hour

Intersection Summary												
Intersection Delay, s/veh	8.6											
Intersection LOS	A											
Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	76	69	9	2	203	123	10	364	98	113	331	77
Future Volume (veh/h)	76	69	9	2	60	123	10	364	98	113	331	77
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Per-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Blk, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No		No		No		No				
Adj Sat Flow, veh/hln	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	86	78	10	11	71	145	11	396	107	145	424	99
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.92	0.92	0.92	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	285	424	54	396	143	291	532	917	248	670	949	221
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.62	0.62
Sat Flow, veh/h	1161	1709	219	1301	574	1172	879	1492	403	894	1542	360
Grp Volume(v), veh/h	86	0	88	11	0	216	11	0	503	145	0	523
Grp Sat Flow(s),veh/hln	1161	0	1927	1301	0	1747	879	0	1895	894	0	1903
Q Sewrk, s	4.1	0.0	2.2	0.4	0.0	6.4	0.2	0.0	0.0	4.5	0.0	8.8
Cycle Q Clearing, s	10.5	0.0	2.2	2.6	0.0	6.4	8.9	0.0	0.0	4.5	0.0	8.8
Prop In Lane	1.00	0.11	1.00	0.00	0.00	0.21	1.00	0.00	0.19			
Lane Grp Cap(c), veh/h	285	0	479	396	0	434	532	0	1165	670	0	1170
V/C Ratio(v)	0.30	0.00	0.18	0.03	0.00	0.50	0.02	0.00	0.43	0.22	0.00	0.45
Avail Cap(c), veh/h	285	0	479	396	0	434	532	0	1165	670	0	1170
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filler(i)	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	23.8	0.0	17.8	18.8	0.0	19.3	1.1	0.0	0.0	5.3	0.0	6.1
Incr Delay (d2), s/veh	2.7	0.0	0.8	8.1	0.0	4.0	0.1	0.0	1.2	0.7	0.0	1.8
Initial Q Delay(Q), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
File Back(Q/50%),veh/h	1.3	0.0	1.0	0.1	0.0	2.9	0.0	0.0	0.4	0.8	0.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	0.0	18.6	18.9	0.0	23.4	1.1	0.0	1.2	6.0	0.0	7.1
LnGrp LOS	C	A	B	B	A	C	A	A	A	A	A	A
Approach Vol, veh/h	174						514			668		
Approach Delay, s/veh	22.5						1.2			7.1		
Approach LOS	C						A			A		
Timer - Assigned Phs												
Phs Duration (G+Y+R), s		2		4		6		8				
Change Period (Y+R), s		41.0		19.0		41.0		19.0				
Max Green Setting (Gmax), s		*4.1		*4.1		*4.1		*4.1				
Max Q Clear Time (q_c+1), s		*37		*15		*37		*15				
Green Ext Time (g_ex+1), s		10.9		12.5		10.8		8.4				
Green Ext Time (g_ex), s		3.8		0.2		4.9		0.7				

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th TWSC Background Conditions #3 (Main Closed) 5: Dunlap Street & Hutton Street AM Peak Hour

Intersection												
Intersection Delay, s/veh	11.6											
Intersection LOS	B											
Movement												
	EBL	EBT	WBT	WBR	SBL	SBR						
Lane Configurations												
Traffic Vol, veh/h	4	261	219	57	51	7						
Future Vol, veh/h	4	261	219	57	51	7						
Peak Hour Factor	0	0	0	0	0	5						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	-	None	-	None	-	None						
Storage Length	-	-	-	-	-	-						
Veh in Median Storage, #	-	-	-	-	-	-						
Grade, %	-	0	0	-	0	-						
Peak Hour Factor	93	93	84	84	74	74						
Heavy Vehicles, %	3	3	2	2	0	0						
Mvmt Flow	4	281	261	68	69	9						
Major/Minor												
	Major1	Major2	Minor2									
Conflicting Flow All	329	0	0	589	300							
Stage 1	-	-	-	295	-							
Stage 2	-	-	-	294	-							
Critical Hdwy Stg 1	4.13	-	-	6.4	6.2							
Critical Hdwy Stg 2	-	-	-	5.4	-							
Critical Hdwy Stg 2	-	-	-	5.4	-							
Follow-up Hdwy	2.227	-	-	3.5	3.3							
Plat Cap1/Maneuver	1225	-	-	474	744							
Stage 1	-	-	-	760	-							
Stage 2	-	-	-	761	-							
Platoon blocked, %	-	-	-	-	-							
Mov Cap1/Maneuver	1225	-	-	472	740							
Mov Cap2/Maneuver	-	-	-	472	-							
Stage 1	-	-	-	757	-							
Stage 2	-	-	-	761	-							
Approach												
	EB	WB	SB									
HCM Control Delay, s	0.1	0	13.7									
HCM LOS	A	B	B									
Minor Lane/Major Mvmt												
	EBL	EBT	WBT	WBR	SBLn1	SBRn1						
Capacity (veh/h)	1225	-	-	-	-	494						
HCM Lane V/C Ratio	0.004	-	-	-	-	0.159						
HCM Control Delay (s)	-	-	-	-	-	472						
HCM Lane LOS	A	A	-	-	-	B						
HCM 95th-ile Q(veh)	0	-	-	-	-	0.6						

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HCM 6th AWSC Background Conditions #3 (Main Closed) 6: Wing Street & Main Street AM Peak Hour

Intersection												
Intersection Delay, s/veh	9.3											
Intersection LOS	A											
Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	61	89	50	19	28	63	15	41	4	47	89	20
Future Vol, veh/h	61	89	50	19	28	63	15	41	4	47	89	20
Peak Hour Factor	0.81	0.81	0.81	0.76	0.76	0.76	0.93	0.93	0.93	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2	4	4	4	2	2	2
Mvmt Flow	75	110	62	25	37	83	16	44	4	60	88	26
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach												
	EB	WB		NB		SB						
Opposing Approach	WB	EB	SB	SB	EB	WB	WB					
Opposing Lanes	1	1		1		1						
Conflicting Approach Left	SB	NB		EB		WB						
Conflicting Lanes Left	1	1		1		1						
Conflicting Approach Right	NB	SB		WB		EB						
Conflicting Lanes Right	1	1		1		1						
HCM Control Delay	9.8	8.6		8.7		9.5						
HCM LOS	A	A		A		A						
Lane												
	NBLn1	EBLn1	WBLn1	SBLn1								
Vol Left, %	25%	30%	17%	35%								
Vol Thru, %	68%	45%	25%	51%								
Vol Right, %	7%	25%	57%	15%								
Sign Control	Stop	Stop	Stop	Stop								
Traffic Vol by Lane	60	200	110	136								
LT Vol	15	61	19	47								
Through Vol	41	89	28	69								
RT Vol	4	50	63	20								
Lane Flow Rate	65	247	145	174								
Geometry Grp	1	1		1		1						
Degree of Upl (X)	0.092	0.316	0.181	0.237								
Departure Headway (Hd)	5.108	4.807	4.513	4.894								
Convergence, Y/N	Yes	Yes		Yes		Yes						
Cap	697	778	790	731								
Service Time	3.175	2.655	2.567	2.951								
HCM Lane V/C Ratio	0.093	0.317	0.184	0.238								
HCM Control Delay	8.7	8.6		9.5								
HCM Lane LOS	A	A		A								
HCM 95th-ile Q	0.3	1.4		0.7								

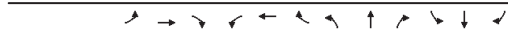
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HCM 6th Signalized Intersection Summary Background Conditions #3 (Main Closed) 7: Center Street & Main Street AM Peak Hour

Intersection Summary												
Intersection Delay, s/veh	9.3											
Intersection LOS	A											
Movement												
	EBL	EBT	NBL	NBT	SBL	SBR						
Lane Configurations												
Traffic Volume (veh/h)	58	82	4	414	303	46						
Future Volume (veh/h)	58	82	4	414	303	46						
Initial Q (Cb), veh	0	0	0	0	0	0						
Per-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00								

HCM 6th Signalized Intersection Summary
9: Griswold Street & Main Street

Background Conditions #3 (Main Closed)
AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	199	13	11	199	120	22	155	15	68	129	65
Future Volume (veh/h)	25	199	13	11	199	120	22	155	15	68	129	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	0.99	0.99	0.99	1.00	0.99	1.00	0.99	1.00	1.00	0.99
Parking Blk. Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1953	1953	1953	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	27	216	14	15	265	160	28	196	19	81	152	77
Peak Hour Factor	0.92	0.92	0.75	0.75	0.75	0.79	0.79	0.79	0.84	0.84	0.84	0.84
Percent Heavy Veh. %	3	3	4	4	4	2	2	2	2	2	2	2
Cap, veh/h	184	1392	90	83	1004	569	103	560	51	184	329	145
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Cycle Q Clearing, c/s	2.3	0.0	2.5	4.6	0.0	4.8	5.6	0.0	0.0	8.2	0.0	0.0
Prop In Lane	0.20	0.11	0.06	0.00	0.80	0.12	0.08	0.26	0.25			
Lane Grp Cap(c), veh/h	860	0	806	948	0	709	714	0	0	658	0	0
V/C Ratio(X)	0.15	0.00	0.16	0.25	0.00	0.28	0.34	0.00	0.00	0.47	0.00	0.00
Avail Cap(c)_aj, veh/h	0.0	0.0	806	948	0	709	714	0	0	658	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	9.3	0.0	9.3	9.9	0.0	9.9	14.6	0.0	0.0	15.4	0.0	0.0
Int'l Delay (d2), s/veh	0.4	0.0	0.4	0.6	0.0	1.0	1.3	0.0	0.0	2.4	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.9	1.0	0.0	1.6	2.4	0.0	0.0	3.3	0.0	0.0
Unsig. Movement Delay, s/veh	9.6	0.0	9.7	10.5	0.0	10.9	15.9	0.0	0.0	17.8	0.0	0.0
LnCrp Delay(d), s/veh	A	A	A	B	A	B	B	A	A	B	A	A
LnCrp LOS	A	A	A	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h	257			440			243			310		
Approach Delay, s/veh	9.7			10.7			15.9			17.8		
Approach LOS	A			B			B			B		
Timer - Assigned Phs		4		4		6	8					
Phs Duration (G+Y+R), s	33.4		26.6		33.4		26.6					
Change Period (Y+R), s	5.6		5.6		5.6		5.6					
Max Green Setting (Gmax), s	27.8		*21		27.8		*21					
Max Q Clear Time (s, c+1), s	4.5		10.2		6.8		7.6					
Green Ext Time (p, c), s	1.6		1.3		2.8		1.1					

Intersection Summary												
HCM 6th Ctrl Delay	13.3											
HCM 6th LOS	B											

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
10: Cady Street & Main Street

Background Conditions #3 (Main Closed)
AM Peak Hour



Intersection												
Int'l Delay, s/veh	1											
Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBT	SBR		
Lane Configurations												
Traffic Vol, veh/h	249	33	21	322	8	24						
Future Vol, veh/h	249	33	21	322	8	24						
Conflicting Peds, #/hr	0	8	0	0	0	0						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	None	None	None	None	None	None						
Storage Length	-	-	-	-	-	-						
Veh in Median Storage, #	0	-	-	0	-	-						
Grade, %	0	-	-	0	-	-						
Peak Hour Factor	91	91	77	77	60	60						
Heavy Vehicles, %	4	4	5	5	0	0						
Mvmt Flow	274	36	27	418	13	40						

Major/Minor												
Major1	Major2			Minor1								
Conflicting Flow All	0	316	0	563	163							
Stage 1	-	-	-	300	-							
Stage 2	-	-	-	263	-							
Critical Hdwy	-	-	4.2	-	6.8	6.9						
Critical Hdwy Stg 1	-	-	-	-	5.8	-						
Critical Hdwy Stg 2	-	-	-	-	5.8	-						
Follow-up Hdwy	-	-	-	2.25	-	3.5	3.3					
Platoon blocked, %	-	-	-	1217	-	461	659					
Pl Cap-1 Manuever	-	-	-	731	-	-	-					
Stage 1	-	-	-	763	-	-	-					
Stage 2	-	-	-	763	-	-	-					
Platoon blocked, %	-	-	-	1208	-	444	852					
Pl Cap-1 Manuever	-	-	-	444	-	-	-					
Stage 1	-	-	-	725	-	-	-					
Stage 2	-	-	-	741	-	-	-					

Approach												
EB	WB	WB	NB	SB								
HCM Control Delay, s	0	0.6	10.6									
HCM LOS			B									

Minor Lane/Major Mvmt												
NBL	NBT	EBL	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	
Capacity (veh/h)	693	-	-	-	-	-	-	-	-	-	-	-
HCM Lane V/C Ratio	0.077	-	-	0.023	-	-	-	-	-	-	-	-
HCM Control Delay (s)	16.6	-	-	8	0.1	-	-	-	-	-	-	-
HCM Lane LOS	B	-	-	A	A	-	-	-	-	-	-	-
HCM 95th %ile Q(veh)	0.2	-	-	0.1	-	-	-	-	-	-	-	-

HCM 6th AWSC
11: Wing Street & Cady Street

Background Conditions #3 (Main Closed)
AM Peak Hour



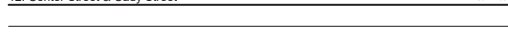
Intersection												
Int'l Delay, s/veh	8.3											
Intersection Delay, s/veh	8.3											
Intersection LOS	A											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	47	6	5	33	9	18	36	7	34	93	11
Future Vol, veh/h	15	47	6	5	33	9	18	36	7	34	93	11
Peak Hour Factor	0.63	0.63	0.63	0.82	0.82	0.82	0.90	0.90	0.90	0.81	0.81	0.81
Heavy Vehicles, %	1	1	1	3	3	3	5	5	5	2	2	2
Mvmt Flow	24	75	10	6	40	11	20	40	8	42	115	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach												
EB	WB	WB	NB	SB								
Opposing Approach	WB	EB	SB	NB								
Opposing Lanes	1	1	1	1								
Conflicting Approach Left	SB	NB	NB	WB								
Conflicting Lanes Left	1	1	1	1								
Conflicting Approach Right	NB	WB	WB	EB								
Conflicting Lanes Right	1	1	1	1								
HCM Control Delay	8.3	7.9	8	8.6								
HCM LOS	A	A	A	A								

Lane												
NBLn1	EBLn1	WBLn1	SBLn1									
Vol Left, %	30%	22%	11%	25%								
Vol Thru, %	59%	69%	70%	67%								
Vol Right, %	11%	9%	19%	6%								
Sign Control	Stop	Stop	Stop	Stop								
Traffic Vol by Lane	61	68	47	138								
LT Vol	18	15	5	34								
Through Vol	36	47	33	93								
RT Vol	7	6	9	11								
Lane Flow Rate	68	108	57	170								
Geometry Grp	1	1	1	1								
Degree of U/I (X)	0.086	0.136	0.072	0.208								
Departure Headway (Hd)	4.549	4.522	4.532	4.398								
Convergence, Y/N	Yes	Yes	Yes	Yes								
Cap	789	794	792	818								
Service Time	2.57	2.543	2.554	2.417								
HCM Lane V/C Ratio	0.086	0.136	0.072	0.208								
HCM Control Delay	8	8.3	7.9	8.6								
HCM Lane LOS	A	A	A	A								
HCM 95th %ile Q	0.3	0.5	0.2	0.8								

HCM 6th TWSC
12: Center Street & Cady Street

Background Conditions #3 (Main Closed)
AM Peak Hour



Intersection												
Int'l Delay, s/veh	47.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	58	11	111	53	9	24	408	209	24	360	5
Future Vol, veh/h	1	58	11	111	53	9	24	408	209	24	360	5
Conflicting Peds, #/hr	2	0	0	0	2	3	0	2	2	0	3	0
Sign Control	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-
Grade, %	0	-	-	0	-	-	0	-	-	0	-	-
Peak Hour Factor	88	88	82	82	82	90	90	90	89	89	89	89
Heavy Vehicles, %	0	0	0	0	0	3	3	3	2	2	2	2
Mvmt Flow	1	66	13	135	65	11	27	453	232	27	404	6

Major/Minor												
Major1	Major2			Minor1								
Conflicting Flow All	1127	1205	410	1126	1092	573	4					

HCM 6th TWSC Background Conditions #3 (Main Closed) AM Peak Hour
 15: Griswold Street & Cady Street

Intersection												
Int Delay, s/veh 7												
Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR	
Lane Configurations	↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕											
Traffic Vol, veh/h	147	34	20	1	11	13	18	32	6	10	14	
Future Vol, veh/h	147	34	20	1	11	13	18	32	6	10	14	
Conflicting Peds, #/hr	0 0 0 0 0 0 0 0 0 0 0											
Sign Control	Stop Stop Stop Stop Stop Free Free Free Free Free Free											
RT Channelized	None None None None None None None None											
Storage Length	-											
Veh in Median Storage, #	0 0 0 0 0 0 0 0 0 0 0											
Grade, %	0 0 0 0 0 0 0 0 0 0 0											
Peak Hour Factor	84 84 84 60 60 60 63 63 63 76 76 76											
Heavy Vehicles, %	1 1 1 0 0 0 4 4 4 4 1 1											
Mvmt Flow	175 40 24 2 18 22 29 51 10 13 18 161											
Major/Minor												
	Minor2	Minor1					Major2					
Conflicting Flow All	259	244	99	271	319	56	179	0	0	61	0	
Stage 1	125	125	-	114	114	-	-	-	-	-	-	
Stage 2	134	119	-	157	205	-	-	-	-	-	-	
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.14	-	-	4.11	-	
Critical Hdwy Stg 1	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	
Follow-up Hdwy	3.509	4.009	3.309	3.5	4	3.3	2.236	-	-	2.209	-	
Plat Cap-1 Maneuver	695	960	960	695	801	1016	1385	-	-	1549	-	
Stage 1	891	784	-	895	895	-	-	-	-	-	-	
Stage 2	872	799	-	850	736	-	-	-	-	-	-	
Platoon blocked, %	-											
Mov Cap-1 Maneuver	649	639	960	622	582	1016	1385	-	-	1549	-	
Mov Cap-2 Maneuver	649	639	-	622	582	-	-	-	-	893	-	
Stage 1	862	786	-	876	787	-	-	-	-	-	-	
Stage 2	815	781	-	778	729	-	-	-	-	-	-	
Approach												
	EB	WB	NB						SB			
HCM Control Delay, s	13.3	10.1	2.5						0.5			
HCM LOS	B	B	A						A			
Minor Lane/Major Mvmt												
	NBL	NBT	NBR	EBL1	WBL1	SBL	SBT	SBR				
Capacity (veh/h)	1385	-	-	669	751	1549	-	-				
HCM Lane V/C Ratio	0.021	-	-	0.358	0.055	0.008	-	-				
HCM Control Delay (s)	7.7	0	-	3.3	10.1	7.3	0	-				
HCM Lane LOS	A	A	-	B	B	A	-	-				
HCM 95th %ile Q(veh)	0.1	-	-	1.6	0.2	0	-	-				

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SimTraffic Performance Report Background Conditions #3 (Main Closed) AM Peak Hour

16: Proposed Beal Street/Beal Street & Griswold Street Performance by movement

Movement	WBT	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.0
Total Del/Veh (s)	0.2	0.3	3.7	1.6

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HCM 6th TWSC Background Conditions #3 (Main Closed) AM Peak Hour
 17: River Street & Beal Street

Intersection												
Int Delay, s/veh 3.4												
Movement												
	EBT	EBR	WBL	WBT	NBL	NBR						
Lane Configurations	↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕											
Traffic Vol, veh/h	24	11	4	28	28	6						
Future Vol, veh/h	24	11	4	28	28	6						
Conflicting Peds, #/hr	0 1 1 0 1 3											
Sign Control	Free Free Free Free Stop Stop											
RT Channelized	None None None None None None											
Storage Length	-											
Veh in Median Storage, #	0 0 0 0 0 0											
Grade, %	0 0 0 0 0 0											
Peak Hour Factor	83 83 61 61 71 71											
Heavy Vehicles, %	0 0 5 5 3 3											
Mvmt Flow	29 13 7 46 39 8											
Major/Minor												
	Major1	Minor1	Major2									
Conflicting Flow All	0	0	43	0	98	40						
Stage 1	-	-	-	-	37	-						
Stage 2	-	-	-	-	61	-						
Critical Hdwy	-	-	4.15	-	6.43	6.23						
Critical Hdwy Stg 1	-	-	-	-	5.43	-						
Critical Hdwy Stg 2	-	-	-	-	5.43	-						
Follow-up Hdwy	-	-	2.245	-	3.527	3.327						
Plat Cap-1 Maneuver	-	-	1547	-	899	1028						
Stage 1	-	-	-	-	953	-						
Stage 2	-	-	-	-	959	-						
Platoon blocked, %	-											
Mov Cap-1 Maneuver	-	-	1546	-	893	1024						
Mov Cap-2 Maneuver	-	-	-	-	893	-						
Stage 1	-	-	-	-	982	-						
Stage 2	-	-	-	-	953	-						
Approach												
	EB	WB	NB						SB			
HCM Control Delay, s	0	0.9	9.2						A			
HCM LOS			A						A			
Minor Lane/Major Mvmt												
	NBL	NBT	NBR	EBL	EBR	WBL	WBT					
Capacity (veh/h)	914	-	-	1546	-	-	-					
HCM Lane V/C Ratio	0.052	-	-	0.004	-	-	-					
HCM Control Delay (s)	9.2	-	-	7.3	0	-	-					
HCM Lane LOS	A	-	-	A	A	-	-					
HCM 95th %ile Q(veh)	0.2	-	-	0	-	-	-					

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HCM 6th TWSC Background Conditions #3 (Main Closed) AM Peak Hour
 18: Main Street/Northville Road & Beal Street

Intersection											
Int Delay, s/veh 0.8											
Movement											
	EBL	EBT	EBR	NBL	NBT	NBR	SBT	SBR			
Lane Configurations	↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕										
Traffic Vol, veh/h	3	27	23	363	279	9					
Future Vol, veh/h	3	27	23	363	279	9					
Conflicting Peds, #/hr	0 0 4 0 0 4										
Sign Control	Stop Stop Free Free Free Free										
RT Channelized	None None None None None None										
Storage Length	-										
Veh in Median Storage, #	0 0 0 0 0 0										
Grade, %	0 0 0 0 0 0										
Peak Hour Factor	86 86 85 85 87 87										
Heavy Vehicles, %	0 0 4 4 3 3										
Mvmt Flow	3 31 27 427 321 10										
Major/Minor											
	Minor2	Minor1					Major2				
Conflicting Flow All	598	170	335	0	-	0					
Stage 1	330	-	-	-	-	-					
Stage 2	268	-	-	-	-	-					
Critical Hdwy	5.8	6.9	4.18	-	-	-					
Critical Hdwy Stg 1	5.8	-	-	-	-	-					
Critical Hdwy Stg 2	5.8	-	-	-	-	-					
Follow-up Hdwy	3.5	3.3	2.24	-	-	-					
Plat Cap-1 Maneuver	438	851	1207	-	-	-					
Stage 1	707	-	-	-	-	-					
Stage 2	759	-	-	-	-	-					
Platoon blocked, %	-										
Mov Cap-1 Maneuver	422	848	1202	-	-	-					
Mov Cap-2 Maneuver	422	-	-	-	-	-					
Stage 1	684	-	-	-	-	-					
Stage 2	756	-	-	-	-	-					
Approach											
	EB	WB	NB						SB		
HCM Control Delay, s	9.5	0.6	0						A		
HCM LOS	A	A	A						A		
Minor Lane/Major Mvmt											
	NBL	NBT	EBL1	SBT	SBR						
Capacity (veh/h)	1202	-	770	-	-						
HCM Lane V/C Ratio	0.023	-	0.045	-	-						
HCM Control Delay (s)	8.1	0.1	8.9	-	-						
HCM Lane LOS	A	A	A	-	-						
HCM 95th %ile Q(veh)	0.1	-	0.1	-	-						

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SimTraffic Performance Report Background Conditions #3 (Main Closed) AM Peak Hour

19: Seven Mile Road & Fairbrook Street & First Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	3.4	1.0	0.6	10.8	6.0	4.4	1.4	0.4	0.8	12.8	3.0	1.2

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HCM 6th AWSC Background Conditions #3 (Main Closed) AM Peak Hour
 20: Wing Street & Fairbrook Street

Intersection												
Intersection Delay, s/veh 7.4												
Intersection LOS A												
Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕											
Traffic Vol, veh/h	13	9	2	0	1	12	3	28	2	8	41	8
Future Vol, veh/h	13	9	2	0	1	12	3	28	2	8	41	8
Peak Hour Factor	0.73	0.73	0.73	0.69	0.69	0.69	0.75	0.75	0.74	0.74	0.74	0.74
Heavy Vehicles, %	0	0	0	0	0	0	11	11	11	4	4	4
Mvmt Flow	18	12	3	0	1	17	4	37	3	11	55	11
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach												
	EB	WB	NB						SB			
Opposing Approach	WB	EB	SB						NB			
Opposing Lanes	1	1	1						1			
Conflicting Approach Left	SB	NB	EB						WB			
Conflicting Lanes Left	1	1	1						1			
Conflicting Approach Right	NB	SB	WB						EB			
Conflicting Lanes Right	1	1	1						1			
HCM Control Delay	7.4	6.7	7.5						7.5			
HCM LOS	A	A	A						A			
Lane												
	NBL	EBL	WBL	SBL								
Vol Left, %	9%	54%	0%	14%								
Vol Thru, %	65%	38%	8%	72%								
Vol Right, %	6%	8%	92%	14%								
Sign Control	Stop	Stop	Stop	Stop								
Traffic Vol by Lane	33	24	13	57								
LT Vol	3	13	0	8								
Through Vol	28	9	1	41								
RT Vol	2	2	12	8								
Lane Flow Rate	44	33	19	77								
Geometry Grp	1	1	1	1								
Degree of Util (X)	0.052	0.038	0.019	0.086								
Departure Headway (Hd)	4.217	4.181	3.578	4.035								
Convergence, Y/N	Yes	Yes	Yes	Yes								
Cap	847	849	988	886								
Service Time	2.254	2.243	1.646	2.068								
HCM Lane V/C Ratio	0.052	0.038	0.019	0.087								
HCM Control Delay	7.5	7.4	6.7	7.5								
HCM Lane LOS	A	A	A	A								
HCM 95th %ile Q	0.2	0.1	0.1	0.3								

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HCM 6th TWSC Background Conditions #3 (Main Closed) AM Peak Hour
 21: Center Street & Fairbrook Street/W. Site Drive

Intersection													
Int Delay, s/veh	0.5												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR		
Lane Configurations	↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕												
Traffic Vol, veh/h	8	↕	11	0	↕	0	11	610	0	0	409	2	
Future Vol, veh/h	8	0	11	0	0	0	11	610	0	0	409	2	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop Stop Stop Stop Stop Free Free Free Free Free Free												
RT Channelized	- None - None - None - None - None - None - None - None												
Storage Length	-												
Veh in Median Storage, #	-												
Grade, %	-												
Peak Hour Factor	76 76 76 92 92 92 90 90 90 88 88 88												
Heavy Vehicles, %	3 3 3 2 2 2 2 2 2 2 2 2 2												
Mvmt Flow	11 0 14 0 0 0 0 12 678 0 0 465 2												
Major/Minor	Minor2	Minor1	Major1									Major2	
Conflicting Flow All	1168	1168	466	1175	1169	678	467	0	0	678	0	0	
Stage 1	466	466	-	702	702	-	-	-	-	-	-	-	
Stage 2	702	702	-	473	467	-	-	-	-	-	-	-	
Critical Hdwy	7.13	6.53	6.23	7.12	6.52	6.22	4.12	-	-	4.12	-	-	
Critical Hdwy Stg 1	6.13	5.53	-	6.12	5.52	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.13	5.53	-	6.12	5.52	-	-	-	-	-	-	-	
Follow-up Hdwy	3.527	4.027	3.327	3.518	4.018	3.318	2.218	-	-	2.218	-	-	
Rel Cap-1 Maneuver	170	193	595	166	193	452	1094	-	-	914	-	-	
Stage 1	575	561	-	429	440	-	-	-	-	-	-	-	
Stage 2	427	439	-	572	562	-	-	-	-	-	-	-	
Platoon blocked, %	-												
Mov Cap-1 Maneuver	168	190	595	162	190	452	1094	-	-	914	-	-	
Mov Cap-2 Maneuver	168	190	-	162	190	-	-	-	-	-	-	-	
Stage 1	565	561	-	421	432	-	-	-	-	-	-	-	
Stage 2	419	431	-	558	562	-	-	-	-	-	-	-	
Approach	EB		WB		NB		SB						
HCM Control Delay, s	18.7		0		0.1		0		14.8				
HCM LOS	C		A		B		B		B				
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBL1	WBL1	SBL	SBT	SBR					
Capacity (veh/h)	1094	-	-	287	-	914	-	-	412	1277	-	-	417
HCM Lane V/C Ratio	0.011	-	-	0.087	-	-	-	-	0.051	0.095	-	-	0.121
HCM Control Delay (s)	8.3	0	-	18.7	0	0	-	-	13	7.8	-	-	8.2
HCM Lane LOS	A	A	-	C	A	A	-	-	B	A	-	-	B
HCM 95th %ile Q(veh)	0	-	-	0.3	-	0	-	-	0.2	0	-	-	0.4

SimTraffic Performance Report Background Conditions #3 (Main Closed) AM Peak Hour
 24: Hines Drive & Seven Mile Road Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	ASL	ASR
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	1.3	1.1	0.2	0.2	0.2	0.8	0.8
Total Del/Veh (s)	5.3	0.4	0.5	12.1	10.7	2.5	3.4	3.7		

HCM 6th TWSC Background Conditions #3 (Main Closed) AM Peak Hour
 22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Intersection													
Int Delay, s/veh	1.4												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR		
Lane Configurations	↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕												
Traffic Vol, veh/h	5	345	3	7	226	24	2	4	13	22	3	18	
Future Vol, veh/h	5	345	3	7	226	24	2	4	13	22	3	18	
Conflicting Peds, #/hr	2	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Free Free Free Free Free Stop Stop Stop Stop Stop												
RT Channelized	- None - None - None - None - None - None - None - None												
Storage Length	100 - - 500 - - - - - - - - - -												
Veh in Median Storage, #	-												
Grade, %	-												
Peak Hour Factor	80 80 80 89 89 89 79 79 79 85 85 85												
Heavy Vehicles, %	2 2 2 3 3 3 10 10 10 4 4 4												
Mvmt Flow	6 431 4 8 254 27 3 5 16 26 4 21												
Major/Minor	Major1	Major2	Minor1									Minor2	
Conflicting Flow All	283	0	0	435	0	0	741	744	436	745	733	270	
Stage 1	-	-	-	-	-	-	445	445	-	286	286	-	
Stage 2	-	-	-	-	-	-	296	299	-	459	447	-	
Critical Hdwy	4.12	-	-	4.13	-	-	7.2	6.6	6.3	7.14	6.54	6.24	
Critical Hdwy Stg 1	-	-	-	-	-	-	6.2	5.6	-	6.14	5.54	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	6.2	5.6	-	6.14	5.54	-	
Follow-up Hdwy	2.218	-	-	2.227	-	-	3.59	4.09	3.39	3.536	4.036	3.336	
Rel Cap-1 Maneuver	1279	-	-	1119	-	-	322	333	604	328	345	764	
Stage 1	-	-	-	-	-	-	577	561	-	717	671	-	
Stage 2	-	-	-	-	-	-	696	652	-	576	570	-	
Platoon blocked, %	-												
Mov Cap-1 Maneuver	1277	-	-	1119	-	-	308	328	602	311	340	763	
Mov Cap-2 Maneuver	-	-	-	-	-	-	308	328	-	311	340	-	
Stage 1	-	-	-	-	-	-	574	558	-	712	665	-	
Stage 2	-	-	-	-	-	-	668	646	-	553	557	-	
Approach	EB		WB		NB		SB						
HCM Control Delay, s	0.1		0.2		13		14.8		14.8				
HCM LOS	B		B		B		B		B				
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1					
Capacity (veh/h)	472	1277	-	-	1119	-	-	417	412	1277	-	-	417
HCM Lane V/C Ratio	0.051	0.095	-	-	0.007	-	-	0.121	0.051	0.095	-	-	0.121
HCM Control Delay (s)	13	7.8	-	-	8.2	-	-	14.8	13	7.8	-	-	8.2
HCM Lane LOS	B	A	-	-	A	-	-	B	B	A	-	-	B
HCM 95th %ile Q(veh)	0.2	0	-	-	0	-	-	0.4	0.2	0	-	-	0.4

HCM 6th TWSC Background Conditions #3 (Main Closed) AM Peak Hour
 25: Seven Mile Road & River Street

Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	WBL	SBL	SBR							
Lane Configurations	↕ ↕ ↕ ↕ ↕											
Traffic Vol, veh/h	22	261	201	12	5	10						
Future Vol, veh/h	22	261	201	12	5	10						
Conflicting Peds, #/hr	2	0	0	2	0	8						
Sign Control	Free Free Free Free Stop Stop											
RT Channelized	- None - None - None											
Storage Length	-											
Veh in Median Storage, #	-											
Grade, %	-											
Peak Hour Factor	89 89 89 89 60 60											
Heavy Vehicles, %	3 3 4 4 7 7											
Mvmt Flow	25 293 226 13 8 17											
Major/Minor	Major1	Major2	Minor2									
Conflicting Flow All	241	0	-	0	578	238						
Stage 1	-	-	-	-	235	-						
Stage 2	-	-	-	-	343	-						
Critical Hdwy	4.13	-	-	-	6.47	6.27						
Critical Hdwy Stg 1	-	-	-	-	5.47	-						
Critical Hdwy Stg 2	-	-	-	-	5.47	-						
Follow-up Hdwy	2.227	-	-	-	3.563	3.363						
Rel Cap-1 Maneuver	1320	-	-	-	470	785						
Stage 1	-	-	-	-	702	-						
Stage 2	-	-	-	-	708	-						
Platoon blocked, %	-											
Mov Cap-1 Maneuver	1317	-	-	-	457	785						
Mov Cap-2 Maneuver	-	-	-	-	457	-						
Stage 1	-	-	-	-	772	-						
Stage 2	-	-	-	-	707	-						
Approach	EB		WB		SB							
HCM Control Delay, s	0.6		0		10.9		10.9					
HCM LOS	B		B		B		B					
Minor Lane/Major Mvmt	EBL	EBT	WBL	WBR	SBLn1							
Capacity (veh/h)	1317	-	-	-	633	470	785	457	785	1317	457	785
HCM Lane V/C Ratio	0.019	-	-	-	0.039	0.051	0.095	0.051	0.095	0.019	0.051	0.095
HCM Control Delay (s)	7.8	0	-	-	10.9	13.7	13.7	10.9	13.7	7.8	10.9	13.7
HCM Lane LOS	A	A	-	-	B	B	B	B	B	A	B	B
HCM 95th %ile Q(veh)	0.1	-	-	-	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

HCM 6th Signalized Intersection Summary Background Conditions #3 (Main Closed) AM Peak Hour
 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕											
Traffic Volume (veh/h)	41	275	64	31	193	70	51	510	64	68	339	13
Future Volume (veh/h)	41	275	64	31	193	70	51	510	64	68	339	13
Initial Q (Ob.) veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00											
Parking Bus Adj.	1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00											
Work Zone On Approach	No No No No No No No No No No No No											
Adj. Sat Flow, veh/h/ln	1984	1984	1984	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj. Flow Rate, veh/h	48	324	75	34	210	76	55	554	70	79	394	15
Peak Hour Factor	0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85 0.85											
Percent Heavy Veh. %	1 1 1 1 4 4 4 2 2 2 2 2 2											
Cap. veh/h	410	573	133	285	712	603	433	835	105	284	918	35
Arrive On Green	0.37 0.37 0.37 0.37 0.37 0.37 0.49 0.49 0.49 0.49 0.49 0.49											
Sat Flow, veh/h	1101	1558	361	969	1938	1640	976	1715	216	851	1984	72
Grp Volume(v), veh/h	48	0	399	34	210	76	55	0	624	79	0	409
Grp Sat Flow(s), veh/h/ln	1101	0	1919	969	1938	1640	976	0	1929	801	0	1966
Q Servig. s, s	2.6	0.										

HCM Unsignalized Intersection Capacity Analysis Background Conditions #3 (Main Closed) 27: NB Northville Road & N. Seven Mile Road AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	T	T	T	T	T	T
Traffic Volume (veh/h)	54	0	156	340	0	0
Future Volume (veh/h)	46	0	156	340	0	0
Sign Control	Yield		Free	Free		
Grade (ft)	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92
Hourly flow rate (vph)	54	0	184	400	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None	None		
Median storage (veh)						
Upstream signal (ft)			511			
pK_platnon unblocked						
VC_conflicting volume	568	0	0			
VC1_stage 1 conf vol						
VC2_stage 2 conf vol						
VCu_unblocked vol	568	0	0			
IC_single (s)	6.9	7.0	4.2			
IC_2_stage (s)						
IF (s)	3.5	3.3	2.2			
p0_queue free %	86	100	89			
cmf_capacity (veh/h)	399	1061	1607			
Direction Lane #						
Volume Total	54	317	267			
Volume Left	54	184	0			
Volume Right	0	0	0			
pSH	399	1607	1700			
Volume to Capacity	0.14	0.11	0.16			
Queue Length 95th (ft)	12	10	0			
Control Delay (s)	15.4	4.8	0.0			
Lane LOS	C	A	B			
Approach Delay (s)	15.4	2.6				
Approach LOS	C					
Intersection Summary						
Average Delay	3.7					
Intersection Capacity Utilization	43.6%			ICU Level of Service A		
Analysis Period (min)	15					

HCM 6th Signalized Intersection Summary Background Conditions #3 (Main Closed) 28: Northville Road & S. Seven Mile Road AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	T	T	T	T	T	T
Traffic Volume (veh/h)	270	207	289	285	286	176
Future Volume (veh/h)	270	207	289	285	286	176
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1953	1953	1938	1938	1953	1953
Adj Flow Rate, veh/h	287	220	328	324	340	210
Peak Hour Factor	0.94	0.94	0.93	0.93	0.94	0.94
Percent Heavy Veh. %	3	3	4	4	3	3
Cap. veh/h	665	923	377	337	462	1800
Arrive On Green	0.36	0.36	0.20	0.20	0.20	0.49
Sat Flow, veh/h	1860	1655	1938	1942	1860	3859
Grp Volume(v), veh/h	287	220	328	324	340	210
Grp Sat Flow(s), veh/h/ln	1860	1655	1841	1642	1860	1856
Q Serwig, s, s	9.4	0.0	13.8	15.6	9.6	2.5
Cycle Q Clearing, c, s	9.4	0.0	13.8	15.6	9.6	2.5
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	665	923	377	337	462	1800
V/C Ratio(Q)	0.43	0.24	0.87	0.96	0.74	0.12
Avail Cap(c), s, veh/h	665	923	377	337	462	1800
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	9.0	30.8	31.5	28.2	11.2
Incr Delay (d2), s/veh	2.0	0.6	22.8	40.4	10.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
file BackOfQ(50%), veh/ln	4.2	1.9	8.1	9.5	6.5	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	21.6	9.6	53.6	71.9	38.2	11.4
LnGrp LOS	C	A	D	E	D	B
Approach Vol, veh/h	507	652	550			
Approach Delay, s/veh	16.4	62.7	27.9			
Approach LOS	B	E	C			
Timer - Assigned Phs						
	1	2	6	8		
Phs Duration (G+Y+Rc), s	22.4	22.8	45.2	34.8		
Change Period (Y+Rc), s	6.4	6.4	6.4	6.2		
Max Green Setting (Gmax), s	16.0	16.4	38.8	28.6		
Max Q Clear Time (q_c+I1), s	11.6	17.6	4.5	11.4		
Green Ext Time (g_ex), s	0.4	0.0	1.3	1.5		
Intersection Summary						
HCM 6th Ctrl Delay	37.8					
HCM 6th LOS	D					

HCM 6th TWSC Background Conditions #3 (Main Closed) 1: Wing Street & Randolph Street PM Peak Hour

Intersection	EBT	EBR	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
In Delay, s/veh	5.2									
Intersection										
Lane Configurations	T	T	T	T	T	T	T	T	T	
Traffic Vol, veh/h	242	94	5	94	171	12				
Future Vol, veh/h	242	94	5	94	171	12				
Conflicting Peds, #/hr	0	11	11	0	0	4				
Sign Control	Free	Free	Free	Free	Stop	Stop				
RT Channelized	- None	- None	- None	- None	- None	- None				
Storage Length	-	-	-	-	-	-				
Veh in Median Storage, #	0	-	-	0	0	-				
Grade, %	0	-	-	0	0	-				
Peak Hour Factor	0.87	0.81	0.81	0.87	0.87	0.87				
Heavy Vehicles, %	0	0	0	0	0	1				
Mvmt Flow	278	108	6	116	219	15				
Major/Minor										
Conflicting Flow All	0	0	397	0	471	347				
Stage 1	-	-	-	-	-	-				
Stage 2	-	-	-	-	-	-				
Critical Hdwy	-	-	4.1	-	6.41	6.21				
Critical Hdwy Stg 1	-	-	-	-	-	-				
Critical Hdwy Stg 2	-	-	-	-	-	-				
Follow-up Hdwy	-	-	2.2	-	3.509	3.309				
Rt Cap 2/Maneuver	-	-	1173	-	953	698				
Stage 1	-	-	-	-	-	-				
Stage 2	-	-	-	-	-	-				
Platoon blocked, %	-	-	-	-	-	-				
Mov Cap 2/Maneuver	-	-	1161	-	544	688				
Mov Cap 2/Maneuver	-	-	-	-	-	-				
Stage 1	-	-	-	-	-	-				
Stage 2	-	-	-	-	-	-				
Approach										
EB	WB	NB								
HCM Control Delay, s	0	0.4	16.3							
HCM LOS	C									
Minor Lane/Major Mvmt										
NBL/N1	EBT	EBR	WBL	WBT						
Capacity (veh/h)	552	-	-	1161						
HCM Lane V/C Ratio	0.425	-	-	0.005						
HCM Control Delay (s)	16.3	-	-	9.1						
HCM Lane LOS	C	-	-	A						
HCM 95th %ile Q(veh)	2.1	-	-	0						

HCM 6th TWSC Background Conditions #3 (Main Closed) 2: Center Street & Randolph Street/Private Drive PM Peak Hour

Intersection	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
In Delay, s/veh	34.9												
Intersection													
Lane Configurations	T	T	T	T	T	T	T	T	T	T	T	T	
Traffic Vol, veh/h	41	11	202	13	13	25	48	622	8	16	424	38	
Future Vol, veh/h	41	11	202	13	13	25	48	622	8	16	424	38	
Conflicting Peds, #/hr	2	0	5	3	0	2	15	0	12	12	0	15	
Sign Control	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	
RT Channelized	- None	-	-	- None	-	- None	-	- None	-	- None	-	- None	
Storage Length	-	-	-	-	-	-	500	-	-	-	500	-	
Veh in Median Storage, #	-	-	-	-	-	-	-	-	-	-	-	-	
Grade, %	-	-	-	-	-	-	-	-	-	-	-	-	
Peak Hour Factor	0.84	0.84	0.91	0.91	0.91	0.87	0.87	0.87	0.73	0.73	0.73	0.84	
Heavy Vehicles, %	0	0	0	0	0	0	0	0	1	1	1	1	
Mvmt Flow	49	13	240	14	14	27	55	715	9	22	581	52	
Major/Minor													
Conflicting Flow All	1518	1512	627	1625	1534	734	648	0	0	736	0	0	
Stage 1	666	666	-	842	842	-	-	-	-	-	-	-	
Stage 2	852	846	-	783	692	-	-	-	-	-	-	-	
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.11	-	-	
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-	
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.209	-	-	
Rt Cap 2/Maneuver	98	121	467	63	116	423	947	-	-	874	-	-	
Stage 1	452	460	-	362	383	-	-	-	-	-	-	-	
Stage 2	357	381	-	390	448	-	-	-	-	-	-	-	
Platoon blocked, %													
Mov Cap 2/Maneuver	77	108	478	35	106	417	933	-	-	864	-	-	
Mov Cap 2/Maneuver	77	108	-	35	106	-	-	-	-	-	-	-	
Stage 1	419	442	-	337	357	-	-	-	-	-	-	-	
Stage 2	301	355	-	182	431	-	-	-	-	-	-	-	
Approach													
EB	WB	NB	SB										
HCM Control Delay, s	137.7	92.1	0.6	0.3									
HCM LOS	F	F											
Minor Lane/Major Mvmt													
NBL	NBT	NBR	EBL/N1	WBL/N1	SBL	SBT	SBR						
Capacity (veh/h)	933	-	-	240	92	864	-	-	-	-	-	-	
HCM Lane V/C Ratio	0.059	-	-	1.26	0.609	0.025	-	-	-	-	-	-	
HCM Control Delay (s)	9.1	-	-	167.7	92.1	9.3	-	-	-	-	-	-	
HCM Lane LOS	A	-	-	F	F	A	-	-	-	-	-	-	
HCM 95th %ile Q(veh)	0.2	-	-	15.2	2.9	0.1	-	-	-	-	-	-	

HCM 6th TWSC
5: Dunlap Street & Hutton Street

Background Conditions #3 (Main Closed)
PM Peak Hour

Intersection						
Int Delay, s/veh	2.5					
Intersection LOS	A					
Movement						
	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	4 4					
Traffic Vol, veh/h	14	293	409	90	85	11
Future Vol, veh/h	14	293	409	90	85	11
Conflicting Peds, #/hr	19	0	0	19	10	20
Sign Control	Free	Free	Free	Stop	Stop	Stop
RT Channelized	None	-	None	-	None	-
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	-	-
Grade, %	-	0	0	-	-	-
Peak Hour Factor	92	92	92	92	89	89
Heavy Vehicles, %	0	0	1	1	1	1
Mvmt Flow	15	318	445	98	96	12
Major/Minor						
	Major1	Major2	Minor2			
Conflicting Flow All	562	0	0	871	533	
Stage 1	-	-	-	513	-	
Stage 2	-	-	-	358	-	
Critical Hdwy Stg 1	4.1	-	-	6.41	6.21	
Critical Hdwy Stg 2	-	-	-	5.41	-	
Follow-up Hdwy	2.2	-	-	3.509	3.309	
Plat Cap-1 Maneuver	1019	-	-	523	549	
Stage 1	-	-	-	693	-	
Stage 2	-	-	-	710	-	
Platoon blocked, %	-	-	-	-	-	
Mov Cap-1 Maneuver	1001	-	-	306	529	
Mov Cap-2 Maneuver	-	-	-	306	-	
Stage 1	-	-	-	581	-	
Stage 2	-	-	-	697	-	
Approach						
	EB	WB	SB			
HCM Control Delay, s	0.4	0	21.7	C		
HCM LOS	C					
Minor Lane/Major Mvmt						
	EBL	EBT	WBT	WBR	SBL1	SBL2
Capacity (veh/h)	1001	-	-	-	322	-
HCM Lane V/C Ratio	0.015	-	-	-	0.335	-
HCM Control Delay (s)	8.7	0	-	-	21.7	-
HCM Lane LOS	A	A	-	-	C	-
HCM 95th %ile Q(veh)	0	-	-	-	1.4	-

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HCM 6th AWSC
6: Wing Street & Main Street

Background Conditions #3 (Main Closed)
PM Peak Hour

Intersection												
Intersection Delay, s/veh	9.8											
Intersection LOS	A											
Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4 4											
Traffic Vol, veh/h	84	35	71	13	37	22	37	126	46	25	74	35
Future Vol, veh/h	84	35	71	13	37	22	37	126	46	25	74	35
Peak Hour Factor	0.82	0.82	0.82	0.80	0.80	0.80	0.80	0.91	0.91	0.91	0.76	0.76
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	0	0
Mvmt Flow	102	43	87	16	46	28	41	138	51	33	97	46
Number of Lanes	0	1	0	0	1	0	0	0	1	0	0	1
Approach												
	EB	WB	SB									
Opposing Approach	WB	SB	NB	SB								
Opposing Lanes	1	1	1	1								
Conflicting Approach Left	SB	NB	EB	WB								
Conflicting Lanes Left	1	1	1	1								
Conflicting Approach Right	NB	SB	WB	EB								
Conflicting Lanes Right	1	1	1	1								
HCM Control Delay	10.2	8.9	10.1	9.5								
HCM LOS	B	A	B	A								
Lane												
	NBLn1	EBLn1	WBLn1	SBLn1								
Vol Left, %	18%	44%	18%	19%								
Vol Thru, %	60%	18%	51%	55%								
Vol Right, %	22%	37%	31%	26%								
Sign Control	Stop	Stop	Stop	Stop								
Traffic Vol by Lane	209	190	72	134								
LT Vol	37	84	13	25								
Through Vol	126	35	37	74								
RT Vol	46	71	22	35								
Lane Flow Rate	230	232	90	176								
Geometry Grp	1	1	1	1								
Degree of Util (X)	0.308	0.313	0.126	0.238								
Departure Headway (Hd)	4.831	4.866	5.051	4.86								
Convergence, Y/N	Yes	Yes	Yes	Yes								
Cap	737	732	701	732								
Service Time	2.506	2.943	3.145	2.94								
HCM Lane V/C Ratio	0.312	0.317	0.128	0.24								
HCM Control Delay	10.1	10.2	8.9	9.5								
HCM Lane LOS	B	B	A	A								
HCM 95th-ile Q	1.3	1.3	0.4	0.9								

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HCM 6th Signalized Intersection Summary
7: Center Street & Main Street

Background Conditions #3 (Main Closed)
PM Peak Hour

Movement						
	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	4 4					
Traffic Volume (veh/h)	28	52	8	472	492	23
Future Volume (veh/h)	28	52	8	472	492	23
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	1.00	0.94	0.99	1.00	1.00	0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1984	1984	2000	2000	1984	1984
Adj Flow Rate, veh/h	31	58	8	497	518	24
Peak Hour Factor	0.89	0.89	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	0	0	1	1
Cap, veh/h	152	284	66	1106	1049	49
Arrive On Green	0.26	0.26	0.56	0.56	1.00	1.00
Sat Flow, veh/h	176	1079	9	1980	1979	87
Grp Volume(v), veh/h	90	0	505	0	0	542
Grp Sat Flow(s), veh/hln	1674	0	1989	0	0	1987
Q Served, s/s	2.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clearing, c/s	2.5	0.0	9.0	0.0	0.0	0.0
Prop In Lane	0.34	0.64	0.02	0.02	0.04	0.04
Lane Grp Cap(c), veh/h	441	0	1171	0	0	1098
V/C Ratio(X)	0.20	0.00	0.43	0.00	0.00	0.49
Avail Cap(c), veh/h	441	0	1171	0	0	1098
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(i)	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	7.8	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	1.2	0.0	0.0	1.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/h	1.0	0.0	3.5	0.0	0.0	0.5
Unsig. Movement Delay, s/veh	18.3	0.0	9.0	0.0	0.0	1.6
LnGrp LOS	B	A	A	A	A	A
Approach Vol, veh/h	90	505	542			
Approach Delay, s/veh	18.3	9.0	1.6			
Approach LOS	B	A	A			
Timer - Assigned Phs						
	2	4	6			
Phs Duration (G+Y+Rc), s	39.0	21.0	39.0			
Change Period (Y+Rc), s	5.5	* 5.2	5.5			
Max Green Setting (Gmax), s	33.5	* 16	33.5			
Max Q Clear Time (g, c+1), s	11.0	4.5	2.0			
Green Ext Time (g, c), s	3.5	0.2	4.2			
Intersection Summary						
HCM 6th Ctrl Delay	6.2					
HCM 6th LOS	A					
Notes						
User approved volume balancing among the lanes for turning movement.						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

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HCM 6th AWSC
8: Hutton Street & Main Street

Background Conditions #3 (Main Closed)
PM Peak Hour

Intersection						
Intersection Delay, s/veh	15					
Intersection LOS	B					
Movement						
	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	4 4					
Traffic Vol, veh/h	47	356	143	24	281	97
Future Vol, veh/h	47	356	143	24	281	97
Peak Hour Factor	0.92	0.92	0.89	0.89	0.91	0.91
Heavy Vehicles, %	1	1	0	0	1	1
Mvmt Flow	51	387	161	27	309	107
Number of Lanes	1	1	0	1	1	1
Approach						
	WB	NB	SB			
Opposing Approach	NB	SB	NB	SB		
Opposing Lanes	0	2	1	1		
Conflicting Approach Left	NB	0	WB	2		
Conflicting Lanes Left	1	0	2	1		
Conflicting Approach Right	SB	WB	SB	2		
Conflicting Lanes Right	2	2	0	2		
HCM Control Delay	15.6	12.1	15.7	15.7		
HCM LOS	C	B	C	C		
Lane						
	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2	
Vol Left, %	0%	100%	0%	100%	0%	
Vol Thru, %	86%	0%	0%	0%	100%	
Vol Right, %	14%	0%	100%	0%	0%	
Sign Control	Stop	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	167	47	356	281	97	
LT Vol	0	47	0	281	0	
Through Vol	143	0	0	0	97	
RT Vol	24	0	356	0	0	
Lane Flow Rate	188	51	387	309	107	
Geometry Grp	4	7	7	7	7	
Degree of Util (X)	0.32	0.096	0.598	0.565	0.18	
Departure Headway (Hd)	6.136	6.775	5.56	6.568	6.081	
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	
Cap	585	529	650	547	589	
Service Time	4.185	4.52	3.304	4.331	3.824	
HCM Lane V/C Ratio	0.321	0.096	0.595	0.565	0.182	
HCM Control Delay	12.1	10.2	16.3	17.6	10.2	
HCM Lane LOS	B	B	C	C	B	
HCM 95th-ile Q	1.4	0.3	4	3.5	0.7	

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HCM 6th Signalized Intersection Summary
9: Griswold Street & Main Street

Background Conditions #3 (Main Closed)
PM Peak Hour

Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4 4											
Traffic Volume (veh/h)	49	273	27	15	296	260	26	214	25	180	186	86
Future Volume (veh/h)	49	273	27	15	296	260	26	214	25	180	186	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	1.00	0	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	2000	2000	2000	1984	1984	1984	2000	2000	2000	2000	2000	2000
Adj Flow Rate, veh/h	53	297	29	16	315	277	30	243	28	189	186	91
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.88					

Intersection												
Int Delay, s/veh 8.8												
Intersection LOS A												
Movement												
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Vol, veh/h	24	44	11	14	34	51	10	134	17	64	78	16
Future Vol, veh/h	24	44	11	14	34	51	10	134	17	64	78	16
Peak Hour Factor	0.83	0.83	0.83	0.90	0.90	0.90	0.90	0.90	0.89	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	0	1	1	1	0	0
Mvmt Flow	29	53	13	16	38	57	11	149	19	72	88	18
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach												
EB SB NB SB												
Opposing Approach WB EB SB												
Opposing Lanes 1 1 1 1												
Conflicting Approach Left SB NB EB WB												
Conflicting Lanes Left 1 1 1 1												
Conflicting Approach Right NB SB WB EB												
Conflicting Lanes Right 1 1 1 1												
HCM Control Delay 8.6 8.4 8.9 9												
HCM LOS A A A A												

Lane				
NBLn1	EBLn1	WBLn1	SBLn1	
Vol Left, %	6%	30%	14%	41%
Vol Thru, %	83%	56%	34%	49%
Vol Right, %	11%	14%	52%	10%
Sign Control				
Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	161	79	99	158
LT Vol	10	24	14	64
Through Vol	134	44	34	78
RT Vol	17	11	61	16
Lane Flow Rate	179	95	110	178
Geometry Grp	1	1	1	1
Degree of Utl (X)	0.227	0.128	0.14	0.227
Disruptive Headway (Hd)	4.56	4.838	4.56	4.613
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	785	739	783	776
Service Time	2.598	2.882	2.609	2.663
HCM Lane V/C Ratio	0.228	0.129	0.14	0.228
HCM Control Delay	8.9	8.6	8.4	9
HCM Lane LOS	A	A	A	A
HCM 95th %ile Q	0.9	0.4	0.5	0.9

Intersection												
Int Delay, s/veh 387.4												
Movement												
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Vol, veh/h	10	73	26	186	61	17	22	453	216	49	482	33
Future Vol, veh/h	10	73	26	186	61	17	22	453	216	49	482	33
Conflicting Peds, #/hr	25	0	4	0	25	21	0	3	0	3	0	21
Sign Control	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Vel in Median Storage, #	-	0	-	0	-	0	-	0	-	0	-	0
Grade, %	-	0	-	0	-	0	-	0	-	0	-	0
Peak Hour Factor	79	79	88	88	88	95	95	95	95	95	95	95
Heavy Vehicles, %	1	1	0	0	0	1	1	1	1	1	1	1
Mvmt Flow	13	92	33	211	69	19	23	477	222	52	507	35
Major/Minor												
Minor2 Minor1 Major1 Major2												
Conflicting Flow All	1356	1403	550	1335	1307	619	563	0	0	707	0	0
Stage 1	650	650	-	640	640	-	-	-	-	-	-	-
Stage 2	706	753	-	695	667	-	-	-	-	-	-	-
Critical Hwy	7.11	6.51	6.21	7.1	6.5	6.2	4.11	-	-	4.11	-	-
Critical Hwy Stg 1	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hwy Stg 2	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.5	4	3.3	2.209	-	-	2.209	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	127	140	537	-132	161	492	1013	-	-	896	-	-
Mov Cap-2 Maneuver	460	467	-	467	473	-	-	-	-	-	-	-
Stage 1	428	419	-	436	460	-	-	-	-	-	-	-
Stage 2	428	419	-	436	460	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	65	120	524	-42	138	479	993	-	-	893	-	-
Mov Cap-2 Maneuver	65	120	-	-42	138	-	-	-	-	-	-	-
Stage 1	433	419	-	447	453	-	-	-	-	-	-	-
Stage 2	326	401	-	291	413	-	-	-	-	-	-	-
Approach												
EB WB NB SB												
HCM Control Delay, s 150.3 150.3 150.3 0.3 0.8												
HCM LOS F F												
Minor Lane/Major Mvmt												
NBL NBT NBR EBLn1 WBLn1 SBL SBT SBR												
Capacity (veh/h)	993	-	-	134	54	893	-	-	-	-	-	-
HCM Lane V/C Ratio	0.023	-	-	1.03	5.556	0.058	-	-	-	-	-	-
HCM Control Delay (s)	8.7	0	-	150.3	2209	8.3	0	-	-	-	-	-
HCM Lane LOS	A	A	-	F	F	A	-	-	-	-	-	-
HCM 95th %ile Q(veh)	0.1	-	-	7.4	34.1	0.2	-	-	-	-	-	-

Notes				
-	Volume exceeds capacity.	\$	Delay exceeds 300s.	+ Computation Not Defined.
*	All major volume in platoon.			

Intersection												
Int Delay, s/veh 4.5												
Movement												
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Vol, veh/h	145	214	0	0	182	22	0	0	19	85		
Future Vol, veh/h	145	214	0	0	182	22	0	0	19	85		
Conflicting Peds, #/hr	13	0	0	0	13	0	0	0	0	0	3	
Sign Control	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	None	-	None	-	None	-	None	-	None	-	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	
Vel in Median Storage, #	-	0	-	0	-	0	-	0	-	0	-	
Grade, %	-	0	-	0	-	0	-	0	-	0	-	
Peak Hour Factor	94	94	94	95	95	92	92	92	63	63	63	
Heavy Vehicles, %	1	1	1	0	0	1	1	1	1	1	1	
Mvmt Flow	154	228	0	0	192	23	0	0	30	0	135	
Major/Minor												
Major1 Major2 Minor1 Minor2												
Conflicting Flow All	228	0	0	228	0	0	810	764	228	753	753	220
Stage 1	-	-	-	-	-	-	-	-	536	536	217	217
Stage 2	-	-	-	-	-	-	-	-	274	228	-	536
Critical Hwy	4.11	-	-	4.1	-	-	7.12	6.52	6.22	7.11	6.51	6.21
Critical Hwy Stg 1	-	-	-	-	-	-	-	-	6.12	5.52	-	6.11
Critical Hwy Stg 2	-	-	-	-	-	-	-	-	6.12	5.52	-	6.11
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.518	4.018	3.318	3.509	4.009	3.309
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1346	-	-	1352	-	-	258	334	611	327	346	822
Stage 1	-	-	-	-	-	-	-	-	529	523	-	798
Stage 2	-	-	-	-	-	-	-	-	732	715	-	530
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1329	-	-	1352	-	-	222	286	611	290	291	810
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	222	286	-	290
Stage 1	-	-	-	-	-	-	-	-	459	453	-	675
Stage 2	-	-	-	-	-	-	-	-	608	706	-	460
Approach												
EB WB NB SB												
HCM Control Delay, s 3.3 0 0 13.1												
HCM LOS A A B												
Minor Lane/Major Mvmt												
NBLn1 EBLn1 EBT EBR WBLn1 WBLn1 SBLn1 SBRn1												
Capacity (veh/h)	-	1329	-	-	1352	-	-	-	-	-	-	810
HCM Lane V/C Ratio	-	0.116	-	-	-	-	-	-	-	-	-	0.271
HCM Control Delay (s)	-	0	8.1	0	-	-	-	-	-	-	-	13.1
HCM Lane LOS	-	A	A	A	-	-	-	-	-	-	-	B
HCM 95th %ile Q(veh)	-	0.4	-	-	-	-	-	-	-	-	-	1.1

Notes				
-	Volume exceeds capacity.	\$	Delay exceeds 300s.	+ Computation Not Defined.
*	All major volume in platoon.			

Intersection												
Int Delay, s/veh 1.3												
Movement												
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Vol, veh/h	0	233	187	0	26	17						
Future Vol, veh/h	0	233	187	0	26	17						
Conflicting Peds, #/hr	14	0	0	14	0	1						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	-	None	-	None	-	None						
Storage Length	-	-	-	-	-	-						
Vel in Median Storage, #	-	0	0	-	0	-						
Grade, %	-	0	0	-	0	-						
Peak Hour Factor	95	95	90	90	72	72						
Heavy Vehicles, %	0	0	1	0	0	0						
Mvmt Flow	0	245	208	0	36	24						
Major/Minor												
Major1 Major2 Minor2												
Conflicting Flow All	-	0	-	0	453	209						
Stage 1	-	-	-	-	208	-						
Stage 2	-	-	-	-	245	-						
Critical Hwy	-	-	-	-	6.4	6.2						
Critical Hwy Stg 1	-											

HCM 6th TWSC
17: River Street & Beal Street

Background Conditions #3 (Main Closed)
PM Peak Hour

Table with 11 columns: Intersection, Int Delay, s/veh, Movement, Lane Configurations, Traffic Vol, veh/h, Future Vol, veh/h, Conflicting Peds, #/hr, Sign Control, RT Channelized, Storage Length, Veh in Median Storage, #, Grade, %, Peak Hour Factor, Heavy Vehicles, %, Mvmt Flow, Major/Minor, Conflicting Flow All, Stage 1, Stage 2, Critical Hdwy, Critical Hdwy Stg 1, Critical Hdwy Stg 2, Follow-up Hdwy, Platoon blocked, %, Mov Cap-1 Maneuver, Mov Cap-2 Maneuver, Approach, HCM Control Delay, s, HCM LOS, Minor Lane/Major Mvmt, Capacity (veh/h), HCM Lane V/C Ratio, HCM Control Delay (s), HCM Lane LOS, HCM 95th %ile Q(veh).

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HCM 6th TWSC
18: Main Street/Northville Road & Beal Street

Background Conditions #3 (Main Closed)
PM Peak Hour

Table with 11 columns: Intersection, Int Delay, s/veh, Movement, Lane Configurations, Traffic Vol, veh/h, Future Vol, veh/h, Conflicting Peds, #/hr, Sign Control, RT Channelized, Storage Length, Veh in Median Storage, #, Grade, %, Peak Hour Factor, Heavy Vehicles, %, Mvmt Flow, Major/Minor, Conflicting Flow All, Stage 1, Stage 2, Critical Hdwy, Critical Hdwy Stg 1, Critical Hdwy Stg 2, Follow-up Hdwy, Platoon blocked, %, Mov Cap-1 Maneuver, Mov Cap-2 Maneuver, Approach, HCM Control Delay, s, HCM LOS, Minor Lane/Major Mvmt, Capacity (veh/h), HCM Lane V/C Ratio, HCM Control Delay (s), HCM Lane LOS, HCM 95th %ile Q(veh).

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SimTraffic Performance Report

Background Conditions #3 (Main Closed)
PM Peak Hour

19: Seven Mile Road & Fairbrook Street & First Street Performance by movement

Table with 12 columns: Movement, Denied Delay (hr), Denied Del/Veh (s), Total Delay (hr), Total Del/Veh (s), EBL, EBT, EBR, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR, All.

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SimTraffic Report
12/11/2021

HCM 6th AWSC
20: Wing Street & Fairbrook Street

Background Conditions #3 (Main Closed)
PM Peak Hour

Table with 11 columns: Intersection, Int Delay, s/veh, Intersection LOS, Movement, Lane Configurations, Traffic Vol, veh/h, Future Vol, veh/h, Peak Hour Factor, Heavy Vehicles, %, Mvmt Flow, Number of Lanes, Approach, Opposing Approach, Opposing Lanes, Conflicting Approach Left, Conflicting Lanes Left, Conflicting Approach Right, Conflicting Lanes Right, HCM Control Delay, HCM LOS, Lane, Vol Left, %, Vol Thru, %, Vol Right, %, Sign Control, Traffic Vol by Lane, LT Vol, Through Vol, RT Vol, Lane Flow Rate, Geometry Grp, Degree of Util (X), Departure Headway (Hd), Convergence, Y/N, Cap, Service Time, HCM Lane V/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95th %ile Q.

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Synchro 11 Report
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HCM 6th TWSC
21: Center Street & Fairbrook Street/W. Site Drive

Background Conditions #3 (Main Closed)
PM Peak Hour

Table with 11 columns: Intersection, Int Delay, s/veh, Movement, Lane Configurations, Traffic Vol, veh/h, Future Vol, veh/h, Conflicting Peds, #/hr, Sign Control, RT Channelized, Storage Length, Veh in Median Storage, #, Grade, %, Peak Hour Factor, Heavy Vehicles, %, Mvmt Flow, Major/Minor, Conflicting Flow All, Stage 1, Stage 2, Critical Hdwy, Critical Hdwy Stg 1, Critical Hdwy Stg 2, Follow-up Hdwy, Platoon blocked, %, Mov Cap-1 Maneuver, Mov Cap-2 Maneuver, Approach, HCM Control Delay, s, HCM LOS, Minor Lane/Major Mvmt, Capacity (veh/h), HCM Lane V/C Ratio, HCM Control Delay (s), HCM Lane LOS, HCM 95th %ile Q(veh).

Northville Downs TIS
Fleis & VandenBink Engineering

Synchro 11 Report
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HCM 6th TWSC
22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Background Conditions #3 (Main Closed)
PM Peak Hour

Table with 11 columns: Intersection, Int Delay, s/veh, Movement, Lane Configurations, Traffic Vol, veh/h, Future Vol, veh/h, Conflicting Peds, #/hr, Sign Control, RT Channelized, Storage Length, Veh in Median Storage, #, Grade, %, Peak Hour Factor, Heavy Vehicles, %, Mvmt Flow, Major/Minor, Conflicting Flow All, Stage 1, Stage 2, Critical Hdwy, Critical Hdwy Stg 1, Critical Hdwy Stg 2, Follow-up Hdwy, Platoon blocked, %, Mov Cap-1 Maneuver, Mov Cap-2 Maneuver, Approach, HCM Control Delay, s, HCM LOS, Minor Lane/Major Mvmt, Capacity (veh/h), HCM Lane V/C Ratio, HCM Control Delay (s), HCM Lane LOS, HCM 95th %ile Q(veh).

Northville Downs TIS
Fleis & VandenBink Engineering

Synchro 11 Report
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HCM 6th Signalized Intersection Summary
23: Sheldon Avenue/Center Street & Seven Mile Road

Background Conditions #3 (Main Closed)
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	329	116	96	454	127	110	587	94	87	583	41
Future Volume (veh/h)	32	329	116	96	454	127	110	587	94	87	583	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1984	1984	1984	2000	2000	2000	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	36	366	129	101	478	134	116	618	99	71	599	44
Peak Hour Factor	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	228	515	181	222	735	622	278	813	130	228	890	65
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	816	1401	484	916	2000	1693	793	1668	297	740	1656	194
Grp Volume(v), veh/h	36	0	496	101	478	134	116	0	717	71	0	643
Grp Sat Flow(s),veh/h/ln	816	0	1896	916	2000	1693	793	0	1935	740	0	1960
Q Served, s/h, s	3.1	0.0	17.9	8.5	15.9	4.4	10.5	0.0	24.1	6.9	0.0	20.0
Cycle Q Clear(g, c), s	19.0	0.0	17.9	26.4	15.9	4.4	30.5	0.0	24.1	31.0	0.0	20.0
Prop In Lane	1.00	0.26	1.00	1.00	1.00	1.00	0.14	1.00	1.00	0.07	1.00	0.07
Lane Grp Cap(c), veh/h	228	0	696	222	735	622	278	0	943	228	0	955
V/C Ratio(x)	0.16	1.00	0.71	0.46	0.65	0.22	0.42	0.00	0.76	0.31	0.00	0.67
Aval Cap(c), veh/h	228	0	696	222	735	622	278	0	943	228	0	955
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.9	0.0	21.7	33.0	21.0	17.4	27.3	0.0	16.7	29.3	0.0	15.6
Initial Delay (d0), s/veh	1.5	0.0	8.1	6.6	4.4	0.8	4.6	0.0	6.7	14	0.0	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	8.5	2.2	7.8	1.7	2.2	0.0	10.9	1.4	0.0	8.9
Unsig. Movement Delay, s/veh												
LnCrp Delay(d), s/veh	30.4	0.0	27.7	39.6	25.5	18.2	31.8	0.0	22.4	32.9	0.0	19.4
LnCrp LOS	C	A	C	D	C	B	C	A	C	C	A	B
Approach Vol, veh/h	531			713			833			714		
Approach Delay, s/veh	27.8			26.1			23.7			20.8		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	Z		4		6		8					
Phs Duration (G+Y+Rc), s	45.0		35.0		45.0		35.0					
Change Period (Y+Rc), s	6.0		5.6		6.0		5.6					
Max Green Setting (Gmax), s	39.0		29.4		39.0		29.4					
Max Q Clear Time (g, c+1), s	32.5		21.0		33.0		26.4					
Green Ext Time (g, c), s	3.0		2.2		2.4		0.4					
Intersection Summary												
HCM 6th Ctrl Delay	24.4											
HCM 6th LOS	C											

SimTraffic Performance Report

Background Conditions #3 (Main Closed)
PM Peak Hour

24: Hines Drive & Seven Mile Road Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (h)	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0
Total Delay (hr)	0.3	0.0	2.0	4.5	0.8	0.2	0.2	8.1
Total Del/Veh (s)	23.1	1.6	18.5	73.5	59.7	2.9	4.2	25.4

HCM 6th TWSC

Background Conditions #3 (Main Closed)
PM Peak Hour

25: Seven Mile Road & River Street

Intersection	EBL	EBT	WBL	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	307	474	22	6	48
Future Vol, veh/h	30	307	474	22	6	48
Conflicting Peds, #/hr	4	0	0	4	6	12
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	90	90	77	77
Heavy Vehicles, %	2	2	1	1	6	6
Mvmt Flow	33	334	527	24	8	62
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	555	0	949	555		
Stage 1	-	-	-	-	543	-
Stage 2	-	-	-	-	406	-
Critical Hdwy	4.12	-	-	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.218	-	-	-	3.554	3.354
Rot Cap1/Maneuver	1015	-	-	-	294	524
Stage	-	-	-	-	574	-
Stage 2	-	-	-	-	664	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap1/Maneuver	1011	-	-	-	270	516
Mov Cap2/Maneuver	-	-	-	-	270	-
Stage 1	-	-	-	-	549	-
Stage 2	-	-	-	-	661	-
Approach	EB	WB	SB			
HCM Control Delay, s	0.8	0	14			
HCM LOS			B			
Minor Lane/Major Mvmt	EBL	EBT	WBL	WBR	SBL	SBR
Capacity (veh/h)	1011	-	-	-	469	-
HCM Lane V/C Ratio	0.032	-	-	-	0.15	-
HCM Control Delay (s)	8.7	0	-	-	B	-
HCM Lane LOS	A	A	-	-	B	-
HCM 95th %ile Q(veh)	0.1	-	-	-	0.5	-

HCM Unsignalized Intersection Capacity Analysis

Background Conditions #3 (Main Closed)
26: SB Northville Road & N. Seven Mile Road
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	51	261	0	399	0	0	0	0	0	481	104
Future Volume (Veh/h)	0	51	261	0	399	0	0	0	0	0	481	104
Sign Control	Stop			Yield			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95
Hourly flow rate (vph)	0	56	287	0	424	0	0	0	0	0	506	109
Pedestrians												
Lane Width (ft)							None			None		
Walking Speed (ft/s)							None			None		
Percent Blockage												
Right turn flare (veh)												
Median type												
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	772	560	308	568	615	0	615	0				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	772	560	308	568	615	0	615	0				
IC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1	4.1				
IC, 2 stage (s)												
IF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2	2.2				
P0 queue free %	0	87	98	100	0	100	100	100				
cM capacity (veh/h)	0	435	688	714	407	1088	961	1629				
Approach Lane #	EB1	EB2	WB1	WB2	SB2							
Volume Total	56	287	424	337	278							
Volume Left	0	0	0	0	0							
Volume Right	0	287	0	0	109							
BSH	435	688	407	1700	1700							
Volume to Capacity	0.13	0.42	1.04	0.20	0.16							
Queue Length 95th (ft)	11	52	343	0	0							
Control Delay (s)	14.5	13.9	88.2	0.0	0.0							
Lane LOS	B	B	F	D	B							
Approach Delay (s)	14.0	B	88.2	0.0	F							
Approach LOS	B	F	C	B	C							
Intersection Summary												
Average Delay	30.5											
Intersection Capacity Utilization	65.9%											
Analysis Period (min)	15											
ICU Level of Service	C											

HCM Unsignalized Intersection Capacity Analysis

Background Conditions #3 (Main Closed)
27: NB Northville Road & N. Seven Mile Road
PM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	399	575	0	0
Future Volume (Veh/h)	0	0	399	575	0	0
Sign Control	Yield		Free		Free	
Grade	0%		0%		0%	
Peak Hour Factor	0.91	0.91	0.94	0.94	0.92	0.92
Hourly flow rate (vph)	0	0	424	612	0	0
Pedestrians						
Lane Width (ft)			None		None	
Walking Speed (ft/s)			None		None	
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)	511					
pX, platoon unblocked	0.87					
vC, conflicting volume	1154	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	878	0	0			
IC, single (s)	6.8	6.9	4.1			
IC, 2 stage (s)						
IF (s)	3.5	3.3	2.2			
P0 queue free %	70	100	74			
cM capacity (veh/h)	165	1084	1629			
Approach Lane #	EB1	NB1	NB2			
Volume Total	56	628	408			
Volume Left	56	424	0			
Volume Right	0	0	0			
BSH	165	1629	1700			

Queuing and Blocking Report Background Conditions #1 (Pre-COVID) AM Peak Hour

Intersection: 1: Wing Street & Randolph Street

Movement	WB	NB
Directions Served	LT LR	
Maximum Queue (ft)	34 70	
Average Queue (ft)	2 33	
95th Queue (ft)	17 53	
Link Distance (ft)	394 263	
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	SB	SB
Directions Served	LTR LTR	L L	TR		
Maximum Queue (ft)	166 35	52 29	59		
Average Queue (ft)	52 9	13 2	2		
95th Queue (ft)	119 32	41 16	24		
Link Distance (ft)	394 193		1449		
Upstream Blk Time (%)					
Queueing Penalty (veh)					
Storage Bay Dist (ft)		500 500			
Storage Blk Time (%)					
Queueing Penalty (veh)					

Intersection: 3: Wing Street & Dunlap Street

Movement	EB	WB	NB	SB
Directions Served	LTR LTR	LTR LTR		
Maximum Queue (ft)	54 75	68 86		
Average Queue (ft)	33 39	34 41		
95th Queue (ft)	50 62	52 69		
Link Distance (ft)	740 122	165 263		
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)		0		
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Background Conditions #1 (Pre-COVID) AM Peak Hour

Intersection: 4: Center Street & Dunlap Street

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	L TR	L TR	L TR	L TR	L TR	L TR	L TR
Maximum Queue (ft)	73 92	33 111	49 192	152 188			
Average Queue (ft)	31 41	7 43	10 82	57 94			
95th Queue (ft)	64 78	27 83	37 153	109 170			
Link Distance (ft)	192	136	326	153			
Upstream Blk Time (%)		0	0	1			
Queueing Penalty (veh)			0	6			
Storage Bay Dist (ft)	100	75	30	500			
Storage Blk Time (%)	0	0	2	4	21	0	1
Queueing Penalty (veh)	0	0	0	19	2	0	1

Intersection: 5: Dunlap Street & Hutton Street

Movement	EB	SB
Directions Served	LT LR	
Maximum Queue (ft)	12 57	
Average Queue (ft)	0 30	
95th Queue (ft)	6 51	
Link Distance (ft)	274 819	
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 6: Wing Street & Main Street

Movement	EB	WB	NB	SB
Directions Served	LTR LTR	LTR LTR		
Maximum Queue (ft)	98 77	76 75		
Average Queue (ft)	47 40	32 38		
95th Queue (ft)	75 65	59 59		
Link Distance (ft)	767 174	307 132		
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Background Conditions #1 (Pre-COVID) AM Peak Hour

Intersection: 7: Center Street & Main Street

Movement	EB	WB	NB	SB
Directions Served	LTR LTR	LTR LTR		
Maximum Queue (ft)	135 123	197 214		
Average Queue (ft)	72 44	127 75		
95th Queue (ft)	124 89	195 157		
Link Distance (ft)	115 521	143 326		
Upstream Blk Time (%)		2	4	
Queueing Penalty (veh)	3	21		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 8: Hutton Street & Main Street

Movement	EB	EB	WB	NB	SB	SB
Directions Served	LT R	LT R	LT R	LT R	LT R	LT R
Maximum Queue (ft)	122 34	107 87	52 163	23		
Average Queue (ft)	47 4	43 36	17 84	6		
95th Queue (ft)	100 22	84 71	99 137	22		
Link Distance (ft)	521	381	114	328		
Upstream Blk Time (%)						
Queueing Penalty (veh)						
Storage Bay Dist (ft)		25	75	175		
Storage Blk Time (%)	21	1	1	0	0	0
Queueing Penalty (veh)	2	1	1	0	0	0

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT TR	LT TR	LTR LTR			
Maximum Queue (ft)	120 100	82 112	134 194			
Average Queue (ft)	63 40	42 53	68 86			
95th Queue (ft)	102 82	72 92	119 156			
Link Distance (ft)	103 103	336 336	125 1018			
Upstream Blk Time (%)		1	0			
Queueing Penalty (veh)	1	0	1			
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queueing Penalty (veh)						

Queuing and Blocking Report Background Conditions #1 (Pre-COVID) AM Peak Hour

Intersection: 10: Cady Street & Main Street

Movement	WB	NB
Directions Served	LT LR	
Maximum Queue (ft)	25 33	
Average Queue (ft)	2 18	
95th Queue (ft)	15 41	
Link Distance (ft)	748 406	
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 11: Wing Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR LTR	LTR LTR		
Maximum Queue (ft)	55 40	69 67		
Average Queue (ft)	32 29	32 37		
95th Queue (ft)	50 46	56 55		
Link Distance (ft)	728 142	267 307		
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR LTR	LTR LTR		
Maximum Queue (ft)	46 90	134 85		
Average Queue (ft)	15 37	17 5		
95th Queue (ft)	42 68	69 37		
Link Distance (ft)	145 254	252 118		
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Background Conditions #1 (Pre-COVID) AM Peak Hour

Intersection: 13: N. Site Drive/Hutton Street & Cady Street

Movement	EB	WB	SB
Directions Served	LTR LTR	LTR	
Maximum Queue (ft)	52 6	43	
Average Queue (ft)	6 0	8	
95th Queue (ft)	29 4	30	
Link Distance (ft)	250 85	123	
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 14: Cady Street & Chrch Street

Movement	SB
Directions Served	LR
Maximum Queue (ft)	65
Average Queue (ft)	38
95th Queue (ft)	61
Link Distance (ft)	243
Upstream Blk Time (%)	
Queueing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queueing Penalty (veh)	

Intersection: 15: Griswold Street & Cady Street

Movement	EB	WB	NB
Directions Served	LTR LTR	LTR	
Maximum Queue (ft)	90 31	23	
Average Queue (ft)	44 16	1	
95th Queue (ft)	71 41	12	
Link Distance (ft)	354 204	96	
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Queuing and Blocking Report Background Conditions #1 (Pre-COVID) AM Peak Hour

Intersection: 16: Proposed Beal Street/Beal Street & Griswold Street

Movement	SB
Directions Served	LR
Maximum Queue (ft)	49
Average Queue (ft)	22
95th Queue (ft)	45
Link Distance (ft)	111
Upstream Blk Time (%)	
Queueing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queueing Penalty (veh)	

Intersection: 17: River Street & Beal Street

Movement	WB	NB
Directions Served	LT LR	
Maximum Queue (ft)	6 64	
Average Queue (ft)	0 19	
95th Queue (ft)	4 51	
Link Distance (ft)	604 1186	
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 18: Main Street/Northville Road & Beal Street

Movement	EB	NB
Directions Served	LR LT	
Maximum Queue (ft)	39 43	
Average Queue (ft)	20 4	
95th Queue (ft)	45 24	
Link Distance (ft)	604 75	
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Queuing and Blocking Report

Background Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection: 19: Seven Mile Road & Fairbrook Street & First Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	43	34	52	19
Average Queue (ft)	2	6	5	4
95th Queue (ft)	20	23	28	14
Link Distance (ft)	1220	965	1045	482
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 20: Wing Street & Fairbrook Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	42	31	71	56
Average Queue (ft)	17	13	25	29
95th Queue (ft)	41	37	58	51
Link Distance (ft)	965	218	163	570
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 21: Center Street & Fairbrook Street/W. Site Drive

Movement	EB	NB
Directions Served	LTR	LTR
Maximum Queue (ft)	49	87
Average Queue (ft)	16	6
95th Queue (ft)	44	36
Link Distance (ft)	96	531
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report

Background Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection: 22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Movement	EB	WB	NB	SB
Directions Served	L	TR	L	LTR
Maximum Queue (ft)	11	22	26	33
Average Queue (ft)	0	1	3	15
95th Queue (ft)	4	21	17	43
Link Distance (ft)	1045	426	110	
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100	500		
Storage Blk Time (%)	0			
Queuing Penalty (veh)	0			

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	NB	SB
Directions Served	L	TR	L	TR
Maximum Queue (ft)	145	359	66	134
Average Queue (ft)	23	184	23	49
95th Queue (ft)	59	301	57	108
Link Distance (ft)	386	578	578	21448
Upstream Blk Time (%)	0	0		
Queuing Penalty (veh)	0	1		
Storage Bay Dist (ft)	500	150		50
Storage Blk Time (%)	0	0	0	1
Queuing Penalty (veh)	0	0	0	7

Intersection: 24: Hines Drive & Seven Mile Road

Movement	NB	SB
Directions Served	TR	LT
Maximum Queue (ft)	124	4
Average Queue (ft)	51	0
95th Queue (ft)	53	3
Link Distance (ft)	3643	578
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report

Background Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection: 25: Seven Mile Road & River Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	50	64
Average Queue (ft)	5	17
95th Queue (ft)	28	47
Link Distance (ft)	621	1186
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	WB
Directions Served	T	R
Maximum Queue (ft)	44	103
Average Queue (ft)	20	50
95th Queue (ft)	39	84
Link Distance (ft)	180	180
Upstream Blk Time (%)	4	
Queuing Penalty (veh)	6	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 27: NB Northville Road & N. Seven Mile Road

Movement	EB	NB
Directions Served	L	T
Maximum Queue (ft)	30	44
Average Queue (ft)	12	7
95th Queue (ft)	33	30
Link Distance (ft)	16	233
Upstream Blk Time (%)	3	
Queuing Penalty (veh)	1	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report

Background Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection: 28: Northville Road & S. Seven Mile Road

Movement	WB	NB	SB
Directions Served	L	R	T
Maximum Queue (ft)	97	47	191
Average Queue (ft)	76	7	103
95th Queue (ft)	99	27	166
Link Distance (ft)	52	82	219
Upstream Blk Time (%)	2	0	1
Queuing Penalty (veh)	6	0	2
Storage Bay Dist (ft)			120
Storage Blk Time (%)			18
Queuing Penalty (veh)			0

Intersection: 29: N.E. Site Drive (Egress Only) & Cady Street

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 30: Griswold Street & E. Site Drive

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Queuing and Blocking Report

Background Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection: 31: Griswold Street & S.E. Site Drive

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 32: Center Street & Proposed Beal Street

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 33: S.W. Site Drive & Fairbrook Street

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Queuing and Blocking Report

Background Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection: 34: Wing Street & S.W. Site Drive

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Zone Summary

Zone wide Queuing Penalty: 131

Intersection: 1: Wing Street & Randolph Street

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	8	31	70
Average Queue (ft)	0	2	43
95th Queue (ft)	5	15	72
Link Distance (ft)	535	394	263
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	273	69	47	74	29	53
Average Queue (ft)	102	33	13	4	8	6
95th Queue (ft)	225	60	40	34	29	30
Link Distance (ft)	394	193		153		1449
Upstream Blk Time (%)	0			0		
Queueing Penalty (veh)	0			0		
Storage Bay Dist (ft)		500			500	
Storage Blk Time (%)		0			0	
Queueing Penalty (veh)		0			0	

Intersection: 3: Wing Street & Dunlap Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	60	99	91	76
Average Queue (ft)	35	56	44	38
95th Queue (ft)	55	88	72	61
Link Distance (ft)	740	122	165	263
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 4: Center Street & Dunlap Street

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L
Maximum Queue (ft)	102	104	34	147	44	181	132
Average Queue (ft)	39	41	6	74	12	82	46
95th Queue (ft)	83	84	25	122	40	154	101
Link Distance (ft)	192		1	35		326	153
Upstream Blk Time (%)				1		0	1
Queueing Penalty (veh)				2		0	12
Storage Bay Dist (ft)	100		75		30		500
Storage Blk Time (%)	1	1		13	4	23	0
Queueing Penalty (veh)	1	0		1	28	3	0

Intersection: 5: Dunlap Street & Hutton Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	54	48	76
Average Queue (ft)	11	6	37
95th Queue (ft)	39	27	61
Link Distance (ft)	274	328	819
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 6: Wing Street & Main Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	92	92	105	86
Average Queue (ft)	46	45	46	36
95th Queue (ft)	72	74	78	56
Link Distance (ft)	767	174	307	132
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 7: Center Street & Main Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	137	254	191	309
Average Queue (ft)	76	112	129	106
95th Queue (ft)	135	267	195	215
Link Distance (ft)	115	521	143	326
Upstream Blk Time (%)	5		5	0
Queueing Penalty (veh)	10		32	1
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 8: Hutton Street & Main Street

Movement	EB	WB	WB	NB	SB	SB
Directions Served	LT	R	LT	R	LTR	LT
Maximum Queue (ft)	124	35	213	100	59	168
Average Queue (ft)	43	6	63	67	19	100
95th Queue (ft)	94	26	162	115	47	156
Link Distance (ft)	521		381		114	328
Upstream Blk Time (%)						
Queueing Penalty (veh)			25		75	175
Storage Bay Dist (ft)						
Storage Blk Time (%)	22	1	5	1	0	0
Queueing Penalty (veh)	2	1	15	2	0	0

Intersection: 9: Griswold Street & Main Street

Movement	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR
Maximum Queue (ft)	124	103	164	194	1055
Average Queue (ft)	72	60	80	100	92
95th Queue (ft)	110	97	134	160	1326
Link Distance (ft)	103	103	336	336	125
Upstream Blk Time (%)	1		0		2
Queueing Penalty (veh)	3	1			7
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queueing Penalty (veh)					

Intersection: 10: Cady Street & Main Street

Movement	EB	WB	WB	NB
Directions Served	TR	LT	T	LR
Maximum Queue (ft)	5	60	13	70
Average Queue (ft)	0	16	0	32
95th Queue (ft)	0	47	9	54
Link Distance (ft)	336	749	749	406
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 11: Wing Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	60	59	64	64
Average Queue (ft)	33	34	39	38
95th Queue (ft)	52	48	59	58
Link Distance (ft)	728	142	267	307
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	98	106	146	101
Average Queue (ft)	32	44	24	15
95th Queue (ft)	69	85	89	62
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)	0			0
Queueing Penalty (veh)	0			1
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 13: N. Site Drive/Hutton Street & Cady Street

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	23	7	37
Average Queue (ft)	3	0	12
95th Queue (ft)	18	4	38
Link Distance (ft)	250	85	123
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 14: Cady Street & Chruh Street

Movement	SB
Directions Served	LR
Maximum Queue (ft)	49
Average Queue (ft)	25
95th Queue (ft)	48
Link Distance (ft)	243
Upstream Blk Time (%)	
Queueing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queueing Penalty (veh)	

Intersection: 15: Griswold Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	84	55	23	35
Average Queue (ft)	42	28	2	3
95th Queue (ft)	66	50	14	18
Link Distance (ft)	354	204	96	143
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 16: Proposed Beal Street/Beal Street & Griswold Street

Movement	SB
Directions Served	LR
Maximum Queue (ft)	53
Average Queue (ft)	30
95th Queue (ft)	41
Link Distance (ft)	111
Upstream Blk Time (%)	
Queueing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queueing Penalty (veh)	

Intersection: 17: River Street & Beal Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	23	54
Average Queue (ft)	1	33
95th Queue (ft)	9	51
Link Distance (ft)	604	1186
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 18: Main Street/Northville Road & Beal Street

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	62	47	6
Average Queue (ft)	26	11	0
95th Queue (ft)	50	38	4
Link Distance (ft)	604	75	154
Upstream Blk Time (%)	0		
Queueing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Queuing and Blocking Report

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection: 19: Seven Mile Road & Fairbrook Street & First Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	138	42	75	20
Average Queue (ft)	9	11	11	3
95th Queue (ft)	61	31	48	14
Link Distance (ft)	1220	965	1045	482
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 20: Wing Street & Fairbrook Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	66	88	55	55
Average Queue (ft)	19	38	33	34
95th Queue (ft)	50	65	49	50
Link Distance (ft)	965	218	163	570
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 21: Center Street & Fairbrook Street/W. Site Drive

Movement	EB	NB
Directions Served	LTR	LTR
Maximum Queue (ft)	59	298
Average Queue (ft)	28	82
95th Queue (ft)	55	201
Link Distance (ft)	96	531
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection: 22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Movement	EB	WB	NB	SB
Directions Served	L	TR	L	TR
Maximum Queue (ft)	40	7	25	31
Average Queue (ft)	10	0	5	1
95th Queue (ft)	32	6	21	14
Link Distance (ft)	1045		386	426
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100		500	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	NB	SB
Directions Served	L	TR	L	TR
Maximum Queue (ft)	91	258	195	337
Average Queue (ft)	21	151	77	180
95th Queue (ft)	61	245	175	296
Link Distance (ft)	386	578	578	21448
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	500		150	
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 24: Hines Drive & Seven Mile Road

Movement	WB	NB	SB
Directions Served	L	TR	L
Maximum Queue (ft)	20	331	11
Average Queue (ft)	1	144	1
95th Queue (ft)	10	277	8
Link Distance (ft)	3643	578	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	225		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection: 25: Seven Mile Road & River Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	78	52
Average Queue (ft)	25	30
95th Queue (ft)	62	49
Link Distance (ft)	621	1186
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	WB	SB
Directions Served	T	R	T
Maximum Queue (ft)	55	110	61
Average Queue (ft)	24	49	45
95th Queue (ft)	43	87	63
Link Distance (ft)	180	180	16
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 27: NB Northville Road & N. Seven Mile Road

Movement	EB	NB	SB
Directions Served	L	LT	T
Maximum Queue (ft)	32	116	35
Average Queue (ft)	17	41	1
95th Queue (ft)	36	88	14
Link Distance (ft)	16	233	233
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection: 28: Northville Road & S. Seven Mile Road

Movement	WB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L
Maximum Queue (ft)	98	60	253	261	200
Average Queue (ft)	80	18	193	199	157
95th Queue (ft)	103	48	263	274	216
Link Distance (ft)	82	82	219	219	222
Upstream Blk Time (%)	3	0	8	11	3
Queuing Penalty (veh)	13	0	34	46	13
Storage Bay Dist (ft)					120
Storage Blk Time (%)					27
Queuing Penalty (veh)					53

Intersection: 29: N.E. Site Drive (Egress Only) & Cady Street

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 30: Griswold Street & E. Site Drive

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Queuing and Blocking Report

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection: 31: Griswold Street & S.E. Site Drive

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 32: Center Street & Proposed Beal Street

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Intersection: 33: S.W. Site Drive & Fairbrook Street

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Queuing and Blocking Report

Background Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection: 34: Wing Street & S.W. Site Drive

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Zone Summary

Zone wide Queuing Penalty: 659

Queuing and Blocking Report

Background Conditions #2 (Both Closed)

AM Peak Hour

Intersection: 19: Seven Mile Road & Fairbrook Street & First Street

Table with 5 columns: Movement, EB, WB, NB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 20: Wing Street & Fairbrook Street

Table with 5 columns: Movement, EB, WB, NB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 21: Center Street & Fairbrook Street/W. Site Drive

Table with 3 columns: Movement, EB, NB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Queuing and Blocking Report

Background Conditions #2 (Both Closed)

AM Peak Hour

Intersection: 22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Table with 7 columns: Movement, EB, EB, WB, WB, NB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Table with 7 columns: Movement, EB, EB, WB, WB, NB, NB, SB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 24: Hines Drive & Seven Mile Road

Table with 2 columns: Movement, NB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Queuing and Blocking Report

Background Conditions #2 (Both Closed)

AM Peak Hour

Intersection: 25: Seven Mile Road & River Street

Table with 4 columns: Movement, EB, WB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 26: SB Northville Road & N. Seven Mile Road

Table with 4 columns: Movement, EB, EB, WB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 27: NB Northville Road & N. Seven Mile Road

Table with 3 columns: Movement, EB, NB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Queuing and Blocking Report

Background Conditions #2 (Both Closed)

AM Peak Hour

Intersection: 28: Northville Road & S. Seven Mile Road

Table with 7 columns: Movement, WB, WB, NB, NB, SB, SB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 29: N.E. Site Drive (Egress Only) & Cady Street

Table with 2 columns: Movement, WB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 30: Griswold Street & E. Site Drive

Table with 1 column: Movement. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Queuing and Blocking Report

Background Conditions #2 (Both Closed)

AM Peak Hour

Intersection: 31: Griswold Street & S.E. Site Drive

Table with 2 columns: Movement. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 32: Center Street & Proposed Beal Street

Table with 1 column: Movement. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 33: S.W. Site Drive & Fairbrook Street

Table with 1 column: Movement. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Queuing and Blocking Report

Background Conditions #2 (Both Closed)

AM Peak Hour

Intersection: 34: Wing Street & S.W. Site Drive

Table with 1 column: Movement. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Zone Summary

Zone wide Queuing Penalty: 85

Queuing and Blocking Report Background Conditions #2 (Both Closed) PM Peak Hour

Intersection: 1: Wing Street & Randolph Street

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	8	31	82
Average Queue (ft)	0	2	43
95th Queue (ft)	4	16	69
Link Distance (ft)	835	394	263
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L
Maximum Queue (ft)	148	66	52	35	29
Average Queue (ft)	56	28	15	2	6
95th Queue (ft)	107	55	43	17	25
Link Distances (ft)	394	193	154	1449	
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	500		500		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Wing Street & Dunlap Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	87	140	162	86
Average Queue (ft)	36	60	68	45
95th Queue (ft)	58	109	119	73
Link Distance (ft)	740	122	165	263
Upstream Blk Time (%)				
Queuing Penalty (veh)	8	4		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report Background Conditions #2 (Both Closed) PM Peak Hour

Intersection: 4: Dunlap Street & Center Street

Movement	EB	WB	SB	SB
Directions Served	L	T	TR	L
Maximum Queue (ft)	135	54	167	106
Average Queue (ft)	59	33	77	58
95th Queue (ft)	101	48	132	92
Link Distance (ft)	195	128	154	
Upstream Blk Time (%)				
Queuing Penalty (veh)		9		
Storage Bay Dist (ft)	100		500	
Storage Blk Time (%)	2			
Queuing Penalty (veh)	3			

Intersection: 5: Dunlap Street & Hutton Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	78	60	126
Average Queue (ft)	15	10	47
95th Queue (ft)	54	40	91
Link Distance (ft)	274	333	819
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Wing Street & Main Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	112	72	182	125
Average Queue (ft)	52	38	68	55
95th Queue (ft)	87	62	128	98
Link Distance (ft)	767	174	307	132
Upstream Blk Time (%)				
Queuing Penalty (veh)		1		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report Background Conditions #2 (Both Closed) PM Peak Hour

Intersection: 7: Center Street & Main Street

Movement	EB	NB
Directions Served	LTR	LTR
Maximum Queue (ft)	86	92
Average Queue (ft)	33	42
95th Queue (ft)	51	71
Link Distance (ft)	115	141
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 8: Hutton Street & Main Street

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	193	100	93	132	71
Average Queue (ft)	53	78	51	60	34
95th Queue (ft)	138	111	83	98	53
Link Distance (ft)	375	124	333		
Upstream Blk Time (%)		0			
Queuing Penalty (veh)					
Storage Bay Dist (ft)	75		175		
Storage Blk Time (%)	0	13	0		
Queuing Penalty (veh)	1	6	0		

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	106	107	146	145	159	987
Average Queue (ft)	60	58	82	72	101	701
95th Queue (ft)	93	100	127	122	157	1217
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)						
Queuing Penalty (veh)	1	0			13	0
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Queuing and Blocking Report Background Conditions #2 (Both Closed) PM Peak Hour

Intersection: 10: Cady Street & Main Street

Movement	EB	WB	WB	NB
Directions Served	TR	LT	T	LR
Maximum Queue (ft)	6	58	12	83
Average Queue (ft)	0	12	0	35
95th Queue (ft)	4	43	9	61
Link Distance (ft)	336	749	749	406
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Wing Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	59	73	93	80
Average Queue (ft)	34	39	47	48
95th Queue (ft)	55	58	74	70
Link Distance (ft)	728	142	267	307
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	100	210	76	74
Average Queue (ft)	49	88	11	18
95th Queue (ft)	85	157	46	52
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)	0	0	0	0
Queuing Penalty (veh)	0	0	0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report Background Conditions #2 (Both Closed) PM Peak Hour

Intersection: 13: N. Site Drive/Hutton Street & Cady Street

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	87	6	83
Average Queue (ft)	31	0	35
95th Queue (ft)	72	4	60
Link Distance (ft)	250	85	123
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: Cady Street & Chruch Street

Movement	EB	WB	SB
Directions Served	T	T	LR
Maximum Queue (ft)	6	15	54
Average Queue (ft)	0	1	25
95th Queue (ft)	4	11	49
Link Distance (ft)	52	354	243
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: Griswold Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	126	55	43	20
Average Queue (ft)	60	25	5	1
95th Queue (ft)	97	51	25	11
Link Distance (ft)	354	204	96	143
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report Background Conditions #2 (Both Closed) PM Peak Hour

Intersection: 16: Proposed Beal Street/Beal Street & Griswold Street

Movement	SB
Directions Served	LR
Maximum Queue (ft)	57
Average Queue (ft)	30
95th Queue (ft)	44
Link Distance (ft)	111
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 17: River Street & Beal Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	6	46
Average Queue (ft)	0	24
95th Queue (ft)	5	46
Link Distance (ft)	604	1186
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 18: Main Street/Northville Road & Beal Street

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	53	44
Average Queue (ft)	25	9
95th Queue (ft)	49	35
Link Distance (ft)	604	75
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report

Background Conditions #2 (Both Closed)
PM Peak Hour

Intersection: 19: Seven Mile Road & Fairbrook Street & First Street

Table with 5 columns: Movement, EB, WB, NB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 20: Wing Street & Fairbrook Street

Table with 5 columns: Movement, EB, WB, NB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 21: Center Street & Fairbrook Street/W. Site Drive

Table with 4 columns: Movement, EB, NB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Queuing and Blocking Report

Background Conditions #2 (Both Closed)
PM Peak Hour

Intersection: 22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Table with 7 columns: Movement, EB, WB, NB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Table with 8 columns: Movement, EB, WB, NB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 24: Hines Drive & Seven Mile Road

Table with 4 columns: Movement, WB, NB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Queuing and Blocking Report

Background Conditions #2 (Both Closed)
PM Peak Hour

Intersection: 25: Seven Mile Road & River Street

Table with 4 columns: Movement, EB, WB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 26: SB Northville Road & N. Seven Mile Road

Table with 5 columns: Movement, EB, WB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 27: NB Northville Road & N. Seven Mile Road

Table with 3 columns: Movement, EB, NB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Queuing and Blocking Report

Background Conditions #2 (Both Closed)
PM Peak Hour

Intersection: 28: Northville Road & S. Seven Mile Road

Table with 7 columns: Movement, WB, NB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 29: N.E. Site Drive (Egress Only) & Cady Street

Table with 2 columns: Movement, EB, WB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 30: Griswold Street & E. Site Drive

Table with 1 column: Movement. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Queuing and Blocking Report

Background Conditions #2 (Both Closed)
PM Peak Hour

Intersection: 31: Griswold Street & S.E. Site Drive

Table with 2 columns: Movement. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 32: Center Street & Proposed Beal Street

Table with 1 column: Movement. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Intersection: 33: S.W. Site Drive & Fairbrook Street

Table with 1 column: Movement. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Queuing and Blocking Report

Background Conditions #2 (Both Closed)
PM Peak Hour

Intersection: 34: Wing Street & S.W. Site Drive

Table with 1 column: Movement. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), Queuing Penalty (veh).

Zone Summary

Zone wide Queuing Penalty: 469

Intersection: 19: Seven Mile Road & Fairbrook Street & First Street

Table with 5 columns: Movement, EB, WB, NB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 20: Wing Street & Fairbrook Street

Table with 5 columns: Movement, EB, WB, NB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 21: Center Street & Fairbrook Street/W. Site Drive

Table with 3 columns: Movement, EB, NB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Table with 5 columns: Movement, EB, WB, NB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Table with 7 columns: Movement, EB, WB, NB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 24: Hines Drive & Seven Mile Road

Table with 3 columns: Movement, NB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 25: Seven Mile Road & River Street

Table with 3 columns: Movement, EB, SB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 26: SB Northville Road & N. Seven Mile Road

Table with 3 columns: Movement, EB, WB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 27: NB Northville Road & N. Seven Mile Road

Table with 3 columns: Movement, EB, NB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 28: Northville Road & S. Seven Mile Road

Table with 7 columns: Movement, L, R, T, TR, L, T. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 29: N.E. Site Drive (Egress Only) & Cady Street

Table with 3 columns: Movement, EB, NB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 30: Griswold Street & E. Site Drive

Table with 3 columns: Movement, EB, NB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 31: Griswold Street & S.E. Site Drive

Table with 3 columns: Movement, TR, LT. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 32: Center Street & Proposed Beal Street

Table with 3 columns: Movement, EB, NB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 33: S.W. Site Drive & Fairbrook Street

Table with 3 columns: Movement, EB, NB. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Intersection: 34: Wing Street & S.W. Site Drive

Table with 3 columns: Movement, L, LT. Rows include Directions Served, Maximum Queue (ft), Average Queue (ft), 95th Queue (ft), Link Distance (ft), Upstream Blk Time (%), Queuing Penalty (veh), Storage Bay Dist (ft), Storage Blk Time (%), and Queuing Penalty (veh).

Zone Summary

Zone wide Queuing Penalty: 66

Queuing and Blocking Report Background Conditions #3 (Main Closed) PM Peak Hour

Intersection: 1: Wing Street & Randolph Street

Movement	EB	WB	NB	SB
Directions Served	TR	L	LR	
Maximum Queue (ft)	464	25	81	
Average Queue (ft)	172	1	34	
95th Queue (ft)	714	10	70	
Link Distance (ft)	335	394	263	
Upstream Blk Time (%)	17			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L
Maximum Queue (ft)	370	138	51	40	34
Average Queue (ft)	192	63	13	2	5
95th Queue (ft)	439	160	41	20	24
Link Distances (ft)	394	193	153	1449	
Upstream Blk Time (%)	23	12			16
Queuing Penalty (veh)	55	0	500	500	0
Storage Bay Dist (ft)					
Storage Blk Time (%)					22
Queuing Penalty (veh)					3

Intersection: 3: Wing Street & Dunlap Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	344	109	74	
Average Queue (ft)	99	44	49	28
95th Queue (ft)	375	88	114	61
Link Distance (ft)	740	122	165	263
Upstream Blk Time (%)	1	0	7	
Queuing Penalty (veh)	0	0	15	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report Background Conditions #3 (Main Closed) PM Peak Hour

Intersection: 4: Center Street & Dunlap Street

Movement	EB	WB	NB	SB
Directions Served	L	TR	L	TR
Maximum Queue (ft)	116	191	85	165
Average Queue (ft)	37	94	5	88
95th Queue (ft)	94	214	40	186
Link Distance (ft)	192	0	136	323
Upstream Blk Time (%)	23	0	8	27
Queuing Penalty (veh)	43	0	28	134
Storage Bay Dist (ft)	100	75	30	500
Storage Blk Time (%)	2	27	23	3
Queuing Penalty (veh)	2	20	2	13

Intersection: 5: Dunlap Street & Hutton Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	258	58	624
Average Queue (ft)	119	7	253
95th Queue (ft)	343	33	762
Link Distance (ft)	274	333	819
Upstream Blk Time (%)	33	15	
Queuing Penalty (veh)	101	0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Wing Street & Main Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	418	86	74	54
Average Queue (ft)	151	34	31	29
95th Queue (ft)	540	84	63	53
Link Distance (ft)	767	174	307	132
Upstream Blk Time (%)	10	2		
Queuing Penalty (veh)	0	1		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report Background Conditions #3 (Main Closed) PM Peak Hour

Intersection: 7: Center Street & Main Street

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	95	186	157
Average Queue (ft)	44	137	79
95th Queue (ft)	99	208	149
Link Distance (ft)	114	149	323
Upstream Blk Time (%)	11	30	
Queuing Penalty (veh)	9	138	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Hutton Street & Main Street

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	358	100	79	198	285
Average Queue (ft)	186	57	34	99	174
95th Queue (ft)	463	125	69	166	408
Link Distance (ft)	375	124	333		
Upstream Blk Time (%)	33			36	
Queuing Penalty (veh)	129			134	
Storage Bay Dist (ft)		75	175	134	
Storage Blk Time (%)	40	12	0	45	
Queuing Penalty (veh)	140	6	0	125	

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	103	115	264	297	182	985
Average Queue (ft)	51	50	153	154	103	541
95th Queue (ft)	100	105	347	357	165	1147
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)	4	10	15	24	26	23
Queuing Penalty (veh)	7	17	37	69	65	0
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Queuing and Blocking Report Background Conditions #3 (Main Closed) PM Peak Hour

Intersection: 10: Cady Street & Main Street

Movement	WB	WB	NB
Directions Served	LT	T	LR
Maximum Queue (ft)	428	417	227
Average Queue (ft)	168	153	95
95th Queue (ft)	643	651	305
Link Distance (ft)	748	748	408
Upstream Blk Time (%)	16	16	6
Queuing Penalty (veh)	44	45	6
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 11: Wing Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	325	45	156	165
Average Queue (ft)	122	24	81	91
95th Queue (ft)	449	50	233	267
Link Distance (ft)	728	142	267	307
Upstream Blk Time (%)	3	16	16	
Queuing Penalty (veh)	0	24	24	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	170	292	237	155
Average Queue (ft)	102	270	92	76
95th Queue (ft)	183	328	276	170
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)	34	84	25	26
Queuing Penalty (veh)	36	223	165	141
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report Background Conditions #3 (Main Closed) PM Peak Hour

Intersection: 13: N. Site Drive/Hutton Street & Cady Street

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	146	111	159
Average Queue (ft)	41	56	96
95th Queue (ft)	153	137	176
Link Distance (ft)	250	85	123
Upstream Blk Time (%)	5	38	57
Queuing Penalty (veh)	17	78	58
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: Cady Street & Chruch Street

Movement	EB	WB	SB
Directions Served	T	T	LR
Maximum Queue (ft)	16	140	133
Average Queue (ft)	2	59	70
95th Queue (ft)	19	268	203
Link Distance (ft)	52	354	243
Upstream Blk Time (%)	1	11	13
Queuing Penalty (veh)	2	19	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 15: Griswold Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	156	87	82	28
Average Queue (ft)	55	46	26	5
95th Queue (ft)	147	133	95	24
Link Distance (ft)	354	204	96	143
Upstream Blk Time (%)	1	6	19	
Queuing Penalty (veh)	3	3	12	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report Background Conditions #3 (Main Closed) PM Peak Hour

Intersection: 16: Proposed Beal Street/Beal Street & Griswold Street

Movement	SB
Directions Served	LR
Maximum Queue (ft)	50
Average Queue (ft)	24
95th Queue (ft)	47
Link Distance (ft)	111
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 17: River Street & Beal Street

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	6	6	48
Average Queue (ft)	0	0	22
95th Queue (ft)	4	4	45
Link Distance (ft)	137	604	1186
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 18: Main Street/Northville Road & Beal Street

Movement	EB	NB	NB
Directions Served	LR	LT	T
Maximum Queue (ft)	56	65	38
Average Queue (ft)	22	19	13
95th Queue (ft)	48	69	63
Link Distance (ft)	604	75	75
Upstream Blk Time (%)	14	15	
Queuing Penalty (veh)	44	44	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report

Background Conditions #3 (Main Closed)

PM Peak Hour

Intersection: 19: Seven Mile Road & Fairbrook Street & First Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	86	54	52	15
Average Queue (ft)	5	13	3	2
95th Queue (ft)	38	38	23	9
Link Distance (ft)	1220	965	1045	482
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 20: Wing Street & Fairbrook Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	56	66	62	50
Average Queue (ft)	15	30	29	25
95th Queue (ft)	42	60	51	49
Link Distance (ft)	965	218	163	570
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 21: Center Street & Fairbrook Street/W. Site Drive

Movement	EB	NB
Directions Served	LTR	LTR
Maximum Queue (ft)	63	395
Average Queue (ft)	25	173
95th Queue (ft)	55	508
Link Distance (ft)	96	531
Upstream Blk Time (%)	0	21
Queuing Penalty (veh)	0	154
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report

Background Conditions #3 (Main Closed)

PM Peak Hour

Intersection: 22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Movement	EB	WB	NB	SB
Directions Served	L	TR	L	TR
Maximum Queue (ft)	41	294	25	32
Average Queue (ft)	5	19	3	4
95th Queue (ft)	25	207	16	29
Link Distance (ft)	1045	386	426	110
Upstream Blk Time (%)	0			0
Queuing Penalty (veh)	1			0
Storage Bay Dist (ft)	100	500		
Storage Blk Time (%)	3			
Queuing Penalty (veh)	0			

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	NB	SB
Directions Served	L	TR	L	TR
Maximum Queue (ft)	146	340	216	498
Average Queue (ft)	50	157	58	226
95th Queue (ft)	166	290	157	498
Link Distance (ft)	386	578	578	21448
Upstream Blk Time (%)	3	11	6	
Queuing Penalty (veh)	14	37	19	
Storage Bay Dist (ft)	500	150	37	150
Storage Blk Time (%)	3	1	23	13
Queuing Penalty (veh)	1	5	22	88

Intersection: 24: Hines Drive & Seven Mile Road

Movement	WB	NB	SB
Directions Served	L	R	TR
Maximum Queue (ft)	13	277	773
Average Queue (ft)	1	51	176
95th Queue (ft)	7	346	666
Link Distance (ft)	621	3643	578
Upstream Blk Time (%)	4		
Queuing Penalty (veh)	19		
Storage Bay Dist (ft)	225		
Storage Blk Time (%)	5		
Queuing Penalty (veh)	3		

Queuing and Blocking Report

Background Conditions #3 (Main Closed)

PM Peak Hour

Intersection: 25: Seven Mile Road & River Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	108	108	55
Average Queue (ft)	14	17	22
95th Queue (ft)	62	145	50
Link Distance (ft)	621	395	1186
Upstream Blk Time (%)			3
Queuing Penalty (veh)			15
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	WB	SB
Directions Served	T	R	T
Maximum Queue (ft)	48	130	53
Average Queue (ft)	21	50	37
95th Queue (ft)	45	107	65
Link Distance (ft)	180	180	16
Upstream Blk Time (%)	2	16	2
Queuing Penalty (veh)	4	62	6
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 27: NB Northville Road & N. Seven Mile Road

Movement	EB	NB	NB
Directions Served	L	T	T
Maximum Queue (ft)	33	212	126
Average Queue (ft)	15	61	22
95th Queue (ft)	37	185	137
Link Distance (ft)	16	233	233
Upstream Blk Time (%)	15	10	7
Queuing Penalty (veh)	7	48	34
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report

Background Conditions #3 (Main Closed)

PM Peak Hour

Intersection: 28: Northville Road & S. Seven Mile Road

Movement	WB	NB	SB
Directions Served	L	R	TR
Maximum Queue (ft)	98	78	250
Average Queue (ft)	78	22	180
95th Queue (ft)	110	66	262
Link Distance (ft)	82	62	219
Upstream Blk Time (%)	3	8	12
Queuing Penalty (veh)	13	32	49
Storage Bay Dist (ft)			120
Storage Blk Time (%)			15
Queuing Penalty (veh)			28

Intersection: 29: N.E. Site Drive (Egress Only) & Cady Street

Movement	EB	WB
Directions Served	T	T
Maximum Queue (ft)	27	50
Average Queue (ft)	1	20
95th Queue (ft)	21	63
Link Distance (ft)	85	52
Upstream Blk Time (%)	0	29
Queuing Penalty (veh)	0	59
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 30: Griswold Street & E. Site Drive

Movement	NB
Directions Served	LT
Maximum Queue (ft)	85
Average Queue (ft)	29
95th Queue (ft)	140
Link Distance (ft)	195
Upstream Blk Time (%)	6
Queuing Penalty (veh)	3
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report

Background Conditions #3 (Main Closed)

PM Peak Hour

Intersection: 31: Griswold Street & S.E. Site Drive

Movement	NB
Directions Served	LT
Maximum Queue (ft)	17
Average Queue (ft)	3
95th Queue (ft)	26
Link Distance (ft)	111
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 32: Center Street & Proposed Beal Street

Movement	NB
Directions Served	TR
Maximum Queue (ft)	268
Average Queue (ft)	105
95th Queue (ft)	410
Link Distance (ft)	423
Upstream Blk Time (%)	23
Queuing Penalty (veh)	142
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 33: S.W. Site Drive & Fairbrook Street

Movement	LT
Directions Served	LT
Maximum Queue (ft)	85
Average Queue (ft)	29
95th Queue (ft)	140
Link Distance (ft)	195
Upstream Blk Time (%)	6
Queuing Penalty (veh)	3
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report

Background Conditions #3 (Main Closed)

PM Peak Hour

Intersection: 34: Wing Street & S.W. Site Drive

Movement	LT	T
Directions Served	LT	T
Maximum Queue (ft)	33	212
Average Queue (ft)	15	61
95th Queue (ft)	37	185
Link Distance (ft)	16	233
Upstream Blk Time (%)	15	10
Queuing Penalty (veh)	7	48
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 3470

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	2	2	1	2	2	1	2	2	1	2	2	1
Traffic Volume (veh/h)	22	127	4	0	6	27	495	1	6	460	50	0
Future Volume (veh/h)	22	127	4	0	6	27	495	1	6	460	50	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1984	1984	1984	2000	2000	2000	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	33	3	192	5	0	8	30	544	1	9	687	72
Peak Hour Factor	0.66	0.66	0.66	0.75	0.75	0.75	0.91	0.91	0.91	0.69	0.69	0.69
Percent Heavy Veh. %	1	1	1	0	0	2	2	2	2	2	2	2
Cap. veh/h	95	19	239	161	34	179	434	1280	2	680	1137	123
Arrive On Green	0.17	0.17	0.17	0.00	0.17	0.10	1.00	1.00	0.65	0.55	0.65	0.65
Sat Flow, veh/h	152	115	1467	460	199	1094	719	1965	4	890	1746	198
Grp Volume(v), veh/h	228	0	0	13	0	0	30	0	545	9	0	739
Grp Sat Flow(s),veh/hln	1670	0	0	172	0	0	719	0	1968	860	0	1968
Q Servwg. sl, s	4.2	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.2	0.0	0.0	12.9
Cycle Q Clear(c), s	7.8	0.0	0.0	0.4	0.0	0.0	13.8	0.0	0.0	0.2	0.0	12.8
Prop In Lane	0.14	0.84	0.38	0.62	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.10
Lane Grp Cap(c), veh/h	353	0	0	374	0	0	434	0	1282	680	0	1280
V/C Ratio(X)	0.65	0.00	0.00	0.33	0.00	0.00	0.07	0.00	0.43	0.01	0.00	0.59
Aval Cap(c), sl, veh/h	401	0	0	487	0	0	434	0	1282	680	0	1280
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.90	0.00	0.90	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	0.0	20.8	0.0	0.0	2.3	0.0	0.0	3.7	0.0	5.9
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q)(50%),veh/ln	3.1	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.3	0.0	0.0	4.5
Unsig. Movement Delay, s/veh	26.8	0.0	0.0	20.8	0.0	0.0	2.6	0.0	0.9	3.7	0.0	7.9
LnGrp Delay(d),s/veh	C	A	A	C	A	A	A	A	A	A	A	A
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h	228	13	575	748	0	0	0	0	0	0	0	0
Approach Delay, s/veh	25.8	20.8	1.0	7.9	0	0	0	0	0	0	0	0
Approach LOS	C	A	A	C	A	A	A	A	A	A	A	A
Timer - Assigned Phs	2	4	6	8	8	8	8	8	8	8	8	8
Phs Duration (G+Y+Rc), s	44.6	15.4	44.6	15.4	0	0	0	0	0	0	0	0
Change Period (Y+Rc), s	5.5	*5.2	5.5	*5.2	0	0	0	0	0	0	0	0
Max Green Setting (Gmax), s	34.5	*15	34.5	*15	0	0	0	0	0	0	0	0
Max Q Clear Time (g_c+I1), s	15.8	9.8	14.9	2.4	0	0	0	0	0	0	0	0
Green Exit Time (g_c), s	2.0	3.8	0.6	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	2	12	47	19	6	27	483	162	5	409	5
Traffic Volume (veh/h)	1	8	12	47	19	6	27	483	162	5	409	5
Future Volume (veh/h)	1	8	12	47	19	6	27	483	162	5	409	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99	0.99	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	2000	2000	2000	2000	2000	1953	1953	1953	1969	1969	1969	1969
Adj Flow Rate, veh/h	2	13	20	57	23	7	30	537	180	6	460	6
Peak Hour Factor	0.60	0.60	0.60	0.62	0.62	0.62	0.90	0.90	0.90	0.89	0.89	0.89
Percent Heavy Veh. %	0	0	0	0	0	0	3	3	3	2	2	2
Cap. veh/h	68	77	108	194	61	14	87	972	316	65	1377	18
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.72	0.72	0.72	1.00	1.00	1.00
Sat Flow, veh/h	41	755	1021	959	979	129	34	1939	442	6	1924	26
Grp Volume(v), veh/h	35	0	0	87	0	0	747	0	0	472	0	0
Grp Sat Flow(s),veh/hln	1788	0	0	1603	0	0	1835	0	0	1955	0	0
Q Servwg. sl, s	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(c), s	11.1	0.0	0.0	2.9	0.0	0.0	11.3	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.06	0.57	0.66	0.08	0.04	0.24	0.01	0.01	0.01	0.01	0.01	0.01
Lane Grp Cap(c), veh/h	253	0	0	269	0	0	1376	0	0	1460	0	0
V/C Ratio(X)	0.14	0.00	0.00	0.32	0.00	0.00	0.54	0.00	0.00	0.32	0.00	0.00
Aval Cap(c), sl, veh/h	501	0	0	486	0	0	1376	0	0	1460	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.5	0.0	0.0	25.2	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.7	0.0	0.0	1.5	0.0	0.0	0.6	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q)(50%),veh/ln	0.5	0.0	0.0	1.2	0.0	0.0	3.2	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh	24.7	0.0	0.0	25.9	0.0	0.0	5.6	0.0	0.0	0.6	0.0	0.0
LnGrp Delay(d),s/veh	C	A	A	C	A	A	A	A	A	A	A	A
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h	35	87	747	472	0	0	0	0	0	0	0	0
Approach Delay, s/veh	24.7	25.9	5.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Approach LOS	C	A	A	C	A	A	A	A	A	A	A	A
Timer - Assigned Phs	2	4	6	8	8	8	8	8	8	8	8	8
Phs Duration (G+Y+Rc), s	48.4	11.6	48.4	11.6	0	0	0	0	0	0	0	0
Change Period (Y+Rc), s	5.5	*5.2	5.5	*5.2	0	0	0	0	0	0	0	0
Max Green Setting (Gmax), s	34.5	*15	34.5	*15	0	0	0	0	0	0	0	0
Max Q Clear Time (g_c+I1), s	13.3	3.1	2.0	4.9	0	0	0	0	0	0	0	0
Green Exit Time (g_c), s	6.1	0.1	3.5	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	2	2	1	2	2	1	2	2	1	2	2	1
Traffic Volume (veh/h)	46	430	73	35	155	79	58	580	73	77	384	15
Future Volume (veh/h)	46	430	73	35	155	79	58	580	73	77	384	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1984	1984	1984	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	54	506	86	38	168	86	63	630	79	90	447	17
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.86	0.86	0.86
Percent Heavy Veh. %	1	1	1	4	4	4	2	2	2	2	2	2
Cap. veh/h	439	607	103	162	712	603	395	960	813	272	919	35
Arrive On Green	0.27	0.27	0.27	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1134	1633	291	812	1938	1640	929	1969	1667	740	1984	72
Grp Volume(v), veh/h	54	0	592	38	168	86	63	630	79	90	0	464
Grp Sat Flow(s),veh/hln	1134	0	1933	812	1938	1640	928	1969	1667	740	0	1968
Q Servwg. sl, s	2.8	0.0	22.3	3.6	4.8	2.8	3.9	19.3	2.0	8.4	0.0	12.8
Cycle Q Clear(c), s	7.6	0.0	22.3	25.9	4.8	2.8	19.3	2.0	27.6	5.0	0.0	12.8
Prop In Lane	1.00	1.00	0.15	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.10
Lane Grp Cap(c), veh/h	439	0	711	162	712	603	395	960	813	272	0	953
V/C Ratio(X)	0.12	0.00	0.83	0.23	0.24	0.14	0.16	0.66	0.10	0.33	0.00	0.49
Aval Cap(c), sl, veh/h	439	0	711	162	712	603	395	960	813	272	0	953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.1	0.0	23.1	34.9	17.5	16.9	14.4	15.5	11.0	25.9	0.0	13.8
Incr Delay (d2), s/veh	0.6	0.0	11.0	3.4	0.8	0.8	3.5	0.2	3.2	0.0	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q)(50%),veh/ln	0.8	0.0	11.5	0.8	2.2	1.1	0.9	8.6	0.7	1.6	0.0	5.5
Unsig. Movement Delay, s/veh	20.7	0.0	34.1	38.3	18.3	17.4	20.2	19.0	11.3	29.1	0.0	15.8
LnGrp Delay(d),s/veh	C	A	A	C								

HCM 6th Signalized Intersection Summary
8: Hutton Street & Main Street

Background Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Table with 13 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and rows for Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Parking Bus, Work Zone, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Cycle Q, Prop In Lane, Lane Grp Cap, V/C Ratio, Avail Cap, HCM Platoon Ratio, Upstream Filter, Uniform Delay, Incr Delay, Initial Q Delay, %ile BackOfQ, Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS, Timer - Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Ext Time, Intersection Summary, HCM 6th Ctrl Delay, HCM 6th LOS.

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Northville Downs TIS
Fleis & VandenBink Engineering
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HCM 6th Signalized Intersection Summary
9: Griswold Street & Main Street

Background Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Table with 13 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and rows for Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Parking Bus, Work Zone, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Cycle Q, Prop In Lane, Lane Grp Cap, V/C Ratio, Avail Cap, HCM Platoon Ratio, Upstream Filter, Uniform Delay, Incr Delay, Initial Q Delay, %ile BackOfQ, Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS, Timer - Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Ext Time, Intersection Summary, HCM 6th Ctrl Delay, HCM 6th LOS.

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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Fleis & VandenBink Engineering
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HCM 6th Signalized Intersection Summary
12: Center Street & Cady Street

Background Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Table with 13 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and rows for Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Parking Bus, Work Zone, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Cycle Q, Prop In Lane, Lane Grp Cap, V/C Ratio, Avail Cap, HCM Platoon Ratio, Upstream Filter, Uniform Delay, Incr Delay, Initial Q Delay, %ile BackOfQ, Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS, Timer - Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Ext Time, Intersection Summary, HCM 6th Ctrl Delay, HCM 6th LOS.

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th Signalized Intersection Summary
23: Sheldon Avenue/Center Street & Seven Mile Road

Background Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Table with 13 columns (Movement, EBL, EBT, EBR, WBL, WBT, WBR, NBL, NBT, NBR, SBL, SBT, SBR) and rows for Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Parking Bus, Work Zone, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Cycle Q, Prop In Lane, Lane Grp Cap, V/C Ratio, Avail Cap, HCM Platoon Ratio, Upstream Filter, Uniform Delay, Incr Delay, Initial Q Delay, %ile BackOfQ, Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS, Timer - Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Ext Time, Intersection Summary, HCM 6th Ctrl Delay, HCM 6th LOS.

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th Signalized Intersection Summary
26: SB Northville Road & S. Seven Mile Road

Background Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Table with 13 columns (Movement, EBL, EBR, NBL, NBT, SBL, SBR) and rows for Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Parking Bus, Work Zone, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Cycle Q, Prop In Lane, Lane Grp Cap, V/C Ratio, Avail Cap, HCM Platoon Ratio, Upstream Filter, Uniform Delay, Incr Delay, Initial Q Delay, %ile BackOfQ, Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS, Timer - Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Ext Time, Intersection Summary, HCM 6th Ctrl Delay, HCM 6th LOS.

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th Signalized Intersection Summary
28: Northville Road & S. Seven Mile Road

Background Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Table with 13 columns (Movement, WBL, WBR, NBL, NBR, SBL, SBR) and rows for Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Parking Bus, Work Zone, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Cycle Q, Prop In Lane, Lane Grp Cap, V/C Ratio, Avail Cap, HCM Platoon Ratio, Upstream Filter, Uniform Delay, Incr Delay, Initial Q Delay, %ile BackOfQ, Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS, Timer - Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Ext Time, Intersection Summary, HCM 6th Ctrl Delay, HCM 6th LOS.

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th AWSC Background Conditions #2 (Both Closed) w/ IMP
2: Center Street & Randolph Street/Private Drive AM Peak Hour

Table with columns for Intersection, Movement, Lane Configurations, Traffic Volume, Peak Hour Factor, Heavy Vehicles, Mvmt Flow, Number of Lanes, Approach, Opposing Approach, Opposing Lanes, Conflicting Approach Left, Conflicting Lanes Left, Conflicting Approach Right, Conflicting Lanes Right, HCM Control Delay, HCM LOS, Lane, Vol Left, Vol Thru, Vol Right, Sign Control, Traffic Vol by Lane, LT Vol, Through Vol, RT Vol, Lane Flow Rate, Geometry Grp, Degree of Upl (X), Departure Headway (Hd), Convergence, Y/N, Cap, Service Time, HCM Lane W/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95th-ile Q.

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HCM 6th AWSC Background Conditions #2 (Both Closed) w/ IMP
12: Center Street & Cady Street AM Peak Hour

Table with columns for Intersection, Movement, Lane Configurations, Traffic Volume, Peak Hour Factor, Heavy Vehicles, Mvmt Flow, Number of Lanes, Approach, Opposing Approach, Opposing Lanes, Conflicting Approach Left, Conflicting Lanes Left, Conflicting Approach Right, Conflicting Lanes Right, HCM Control Delay, HCM LOS, Lane, Vol Left, Vol Thru, Vol Right, Sign Control, Traffic Vol by Lane, LT Vol, Through Vol, RT Vol, Lane Flow Rate, Geometry Grp, Degree of Upl (X), Departure Headway (Hd), Convergence, Y/N, Cap, Service Time, HCM Lane W/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95th-ile Q.

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HCM 6th Signalized Intersection Summary Background Conditions #2 (Both Closed) w/ IMP
23: Sheldon Avenue/Center Street & Seven Mile Road PM Peak Hour

Table with columns for Movement, Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Work Zone On Approach, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Sat Flow, Grp Volume, Lane Grp Cap, VIC Ratio, Avail Cap(c), HCM Platoon Ratio, Upstream Filter, Uniform Delay, Incr Delay, Initial Q, %ile Back(Q50), Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS, Timer - Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Ext Time, Intersection Summary, HCM 6th Cntl Delay, HCM 6th LOS.

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HCM 6th Signalized Intersection Summary Background Conditions #2 (Both Closed) w/ IMP
26: SB Northville Road & N. Seven Mile Road AM Peak Hour

Table with columns for Movement, Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Work Zone On Approach, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Sat Flow, Grp Volume, Lane Grp Cap, VIC Ratio, Avail Cap(c), HCM Platoon Ratio, Upstream Filter, Uniform Delay, Incr Delay, Initial Q, %ile Back(Q50), Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS, Timer - Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Ext Time, Intersection Summary, HCM 6th Cntl Delay, HCM 6th LOS.

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th Signalized Intersection Summary Background Conditions #2 (Both Closed) w/ IMP
28: Northville Road & S. Seven Mile Road AM Peak Hour

Table with columns for Movement, Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Work Zone On Approach, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Cap, Arrive On Green, Sat Flow, Grp Volume, Lane Grp Cap, VIC Ratio, Avail Cap(c), HCM Platoon Ratio, Upstream Filter, Uniform Delay, Incr Delay, Initial Q, %ile Back(Q50), Unsig. Movement Delay, LnGrp Delay, LnGrp LOS, Approach Vol, Approach Delay, Approach LOS, Timer - Assigned Phs, Phs Duration, Change Period, Max Green Setting, Max Q Clear Time, Green Ext Time, Intersection Summary, HCM 6th Cntl Delay, HCM 6th LOS.

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HCM 6th AWSC Background Conditions #2 (Both Closed) w/ IMP
2: Center Street & Randolph Street/Private Drive PM Peak Hour

Table with columns for Intersection, Movement, Lane Configurations, Traffic Volume, Future Volume, Initial Q, Ped-Bike Adj, Work Zone On Approach, Adj Sat Flow, Adj Flow Rate, Peak Hour Factor, Percent Heavy Veh, Mvmt Flow, Number of Lanes, Approach, Opposing Approach, Opposing Lanes, Conflicting Approach Left, Conflicting Lanes Left, Conflicting Approach Right, Conflicting Lanes Right, HCM Control Delay, HCM LOS, Lane, Vol Left, Vol Thru, Vol Right, Sign Control, Traffic Vol by Lane, LT Vol, Through Vol, RT Vol, Lane Flow Rate, Geometry Grp, Degree of Upl (X), Departure Headway (Hd), Convergence, Y/N, Cap, Service Time, HCM Lane W/C Ratio, HCM Control Delay, HCM Lane LOS, HCM 95th-ile Q.

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HCM 6th Signalized Intersection Summary Background Conditions #2 (Both Closed) w/ IMP
9: Griswold Street & Main Street PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4	1	1	2	2	2	4	4	4	2	2	2
Traffic Volume (veh/h)	49	273	27	15	295	260	26	254	25	180	225	86
Future Volume (veh/h)	49	273	27	15	296	260	26	254	25	180	225	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	0.99	0.99	1.00	0.99	1.00	0.99	0.99	1.00	0.99	0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/in	2000	2000	1984	1984	1984	1984	2000	2000	2000	2000	2000	2000
Adj Flow Rate, veh/h	53	297	29	16	315	277	30	289	28	189	237	91
Peak Hour Factor	0.92	0.92	0.94	0.94	0.94	0.94	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh. %	0	0	0	1	1	0	0	0	0	0	0	0
Cap, veh/h	166	908	92	75	684	538	101	759	70	314	361	147
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	2471	2547	229	35	1918	1509	90	1673	154	511	785	279
Grp Volume(v), veh/h	181	0	198	331	0	277	347	0	0	517	0	0
Grp Sat Flow(s), veh/h/in	1284	0	1769	1953	0	1509	1907	0	0	1586	0	0
Q Servig, s/s	0.6	0.0	4.9	0.0	0.0	8.7	0.0	0.0	0.0	7.6	0.0	0.0
Cycle Q Clear(g, c/s)	9.3	0.0	4.9	7.7	0.0	8.7	7.0	0.0	0.0	14.6	0.0	0.0
Prop In Lane	0.29	0.0	1.5	0.05	1.00	0.09	0.08	0.37	1	1	1	1
Lane Grp Cap(c), veh/h	536	0	631	760	0	538	930	0	0	801	0	0
V/C Ratio(x)	0.34	1.00	0.31	0.44	0.00	0.51	0.37	0.00	0.00	0.65	0.00	0.00
Avail Cap(c), veh/h	536	0	631	760	0	538	930	0	0	801	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(f)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.8	0.0	14.0	14.9	0.0	15.2	10.9	0.0	0.0	12.6	0.0	0.0
Incr Delay (d2), s/veh	17	0.0	13	18	0.0	3.5	1.1	0.0	0.0	4.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q)(50%), veh/in	1.9	0.0	2.0	3.6	0.0	3.3	2.8	0.0	0.0	5.2	0.0	0.0
Unsig. Movement Delay, s/veh	15.5	0.0	15.3	16.7	0.0	18.7	12.0	0.0	0.0	16.6	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h	379		608		347		517			517		
Approach Delay, s/veh	15.4		17.6		12.0		16.6			15.7		
Approach LOS	B		B		B		B			B		
Timer - Assigned Phs	2	4	6	8	8	8	8	8	8	8	8	8
Phs Duration (G+Y+Rc), s	27.0	33.0	27.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0	33.0
Change Period (Y+Rc), s	5.6	* 5.8	5.6	* 5.8	5.6	* 5.8	5.6	* 5.8	5.6	* 5.8	5.6	* 5.8
Max Green Setting (Gmax), s	21.4	* 27	21.4	* 27	21.4	* 27	21.4	* 27	21.4	* 27	21.4	* 27
Max Q Clear Time (g_c+1), s	11.3	16.6	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7	10.7
Green Ext Time (g_c), s	1.8	2.6	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Intersection Summary												
HCM 6th Ctrl Delay		15.8										
HCM 6th LOS		B										

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HCM 6th Signalized Intersection Summary Background Conditions #2 (Both Closed) w/ IMP
26: SB Northville Road & N. Seven Mile Road PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	5	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (veh/h)	51	261	399	575	481	103						
Future Volume (veh/h)	51	261	399	575	481	103						
Initial Q (Qb), veh	0	0	0	0	0	0						
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00						
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00						
Work Zone On Approach	No	No	No	No	No	No						
Adj Sat Flow, veh/h/in	1969	1969	1984	1984	1984	1984						
Adj Flow Rate, veh/h	56	287	424	612	506	108						
Peak Hour Factor	0.91	0.91	0.94	0.94	0.95	0.95						
Percent Heavy Veh. %	2	2	1	1	1	1						
Cap, veh/h	394	822	727	2385	835	177						
Arrive On Green	0.21	0.21	0.26	1.00	0.27	0.27						
Sat Flow, veh/h	1875	1668	1890	3870	3153	657						
Grp Volume(v), veh/h	56	287	424	612	307	307						
Grp Sat Flow(s), veh/h/in	1875	1668	1890	1885	1885	1866						
Q Servig, s/s	1.9	8.4	8.3	0.0	11.4	11.5						
Cycle Q Clear(g, c/s)	1.9	8.4	8.3	0.0	11.4	11.5						
Prop In Lane	1.00	1.00	1.00	1.00	0.35	0.35						
Lane Grp Cap(c), veh/h	394	822	727	2385	509	504						
V/C Ratio(x)	0.14	0.35	0.38	0.25	0.60	0.61						
Avail Cap(c), veh/h	394	822	727	2385	509	504						
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	2.00						
Upstream Filter(f)	1.00	1.00	1.00	1.00	1.00	1.00						
Uniform Delay (d), s/veh	25.7	12.4	8.4	0.0	25.5	25.5						
Incr Delay (d2), s/veh	0.8	1.2	3.4	0.3	5.2	5.4						
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0						
%ile Back(Q)(50%), veh/in	0.9	9.9	2.5	0.1	5.5	5.6						
Unsig. Movement Delay, s/veh	26.5	13.6	9.8	0.3	30.7	30.9						
LnGrp LOS	C	B	A	A	C	C						
Approach Vol, veh/h	343		1036	614		833						
Approach Delay, s/veh	15.7		4.2	30.8		12.9						
Approach LOS	B		C	A		C						
Timer - Assigned Phs	2	2	4	5	6	6						
Phs Duration (G+Y+Rc), s	27.0	23.0	29.0	28.0	28.0	28.0						
Change Period (Y+Rc), s	6.4	* 6.2	6.4	6.4	6.4	6.4						
Max Green Setting (Gmax), s	50.6	* 17	22.6	21.6	21.6	21.6						
Max Q Clear Time (g_c+1), s	2.0	10.4	10.3	13.5	13.5	13.5						
Green Ext Time (g_c), s	4.0	0.6	1.1	2.3	2.3	2.3						
Intersection Summary												
HCM 6th Ctrl Delay		14.4										
HCM 6th LOS		B										

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HCM 6th AWSC Background Conditions #2 (Both Closed) w/ IMP
12: Center Street & Cady Street PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	5	73	72	237	61	5	59	133	304	49	102	16
Traffic Volume (veh/h)	0.79	0.79	0.79	0.88	0.88	0.88	0.88	0.90	0.90	0.80	0.80	0.80
Future Volume (veh/h)	0.79	0.79	0.79	0.88	0.88	0.88	0.88	0.90	0.90	0.80	0.80	0.80
Initial Q (Qb), veh	1	1	1	0	0	0	0	1	1	1	1	1
Ped-Bike Adj(A_pbT)	6	92	91	269	69	6	66	148	338	61	128	20
Parking Bus, Adj	0	1	0	0	0	1	0	0	1	0	0	1
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/in	1984	1984	1984	1984	1984	1984	2000	1984	1984	2000	2000	2000
Adj Flow Rate, veh/h	31	359	352	144	505	122	141	523	117	73	375	22
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Percent Heavy Veh. %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	212	485	206	208	729	619	446	967	811	333	911	53
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	804	1321	559	895	1984	1686	992	1984	1686	890	1989	113
Grp Volume(v), veh/h	31	0	511	144	505	122	141	523	117	73	0	397
Grp Sat Flow(s), veh/h/in	804	0	1880	895	1984	1686	992	1984	1686	890	0	1979
Q Servig, s/s	2.7	0.0	18.9	10.5	17.3	3.9	8.5	14.7	3.1	5.6	0.0	10.3
Cycle Q Clear(g, c/s)	23.0	0.0	18.9	29.4	17.3	3.9	18.8	14.7	3.1	20.3	0.0	10.3
Prop In Lane	1.00	0.30	1.00	1.00	1							

HCM 6th Signalized Intersection Summary Background Conditions #3 (Main Closed) w/ IMP
12: Center Street & Cady Street AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	58	11	111	53	9	24	408	209	24	360	5
Traffic Volume (veh/h)	1	58	11	111	53	9	24	408	209	24	360	5
Future Volume (veh/h)	1	58	11	111	53	9	24	408	209	24	360	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	1.00	1.00	0.99	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	2000	2000	2000	2000	2000	1953	1953	1953	1969	1969	1969	1969
Adj Flow Rate, veh/h	1	66	12	135	65	11	27	453	232	27	404	6
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh. %	0	0	0	0	0	0	0	3	3	2	2	2
Cap, veh/h	62	274	49	261	91	14	82	780	387	97	1183	17
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.65	0.65	0.65	1.00	1.00	1.00
Q Serwig, s/l, s	2.1	0.0	0.0	7.4	0.0	0.0	13.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clearing, c/l, s	1940	295	372	542	53	31	1192	591	50	1807	26	
Prop In Lane	0.01	0.15	0.64	0.05	0.04	0.03	0.33	0.06	0.01	0.01	0.01	0.01
Lane Grp Cap(c), veh/h	385	0	0	365	0	0	1249	0	0	1296	0	0
V/C Ratio(X)	0.21	1.00	0.00	0.58	0.00	0.00	0.57	0.00	0.00	0.34	0.00	0.00
Aval Cap(c), sl, veh/h	0	0	0	485	0	0	1249	0	0	1296	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	21.7	0.0	0.0	23.7	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.4	0.0	0.0	1.8	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q/50%), veh/ln	1.0	0.0	0.0	2.9	0.0	0.0	4.3	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh	22.0	0.0	0.0	25.2	0.0	0.0	7.7	0.0	0.0	0.7	0.0	0.0
LnGrp Delay(d), s/veh	C	A	A	C	A	A	A	A	A	A	A	A
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h	79			211			712			437		
Approach Delay, s/veh	22.0			25.2			7.7			0.7		
Approach LOS	C			A			A			B		
Timer - Assigned Phs	2		4	6	8							
Phs Duration (G+Y+Rc), s	44.6		15.2	44.8	15.2							
Change Period (Y+Rc), s	5.5		* 5.2	5.5	* 5.2							
Max Green Setting (Gmax), s	34.5		* 15	34.5	* 15							
Max Q Clear Time (g, c+1), s	15.0		4.1	2.0	5.4							
Green Ext Time (g, c), s	5.6		0.2	3.4	0.5							
Intersection Summary												
HCM 6th Ctl Delay							8.9					
HCM 6th LOS							A					

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th Signalized Intersection Summary Background Conditions #3 (Main Closed) w/ IMP
23: Sheldon Avenue/Center Street & Seven Mile Road AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	41	275	64	31	193	70	51	510	64	68	339	13
Traffic Volume (veh/h)	41	275	64	31	193	70	51	510	64	68	339	13
Future Volume (veh/h)	41	275	64	31	193	70	51	510	64	68	339	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1984	1984	1984	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	48	324	76	34	210	76	55	554	70	79	394	15
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh. %	1	1	1	4	4	4	2	2	2	2	2	2
Cap, veh/h	410	573	137	287	712	603	433	960	811	320	918	36
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49
Q Serwig, s/l, s	8.7	0.0	0.0	13.3	15.6	6.2	2.5	3.1	16.1	1.8	6.2	0.0
Cycle Q Clearing, c/l, s	1101	1658	361	969	1938	1640	976	1969	1663	800	1894	72
Prop In Lane	1.00	0.19	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.04	0.04
Lane Grp Cap(c), veh/h	410	0	705	285	712	603	433	960	811	320	918	36
V/C Ratio(X)	0.12	0.00	0.57	0.12	0.29	0.13	0.13	0.58	0.09	0.25	0.00	0.43
Aval Cap(c), sl, veh/h	410	0	705	285	712	603	433	960	811	320	918	36
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.0	0.0	20.2	26.4	17.9	16.8	17.8	14.6	11.0	22.6	0.0	13.3
Incr Delay (d2), s/veh	0.6	0.0	0.3	0.9	1.1	0.6	0.6	2.5	0.2	1.8	0.0	1.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q/50%), veh/ln	0.7	0.0	0.1	0.6	2.8	0.9	0.7	7.0	0.7	1.3	0.0	4.6
Unsig. Movement Delay, s/veh	21.6	0.0	23.5	27.3	19.0	17.2	18.4	17.1	11.2	24.4	0.0	14.7
LnGrp Delay(d), s/veh	C	A	C	C	B	B	B	B	B	C	A	B
LnGrp LOS	C	A	C	C	B	B	B	B	B	C	A	B
Approach Vol, veh/h	447			320			679			488		
Approach Delay, s/veh	23.3			19.5			16.6			16.3		
Approach LOS	C			B			B			B		
Timer - Assigned Phs	2		4	6	8							
Phs Duration (G+Y+Rc), s	45.0		35.0	45.0	35.0							
Change Period (Y+Rc), s	6.0		5.6	6.0	5.6							
Max Green Setting (Gmax), s	39.0		29.4	39.0	29.4							
Max Q Clear Time (g, c+1), s	18.1		15.3	24.3	17.6							
Green Ext Time (g, c), s	4.0		2.2	2.6	1.2							
Intersection Summary												
HCM 6th Ctl Delay							18.5					
HCM 6th LOS							B					

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th Signalized Intersection Summary Background Conditions #3 (Main Closed) w/ IMP
26: SB Northville Road & N. Seven Mile Road AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	46	206	116	340	256	50
Traffic Volume (veh/h)	46	206	116	340	256	50
Future Volume (veh/h)	46	206	116	340	256	50
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1953	1953	1938	1938	1953	1953
Adj Flow Rate, veh/h	54	242	184	400	284	56
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh. %	3	3	4	4	3	3
Cap, veh/h	274	815	926	2559	836	163
Arrive On Green	0.15	0.15	0.69	1.00	0.27	0.27
Q Serwig, s/l, s	1680	1655	1845	3776	3196	602
Cycle Q Clearing, c/l, s	2.0	7.0	1.7	0.0	5.8	6.0
Prop In Lane	1.00	1.00	1.00	1.00	1.00	0.33
Lane Grp Cap(c), veh/h	274	815	926	2559	836	163
V/C Ratio(X)	0.20	0.30	0.20	0.16	0.34	0.34
Aval Cap(c), sl, veh/h	274	815	926	2559	836	163
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.9	12.1	2.8	0.0	23.4	23.5
Incr Delay (d2), s/veh	1.6	0.9	0.6	0.1	1.8	1.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q/50%), veh/ln	1.0	8.3	0.6	0.0	2.7	2.7
Unsig. Movement Delay, s/veh	31.5	13.0	3.3	0.1	25.3	25.4
LnGrp Delay(d), s/veh	C	B	A	A	C	C
LnGrp LOS	C	B	A	A	C	C
Approach Vol, veh/h	286			584	340	
Approach Delay, s/veh	16.4			1.1	25.3	
Approach LOS	B			A	C	
Timer - Assigned Phs	2		4	5	6	
Phs Duration (G+Y+Rc), s	62.0		18.0	34.0	28.0	
Change Period (Y+Rc), s	6.4		* 6.2	6.4	6.4	
Max Green Setting (Gmax), s	55.6		* 12	27.6	21.6	
Max Q Clear Time (g, c+1), s	2.0		9.0	3.7	6.0	
Green Ext Time (g, c), s	2.8		0.3	0.5	1.5	
Intersection Summary						
HCM 6th Ctl Delay				11.6		
HCM 6th LOS				B		

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th Signalized Intersection Summary Background Conditions #3 (Main Closed) w/ IMP
28: Northville Road & S. Seven Mile Road AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	270	207	285	285	286	176
Traffic Volume (veh/h)	270	207	285	285	286	176
Future Volume (veh/h)	270	207	285	285	286	176
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1953	1953	1938	1938	1953	1953
Adj Flow Rate, veh/h	194	220	328	324	340	210
Peak Hour Factor	0.84	0.84	0.88	0.88	0.84	0.84
Percent Heavy Veh. %	3	3	4	4	3	3
Cap, veh/h	437	815	497	443	620	2254
Arrive On Green	0.23	0.23	0.27	0.17	0.41	0.41
Q Serwig, s/l, s	11.2	0.0	12.7	14.4	6.9	2.8

HCM 6th Signalized Intersection Summary Background Conditions #3 (Main Closed) w/ IMP
12: Center Street & Cady Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	10	73	26	186	61	17	22	453	216	49	422	33
Traffic Volume (veh/h)	10	73	26	186	61	17	22	453	216	49	422	33
Future Volume (veh/h)	10	73	26	186	61	17	22	453	216	49	422	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	0.97	1.00	0.95	0.96	0.95	0.99	0.98	1.00	1.00	1.00	1.00	0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1984	1984	1984	2000	2000	2000	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	13	92	33	211	69	19	23	477	227	52	507	35
Peak Hour Factor	0.87	0.79	0.79	0.86	0.88	0.88	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh. %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	83	310	103	345	81	22	76	734	340	119	964	64
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.59	0.59	0.59	0.59	0.59	0.59
Q Servw, s, s	3.7	0.0	0.0	11.1	0.0	0.0	15.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(c), s	0.09	0.24	0.71	0.06	0.03	0.31	0.09	0.06	0.06	0.06	0.06	0.06
Prop In Lane	0.99	0.24	0.71	0.06	0.03	0.31	0.09	0.06	0.06	0.06	0.06	0.06
Lane Grp Cap(c), veh/h	496	0	0	448	0	0	1151	0	0	1146	0	0
V/C Ratio(X)	0.28	1.00	0.00	0.67	0.00	0.00	0.63	0.00	0.00	0.52	0.00	0.00
Avail Cap(c), veh/h	496	0	0	448	0	0	1151	0	0	1146	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.3	0.0	0.0	21.7	0.0	0.0	8.1	0.0	0.0	0.0	0.0	0.0
Intr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q/50%),veh/ln	1.6	0.0	0.0	4.2	0.0	0.0	5.8	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh	19.6	0.0	0.0	25.1	0.0	0.0	0.8	0.0	0.0	1.7	0.0	0.0
LnGrp Delay(d), s/veh	B	A	A	C	A	A	B	A	A	A	A	A
LnGrp LOS	B	A	A	C	A	A	B	A	A	A	A	A
Approach Vol, veh/h	138	299	727	594								
Approach Delay, s/veh	19.6	25.1	10.8	1.7								
Approach LOS	B	C	B	A								
Timer - Assigned Phs	2	4	6	8								
Phs Duration (G+Y+Rc), s	41.1	18.9	41.1	18.9								
Change Period (Y+Rc), s	5.5	* 5.2	5.5	* 5.2								
Max Green Setting (Gmax), s	34.5	* 15	34.5	* 15								
Max Q Clear Time (g_c+1), s	17.6	5.7	20.1									
Green Ext Time (g_c), s	5.4	0.4	5.2	0.3								
Intersection Summary												
HCM 6th Ctrl Delay				10.8								
HCM 6th LOS				B								

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary Background Conditions #3 (Main Closed) w/ IMP
23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	32	329	116	96	454	127	110	587	94	67	563	41
Traffic Volume (veh/h)	32	329	116	96	454	127	110	587	94	67	563	41
Future Volume (veh/h)	32	329	116	96	454	127	110	587	94	67	563	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1984	1984	1984	2000	2000	2000	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	36	366	129	101	478	134	116	618	99	71	559	44
Peak Hour Factor	0.90	0.90	0.90	0.96	0.96	0.96	0.95	0.95	0.95	0.94	0.94	0.94
Percent Heavy Veh. %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	228	515	181	222	735	622	278	967	817	279	890	65
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49
Q Servw, s, s	19.0	0.0	0.0	17.9	8.5	15.9	4.4	10.5	18.5	2.6	6.3	0.0
Cycle Q Clear(c), s	1.00	0.26	1.00	0.26	1.00	0.26	1.00	0.26	1.00	0.26	1.00	0.26
Prop In Lane	1.00	0.26	1.00	0.26	1.00	0.26	1.00	0.26	1.00	0.26	1.00	0.26
Lane Grp Cap(c), veh/h	228	0	696	222	735	622	278	967	817	279	890	65
V/C Ratio(X)	0.16	0.00	0.71	0.46	0.65	0.22	0.42	0.64	0.12	0.25	0.00	0.07
Avail Cap(c), veh/h	228	0	696	222	735	622	278	967	817	279	890	65
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	28.9	0.0	21.7	33.0	21.0	17.4	27.3	15.3	11.2	24.5	0.0	15.6
Intr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q/50%),veh/ln	0.7	0.0	8.5	2.2	7.8	1.2	2.2	8.3	0.9	1.2	0.0	8.9
Unsig. Movement Delay, s/veh	30.4	0.0	27.7	39.6	25.5	18.2	31.8	18.5	11.5	26.7	0.0	19.4
LnGrp Delay(d), s/veh	C	A	C	D	C	B	C	B	C	A	C	A
LnGrp LOS	C	A	C	D	C	B	C	B	C	A	C	A
Approach Vol, veh/h	531	713	833	714								
Approach Delay, s/veh	27.9	26.1	19.5	20.1								
Approach LOS	C	B	B	C								
Timer - Assigned Phs	2	4	6	8								
Phs Duration (G+Y+Rc), s	45.0	35.0	45.0	35.0								
Change Period (Y+Rc), s	6.0	5.6	6.0	5.6								
Max Green Setting (Gmax), s	39.0	29.4	39.0	29.4								
Max Q Clear Time (g_c+1), s	32.5	21.0	26.9	28.4								
Green Ext Time (g_c), s	2.7	2.2	3.8	0.4								
Intersection Summary												
HCM 6th Ctrl Delay				22.9								
HCM 6th LOS				C								

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary Background Conditions #3 (Main Closed) w/ IMP
26: SB Northville Road & N. Seven Mile Road

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	51	261	399	575	481	104
Traffic Volume (veh/h)	51	261	399	575	481	104
Future Volume (veh/h)	51	261	399	575	481	104
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1969	1969	1984	1984	1984	1984
Adj Flow Rate, veh/h	56	287	424	612	506	109
Peak Hour Factor	0.91	0.91	0.94	0.94	0.95	0.95
Percent Heavy Veh. %	2	2	1	1	1	1
Cap, veh/h	394	822	727	2385	834	179
Arrive On Green	0.21	0.21	0.56	1.00	0.27	0.27
Q Servw, s, s	19.8	8.4	8.3	0.0	11.4	11.5
Cycle Q Clear(c), s	1.00	1.00	1.00	1.00	1.00	0.35
Prop In Lane	1.00	1.00	1.00	1.00	1.00	0.35
Lane Grp Cap(c), veh/h	394	822	727	2385	834	179
V/C Ratio(X)	0.14	0.35	0.58	0.26	0.60	0.61
Avail Cap(c), veh/h	394	822	727	2385	834	179
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.7	12.4	6.4	0.0	25.5	25.5
Intr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q/50%),veh/ln	0.9	9.9	2.5	0.1	5.6	5.6
Unsig. Movement Delay, s/veh	26.5	13.6	9.8	0.3	30.7	30.9
LnGrp Delay(d), s/veh	C	B	A	A	C	C
LnGrp LOS	C	B	A	A	C	C
Approach Vol, veh/h	343	1036	615			
Approach Delay, s/veh	15.7	4.2	30.8			
Approach LOS	B	A	C			
Timer - Assigned Phs	2	4	5	6		
Phs Duration (G+Y+Rc), s	57.0	23.				

Intersection: 28: Northville Road & S. Seven Mile Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	111	75	173	216	182	154	58
Average Queue (ft)	87	27	90	103	87	11	19
95th Queue (ft)	114	63	150	176	154	68	50
Link Distance (ft)	82	82	219	219	222	222	
Upstream Blk Time (%)	5	0	0	0	0	0	
Queuing Penalty (veh)	22	1	0	1	0	0	
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					5		
Queuing Penalty (veh)					5		

Zone Summary
Zone wide Queuing Penalty: 93

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	243	80	79	164	46	200
Average Queue (ft)	108	35	24	96	15	97
95th Queue (ft)	195	69	57	162	41	178
Link Distance (ft)	394	193	0	153	1449	
Upstream Blk Time (%)	0	1				
Queuing Penalty (veh)	0	5				
Storage Bay Dist (ft)		500		500		
Storage Blk Time (%)		0		1		
Queuing Penalty (veh)		0		0		

Intersection: 8: Hutton Street & Main Street

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	LT	R	LT	R	LTR	LT	R
Maximum Queue (ft)	176	35	292	100	55	158	70
Average Queue (ft)	74	9	117	77	14	77	7
95th Queue (ft)	138	32	227	121	38	144	43
Link Distance (ft)	521	381	114	114	328		
Upstream Blk Time (%)							
Queuing Penalty (veh)		25	75	175			
Storage Bay Dist (ft)		42	1	12	1	1	
Storage Blk Time (%)		5	2	36	4	0	
Queuing Penalty (veh)							

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	144	131	213	234	156	361
Average Queue (ft)	93	75	104	126	87	179
95th Queue (ft)	148	127	166	202	143	315
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)	14	3	0	0	2	0
Queuing Penalty (veh)	30	6	0	0	6	
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	104	107	276	155
Average Queue (ft)	33	48	145	103
95th Queue (ft)	72	89	267	178
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)	0	2	7	
Queuing Penalty (veh)	0	11	46	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	82	320	250	512	423	345	624	75
Average Queue (ft)	24	160	116	277	143	144	306	38
95th Queue (ft)	64	263	255	504	422	288	515	93
Link Distance (ft)	386	565	565	21443				
Upstream Blk Time (%)				1	2			0
Queuing Penalty (veh)				5	8			1
Storage Bay Dist (ft)	500	150	5	600	50	250	1	
Storage Blk Time (%)		9	36		38	1	0	7
Queuing Penalty (veh)		47	40		89	11	0	5

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	TR
Maximum Queue (ft)	84	119	186	102	85	231
Average Queue (ft)	33	49	97	19	44	139
95th Queue (ft)	72	95	164	66	80	204
Link Distance (ft)	164	164	240	240	357	357
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			150			
Storage Blk Time (%)			2			
Queuing Penalty (veh)			6			

Intersection: 28: Northville Road & S. Seven Mile Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	116	125	240	239	187	104	82
Average Queue (ft)	89	63	160	154	90	20	31
95th Queue (ft)	113	109	232	234	160	70	65
Link Distance (ft)	82	82	219	219	222	222	
Upstream Blk Time (%)	13	5	1	1	0	0	
Queuing Penalty (veh)	57	24	6	6	0	0	
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					6		
Queuing Penalty (veh)					13		

Zone Summary
Zone wide Queuing Penalty: 469

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	57	30	30	89	29	187
Average Queue (ft)	30	8	13	46	3	80
95th Queue (ft)	51	29	37	73	18	143
Link Distance (ft)	394	193	0	154	1449	
Upstream Blk Time (%)	0	1				
Queuing Penalty (veh)	0	5				
Storage Bay Dist (ft)		500		500		
Storage Blk Time (%)		0		1		
Queuing Penalty (veh)		0		0		

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	92	81	121	130	159	232
Average Queue (ft)	48	36	50	59	82	95
95th Queue (ft)	77	67	92	104	142	182
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)	0	0			2	
Queuing Penalty (veh)	0	0			4	
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	62	102	209	49
Average Queue (ft)	36	47	99	23
95th Queue (ft)	55	76	169	38
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)	0	0	0	
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	54	326	143	190	39	110	313	75
Average Queue (ft)	9	162	45	66	7	34	146	34
95th Queue (ft)	33	278	105	135	22	82	275	85
Link Distance (ft)	386	565	565	21443				
Upstream Blk Time (%)	0							
Queuing Penalty (veh)	0							
Storage Bay Dist (ft)	500	150		600	50	250		
Storage Blk Time (%)	0	2	1		20	1	0	
Queuing Penalty (veh)	0	3	1		33	7	0	

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	TR
Maximum Queue (ft)	71	107	97	42	62	159
Average Queue (ft)	28	39	29	3	17	83
95th Queue (ft)	62	81	82	21	48	135
Link Distance (ft)	164	164	240	240	357	357
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			150			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 28: Northville Road & S. Seven Mile Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	110	77	190	198	124	37	61
Average Queue (ft)	88	26	105	105	57	4	14
95th Queue (ft)	111	60	167	173	107	23	46
Link Distance (ft)	82	82	219	219	222	222	
Upstream Blk Time (%)	11	0	0	0			
Queuing Penalty (veh)	26	1	0	0			
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					1		
Queuing Penalty (veh)					1		

Zone Summary
Zone wide Queuing Penalty: 76

Queuing and Blocking Report Background Conditions #2 (Both Closed) w/ IMP PM Peak Hour

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L
Maximum Queue (ft)	71	57	45	103	39
Average Queue (ft)	40	27	25	60	12
95th Queue (ft)	64	51	46	92	37
Link Distance (ft)	394	193	154	0	1449
Upstream Blk Time (%)	0	0	0	0	0
Queuing Penalty (veh)	0	0	0	0	0
Storage Bay Dist (ft)	0	500	0	500	0
Storage Blk Time (%)	0	0	0	0	0
Queuing Penalty (veh)	0	0	0	0	0

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	120	118	156	162	156	486
Average Queue (ft)	67	69	92	83	87	203
95th Queue (ft)	104	108	138	138	144	376
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)	0	1	2	2	0	0
Queuing Penalty (veh)	1	1	7	7	0	0
Storage Bay Dist (ft)	0	0	0	0	0	0
Storage Blk Time (%)	0	0	0	0	0	0
Queuing Penalty (veh)	0	0	0	0	0	0

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	79	114	227	70
Average Queue (ft)	42	62	119	34
95th Queue (ft)	68	98	204	59
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)	0	0	0	0
Queuing Penalty (veh)	1	1	0	0
Storage Bay Dist (ft)	0	0	0	0
Storage Blk Time (%)	0	0	0	0
Queuing Penalty (veh)	0	0	0	0

Queuing and Blocking Report Background Conditions #2 (Both Closed) w/ IMP PM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	81	266	219	391	350	126	389	75
Average Queue (ft)	20	141	103	190	75	54	172	41
95th Queue (ft)	54	222	212	374	298	110	328	92
Link Distance (ft)	386	0	0	0	0	21443	0	532
Upstream Blk Time (%)	0	0	0	0	0	0	0	0
Queuing Penalty (veh)	0	0	0	0	0	0	0	0
Storage Bay Dist (ft)	500	150	0	1	600	50	250	0
Storage Blk Time (%)	0	12	16	0	23	2	0	0
Queuing Penalty (veh)	58	21	0	0	54	11	0	0

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	R	L	T	T	TR
Maximum Queue (ft)	75	112	178	49	78	233
Average Queue (ft)	28	47	94	10	33	133
95th Queue (ft)	62	93	159	37	71	209
Link Distance (ft)	164	164	240	240	357	357
Upstream Blk Time (%)	0	0	0	0	0	0
Queuing Penalty (veh)	0	0	0	0	0	0
Storage Bay Dist (ft)	0	0	150	0	0	0
Storage Blk Time (%)	0	0	2	0	0	0
Queuing Penalty (veh)	0	0	4	0	0	0

Intersection: 28: Northville Road & S. Seven Mile Road

Movement	WB	WB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T
Maximum Queue (ft)	136	101	230	238	174	138
Average Queue (ft)	100	50	139	137	87	22
95th Queue (ft)	126	95	208	215	156	84
Link Distance (ft)	62	62	219	219	222	222
Upstream Blk Time (%)	28	4	0	0	0	0
Queuing Penalty (veh)	126	17	2	4	0	0
Storage Bay Dist (ft)	0	0	0	0	120	0
Storage Blk Time (%)	0	0	0	0	5	0
Queuing Penalty (veh)	0	0	0	0	10	0

Zone Summary
Zone wide Queuing Penalty: 319

Queuing and Blocking Report Background Conditions #3 (Main Closed) w/ IMP AM Peak Hour

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L
Maximum Queue (ft)	38	38	58	158	23
Average Queue (ft)	44	9	10	49	2
95th Queue (ft)	78	33	41	135	13
Link Distance (ft)	394	193	153	0	1449
Upstream Blk Time (%)	0	0	0	0	0
Queuing Penalty (veh)	0	0	0	0	0
Storage Bay Dist (ft)	0	500	0	500	0
Storage Blk Time (%)	0	0	0	0	0
Queuing Penalty (veh)	0	0	0	0	0

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	86	74	107	134	150	196
Average Queue (ft)	48	51	50	62	68	88
95th Queue (ft)	78	63	89	112	121	155
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)	0	0	0	1	0	0
Queuing Penalty (veh)	0	0	0	2	0	0
Storage Bay Dist (ft)	0	0	0	0	0	0
Storage Blk Time (%)	0	0	0	0	0	0
Queuing Penalty (veh)	0	0	0	0	0	0

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	85	166	273	154
Average Queue (ft)	36	78	130	76
95th Queue (ft)	69	136	251	145
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)	0	0	0	0
Queuing Penalty (veh)	0	0	0	0
Storage Bay Dist (ft)	0	0	0	0
Storage Blk Time (%)	0	0	0	0
Queuing Penalty (veh)	0	0	0	0

Queuing and Blocking Report Background Conditions #3 (Main Closed) w/ IMP AM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R
Maximum Queue (ft)	65	253	51	144	58	65	370	75
Average Queue (ft)	24	111	17	61	13	18	176	31
95th Queue (ft)	54	182	42	115	39	48	318	85
Link Distance (ft)	386	0	565	565	0	0	21443	532
Upstream Blk Time (%)	0	0	0	0	0	0	0	0
Queuing Penalty (veh)	0	0	0	0	0	0	0	0
Storage Bay Dist (ft)	500	150	0	0	600	50	250	0
Storage Blk Time (%)	0	12	16	0	23	2	0	0
Queuing Penalty (veh)	0	0	0	0	28	4	0	0

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	R	L	T	T	TR
Maximum Queue (ft)	69	102	117	25	61	172
Average Queue (ft)	27	37	49	3	17	88
95th Queue (ft)	59	79	91	16	47	144
Link Distance (ft)	164	164	240	240	357	357
Upstream Blk Time (%)	0	0	0	0	0	0
Queuing Penalty (veh)	0	0	0	0	0	0
Storage Bay Dist (ft)	0	0	150	0	0	0
Storage Blk Time (%)	0	0	0	0	0	0
Queuing Penalty (veh)	0	0	0	0	0	0

Intersection: 28: Northville Road & S. Seven Mile Road

Movement	WB	WB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T
Maximum Queue (ft)	111	72	193	211	121	36
Average Queue (ft)	88	26	100	102	57	3
95th Queue (ft)	112	59	163	175	103	20
Link Distance (ft)	62	62	219	219	222	222
Upstream Blk Time (%)	10	0	0	0	0	0
Queuing Penalty (veh)	24	1	0	0	1	0
Storage Bay Dist (ft)	0	0	0	0	120	0
Storage Blk Time (%)	0	0	0	0	0	0
Queuing Penalty (veh)	0	0	0	0	0	0

Zone Summary
Zone wide Queuing Penalty: 80

Queuing and Blocking Report Background Conditions #3 (Main Closed) w/ IMP PM Peak Hour

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L
Maximum Queue (ft)	282	74	109	166	34
Average Queue (ft)	95	31	28	109	12
95th Queue (ft)	214	64	72	185	36
Link Distance (ft)	394	193	153	0	1449
Upstream Blk Time (%)	1	0	2	0	0
Queuing Penalty (veh)	3	0	12	0	0
Storage Bay Dist (ft)	0	500	0	500	0
Storage Blk Time (%)	0	0	2	0	0
Queuing Penalty (veh)	0	0	1	0	0

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	119	113	171	198	155	323
Average Queue (ft)	70	68	97	92	76	149
95th Queue (ft)	107	105	143	161	130	259
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)	1	1	0	1	0	0
Queuing Penalty (veh)	2	1	0	3	0	0
Storage Bay Dist (ft)	0	0	150	0	0	0
Storage Blk Time (%)	0	0	0	0	0	0
Queuing Penalty (veh)	0	0	0	0	0	0

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	116	226	282	165
Average Queue (ft)	48	122	186	124
95th Queue (ft)	93	200	295	180
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)	0	0	4	21
Queuing Penalty (veh)	0	0	31	125
Storage Bay Dist (ft)	0	0	0	0
Storage Blk Time (%)	0	0	0	0
Queuing Penalty (veh)	0	0	0	0

Queuing and Blocking Report Background Conditions #3 (Main Closed) w/ IMP PM Peak Hour

Scheme Summary

Control Data

Control Data and Model Parameters

Northville Downs - RDBT @ Central/Sheldon & 7 Mile Background Conditions - Scenario #1 (Pre-COVID) Rodel-Win1 Right Hand Drive AM Peak Hour Full Geometry English Units (ft)	2028 PHF Flow Profile (veh) 7.5 min Time Slice Queueing Delays (sec) Daylight conditions Peak 60/15 min Results Output flows: Vehicles 50% Confidence Level
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Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation (ft)	Half Width (ft)	Approach Lanes (ft)	Entry Width (ft)	Entry Lanes (ft)	Flare Length (ft)	Entry Radius (ft)	Entry Angle (Phi)
1	Central SB	0	0	12.00	1	14.00	1	100.00	90.00	30.00
2	7 Mile EB	90	0	12.00	1	14.00	1	100.00	90.00	30.00
3	Sheldon NB	180	0	12.00	1	14.00	1	100.00	90.00	30.00
4	7 Mile WB	270	0	12.00	1	28.00	2	100.00	90.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter (ft)	Circulating Width (ft)	Circulating Lanes (ft)	Exit Width (ft)	Exit Lanes (ft)	Exit Half Width (ft)	Exit Half Width Lanes (ft)
1	Central SB	120.00	30.00	2	16.00	1	12.00	1
2	7 Mile EB	120.00	18.00	1	16.00	1	12.00	1
3	Sheldon NB	120.00	18.00	1	16.00	1	12.00	1
4	7 Mile WB	120.00	18.00	1	16.00	1	12.00	1

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity	XWalk Factor	Entry Calibration Intercept	Slope Factor	V (ft)	Approach Road Default Capacity	Calib Capacity	Exit Road Default Capacity	Calib Capacity
1	Central SB	0	1.000	0	1.000	12.00	1792	0	12.00	1792
2	7 Mile EB	0	1.000	0	1.000	20.00	1792	0	12.00	1792
3	Sheldon NB	0	1.000	0	1.000	12.00	1792	0	12.00	1792
4	7 Mile WB	0	1.000	0	1.000	12.00	1792	0	12.00	1792

Bypass Geometry

Bypass Approach Geometry (ft)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
1	Central SB	Exclusive	15	12	1	12	1	12	1
3	Sheldon NB	Exclusive	73	12	1	12	1	12	1

Bypass Entry and Exit Geometry (ft)

Leg	Leg Names	Entry Geometry	Exit Lanes
Leg	Leg Names	Exit Lanes	Nmx
1	Central SB	12 1 0 100 66.00078 30 356	2 7 Mile EB 1 2
3	Sheldon NB	12 1 0 100 66.00078 30 356	4 7 Mile WB 1 2

Traffic Flow Data (veh/hr)

2028 AM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows				Flow Modifiers			
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	Central SB	0	77	384	0	15	2.0	1.00	0.860
2	7 Mile EB	0	46	430	73	0	1.0	1.00	0.850
3	Sheldon NB	0	58	580	0	73	2.0	1.00	0.920
4	7 Mile WB	0	35	155	79	0	4.0	1.00	0.920

Operational Results

2028 AM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)				Capacity (veh/hr)				
			Arrival Flow	Opposing Flow	Exit Flow	Capacity	Average VCR	Capacity	Entry	Bypass	
1	Central SB	Exclusive	461	15	248	248	705	1121	993	0.4111	0.0151
2	7 Mile EB	None	549	496	228	966	966	0.5684			
3	Sheldon NB	Exclusive	638	73	553	553	492	912	738	0.8998	0.0989
4	7 Mile WB	None	269	684	580	1280					

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Central SB	Exclusive	5.22	3.63	5.17	2.28	0.05	A	A	A
2	7 Mile EB	None	8.67		8.67	5.39		A		A
3	Sheldon NB	Exclusive	12.46	5.37	11.73	8.32	0.34	B	A	B
4	7 Mile WB	None	4.74		4.74	1.10		A		A

Global Results

Performance and Accidents

2028 AM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	1917	88	2005
Capacity	veh/hr	4278	1731	6009
Average Delay	sec/veh	8.55	5.07	8.40
L.O.S. (Signal)	A - F	A	A	A
L.O.S. (Unsig)	A - F	A	A	A
Total Delay	veh-hrs	4.55	0.12	4.68

Scheme Summary

Control Data

Control Data and Model Parameters

Northville Downs - RDBT @ Central/Sheldon & 7 Mile Background Conditions - Scenario #1 (Pre-COVID) Rodel-Win1 Right Hand Drive PM Peak Hour Full Geometry English Units (ft)	2028 PHF Flow Profile (veh) 7.5 min Time Slice Queueing Delays (sec) Daylight conditions Peak 60/15 min Results Output flows: Vehicles 50% Confidence Level
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Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation	Half Width V	Approach Lanes P	Entry Width E	Entry Lanes R	Flare Length L	Entry Radius R	Entry Angle Phi
1	Central SB	0	0	12.00	1	14.00	1	100.00	90.00	30.00
2	7 Mile EB	90	0	12.00	1	14.00	1	100.00	90.00	30.00
3	Sheldon NB	180	0	12.00	1	14.00	1	100.00	90.00	30.00
4	7 Mile WB	270	0	12.00	1	28.00	2	100.00	90.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	Central SB	120.00	30.00	2	16.00	1	12.00	1
2	7 Mile EB	120.00	18.00	1	16.00	1	12.00	1
3	Sheldon NB	120.00	18.00	1	16.00	1	12.00	1
4	7 Mile WB	120.00	18.00	1	16.00	1	12.00	1

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity	XWalk Factor	Entry Calibration Intercept + or -	Slope Factor	V (ft)	Approach Road Default Capacity	Calib Capacity	V (ft)	Exit Road Default Capacity	Calib Capacity
1	Central SB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0
2	7 Mile EB	0	1.000	0	1.000	20.00	1792	0	12.00	1792	0
3	Sheldon NB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0
4	7 Mile WB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0

Bypass Geometry

Bypass Approach Geometry (ft)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
1	Central SB	Exclusive	47	12	1	12	1	12	1
3	Sheldon NB	Exclusive	107	12	1	12	1	12	1

Bypass Entry and Exit Geometry (ft)

Leg	Leg Names	Eb	neb	Lb	Lt	Rb	Phib	Leg	Leg Names	Exit Lanes nex	Exit Lanes nmix
1	Central SB	12	1	0	100	66.00078	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00078	30	4	7 Mile WB	1	2

Traffic Flow Data (veh/hr)

2028 PM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows				Flow Modifiers			
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	Central SB	0	75	636	0	47	1.0	1.00	0.940
2	7 Mile EB	0	32	317	116	0	1.0	1.00	0.900
3	Sheldon NB	0	125	672	0	107	1.0	1.00	0.950
4	7 Mile WB	0	110	509	142	0	0.0	1.00	0.950

Operational Results

2028 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)				Capacity (veh/hr)				
			Arrival Flow		Opposing Flow		Capacity		Average VCR		
			Entry	Bypass	Entry	Bypass	Entry	Bypass	Entry	Bypass	
1	Central SB	Exclusive	711	47	743	743	845	937	679	0.7585	0.0692
2	7 Mile EB	None	465	820	680	788	845	937	679	0.5902	0
3	Sheldon NB	Exclusive	797	107	424	424	961	961	660	0.8126	0.1622
4	7 Mile WB	None	761	827	499	499	1239	1239	660	0.6144	0

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Central SB	Exclusive	14.56	5.64	14.29	9.34	0.21	B	A	B
2	7 Mile EB	None	10.80		10.80	4.91		B		B
3	Sheldon NB	Exclusive	17.95	6.45	16.59	12.79	0.56	C	A	C
4	7 Mile WB	None	9.12		9.12	5.95		A		A

Global Results

Performance and Accidents

2028 PM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	2734	154	2888
Capacity	veh/hr	3945	1339	5284
Average Delay	sec/veh	13.47	6.20	13.08
L.O.S. (Signal)	A - F	B	A	B
L.O.S. (Unsig)	A - F	B	A	B
Total Delay	veh.hrs	10.23	0.27	10.50

Scheme Summary

Control Data

Control Data and Model Parameters

Northville Downs - RDBT @ Central/Sheldon & 7 Mile Background Conditions - Scenario #2 (Both Closed) Rodel-Win1 Right Hand Drive AM Peak Hour Full Geometry English Units (ft)	2028 PHF Flow Profile (veh) 7.5 min Time Slice Queuing Delays (sec) Daylight conditions Peak 60/15 min Results Output flows: Vehicles 50% Confidence Level
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Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation 0	Half Width V	Approach Lanes P	Entry Width E	Entry Lanes R	Flare Length L	Entry Radius R	Entry Angle Phi
1	Central SB	0	0	12.00	1	14.00	1	100.00	90.00	30.00
2	7 Mile EB	90	0	12.00	1	14.00	1	100.00	90.00	30.00
3	Sheldon NB	180	0	12.00	1	14.00	1	100.00	90.00	30.00
4	7 Mile WB	270	0	12.00	1	28.00	2	100.00	90.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	Central SB	120.00	30.00	2	16.00	1	12.00	1
2	7 Mile EB	120.00	18.00	1	16.00	1	12.00	1
3	Sheldon NB	120.00	18.00	1	16.00	1	12.00	1
4	7 Mile WB	120.00	18.00	1	16.00	1	12.00	1

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road		Exit Road			
		Capacity	XWalk Factor	Intercept	Slope	V (ft)	Default Capacity	Calib Capacity	V (ft)	Default Capacity	Calib Capacity
1	Central SB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0
2	7 Mile EB	0	1.000	0	1.000	20.00	1792	0	12.00	1792	0
3	Sheldon NB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0
4	7 Mile WB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0

Bypass Geometry

Bypass Approach Geometry (ft)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
1	Central SB	Exclusive	14	12	1	12	1	12	1
3	Sheldon NB	Exclusive	79	12	1	12	1	12	1

Bypass Entry and Exit Geometry (ft)

Leg	Leg Names	Entry Geometry					Leg	Leg Names	Exit Lanes		
		Eb	neb	Lb	Lt	Rb			Phib	next	Nmx
1	Central SB	12	1	0	100	66.00080	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00080	30	4	7 Mile WB	1	2

Traffic Flow Data (veh/hr)

2028 AM Peak Peak Hour Flows

Leg	Leg Names	U-Turn	Turning Flows				Flow Modifiers		
			Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	Central SB	0	29	346	0	14	2.0	1.00	0.730
2	7 Mile EB	0	18	273	165	0	3.0	1.00	0.860
3	Sheldon NB	0	86	403	0	79	2.0	1.00	0.920
4	7 Mile WB	0	75	176	43	0	5.0	1.00	0.880

Operational Results

2028 AM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)				Capacity (veh/hr)				
			Arrival Flow		Opposing Flow		Capacity		Average VCR		
			Entry	Bypass	Entry	Bypass	Entry	Bypass	Entry	Bypass	
1	Central SB	Exclusive	375	14	337	337	464	1084	958	0.3460	0.0146
2	7 Mile EB	None	456		450	276	953	953		0.4785	
3	Sheldon NB	Exclusive	489	79	320	320	586	1044	917	0.4686	0.0862
4	7 Mile WB	None	294		507	381	1426			0.2062	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)			Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg	
1	Central SB	Exclusive	5.01	3.61	4.56	2.28	0.05	A	A	A	
2	7 Mile EB	None	7.02		7.02	3.57		A	A	A	
3	Sheldon NB	Exclusive	6.19	4.26	5.92	2.68	0.28	A	A	A	
4	7 Mile WB	None	3.97		3.97	1.04		A	A	A	

Global Results

Performance and Accidents

2028 AM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	1614	93	1707
Capacity	veh/hr	4505	1874	6380
Average Delay	sec/veh	5.75	4.16	5.66
L.O.S. (Signal)	A - F	A	A	A
L.O.S. (Unsig)	A - F	A	A	A
Total Delay	veh-hrs	2.58	0.11	2.68

Scheme Summary

Control Data

Control Data and Model Parameters

Northville Downs - RDBT @ Central/Sheldon & 7 Mile Background Conditions - Scenario #2 (Both Closed) Rodel-Win1 Right Hand Drive PM Peak Hour Full Geometry English Units (ft)	2028 PHF Flow Profile (veh) 7.5 min Time Slice Queueing Delays (sec) Daylight conditions Peak 60/15 min Results Output flows: Vehicles 50% Confidence Level
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Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation	Half Width V	Approach Lanes P	Entry Width E	Entry Lanes R	Flare Length L	Entry Radius R	Entry Angle Phi
1	Central SB	0	0	12.00	1	14.00	1	100.00	90.00	30.00
2	7 Mile EB	90	0	12.00	1	14.00	1	100.00	90.00	30.00
3	Sheldon NB	180	0	12.00	1	14.00	1	100.00	90.00	30.00
4	7 Mile WB	270	0	12.00	1	28.00	2	100.00	90.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	Central SB	120.00	30.00	2	16.00	1	12.00	1
2	7 Mile EB	120.00	18.00	1	16.00	1	12.00	1
3	Sheldon NB	120.00	18.00	1	16.00	1	12.00	1
4	7 Mile WB	120.00	18.00	1	16.00	1	12.00	1

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road		Exit Road			
		Capacity	XWalk Factor	Intercept	Slope	V (ft)	Default Capacity	Calib Capacity	V (ft)	Default Capacity	Calib Capacity
1	Central SB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0
2	7 Mile EB	0	1.000	0	1.000	20.00	1792	0	12.00	1792	0
3	Sheldon NB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0
4	7 Mile WB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0

Bypass Geometry

Bypass Approach Geometry (ft)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
1	Central SB	Exclusive	20	12	1	12	1	12	1
3	Sheldon NB	Exclusive	105	12	1	12	1	12	1

Bypass Entry and Exit Geometry (ft)

Leg	Leg Names	Entry Geometry						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			next	Nmx
1	Central SB	12	1	0	100	66.00080	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00080	30	4	7 Mile WB	1	2

Traffic Flow Data (veh/hr)

2028 PM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows				Flow Modifiers			
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	Central SB	0	68	349	0	20	0.0	1.00	0.930
2	7 Mile EB	0	27	316	134	0	1.0	1.00	0.880
3	Sheldon NB	0	127	471	0	105	1.0	1.00	0.900
4	7 Mile WB	0	127	444	107	0	1.0	1.00	0.880

Operational Results

2028 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)				Capacity (veh/hr)				
			Arrival Flow	Opposing Flow	Exit Flow	Capacity	Bypass	Average VCR	Entry	Bypass	
1	Central SB	Exclusive	417	20	698	698	604	982	844	0.4245	0.0237
2	7 Mile EB	None	477	544	591	944	944	0.5050			
3	Sheldon NB	Exclusive	598	105	411	610	1017	881	0.5879	0.1192	
4	7 Mile WB	None	678	624	489	1425		0.4759			

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)			Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Leg	Entry	Bypass	Leg
1	Central SB	Exclusive	6.30	4.33	6.21	2.30	0.07	A	A	A	A
2	7 Mile EB	None	7.51		7.51	3.49		A		A	A
3	Sheldon NB	Exclusive	8.34	4.59	7.78	4.81	0.41	A	A	A	A
4	7 Mile WB	None	5.83		5.83	3.95		A		A	A

Global Results

Performance and Accidents

2028 PM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	2170	125	2295
Capacity	veh/hr	4368	1725	6093
Average Delay	sec/veh	6.98	4.55	6.85
L.O.S. (Signal)	A - F	A	A	A
L.O.S. (Unsig)	A - F	A	A	A
Total Delay	veh.hrs	4.21	0.16	4.37

Scheme Summary

Control Data

Control Data and Model Parameters

Northville Downs - RDBT @ Central/Sheldon & 7 Mile Background Conditions - Scenario #3 (Main Closed) Rodel-Win1 Right Hand Drive AM Peak Hour Full Geometry English Units (ft)	2028 PHF Flow Profile (veh) 7.5 min Time Slice Queuing Delays (sec) Daylight conditions Peak 60/15 min Results Output flows: Vehicles 50% Confidence Level
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Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation (ft)	Half Width V	Approach Lanes P	Entry Width E	Entry Lanes P	Flare Length L	Entry Radius R	Entry Angle Phi
1	Central SB	0	0	12.00	1	14.00	1	100.00	90.00	30.00
2	7 Mile EB	90	0	12.00	1	14.00	1	100.00	90.00	30.00
3	Sheldon NB	180	0	12.00	1	14.00	1	100.00	90.00	30.00
4	7 Mile WB	270	0	12.00	1	28.00	2	100.00	90.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	Central SB	120.00	30.00	2	16.00	1	12.00	1
2	7 Mile EB	120.00	18.00	1	16.00	1	12.00	1
3	Sheldon NB	120.00	18.00	1	16.00	1	12.00	1
4	7 Mile WB	120.00	18.00	1	16.00	1	12.00	1

Bypass Geometry

Bypass Approach Geometry (ft)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
1	Central SB	Exclusive	13	12	1	12	1	12	1
3	Sheldon NB	Exclusive	64	12	1	12	1	12	1

Bypass Entry and Exit Geometry (ft)

Leg	Leg Names	Entry Geometry						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			nex	Nmx
1	Central SB	12	1	0	100	66.00078	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00078	30	4	7 Mile WB	1	2

Operational Results

2028 AM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)				Capacity (veh/hr)				
			Arrival Flow Entry	Bypass	Opposing Flow Bypass	Exit Flow	Capacity Entry	Bypass	Average VCR		
1	Central SB	Exclusive	407	13	275	275	621	1110	982	0.3666	0.0132
2	7 Mile EB	None	380		438		257	999		0.3805	
3	Sheldon NB	Exclusive	561	64	384	384	434	1011	886	0.5547	0.0723
4	7 Mile WB	None	294		602		407	1360		0.2161	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Central SB	Exclusive	4.91	3.67	4.87	1.87	0.04	A	A	A
2	7 Mile EB	None	5.71		5.71	2.18		A		A
3	Sheldon NB	Exclusive	7.59	4.34	7.26	3.91	0.23	A	A	A
4	7 Mile WB	None	4.18		4.18	1.05		A		A

Global Results

Performance and Accidents

2028 AM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	1642	77	1719
Capacity	veh/hr	4480	1868	6348
Average Delay	sec/veh	5.88	4.23	5.80
L.O.S. (Signal)	A - F	A	A	A
L.O.S. (Unsig)	A - F	A	A	A
Total Delay	veh.hrs	2.68	0.09	2.77

Scheme Summary

Control Data

Control Data and Model Parameters

Northville Downs - RDBT @ Central/Sheldon & 7 Mile Background Conditions - Scenario #3 (Main Closed) Rodel-Win1 Right Hand Drive PM Peak Hour Full Geometry English Units (R)	2028 PHF Flow Profile (veh) 7.5 min Time Slice Queuing Delays (sec) Daylight conditions Peak 60/15 min Results Output flows: Vehicles 50% Confidence Level
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Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L	Entry Radius R	Entry Angle Phi
1	Central SB	0	0	12.00	1	14.00	1	100.00	90.00	30.00
2	7 Mile EB	90	0	12.00	1	14.00	1	100.00	90.00	30.00
3	Sheldon NB	180	0	12.00	1	14.00	1	100.00	90.00	30.00
4	7 Mile WB	270	0	12.00	1	28.00	2	100.00	90.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nmx	Exit Half Width Yx	Exit Half Width Lanes mx
1	Central SB	120.00	30.00	2	16.00	1	12.00	1
2	7 Mile EB	120.00	18.00	1	16.00	1	12.00	1
3	Sheldon NB	120.00	18.00	1	16.00	1	12.00	1
4	7 Mile WB	120.00	18.00	1	16.00	1	12.00	1

Bypass Geometry

Bypass Approach Geometry (ft)

Leg	Leg Names	Bypass Type	Bypass Flows	v	nv	Vb	nvb	Vt	nvt
1	Central SB	Exclusive	41	12	1	12	1	12	1
3	Sheldon NB	Exclusive	94	12	1	12	1	12	1

Bypass Entry and Exit Geometry (ft)

Leg	Leg Names	Entry Geometry						Exit Lanes			
		Eb	neb	Lb	Lt	Rb	Phib	Leg	Leg Names	nex	Nmx
1	Central SB	12	1	0	100	66.00079	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00079	30	4	7 Mile WB	1	2

Operational Results

2028 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)				Capacity (veh/hr)				
			Arrival Flow	Opposing Flow	Exit Flow	Capacity	Average VCR	Entry	Bypass	Entry	Bypass
1	Central SB	Exclusive	630	41	660	660	746	980	852	0.6426	0.0481
2	7 Mile EB	None	477		726		605	841		0.5675	
3	Sheldon NB	Exclusive	697	94	428	428	775	1001	828	0.6961	0.1135
4	7 Mile WB	None	677		729		490	1343		0.5041	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Central SB	Exclusive	9.81	4.41	9.48	5.25	0.14	A	A	A
2	7 Mile EB	None	9.59		9.59	4.38		A		A
3	Sheldon NB	Exclusive	11.23	4.86	10.47	6.73	0.37	B	A	B
4	7 Mile WB	None	6.57		6.57	3.70		A		A

Global Results

Performance and Accidents

2028 PM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	2481	135	2616
Capacity	veh/hr	4165	1680	5845
Average Delay	sec/veh	9.28	4.72	9.05
L.O.S. (Signal)	A - F	A	A	A
L.O.S. (Unsig)	A - F	A	A	A
Total Delay	veh.hrs	6.40	0.18	6.57

Queuing and Blocking Report

Background Conditions #1 (Pre-COVID) w/ Roundabout
AM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	TR	LT	R	LT	R
Maximum Queue (ft)	385	69	74	3257	75	300	350
Average Queue (ft)	212	33	6	2004	67	100	13
95th Queue (ft)	407	62	32	3555	105	228	119
Link Distance (ft)	344	541	541	21410			491
Upstream Blk Time (%)	11						
Queuing Penalty (veh)	64						
Storage Bay Dist (ft)				50	250		
Storage Blk Time (%)			98	0	4		
Queuing Penalty (veh)			72	1	1		

Queuing and Blocking Report

Background Conditions #1 (Pre-COVID) w/ Roundabout
PM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	TR	LT	R	LT	R
Maximum Queue (ft)	222	549	647	9133	75	300	533
Average Queue (ft)	61	288	262	4507	54	297	517
95th Queue (ft)	165	594	713	8002	109	303	535
Link Distance (ft)	344	541	541	21410			491
Upstream Blk Time (%)		27	28				98
Queuing Penalty (veh)		101	103				744
Storage Bay Dist (ft)					50	250	
Storage Blk Time (%)				94	0	100	
Queuing Penalty (veh)				101	2	47	

Queuing and Blocking Report Background Conditions #2 (Both Closed) w/ Roundabout AM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	TR	LT	R	LT	R
Maximum Queue (ft)	172	99	34	516	75	214	35
Average Queue (ft)	67	39	2	198	58	71	3
95th Queue (ft)	125	79	16	393	106	152	19
Link Distance (ft)	344	541	541	21410		490	490
Upstream Blk Time (%)							
Queueing Penalty (veh)							
Storage Bay Dist (ft)					50		
Storage Bk Time (%)				46	0		
Queueing Penalty (veh)				36	2		

Queuing and Blocking Report Background Conditions #2 (Both Closed) w/ Roundabout PM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	TR	LT	R	LT	R
Maximum Queue (ft)	165	303	320	1355	75	285	
Average Queue (ft)	68	155	82	783	72	128	
95th Queue (ft)	132	267	212	1355	95	246	
Link Distance (ft)	344	541	541	21410		490	
Upstream Blk Time (%)							
Queueing Penalty (veh)							
Storage Bay Dist (ft)					50		
Storage Bk Time (%)				92	0		
Queueing Penalty (veh)				97	2		

Queuing and Blocking Report Background Conditions #3 (Main Closed) w/ Roundabout AM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	TR	LT	R	LT	R
Maximum Queue (ft)	97	100	52	413	75	229	
Average Queue (ft)	49	38	8	278	57	69	
95th Queue (ft)	82	74	30	434	110	140	
Link Distance (ft)	344	541	541	21410			
Upstream Blk Time (%)							
Queueing Penalty (veh)							
Storage Bay Dist (ft)					50	250	
Storage Bk Time (%)				75	0		
Queueing Penalty (veh)				48	1		

Queuing and Blocking Report Background Conditions #3 (Main Closed) w/ Roundabout PM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	TR	LT	R	LT	R
Maximum Queue (ft)	375	553	696	8341	75	300	534
Average Queue (ft)	158	394	297	3036	52	295	524
95th Queue (ft)	354	658	679	6667	109	309	532
Link Distance (ft)	344	541	541	21410		491	
Upstream Blk Time (%)	16	26	11			97	
Queueing Penalty (veh)	73	85	38			653	
Storage Bay Dist (ft)					50	250	
Storage Bk Time (%)				97	0	59	1
Queueing Penalty (veh)				91	1	41	4

HCM 6th Signalized Intersection Summary Background Conditions #1 (Pre-COVID) w/ Signal OPT 23: Sheldon Avenue/Center Street & Seven Mile Road AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	46	430	73	35	155	79	58	580	73	77	384	15
Future Volume (veh/h)	46	430	73	35	155	79	58	580	73	77	384	15
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Peak-Hour Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1984	1984	1984	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	54	606	86	38	168	86	63	630	79	80	447	17
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.86	0.86	0.86
Percent Heavy Veh. %	1	1	1	4	4	4	2	2	2	2	2	2
Cap, veh/h	430	547	93	151	631	606	325	663	83	169	739	28
Arrive On Green	0.04	0.33	0.33	0.03	0.33	0.33	0.04	0.39	0.39	0.04	0.39	0.39
Sat Flow, veh/h	1990	1662	281	1845	1938	1640	1875	1715	215	1875	1884	72
Grp Volume(v), veh/h	54	0	592	38	168	86	63	0	709	90	0	464
Grp Sat Flow(s), veh/hln	1890	0	1933	1845	1938	1640	1875	0	1930	1875	0	1956
Q Serwig, s, s	2.1	0.0	33.0	1.5	7.2	3.9	2.2	0.0	39.8	3.2	0.0	21.2
Cycle Q Clearing, c, s	2.1	0.0	33.0	1.5	7.2	3.9	2.2	0.0	39.8	3.2	0.0	21.2
Prop In Lane	1.00	0.15	1.00	1.00	1.00	1.00	0.11	1.00	0.04			
Lane Grp Cap(c), veh/h	430	0	640	151	631	606	325	0	746	169	0	767
V/C Ratio(x)	0.13	0.00	0.92	0.25	0.27	0.14	0.19	0.00	0.95	0.53	0.00	0.61
Aval Config, s, veh/h	492	0	716	193	717	676	337	0	776	191	0	787
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(f)	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.7	0.0	36.1	26.6	27.8	23.5	21.2	0.0	33.3	27.0	0.0	27.1
Incr Delay (d2), s/veh	0.1	0.0	16.8	0.9	0.2	0.1	0.3	0.0	20.7	5.1	0.0	1.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q)(50%), veh/h	0.9	0.0	18.1	0.7	3.3	1.5	1.0	0.0	22.2	1.5	0.0	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.8	0.0	52.9	29.4	28.1	23.6	21.4	0.0	53.9	30.1	0.0	28.4
LnGrp LOS	C	A	D	C	C	C	C	A	D	C	A	C
Approach Vol, veh/h	646								772			554
Approach Delay, s/veh	50.4								51.3			28.7
Approach LOS	C								D			C
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.9	49.3	9.1	42.6	10.3	49.9	9.7	42.0				
Change Period (Y+Rc), s	6.0	6.0	5.6	5.6	6.0	6.0	5.6	5.6				
Max Green Setting (Gmax), s	5.0	45.0	5.4	41.4	5.0	45.0	5.4	41.4				
Max Q Clear Time (g, c+1), s	5.2	41.8	3.5	35.0	4.2	23.2	4.1	9.2				
Green Ext Time (g, c), s	0.0	1.4	0.0	2.0	0.0	2.5	0.0	1.2				
Intersection Summary												
HCM 6th Ctrl Delay									42.4			
HCM 6th LOS									D			

HCM 6th Signalized Intersection Summary Background Conditions #1 (Pre-COVID) w/ Signal OPT 23: Sheldon Avenue/Center Street & Seven Mile Road PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Traffic Volume (veh/h)	32	317	116	110	500	142	125	672	107	75	636	47
Future Volume (veh/h)	32	317	116	110	509	142	125	672	107	75	636	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Peak-Hour Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1984	1984	1984	2000	2000	2000	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	36	352	129	116	536	149	132	707	113	80	677	50
Peak Hour Factor	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.94
Percent Heavy Veh. %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	149	386	141	184	593	570	211	717	115	147	778	57
Arrive On Green	0.03	0.28	0.28	0.05	0.30	0.30	0.04	0.43	0.43	0.04	0.43	0.43
Sat Flow, veh/h	1890	1985	507	1905	2000	1692	1890	1669	267	1890	1825	135
Grp Volume(v), veh/h	36	0	481	116	536	149	132	0	820	80	0	727
Grp Sat Flow(s), veh/hln	1890	0	1892	1905	2000	1692	1890	0	1935	1890	0	1960
Q Serwig, s, s	1.5	0.0	28.0	5.0	29.4	7.3	4.5	0.0	47.8	2.7	0.0	38.6
Cycle Q Clearing, c, s	1.5	0.0	28.0	5.0	29.4	7.3	4.5	0.0	47.8	2.7	0.0	38.6
Prop In Lane	1.00	0.27	1.00	1.00	1.00	1.00	0.14	1.00	0.07			
Lane Grp Cap(c), veh/h	149	0	528	184	593	570	211	0	832	147	0	836
V/C Ratio(x)	0.24	0.00	0.91	0.63	0.90	0.26	0.63	0.00	0.99	0.55	0.00	0.87
Aval Config, s, veh/h	182	0	621	194	666	624	291	0	832	153	0	842
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(f)	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.2	0.0	39.7	31								

HCM 6th Signalized Intersection Summary Background Conditions #2 (Both Closed) w/ Signal OPT 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	273	165	75	176	43	86	403	79	29	346	14
Future Volume (veh/h)	18	273	165	75	176	43	86	403	79	29	346	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1953	1953	1953	1922	1922	1922	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	21	317	192	85	200	49	93	438	86	40	346	14
Peak Hour Factor	0.90	0.95	0.95	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh. %	3	3	3	5	5	5	2	2	2	2	2	2
Cap, veh/h	434	366	222	229	671	627	244	510	100	207	570	23
Arrive On Green	0.02	0.32	0.35	0.35	0.35	0.32	0.32	0.32	0.34	0.30	0.30	0.30
Sat Flow, veh/h	1890	1929	1890	1830	1922	1826	1875	1997	314	1875	1879	75
Grp Volume(v), veh/h	21	0	509	85	200	49	93	0	524	40	0	493
Grp Sat Flow(s), veh/h/ln	1860	0	1828	1830	1922	1626	1875	0	1911	1875	0	1955
Q Served(s), s	0.6	0.0	22.3	2.6	6.4	1.6	2.9	0.0	21.9	1.2	0.0	20.0
Cycle Q Clear(g_c), s	0.6	0.0	22.3	2.6	6.4	1.6	2.9	0.0	21.9	1.2	0.0	20.0
Prop In Lane	1.00	0.38	1.00	1.00	1.00	1.00	1.00	0.16	1.00	0.04	1.00	0.04
Lane Grp Cap(c), veh/h	434	0	588	229	671	627	244	0	611	207	0	593
V/C Ratio(x)	0.05	1.00	0.87	0.37	0.30	0.38	0.00	0.86	0.19	0.00	0.83	0.00
Aval Cap(c), veh/h	599	0	792	252	334	849	256	0	1009	249	0	1032
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.6	0.0	27.2	20.8	20.1	16.6	21.2	0.0	27.2	21.6	0.0	27.7
Incr Delay (d2), s/veh	0.0	0.0	6.0	1.0	0.2	0.1	0.0	0.0	6.1	0.5	0.0	6.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q/50%),veh/ln	0.3	0.0	3.1	1.1	2.8	0.6	1.2	0.0	10.1	0.5	0.0	9.3
Unsig. Movement Delay, s/veh	18.7	0.0	33.2	21.8	20.4	16.7	22.2	0.0	31.3	22.1	0.0	30.8
LnGrp Delay(d), s/veh	B	A	C	C	C	B	C	A	C	C	A	C
LnGrp LOS	B	A	C	C	C	B	C	A	C	C	A	C
Approach Vol, veh/h	530			334			617			533		
Approach Delay, s/veh	32.6			20.2			29.3			30.1		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R), s	9.1	33.2	9.9	33.0	10.4	31.8	7.6	35.4				
Change Period (Y+R), s	6.0	6.0	5.6	5.6	6.0	6.0	5.6	5.6				
Max Green Setting (Gmax), s	5.0	45.0	5.4	41.4	5.0	45.0	5.4	41.4				
Max Q Clear Time (g_c+1), s	3.2	23.9	4.6	24.3	4.9	22.0	2.6	6.4				
Green Ext Time (g_c), s	0.0	3.3	0.0	3.1	0.0	3.1	0.0	1.3				
Intersection Summary												
HCM 6th Ctrl Delay	29.1											
HCM 6th LOS	C											

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HCM 6th Signalized Intersection Summary Background Conditions #2 (Both Closed) w/ Signal OPT 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	316	134	127	444	107	127	471	105	68	349	20
Future Volume (veh/h)	27	316	134	127	444	107	127	471	105	68	349	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	2000	1984	1984	1984	2000	2000	2000
Adj Flow Rate, veh/h	31	559	152	144	505	122	141	523	117	73	375	22
Peak Hour Factor	0.98	0.95	0.95	0.95	0.95	0.92	0.90	0.90	0.90	0.93	0.93	0.93
Percent Heavy Veh. %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	205	401	170	211	652	627	367	580	130	197	680	40
Arrive On Green	0.03	0.30	0.30	0.05	0.33	0.33	0.05	0.37	0.04	0.36	0.36	0.36
Sat Flow, veh/h	1890	1909	1890	1909	1984	1885	1890	1965	300	1905	1969	110
Grp Volume(v), veh/h	31	0	511	144	505	122	141	0	640	73	0	397
Grp Sat Flow(s), veh/h/ln	1890	0	1879	1890	1984	1885	1890	0	1916	1905	0	1978
Q Served(s), s	1.1	0.0	26.3	5.4	23.2	5.0	4.8	0.0	32.0	2.4	0.0	16.2
Cycle Q Clear(g_c), s	1.1	0.0	26.3	5.4	23.2	5.0	4.8	0.0	32.0	2.4	0.0	16.2
Prop In Lane	1.00	0.30	1.00	1.00	1.00	1.00	1.00	0.16	1.00	0.06	1.00	0.06
Lane Grp Cap(c), veh/h	205	0	571	211	652	627	367	0	710	197	0	720
V/C Ratio(x)	0.15	1.00	0.89	0.68	0.77	0.19	0.38	0.00	0.90	0.37	0.00	0.55
Aval Cap(c), veh/h	292	0	731	211	772	729	367	0	889	239	0	919
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(i)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.1	0.0	33.7	26.7	30.5	21.5	20.3	0.0	30.1	23.8	0.0	25.6
Incr Delay (d2), s/veh	0.3	0.0	11.4	8.6	4.2	0.2	0.7	0.0	10.5	1.2	0.0	6.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q/50%),veh/ln	0.5	0.0	13.4	2.8	11.4	1.9	2.1	0.0	16.1	1.1	0.0	7.5
Unsig. Movement Delay, s/veh	25.5	0.0	45.0	35.3	34.8	21.7	21.0	0.0	40.7	25.0	0.0	26.3
LnGrp Delay(d), s/veh	C	A	D	C	C	C	C	A	D	C	A	C
LnGrp LOS	C	A	D	C	C	C	C	A	D	C	A	C
Approach Vol, veh/h	542			771			781			470		
Approach Delay, s/veh	43.9			32.8			37.1			26.1		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R), s	10.4	43.5	11.0	36.4	11.0	42.9	8.5	38.9				
Change Period (Y+R), s	6.0	6.0	5.6	5.6	6.0	5.6	5.6	5.6				
Max Green Setting (Gmax), s	5.0	47.0	5.4	39.4	5.0	47.0	5.4	39.4				
Max Q Clear Time (g_c+1), s	4.4	34.0	7.4	28.3	6.8	16.2	3.1	25.2				
Green Ext Time (g_c), s	0.0	3.5	0.0	2.5	0.0	2.5	0.0	3.0				
Intersection Summary												
HCM 6th Ctrl Delay	35.2											
HCM 6th LOS	D											

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HCM 6th Signalized Intersection Summary Background Conditions #3 (Main Closed) w/ Signal OPT 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	275	64	31	193	70	51	510	64	68	339	13
Future Volume (veh/h)	41	275	64	31	193	70	51	510	64	68	339	13
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1984	1984	1984	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	48	324	75	34	210	76	55	554	70	79	394	15
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.86	0.86
Percent Heavy Veh. %	1	1	1	4	4	4	2	2	2	2	2	2
Cap, veh/h	336	395	91	206	476	487	384	640	81	246	719	27
Arrive On Green	0.04	0.25	0.25	0.03	0.25	0.25	0.04	0.37	0.37	0.65	0.38	0.38
Sat Flow, veh/h	1890	1958	361	1945	1938	1938	1875	1922	216	1875	1984	78
Grp Volume(v), veh/h	48	0	3									

Queuing and Blocking Report Background Conditions #2 (Both Closed) w/ Signal OPT
AM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	44	376	95	150	45	59	449	68	276
Average Queue (ft)	9	178	40	54	7	34	234	17	129
95th Queue (ft)	29	322	79	114	23	68	410	48	226
Link Distance (ft)	386		578		578		21448		532
Upstream Blk Time (%)	1								
Queuing Penalty (veh)	3								
Storage Bay Dist (ft)	500		150		50		250		0
Storage Blk Time (%)	1		1		2		37		0
Queuing Penalty (veh)	0		1		9		32		0

Queuing and Blocking Report Background Conditions #2 (Both Closed) w/ Signal OPT
PM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	56	362	250	423	323	60	1235	85	272
Average Queue (ft)	18	244	90	205	52	44	576	40	149
95th Queue (ft)	44	370	207	346	203	73	1076	73	234
Link Distance (ft)	386		578		578		21448		532
Upstream Blk Time (%)	0								
Queuing Penalty (veh)	0								
Storage Bay Dist (ft)	500		150		50		250		0
Storage Blk Time (%)	0		0		22		5		52
Queuing Penalty (veh)	0		2		28		27		66

Queuing and Blocking Report Background Conditions #3 (Main Closed) w/ Signal OPT
AM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	43	280	82	168	52	60	724	69	225
Average Queue (ft)	18	141	14	85	16	33	282	28	114
95th Queue (ft)	41	239	46	153	41	72	544	57	197
Link Distance (ft)	386		578		578		21448		532
Upstream Blk Time (%)	1								
Queuing Penalty (veh)	3								
Storage Bay Dist (ft)	500		150		50		250		0
Storage Blk Time (%)	1		1		1		38		0
Queuing Penalty (veh)	0		0		4		19		0

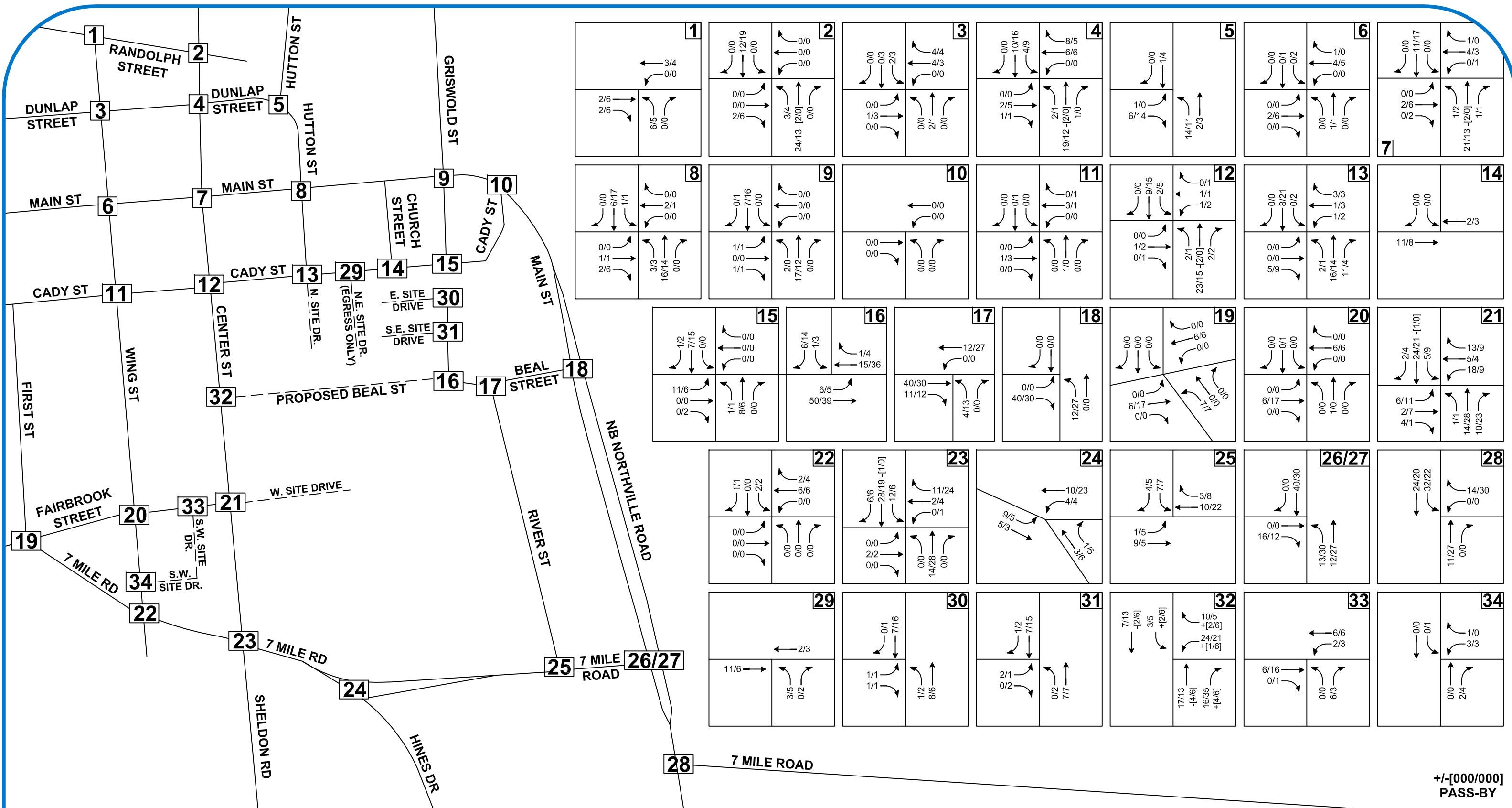
Queuing and Blocking Report Background Conditions #3 (Main Closed) w/ Signal OPT
PM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	172	398	245	363	235	60	2938	300	543
Average Queue (ft)	21	227	68	193	57	48	1741	98	326
95th Queue (ft)	90	362	175	312	166	74	3254	280	528
Link Distance (ft)	386		578		578		21448		532
Upstream Blk Time (%)	0								
Queuing Penalty (veh)	3								
Storage Bay Dist (ft)	500		150		50		250		19
Storage Blk Time (%)	0		1		19		13		55
Queuing Penalty (veh)	0		0		18		90		60

Appendix D

FUTURE TRAFFIC CONDITIONS



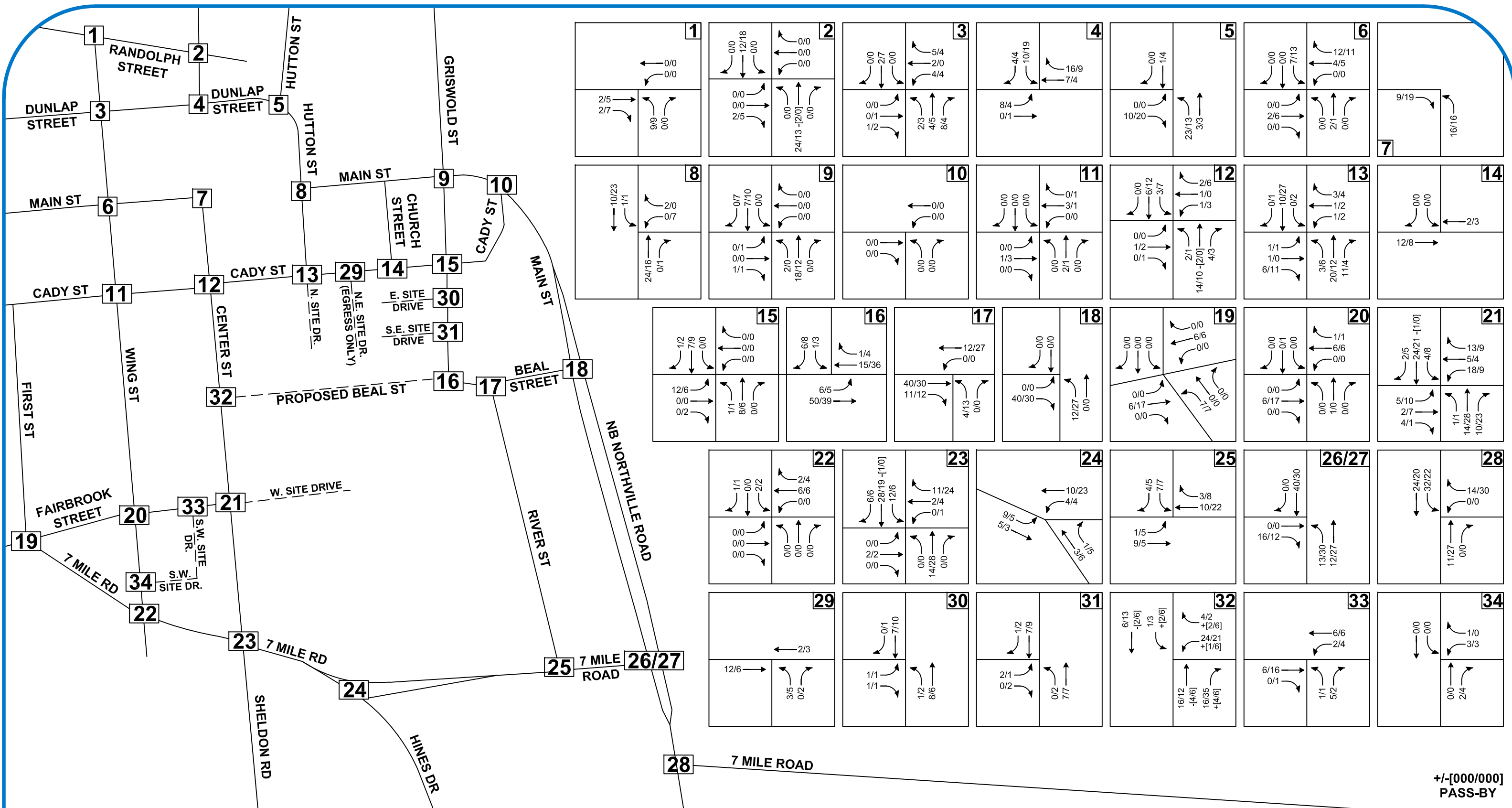
+/-[000/000]
PASS-BY

**FIGURE 6.1 - SCENARIO #1
SITE-GENERATED TRAFFIC
VOLUMES**

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

- LEGEND**
- ROADS
 - PROPOSED ROADS
 - TRAFFIC VOLUMES (AM/PM)
 - SIGNALIZED INTERSECTION
 - UNSIGNALIZED INTERSECTION





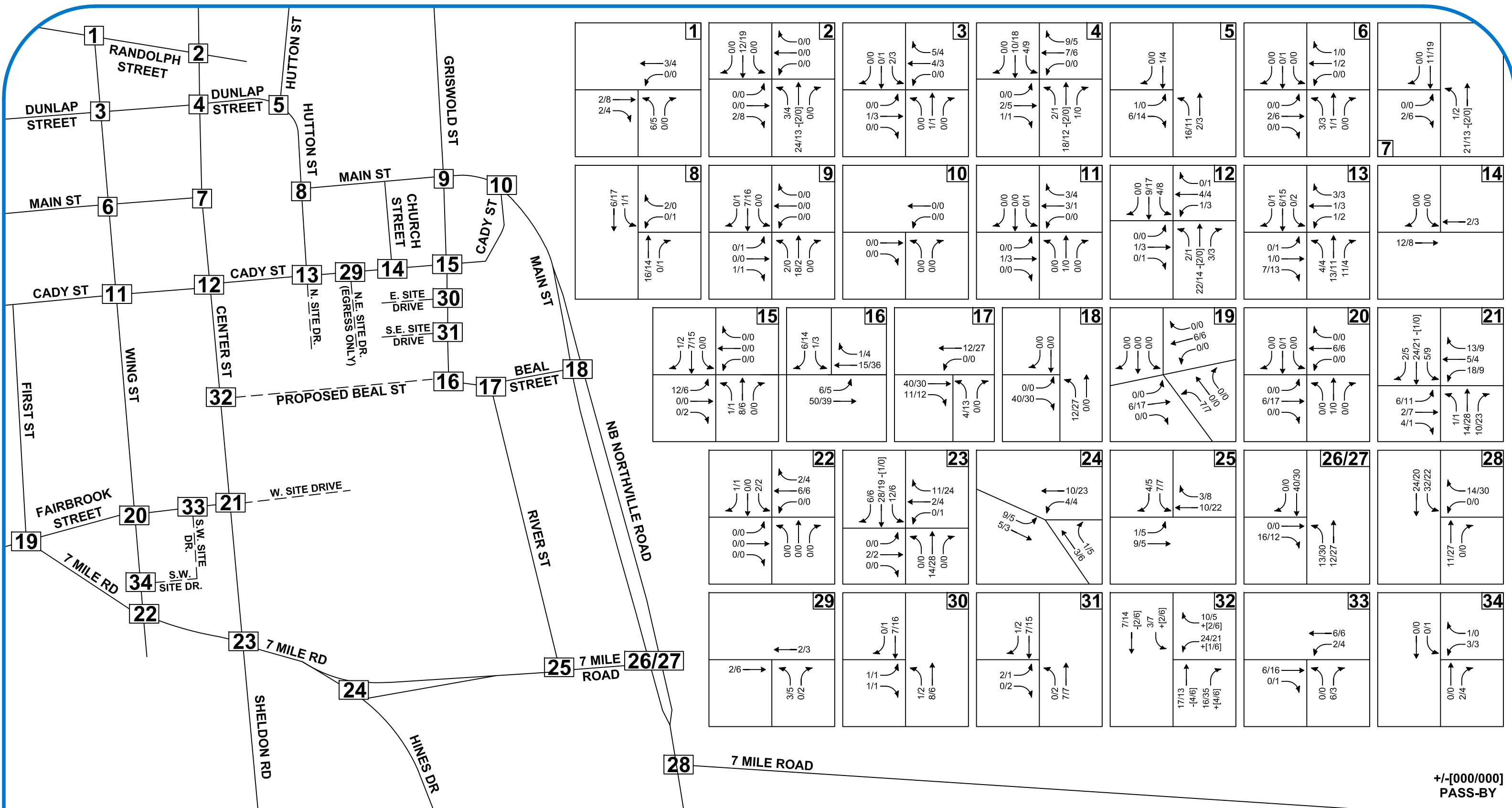
**FIGURE 6.2 - SCENARIO #2
SITE-GENERATED TRAFFIC
VOLUMES**

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

- LEGEND**
- ROADS
 - PROPOSED ROADS
 - TRAFFIC VOLUMES (AM/PM)
 - SIGNALIZED INTERSECTION
 - UNSIGNALIZED INTERSECTION



+/-[000/000]
PASS-BY



**FIGURE 6.3 - SCENARIO #3
SITE-GENERATED TRAFFIC
VOLUMES**

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

- ROADS
- PROPOSED ROADS
- TRAFFIC VOLUMES (AM/PM)
- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION

NORTH
SCALE: NOT TO SCALE



+/-[000/000]
PASS-BY

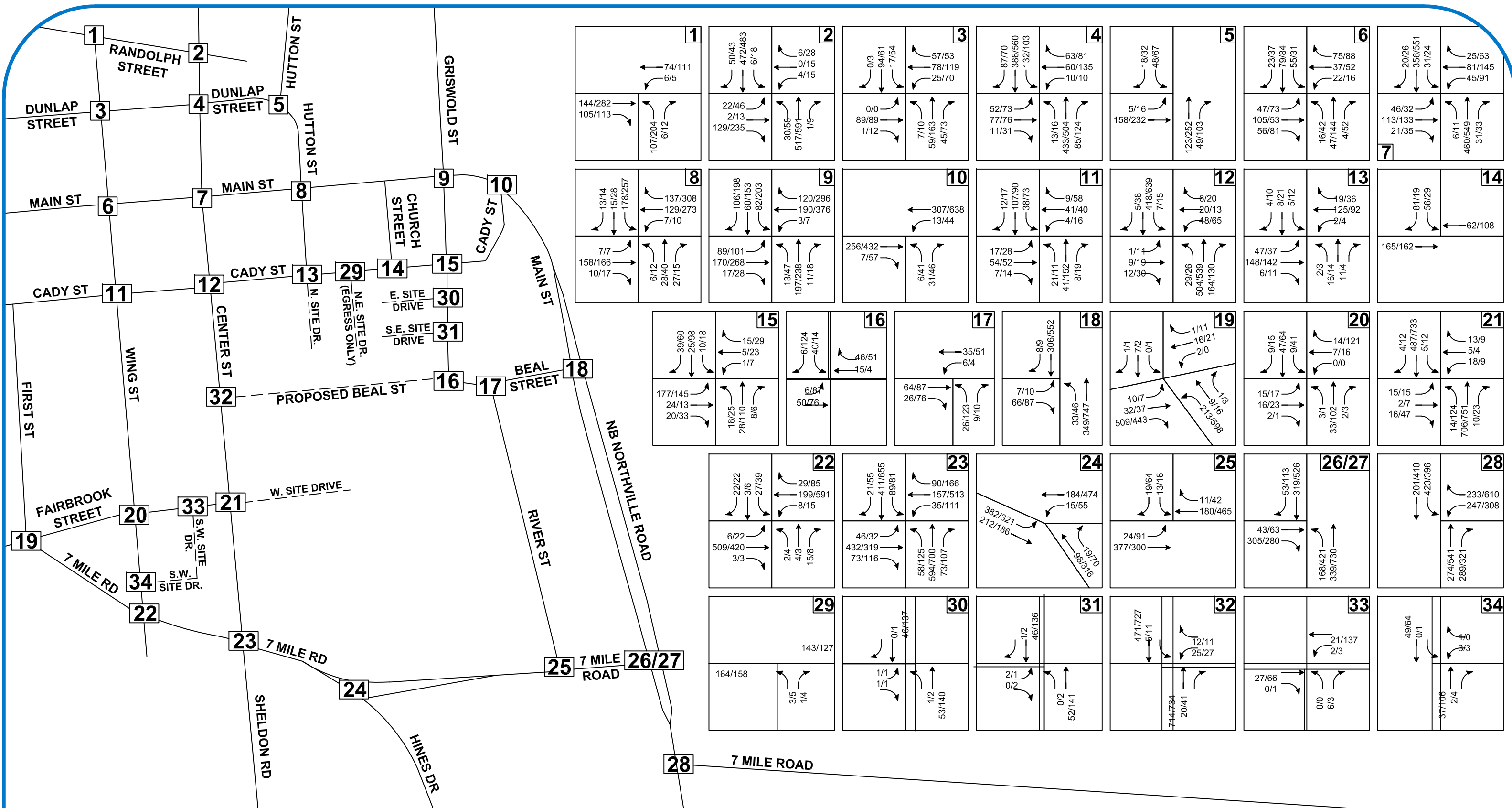


FIGURE 7.1 - SCENARIO #1
FUTURE TRAFFIC
VOLUMES
 NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

- ROADS
- PROPOSED ROADS
- TRAFFIC VOLUMES (AM/PM)
- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION

NORTH
 SCALE: NOT TO SCALE



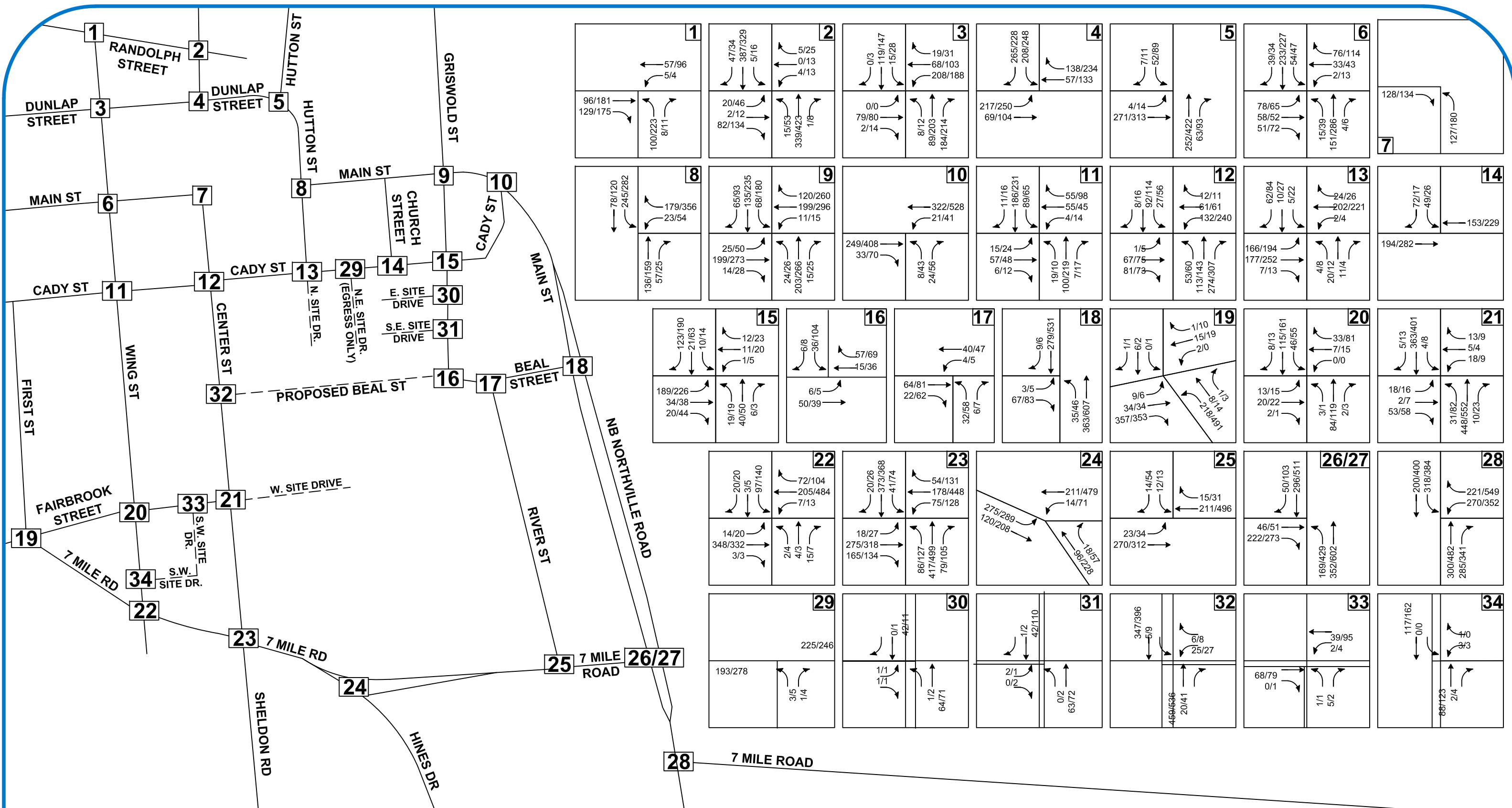
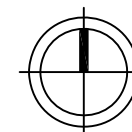


FIGURE 7.2 - SCENARIO #2
FUTURE TRAFFIC
VOLUMES

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

- ROADS
- PROPOSED ROADS
- TRAFFIC VOLUMES (AM/PM)
- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION



NORTH
 SCALE: NOT TO SCALE



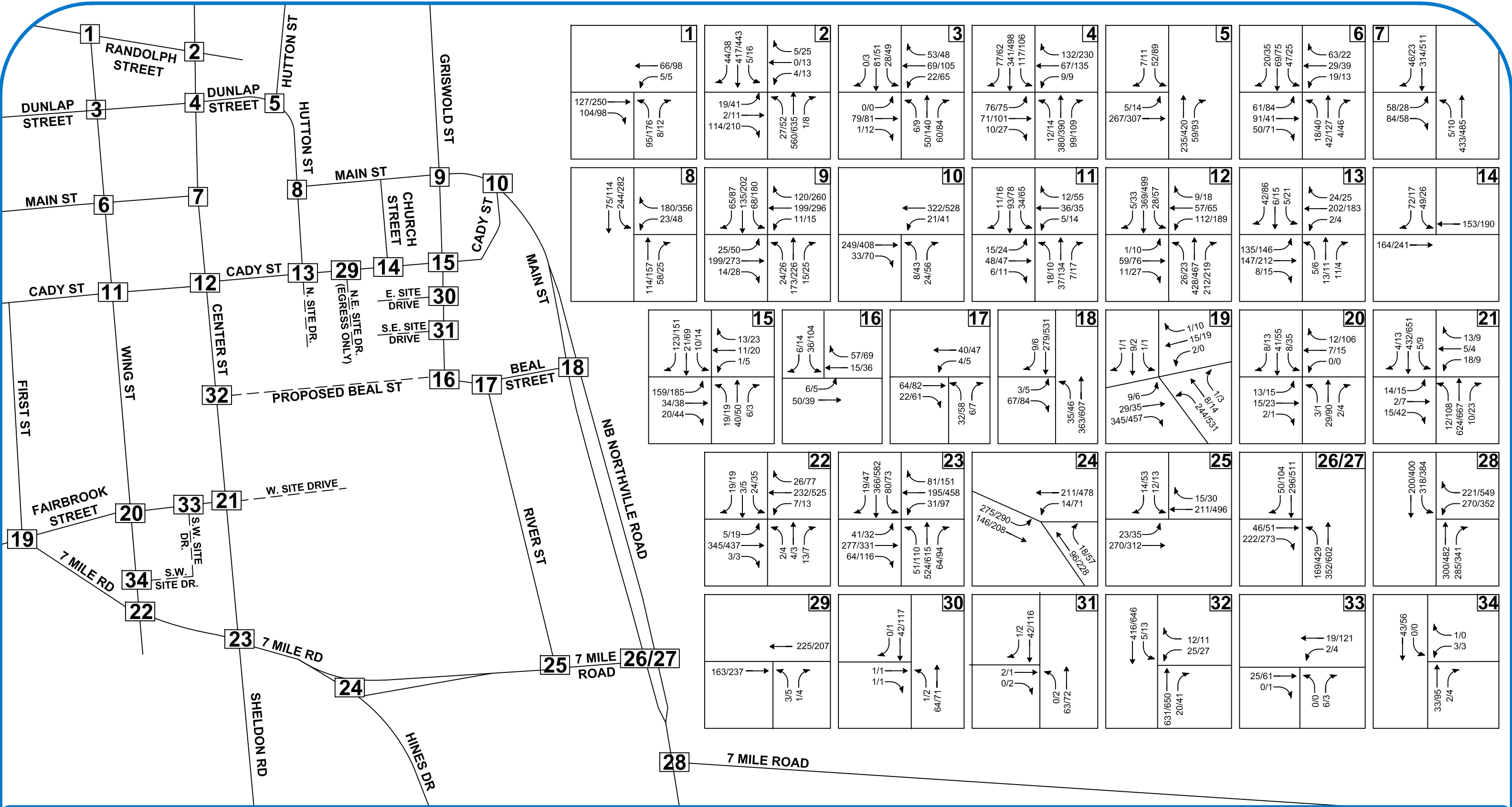


FIGURE 7.3 - SCENARIO #3
FUTURE TRAFFIC VOLUMES

LEGEND
 ——— ROADS
 - - - - PROPOSED ROADS
 TRAFFIC VOLUMES (AM/PM)


 NORTH
 SCALE: NOT TO SCALE



HCM 6th TWSC Future Conditions #1 (Pre-COVID)
1: Wing Street & Randolph Street AM Peak Hour

Intersection											
Int Delay, s/veh											
3.5											
Movement											
Lane Configurations											
Traffic Vol, veh/h											
Future Vol, veh/h											
Conflicting Peds, #/hr											
Sign Control											
RT Channelized											
Storage Length											
Veh in Median Storage, #											
Grade, %											
Peak Hour Factor											
Heavy Vehicles, %											
Mvmt Flow											
Major/Minor											
Major1											
Major2											
Minor1											
Conflicting Flow All											
Stage 1											
Stage 2											
Critical Hdwy											
Critical Hdwy Stg 1											
Critical Hdwy Stg 2											
Follow-up Hdwy											
Pb Cap-1 Maneuver											
Stage 1											
Stage 2											
Platoon blocked, %											
Mov Cap-1 Maneuver											
Mov Cap-2 Maneuver											
Stage 1											
Stage 2											
Approach											
EB											
WB											
NB											
SB											
HCM Control Delay, s											
HCM LOS											
Minor Lane/Major Mvmt											
NBLn1											
EBT											
EBR											
WBL											
WBT											
Capacity (veh/h)											
HCM Lane V/C Ratio											
HCM Control Delay (s)											
HCM Lane LOS											
HCM 95th %ile Q(veh)											


HCM 6th TWSC Future Conditions #1 (Pre-COVID)
2: Center Street & Randolph Street/Private Drive AM Peak Hour

Intersection											
Int Delay, s/veh											
7.5											
Movement											
Lane Configurations											
Traffic Vol, veh/h											
Future Vol, veh/h											
Conflicting Peds, #/hr											
Sign Control											
RT Channelized											
Storage Length											
Veh in Median Storage, #											
Grade, %											
Peak Hour Factor											
Heavy Vehicles, %											
Mvmt Flow											
Major/Minor											
Minor1											
Minor2											
Major1											
Major2											
Conflicting Flow All											
Stage 1											
Stage 2											
Critical Hdwy											
Critical Hdwy Stg 1											
Critical Hdwy Stg 2											
Follow-up Hdwy											
Pb Cap-1 Maneuver											
Stage 1											
Stage 2											
Platoon blocked, %											
Mov Cap-1 Maneuver											
Mov Cap-2 Maneuver											
Stage 1											
Stage 2											
Approach											
EB											
WB											
NB											
SB											
HCM Control Delay, s											
HCM LOS											
Minor Lane/Major Mvmt											
NBL											
NBT											
NBR											
EBLn1											
EBr1											
WBLn1											
WBTr1											
Capacity (veh/h)											
HCM Lane V/C Ratio											
HCM Control Delay (s)											
HCM Lane LOS											
HCM 95th %ile Q(veh)											

HCM 6th AWSC Future Conditions #1 (Pre-COVID)
3: Wing Street & Dunlap Street AM Peak Hour

Intersection											
Intersection Delay, s/veh											
8.9											
Intersection LOS											
A											
Movement											
Lane Configurations											
Traffic Vol, veh/h											
Future Vol, veh/h											
Peak Hour Factor											
Heavy Vehicles, %											
Mvmt Flow											
Number of Lanes											
Approach											
EB											
WB											
NB											
SB											
Opposing Approach											
Opposing Lanes											
Conflicting Approach Left											
Conflicting Lanes Left											
Conflicting Approach Right											
Conflicting Lanes Right											
HCM Control Delay											
HCM LOS											
Lane											
NBLn1											
EBLn1											
WBLn1											
SBLn1											
Vol Left, %											
Vol Thru, %											
Vol Right, %											
Sign Control											
Traffic Vol by Lane											
LT Vol											
Through Vol											
RT Vol											
Lane Flow Rate											
Geometry Grp											
Degree of Upl (X)											
Departure Headway (Hd)											
Convergence, Y/N											
Cap											
Service Time											
HCM Lane V/C Ratio											
HCM Control Delay											
HCM Lane LOS											
HCM 95th %ile Q											

HCM 6th Signalized Intersection Summary Future Conditions #1 (Pre-COVID)
4: Center Street & Dunlap Street AM Peak Hour



Movement											
Lane Configurations											
Traffic Volume (veh/h)											
Future Volume (veh/h)											
Initial Q (Ob), veh											
Pb-Dir Adj (p0T)											
Parking Bids, Adj											
Work Zone On Approach											
Adj Sat Flow, veh/h											
Adj Flow Rate, veh/h											
Peak Hour Factor											
Percent Heavy Veh, %											
Cap, veh/h											
Arrive On Green											
Sat Flow, veh/h											
Grp Volume(v), veh/h											
Grp Sat Flow(s), veh/h											
Q Served, s, s											
Cycle Q Clear(c), s											
Prop In Lane											
Lane Grp Cap(c), veh/h											
V/C Ratio(v)											
Initial Delay (d), s/veh											
HCM Platoon Ratio											
Upstream Filter(v)											
Uniform Delay (d), s/veh											
Intr Delay (d), s/veh											
Initial Delay(d3), s/veh											
%ile BackQ(50%), veh/h											
Unsig. Movement Delay, s/veh											
LnCrp Delay(d), s/veh											
LnCrp LOS											
Approach Vol, veh/h											
Approach Delay, s/veh											
Approach LOS											
Timer - Assigned Phs											
Phs Duration (G+Y+R), s											
Change Period (Y+R), s											
Max Green Setting (Gmax), s											
Max Q Clear Time (q_c+1), s											
Green Ext Time (p_c+1), s											
Intersection Summary											
HCM 6th Ctrl Delay											
HCM 6th LOS											

HCM 6th TWSC Future Conditions #1 (Pre-COVID)
5: Dunlap Street & Hutton Street AM Peak Hour

Intersection											
Int Delay, s/veh											
2.2											
Movement											
Lane Configurations											
Traffic Vol, veh/h											
Future Vol, veh/h											
Conflicting Peds, #/hr											
Sign Control											
RT Channelized											
Storage Length											
Veh in Median Storage, #											
Grade, %											
Peak Hour Factor											
Heavy Vehicles, %											
Mvmt Flow											
Major/Minor											
Major1											
Major2											
Minor2											
Conflicting Flow All											
Stage 1											
Stage 2											
Critical Hdwy											
Critical Hdwy Stg 1											
Critical Hdwy Stg 2											
Follow-up Hdwy											
Pb Cap-1 Maneuver											
Stage 1											
Stage 2											
Platoon blocked, %											
Mov Cap-1 Maneuver											
Mov Cap-2 Maneuver											
Stage 1											
Stage 2											
Approach											
EB											
WB											
NB											
SB											
HCM Control Delay, s											
HCM LOS											
Minor Lane/Major Mvmt											
EBL											
EBT											
WBL											
WBR											
SBLn1											
Capacity (veh/h)											
HCM Lane V/C Ratio											
HCM Control Delay (s)											
HCM Lane LOS											
HCM 95th %ile Q(veh)											

HCM 6th AWSC Future Conditions #1 (Pre-COVID)
6: Wing Street & Main Street AM Peak Hour

Intersection											
Intersection Delay, s/veh											
9.8											
Intersection LOS											
A											
Movement											
Lane Configurations											
Traffic Vol, veh/h											
Future Vol, veh/h											
Peak Hour Factor											
Heavy Vehicles, %											
Mvmt Flow											
Number of Lanes											
Approach											
EB											
WB											
NB											
SB											
Opposing Approach											
Opposing Lanes											
Conflicting Approach Left											
Conflicting Lanes Left											
Conflicting Approach Right											
Conflicting Lanes Right											
HCM Control Delay											
HCM LOS											
Lane											
NBLn1											
EBLn1											
WBLn1											
SBLn1											
Vol Left, %											
Vol Thru, %											
Vol Right, %											
Sign Control											
Traffic Vol by Lane											
LT Vol											
Through Vol											
RT Vol											
Lane Flow Rate											
Geometry Grp											
Degree of Upl (X)											
Departure Headway (Hd)											
Convergence, Y/N											
Cap											
Service Time											
HCM Lane V/C Ratio											
HCM Control Delay											
HCM Lane LOS											
HCM 95th %ile Q											

HCM 6th Signalized Intersection Summary
7: Center Street & Main Street

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	46	113	21	45	81	25	6	460	31	31	356	20
Traffic Volume (veh/h)	46	113	21	45	81	25	6	460	31	31	356	20
Future Volume (veh/h)	46	113	21	45	81	25	6	460	31	31	356	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99	1.00	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1984	1984	1984	1969	1969	1969	1963	1963	1963	1963	1963	1963
Adj Flow Rate, veh/h	53	130	24	51	92	28	7	554	37	34	336	22
Peak Hour Factor	0.87	0.87	0.87	0.88	0.88	0.88	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	1	1	1	2	2	3	3	3	3	3	3	3
Cap, veh/h	153	337	54	171	286	74	64	1005	67	102	941	50
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	294	1279	208	354	1965	282	6	1901	119	68	1686	98
Grp Volume(v), veh/h	207	0	0	171	0	0	598	0	0	452	0	0
Grp Sat Flow(s), veh/h/ln	1780	0	0	1720	0	0	1526	0	0	1843	0	0
Q Served, s/l, s	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g, c), s	5.3	0.0	0.0	4.4	0.0	0.0	15.9	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.26	0.12	0.30	0.16	0.01	0.06	0.06	0.08	0.05	0.05	0.05	0.05
Lane Grp Cap(c), veh/h	544	0	0	531	0	0	1136	0	0	1094	0	0
V/C Ratio(X)	0.38	1.00	0.00	0.32	0.00	0.00	0.53	0.00	0.00	0.41	0.00	0.00
Aval Cap(c), veh/h	544	0	0	531	0	0	1136	0	0	1094	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.2	0.0	0.0	17.9	0.0	0.0	8.5	0.0	0.0	0.0	0.0	0.0
Inc Del (d(2)), s/veh	2.0	0.0	0.0	1.6	0.0	0.0	1.7	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d(3)), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q)(50%), veh/ln	2.5	0.0	0.0	2.0	0.0	0.0	4.6	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.2	0.0	0.0	19.5	0.0	0.0	10.2	0.0	0.0	1.2	0.0	0.0
LnGrp LOS	C	A	A	B	A	A	B	A	A	A	A	A
Approach Vol, veh/h	207			171			598			452		
Approach Delay, s/veh	20.2			19.5			10.2			1.2		
Approach LOS	C			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	39.0			21.0			39.0			21.0		
Change Period (Y+Rc), s	5.5			*5.2			*5.2			*5.3		
Max Green Setting (Gmax), s	33.5			*16			33.5			*16		
Max Q Clear Time (g_c+1), s	13.9			7.3			2.0			9.8		
Green Ext Time (g_c), s	4.2			0.7			3.5			0.6		
Intersection Summary												
HCM 6th Ctrl Delay	9.9											
HCM 6th LOS	A											
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

Northville Downs TIS
Fleis & VandenBink Engineering
Synchro 11 Report
12/10/2021

HCM 6th Signalized Intersection Summary
8: Hutton Street & Main Street

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	46	113	21	45	81	25	6	460	31	31	356	20
Traffic Volume (veh/h)	46	113	21	45	81	25	6	460	31	31	356	20
Future Volume (veh/h)	46	113	21	45	81	25	6	460	31	31	356	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99	1.00	0.99	0.99	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1984	1984	1984	1969	1969	1969	1963	1963	1963	1963	1963	1963
Adj Flow Rate, veh/h	53	130	24	51	92	28	7	554	37	34	336	22
Peak Hour Factor	0.87	0.87	0.87	0.88	0.88	0.88	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	1	1	1	2	2	3	3	3	3	3	3	3
Cap, veh/h	153	337	54	171	286	74	64	1005	67	102	941	50
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.56	0.56	0.56	0.56	0.56	0.56
Sat Flow, veh/h	294	1279	208	354	1965	282	6	1901	119	68	1686	98
Grp Volume(v), veh/h	207	0	0	171	0	0	598	0	0	452	0	0
Grp Sat Flow(s), veh/h/ln	1780	0	0	1720	0	0	1526	0	0	1843	0	0
Q Served, s/l, s	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g, c), s	5.3	0.0	0.0	4.4	0.0	0.0	15.9	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.26	0.12	0.30	0.16	0.01	0.06	0.06	0.08	0.05	0.05	0.05	0.05
Lane Grp Cap(c), veh/h	544	0	0	531	0	0	1136	0	0	1094	0	0
V/C Ratio(X)	0.38	1.00	0.00	0.32	0.00	0.00	0.53	0.00	0.00	0.41	0.00	0.00
Aval Cap(c), veh/h	544	0	0	531	0	0	1136	0	0	1094	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.2	0.0	0.0	17.9	0.0	0.0	8.5	0.0	0.0	0.0	0.0	0.0
Inc Del (d(2)), s/veh	2.0	0.0	0.0	1.6	0.0	0.0	1.7	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d(3)), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q)(50%), veh/ln	2.5	0.0	0.0	2.0	0.0	0.0	4.6	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.2	0.0	0.0	19.5	0.0	0.0	10.2	0.0	0.0	1.2	0.0	0.0
LnGrp LOS	C	A	A	B	A	A	B	A	A	A	A	A
Approach Vol, veh/h	207			171			598			452		
Approach Delay, s/veh	20.2			19.5			10.2			1.2		
Approach LOS	C			B			B			B		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	39.7			21.3			39.7			21.3		
Change Period (Y+Rc), s	5.5			*5.3			5.5			*5.3		
Max Green Setting (Gmax), s	33.2			*16			33.2			*16		
Max Q Clear Time (g_c+1), s	2.0			9.8			7.3			4.3		
Green Ext Time (g_c), s	1.3			0.7			1.5			0.3		
Intersection Summary												
HCM 6th Ctrl Delay	12.9											
HCM 6th LOS	B											
Notes												
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.												

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HCM 6th Signalized Intersection Summary
9: Grnswood Street & Main Street

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	89	170	17	3	190	120	13	197	11	82	60	106
Traffic Volume (veh/h)	89	170	17	3	190	120	13	197	11	82	60	106
Future Volume (veh/h)	89	170	17	3	190	120	13	197	11	82	60	106
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1984	1984	1984	1938	1938	1938	1984	1984	1984	1963	1963	1963
Adj Flow Rate, veh/h	109	207	21	4	229	145	15	224	12	91	67	118
Peak Hour Factor	0.82	0.82	0.82	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Percent Heavy Veh, %	1	1	1	4	4	4	1	1	1	3	3	3
Cap, veh/h	431	895	95	64	1002	599	79	624	32	221	173	234
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	711	1931	205	7	2162	1						

SimTraffic Performance Report

Future Conditions #1 (Pre-COVID)
AM Peak Hour

19: Seven Mile Road & Fairbrook Street & First Street Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR	All
Denied Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.4	0.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.3
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.3
Total Del/Veh (s)	1.8	1.4	1.0	5.6	6.4	4.8	1.3	1.2	4.2	14.5	5.5	14

HCM 6th AWSC

Future Conditions #1 (Pre-COVID)
AM Peak Hour

20: Wing Street & Fairbrook Street

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR	
Lane Configurations	EBL			WBL			NBL			SBL		
Traffic Vol, veh/h	15	16	2	0	7	14	3	33	2	9	47	
Future Vol, veh/h	15	16	2	0	7	14	3	33	2	9	47	
Peak Hour Factor	0.73	0.73	0.73	0.69	0.69	0.69	0.75	0.75	0.75	0.74	0.74	
Heavy Vehicles, %	0	0	0	0	0	0	11	11	11	4	4	
Mvmt Flow	21	22	3	0	10	20	4	44	3	12	64	
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	45%	0%	14%
Vol Thru, %	87%	48%	33%	72%
Vol Right, %	5%	6%	67%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	38	33	21	65
LT Vol	3	15	0	9
Through Vol	33	16	7	47
RT Vol	2	2	14	9
Lane Flow Rate	51	45	30	88
Geometry Grp	1	1	1	1
Degree of Upl (X)	0.06	0.053	0.032	0.1
Disrupting Highway (Hd)	4,209	4,217	3,773	4,082
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	833	839	934	873
Service Time	2.324	2.293	1.856	2.13
HCM Lane V/C Ratio	0.891	0.954	0.932	0.801
HCM Control Delay	7.6	7.5	7	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-ile Q	0.2	0.2	0.1	0.3

HCM 6th TWSC

Future Conditions #1 (Pre-COVID)
AM Peak Hour

21: Center Street & Fairbrook Street/W. Site Drive

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL			WBL			NBL			SBL		
Traffic Vol, veh/h	15	2	16	18	5	13	14	706	10	5	487	4
Future Vol, veh/h	15	2	16	18	5	13	14	706	10	5	487	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	-	None	-	-	None	-	-	None	-	-
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	-	-	-	-	-	-	-	-
Grade, %	-	-	-	-	-	-	-	-	-	-	-	-
Peak Hour Factor	66	66	66	92	92	92	90	90	90	88	88	88
Heavy Vehicles, %	5	5	5	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	3	24	20	5	14	16	784	11	6	553	5

HCM 6th TWSC

Future Conditions #1 (Pre-COVID)
AM Peak Hour

22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL			WBL			NBL			SBL		
Traffic Vol, veh/h	6	509	3	8	199	29	2	4	15	27	3	22
Future Vol, veh/h	6	509	3	8	199	29	2	4	15	27	3	22
Conflicting Peds, #/hr	2	0	0	0	2	0	0	3	3	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	0	-	0	-	0	-	0	-	0
Grade, %	-	0	-	0	-	0	-	0	-	0	-	0
Peak Hour Factor	80	80	89	89	89	79	79	79	85	85	85	85
Heavy Vehicles, %	2	2	3	3	3	10	10	10	4	4	4	4
Mvmt Flow	8	636	4	9	224	33	3	5	19	32	4	26

HCM 6th Signalized Intersection Summary
Future Conditions #1 (Pre-COVID)
AM Peak Hour

23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL			WBL			NBL			SBL		
Traffic Volume (veh/h)	46	432	73	35	157	90	58	594	73	89	411	21
Future Volume (veh/h)	46	432	73	35	157	90	58	594	73	89	411	21
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Red-Start Adj (A, pBT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1984	1984	1984	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	54	508	86	38	171	98	63	646	79	103	478	24
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.86	0.86	0.86
Percent Heavy Veh, %	1	1	1	4	4	4	2	2	2	2	2	2
Cap, veh/h	432	608	103	160	712	603	368	839	103	221	906	45
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1118	1654	280	810	1938	1640	896	1720	210	729	1859	93
Grp Volume(v), veh/h	54	0	594	38	171	98	63	0	725	103	0	502
Grp Sat Flow(s), veh/hln	1118	0	1934	810	1938	1640	896	0	1931	729	0	1952
O Serwig, s	2.8	0.0	22.4	3.6	4.9	3.2	4.2	0.0	24.7	10.8	0.0	14.2
Cycle Cl Clearing, c, s	7.7	0.0	22.4	26.9	4.8	3.2	18.0	0.0	24.7	35.5	0.0	14.2
Prop In Lane	1.00	0.14	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.05
Lane Grp Cap(c), veh/h	432	0	711	160	712	603	368	0	941	221	0	952
V/C Ratio(X)	0.12	0.00	0.84	0.24	0.24	0.16	0.17	0.00	0.77	0.47	0.00	0.53
Avail Cap(c), veh/h	432	0	711	160	712	603	368	0	941	221	0	952
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filler(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.2	0.0	23.1	35.0	17.6	17.0	20.5	0.0	16.8	31.4	0.0	14.1
Incr Delay (d2), s/veh	0.6	0.0	11.2	3.4	0.8	0.6	1.0	0.0	6.1	6.9	0.0	2.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Title BackOfQ(90%) veh/h	0.8	0.0	11.6	0.8	2.2	1.2	0.9	0.0	11.2	2.2	0.0	6.1
Unsig. Movement Delay, s/veh	20.8	0.0	34.3	38.4	18.3	17.6	21.5	0.0	22.9	38.3	0.0	16.2
LnGrp LOS	C	A	C	D	B	B	C	A	C	D	A	B
Approach Vol, veh/h	648	-	-	307	-	-	788	-	-	-	605	-
Approach Delay, s/veh	33.2	-	-	20.6	-	-	28.8	-	-	-	20.0	-
Approach LOS	C	-	-	C	-	-	C	-	-	-	B	-
Timer - Assigned Phs	2	-	-	4	-	-	6	-	-	-	8	-
Phs Duration (G+Y+Rc), s	45.0	-	-	35.0	-	-	45.0	-	-	-	35.0	-
Change Period (Y+Rc), s	6.0	-	-	5.6	-	-	6.0	-	-	-	5.6	-
Max Green Setting (Gmax), s	39.0	-	-	29.4	-	-	39.0	-	-	-	29.4	-
Max Q Clear Time (q, c+1), s	26.7	-	-	24.4	-	-	24.4	-	-	-	24.4	-
Green Ext Time (p, c), s	4.3	-	-	1.8	-	-	0.8	-	-	-	0.2	-

SimTraffic Performance Report

Future Conditions #1 (Pre-COVID)
AM Peak Hour

24: Hines Drive & Seven Mile Road Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.2	0.0	0.0	0.1	0.2	0.0	0.3	1.4	0.0	0.0
Total Delay (hr)	0.1	0.0	0.0	0.5	0.1	0.4	0.3	1.4	0.0	0.0
Total Del/Veh (s)	20.2	0.4	0.5	18.5	13.0	3.7	5.1	15.5	0.0	0.0

HCM 6th TWSC
31: Griswood Street & S.E. Site Drive

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection						
Int Delay, s/veh						
0.1						
Movement						
EBL	EBR	NBL	NBR	SBL	SBR	
4	4	4	4	4	4	
Traffic Vol, veh/h	2	0	0	52	46	1
Future Vol, veh/h	2	0	0	52	46	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control						
Stop	Stop	Free	Free	Free	Free	Free
-	-	-	-	-	-	-
RT Channelized						
-	-	-	-	-	-	-
Storage Length						
0	-	-	-	-	-	-
Veh in Median Storage, #						
0	-	-	-	0	-	-
Grade, %						
0	-	-	-	0	-	-
Peak Hour Factor						
92	92	85	85	60	60	60
Heavy Vehicles, %						
2	2	0	0	3	3	3
Mvmt Flow						
2	0	0	61	77	2	
Major/Minor						
Minor2	Major2	Minor1	Major1	Minor2	Minor1	Major1
139	78	79	0	-	-	0
Conflicting Flow All						
78	-	-	-	-	-	-
Stage 1						
61	-	-	-	-	-	-
Stage 2						
6.42	6.22	4.1	-	-	-	-
Critical Hdwy Stg 1						
5.42	-	-	-	-	-	-
Critical Hdwy Stg 2						
5.42	-	-	-	-	-	-
Follow-up Hdwy						
3.518	3.318	2.2	-	-	-	-
Prt Cap-1 Maneuver						
854	983	1532	-	-	-	-
Stage 1						
945	-	-	-	-	-	-
Stage 2						
962	-	-	-	-	-	-
Platoon blocked, %						
854	983	1532	-	-	-	-
Mov Cap-1 Maneuver						
854	-	-	-	-	-	-
Mov Cap-2 Maneuver						
945	-	-	-	-	-	-
Stage 1						
945	-	-	-	-	-	-
Stage 2						
962	-	-	-	-	-	-
Approach						
EB	NB	SB				
9.2	0	0				
HCM Control Delay, s						
A	-	-				
HCM LOS						
A	-	-				
Minor Lane/Major Mvmt						
NBL	NBT	EBLn1	SBL	SBR		
1532	-	854	-	-		
Capacity (veh/h)						
-	-	0.003	-	-		
HCM Lane V/C Ratio						
-	-	0.003	-	-		
HCM Control Delay (s)						
0	-	9.2	-	-		
HCM Lane LOS						
A	-	A	-	-		
HCM 95th %ile Q(veh)						
0	-	0	-	-		

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HCM 6th TWSC
32: Center Street & Proposed Beal Street

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection						
Int Delay, s/veh						
0.8						
Movement						
WBL	WBR	NBL	NBR	SBL	SBR	
4	4	4	4	4	4	
Traffic Vol, veh/h	25	12	714	20	5	471
Future Vol, veh/h	25	12	714	20	5	471
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control						
Stop	Stop	Free	Free	Free	Free	Free
-	-	-	-	-	-	-
RT Channelized						
-	-	-	-	-	-	-
Storage Length						
0	-	-	-	-	-	-
Veh in Median Storage, #						
0	-	-	-	0	-	-
Grade, %						
0	-	-	-	0	-	-
Peak Hour Factor						
92	92	90	90	88	88	88
Heavy Vehicles, %						
2	2	3	3	2	2	2
Mvmt Flow						
27	13	793	22	6	535	
Major/Minor						
Minor1	Major1	Minor2	Major2	Minor1	Minor2	Major2
1351	804	0	0	815	0	
Conflicting Flow All						
804	-	-	-	-	-	-
Stage 1						
547	-	-	-	-	-	-
Stage 2						
6.42	6.22	-	-	4.12	-	-
Critical Hdwy Stg 1						
5.42	-	-	-	-	-	-
Critical Hdwy Stg 2						
5.42	-	-	-	-	-	-
Follow-up Hdwy						
3.518	3.318	-	-	2.218	-	-
Prt Cap-1 Maneuver						
166	383	-	-	812	-	-
Stage 1						
440	-	-	-	-	-	-
Stage 2						
580	-	-	-	-	-	-
Platoon blocked, %						
164	383	-	-	812	-	-
Mov Cap-1 Maneuver						
164	-	-	-	-	-	-
Mov Cap-2 Maneuver						
440	-	-	-	-	-	-
Stage 1						
440	-	-	-	-	-	-
Stage 2						
574	-	-	-	-	-	-
Approach						
WB	NB	SB				
27.3	0	0.1				
HCM Control Delay, s						
D	-	-				
HCM LOS						
D	-	-				
Minor Lane/Major Mvmt						
NBL	NBT	EBLn1	SBL	SBR		
-	-	201	812	-		
Capacity (veh/h)						
-	-	0.2	0.007	-		
HCM Lane V/C Ratio						
-	-	0.2	0.007	-		
HCM Control Delay (s)						
-	-	27.3	9.5	0		
HCM Lane LOS						
-	-	D	A	A		
HCM 95th %ile Q(veh)						
-	-	0.7	0	-		

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HCM 6th TWSC
33: S.W. Site Drive & Fairbrook Street

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection						
Int Delay, s/veh						
0.9						
Movement						
EBL	EBR	WBL	WBR	NBL	NBR	
4	4	4	4	4	4	
Traffic Vol, veh/h	27	0	2	21	0	6
Future Vol, veh/h	27	0	2	21	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control						
Free	Free	Free	Free	Stop	Stop	
-	-	-	-	-	-	-
RT Channelized						
-	-	-	-	-	-	-
Storage Length						
0	-	-	-	0	-	-
Veh in Median Storage, #						
0	-	-	-	0	-	-
Grade, %						
0	-	-	-	0	-	-
Peak Hour Factor						
66	66	69	69	92	92	92
Heavy Vehicles, %						
5	5	0	0	3	3	2
Mvmt Flow						
41	0	3	30	0	7	
Major/Minor						
Major1	Major2	Minor1	Minor2	Major1	Minor2	Major2
0	0	41	0	77	41	
Conflicting Flow All						
41	-	-	-	-	-	-
Stage 1						
41	-	-	-	-	-	-
Stage 2						
4.1	-	-	-	36	-	-
Critical Hdwy Stg 1						
4.1	-	-	-	6.42	6.22	-
Critical Hdwy Stg 2						
4.1	-	-	-	5.42	-	-
Follow-up Hdwy						
2.2	-	-	-	3.518	3.318	-
Prt Cap-1 Maneuver						
1581	-	-	-	926	1030	-
Stage 1						
981	-	-	-	-	-	-
Stage 2						
986	-	-	-	-	-	-
Platoon blocked, %						
1581	-	-	-	924	1030	-
Mov Cap-1 Maneuver						
1581	-	-	-	924	-	-
Mov Cap-2 Maneuver						
981	-	-	-	-	-	-
Stage 1						
981	-	-	-	-	-	-
Stage 2						
984	-	-	-	-	-	-
Approach						
EB	WB	NB				
0	0.6	8.5				
HCM Control Delay, s						
0	0.6	8.5				
HCM LOS						
A	-	A				
Minor Lane/Major Mvmt						
NBLn1	EBT	EBR	WBL	WBT		
1030	-	-	1581	-		
Capacity (veh/h)						
0.006	-	-	0.002	-		
HCM Lane V/C Ratio						
0.006	-	-	0.002	-		
HCM Control Delay (s)						
8.5	-	-	7.3	0		
HCM Lane LOS						
A	-	-	A	A		
HCM 95th %ile Q(veh)						
0	-	-	0	-		

Northville Downs TIS
Fleis & VandenBink Engineering

Synchro 11 Report
12/10/2021

HCM 6th TWSC
34: Wing Street & S.W. Site Drive

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection						
Int Delay, s/veh						
0.3						
Movement						
WBL	WBR	NBL	NBR	SBL	SBR	
4	4	4	4	4	4	
Traffic Vol, veh/h	3	1	37	2	0	49
Future Vol, veh/h	3	1	37	2	0	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control						
Stop	Stop	Free	Free	Free	Free	Free
-	-	-	-	-	-	-
RT Channelized						
-	-	-	-	-	-	-
Storage Length						
0	-	-	-	-	-	-
Veh in Median Storage, #						
0	-	-	-	0	-	-
Grade, %						
0	-	-	-	0	-	-
Peak Hour Factor						
92	92	75	75	85	85	85
Heavy Vehicles, %						
2	2	11	11	4	4	4
Mvmt Flow						
3	1	49	3	0	58	
Major/Minor						
Minor1	Major1	Minor2	Major2	Minor1	Minor2	Major2
109	51	0	0	52	0	
Conflicting Flow All						
51	-	-	-	-	-	-
Stage 1						
58	-	-	-	-	-	-
Stage 2						
6.42	6.22	-	-	4.14	-	-
Critical Hdwy Stg 1						
5.42	-	-	-	-	-	-
Critical Hdwy Stg 2						
5.42	-	-	-	-	-	-
Follow-up Hdwy						
3.518	3.318	-	-	2.236	-	-
Prt Cap-1 Maneuver						
888	1017	-	-	1541	-	-
Stage 1						
971	-	-	-	-	-	-
Stage 2						
965	-	-	-	-	-	-
Platoon blocked, %						
888	1017	-	-	1541	-	-
Mov Cap-1 Maneuver						
888	-	-	-	-	-	-
Mov Cap-2 Maneuver						
971	-	-	-	-	-	-
Stage 1						
971	-	-	-	-	-	-
Stage 2						
965	-	-	-	-	-	-
Approach						
WB	NB	SB				
8.9	0	0				
HCM Control Delay, s						
A	-	-				
HCM LOS						
A	-	-				
Minor Lane/Major Mvmt						
NBL	NBT	EBLn1	SBL	SBR		
-	-	917	1541	-		
Capacity (veh/h)						
-	-	0.005	-	-		
HCM Lane V/C Ratio						
-	-	0.005	-	-		
HCM Control Delay (s)						
-	-</					

HCM 6th AWSC
3: Wing Street & Dunlap Street

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection												
Intersection Delay, s/veh	11.0											
Intersection LOS	B											
Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔		↔		↔		↔		↔		↔	
Traffic Vol, veh/h	0	89	12	70	119	53	10	163	73	54	81	3
Future Vol, veh/h	0	89	12	70	119	53	10	163	73	54	81	3
Peak Hour Factor	0.77	0.77	0.77	0.75	0.75	0.87	0.87	0.87	0.73	0.73	0.73	0.73
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	0	116	16	93	159	71	11	187	84	74	84	4
Number of Lanes	0	1	0	1	0	1	0	1	0	1	0	1
Approach												
Opposing Approach	WB		EB		WB		EB		WB		EB	
Opposing Lanes	1		1		1		1		1		1	
Conflicting Approach Left	SB		NB		EB		WB		SB		NB	
Conflicting Lanes Left	1		1		1		1		1		1	
Conflicting Approach Right	NB		SB		WB		EB		NB		SB	
Conflicting Lanes Right	1		1		1		1		1		1	
HCM Control Delay	10.1		13		12		10.7		10.7		10.7	
HCM LOS	B		B		B		B		B		B	

Lane				
	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	0%	25%	46%
Vol Thru, %	66%	88%	49%	52%
Vol Right, %	30%	12%	22%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	246	101	242	118
LT Vol	10	0	70	54
Through Vol	163	89	119	61
RT Vol	73	12	53	3
Lane Flow Rate	283	131	323	162
Geometry Grp	1	1	1	1
Degree of Upl (X)	0.413	0.204	0.473	0.256
Departure Headway (Hd)	5.255	5.592	5.272	5.707
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	684	640	681	627
Service Time	3.3	3.646	3.314	3.759
HCM Lane V/C Ratio	0.75	0.205	0.874	0.258
HCM Control Delay	12	10.1	13	10.7
HCM Lane LOS	B	B	B	B
HCM 95th-ile Q	2	0.8	2.5	1

HCM 6th Signalized Intersection Summary
4: Center Street & Dunlap Street

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔		↔		↔		↔		↔		↔	
Traffic Volume (veh/h)	73	76	31	10	135	81	16	504	124	103	560	70
Future Volume (veh/h)	73	76	31	10	135	81	16	504	124	103	560	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97	1.00	0.93	0.95	1.00	0.93	1.00	1.00	1.00	0.98	0.99	0.98
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	2000	2000	2000	2000	2000	1969	1969	1969	1969	2000	2000	2000
Adj Flow Rate, veh/h	83	86	35	11	147	88	17	548	135	132	718	90
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.92	0.92	0.92	0.78	0.78	0.78
Percent Heavy Veh, %	0	0	0	0	0	0	2	2	2	0	0	0
Cap, veh/h	281	327	133	360	282	169	352	934	230	590	1069	134
Arrive On Green	0.25	0.25	0.25	0.33	0.33	0.33	0.33	0.33	0.33	0.10	0.62	0.62
Sat Flow, veh/h	1125	1317	536	1225	1134	679	675	1919	374	795	1738	218
Grp Volume(v), veh/h	83	0	121	11	0	235	17	0	683	132	0	808
Grp Sat Flow(s), veh/hln	1125	0	1883	1225	0	1813	675	0	1893	765	0	1956
Q Serwig, s	4.1	0.0	3.2	0.4	0.0	6.3	0.7	0.0	4.8	0.0	4.8	16.3
Cycle Q Clearing, c, s	10.4	0.0	3.2	3.6	0.0	6.3	17.0	0.0	4.8	0.0	4.8	16.3
Prop In Lane	1.00	0.29	1.00	0.37	1.00	0.20	1.00	0.20	1.00	0.11	1.00	0.11
Lane Grp Cap(c), veh/h	281	0	460	360	0	450	352	0	1164	590	0	1203
V/C Ratio(v)	0.29	0.00	0.26	0.03	0.00	0.52	0.05	0.00	0.59	0.22	0.00	0.67
Avail Cap(c), veh/h	281	0	460	360	0	450	352	0	1164	590	0	1203
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filler(i)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.8	0.0	18.1	17.5	0.0	17.2	3.7	0.0	0.0	5.4	0.0	7.6
Incr Delay (d2), s/veh	2.7	0.0	1.4	0.2	0.0	4.3	0.0	0.0	2.2	0.0	0.0	3.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q)(50%), veh/hln	1.2	0.0	1.5	0.1	0.0	2.9	0.1	0.0	2.7	0.0	0.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	28.4	0.0	19.5	17.6	0.0	21.5	4.0	0.0	0.0	6.3	0.0	10.6
LnGrp LOS	C	A	B	B	A	C	A	A	A	A	A	B
Approach Vol, veh/h	204		246		700		940		223		10.0	
Approach Delay, s/veh	22.3		21.3		2.2		10.0		2.2		10.0	
Approach LOS	C		C		A		A		A		A	
Timer - Assigned Phs												
Phs Duration (G+Y+Rc), s	2		4		6		8		10		10	
Change Period (Y+Rc), s	*4.1		*4.1		*4.1		*4.1		*4.1		*4.1	
Max Green Setting (Gmax), s	*37		*15		*37		*15		*37		*15	
Max Q Clear Time (q_c+1), s	19.0		12.4		18.3		8.3		19.0		12.4	
Green Exit Time (p_c), s	5.1		0.2		7.2		0.8		5.1		0.2	

Intersection Summary												
HCM 6th Ctrl Delay	9.9											
HCM 6th LOS	A											

Notes
 * User approved pedestrian interval to be less than phase max green.
 * HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
5: Dunlap Street & Hutton Street

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection												
Int Delay, s/veh	2.4											
Movement												
	EBL	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations	↔		↔		↔		↔		↔			
Traffic Vol, veh/h	16	232	252	103	67	32						
Future Vol, veh/h	16	232	252	103	67	32						
Conflicting Peds, #/hr	19	0	0	19	10	20						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	-	None	-	None	-	None						
Storage Length	-	-	-	-	-	-						
Veh In Median Storage, #	-	0	0	-	0	-						
Grade, %	-	0	0	-	0	-						
Peak Hour Factor	92	92	92	92	89	89						
Heavy Vehicles, %	0	0	1	1	1	1						
Mvmt Flow	17	252	274	112	75	36						
Major/Minor												
Conflicting Flow All	405	0	0	645	369							
Stage 1	-	-	-	-	349							
Stage 2	-	-	-	-	296							
Critical Hdwy Stg 1	4.1	-	-	-	6.41	8.21						
Critical Hdwy Stg 2	-	-	-	-	5.41	-						
Follow-up Hdwy	2.2	-	-	-	3.509	3.309						
Rot Cap/1 Maneuver	1165	-	-	-	438	679						
Stage 1	-	-	-	-	716	15						
Stage 2	-	-	-	-	757	-						
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap/1 Maneuver	1144	-	-	-	415	654						
Mov Cap/2 Maneuver	-	-	-	-	415	-						
Stage 1	-	-	-	-	691	-						
Stage 2	-	-	-	-	743	-						
Approach												
Opposing Approach	EB		WB		SB		EB		WB		SB	
HCM Control Delay, s	0.5		0		15		0		15		0	
HCM LOS	C		C		C		C		C		C	

Minor Lane/Major Mvmt						
	EBL	EBT	WBT	WBR	SBLn1	SBLn1
Capacity (veh/h)	1144	-	-	-	-	471
HCM Lane V/C Ratio	0.015	-	-	-	-	0.236
HCM Control Delay (s)	8.2	-	-	-	-	15
HCM Lane LOS	A	-	-	-	-	C
HCM 95th %ile Q(veh)	0	-	-	-	-	0.9

HCM 6th AWSC
6: Wing Street & Main Street

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection												
Intersection Delay, s/veh	11.2											
Intersection LOS	B											
Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔		↔		↔		↔		↔		↔	
Traffic Vol, veh/h	73	53	81	15	52	88	42	144	52	31	84	37
Future Vol, veh/h	73	53	81	15	52	88	42	144	52	31	84	37
Peak Hour Factor	0.82	0.82	0.80	0.80	0.80	0.91	0.91	0.91	0.81	0.76	0.76	0.76
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	0	0	2
Mvmt Flow	89	65	98	19	65	110	46	158	57	41	111	49
Number of Lanes	0	1	0	1	0	1	0	1	0	1	0	1
Approach												
Opposing Approach	WB		EB		WB		EB		WB		EB	
Opposing Lanes												

HCM 6th Signalized Intersection Summary
9: Griswold Street & Main Street

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	268	28	7	375	296	47	238	18	203	153	198
Future Volume (veh/h)	101	268	28	7	376	296	47	238	18	203	153	198
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	1.00	1.00	0.99	1.00	0.99	1.00	0.99	1.00	0.99	1.00	1.00	0.99
Ranking Bk, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No											
Adj Sat Flow, veh/hln	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	119	315	33	7	396	312	51	259	20	216	163	211
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	295	878	97	65	913	703	126	521	37	261	156	187
Arrive On Green	0.15	0.15	0.46	0.46	0.46	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Cycle Q Clearing, c/s	16.9	0.0	8.4	8.2	0.0	8.3	8.0	0.0	0.0	20.8	0.0	9.0
Prop In Lane	0.63	0.12	0.02	1.00	0.15	0.06	0.37	0.36				
Lane Grp Cap(c), veh/h	452	0	818	977	0	704	685	0	0	604	0	0
V/C Ratio(Q)	0.42	1.00	0.34	0.41	0.00	0.44	0.80	0.00	0.00	0.98	0.00	0.00
Avail Cap(c), veh/h	452	0	818	977	0	704	685	0	0	604	0	0
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	22.2	0.0	17.2	10.8	0.0	10.9	15.4	0.0	0.0	21.6	0.0	0.0
Int Delay (d2), s/veh	2.9	0.0	1.1	1.3	0.0	2.0	2.4	0.0	0.0	31.9	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q)(50%),veh/ln	3.2	0.0	3.9	3.5	0.0	2.9	3.5	0.0	0.0	12.8	0.0	0.0
Urag. Movement Delay, s/veh	25.1	0.0	18.3	12.1	0.0	12.9	17.8	0.0	0.0	51.9	0.0	0.0
LnCrp Delay(d), s/veh	C	A	B	B	A	B	B	A	A	D	A	A
Approach Vol, veh/h	467		715		330		590					
Approach Delay, s/veh	21.1		12.5		17.8		51.9					
Approach LOS	C		B		B		D					
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+R), s	33.4		26.6		33.4		26.6					
Change Period (Y+R), s	5.6		5.8		5.6		5.8					
Max Green Setting (Gmax), s	27.8		21		27.8		21					
Max Q Clear Time (s, c+1), s	18.9		22.8		10.3		10.3					
Green Ext Time (p, c), s	2.3		0.0		4.6		1.4					
Intersection Summary												
HCM 6th Ctrl Delay	26.3											
HCM 6th LOS	C											

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
10: Cady Street & Main Street

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection												
Int Delay, s/veh	2.1											
Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Vol, veh/h	432	57	44	638	41	46						
Future Vol, veh/h	432	57	44	638	41	46						
Conflicting Peds, #/hr	0	2	0	0	0	0						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	None	None	None	None	None	None						
Storage Length	-	-	-	-	-	-						
Veh in Median Storage, #	0	-	-	0	-	0						
Grade, %	0	-	-	0	-	0						
Peak Hour Factor	81	81	95	95	75	75						
Heavy Vehicles, %	1	1	1	1	0	0						
Mvmt Flow	533	70	46	672	55	61						
Major/Minor												
Conflicting Flow All	0	0	605	0	998	304						
Stage 1	-	-	-	-	570	-						
Stage 2	-	-	-	-	428	-						
Critical Hdwy	-	-	4.12	-	6.8	6.9						
Critical Hdwy Stg 1	-	-	-	-	5.8	-						
Critical Hdwy Stg 2	-	-	-	-	5.8	-						
Follow-up Hdwy	-	-	2.21	-	3.5	3.3						
Platoon blocked, %	-	-	976	-	244	698						
Minor Cap-1 Maneuver	-	-	-	-	535	-						
Stage 1	-	-	-	-	534	-						
Stage 2	-	-	-	-	584	-						
Platoon blocked, %	-	-	974	-	225	697						
Minor Cap-2 Maneuver	-	-	-	-	223	-						
Stage 1	-	-	-	-	534	-						
Stage 2	-	-	-	-	584	-						
Approach												
EB	WB	WB	NB	NB	SB	SB						
HCM Control Delay, s	0	0.9	20.3									
HCM LOS			C									
Minor Lane/Major Mvmt												
NBLn1	EBT	EBR	WBL	WBT	WBR	SBLn1						
Capacity (veh/h)	350	-	-	-	-	974						
HCM Lane V/C Ratio	0.331	-	-	-	-	0.048						
HCM Control Delay (s)	29.3	-	-	-	-	8.9	0.3					
HCM Lane LOS	C	-	-	-	-	A	A					
HCM 95th %ile Q(veh)	1.4	-	-	-	-	0.1	-					

HCM 6th AWSC
11: Wing Street & Cady Street

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection												
Int Delay, s/veh	9.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	52	14	16	40	58	11	152	19	73	90	17
Future Vol, veh/h	28	52	14	16	40	58	11	152	19	73	90	17
Peak Hour Factor	0.83	0.83	0.83	0.90	0.90	0.90	0.90	0.90	0.90	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	1	0	2
Mvmt Flow	34	63	17	18	44	64	12	169	21	82	101	19
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach												
EB	WB	NB	SB	SB	NB	WB						
Opposing Approach	WB	EB	SB	NB	SB	NB						
Opposing Lanes	1	1	1	1	1	1						
Conflicting Approach Left	SB	NB	WB	EB	WB	EB						
Conflicting Lanes Left	1	1	1	1	1	1						
Conflicting Approach Right	NB	SB	WB	EB	WB	EB						
Conflicting Lanes Right	1	1	1	1	1	1						
HCM Control Delay	9	8.7	9.4	9.5	9.5	9.5						
HCM LOS	A	A	A	A	A	A						
Lane												
NBLn1	EBLn1	WBLn1	SBLn1									
Vol Left, %	6%	30%	14%	41%								
Vol Thru, %	84%	55%	35%	50%								
Vol Right, %	10%	15%	51%	9%								
Sign Control	Stop	Stop	Stop	Stop								
Traffic Vol by Lane	182	34	114	180								
LT Vol	11	28	16	73								
Through Vol	152	52	40	90								
RT Vol	14	16	18	17								
Lane Flow Rate	202	113	127	202								
Geometry Grp	1	1	1	1								
Degree of U/I (X)	0.264	0.157	0.166	0.267								
Departure Headway (Hd)	4.682	4.955	4.725	4.747								
Convergence, Y/N	Yes	Yes	Yes	Yes								
Cap	760	715	754	752								
Service Time	2.748	3.05	2.79	2.803								
HCM Lane V/C Ratio	0.286	0.168	0.169	0.289								
HCM Control Delay (s)	9.4	9	8.7	9.5								
HCM Lane LOS	A	A	A	A								
HCM 95th %ile Q	1.1	0.6	0.6	1.1								

HCM 6th TWSC
12: Center Street & Cady Street

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection												
Int Delay, s/veh	21.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	19	30	65	13	20	2					

HCM 6th TWSC Future Conditions #1 (Pre-COVID)
15: Griswold Street & Cady Street PM Peak Hour

Intersection												
Int Delay, s/veh	7.8											
Movement												
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	1 2 3 4 5 6 7 8 9 10 11 12											
Traffic Vol, veh/h	145	13	33	7	23	29	25	110	6	18	98	60
Future Vol, veh/h	145	13	33	7	23	29	25	110	6	18	98	60
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	0	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Vehicle in Median Storage, #	0	-	0	-	0	-	0	-	0	-	0	-
Grade, %	0	-	0	-	0	-	0	-	0	-	0	-
Peak Hour Factor	83	83	83	68	68	68	88	88	83	83	83	83
Heavy Vehicles, %	1	1	1	0	0	0	0	0	0	0	0	0
Mvmt Flow	175	16	40	10	34	43	28	125	7	22	118	72
Major/Minor												
Minor2	Minor1	Major1	Major2									
Conflicting Flow All	424	389	157	411	422	129	193	0	132	0	0	
Stage 1	201	201	-	185	185	-	-	-	-	-	-	
Stage 2	223	188	-	226	237	-	-	-	-	-	-	
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.1	-	-	-	4.1	-
Critical Hdwy Stg 1	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.5	4	3.3	2.2	-	-	-	2.2	-
Platoon blocked, %	475	525	888	503	504	926	1388	-	-	-	1466	-
Mov Cap-1 Maneuver	475	525	-	503	504	-	-	-	-	-	1466	-
Mov Cap-2 Maneuver	475	525	-	503	504	-	-	-	-	-	1466	-
Stage 1	783	722	-	803	734	-	-	-	-	-	-	-
Stage 2	696	730	-	717	699	-	-	-	-	-	-	-
Approach												
EB	WB	NB	SB									
HCM Control Delay, s	17.3	11.4	1.4	0.8								
HCM LOS	C	B										
Minor Lane/Major Mvmt												
NBL	NBT	NBR	EBLN1	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1388	-	-	520	649	1466	-	-	-	-	-	-
HCM Lane V/C Ratio	0.02	-	-	0.443	0.134	0.015	-	-	-	-	-	-
HCM Control Delay (s)	7.6	0	-	17.3	11.4	7.8	0	-	-	-	-	-
HCM Lane LOS	A	A	-	C	B	A	A	-	-	-	-	-
HCM 95th %ile Q(veh)	0.1	-	-	2.2	0.5	0	-	-	-	-	-	-

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SimTraffic Performance Report Future Conditions #1 (Pre-COVID)
16: Proposed Beal Street/Beal Street & Griswold Street Performance by movement PM Peak Hour

Movement												
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (hr)	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	4.3	4.8	0.6	0.5	4.2	0.7	4.1	2.5				

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HCM 6th TWSC Future Conditions #1 (Pre-COVID)
17: River Street & Beal Street PM Peak Hour

Intersection												
Int Delay, s/veh	4.1											
Movement												
EBT	EBR	WBL	WBT	NBL	NBR							
Lane Configurations	1 2 3 4 5 6 7 8 9 10 11 12											
Traffic Vol, veh/h	87	76	4	51	123	10						
Future Vol, veh/h	87	76	4	51	123	10						
Conflicting Peds, #/hr	0	1	0	0	0	6						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	-	None	-	None	-	None						
Storage Length	-	-	-	-	-	-						
Vehicle in Median Storage, #	0	-	0	-	0	-						
Grade, %	0	-	0	-	0	-						
Peak Hour Factor	93	93	79	79	89	89						
Heavy Vehicles, %	0	0	0	0	0	0						
Mvmt Flow	94	82	5	65	138	11						
Major/Minor												
Major1	Major2	Minor1	Minor2									
Conflicting Flow All	0	0	177	0	211	142						
Stage 1	-	-	-	-	-	136						
Stage 2	-	-	-	-	-	75						
Critical Hdwy	-	-	4.1	-	-	6.4	6.2					
Critical Hdwy Stg 1	-	-	-	-	-	5.4	-					
Critical Hdwy Stg 2	-	-	-	-	-	5.4	-					
Follow-up Hdwy	-	-	2.2	-	-	3.5	3.3					
Platoon blocked, %	-	-	1411	-	-	782	911					
Mov Cap-1 Maneuver	-	-	-	-	-	895	-					
Mov Cap-2 Maneuver	-	-	-	-	-	953	-					
Stage 1	-	-	-	-	-	894	-					
Stage 2	-	-	-	-	-	949	-					
Approach												
EB	WB	NB										
HCM Control Delay, s	0	0.5	10.7									
HCM LOS			B									
Minor Lane/Major Mvmt												
NBLn1	EBT	EBR	WBL	WBT								
Capacity (veh/h)	786	-	-	1410	-	-	-	-	-	-	-	-
HCM Lane V/C Ratio	0.19	-	-	0.004	-	-	-	-	-	-	-	-
HCM Control Delay (s)	10.7	-	-	7.6	0	-	-	-	-	-	-	-
HCM Lane LOS	B	-	-	A	A	-	-	-	-	-	-	-
HCM 95th %ile Q(veh)	0.7	-	-	0	-	-	-	-	-	-	-	-

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HCM 6th TWSC Future Conditions #1 (Pre-COVID)
18: Main Street/Northville Road & Beal Street PM Peak Hour

Intersection												
Int Delay, s/veh	1.5											
Movement												
EBL	EBT	EBR	NBL	NBT	SBL	SBR						
Lane Configurations	1 2 3 4 5 6 7 8 9 10 11 12											
Traffic Vol, veh/h	10	87	46	747	552	9						
Future Vol, veh/h	10	87	46	747	552	9						
Conflicting Peds, #/hr	0	0	3	0	0	3						
Sign Control	Stop	Stop	Free	Free	Free	Free						
RT Channelized	-	None	-	None	-	None						
Storage Length	0	-	-	-	-	-						
Vehicle in Median Storage, #	0	-	0	0	-	-						
Grade, %	0	-	0	0	-	-						
Peak Hour Factor	83	83	92	92	95	95						
Heavy Vehicles, %	0	0	1	1	1	1						
Mvmt Flow	12	105	50	812	581	9						
Major/Minor												
Minor2	Major1	Major2										
Conflicting Flow All	1055	299	593	0	-	0						
Stage 1	589	-	-	-	-	-						
Stage 2	506	-	-	-	-	-						
Critical Hdwy	6.8	6.9	4.12	-	-	-						
Critical Hdwy Stg 1	5.8	-	-	-	-	-						
Critical Hdwy Stg 2	5.8	-	-	-	-	-						
Follow-up Hdwy	3.5	3.3	2.21	-	-	-						
Platoon blocked, %	211	704	966	-	-	-						
Mov Cap-1 Maneuver	523	-	-	-	-	-						
Mov Cap-2 Maneuver	576	-	-	-	-	-						
Stage 1	190	702	963	-	-	-						
Stage 2	150	-	-	-	-	-						
Stage 1	473	-	-	-	-	-						
Stage 2	574	-	-	-	-	-						
Approach												
EB	WB	SB										
HCM Control Delay, s	13.3	0.9	0									
HCM LOS	B											
Minor Lane/Major Mvmt												
NBL	NBT	EBLn1	SBT	SBR								
Capacity (veh/h)	983	-	549	-	-	-	-	-	-	-	-	-
HCM Lane V/C Ratio	0.051	-	0.213	-	-	-	-	-	-	-	-	-
HCM Control Delay (s)	8.9	0.4	13.3	-	-	-	-	-	-	-	-	-
HCM Lane LOS	A	A	B	-	-	-	-	-	-	-	-	-
HCM 95th %ile Q(veh)	0.2	-	0.8	-	-	-	-	-	-	-	-	-

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SimTraffic Performance Report Future Conditions #1 (Pre-COVID)
19: Seven Mile Road & Fairbrook Street & First Street Performance by movement PM Peak Hour

Movement												
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.4	0.3	0.0	0.0	0.0	0.0	0.3	0.1	0.1	0.2	
Total Delay (hr)	0.0	0.0	0.1	0.1	0.0	0.6	0.0	0.0	0.0	0.0	0.0	0.8
Total Del/Veh (s)	3.6	1.7	0.9	11.8	5.2	3.7	3.8	5.3	15.4	29.6	2.7	

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HCM 6th AWSC Future Conditions #1 (Pre-COVID)
20: Wing Street & Fairbrook Street PM Peak Hour

Intersection												
Intersection Delay, s/veh	8.4											
Intersection LOS	A											
Movement												
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	1 2 3 4 5 6 7 8 9 10 11 12											
Traffic Vol, veh/h	17	23	1	0	16	121	1	102	3	41	64	15
Future Vol, veh/h	17	23	1	0	16	121	1	102	3	41	64	15
Peak Hour Factor	0.83	0.83	0.83	0.91	0.91	0.91	0.69	0.69	0.69	0.91	0.91	0.91
Heavy Vehicles, %	5	5	5	5	5	5	1	1	1	1	0	0
Mvmt Flow	20	28	1	0	18	133	1	148	4	45	70	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach												
EB	WB	NB	SB									
Opposing Approach	WB	EB	SB	NB								
Opposing Lanes	1	1	1	1								
Conflicting Approach Left	SB	WB	NB	EB	WB							
Conflicting Lanes Left	1	1	1	1	1							
Conflicting Approach Right	NB	WB	SB	WB	EB							
Conflicting Lanes Right	1	1	1	1	1							
HCM Control Delay												

HCM Unsignalized Intersection Capacity Analysis
27: NB Northville Road & N. Seven Mile Road

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↔	↔	↔	↕	↕	↕
Traffic Volume (veh/h)	63	0	421	730	0	0
Future Volume (veh/h)	63	0	421	730	0	0
Sign Control	Yield		Free	Free	Free	Free
Grade	0%		0%	0%	0%	0%
Peak Hour Factor	0.91	0.91	0.95	0.92	0.92	0.92
Hourly flow rate (vph)	69	0	443	768	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None	None		
Median storage (veh)						
Upstream signal (ft)				511		
pK_platoun unblocked	0.83					
VC_conflicting volume	1270	0				
VC1_stage 1 conf vol						
VC2_stage 2 conf vol						
VCu_unblocked vol	914	0				
IC_single (s)	6.8	6.9	4.1			
IC_2_stage (s)						
IF (s)	3.5	3.3	2.2			
p0_queue free %	59	100	73			
cmf_capacity (veh/h)	167	1091	1629			
Direction_Lane #	EB1	NB1	NB2			
Volume Total	69	699	512			
Volume Left	69	443	0			
Volume Right	0	0	0			
qSH	167	1629	1700			
Volume to Capacity	0.41	0.27	0.30			
Queue Length 95th (ft)		46	28			
Control Delay (s)	41.0	6.0	0.0			
Lane LOS	E	A				
Approach Delay (s)	41.0	3.5				
Approach LOS	E					
Intersection Summary						
Average Delay	5.5					
Intersection Capacity Utilization	74.5%		ICU Level of Service	D		
Analysis Period (min)	15					

HCM 6th Signalized Intersection Summary
28: Northville Road & S. Seven Mile Road

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↔	↔	↕	↕	↕	↕
Traffic Volume (veh/h)	308	610	541	321	396	410
Future Volume (veh/h)	308	610	541	321	396	410
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1984	1984	1984	1984	1969	1969
Adj Flow Rate, veh/h	328	649	576	341	430	446
Peak Hour Factor	0.94	0.94	0.94	0.94	0.92	0.92
Percent Heavy Veh. %	1	1	1	1	2	2
Cap. veh/h	676	938	467	276	465	1814
Arrive On Green	0.36	0.36	0.20	0.20	0.20	0.49
Sat Flow, veh/h	1890	1892	2378	1345	1875	3339
Grp Volume(v), veh/h	328	649	477	440	430	446
Grp Sat Flow(s),veh/hln	1890	1882	1885	1742	1875	1870
Q Serwig, s	10.8	6.2	16.4	16.4	14.1	5.6
Cycle Q Clearing, s	10.8	6.2	16.4	16.4	14.1	5.6
Prop In Lane	1.00	1.00	0.77	1.00		
Lane Grp Cap(c), veh/h	676	938	386	357	465	1814
V/C Ratio(r)	0.49	0.69	1.23	1.23	0.92	0.25
Avail Cap(c), veh/h	676	938	386	357	465	1814
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filler(i)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.0	12.8	31.8	31.8	29.5	12.0
Int'l Delay (d2), s/veh	2.5	4.2	125.5	127.1	26.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q/Qs),veh/ln	4.9	8.2	20.4	19.0	10.4	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.5	16.9	157.3	158.9	56.4	12.4
LnGrp LOS	C	B	F	F	E	B
Approach Vol, veh/h	977	917			876	
Approach Delay, s/veh	18.8	15.1			34.0	
Approach LOS	B	F			C	
Tram - Assigned Phs	1	2			6	8
Phs Duration (G+Y+R), s	22.4	22.8			45.2	34.8
Change Period (Y+R), s	6.4	6.4			6.4	6.2
Max Green Setting (Gmax), s	16.0	16.4			38.8	28.6
Max Q Clear Time (q_c+1), s	16.1	16.4			7.6	12.8
Green Ext Time (g_ex), s	0.0	0.0			3.1	3.4
Intersection Summary						
HCM 6th Ctrl Delay			69.7			
HCM 6th LOS			E			

HCM 6th TWSC
29: N.E. Site Drive (Egress Only) & Cady Street

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	EBT	EBR	WBL	WBT	NBL	NBR
Int'l Delay, s/veh	0.3					
Lane Configurations	↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	158	0	0	127	5	4
Future Vol, veh/h	158	0	0	127	5	4
Conflicting Peds. #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None	- None	- None	- None	- None	- None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	0	0	0	-
Grade, %	0	-	0	0	0	-
Peak Hour Factor	95	95	84	84	92	92
Heavy Vehicles, %	1	1	0	0	2	2
Mvmt Flow	166	0	0	151	5	4
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	317	166
Stage 1	-	-	-	-	166	-
Stage 2	-	-	-	-	151	-
Critical Hdwy	-	-	-	-	642	822
Critical Hdwy Stg 1	-	-	-	-	542	-
Critical Hdwy Stg 2	-	-	-	-	542	-
Follow-up Hdwy	-	-	-	-	3518	3318
Plat Cap-1 Maneuver	0	0	0	0	676	878
Stage 1	-	-	-	-	863	-
Stage 2	-	-	-	-	877	-
Platoun blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	676	878
Mov Cap-2 Maneuver	-	-	-	-	676	-
Stage 1	-	-	-	-	863	-
Stage 2	-	-	-	-	877	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0		9.8	
HCM LOS					A	
Minor Lane/Major Mvmt	NBLr1	EBT	WBT			
Capacity (veh/h)	753	-	-			
HCM Lane V/C Ratio	0.013	-	-			
HCM Control Delay (s)	9.8	-	-			
HCM Lane LOS	A	-	-			
HCM 95th %ile Q(veh)	0	-	-			

HCM 6th TWSC
30: Griswold Street & E. Site Drive

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	EBL	EBR	NBL	NBT	SBT	SBR
Int'l Delay, s/veh	0.1					
Lane Configurations	↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	1	1	2	140	137	1
Future Vol, veh/h	1	1	2	140	137	1
Conflicting Peds. #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	- None	- None	- None	- None	- None	- None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	0	0	-
Grade, %	0	-	0	0	0	-
Peak Hour Factor	92	92	88	88	88	88
Heavy Vehicles, %	2	2	0	0	0	0
Mvmt Flow	1	1	2	159	156	1
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	320	157	157	0	0	0
Stage 1	157	-	-	-	-	-
Stage 2	163	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3518	3318	2.2	-	-	-
Plat Cap-1 Maneuver	873	889	1435	-	-	-
Stage 1	871	-	-	-	-	-
Stage 2	866	-	-	-	-	-
Platoun blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	672	889	1435	-	-	-
Mov Cap-2 Maneuver	672	-	-	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	866	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	9.7		0.1		0	
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLr1	SBT	SBR	
Capacity (veh/h)	1435	-	765	-	-	
HCM Lane V/C Ratio	0.002	-	0.003	-	-	
HCM Control Delay (s)	7.5	-	9.7	-	-	
HCM Lane LOS	A	-	A	-	-	
HCM 95th %ile Q(veh)	0	-	0	-	-	

HCM 6th TWSC
31: Griswold Street & S.E. Site Drive

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection	EBL	EBR	NBL	NBT	SBT	SBR
Int'l Delay, s/veh	0.1					
Lane Configurations	↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	1	2	2	141	136	2
Future Vol, veh/h	1	2	2	141	136	2
Conflicting Peds. #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	- None	- None	- None	- None	- None	- None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	0	0	-
Grade, %	0	-	0	0	0	-
Peak Hour Factor	92	92	88	88	88	88
Heavy Vehicles, %	2	2	0	0	0	0
Mvmt Flow	1	2	2	160	155	2
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	320	156	157	0	0	0
Stage 1	156	-	-	-	-	-
Stage 2	164	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3518	3318	2.2	-	-	-
Plat Cap-1 Maneuver	873	890	1435	-	-	-
Stage 1	872	-	-	-	-	

HCM 6th TWSC
33: S.W. Site Drive & Fairbrook Street
Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection									
Int Delay, s/veh									
0.2									
Movement									
EBT	EBR	WBL	WBT	NBL	NBR				
4	4	4	4	4	4				
Traffic Vol, veh/h	66	1	3	137	0	3			
Future Vol, veh/h	66	1	3	137	0	3			
Conflicting Peds, #/hr	0	0	0	0	0	0			
Sign Control	Free	Free	Free	Free	Stop	Stop			
RT Channelized	-	-	-	-	-	-	-	-	-
Storage Length	-	-	-	-	-	-			
Veh in Median Storage, #	-	-	-	-	-	-			
Grade, %	0	-	-	0	0	-			
Peak Hour Factor	82	82	91	91	92	92			
Heavy Vehicles, %	0	0	5	5	2	2			
Mvmt Flow	80	1	3	151	0	3			
Major/Minor									
Major1	Major2	Minor1							
Conflicting Flow All	0	0	81	0	238	81			
Stage 1	-	-	-	-	81	-			
Stage 2	-	-	-	-	157	-			
Critical Hdwy	-	-	4.15	-	6.42	6.22			
Critical Hdwy Stg 1	-	-	-	-	5.42	-			
Critical Hdwy Stg 2	-	-	-	-	5.42	-			
Follow-up Hdwy	-	-	2.245	-	3.518	3.318			
Plat Cap-1 Maneuver	-	-	1498	-	730	979			
Stage 1	-	-	-	-	942	-			
Stage 2	-	-	-	-	871	-			
Platoon blocked, %	-	-	-	-	-	-			
Mov Cap-1 Maneuver	-	-	1498	-	749	979			
Mov Cap-2 Maneuver	-	-	-	-	749	-			
Stage 1	-	-	-	-	942	-			
Stage 2	-	-	-	-	869	-			
Approach									
EB	WB	NB							
HCM Control Delay, s	0	0.2	8.7						
HCM LOS	-	-	A						
Minor Lane/Major Mvmt									
NBLn1	EBT	EBR	WBL	WBT					
Capacity (veh/h)	979	-	-	1498	-				
HCM Lane V/C Ratio	0.003	-	-	0.002	-				
HCM Control Delay (s)	8.7	-	-	7.4	0				
HCM Lane LOS	A	-	-	A	A				
HCM 95th %ile Q(veh)	0	-	-	0	-				

HCM 6th TWSC
34: Wing Street & S.W. Site Drive
Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection									
Int Delay, s/veh									
0.2									
Movement									
EBT	EBR	NBT	NBR	SBL	SBT				
4	4	4	4	4	4				
Traffic Vol, veh/h	3	0	106	4	1	64			
Future Vol, veh/h	3	0	106	4	1	64			
Conflicting Peds, #/hr	0	0	0	0	0	0			
Sign Control	Stop	Stop	Free	Free	Free	Free			
RT Channelized	-	-	-	-	-	-			
Storage Length	-	-	-	-	-	-			
Veh in Median Storage, #	0	-	0	-	0	-			
Grade, %	0	-	0	-	0	-			
Peak Hour Factor	92	92	69	69	82	82			
Heavy Vehicles, %	2	2	1	1	1	1			
Mvmt Flow	3	0	154	6	1	78			
Major/Minor									
Minor1	Major1	Major2							
Conflicting Flow All	237	157	0	0	160	0			
Stage 1	157	-	-	-	81	-			
Stage 2	80	-	-	-	-	-			
Critical Hdwy	6.42	6.22	-	-	4.11	-			
Critical Hdwy Stg 1	5.42	-	-	-	-	-			
Critical Hdwy Stg 2	5.42	-	-	-	-	-			
Follow-up Hdwy	3.518	3.318	-	-	2.209	-			
Plat Cap-1 Maneuver	751	889	-	-	1425	-			
Stage 1	871	-	-	-	-	-			
Stage 2	943	-	-	-	-	-			
Platoon blocked, %	-	-	-	-	-	-			
Mov Cap-1 Maneuver	750	889	-	-	1425	-			
Mov Cap-2 Maneuver	750	-	-	-	-	-			
Stage 1	871	-	-	-	-	-			
Stage 2	942	-	-	-	-	-			
Approach									
WB	NB	SB							
HCM Control Delay, s	9.8	0	0.1						
HCM LOS	A	-	B						
Minor Lane/Major Mvmt									
NBT	NBR	WBLn1	SBL	SBT					
Capacity (veh/h)	-	-	750	1425	-				
HCM Lane V/C Ratio	-	-	0.004	0.001	-				
HCM Control Delay (s)	-	-	9.8	7.5	0				
HCM Lane LOS	-	-	A	A	A				
HCM 95th %ile Q(veh)	-	-	0	0	0				

HCM 6th TWSC
1: Wing Street & Randolph Street
Future Conditions #2 (Both Closed)
AM Peak Hour

Intersection									
Int Delay, s/veh									
3.4									
Movement									
EBT	EBR	WBL	WBT	NBL	NBR				
4	4	4	4	4	4				
Traffic Vol, veh/h	96	129	5	100	8				
Future Vol, veh/h	96	129	5	100	8				
Conflicting Peds, #/hr	0	0	0	0	0				
Sign Control	Free	Free	Free	Free	Stop	Stop			
RT Channelized	-	-	-	-	-	-			
Storage Length	-	-	-	-	-	-			
Veh in Median Storage, #	0	-	-	0	0	-			
Grade, %	0	-	-	0	0	-			
Peak Hour Factor	95	95	60	60	77	77			
Heavy Vehicles, %	3	3	2	2	4	4			
Mvmt Flow	101	136	8	95	130	10			
Major/Minor									
Major1	Major2	Minor1							
Conflicting Flow All	0	0	237	0	280	169			
Stage 1	-	-	-	-	169	-			
Stage 2	-	-	-	-	111	-			
Critical Hdwy	-	-	4.12	-	6.44	6.24			
Critical Hdwy Stg 1	-	-	-	-	5.44	-			
Critical Hdwy Stg 2	-	-	-	-	5.44	-			
Follow-up Hdwy	-	-	2.218	-	3.536	3.336			
Plat Cap-1 Maneuver	-	-	1330	-	706	870			
Stage 1	-	-	-	-	856	-			
Stage 2	-	-	-	-	909	-			
Platoon blocked, %	-	-	-	-	-	-			
Mov Cap-1 Maneuver	-	-	1330	-	702	870			
Mov Cap-2 Maneuver	-	-	-	-	702	-			
Stage 1	-	-	-	-	856	-			
Stage 2	-	-	-	-	904	-			
Approach									
EB	WB	NB							
HCM Control Delay, s	0	0.6	11.3						
HCM LOS	-	-	B						
Minor Lane/Major Mvmt									
NBLn1	EBT	EBR	WBL	WBT					
Capacity (veh/h)	712	-	-	1330	-				
HCM Lane V/C Ratio	0.197	-	-	0.006	-				
HCM Control Delay (s)	11.3	-	-	7.7	0				
HCM Lane LOS	B	-	-	A	A				
HCM 95th %ile Q(veh)	0.7	-	-	0	-				

HCM 6th TWSC
2: Center Street & Randolph Street/Private Drive
Future Conditions #2 (Both Closed)
AM Peak Hour

Intersection													
Int Delay, s/veh													
3.1													
Movement													
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
4	4	4	4	4	4	4	4	4	4	4	4		
Traffic Vol, veh/h	20	2	82	4	0	5	15	339	1	5	387	47	
Future Vol, veh/h	20	2	82	4	0	5	15	339	1	5	387	47	
Conflicting Peds, #/hr	0	0	0	0	0	0	5	0	4	4	0	5	
Sign Control	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	
RT Channelized	-	-	-	-	-	-	-	-	-	-	-	-	
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-	
Veh in Median Storage, #	0	-	-	-	-	0	-	0	-	0	-	-	
Grade, %	0	-	0	-	-	0	-	0	-	0	-	-	
Peak Hour Factor	66	66	66	75	75	91	91	91	69	69	69		
Heavy Vehicles, %	1	1	1	0	0	2	2	2	2	2	2		
Mvmt Flow	30	3	124	5	0	7	16	373	1	7	561	68	
Major/Minor													
Minor1	Minor2	Major1	Major2										
Conflicting Flow All	1023	1024	600	1093	1058	378	634	0	0	378	0	0	
Stage 1	614	614	-	410	410	-	-	-	-	-	-	-	
Stage 2	409	410	-	673	648	-	-	-	-	-	-	-	
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.12	-	-	4.12	-	-	
Critical Hdwy Stg 1	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.11	5.51	-	6.1	5.5	-	-	-	-	-	-	-	
Follow-up Hdwy	3.509	4.009	3.309	3.5	4	3.3	2.218	-	-	2.218	-	-	
Plat Cap-1 Maneuver	216	236	303	197	227	673	949	-	-	1180	-	-	
Stage 1	481	484	-	623	599	-	-	-	-	-	-	-	
Stage 2	621	597	-	448	469	-	-	-	-	-	-	-	
Platoon blocked, %	208	228	501	144	220	670	944	-	-	1176	-	-	
Mov Cap-1 Maneuver	208	228	-	144	220	-	-	-	-	-	-	-	
Mov Cap-2 Maneuver	208	228	-	144	220	-	-	-	-	-	-	-	
Stage 1	470	479	-	610	586	-	-	-	-	-	-	-	
Stage 2	604	584	-	333	464	-	-	-	-	-	-	-	
Approach													
EB	WB	NB	SB										
HCM Control Delay, s	20.5	19.8	0.4	0.1									
HCM LOS	C	C	C	B									
Minor Lane/Major Mvmt													
NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR						
Capacity (veh/h)	944	-	-	387	295	1176	-	-					
HCM Lane V/C Ratio	0.017	-	-	0.407	0.047	0.006	-	-					
HCM Control Delay (s)	8.8	-	-	20.5	19.8	8.1	-	-					
HCM Lane LOS	A	-	-	C	C	A	-	-					
HCM 95th %ile Q(veh)	0.1	-	-	1.9	0.1	0	-	-					

HCM 6th AWSC
3: Wing Street & Dunlap Street
Future Conditions #2 (

HCM 6th TWSC Future Conditions #2 (Both Closed) AM Peak Hour

Intersection						
Int Delay, s/veh	1.6					
Movement						
	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	4 2 1 2 2 3 2 7					
Traffic Vol, veh/h	4	271	252	63	52	7
Future Vol, veh/h	4	271	252	63	52	7
Conflicting Peds, #/hr	0	0	0	0	5	5
Sign Control	Free	Free	Free	Stop	Stop	Stop
RT Channelized	None	-	None	-	None	-
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	0	0	0	-	-
Grade, %	-	0	0	0	-	-
Peak Hour Factor	93	93	84	84	74	74
Heavy Vehicles, %	3	3	2	2	0	0
Mvmt Flow	4	291	300	75	70	9
Major/Minor						
	Major1	Major2	Minor2			
Conflicting Flow All	375	0	0	642	343	
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	4.13	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.227	-	-	-	3.5	3.3
Platoon blocked, %	1178	-	-	-	442	704
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	753	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap 1 Maneuver	1178	-	-	-	440	701
Mov Cap 2 Maneuver	-	-	-	-	440	-
Stage 1	-	-	-	-	724	-
Stage 2	-	-	-	-	753	-
Approach						
	EB	WB	SB			
HCM Control Delay, s	0.1	0	14.5			
HCM LOS	-	-	B			
Minor Lane/Major Mvmt						
	EBL	EBT	WBT	WBR	SBL	SBR
Capacity (veh/h)	1178	-	-	-	-	460
HCM Lane V/C Ratio	0.004	-	-	-	-	0.173
HCM Control Delay (s)	8.1	0	-	-	-	14.5
HCM Lane LOS	A	A	-	-	-	B
HCM 95th %ile Q(veh)	0	-	-	-	-	0.6

HCM 6th AWSC Future Conditions #2 (Both Closed) AM Peak Hour

Intersection												
Intersection Delay, s/veh	13.6											
Intersection LOS	B											
Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4 2 1 2 2 3 2 7 15 151 4 54 233 39											
Traffic Vol, veh/h	78	58	51	2	33	78	15	151	4	54	233	39
Future Vol, veh/h	78	58	51	2	33	78	15	151	4	54	233	39
Peak Hour Factor	0.81	0.81	0.81	0.76	0.76	0.76	0.83	0.83	0.93	0.78	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2	4	4	4	2	2	2
Mvmt Flow	96	72	63	3	43	100	16	162	4	69	299	50
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach												
	EB	WB	NB	SB								
Opposing Approach	WB	EB	WB	EB	SB	WB	EB	WB	EB	SB	WB	EB
Opposing Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Conflicting Approach Left	SB	-	-	-	-	EB	-	-	-	WB	-	-
Conflicting Lanes Left	1	-	-	-	-	1	-	-	-	1	-	-
Conflicting Approach Right	NB	-	-	-	-	WB	-	-	-	EB	-	-
Conflicting Lanes Right	1	-	-	-	-	1	-	-	-	1	-	-
HCM Control Delay	12.2	10.4	11.2	16.5								
HCM LOS	B	B	B	C								
Lane												
	NBLn1	EBLn1	WBLn1	SBLn1								
Vol Left, %	9%	42%	2%	17%								
Vol Thru, %	89%	31%	30%	71%								
Vol Right, %	2%	27%	68%	12%								
Sign Control	Stop	Stop	Stop	Stop								
Traffic Vol by Lane	170	187	111	329								
LT Vol	15	78	2	54								
Through Vol	151	58	33	233								
RT Vol	4	51	78	39								
Lane Flow Rate	183	231	146	418								
Geometry Grp	1	1	1	1								
Degree of Upl (X)	0.292	0.37	0.228	0.615								
Departure Headway (Hd)	5.144	5.783	5.619	5.301								
Convergence, Y/N	Yes	Yes	Yes	Yes								
Cap	623	621	635	677								
Service Time	3.809	3.826	3.691	3.352								
HCM Lane V/C Ratio	0.254	0.372	0.23	0.617								
HCM Control Delay	11.2	12.2	10.4	16.5								
HCM Lane LOS	B	B	B	C								
HCM 95th-ile Q	1.2	1.7	0.9	4.2								

HCM 6th AWSC Future Conditions #2 (Both Closed) AM Peak Hour

Intersection												
Intersection Delay, s/veh	8											
Intersection LOS	A											
Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4 2 1 2 2 3 2 7 15 151 4 54 233 39											
Traffic Vol, veh/h	0	0	128	0	0	0	127	0	0	0	0	0
Future Vol, veh/h	0	0	128	0	0	0	127	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.83	0.92	0.92	0.92	0.77	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	3	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	154	0	0	0	165	0	0	0	0	0
Number of Lanes	0	1	0	0	1	0	1	0	0	1	0	1
Approach												
	EB	WB	NB	SB								
Opposing Approach	WB	EB	WB	EB	SB	WB	EB	WB	EB	SB	WB	EB
Opposing Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Conflicting Approach Left	NB	-	-	-	-	EB	-	-	-	WB	-	-
Conflicting Lanes Left	1	-	-	-	-	1	-	-	-	1	-	-
Conflicting Approach Right	NB	-	-	-	-	WB	-	-	-	EB	-	-
Conflicting Lanes Right	1	-	-	-	-	1	-	-	-	1	-	-
HCM Control Delay	7.4	0	0	8.6								
HCM LOS	A	-	-	A								
Lane												
	NBLn1	EBLn1	WBLn1	SBLn1								
Vol Left, %	100%	0%	0%	0%								
Vol Thru, %	0%	0%	100%	100%								
Vol Right, %	0%	100%	0%	0%								
Sign Control	Stop	Stop	Stop	Stop								
Traffic Vol by Lane	127	158	0	0								
LT Vol	127	0	0	0								
Through Vol	0	0	0	0								
RT Vol	0	158	0	0								
Lane Flow Rate	165	154	0	0								
Geometry Grp	1	1	1	1								
Degree of Upl (X)	0.202	0.16	0	0								
Departure Headway (Hd)	4.404	3.729	4.475	4.335								
Convergence, Y/N	Yes	Yes	Yes	Yes								
Cap	811	968	0	0								
Service Time	2.449	1.729	2.48	2.432								
HCM Lane V/C Ratio	0.203	0.168	0	0								
HCM Control Delay	8.6	7.4	7.5	7.4								
HCM Lane LOS	A	A	N	N								
HCM 95th-ile Q	0.8	0.6	0	0								

HCM 6th AWSC Future Conditions #2 (Both Closed) AM Peak Hour

Intersection						
Intersection Delay, s/veh	11.7					
Intersection LOS	B					
Movement						
	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	2 1 1 2 2 3 2 7					
Traffic Vol, veh/h	23	179	136	57	245	78
Future Vol, veh/h	23	179	136	57	245	78
Peak Hour Factor	0.77	0.77	0.80	0.80	0.94	0.94
Heavy Vehicles, %	2	2	0	0	3	3
Mvmt Flow	30	232	170	71	261	83
Number of Lanes	1	1	1	0	1	1
Approach						
	WB	NB	SB			
Opposing Approach	0	2	1			
Opposing Lanes	0	2	1			
Conflicting Approach Left	NB	-	-	WB		
Conflicting Lanes Left	1	0	0	2		
Conflicting Approach Right	SB	-	-	WB		
Conflicting Lanes Right	2	2	0	2		
HCM Control Delay	10.9	11.4	12.5			
HCM LOS	B	B	B			
Lane						
	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2	
Vol Left, %	0%	100%	0%	100%	0%	
Vol Thru, %	70%	0%	0%	0%	100%	
Vol Right, %	30%	0%	100%	0%	0%	
Sign Control	Stop	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	193	23	179	245	78	
LT Vol	0	23	0	245	0	
Through Vol	136	0	0	0	78	
RT Vol	57	0	179	0	0	
Lane Flow Rate	241	30	232	261	83	
Geometry Grp	4	7	7	7	7	
Degree of Upl (X)	0.36	0.055	0.351	0.442	0.129	
Departure Headway (Hd)	5.371	6.848	6.434	6.099	5.594	
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	
Cap	671	542	665	592	642	
Service Time	3.397	4.348	3.134	3.823	3.318	
HCM Lane V/C Ratio	0.369	0.055	0.349	0.441	0.129	
HCM Control Delay	11.4	9.7	11	13.6	9.1	
HCM Lane LOS	B	A	B	B	A	
HCM 95th-ile Q	1.6	0.2	1.6	2.3	0.4	

HCM 6th Signalized Intersection Summary Future Conditions #2 (Both Closed) AM Peak Hour

Intersection												
9: Griswold Street & Main Street												
Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4 2 1 2 2 3 2 7 15 151 4 54 233 39											
Traffic Volume (veh/h)	25	199	14	11	199	120	24	203	15	68	135	65
Future Volume (veh/h)	25	199	14	11	199	120	24	203	15	68	135	65
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Platoon Adj(A, pbt)	1.00	0	0.99	0.99	0.99	1.00	0.99	1.00	0.99	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1953	1953	1953	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	27	216	15	15	265	160	30	257	19	81	161	67

HCM 6th AWSC Future Conditions #2 (Both Closed) AM Peak Hour
11: Wing Street & Cady Street

Intersection												
Int Delay, s/veh												
Intersection LOS												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕		↕		↕		↕		↕		↕	
Traffic Vol, veh/h	15	57	6	4	55	55	19	100	7	89	186	11
Future Vol, veh/h	15	57	6	4	55	55	19	100	7	89	186	11
Peak Hour Factor	0.63	0.63	0.63	0.82	0.82	0.82	0.90	0.90	0.81	0.81	0.81	0.81
Heavy Vehicles, %	1	1	1	3	3	3	5	5	5	2	2	2
Mvmt Flow	24	90	10	5	67	67	21	111	8	110	230	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach			WB			NB			SB			
Opposing Approach	WB	EB	SB	WB	EB	SB	WB	EB	SB	WB	EB	SB
Opposing Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Conflicting Approach Left	SB	1	1	SB	1	1	SB	1	1	SB	1	1
Conflicting Lanes Left	1	1	1	1	1	1	1	1	1	1	1	1
Conflicting Approach Right	NB	1	1	NB	1	1	NB	1	1	NB	1	1
Conflicting Lanes Right	1	1	1	1	1	1	1	1	1	1	1	1
HCM Control Delay	9.6	9.4	9.5	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2	12.2
HCM LOS	A	A	A	B	B	B	B	B	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	19%	4%	31%
Vol Thru, %	79%	73%	48%	65%
Vol Right, %	6%	8%	48%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	120	75	114	286
LT Vol	19	15	4	89
Through Vol	100	57	55	186
RT Vol	7	6	5	11
Lane Flow Rate	140	124	139	353
Geometry Grp	1	1	1	1
Degree of U/I (X)	0.198	0.182	0.195	0.472
Departure Headway (Hd)	5.091	5.297	5.041	4.817
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	697	669	703	741
Service Time	3.184	3.395	3.135	2.892
HCM Lane V/C Ratio	0.201	0.165	0.198	0.476
HCM Control Delay	9.5	9.6	9.4	12.2
HCM Lane LOS	A	A	A	B
HCM 95th %ile Q	0.7	0.7	0.7	2.5

Northville Downs TIS Synchro 11 Report
Fleis & VandenBink Engineering 12/10/2021

HCM 6th TWSC Future Conditions #2 (Both Closed) AM Peak Hour
12: Center Street & Cady Street

Intersection												
Int Delay, s/veh												
Movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕		↕		↕		↕		↕		↕	
Traffic Vol, veh/h	1	67	81	132	61	12	53	113	274	27	92	8
Future Vol, veh/h	1	67	81	132	61	12	53	113	274	27	92	8
Conflicting Peds, #/hr	2	0	0	0	0	0	3	0	2	0	0	3
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Vel in Median Storage, #	-	0	-	0	-	0	-	0	-	0	-	0
Grade, %	-	0	-	0	-	0	-	0	-	0	-	0
Peak Hour Factor	88	88	88	77	77	77	94	94	94	75	75	75
Heavy Vehicles, %	0	0	0	3	3	3	1	1	1	3	3	3
Mvmt Flow	1	76	92	171	79	16	56	120	291	36	123	11
Major/Minor			Minor2			Minor1			Major2			
Conflicting Flow All	631	729	132	665	589	270	137	0	0	413	0	0
Stage 1	204	204	-	380	380	-	-	-	-	-	-	-
Stage 2	427	525	-	285	209	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.13	6.53	6.23	4.11	-	-	4.13	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.527	4.027	3.327	2.209	-	-	2.227	-	-
Platoon blocked, %	304	321	920	255	382	763	1449	-	-	1139	-	-
Mov Cap-1 Maneuver	304	321	920	255	382	763	1449	-	-	1139	-	-
Mov Cap-2 Maneuver	304	321	920	255	382	763	1449	-	-	1139	-	-
Stage 1	759	710	-	605	579	-	-	-	-	-	-	-
Stage 2	488	504	-	559	700	-	-	-	-	-	-	-
Approach			WB			NB			SB			
HCM Control Delay, s	15.8	67.5	0.9	19.7	14.3	14.3	19.7	14.3	14.3	19.7	14.3	14.3
HCM LOS	C	F	C	C	C	C	C	C	C	C	C	C
Minor Lane/Major Mvmt			NBL			NBT			NBR			
Capacity (veh/h)	1449	-	-	497	297	1139	-	-	-	-	-	-
HCM Lane V/C Ratio	0.039	-	-	0.341	0.896	0.032	-	-	-	-	-	-
HCM Control Delay (s)	17.6	0	0	19.9	17.5	18.3	0	0	0	19.9	17.5	18.3
HCM Lane LOS	A	A	A	C	F	A	A	A	A	C	F	A
HCM 95th %ile Q(veh)	0.1	-	-	1.5	8.3	0.1	-	-	-	1.5	8.3	0.1

Approach			WB			NB			SB			
HCM Control Delay, s	15.8	67.5	0.9	19.7	14.3	14.3	19.7	14.3	14.3	19.7	14.3	14.3
HCM LOS	C	F	C	C	C	C	C	C	C	C	C	C

Minor Lane/Major Mvmt			NBL			NBT			NBR			
Capacity (veh/h)	1449	-	-	497	297	1139	-	-	-	-	-	-
HCM Lane V/C Ratio	0.039	-	-	0.341	0.896	0.032	-	-	-	-	-	-
HCM Control Delay (s)	17.6	0	0	19.9	17.5	18.3	0	0	0	19.9	17.5	18.3
HCM Lane LOS	A	A	A	C	F	A	A	A	A	C	F	A
HCM 95th %ile Q(veh)	0.1	-	-	1.5	8.3	0.1	-	-	-	1.5	8.3	0.1

Northville Downs TIS Synchro 11 Report
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HCM 6th TWSC Future Conditions #2 (Both Closed) AM Peak Hour
13: N. Site Drive/Hutton Street & Cady Street

Intersection												
Int Delay, s/veh												
Movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕		↕		↕		↕		↕		↕	
Traffic Vol, veh/h	166	177	7	2	202	24	4	20	11	5	10	62
Future Vol, veh/h	166	177	7	2	202	24	4	20	11	5	10	62
Conflicting Peds, #/hr	7	0	0	0	0	0	7	0	0	7	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	None	-	None	-	None	-	None	-
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Vel in Median Storage, #	-	0	-	0	-	0	-	0	-	0	-	0
Grade, %	-	0	-	0	-	0	-	0	-	0	-	0
Peak Hour Factor	89	89	89	72	72	72	92	92	92	72	72	72
Heavy Vehicles, %	1	1	1	1	1	1	2	2	2	2	2	2
Mvmt Flow	187	199	8	3	281	33	4	22	12	7	14	86
Major/Minor			Major1			Minor1			Minor2			
Conflicting Flow All	321	0	0	207	0	0	931	904	210	912	892	305
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.12	6.52	6.22	7.16	6.56	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.518	4.018	3.318	3.554	4.054	3.354
Platoon blocked, %	1245	-	-	1370	-	-	247	277	630	250	277	726
Mov Cap-1 Maneuver	1245	-	-	1370	-	-	247	277	630	250	277	726
Mov Cap-2 Maneuver	1245	-	-	1370	-	-	247	277	630	250	277	726
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1237	-	-	1370	-	-	180	227	624	196	227	721
Mov Cap-2 Maneuver	1237	-	-	1370	-	-	180	227	624	196	227	721
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Approach			WB			NB			SB			
HCM Control Delay, s	4	0.1	-	19.7	14.3	14.3	19.7	14.3	14.3	19.7	14.3	14.3
HCM LOS	C	A	A	C	C	C	C	C	C	C	C	C
Minor Lane/Major Mvmt			NBL			NBT			NBR			
Capacity (veh/h)	283	1237	-	1370	-	-	495	-	-	495	-	-
HCM Lane V/C Ratio	0.134	0.151	-	0.002	-	-	0.216	-	-	0.216	-	-
HCM Control Delay (s)	19.7	8.4	0	7.6	0	14.3	19.7	14.3	14.3	19.7	14.3	14.3
HCM Lane LOS	C	A	A	A	A	A	C	A	A	C	A	A
HCM 95th %ile Q(veh)	0.5	0.5	-	0	-	-	0.8	-	-	0.8	-	-

Approach			WB			NB			SB			
HCM Control Delay, s	4	0.1	-	19.7	14.3	14.3	19.7	14.3	14.3	19.7	14.3	14.3
HCM LOS	C	A	A	C	C	C	C	C	C	C	C	C

HCM 6th Signalized Intersection Summary Future Conditions #2 (Both Closed)

23: Sheldon Avenue/Center Street & Seven Mile Road AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	2	3	1	2	3	1	2	3	1	2	3
Traffic Volume (veh/h)	18	275	165	75	178	54	86	417	79	41	373	20
Future Volume (veh/h)	18	275	165	75	178	54	86	417	79	41	373	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ranking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1953	1953	1922	1922	1922	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	21	320	192	85	202	61	93	453	86	56	511	27
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	1107	1143	886	867	1922	1627	867	1608	305	866	1953	98
Percent Heavy Veh, %	3	3	3	5	5	2	2	2	2	2	2	2
Cap, veh/h	414	420	252	195	706	598	343	784	149	338	903	48
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Peak Hour Factor	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66	0.66
Sat Flow, veh/h	1107	1143	886	867	1922	1627	867	1608	305	866	1953	98
Grp Volume(v), veh/h	21	0	512	85	202	61	93	0	539	56	0	538
Grp Sat Flow(s), veh/h/ln	1107	0	1829	867	1922	1627	867	0	1913	866	0	1951
Q Served, s/h	1.1	0.0	19.7	7.6	5.9	2.0	6.8	0.0	16.1	3.9	0.0	15.6
Cycle Q Clearing, c/s	7.0	0.0	19.7	27.3	5.9	2.0	22.4	0.0	16.1	20.0	0.0	15.6
Prop In Lane	1.00	0.38	1.00	1.00	1.00	1.00	1.00	0.16	1.00	1.00	0.05	1.00
Lane Grp Cap(c), veh/h	414	0	672	195	706	598	343	0	932	338	0	951
V/C Ratio(X)	0.05	0.00	0.76	0.44	0.29	0.10	0.27	0.00	0.58	0.17	0.00	0.57
Avail Cap(c), veh/h	414	0	672	195	706	598	343	0	932	338	0	951
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(f)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.4	0.0	22.2	34.2	17.9	16.6	22.4	0.0	14.6	21.8	0.0	14.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	9.3	1.9	2.7	0.7	1.5	0.0	6.9	0.9	0.0	6.8
Unsig. Movement Delay, s/veh	20.6	0.0	30.2	41.1	18.9	17.0	24.4	0.0	17.2	22.8	0.0	16.9
LnGrp Delay(d), s/veh	C	A	C	D	B	B	C	A	B	C	A	B
LnGrp LOS	C	A	C	D	B	B	C	A	B	C	A	B
Approach Vol, veh/h	533			348			632			594		
Approach Delay, s/veh	29.8			24.0			18.3			17.5		
Approach LOS	C			B			B			C		
Timer - Assigned Phs	2			4			6			8		
Phs Duration (G+Y+Rc), s	45.0			35.0			45.0			35.0		
Change Period (Y+Rc), s	6.0			5.6			6.0			5.6		
Max Green Setting (Gmax), s	39.0			29.4			39.0			29.4		
Max Q Clear Time (g_c+1), s	24.4			21.7			22.0			29.3		
Green Ext Time (g_e), s	3.5			2.0			3.5			0.0		
Intersection Summary												
HCM 6th Ctrl Delay	21.9											
HCM 6th LOS	C											

SimTraffic Performance Report Future Conditions #2 (Both Closed)

24: Hines Drive & Seven Mile Road Performance by movement AM Peak Hour

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (h)	0.0	0.0	0.0	0.1	0.2	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.4	0.0	0.2	0.1	0.8
Total Del/Veh (s)	8.4	0.3	0.6	14.4	6.7	2.7	3.6	3.9

HCM 6th TWSC Future Conditions #2 (Both Closed)

25: Seven Mile Road & River Street AM Peak Hour

Intersection	EBL	EBT	WBT	WBR	SBL	SBR
Int Delay, s/veh	1.1					
Lane Configurations	4	1	1	1	1	1
Traffic Vol, veh/h	23	270	211	15	12	14
Future Vol, veh/h	23	270	211	15	12	14
Conflicting Peds, #/hr	2	0	0	2	0	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None	- None	- None	- None	- None	- None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	89	89	89	60	60	60
Heavy Vehicles, %	3	3	4	4	7	7
Mvmt Flow	26	303	237	17	20	23
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	256	0	603	251		
Stage 1	-	-	-	248		
Stage 2	-	-	-	355		
Critical Hdwy	4.13	-	-	6.47	8.27	
Critical Hdwy Stg 1	-	-	-	5.47	-	
Critical Hdwy Stg 2	-	-	-	5.47	-	
Follow-up Hdwy	2.227	-	-	3.563	3.363	
Rot Cap(1) Maneuver	1303	-	-	454	776	
Stage 1	-	-	-	762	-	
Stage 2	-	-	-	699	-	
Platoon blocked, %	-	-	-	-	-	
Mov Cap(1) Maneuver	1301	-	-	441	772	
Mov Cap(2) Maneuver	-	-	-	441	-	
Stage 1	-	-	-	762	-	
Stage 2	-	-	-	698	-	
Approach	EB	WB	SB			
HCM Control Delay, s	0.6	0	11.6			
HCM LOS			B			
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBL	SBR
Capacity (veh/h)	1301	-	-	-	573	
HCM Lane V/C Ratio	0.02	-	-	-	0.076	
HCM Control Delay (s)	7.8	0	-	-	11.8	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %ile Q(veh)	0.1	-	-	-	0.2	

HCM Unsignalized Intersection Capacity Analysis Future Conditions #2 (Both Closed)

26: SB Northville Road & N. Seven Mile Road AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	2	3	1	2	3	1	2	3	1	2	3
Traffic Volume (veh/h)	0	46	222	0	169	0	0	0	0	0	296	50
Future Volume (Veh/h)	0	46	222	0	169	0	0	0	0	0	296	50
Sign Control	Stop	Stop	Yield	Yield	Free	Free	Free	Free	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.92	0.92	0.92	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	0	54	261	0	199	0	0	0	0	0	329	56
Pedestrians												
Lane Width (ft)							None	None			None	None
Median type												
Median storage (veh)												
Upstream signal (ft)												
pX platoon unblocked												
vC1, conflicting volume	456	357	192	452	385	0	385			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vC1, unblocked vol	456	357	192	452	385	0	385			0		
IC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.1			4.2		
IC, 2 stage (s)												
IF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
P0 queue free %	100	90	88	100	63	100	100			100		
cM capacity (veh/h)	347	565	810	306	543	1078	1170			1614		
Proposed Lane #	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume Total	54	261	199	219	166							
Volume Left	0	0	0	0	0							
Volume Right	0	261	0	0	56							
ESH	565	813	543	1700	1700							
Volume to Capacity	0.10	0.32	0.37	0.13	0.10							
Queue Length 95th (ft)	8	35	42	0	0							
Control Delay (s)	12.0	11.5	15.4	0.0	0.0							
Lane LOS	B	B	C									
Approach Delay (s)	11.6		15.6	0.0								
Approach LOS	B		C									
Intersection Summary												
Average Delay	7.5											
Intersection Capacity Utilization	44.9%											
ICU Level of Service	A											
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis Future Conditions #2 (Both Closed)

27: NB Northville Road & N. Seven Mile Road AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBL	SBR
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HCM 6th TWSC Future Conditions #2 (Both Closed) AM Peak Hour
29: N.E. Site Drive (Egress Only) & Cady Street

Intersection						
Int Delay, s/veh						
0.1						
Movement						
	EBT	EBR	WBL	NBL	NBR	
Lane Configurations	↑		↑	↑	↑	
Traffic Vol, veh/h	193	0	0	225	3	1
Future Vol, veh/h	193	0	0	225	3	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	
RT Channelized	None	None	None	None	None	
Storage Length	-	-	-	-	-	-
Vel in Median Storage, #	0	-	0	0	-	-
Grade, %	0	-	0	0	-	-
Peak Hour Factor	81	81	72	92	92	
Heavy Vehicles, %	1	1	1	1	2	2
Mvmt Flow	238	0	0	313	3	1

Major/Minor						
Conflicting Flow All						
0						
Stage 1						
-						
Stage 2						
-						
Critical Hdwy						
6.42 6.22 6.42						
Critical Hdwy Stg 1						
5.42 - - 5.42 - -						
Critical Hdwy Stg 2						
5.42 - - 5.42 - -						
Follow-up Hdwy						
3.518 3.318						
Mov Cap-1 Maneuver						
0 0 - 495 801						
Stage 1						
0 0 - 802 - -						
Stage 2						
0 0 - 741 - -						
Platoon blocked, %						
-						
Mov Cap-1 Maneuver						
0 0 - 495 801						
Mov Cap-2 Maneuver						
0 0 - 495 - -						
Stage 1						
0 0 - 802 - -						
Stage 2						
0 0 - 741 - -						

Approach			
EB WB NB SB			
HCM Control Delay, s	0	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt				
NBLn1 EBT WBT				
Capacity (veh/h)	547	-	-	-
HCM Lane V/C Ratio	0.008	-	-	-
HCM Control Delay (s)	11.6	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %ile Q(veh)	0	-	-	-

HCM 6th TWSC Future Conditions #2 (Both Closed) AM Peak Hour
30: Griswold Street & E. Site Drive

Intersection						
Int Delay, s/veh						
0.2						
Movement						
	EBT	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↑		↑	↑	↑	↑
Traffic Vol, veh/h	1	1	1	64	42	0
Future Vol, veh/h	1	1	1	64	42	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	
Storage Length	0	-	-	-	-	-
Vel in Median Storage, #	0	-	0	0	-	-
Grade, %	0	-	0	0	-	-
Peak Hour Factor	92	92	63	63	83	83
Heavy Vehicles, %	2	2	4	4	0	0
Mvmt Flow	1	1	2	102	51	0

Major/Minor						
Conflicting Flow All						
157 51 51 0 - 0						
Stage 1						
51 - - - - -						
Stage 2						
106 - - - - -						
Critical Hdwy						
6.42 6.22 4.14 - - -						
Critical Hdwy Stg 1						
5.42 - - - 5.42 - - -						
Critical Hdwy Stg 2						
5.42 - - - 5.42 - - -						
Follow-up Hdwy						
3.518 3.318 2.236 - - -						
Mov Cap-1 Maneuver						
834 1017 1542 - - -						
Stage 1						
971 - - - - -						
Stage 2						
918 - - - - -						
Platoon blocked, %						
-						
Mov Cap-1 Maneuver						
833 1017 1542 - - -						
Mov Cap-2 Maneuver						
833 - - - - -						
Stage 1						
970 - - - - -						
Stage 2						
918 - - - - -						

Approach			
EB NB SB			
HCM Control Delay, s	8.9	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt					
NBL NBT EBLn1 SBT SBR					
Capacity (veh/h)	1542	-	916	-	-
HCM Lane V/C Ratio	0.001	-	0.002	-	-
HCM Control Delay (s)	7.3	-	8.9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %ile Q(veh)	0	-	0	-	-

HCM 6th TWSC Future Conditions #2 (Both Closed) AM Peak Hour
31: Griswold Street & S.E. Site Drive

Intersection						
Int Delay, s/veh						
0.1						
Movement						
	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↑		↑	↑	↑	↑
Traffic Vol, veh/h	2	0	0	63	42	1
Future Vol, veh/h	2	0	0	63	42	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	
Storage Length	0	-	-	-	-	-
Vel in Median Storage, #	0	-	0	0	-	-
Grade, %	0	-	0	0	-	-
Peak Hour Factor	92	92	63	63	83	83
Heavy Vehicles, %	2	2	4	4	0	0
Mvmt Flow	2	0	0	100	51	1

Major/Minor						
Conflicting Flow All						
152 52 52 0 - 0						
Stage 1						
52 - - - - -						
Stage 2						
100 - - - - -						
Critical Hdwy						
6.42 6.22 4.14 - - -						
Critical Hdwy Stg 1						
5.42 - - - 5.42 - - -						
Critical Hdwy Stg 2						
5.42 - - - 5.42 - - -						
Follow-up Hdwy						
3.518 3.318 2.236 - - -						
Mov Cap-1 Maneuver						
840 1016 1541 - - -						
Stage 1						
970 - - - - -						
Stage 2						
924 - - - - -						
Platoon blocked, %						
-						
Mov Cap-1 Maneuver						
840 1016 1541 - - -						
Mov Cap-2 Maneuver						
840 - - - - -						
Stage 1						
970 - - - - -						
Stage 2						
924 - - - - -						

Approach			
EB NB SB			
HCM Control Delay, s	9.3	0	0
HCM LOS	A		

Minor Lane/Major Mvmt					
NBL NBT EBLn1 SBT SBR					
Capacity (veh/h)	1541	-	840	-	-
HCM Lane V/C Ratio	-	-	0.003	-	-
HCM Control Delay (s)	0	-	9.3	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %ile Q(veh)	0	-	0	-	-

HCM 6th TWSC Future Conditions #2 (Both Closed) AM Peak Hour
32: Center Street & Proposed Beal Street

Intersection						
Int Delay, s/veh						
0.6						
Movement						
	WBL	WBR	NBR	NBL	SBL	SBT
Lane Configurations	↑		↑	↑	↑	↑
Traffic Vol, veh/h	25	6	459	20	3	347
Future Vol, veh/h	25	6	459	20	3	347
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	
Storage Length	0	-	-	-	-	-
Vel in Median Storage, #	0	-	0	-	0	-
Grade, %	0	-	0	0	-	-
Peak Hour Factor	92	92	94	94	77	77
Heavy Vehicles, %	2	2	1	1	2	2
Mvmt Flow	27	7	488	21	4	451

Major/Minor						
Conflicting Flow All						
958 499 0 0 509 0						
Stage 1						
499 - - - - -						
Stage 2						
459 - - - - -						
Critical Hdwy						
6.42 6.22 - - 4.12 - -						
Critical Hdwy Stg 1						
5.42 - - - - -						
Critical Hdwy Stg 2						
5.42 - - - - -						
Follow-up Hdwy						
3.518 3.318 - - 2.216 - -						
Mov Cap-1 Maneuver						
286 572 - - 1056 - -						
Stage 1						
610 - - - - -						
Stage 2						
636 - - - - -						
Platoon blocked, %						
-						
Mov Cap-1 Maneuver						
284 572 - - 1056 - -						
Mov Cap-2 Maneuver						
284 - - - - -						
Stage 1						
610 - - - - -						
Stage 2						
633 - - - - -						

Approach			
WB NB SB			
HCM Control Delay, s	17.8	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt					
NBT NBRWBLn1 SBL SBT					
Capacity (veh/h)	-	-	315	1056	-
HCM Lane V/C Ratio	-	-	0.107	0.004	-
HCM Control Delay (s)	-	-	17.8	8.4	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %ile Q(veh)	-	-	0.4	0	-

HCM 6th TWSC Future Conditions #2 (Both Closed) AM Peak Hour
33: S.W. Site Drive & Fairbrook Street

Intersection						
Int Delay, s/veh						
0.5						
Movement						
	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑		↑	↑	↑	↑
Traffic Vol, veh/h	68	0	2	39	1	5
Future Vol, veh/h	68	0	2	39	1	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	
Storage Length	0	-	-	-	0	-
Vel in Median Storage, #	0	-	0	-	0	-
Grade, %	0	-	0	0	-	-
Peak Hour Factor	76	76	69	69	92	92
Heavy Vehicles, %	3	3	0	0	2	2
Mvmt Flow	89	0	3	57	1	5

Major/Minor						
Conflicting Flow All						
0 0 89 0 152 89						
Stage 1						
-						
Stage 2						
-						
Critical Hdwy						
-						
Critical Hdwy Stg 1						
-						
Critical Hdwy Stg 2						
-						
Follow-up Hdwy						
-						
Mov Cap-1 Maneuver						
-						
Stage 1						
-						
Stage 2						
-						
Platoon blocked, %						
-						
Mov Cap-1 Maneuver						
-						
Mov Cap-2 Maneuver						
-						
Stage 1						
-						
Stage 2						
-						

Approach			
EB WB NB SB			
HCM Control Delay, s	0	0.4	8.8
HCM LOS			A

Minor Lane/Major Mvmt					
NBLn1 EBT EBR WBL WBT					
Capacity (veh/h)	944	-	-	1519	-
HCM Lane V/C Ratio	0.007	-	-	0.002	-
HCM Control Delay (s)	8.8	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %ile Q(veh)	0	-	-	0	-

HCM 6th TWSC Future Conditions #2 (Both Closed) AM Peak Hour
34: Wing Street & S.W. Site Drive

Intersection						
Int Delay, s/veh						
0.2						
Movement						
	WBL	WBR	NBR	NBL	SBL	SBT
Lane Configurations	↑		↑	↑	↑	↑
Traffic Vol, veh/h	3	1	88	2	0	117
Future Vol, veh/h	3	1	88	2	0	117
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	
Storage Length	0	-	-	-	-	-
Vel in Median Storage, #	0	-	0	-	0	-
Grade, %	0	-	0	0	-	-
Peak Hour Factor	92	92	75	75	85	85

HCM 6th TWSC Future Conditions #2 (Both Closed) PM Peak Hour

Intersection										
Int Delay, s/veh 6.6										
Movement										
EBT	EBR	WBT	WBR	NBT	NBR					
Lane Configurations										
Traffic Vol, veh/h	191	174	4	96	223	11				
Future Vol, veh/h	181	174	4	96	223	11				
Conflicting Peds, #/hr	0	11	0	0	0	4				
Sign Control	Free	Free	Free	Free	Stop	Stop				
RT Channelized	None	None	None	None	None	None				
Storage Length	-	-	-	-	-	-				
Vel in Median Storage, #	-	-	-	-	-	-				
Grade, %	0	-	-	0	0	-				
Peak Hour Factor	87	87	81	81	78	78				
Heavy Vehicles, %	0	0	0	0	0	1				
Mvmt Flow	208	200	5	119	286	14				
Major/Minor										
Major1	Major2	Minor1								
Conflicting Flow All	0	0	419	0	448	323				
Stage 1	-	-	-	-	-	-				
Stage 2	-	-	-	-	-	-				
Critical Hdwy	-	-	4.1	-	6.41	6.21				
Critical Hdwy Stg 1	-	-	-	-	5.41	-				
Critical Hdwy Stg 2	-	-	-	-	5.41	-				
Follow-up Hdwy	-	-	2.2	-	3.509	3.309				
Plat Cap-1 Maneuver	-	-	1151	-	570	720				
Stage 1	-	-	-	-	739	-				
Stage 2	-	-	-	-	899	-				
Platoon blocked, %	-	-	-	-	-	-				
Mov Cap-1 Maneuver	-	-	1139	-	561	710				
Mov Cap-2 Maneuver	-	-	-	-	561	-				
Stage 1	-	-	-	-	732	-				
Stage 2	-	-	-	-	895	-				
Approach										
EB	WB	NB								
HCM Control Delay, s	0	0.3	18.3							
HCM LOS	-	-	C							
Minor Lane/Major Mvmt										
NBLn1	EBLn1	EBR	WBL	WBR						
Capacity (veh/h)	567	-	-	-	1139	-				
HCM Lane V/C Ratio	0.529	-	-	-	0.004	-				
HCM Control Delay (s)	18.3	-	-	-	8.2	-				
HCM Lane LOS	C	-	-	-	A	A				
HCM 95th %ile Q(veh)	3.1	-	-	-	0	-				

HCM 6th TWSC Future Conditions #2 (Both Closed) PM Peak Hour

Intersection												
Int Delay, s/veh 9.3												
Movement												
EBL	EBT	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations												
Traffic Vol, veh/h	46	12	134	13	13	25	53	423	8	16	329	34
Future Vol, veh/h	46	12	134	13	13	25	53	423	8	16	329	34
Conflicting Peds, #/hr	2	0	5	0	0	15	0	12	12	0	15	
Sign Control	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	
Storage Length	-	-	-	-	-	-	500	-	-	500	-	
Vel in Median Storage, #	-	-	-	-	-	-	-	-	-	-	-	
Grade, %	0	-	0	-	0	-	-	-	-	0	-	
Peak Hour Factor	84	84	84	91	91	91	87	87	87	73	73	
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	
Mvmt Flow	55	14	160	14	14	27	61	486	9	22	451	47
Major/Minor												
Major1	Minor1	Minor2	Major1	Major2								
Conflicting Flow All	1169	1163	495	1236	1182	505	513	0	0	507	0	0
Stage 1	534	534	-	625	625	-	-	-	-	-	-	-
Stage 2	635	629	-	611	557	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.11	-	-
Critical Hdwy Stg 1	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.1	5.5	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.5	4	3.3	3.5	4	3.3	2.2	-	-	2.209	-	-
Plat Cap-1 Maneuver	172	156	579	154	151	571	1063	-	-	1063	-	-
Stage 1	534	528	-	476	480	-	-	-	-	-	-	-
Stage 2	470	478	-	484	515	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	142	176	568	96	172	563	1048	-	-	1051	-	-
Mov Cap-2 Maneuver	142	176	-	96	172	-	-	-	-	-	-	-
Stage 1	496	510	-	443	447	-	-	-	-	-	-	-
Stage 2	407	445	-	330	497	-	-	-	-	-	-	-
Approach												
EB	WB	NB	SB									
HCM Control Delay, s	44.7	0	23.9	0.9	0.4							
HCM LOS	E	-	D	-	-							
Minor Lane/Major Mvmt												
NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1048	-	-	-	306	200	1051	-	-	-	-	-
HCM Lane V/C Ratio	0.058	-	-	-	0.747	0.28	0.021	-	-	-	-	-
HCM Control Delay (s)	8.6	-	-	-	44.7	29.3	8.5	-	-	-	-	-
HCM Lane LOS	A	-	-	-	E	D	A	-	-	-	-	-
HCM 95th %ile Q(veh)	0.2	-	-	-	5.6	1.1	0.1	-	-	-	-	-

HCM 6th AWSC Future Conditions #2 (Both Closed) PM Peak Hour

Intersection												
Intersection Delay, s/veh 27.7												
Intersection LOS D												
Movement												
EBL	EBT	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations												
Traffic Vol, veh/h	0	80	14	188	103	31	12	203	214	28	147	3
Future Vol, veh/h	0	80	14	188	103	31	12	203	214	28	147	3
Peak Hour Factor	0.77	0.77	0.77	0.75	0.75	0.75	0.87	0.87	0.87	0.73	0.73	0.73
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1
Mvmt Flow	0	104	18	251	137	41	14	233	246	36	201	4
Number of Lanes	0	1	0	1	0	0	1	0	1	0	0	1
Approach												
EB	WB	NB	SB									
Opposing Approach	WB	EB	NB	SB								
Opposing Lanes	1	1	1	1								
Conflicting Approach Left	SB	NB	EB	WB								
Conflicting Lanes Left	1	1	1	1								
Conflicting Approach Right	NB	SB	WB	EB								
Conflicting Lanes Right	1	1	1	1								
HCM Control Delay	13.1	31.6	33.5	16.5								
HCM LOS	B	D	D	C								
Lane												
NBLn1	EBLn1	WBLn1	SBLn1									
Vol Left, %	3%	0%	58%	16%								
Vol Thru, %	47%	85%	32%	83%								
Vol Right, %	50%	15%	10%	2%								
Sign Control	Stop	Stop	Stop	Stop								
Traffic Vol by Lane	429	94	322	178								
LT Vol	12	0	188	28								
Through Vol	203	80	103	147								
RT Vol	214	14	31	3								
Lane Flow Rate	493	122	429	244								
Geometry Grp	1	1	1	1								
Degree of U/I (X)	0.838	0.255	0.802	0.479								
Departure Headway (Hd)	6243	7509	6722	7076								
Convergence, Y/N	Yes	Yes	Yes	Yes								
Cap	582	479	541	510								
Service Time	4.243	5.549	4.722	5.119								
HCM Lane V/C Ratio	0.847	0.255	0.793	0.478								
HCM Control Delay	33.5	13.1	31.6	16.5								
HCM Lane LOS	D	B	D	C								
HCM 95th-ile Q	8.8	1	7.7	2.6								

HCM 6th AWSC Future Conditions #2 (Both Closed) PM Peak Hour

Intersection										
Intersection Delay, s/veh 19.8										
Intersection LOS C										
Movement										
EBL	EBT	WBT	WBR	SBL	SBR					
Lane Configurations										
Traffic Vol, veh/h	250	104	133	234	248	228				
Future Vol, veh/h	250	104	133	234	248	228				
Peak Hour Factor	0.88	0.88	0.92	0.92	0.78	0.78				
Heavy Vehicles, %	0	0	0	0	0	0				
Mvmt Flow	284	118	145	254	318	292				
Number of Lanes	1	1	1	0	1	1				
Approach										
EB	WB	SB								
Opposing Approach	WB	EB	SB							
Opposing Lanes	1	2	0							
Conflicting Approach Left	SB	0	WB							
Conflicting Lanes Left	2	0	1							
Conflicting Approach Right	0	SB	EB							
Conflicting Lanes Right	0	2	2							
HCM Control Delay	18	22.6	19.1							
HCM LOS	C	C	C							
Lane										
EBLn1	EBLn2	WBLn1	SBLn1	SBLn2						
Vol Left, %	100%	0%	0%	100%	0%					
Vol Thru, %	0%	100%	36%	0%	0%					
Vol Right, %	0%	0%	64%	0%	100%					
Sign Control	Stop	Stop	Stop	Stop	Stop					
Traffic Vol by Lane	250	104	367	248	228					
LT Vol	250	0	0	248	0					
Through Vol	0	104	133	0	0					
RT Vol	0	0	234	0	228					
Lane Flow Rate	284	118	399	318	292					
Geometry Grp	7	7	4	7	7					
Degree of U/I (X)	0.59	0.229	0.696	0.65	0.498					
Departure Headway (Hd)	7476	6364	6285	7389	6136					
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes					
Cap	480	513	570	490	585					
Service Time	5.259	4.746	4.356	5.133	3.959					
HCM Lane V/C Ratio	0.592	0.23	0.7	0.649	0.499					
HCM Control Delay	20.6	11.8	22.6	22.9	14.9					
HCM Lane LOS	C	B	C	C	B					
HCM 95th-ile Q	3.7	0.9	5.5	4.6	2.8					

HCM 6th TWSC Future Conditions #2 (Both Closed) PM Peak Hour

Intersection									
Int Delay, s/veh 2.7									
Movement									
EBL	EBT	WBT	WBR	SBL	SBR				

HCM 6th AWSC
7: Center Street & Main Street

Future Conditions #2 (Both Closed)
PM Peak Hour

Intersection												
Intersection Delay, s/veh	8.6											
Intersection LOS	A											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕		↕		↕		↕		↕		↕	
Traffic Vol, veh/h	0	0	134	0	0	180	0	0	0	0	0	0
Future Vol, veh/h	0	0	134	0	0	180	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.90	0.92	0.92	0.78	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	1	2	2	2	1	2	2	2	2	2
Mvmt Flow	0	0	149	0	0	231	0	0	0	0	0	0
Number of Lanes	0	1	0	0	1	0	1	0	0	1	0	1
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	7.6			0			9.2			0		
HCM LOS	A			-			A			-		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	100%	0%	0%	0%
Vol Thru, %	0%	0%	100%	100%
Vol Right, %	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	180	134	0	0
LT Vol	180	0	0	0
Through Vol	0	0	0	0
RT Vol	0	134	0	0
Lane Flow Rate	231	149	0	0
Geometry Gp	1	1	1	1
Degree of Util (X)	0.281	0.161	0	0
Departure Headway (Hd)	4.377	3.883	4.635	4.449
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	815	929	0	0
Service Time	2.434	1.883	2.642	2.505
HCM Lane V/C Ratio	0.288	0.161	0	0
HCM Control Delay	8.2	7.6	7.6	7.5
HCM Lane LOS	A	A	N	N
HCM 95th Q	1.2	0.6	0	0

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HCM 6th AWSC
8: Hutton Street & Main Street

Future Conditions #2 (Both Closed)
PM Peak Hour

Intersection										
Intersection Delay, s/veh	15.4									
Intersection LOS	C									
Movement	WBL	WBR	NBT	NBR	SBL	SBT				
Lane Configurations	↕	↕	↕	↕	↕	↕				
Traffic Vol, veh/h	54	356	159	25	282	120				
Future Vol, veh/h	54	356	159	25	282	120				
Peak Hour Factor	0.92	0.92	0.89	0.89	0.91	0.91				
Heavy Vehicles, %	1	1	0	0	1	1				
Mvmt Flow	59	387	179	28	310	132				
Number of Lanes	1	1	0	0	1	1				
Approach	WB		NB		SB					
Opposing Approach	SB		WB		NB					
Opposing Lanes	0		2		1					
Conflicting Approach Left	NB		0		WB					
Conflicting Lanes Left	1		0		2					
Conflicting Approach Right	SB		WB		0					
Conflicting Lanes Right	2		2		0					
HCM Control Delay	16.1		12.7		15.9					
HCM LOS	C		B		C					

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	86%	0%	0%	0%	100%
Vol Right, %	14%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	184	54	356	282	120
LT Vol	0	54	0	282	0
Through Vol	159	0	0	0	120
RT Vol	0	25	0	356	0
Lane Flow Rate	207	59	387	310	132
Geometry Gp	4	7	7	7	7
Degree of Util (X)	0.356	0.112	0.609	0.574	0.226
Departure Headway (Hd)	6.206	6.883	5.667	6.664	6.157
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	579	520	635	542	583
Service Time	4.257	4.636	3.419	4.409	3.902
HCM Lane V/C Ratio	0.356	0.113	0.609	0.572	0.226
HCM Control Delay	12.7	10.5	16.3	18.1	10.7
HCM Lane LOS	B	B	C	C	B
HCM 95th Q	1.6	0.4	1.1	3.6	0.9

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HCM 6th Signalized Intersection Summary
9: Griswold Street & Main Street

Future Conditions #2 (Both Closed)
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕		↕		↕		↕		↕		↕	
Traffic Volume (veh/h)	50	273	28	15	296	260	26	266	25	180	235	93
Future Volume (veh/h)	50	273	28	15	296	260	26	266	25	180	235	93
Initial Q (Db), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	1.00	1.00	0.99	1.00	0.99	1.00	1.00	1.00	0.99	1.00	1.00	1.00
Ranking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No											
Adj. Sat Flow, veh/h/ln	2000	2000	2000	1984	1984	1984	2000	2000	2000	2000	2000	2000
Adj. Adj Flow Rate, veh/h	54	297	30	16	315	277	30	302	28	189	247	98
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.98	0.98	0.98	0.95	0.95	0.98
Percent Heavy Veh, %	0	0	0	1	1	1	0	0	0	0	0	0
Cap, veh/h	221	1196	124	78	890	701	93	880	51	250	262	97
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	309	2992	268	33	1922	1514	90	1972	148	438	754	279
Grp Volume(v), veh/h	183	0	198	331	0	277	360	0	0	534	0	0
Grp Sat Flow(s), veh/h/ln	1391	0	1768	1955	0	1514	1900	0	0	1521	0	0
Q Servng, s, s	0.4	0.4	4.1	0.0	0.0	7.2	0.0	0.0	0.0	12.0	0.0	0.0
Cycle Q Clearing, c, s	7.6	0.0	4.1	6.4	0.0	7.2	8.8	0.0	0.0	20.8	0.0	0.0
Prop In Lane	0.29	0.15	0.05	0.05	1.00	0.08	0.08	0.35	0.18			
Lane Grp Cap(c), veh/h	722	0	819	969	0	701	724	0	0	609	0	0
V/C Ratio(X)	0.25	0.00	0.24	0.34	0.00	0.39	0.50	0.00	0.00	0.88	0.00	0.00
Aval Cap(c), veh/h	722	0	819	969	0	701	724	0	0	609	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.6	0.0	9.7	10.4	0.0	10.6	15.7	0.0	0.0	19.5	0.0	0.0
Inc Delay (d), s/veh	0.8	0.0	0.7	1.0	0.0	1.7	2.4	0.0	0.0	16.3	0.0	0.0
Initial Q Delay(d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
% BackOfQ(50%), veh/h	1.4	0.0	1.6	2.8	0.0	2.4	3.9	0.0	0.0	9.1	0.0	0.0
Unsig. Movement Delay, s/veh	10.4	0.0	10.4	11.3	0.0	12.2	18.1	0.0	0.0	35.8	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	D	A	A
Approach Vol, veh/h	381			608			360			534		
Approach Delay, s/veh	10.4			11.7			18.1			35.8		
Approach LOS	B			B			D			D		
Timer - Assigned Phs	2		4		6		8		8		8	
Phs Duration (G+Y+Rc), s	33.4		26.6		33.4		26.6		33.4		26.6	
Change Period (Y+Rc), s	5.6		*5.8		5.6		*5.8		5.6		*5.8	
Max Green Setting (Gmax), s	27.8		*21		27.8		*21		27.8		*21	
Max Q Clear Time (g, c+1), s	9.8		22.8		9.2		22.8		9.2		22.8	
Green Est Time (g, c), s	2.4		0.0		4.0		1.8		2.4		0.0	

Intersection Summary
HCM 6th Ctd Delay 19.5
HCM 6th LOS B

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th TWSC
10: Cady Street & Main Street

Future Conditions #2 (Both Closed)
PM Peak Hour

Intersection										
Int Delay, s/veh	2.1									
Movement	EBT	EBR	WBL	WBT	NBL	NBR				
Lane Configurations	↕		↕		↕					
Traffic Vol, veh/h	408	70	41	528	43	56				
Future Vol, veh/h	408	70	41	528	43	56				
Conflicting Peds, #/hr	0	10	0	0	0	0				
Sign Control	Free	Free	Free	Free	Stop	Stop				
RT Channelized	-	-	-	-	-	-				
Storage Length	-	-	-	-	-	-				
Veh in Median Storage, #	-	-	-	-	-	-				
Grade, %	0	-	-	0	-	-				
Peak Hour Factor	92	92	95	95	80	80				
Heavy Vehicles, %	1	1	0	0	0	0				
Mvmt Flow	443	76	43	556	54	70				

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	529	0	855	270
Stage 1	-	-	-	491	-	-
Stage 2	-	-	-	364	-	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	5.8	-	-
Critical Hdwy Stg 2	-	-	-	5.8	-	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1048	-	301	734
Stage 1	-	-	-	586	-	-
Stage 2	-	-	-	679	-	-
Mov Cap-2 Maneuver	-	-	1038	-	280	727
Stage 1	-	-	-	280	-	-
Stage 2	-	-	-	580	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	16.8
HCM LOS	-	-	C

Minor Lane/Major Mvmt	NBLn1	EBLn1	WBLn1	WBLn2
Capacity (veh/h)	429	-	-	1038
HCM Lane V/C Ratio	0.288	-	-	0.042
HCM Control Delay (s)	16.8	-	-	8.8
HCM Lane LOS	C	-	-	A
HCM 95th %ile Q(veh)	1.2	-		

HCM 6th TWSC Future Conditions #2 (Both Closed) PM Peak Hour
13: N. Site Drive/Hutton Street & Cady Street

Intersection												
Int Delay, s/veh												
8.2												
Movement												
	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	
Traffic Vol, veh/h	194	232	13	4	221	26	8	12	4	22	84	
Future Vol, veh/h	194	252	13	4	221	26	8	12	4	22	84	
Conflicting Peds, #/hr	13	0	0	0	0	13	0	0	0	0	0	3
Sign Control	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop	
RT Channelized	-	-	None	-	None	-	-	None	-	None	-	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	
Peak Hour Factor	94	94	94	95	95	92	92	92	93	93	63	
Heavy Vehicles, %	1	1	1	0	0	2	2	2	1	1	1	
Mvmt Flow	206	268	14	4	233	27	9	13	4	35	43	133
Major/Minor												
	Major1	Major2	Minor1	Minor2								
Conflicting Flow All	273	0	0	262	0	1033	968	275	954	962	263	
Stage 1	-	-	-	-	-	687	687	-	268	268	-	
Stage 2	-	-	-	-	-	346	281	-	696	694	-	
Critical Hdwy	4.11	-	-	4.1	-	7.12	6.52	6.22	7.11	6.51	6.21	
Critical Hdwy Stg 1	-	-	-	-	-	6.12	5.52	-	6.11	5.51	-	
Critical Hdwy Stg 2	-	-	-	-	-	6.12	5.52	-	6.11	5.51	-	
Follow-up Hdwy	2.209	-	-	2.2	-	3.518	4.018	3.318	3.509	4.009	3.309	
Plat Cap-1 Maneuver	1296	-	-	1292	-	211	254	764	236	257	778	
Stage 1	-	-	-	-	-	437	447	-	740	689	-	
Stage 2	-	-	-	-	-	670	678	-	434	446	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	1280	-	-	1292	-	125	202	764	188	205	766	
Mov Cap-2 Maneuver	-	-	-	-	-	125	202	-	188	205	-	
Stage 1	-	-	-	-	-	354	362	-	591	678	-	
Stage 2	-	-	-	-	-	515	667	-	337	361	-	
Approach												
	EB	WB	NB	SB								
HCM Control Delay, s	3.5	0.1	27.3	26.8								
HCM LOS			D	D								
Minor Lane/Major Mvmt												
	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	187	1280	-	-	1292	-	-	371				
HCM Lane V/C Ratio	0.14	0.161	-	-	0.003	-	-	0.569				
HCM Control Delay (s)	27.3	8.4	0	-	7.8	0	-	26.8				
HCM Lane LOS	D	A	A	-	A	A	-	D				
HCM 95th %ile Q(veh)	0.5	0.6	-	-	0	-	-	3.4				

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HCM 6th TWSC Future Conditions #2 (Both Closed) PM Peak Hour
14: Cady Street & Chruch Street

Intersection												
Int Delay, s/veh												
1.2												
Movement												
	EBL	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	
Traffic Vol, veh/h	0	282	223	0	26	17						
Future Vol, veh/h	0	282	229	0	26	17						
Conflicting Peds, #/hr	14	0	0	14	0	1						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	-	None	-	None	-	None						
Storage Length	-	-	-	-	-	-						
Veh in Median Storage, #	-	0	0	-	0	-						
Grade, %	-	0	0	-	0	-						
Peak Hour Factor	95	95	90	90	72	72						
Heavy Vehicles, %	0	0	1	0	1	0						
Mvmt Flow	0	297	254	0	36	24						
Major/Minor												
	Major1	Major2	Minor1	Minor2								
Conflicting Flow All	0	0	0	551	255							
Stage 1	-	-	-	254	-							
Stage 2	-	-	-	297	-							
Critical Hdwy	-	-	-	6.4	6.2							
Critical Hdwy Stg 1	-	-	-	5.4	-							
Critical Hdwy Stg 2	-	-	-	5.4	-							
Follow-up Hdwy	-	-	-	3.5	3.3							
Plat Cap-1 Maneuver	0	-	-	499	789							
Stage 1	0	-	-	793	-							
Stage 2	0	-	-	458	-							
Platoon blocked, %	-	-	-	-	-							
Mov Cap-1 Maneuver	-	-	-	499	788							
Mov Cap-2 Maneuver	-	-	-	499	-							
Stage 1	-	-	-	793	-							
Stage 2	-	-	-	758	-							
Approach												
	EB	WB	NB	SB								
HCM Control Delay, s	0	0	11.9	11.2								
HCM LOS			B	B								
Minor Lane/Major Mvmt												
	EBT	WBT	SBLn1									
Capacity (veh/h)	-	-	584									
HCM Lane V/C Ratio	-	-	0.102									
HCM Control Delay (s)	-	-	11.9									
HCM Lane LOS	-	-	B									
HCM 95th %ile Q(veh)	-	-	0.3									

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HCM 6th TWSC Future Conditions #2 (Both Closed) PM Peak Hour
15: Griswold Street & Cady Street

Intersection												
Int Delay, s/veh												
9.6												
Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕
Traffic Vol, veh/h	226	38	44	5	20	23	19	50	3	14	63	190
Future Vol, veh/h	226	38	44	5	20	23	19	50	3	14	63	190
Conflicting Peds, #/hr	3	0	1	0	3	10	0	4	4	0	10	
Sign Control	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	-	None	-	None	-	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	
Peak Hour Factor	95	95	95	64	64	64	86	86	86	88	88	
Heavy Vehicles, %	1	1	1	0	0	0	0	0	0	0	0	
Mvmt Flow	238	40	46	8	31	36	22	58	3	16	72	216
Major/Minor												
	Minor2	Major1	Major2									
Conflicting Flow All	362	331	191	364	438	67	298	0	0	65	0	0
Stage 1	222	222	-	-	108	108	-	-	-	-	-	-
Stage 2	140	109	-	-	256	330	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.1	-	-	-	4.1	-
Critical Hdwy Stg 1	6.11	5.51	-	-	6.1	5.5	-	-	-	-	-	-
Critical Hdwy Stg 2	6.11	5.51	-	-	6.1	5.5	-	-	-	-	-	-
Follow-up Hdwy	3.509	4.009	3.309	3.5	4	3.3	2.2	-	-	-	2.2	-
Plat Cap-1 Maneuver	596	590	853	596	515	1022	1275	-	-	-	1550	-
Stage 1	783	722	932	810	-	-	-	-	-	-	-	-
Stage 2	865	807	-	753	649	-	-	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	527	554	844	516	492	995	1263	-	-	-	1544	-
Mov Cap-2 Maneuver	527	554	-	518	492	-	-	-	-	-	-	-
Stage 1	762	705	-	882	792	-	-	-	-	-	-	-
Stage 2	784	789	-	662	634	-	-	-	-	-	-	-
Approach												
	EB	WB	NB	SB								
HCM Control Delay, s	19.8	11.2	2.1	0.4								
HCM LOS	C	B										
Minor Lane/Major Mvmt												
	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1263	-	-	562	654	1544	-	-				
HCM Lane V/C Ratio	0.017	-	-	0.577	0.115	0.01	-	-				
HCM Control Delay (s)	7.8	0	-	19.8	11.2	7.4	0	-				
HCM Lane LOS	A	A	-	C	B	A	A	-				
HCM 95th %ile Q(veh)	0.1	-	-	3.6	0.4	0	-	-				

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SimTraffic Performance Report Future Conditions #2 (Both Closed) PM Peak Hour
16: Proposed Beal Street/Beal Street & Griswold Street Performance by movement

Intersection												
Int Delay, s/veh												
0.0												
Movement												
	EBL	EBT	WBL	WBR	SBL	SBR	AA					
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0					
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0	0.0	0.0					
Total Delay (hr)	0.0	0.1	0.0	0.0	0.1	0.0	0.2					
Total Del/Veh (s)	5.1	4.9	0.5	0.4	4.2	3.9	2.7					

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HCM 6th TWSC Future Conditions #2 (Both Closed) PM Peak Hour
17: River Street & Beal Street

Intersection												
Int Delay, s/veh												
3.1												
Movement												
	EBT	EBR	WBL	WBT	NBL	NBR						
Lane Configurations	↕	↕	↕	↕	↕	↕						
Traffic Vol, veh/h	81	62	5	47	58	7						
Future Vol, veh/h	81	62	5	47	58	7						
Conflicting Peds, #/hr	0	3	0	3	10							
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											

SimTraffic Performance Report

Future Conditions #2 (Both Closed)

PM Peak Hour

19: Seven Mile Road & Fairbrook Street & First Street Performance by movement

Movement	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.1
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.4
Total Del/Veh (s)	1.2	0.9	0.7	6.8	4.7	1.8	1.0	1.3	3.5	10.8	3.4	1.5

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HCM 6th AWSC

Future Conditions #2 (Both Closed)

PM Peak Hour

20: Wing Street & Fairbrook Street

Movement	EBL	EBT	EBR	WBL	WBR	NBL	NBT	NBR	SBL	SBT	SBR					
Intersection	Wing Street & Fairbrook Street															
Intersection Delay, s/veh	9															
Intersection LOS	A															
Lane Configurations	EBL EBT EBR WBL WBR NBL NBT NBR SBL SBT SBR															
Traffic Vol, veh/h	15	22	1	0	15	81	1	119	3	55	161	13				
Future Vol, veh/h	15	22	1	0	15	81	1	119	3	55	161	13				
Peak Hour Factor	0.83	0.83	0.83	0.91	0.91	0.91	0.69	0.69	0.69	0.91	0.91	0.91				
Heavy Vehicles, %	5	5	5	5	5	1	1	1	0	0	0	0				
Mvmt Flow	16	27	1	0	16	89	1	172	4	60	177	14				
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0				
Approach	EB				WB				NB				SB			
Opposing Approach	WB				EB				SB				NB			
Opposing Lanes	1				1				1				1			
Conflicting Approach Left	SB				NB				EB				WB			
Conflicting Lanes Left	1				1				1				1			
Conflicting Approach Right	NB				SB				WB				EB			
Conflicting Lanes Right	1				1				1				1			
HCM Control Delay	8.6				8.2				8.9				9.5			
HCM LOS	A				A				A				A			

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	39%	0%	24%
Vol Thru, %	97%	58%	16%	70%
Vol Right, %	2%	3%	84%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	123	38	96	229
LT Vol	1	15	0	55
Through Vol	119	22	15	161
RT Vol	3	1	81	13
Lane Flow Rate	178	46	105	252
Geometry Grp	1	1	1	1
Degree of Upl (X)	0.225	0.066	0.132	0.313
Disjointing Headway (Hd)	4.541	5.159	4.514	4.472
Convergence, V/N	Yes	Yes	Yes	Yes
Cap	790	692	792	803
Service Time	2.576	3.205	2.555	2.505
HCM Lane V/C Ratio	0.225	0.066	0.133	0.314
HCM Control Delay	8.6	8.2	8.9	9.5
HCM Lane LOS	A	A	A	A
HCM 95th-ile Q	0.9	0.2	0.5	1.3

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HCM 6th TWSC

Future Conditions #2 (Both Closed)

PM Peak Hour

21: Center Street & Fairbrook Street/W. Site Drive

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Intersection	Center Street & Fairbrook Street/W. Site Drive											
Int Delay, s/veh	3.7											
Lane Configurations	EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR											
Traffic Vol, veh/h	16	7	58	9	4	9	82	552	23	8	401	13
Future Vol, veh/h	16	7	58	9	4	9	82	552	23	8	401	13
Conflicting Peds, #/hr	0	0	2	2	0	0	5	0	0	0	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	-	-	-	-	-	-	-	-
Grade, %	-	-	-	-	-	-	-	-	-	-	-	-
Peak Hour Factor	0.62	0.62	0.62	0.92	0.92	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Heavy Vehicles, %	0	0	0	2	2	0	0	0	0	1	1	1
Mvmt Flow	26	11	94	10	4	10	87	587	24	9	427	14

Major/Minor	Minor1	Minor2	Major1	Major2
Conflicting Flow All	1237	1242	441	1280
Stage 1	457	457	-	773
Stage 2	780	785	-	507
Critical Hdwy Stg 1	7.1	6.5	6.2	7.12
Critical Hdwy Stg 2	6.1	5.5	-	6.12
Follow-up Hdwy	3.5	4	3.3	3.518
Plat Cap-1 Maneuver	154	176	621	143
Stage 1	597	571	-	392
Stage 2	391	407	-	548
Plat Cap-1 Maneuver	133	153	617	103
Plat Cap-2 Maneuver	133	153	-	103
Stage 1	515	561	-	346
Stage 2	334	359	-	449

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.7	30.1	1.1	0.2
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1120	-	-	311	167	973	-	-
HCM Lane V/C Ratio	0.078	-	-	0.42	0.143	0.009	-	-
HCM Control Delay (s)	8.5	0	-	24.7	30.1	8.7	0	-
HCM Lane LOS	A	A	-	C	D	A	A	-
HCM 95th-ile Q(veh)	0.3	-	-	2	0.5	0	-	-

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Future Conditions #2 (Both Closed)

PM Peak Hour

22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Intersection	St. Lawrence Blvd/Wing Street & Seven Mile Road											
Int Delay, s/veh	18.2											
Lane Configurations	EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR											
Traffic Vol, veh/h	20	332	3	13	484	104	4	3	7	140	5	20
Future Vol, veh/h	20	332	3	13	484	104	4	3	7	140	5	20
Conflicting Peds, #/hr	0	0	1	0	0	0	0	0	5	5	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	None	-	None	-	None	-	-	None	-	-	None
Storage Length	100	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	0	-	0	-	-	0	-	-	0
Grade, %	-	0	-	0	-	0	-	-	0	-	-	0
Peak Hour Factor	85	85	90	90	90	70	70	70	82	82	82	82
Heavy Vehicles, %	2	2	2	2	2	0	0	0	1	1	1	1
Mvmt Flow	24	391	4	14	538	116	6	4	10	171	6	24

Major/Minor	Minor1	Minor2	Major1	Major2
Conflicting Flow All	654	0	0	396
Stage 1	-	-	-	442
Stage 2	-	-	-	442
Critical Hdwy	4.12	-	-	4.12
Critical Hdwy Stg 1	-	-	-	7.1
Critical Hdwy Stg 2	-	-	-	6.1
Follow-up Hdwy	2.218	-	-	2.218
Plat Cap-1 Maneuver	933	-	-	1162
Stage 1	-	-	-	197
Stage 2	-	-	-	468
Plat Cap-1 Maneuver	933	-	-	1162
Plat Cap-2 Maneuver	-	-	-	178
Stage 1	-	-	-	434
Stage 2	-	-	-	434

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	18.3	114.7
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBLn1	EBLn1	WBLn1	WBLn1	WBLn1	SBLn1
Capacity (veh/h)	290	933	-	-	1162	-
HCM Lane V/C Ratio	0.089	0.025	-	-	0.012	-
HCM Control Delay (s)	18.3	9	-	-	6.1	-
HCM Lane LOS	C	A	-	-	A	-
HCM 95th-ile Q(veh)	0.2	0.1	-	-	0	-

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HCM 6th Signalized Intersection Summary

Future Conditions #2 (Both Closed)

PM Peak Hour

23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Intersection	Sheldon Avenue/Center Street & Seven Mile Road											
Lane Configurations	EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR											
Traffic Volume (veh/h)	27	318	134	128	448	131	127	459	105	74	368	26
Future Volume (veh/h)	27	318	134	128	448	131	127	459	105	74	368	26
Initial Q (Cb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Peak-Hour Adj(A, pBT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	1.00	0	0.99	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	0.99
Work Zone On Approach	No											
Adj Sat Flow, veh/hln	1984	1984	1984	1984	1984	2000	1984	1984	1984	2000	2000	2000
Adj Flow Rate, veh/h	31	361	152	145	509	149	141	554	117	80	396	26
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.90	0.90	0.90	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	1	0	1	1	1	0	0	0
Cap, veh/h	207	486	205	206	729	619	426	773	163	255	899	64
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	781	1323	567	893	1984	1686	968	1585	335	778	1945	130
Grp Volume(v), veh/h	31	0	513	145	509	149	141	0	671	80	0	424
Grp Sat Flow(s), veh/hln	781	0	1881	893	1984	1686	968	0	1920	778	0	1975
O Serwig, s	2.8	0.0	19.0	10.4	17.5	4.9	8.9	0.0	22.0	7.2		

HCM 6th TWSC Future Conditions #2 (Both Closed) 25: Seven Mile Road & River Street PM Peak Hour

Intersection		Major1		Major2		Minor2	
Int Delay, s/veh	1.6						
Lane Configurations	EBL EBT WBT WBR SBL SBR						
Traffic Vol. (veh/h)	34 312 496 31 13 54						
Future Vol. (veh/h)	34 312 496 31 13 54						
Conflicting Peds. #/hr	4 0 0 0 6 12						
Sign Control	Free Free Free Stop Stop						
RT Channelized	- None - None - None						
Storage Length	- - - - -						
Vel in Median Storage, #	- 0 0 - 0 -						
Grade, %	- 0 0 - 0 -						
Peak Hour Factor	92 92 90 90 77 77						
Heavy Vehicles, %	2 2 1 1 6 6						
Mvmt Flow	37 339 551 34 17 70						
Major/Minor	Major1 Major2 Minor2						
Conflicting Flow All	589 0 - 0 991 594						
Stage 1	- - - - - 572 -						
Stage 2	- - - - - 419 -						
Critical Hdwy	4.12 - - - - 6.46 6.26						
Critical Hdwy Stg 1	- - - - - 5.46 -						
Critical Hdwy Stg 2	- - - - - 5.46 -						
Follow-up Hdwy	2.218 - - - - 3.554 3.354						
Plat Cap-1 Maneuver	986 - - - - 298 504						
Stage 1	- - - - - 557 -						
Stage 2	- - - - - 655 -						
Platoon blocked, %	- - - - -						
Mov Cap-1 Maneuver	982 - - - - 254 496						
Mov Cap-2 Maneuver	- - - - - 254 -						
Stage 1	- - - - - 529 -						
Stage 2	- - - - - 652 -						
Approach	EB WB SB						
HCM Control Delay, s	0.9 0 15.8						
HCM LOS	- C -						
Minor Lane/Major Mvmt	EBL EBT WBT WBR SBL1						
Capacity (veh/h)	982 - - - - 419						
HCM Lane V/C Ratio	0.038 - - - - 0.208						
HCM Control Delay (s)	8.8 8.8 0 - - 19.8						
HCM Lane LOS	A A - - - C						
HCM 95th %ile Q(veh)	0.1 - - - - 0.8						

HCM Unsignalized Intersection Capacity Analysis Future Conditions #2 (Both Closed) 26: SB Northville Road & N. Seven Mile Road PM Peak Hour

Movement		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑	↑
Traffic Volume (veh/h)		0	511	273	0	429	0	0	0	0	0	511	103
Future Volume (veh/h)		0	511	273	0	429	0	0	0	0	0	511	103
Sign Control		Stop	Yield	Yield	Free	Free	Free	Free	Free	Free	Free	Free	Free
Grade		0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor		0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95
Hourly flow rate (vph)		0	56	300	0	456	0	0	0	0	0	538	108
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)													
Median type								None				None	
Median storage (veh)													
Upstream signal (ft)													
pX platoon unblocked													
vC, conflicting volume		820	592	323	597	646	0	646					0
ICU, stage 1 conf vol													
vC2, stage 2 conf vol													
vOu, unblocked vol		820	592	323	597	646	0	646					0
IC, single (s)		7.5	6.5	6.9	7.5	6.5	6.9	4.1					4.1
IC, 2-stage (s)													
IF (s)		3.5	4.0	3.3	3.5	4.0	3.3	2.2					2.2
p0 queue free %		0	87	55	100	0	100	100					100
oM capacity (veh/h)		0	418	673	193	391	1088	935					1629
Direction, Lane #		EB 1	EB 2	WB 1	SB 1	SB 2							
Volume Total		56	300	456	359	287							
Volume Left		0	0	0	0	0							
Volume Right		0	300	0	0	108							
vSH		418	673	391	1700	1700							
Volume to Capacity		0.13	0.45	1.17	0.21	0.17							
Queue Length 95th (ft)		12	58	444	0	0							
Control Delay (s)		15.0	14.6	130.8	0.0	0.0							
Lane LOS		B	B	F									
Approach Delay (s)		14.6	130.8	0.0									
Approach LOS		B	F										
Intersection Summary													
Average Delay						44.5							
Intersection Capacity Utilization						68.9%							
ICU Level of Service						C							
Analysis Period (min)						15							

HCM Unsignalized Intersection Capacity Analysis Future Conditions #2 (Both Closed) 27: NB Northville Road & N. Seven Mile Road PM Peak Hour

Movement		EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↑	↑	↑	↑	↑	↑
Traffic Volume (veh/h)		51	0	429	602	0	0
Future Volume (veh/h)		51	0	429	602	0	0
Sign Control		Yield	Free	Free	Free	Free	Free
Grade		0%	0%	0%	0%	0%	0%
Peak Hour Factor		0.91	0.91	0.94	0.94	0.92	0.92
Hourly flow rate (vph)		56	0	456	640	0	0
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type					None		None
Median storage (veh)							
Upstream signal (ft)							511
pX platoon unblocked							0.85
vC, conflicting volume							1232
ICU, stage 1 conf vol							
vC2, stage 2 conf vol							
vOu, unblocked vol							932
IC, single (s)							6.8
IC, 2-stage (s)							6.9
IF (s)							3.5
p0 queue free %							66
oM capacity (veh/h)							163
Direction, Lane #		EB 1	NB 1	NB 2			
Volume Total		56	669	427			
Volume Left		56	456	0			
Volume Right		0	0	0			
vSH		163	1629	1700			
Volume to Capacity		0.34	0.28	0.25			
Queue Length 95th (ft)		35	29	0			
Control Delay (s)		38.1	6.3	0.0			
Lane LOS		E	A				
Approach Delay (s)		38.1	3.9				
Approach LOS		E					
Intersection Summary							
Average Delay							5.5
Intersection Capacity Utilization							70.2%
ICU Level of Service							C
Analysis Period (min)							15

HCM 6th Signalized Intersection Summary Future Conditions #2 (Both Closed) 28: Northville Road & S. Seven Mile Road PM Peak Hour

Movement		WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↑	↑	↑	↑	↑	↑
Traffic Volume (veh/h)		352	549	482	341	384	400
Future Volume (veh/h)		352	549	482	341	384	400
Initial Q (Ob), veh		0	0	0	0	0	0
Ped-Bike Adj. (p0T)		1.00	1.00	1.00	1.00	1.00	1.00
Parking Bids, Adj		1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No	No	No	No	No
Adj Sat Flow, veh/h/ln		1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h		405	631	507	359	404	421
Peak Hour Factor		0.87	0.87	0.95	0.95	0.95	0.95
Percent Heavy Veh. %		1	1	1	1	1	1
Cap, veh/h		676	938	432	306	468	1829
Arrive On Green		0.36	0.36	0.20	0.20	0.20	0.49
Sat Flow, veh/h		1890	1862	2200	1452	1890	3870
Grp Volume(v), veh/h		405	631	453	413	404	421
Grp Sat Flow(s), veh/h/ln		1890	1862	1885	1716	1890	1885
Q Served, s/ln		14.0	5.3	16.4	16.4	12.6	5.2
Cycle Q Clear(g, c), s		14.0	5.3	16.4	16.4	12.6	5.2
Prop In Lane		1.00	1.00	0.87	1.00		
Lane Grp Cap(c), veh/h		676	938	386	352	468	1829
V/C Ratio(v)		0.60	0.67	1.17	1.17	0.86	0.23
Right Cap Adj. (veh/h)		676	938	386	352	468	1829
HCM Platoon Ratio		1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(t)		1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh		21.0	12.5	31.8	31.8	29.2	11.9
Intr Delay (d2), s/veh		3.9	3.9	101.6	104.3	18.6	0.3
Initial Q Delay(d3), s/veh		0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln		6.5	7.8	17.9	16.5	8.9	2.0
LnGrp Delay(d), s/veh		24.9	16.4	133.4	136.1	47.9	12.2
LnGrp LOS		C	B	F	F	D	B
Approach Vol, veh/h		1036	866			825	
Approach Delay, s/veh		19.7	134.7			29.7	
Approach LOS		F				C	
Timer - Assigned Phs		1	2				

HCM 6th TWSC Future Conditions #2 (Both Closed) PM Peak Hour

Intersection						
Int Delay, s/veh						
Movement						
	EBL	EBR	NBL	NBR	SBL	SBR
Lane Configurations	Y	Y	Y	Y	Y	Y
Traffic Vol, veh/h	1	2	2	72	110	2
Future Vol, veh/h	1	2	2	72	110	2
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	-	-	-	-	-
Vel in Median Storage, #	0	-	-	0	-	0
Grade, %	0	-	-	0	-	0
Peak Hour Factor	92	92	86	86	92	92
Heavy Vehicles, %	2	2	0	0	1	1
Mvmt Flow	1	2	2	84	120	2

Major/Minor						
	Minor2	Major1	Major2			
Conflicting Flow All	209	121	122	0	-	0
Stage 1	121	-	-	-	-	-
Stage 2	88	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.1	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	779	930	1478	-	-	-
Stage 1	904	-	-	-	-	-
Stage 2	935	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	779	930	1478	-	-	-
Mov Cap-2 Maneuver	779	-	-	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	935	-	-	-	-	-

Approach			
	EB	NB	SB
HCM Control Delay, s	9.1	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt					
	NBL	NBT	EBLN1	SBL	SBR
Capacity (veh/h)	1478	-	873	-	-
HCM Lane V/C Ratio	0.002	-	0.004	-	-
HCM Control Delay (s)	7.4	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %ile Q(veh)	0	-	0	-	-

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HCM 6th TWSC Future Conditions #2 (Both Closed) PM Peak Hour

Intersection						
Int Delay, s/veh						
Movement						
	WBL	WBR	NBL	NBR	SBL	SBR
Lane Configurations	Y	Y	Y	Y	Y	Y
Traffic Vol, veh/h	27	8	536	41	9	395
Future Vol, veh/h	27	8	536	41	9	395
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	-	-	-	-	-
Vel in Median Storage, #	0	-	0	-	0	0
Grade, %	0	-	0	-	0	0
Peak Hour Factor	92	92	90	90	94	94
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	29	9	596	46	10	420

Major/Minor						
	Minor1	Major2	Major1			
Conflicting Flow All	1059	619	0	0	642	0
Stage 1	619	-	-	-	-	-
Stage 2	440	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.11	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.209	-
Pot Cap-1 Maneuver	249	489	-	-	947	-
Stage 1	537	-	-	-	-	-
Stage 2	649	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	249	489	-	-	947	-
Mov Cap-2 Maneuver	249	-	-	-	-	-
Stage 1	537	-	-	-	-	-
Stage 2	640	-	-	-	-	-

Approach			
	WB	NB	SB
HCM Control Delay, s	29	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt					
	NBL	NBR	WBLN1	SBL	SBR
Capacity (veh/h)	-	-	278	947	-
HCM Lane V/C Ratio	-	-	0.137	0.01	-
HCM Control Delay (s)	-	-	29	8.8	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %ile Q(veh)	-	-	0.5	0	-

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HCM 6th TWSC Future Conditions #2 (Both Closed) PM Peak Hour

Intersection						
Int Delay, s/veh						
Movement						
	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	Y	Y	Y	Y	Y	Y
Traffic Vol, veh/h	79	1	4	95	1	2
Future Vol, veh/h	79	1	4	95	1	2
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	-
Vel in Median Storage, #	0	-	-	0	-	0
Grade, %	0	-	-	0	-	0
Peak Hour Factor	62	62	91	91	92	92
Heavy Vehicles, %	0	0	5	5	2	2
Mvmt Flow	127	2	4	104	1	2

Major/Minor						
	Major1	Major2	Minor1			
Conflicting Flow All	0	0	129	0	240	128
Stage 1	-	-	-	-	128	-
Stage 2	-	-	-	-	112	-
Critical Hdwy	-	-	4.15	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.245	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1438	-	746	922
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	913	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1438	-	746	922
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	910	-

Approach			
	EB	WB	NB
HCM Control Delay, s	0	0.3	9.2
HCM LOS			A

Minor Lane/Major Mvmt					
	NBLN1	EBT	EBR	WBL	WBT
Capacity (veh/h)	855	-	-	1438	-
HCM Lane V/C Ratio	0.004	-	-	0.003	-
HCM Control Delay (s)	9.2	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %ile Q(veh)	0	-	-	0	-

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HCM 6th TWSC Future Conditions #2 (Both Closed) PM Peak Hour

Intersection						
Int Delay, s/veh						
Movement						
	WBL	WBR	NBL	NBR	SBL	SBR
Lane Configurations	Y	Y	Y	Y	Y	Y
Traffic Vol, veh/h	3	0	123	4	0	162
Future Vol, veh/h	3	0	123	4	0	162
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	-	-	-	-	-
Vel in Median Storage, #	0	-	0	-	0	0
Grade, %	0	-	0	-	0	0
Peak Hour Factor	92	92	69	69	82	82
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	3	0	178	6	0	198

Major/Minor						
	Minor1	Major1	Major2			
Conflicting Flow All	379	181	0	0	184	0
Stage 1	181	-	-	-	-	-
Stage 2	198	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.11	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.209	-
Pot Cap-1 Maneuver	823	862	-	-	1397	-
Stage 1	850	-	-	-	-	-
Stage 2	835	-	-	-	-	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	823	862	-	-	1397	-
Mov Cap-2 Maneuver	823	-	-	-	-	-
Stage 1	850	-	-	-	-	-
Stage 2	835	-	-	-	-	-

Approach			
	WB	NB	SB
HCM Control Delay, s	10.8	0	0
HCM LOS	B		

Minor Lane/Major Mvmt					
	NBL	NBR	WBLN1	SBL	SBR
Capacity (veh/h)	-	-	623	1397	-
HCM Lane V/C Ratio	-	-	0.005	-	-
HCM Control Delay (s)	-	-	10.8	0	0
HCM Lane LOS	-	-	B	A	-
HCM 95th %ile Q(veh)	-	-	0	0	-

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HCM 6th TWSC Future Conditions #3 (Main Closed) AM Peak Hour

Intersection						
Int Delay, s/veh						
Movement						
	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	Y	Y	Y	Y	Y	Y
Traffic Vol, veh/h	127	104	5	66	95	8
Future Vol, veh/h	127	104	5	66	95	8
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	-
Vel in Median Storage, #	0	-	0	-	0	0
Grade, %	0	-	0	-	0	0
Peak Hour Factor	95	95	60	60	77	77
Heavy Vehicles, %	3	3	2	2	4	4
Mvmt Flow	134	109	8	110	123	10

Major/Minor						
	Major1	Major2	Minor1			
Conflicting Flow All	0	0	243	0	315	189
Stage 1	-	-	-	-	189	-
Stage 2	-	-	-	-	126	-
Critical Hdwy	-	-	4.12	-	6.44	6.24
Critical Hdwy Stg 1	-	-	-	-	5.44	-
Critical Hdwy Stg 2	-	-	-	-	5.44	-
Follow-up Hdwy	-	-	2.218	-	3.536	3.336
Pot Cap-1 Maneuver	-	-	1323	-	674	848
Stage 1	-	-	-	-	638	-
Stage 2	-	-	-	-	895	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1323	-	670	848
Mov Cap-2 Maneuver	-	-	-	-	670	-
Stage 1	-	-	-	-	838	-
Stage 2	-	-	-	-	890	-

Approach			
	EB	WB	NB
HCM Control Delay, s	0	0.5	11.6
HCM LOS			B

Minor Lane/Major Mvmt					
	NBLN1	EBT	EBR	WBL	WBT
Capacity (veh/h)	681	-	-	1323	-
HCM Lane V/C Ratio	0.196	-	-	0.006	-
HCM Control Delay (s)	11.6	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A

HCM 6th AWSC
3: Wing Street & Dunlap Street
Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection													
Intersection Delay, s/veh	8.7												
Intersection LOS	A												
Movement													
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR												
Traffic Vol, veh/h	0	79	1	22	69	53	6	50	60	28	81	0	
Future Vol, veh/h	0	79	1	22	69	53	6	50	60	28	81	0	
Peak Hour Factor	0.78	0.78	0.78	0.73	0.73	0.73	0.84	0.84	0.84	0.88	0.88	0.88	
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	4	4	4	
Mvmt Flow	0	101	1	30	95	73	7	60	71	32	92	0	
Number of Lanes	0	1	0	1	0	1	0	1	0	1	0	1	
Approach													
Opposing Approach	WB	EB					WB			NB			
Opposing Lanes	1	1					1			1			
Conflicting Approach Left	SB	NB					EB			WB			
Conflicting Lanes Left	1	1					1			1			
Conflicting Approach Right	NB	SB					WB			EB			
Conflicting Lanes Right	1	1					1			1			
HCM Control Delay	8.5	8.9					8.5			8.9			
HCM LOS	A	A					A			B			

Lane				
	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	0%	15%	25%
Vol Thru, %	43%	99%	48%	74%
Vol Right, %	52%	1%	37%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	116	60	144	109
LT Vol	6	0	22	28
Through Vol	50	79	69	81
RT Vol	60	1	53	0
Lane Flow Rate	138	103	197	124
Geometry Grp	1	1	1	1
Degree of Upl (X)	0.173	0.135	0.244	0.168
Departure Headway (Hd)	4.497	4.741	4.453	4.872
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	794	754	805	733
Service Time	2.542	2.787	2.453	2.919
HCM Lane V/C Ratio	0.174	0.137	0.245	0.168
HCM Control Delay	8.5	8.9	8.5	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-ile Q	0.6	0.5	1	0.6

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HCM 6th Signalized Intersection Summary
4: Center Street & Dunlap Street
Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection												
Intersection Delay, s/veh	8.7											
Intersection LOS	A											
Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR											
Traffic Volume (veh/h)	76	71	10	9	27	132	12	380	99	117	341	77
Future Volume (veh/h)	76	71	10	9	27	132	12	380	99	117	341	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	86	81	11	11	79	155	13	413	108	150	437	99
Peak Hour Factor	0.88	0.88	0.88	0.85	0.85	0.85	0.92	0.92	0.92	0.78	0.78	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	271	421	57	393	147	288	523	925	242	661	955	216
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1143	1695	293	1296	591	1159	868	1923	393	879	1502	352
Grp Volume(v), veh/h	86	0	92	11	0	234	13	0	521	150	0	536
Grp Sat Flow(s), veh/h/ln	1143	0	1925	1296	0	1749	868	0	1897	879	0	1904
Q Serwig, s	4.2	0.0	2.3	0.4	0.0	7.0	0.2	0.0	0.0	4.8	0.0	9.0
Cycle Q Clearing, s	11.2	0.0	2.3	2.7	0.0	7.0	9.3	0.0	0.0	4.8	0.0	9.0
Prop In Lane	1.00	0.0	1.12	1.00	0.00	0.66	1.00	0.21	1.00	0.18	0.00	0.18
Lane Grp Cap(c), veh/h	271	0	478	393	0	434	523	0	1166	661	0	1171
V/C Ratio(v)	0.32	0.00	0.19	0.03	0.00	0.54	0.02	0.00	0.45	0.23	0.00	0.46
Avail Cap(c), veh/h	271	0	478	393	0	434	523	0	1166	661	0	1171
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filler(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	24.4	0.0	17.8	19.9	0.0	19.6	1.1	0.0	5.4	0.0	6.2	0.0
Incr Delay (d2), s/veh	3.4	0.0	0.9	0.1	0.0	4.7	0.1	0.0	1.2	0.0	0.8	0.0
Initial Q Delay(Q), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q)(50%), veh/ln	1.3	0.0	1.1	0.1	0.0	3.2	0.0	0.0	0.4	0.8	0.0	3.2
Unsig. Movement Delay, s/veh	LnGrp Delay(d), s/veh											
LnGrp Delay(d), s/veh	27.5	0.0	18.7	19.0	0.0	24.3	1.2	0.0	1.2	6.2	0.0	7.5
LnGrp LOS	C	A	B	B	A	C	A	A	A	A	A	A
Approach Vol, veh/h	178			245			534			686		
Approach Delay, s/veh	22.9			24.1			1.2			7.2		
Approach LOS	C			B			A			A		
Timer - Assigned Phs												
Phs Duration (G+Y+Rc), s	2		4		6		8		10		14	
Change Period (Y+Rc), s	4.1		4.1		4.1		4.1		4.1		4.1	
Max Green Setting (Gmax), s	*37		*15		*37		*15		*37		*15	
Max Q Clear Time (q_c+1), s	11.3		13.2		11.0		9.0		11.3		9.0	
Green Exit Time (p_c), s	4.0		0.1		5.1		0.7		4.0		0.7	

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th TWSC
5: Dunlap Street & Hutton Street
Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection												
Intersection Delay, s/veh	11.6											
Intersection LOS	B											
Movement												
	EBL	EBT	WBT	WBR	SBT	SBR						
Lane Configurations	EBL EBT WBT WBR SBT SBR											
Traffic Vol, veh/h	5	267	235	59	52	7						
Future Vol, veh/h	5	267	235	59	52	7						
Conflicting Peds, #/hr	0	0	0	0	5	5						
Sign Control	Free	Free	Free	Stop	Stop	Stop						
RT Channelized	- None	- None	- None	- None	- None	- None						
Storage Length	-	-	-	-	-	-						
Veh in Median Storage, #	-	-	-	-	-	-						
Grade, %	-	-	-	-	-	-						
Peak Hour Factor	93	93	84	84	74	74						
Heavy Vehicles, %	3	3	2	2	0	0						
Mvmt Flow	5	287	280	70	70	9						
Approach												
Opposing Approach	WB	WB					SB					
Opposing Lanes	1	1					1					
Conflicting Approach Left	SB	NB					WB					
Conflicting Lanes Left	1	1					1					
Conflicting Approach Right	SB	WB					EB					
Conflicting Lanes Right	1	1					1					
HCM Control Delay	10.8	10.8					12.4					
HCM LOS	B	B					B					
Major/Minor												
Conflicting Flow All	350	0	0	617	320							
Stage 1	-	-	-	-	315	-						
Stage 2	-	-	-	-	302	-						
Critical Hwy	4.13	-	-	-	6.4	6.2						
Critical Hwy Stg 1	-	-	-	-	5.4	-						
Critical Hwy Stg 2	-	-	-	-	5.4	-						
Follow-up Delay	2.227	-	-	-	3.5	3.3						
RT Cap-1 Maneuver	1203	-	-	-	457	729						
Stage 1	-	-	-	-	744	-						
Stage 2	-	-	-	-	755	-						
Platoon blocked, %	-	-	-	-	-	-						
Mov Cap-1 Maneuver	1203	-	-	-	455	722						
Mov Cap-2 Maneuver	-	-	-	-	455	-						
Stage 1	-	-	-	-	740	-						
Stage 2	-	-	-	-	755	-						

Approach						
	EB	WB	SB			
HCM Control Delay, s	0.1	0	14.1			
HCM LOS	A	B	B			
Minor Lane/Major Mvmt						
	EBL	EBT	WBT	WBR	SBLn1	SBRn1
Capacity (veh/h)	1203	-	-	-	-	476
HCM Lane V/C Ratio	0.004	-	-	-	-	0.167
HCM Control Delay (s)	8	0	0	0	14.1	8
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %ile Q(veh)	0	-	-	-	0.6	0

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HCM 6th AWSC
6: Wing Street & Main Street
Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection													
Intersection Delay, s/veh	9.4												
Intersection LOS	A												
Movement													
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBT SBR												
Traffic Vol, veh/h	61	91	50	19	29	63	18	42	4	47	89	20	
Future Vol, veh/h	61	91	50	19	29	63	18	42	4	47	89	20	
Peak Hour Factor	0.81	0.81	0.81	0.76	0.76	0.76	0.93	0.93	0.83	0.78	0.78	0.78	
Heavy Vehicles, %	2	2	2	2	2	2	4	4	4	2	2	2	
Mvmt Flow	75	112	62	25	38	83	19	45	4	60	88	26	
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0	
Approach													
Opposing Approach	WB	EB					WB			NB			
Opposing Lanes	1	1					1			1			
Conflicting Approach Left	SB	NB					EB			WB			
Conflicting Lanes Left	1	1					1			1			
Conflicting Approach Right	NB	SB					WB			EB			
Conflicting Lanes Right	1	1					1			1			
HCM Control Delay	9.9	8.6					8.8			9.5			
HCM LOS	A	A					A			A			

Lane				
	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	28%	30%	17%	35%
Vol Thru, %	66%	45%	26%	51%
Vol Right, %	6%	25%	57%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	64	202	111	136
LT Vol	18	61	19	47
Through Vol	42	91	29	69
RT Vol	4	50	63	

HCM 6th Signalized Intersection Summary
9: Griswold Street & Main Street

Future Conditions #3 (Main Closed)
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				4↑	4↑							4↓
Traffic Volume (veh/h)	25	199	14	11	199	120	24	173	15	68	135	65
Future Volume (veh/h)	25	199	14	11	199	120	24	173	15	68	135	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (pT)	1.00	1.00	0.99	0.99	0.99	1.00	0.99	1.00	0.99	1.00	1.00	0.99
Parking Blk. Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1953	1953	1953	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	27	216	15	15	265	160	30	219	19	81	161	77
Peak Hour Factor	0.92	0.92	0.75	0.75	0.75	0.79	0.79	0.79	0.84	0.84	0.84	0.84
Percent Heavy Veh. %	3	3	3	4	4	2	2	2	2	2	2	2
Cap, veh/h	183	1386	96	83	1004	569	103	565	46	181	338	141
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.35	0.35	0.35	0.35	0.35	0.35	0.35
Grade Q Clearing, c/s	2.3	0.0	2.5	4.6	0.0	4.8	6.3	0.0	0.0	8.3	0.0	0.0
Prop In Lane	0.20	0.12	0.06	0.06	0.08	0.11	0.07	0.25	0.24			
Lane Grp Cap(c), veh/h	860	0	805	948	0	709	714	0	0	661	0	0
V/C Ratio(X)	0.15	0.00	0.16	0.25	0.00	0.28	0.30	0.00	0.48	0.00	0.00	0.00
Avail Cap(c), veh/h	0	0	805	948	0	709	714	0	0	661	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.3	0.0	9.3	9.9	0.0	9.9	14.9	0.0	0.0	15.4	0.0	0.0
Int Delay (d2), s/veh	0.4	0.0	0.4	0.6	0.0	1.0	1.5	0.0	0.0	2.5	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.00	0.0	0.9	1.9	0.0	1.6	2.7	0.0	0.0	3.4	0.0	0.0
Urag. Movement Delay, s/veh	9.6	0.0	9.7	10.5	0.0	10.9	16.4	0.0	0.0	18.0	0.0	0.0
LnCrp Delay(d), s/veh	A	A	A	B	A	B	B	A	A	B	A	A
LnCrp LOS	A	A	A	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h	258			440			268			319		
Approach Delay, s/veh	9.7			10.7			16.4			18.0		
Approach LOS	A			B			B			B		
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+R), s	33.4		26.6		33.4		26.6					
Change Period (Y+R), s	5.6		5.6		5.6		5.6					
Max Green Setting (Gmax), s	27.8		*21		27.8		*21					
Max Q Clear Time (g_c+1), s	4.5		10.3		6.8		8.3					
Green Ext Time (g_e), s	1.6		1.4		2.8		1.2					
Intersection Summary												
HCM 6th Ctrl Delay				13.5								
HCM 6th LOS				B								

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th TWSC
10: Cady Street & Main Street

Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection												
Int Delay, s/veh	1											
Movement	EBT	EBL	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4↑		4↑								4↓
Traffic Vol, veh/h	249	33	21	322	8	24						
Future Vol, veh/h	249	33	21	322	8	24						
Conflicting Peds, #/hr	0	8	0	0	0	0						
Sign Control	Free	Free	Free	Free	Stop	Stop						
RT Channelized	None	None	None	None	None	None						
Storage Length	-	-	-	-	-	-						
Veh in Median Storage, #	0	0	0	0	0	0						
Grade, %	0	0	0	0	0	0						
Peak Hour Factor	91	91	77	77	60	60						
Heavy Vehicles, %	4	4	5	5	0	0						
Mvmt Flow	274	36	27	418	13	40						
Major/Minor	Major1	Minor1	Minor2	Minor1	Minor2	Minor1						
Conflicting Flow All	0	316	0	563	163							
Stage 1	-	-	-	-	300	-						
Stage 2	-	-	-	-	263	-						
Critical Hdwy	-	-	-	-	6.8	6.9						
Critical Hdwy Stg 1	-	-	-	-	5.8	-						
Critical Hdwy Stg 2	-	-	-	-	5.8	-						
Follow-up Hdwy	-	-	-	-	2.25	3.5	3.3					
Platoon blocked, %	-	-	-	-	1217	461	659					
Mov Cap-1 Maneuver	-	-	-	-	731	-						
Stage 1	-	-	-	-	763	-						
Stage 2	-	-	-	-	763	-						
Platoon blocked, %	-	-	-	-	1208	444	852					
Mov Cap-1 Maneuver	-	-	-	-	444	-						
Mov Cap-2 Maneuver	-	-	-	-	725	-						
Stage 1	-	-	-	-	741	-						
Stage 2	-	-	-	-	741	-						
Approach	EB	WB	NB	SB								
HCM Control Delay, s	0	0.6	10.6									
HCM LOS			B									
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT							
Capacity (veh/h)	693	-	-	-	-							
HCM Lane V/C Ratio	0.077	-	-	-	0.023							
HCM Control Delay (s)	16.6	-	-	-	0.1							
HCM Lane LOS	B	-	-	-	A							
HCM 95th %ile Q(veh)	0.2	-	-	-	0.1							

HCM 6th AWSC
11: Wing Street & Cady Street

Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection												
Int Delay, s/veh	8.3											
Intersection Delay, s/veh	8.3											
Intersection LOS	A											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4↑		4↑								4↓
Traffic Vol, veh/h	15	48	6	5	36	12	18	37	7	34	93	11
Future Vol, veh/h	15	48	6	5	36	12	18	37	7	34	93	11
Peak Hour Factor	0.63	0.63	0.63	0.82	0.82	0.82	0.90	0.90	0.90	0.81	0.81	0.81
Heavy Vehicles, %	1	1	1	3	3	3	5	5	5	2	2	2
Mvmt Flow	24	76	10	6	44	15	20	41	8	42	115	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB	WB	NB	SB								
Opposing Approach	WB	EB	SB	NB								
Opposing Lanes	1	1	1	1								
Conflicting Approach Left	SB	NB	EB	WB								
Conflicting Lanes Left	1	1	1	1								
Conflicting Approach Right	NB	SB	WB	EB								
Conflicting Lanes Right	1	1	1	1								
HCM Control Delay	8.3	7.9	8	8.6								
HCM LOS	A	A	A	A								
Lane	NBLn1	EBLn1	WBLn1	SBLn1								
Vol Left, %	29%	22%	9%	25%								
Vol Thru, %	60%	70%	68%	67%								
Vol Right, %	11%	9%	23%	8%								
Sign Control	Stop	Stop	Stop	Stop								
Traffic Vol by Lane	62	69	53	138								
LT Vol	18	15	5	34								
Through Vol	37	48	36	93								
RT Vol	7	6	12	11								
Lane Flow Rate	69	110	65	170								
Geometry Grp	1	1	1	1								
Degree of U/I (X)	0.087	0.138	0.081	0.209								
Departure Headway (Hd)	4.572	4.555	4.514	4.42								
Convergence, Y/N	Yes	Yes	Yes	Yes								
Cap	785	792	794	814								
Service Time	2.593	2.555	2.536	2.439								
HCM Lane V/C Ratio	0.088	0.138	0.082	0.209								
HCM Control Delay (s)	8	8.3	7.9	8.6								
HCM Lane LOS	A	A	A	A								
HCM 95th %ile Q	0.3	0.5	0.3	0.8								

HCM

HCM 6th TWSC Future Conditions #3 (Main Closed) AM Peak Hour
15: Griswold Street & Cady Street

Intersection													
Int Delay, s/veh	7.2												
Movement													
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↔ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕												
Traffic Vol, veh/h	159	34	20	1	11	13	19	40	6	10	21	123	
Future Vol, veh/h	159	34	20	1	11	13	19	40	6	10	21	123	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	-	-	None	-	None	-	None	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	
Veh in Median Storage, #	0	-	-	0	-	-	0	-	-	0	-	-	
Grade, %	0	-	-	0	-	-	0	-	-	0	-	-	
Peak Hour Factor	84	84	84	60	60	60	63	63	63	76	76	76	
Heavy Vehicles, %	1	1	1	0	0	0	4	4	4	1	1	1	
Mvmt Flow	189	40	24	2	18	22	30	63	10	13	28	162	
Major/Minor													
	Minor2	Minor1					Major1			Major2			
Conflicting Flow All	253	268	109	295	344	68	190	0	0	73	0	0	
Stage 1	135	135	-	128	128	-	-	-	-	92	-	-	
Stage 2	148	133	-	167	216	-	-	-	-	81	-	-	
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.14	-	-	4.11	-	-	
Critical Hdwy Stg 1	6.11	5.51	-	6.1	5.5	-	-	-	-	5.43	-	-	
Critical Hdwy Stg 2	6.11	5.51	-	6.1	5.5	-	-	-	-	5.43	-	-	
Follow-up Hdwy	3.509	4.009	3.309	3.5	4	3.3	2.236	-	-	2.209	-	-	
Platoon blocked, %	671	640	947	597	563	1001	1372	-	-	1533	-	-	
Mov Cap-1 Maneuver	871	787	-	861	794	-	-	-	-	929	-	-	
Stage 1	857	788	-	840	728	-	-	-	-	940	-	-	
Stage 2	857	788	-	840	728	-	-	-	-	940	-	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	624	619	947	597	563	1001	1372	-	-	1533	-	-	
Mov Cap-2 Maneuver	624	619	-	597	563	-	-	-	-	809	-	-	
Stage 1	851	779	-	861	776	-	-	-	-	928	-	-	
Stage 2	800	770	-	769	721	-	-	-	-	934	-	-	
Approach													
	EB	WB					NB			SB			
HCM Control Delay, s	14.2	10.2					2.2			0.5			
HCM LOS	B	B					A			A			
Minor Lane/Major Mvmt													
	NBL	NBT	NBR	EBL1	WBL1	SBL	SBT	SBR					
Capacity (veh/h)	1372	-	-	644	731	1533	-	-					
HCM Lane V/C Ratio	0.022	-	-	0.394	0.057	0.009	-	-					
HCM Control Delay (s)	7.7	0	0	14.2	10.2	7.4	0	-					
HCM Lane LOS	A	A	-	B	B	A	A	-					
HCM 95th %ile Q(veh)	0.1	-	-	1.9	0.2	0	-	-					

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SimTraffic Performance Report Future Conditions #3 (Main Closed) AM Peak Hour
16: Proposed Beal Street/Beal Street & Griswold Street Performance by movement

Intersection													
Int Delay, s/veh	7.2												
Movement													
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Denied Del/Veh (s)	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	
Total Del/Veh (s)	4.8	4.6	0.2	0.3	3.8	3.6	2.6						
Major/Minor													
	Minor2	Minor1					Major1			Major2			
Conflicting Flow All	253	268	109	295	344	68	190	0	0	73	0	0	
Stage 1	135	135	-	128	128	-	-	-	-	92	-	-	
Stage 2	148	133	-	167	216	-	-	-	-	81	-	-	
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.14	-	-	4.11	-	-	
Critical Hdwy Stg 1	6.11	5.51	-	6.1	5.5	-	-	-	-	5.43	-	-	
Critical Hdwy Stg 2	6.11	5.51	-	6.1	5.5	-	-	-	-	5.43	-	-	
Follow-up Hdwy	3.509	4.009	3.309	3.5	4	3.3	2.236	-	-	2.209	-	-	
Platoon blocked, %	671	640	947	597	563	1001	1372	-	-	1533	-	-	
Mov Cap-1 Maneuver	871	787	-	861	794	-	-	-	-	929	-	-	
Stage 1	857	788	-	840	728	-	-	-	-	940	-	-	
Stage 2	857	788	-	840	728	-	-	-	-	940	-	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	624	619	947	597	563	1001	1372	-	-	1533	-	-	
Mov Cap-2 Maneuver	624	619	-	597	563	-	-	-	-	809	-	-	
Stage 1	851	779	-	861	776	-	-	-	-	928	-	-	
Stage 2	800	770	-	769	721	-	-	-	-	934	-	-	
Approach													
	EB	WB					NB			SB			
HCM Control Delay, s	14.2	10.2					2.2			0.5			
HCM LOS	B	B					A			A			
Minor Lane/Major Mvmt													
	NBL	NBT	NBR	EBL1	WBL1	SBL	SBT	SBR					
Capacity (veh/h)	1372	-	-	644	731	1533	-	-					
HCM Lane V/C Ratio	0.022	-	-	0.394	0.057	0.009	-	-					
HCM Control Delay (s)	7.7	0	0	14.2	10.2	7.4	0	-					
HCM Lane LOS	A	A	-	B	B	A	A	-					
HCM 95th %ile Q(veh)	0.1	-	-	1.9	0.2	0	-	-					

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HCM 6th TWSC Future Conditions #3 (Main Closed) AM Peak Hour
17: River Street & Beal Street

Intersection													
Int Delay, s/veh	2.5												
Movement													
	EBT	EBR	WBL	WBT	NBL	NBR							
Lane Configurations	↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕												
Traffic Vol, veh/h	64	22	4	40	32	6							
Future Vol, veh/h	64	22	4	40	32	6							
Conflicting Peds, #/hr	0	1	0	1	0	1							
Sign Control	Free	Free	Free	Free	Stop	Stop							
RT Channelized	-	None	-	None	-	None							
Storage Length	-	-	-	-	-	-							
Veh in Median Storage, #	0	-	-	0	0	-							
Grade, %	0	-	-	0	0	-							
Peak Hour Factor	83	83	61	61	71	71							
Heavy Vehicles, %	0	0	5	5	3	3							
Mvmt Flow	77	27	7	66	45	8							
Major/Minor													
	Major1	Minor2					Minor1			Major1			
Conflicting Flow All	0	0	105	0	173	95							
Stage 1	-	-	-	-	92	-							
Stage 2	-	-	-	-	81	-							
Critical Hdwy	-	-	4.15	-	6.43	6.23							
Critical Hdwy Stg 1	-	-	-	-	5.43	-							
Critical Hdwy Stg 2	-	-	-	-	5.43	-							
Follow-up Hdwy	-	-	2.245	-	3.527	3.327							
Platoon blocked, %	-	-	1467	-	809	955							
Mov Cap-1 Maneuver	-	-	-	-	809	-							
Mov Cap-2 Maneuver	-	-	-	-	928	-							
Stage 1	-	-	-	-	928	-							
Stage 2	-	-	-	-	934	-							
Approach													
	EB	WB					NB						
HCM Control Delay, s	0	0.7					9.6						
HCM LOS		A					A						
Minor Lane/Major Mvmt													
	NBLr1	EBT	EBR	WBL	WBT								
Capacity (veh/h)	829	-	-	1467	-								
HCM Lane V/C Ratio	0.065	-	-	0.004	-								
HCM Control Delay (s)	9.6	-	-	7.5	0								
HCM Lane LOS	A	-	-	A	A								
HCM 95th %ile Q(veh)	0.2	-	-	0	-								

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HCM 6th TWSC Future Conditions #3 (Main Closed) AM Peak Hour
18: Main Street/Northville Road & Beal Street

Intersection													
Int Delay, s/veh	1.4												
Movement													
	EBL	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations	↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕												
Traffic Vol, veh/h	3	67	35	363	279	9							
Future Vol, veh/h	3	67	35	363	279	9							
Conflicting Peds, #/hr	0	0	4	0	0	4							
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	86	86	85	85	87	87							
Heavy Vehicles, %	0	0	4	4	3	3							
Mvmt Flow	3	78	41	427	321	10							
Major/Minor													
	Minor2	Major1					Major2						
Conflicting Flow All	626	170	335	0	-	0							
Stage 1	330	-	-	-	-	-							
Stage 2	296	-	-	-	-	-							
Critical Hdwy	6.8	6.9	4.18	-	-	-							
Critical Hdwy Stg 1	5.8	-	-	-	-	-							
Critical Hdwy Stg 2	5.8	-	-	-	-	-							
Follow-up Hdwy	3.5	3.3	2.24	-	-	-							
Platoon blocked, %	421	851	1207	-	-	-							
Mov Cap-1 Maneuver	707	-	-	-	-	-							
Stage 1	735	-	-	-	-	-							
Stage 2	735	-	-	-	-	-							
Platoon blocked, %	-	-	-	-	-	-							
Mov Cap-1 Maneuver	399	848	1202	-	-	-							
Mov Cap-2 Maneuver	359	-	-	-	-	-							
Stage 1	672	-	-	-	-	-							
Stage 2	732	-	-	-	-	-							
Approach													
	EB	NB					SB						
HCM Control Delay, s	9.9	0.9					0						
HCM LOS	A	A					A						
Minor Lane/Major													

HCM 6th TWSC Future Conditions #3 (Main Closed) AM Peak Hour
21: Center Street & Fairbrook Street/W. Site Drive

Intersection	Future Conditions #3 (Main Closed)											
Int Delay, s/veh	1.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4	4	15	18	13	12	624	10	5	432	4	
Traffic Vol, veh/h	14	2	15	18	5	13	12	624	10	5	432	4
Future Vol, veh/h	14	2	15	18	5	13	12	624	10	5	432	4
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	-	-	-	-	-	-	-	-	-	-	-
Grade, %	-	-	-	-	-	-	-	-	-	-	-	-
Peak Hour Factor	76	76	76	92	92	92	90	90	90	88	88	88
Heavy Vehicles, %	3	3	3	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	3	20	20	5	14	13	693	11	6	491	5

Major/Minor	Minor2	Minor1	Major1	Major2							
Conflicting Flow All	1240	1236	494	1242	1233	699	496	0	704	0	0
Stage 1	506	506	-	725	725	-	-	-	-	-	-
Stage 2	734	730	-	517	508	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.12	6.52	6.22	4.12	-	4.12	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.12	5.52	-	-	-	-	-	-
Critical Hdwy Stg 2	6.13	5.53	-	6.12	5.52	-	-	-	-	-	-
Follow-up Hdwy	3.527	4.027	3.327	3.518	4.018	3.318	2.218	-	2.218	-	-
Platoon blocked, %	140	170	573	142	172	440	1068	-	894	-	-
Mov Cap-1 Maneuver	547	538	-	416	430	-	-	-	-	-	-
Stage 1	410	426	-	541	539	-	-	-	-	-	-
Stage 2	140	170	573	142	172	440	1068	-	894	-	-
Mov Cap-2 Maneuver	140	170	-	142	172	-	-	-	-	-	-
Stage 1	536	533	-	408	421	-	-	-	-	-	-
Stage 2	384	417	-	515	534	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.5	28.2	0.2	0.1
HCM LOS	C	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLN1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1068	-	-	225	194	894	-	-
HCM Lane V/C Ratio	0.012	-	-	0.181	0.202	0.006	-	-
HCM Control Delay (s)	8.4	0	-	24.5	28.2	9.1	0	-
HCM Lane LOS	A	A	-	C	D	A	A	-
HCM 95th %ile Q(veh)	0	-	-	0.6	0.7	0	-	-

HCM 6th TWSC Future Conditions #3 (Main Closed) AM Peak Hour
22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Intersection	Future Conditions #3 (Main Closed)											
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4	4	15	18	13	12	624	10	5	432	4	
Traffic Vol, veh/h	5	345	3	7	232	26	2	4	13	24	3	19
Future Vol, veh/h	5	345	3	7	232	26	2	4	13	24	3	19
Conflicting Peds, #/hr	2	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	None	-	None	-	None	-	None	-	None	-	None
Storage Length	100	-	500	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	0	-	-	-	-	0	-	-	-
Grade, %	-	0	-	0	-	-	-	-	0	-	-	-
Peak Hour Factor	80	80	80	89	89	89	79	79	79	85	85	85
Heavy Vehicles, %	2	2	2	3	3	3	10	10	10	4	4	4
Mvmt Flow	6	431	4	8	261	29	3	5	16	28	4	22

Major/Minor	Major1	Major2	Minor1	Minor2								
Conflicting Flow All	282	0	0	435	0	0	750	753	436	753	741	278
Stage 1	-	-	-	-	-	-	445	445	-	294	294	-
Stage 2	-	-	-	-	-	-	305	308	-	459	447	-
Critical Hdwy	4.12	-	-	4.13	-	-	7.2	6.6	6.3	7.14	6.54	6.24
Critical Hdwy Stg 1	-	-	-	-	-	-	6.2	5.6	-	6.14	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.2	5.6	-	6.14	5.54	-
Follow-up Hdwy	2.218	-	-	2.227	-	-	3.59	4.09	3.39	3.536	4.036	3.336
Platoon blocked, %	1270	-	-	1119	-	-	318	329	604	324	342	756
Mov Cap-1 Maneuver	547	538	-	416	430	-	-	-	577	561	-	710
Stage 1	410	426	-	541	539	-	-	-	688	646	-	578
Stage 2	140	170	573	142	172	440	1068	-	894	-	-	
Mov Cap-2 Maneuver	140	170	-	142	172	-	-	-	303	334	-	307
Stage 1	536	533	-	408	421	-	-	-	574	558	-	705
Stage 2	384	417	-	515	534	-	-	-	659	640	-	553

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	13.1	15.1
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBLn1	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	469	1268	-	1119	-	-	410
HCM Lane V/C Ratio	0.051	0.095	-	0.007	-	-	0.132
HCM Control Delay (s)	13.1	7.9	-	8.2	-	-	15.1
HCM Lane LOS	B	A	-	A	-	-	C
HCM 95th %ile Q(veh)	0.2	0	-	0	-	-	0.5

HCM 6th Signalized Intersection Summary Future Conditions #3 (Main Closed) AM Peak Hour
23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4	4	15	18	13	12	624	10	5	432	4	
Traffic Volume (veh/h)	41	277	64	31	195	81	51	524	64	80	366	19
Future Volume (veh/h)	41	277	64	31	195	81	51	524	64	80	366	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj. Sat Flow, veh/h/m	1984	1984	1984	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj. Flow Rate, veh/h	48	326	75	34	212	88	55	570	70	93	426	22
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.86	0.86	0.86
Percent Heavy Veh. %	1	1	1	4	4	4	2	2	2	2	2	2
Cap. veh/h	405	573	132	284	712	603	405	838	103	274	905	47
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1087	1560	369	1938	1940	1941	1919	211	789	1855	948	
Grp Volume(v), veh/h	48	0	401	34	212	88	55	0	640	93	0	448
Grp Sat Flow(s), veh/h/m	1087	0	1919	968	1938	1640	941	0	1930	789	0	1961
Q Servig, s/s	2.6	0.0	13.4	2.3	6.2	2.9	3.3	0.0	20.3	8.2	0.0	12.2
Cycle Q Clearing, c/s	8.8	0.0	13.4	15.7	6.2	2.9	15.5	0.0	20.3	28.5	0.0	12.2
Prop In Lane	1.00	0.19	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	405	0	705	284	712	603	405	0	941	274	0	951
V/C Ratio(X)	0.12	0.00	0.57	0.12	0.30	0.15	0.14	0.00	0.68	0.34	0.00	0.47
Avail Cap(c), veh/h	405	0	705	284	712	603	405	0	941	274	0	951
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.1	0.0	20.2	26.5	18.0	16.9	18.8	0.0	15.7	26.7	0.0	13.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	4.0	3.3	0.0	1.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q50%), veh/h	0.7	0.0	6.2	0.6	2.8	1.1	0.8	0.0	8.9	1.7	0.0	5.2
Unsig. Movement Delay, s/veh	21.7	0.0	23.5	27.4	19.0	17.4	19.5	0.0	19.7	30.0	0.0	15.3
LnGrp LOS	C	A	C	C	B	B	B	A	B	C	A	B
Approach Vol, veh/h	449	-	-	334	-	-	695	-	541	-	-	-
Approach Delay, s/veh	23.3	-	-	19.5	-	-	19.7	-	17.8	-	-	-
Approach LOS	C	-	-	B	-	-	B	-	B	-	-	-
Timer - Assigned Phs	2	4	6	6	8	8	8	8	8	8	8	8
Phs Duration (G+Y+Rc), s	45.0	35.0	45.0	45.0	35.0	45.0	35.0	45.0	35.0	45.0	35.0	45.0
Change Period (Y+Rc), s	6.0	5.6	6.0	6.0	5.6	6.0	5.6	6.0				

HCM Unsignalized Intersection Capacity Analysis Future Conditions #3 (Main Closed) 27: NB Northville Road & N. Seven Mile Road AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	2	2	2	2	2	2
Traffic Volume (veh/h)	54	0	169	352	0	0
Future Volume (veh/h)	46	0	169	352	0	0
Sign Control	Yield		Free	Free		
Grade	0%		0%	0%		
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	
Hourly flow rate (vph)	54	0	199	414	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None	None		
Median storage (veh)						
Upstream signal (ft)			511			
pX_platoun unblocked						
vC_conflicting volume	605	0	0			
vC1_stage 1 conf vol						
vC2_stage 2 conf vol						
vC3_unblocked vol	605	0	0			
IC_single (s)	6.9	7.0	4.2			
IC_2_stage (s)						
IF (s)	3.5	3.3	2.2			
p0_queue free %	86	100	88			
cmf_capacity (veh/h)	374	1061	1607			
Direction_Lane #	EBL1	NB1	NB2			
Volume Total	54	337	276			
Volume Left	54	199	0			
Volume Right	0	0	0			
gSH	374	1607	1700			
Volume to Capacity	0.14	0.12	0.16			
Queue Length 95th (ft)	12	11	0			
Control Delay (s)	16.2	4.9	0.0			
Lane LOS	C	A	B			
Approach Delay (s)	16.2	2.7				
Approach LOS	C					
Intersection Summary						
Average Delay		3.8				
Intersection Capacity Utilization		46.3%		ICU Level of Service	A	
Analysis Period (min)		15				

HCM 6th Signalized Intersection Summary Future Conditions #3 (Main Closed) 28: Northville Road & S. Seven Mile Road AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	2	2	2	2	2	2
Traffic Volume (veh/h)	270	221	300	285	318	200
Future Volume (veh/h)	270	221	300	285	318	200
Initial Q (Qb), veh	0	0	0	0	0	0
Peak-Hour Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj						
Work Zone On Approach	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1953	1953	1938	1938	1953	1953
Adj Flow Rate, veh/h	287	235	341	324	379	238
Peak Hour Factor	0.94	0.94	0.89	0.89	0.94	0.94
Percent Heavy Veh. %	3	3	4	4	3	3
Cap. veh/h	665	923	377	337	462	1800
Arrive On Green	0.36	0.36	0.20	0.20	0.20	0.49
Sat Flow, veh/h	1860	1655	1938	1942	1860	3859
Grp Volume(v), veh/h	287	235	341	324	379	238
Grp Sat Flow(s),veh/hln	1860	1655	1841	1642	1860	1856
Q Serwig, s	9.4	0.0	14.5	15.6	11.5	2.8
Cycle Q Clearing, c	9.4	0.0	14.5	15.6	11.5	2.8
Prop In Lane	1.00	1.00	1.00	1.00	1.00	1.00
Lane Grp Cap(c), veh/h	665	923	377	337	462	1800
V/C Ratio(r)	0.43	0.25	0.90	0.96	0.82	0.13
Avail Cap(c), veh/h	665	923	377	337	462	1800
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filler(1)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	9.1	31.0	31.5	28.5	11.3
Ini Delay (d0), s/veh	2.0	0.7	27.4	40.4	16.0	0.2
Initial Q Delay(d0),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
File Back(Q0/Q0),veh/hln	4.2	2.0	8.9	9.5	7.9	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.6	9.8	58.4	71.9	43.8	11.5
LnGrp LOS	C	A	E	E	D	B
Approach Vol, veh/h	522	665				
Approach Delay, s/veh	16.3	65.0				31.4
Approach LOS	B	E				C
Trnsr - Assigned Phs	1	2				8
Phs Duration (Y+R), s	22.4	22.8				45.2
Change Period (Y+R), s	6.4	6.4				6.4
Max Green Setting (Gmax), s	16.0	16.4				38.8
Max Q Clear Time (q_c+1), s	13.5	17.6				4.8
Green Ext Time (g_e), s	0.3	0.0				1.5
Intersection Summary						
HCM 6th Ctrl Delay		39.4				
HCM 6th LOS		D				

HCM 6th TWSC Future Conditions #3 (Main Closed) 29: N.E. Site Drive (Egress Only) & Cady Street AM Peak Hour

Intersection	EBT	EBR	WBL	WBT	NBL	NBR
Int Delay, s/veh	0.1					
Lane Configurations	2	2	2	2	2	2
Traffic Vol, veh/h	163	0	0	225	3	1
Future Vol, veh/h	163	0	0	225	3	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None	- None	- None	- None	- None	- None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	72	72	92	92
Heavy Vehicles, %	1	1	1	1	2	2
Mvmt Flow	201	0	0	313	3	1
Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	-	-	514	201	
Stage 1	-	-	-	201	-	
Stage 2	-	-	-	313	-	
Critical Hdwy	-	-	-	642	822	
Critical Hdwy Stg 1	-	-	-	542	-	
Critical Hdwy Stg 2	-	-	-	542	-	
Follow-up Hdwy	-	-	-	3518	3318	
Plat Cap-1 Maneuver	0	0	-	521	840	
Stage 1	-	-	-	833	-	
Stage 2	-	-	-	741	-	
Platoun blocked, %	-	-	-	-	-	
Mov Cap-1 Maneuver	-	-	-	521	840	
Mov Cap-2 Maneuver	-	-	-	521	-	
Stage 1	-	-	-	833	-	
Stage 2	-	-	-	741	-	
Approach	EB	WB	NB			
HCM Control Delay, s	0	0	11.3			
HCM LOS			B			
Minor Lane/Major Mvmt	NBLr1	EBT	WBT			
Capacity (veh/h)	576	-	-			
HCM Lane V/C Ratio	0.008	-	-			
HCM Control Delay (s)	11.3	-	-			
HCM Lane LOS	B	-	-			
HCM 95th %ile Q(veh)	0	-	-			

HCM 6th TWSC Future Conditions #3 (Main Closed) 30: Griswold Street & E. Site Drive AM Peak Hour

Intersection	EBL	EBR	NBL	NBT	SBT	SBR
Int Delay, s/veh	0.2					
Lane Configurations	2	2	2	2	2	2
Traffic Vol, veh/h	1	1	64	42	0	0
Future Vol, veh/h	1	1	64	42	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	- None	- None	- None	- None	- None	- None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	63	63	83	83
Heavy Vehicles, %	2	2	4	4	0	0
Mvmt Flow	1	1	2	102	51	0
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	157	51	51	0	-	0
Stage 1	51	-	-	-	-	-
Stage 2	106	-	-	-	-	-
Critical Hdwy	642	622	414	-	-	-
Critical Hdwy Stg 1	542	-	-	-	-	-
Critical Hdwy Stg 2	542	-	-	-	-	-
Follow-up Hdwy	3518	3318	2236	-	-	-
Plat Cap-1 Maneuver	834	1017	1542	-	-	-
Stage 1	971	-	-	-	-	-
Stage 2	918	-	-	-	-	-
Platoun blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	833	1017	1542	-	-	-
Mov Cap-2 Maneuver	833	-	-	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	918	-	-	-	-	-
Approach	EB	NB	SB			
HCM Control Delay, s	8.9	0.1	0			
HCM LOS	A					
Minor Lane/Major Mvmt	NBL	NBT	EBLr1	SBT	SBR	
Capacity (veh/h)	1542	-	916	-	-	
HCM Lane V/C Ratio	0.001	-	0.002	-	-	
HCM Control Delay (s)	7.3	0	8.9	-	-	
HCM Lane LOS	A	A	A	-	-	
HCM 95th %ile Q(veh)	0	-	0	-	-	

HCM 6th TWSC Future Conditions #3 (Main Closed) 31: Griswold Street & S.E. Site Drive AM Peak Hour

Intersection	EBL	EBR	NBL	NBT	SBT	SBR
Int Delay, s/veh	0.1					
Lane Configurations	2	2	2	2	2	2
Traffic Vol, veh/h	2	0	0	63	42	1
Future Vol, veh/h	2	0	0	63	42	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	- None	- None	- None	- None	- None	- None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	63	63	83	83
Heavy Vehicles, %	2	2	4	4	0	0
Mvmt Flow	2	0	0	100	51	1
Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	152	52	52	0	-	0
Stage 1	52	-	-	-	-	-
Stage 2	100	-	-	-	-	-
Critical Hdwy	642	622	414	-	-	-
Critical Hdwy Stg 1	542	-	-	-	-	-
Critical Hdwy Stg 2	542	-	-	-	-	-
Follow-up Hdwy	3518	3318	2236	-	-	-
Plat Cap-1 Maneuver	840	1016	1541	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	924	-	-	-	-	-
Platoun blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	840	1016	1541	-	-	-
Mov Cap-2 Maneuver	840	-	-	-	-	-
Stage 1	970	-	-	-	-	-
Stage 2	924	-	-	-	-	-
Approach						

HCM 6th TWSC Future Conditions #3 (Main Closed) AM Peak Hour

Intersection		1.1					
Int Delay, s/veh							
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↔ ↕ ↕ ↕ ↕ ↕						
Traffic Vol, veh/h	25	0	2	19	0	6	
Future Vol, veh/h	25	0	2	19	0	6	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	- None	- None	- None	- None	- None	- None	
Storage Length	-	-	-	-	-	-	
Vel in Median Storage, #	0	-	0	0	-	0	
Grade, %	0	-	0	0	-	0	
Peak Hour Factor	76	76	69	69	92	92	
Heavy Vehicles, %	3	3	0	0	2	2	
Mvmt Flow	33	0	3	28	0	7	

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	33	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	6.42
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.2	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1592	-
Mov Cap-2 Maneuver	-	-	-	936
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	8.5
HCM LOS	A	A	C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1041	-	-	1592	-
HCM Lane V/C Ratio	0.006	-	-	0.002	-
HCM Control Delay (s)	8.5	-	-	8.2	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %ile Q(veh)	0	-	-	0	-

HCM 6th TWSC Future Conditions #3 (Main Closed) AM Peak Hour

Intersection		0.4					
Int Delay, s/veh							
Movement	WBL	WBR	NBT	NBR	SBL	SBR	
Lane Configurations	↔ ↕ ↕ ↕ ↕ ↕						
Traffic Vol, veh/h	3	1	33	2	0	43	
Future Vol, veh/h	3	1	33	2	0	43	
Conflicting Peds, #/hr	0	0	0	0	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	- None	- None	- None	- None	- None	- None	
Storage Length	0	-	0	-	0	-	
Vel in Median Storage, #	0	-	0	-	0	-	
Grade, %	0	-	0	-	0	-	
Peak Hour Factor	92	92	75	75	85	85	
Heavy Vehicles, %	2	2	11	11	4	4	
Mvmt Flow	3	1	44	3	0	51	

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	97	46	0
Stage 1	46	-	-
Stage 2	51	-	-
Critical Hdwy	-	-	6.42
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	3.518
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	902
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A	A	C

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBR
Capacity (veh/h)	-	-	929	1548	-
HCM Lane V/C Ratio	-	-	0.005	-	-
HCM Control Delay (s)	-	-	8.9	-	-
HCM Lane LOS	-	-	A	-	-
HCM 95th %ile Q(veh)	-	-	0	-	-

HCM 6th TWSC Future Conditions #3 (Main Closed) PM Peak Hour

Intersection		5.4					
Int Delay, s/veh							
Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↔ ↕ ↕ ↕ ↕ ↕						
Traffic Vol, veh/h	250	98	5	98	176	12	
Future Vol, veh/h	250	98	5	98	176	12	
Conflicting Peds, #/hr	0	11	11	0	0	4	
Sign Control	Free	Free	Free	Free	Stop	Stop	
RT Channelized	- None	- None	- None	- None	- None	- None	
Storage Length	-	-	-	-	-	-	
Vel in Median Storage, #	0	-	0	0	-	0	
Grade, %	0	-	0	0	-	0	
Peak Hour Factor	87	87	81	81	78	78	
Heavy Vehicles, %	0	0	0	0	0	1	
Mvmt Flow	287	113	6	121	226	15	

Major/Minor	Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	0	411	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	-	4.1	-
Critical Hdwy Stg 1	-	-	-	6.41
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	2.2	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	1159	-
Mov Cap-2 Maneuver	-	-	-	532
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	11
HCM LOS	A	A	C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	539	-	-	1147	-
HCM Lane V/C Ratio	0.447	-	-	0.005	-
HCM Control Delay (s)	17	-	-	8.2	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %ile Q(veh)	2.3	-	-	0	-

HCM 6th TWSC Future Conditions #3 (Main Closed) PM Peak Hour

Intersection		44.2											
Int Delay, s/veh													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↔ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕												
Traffic Vol, veh/h	41	11	210	13	13	25	52	635	8	16	443	38	
Future Vol, veh/h	41	11	210	13	13	25	52	635	8	16	443	38	
Conflicting Peds, #/hr	2	0	5	0	0	2	15	0	12	12	0	15	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	- None	- None	- None	- None	- None	- None	- None	- None	- None	- None	- None	- None	
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-	
Vel in Median Storage, #	0	-	0	-	0	-	0	-	0	-	0	-	
Grade, %	0	-	0	-	0	-	0	-	0	-	0	-	
Peak Hour Factor	84	84	91	91	91	91	87	87	87	73	73	73	
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	1	1	1	
Mvmt Flow	49	13	250	14	14	27	60	730	9	22	607	52	

Major/Minor	Minor1	Minor2	Major1	Major2
Conflicting Flow All	1569	1563	653	1681
Stage 1	692	692	867	867
Stage 2	877	871	814	718
Critical Hdwy	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	-	-	-
Platoon blocked, %	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	237.6	122.4	0.7	0.3
HCM LOS	F	F	A	A

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	914	-	-	226	79	853	-	-
HCM Lane V/C Ratio	0.065	-	-	1.38	0.709	0.026	-	-
HCM Control Delay (s)	9.2	-	-	227.6	122.4	0.3	-	-
HCM Lane LOS	A	-	-	F	F	A	-	-
HCM 95th %ile Q(veh)	0.2	-	-	17.4	3.4	0.1	-	-

HCM 6th AWSC Future Conditions #3 (Main Closed) PM Peak Hour

Intersection		10.9											
Intersection Delay, s/veh		B											
Intersection LOS		B											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	↔ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕ ↕												
Traffic Vol, veh/h	0	81	12	65	105	48	9	140	84	49	51	3	
Future Vol, veh/h	0	81	12	65	105	48	9	140	84	49	51	3	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized	- None	- None	- None	- None	- None	- None	- None	- None	- None	- None	- None	- None	
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-	
Vel in Median Storage, #	0	-	0	-	0	-	0	-	0	-	0	-	
Grade, %	0	-	0	-	0	-	0	-	0	-	0	-	
Peak Hour Factor	0	0	0	0	0	0	0	0	0	0	0	0	
Heavy Vehicles, %	0	0	0	0	0	0	0	0	0	0	0	0	
Mvmt Flow	0	105	16	87	140	64	10	161	97	67	70	4	
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0	

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	1	SB	0	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.6	11.7	11	10.1
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	0%	30%	48%
Vol Thru, %	60%	87%	48%	50%
Vol Right, %	36%	13%	22%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	233	93	218	103
LT Vol	9	0	65	49
Through Vol	140	81	105	51
RT Vol	84	12	48	3
Lane Flow Rate	268	121	291	141
Geometry Gap	1	1	1	1
Degree of Util (X)	0.373	0.18	0.412	0.216
Desireline Headway (Hd)	5.02	5.365	5.106	5.505
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	718	668	708	652
Service Time	3.049	3.401	3.136	3.539
HCM Lane V/C Ratio	0.373	0.181	0.412	0.216
HCM Control Delay	11	9.6	11.7	10.1
HCM Lane LOS	B	A	B	B
HCM 95th %ile Q	1.7	0.7	2	0.8

HCM 6th TWSC Future Conditions #3 (Main Closed) PM Peak Hour
5: Dunlap Street & Hutton Street

Intersection						
Int Delay, s/veh	2.7					
Movement						
EBL	EBT	WBT	WBR	SBL	SBR	
Lane Configurations						
Traffic Vol, veh/h	14	307	420	93	89	11
Future Vol, veh/h	14	307	420	93	89	11
Conflicting Peds, #/hr	19	0	0	19	10	20
Sign Control						
Free	Free	Free	Free	Stop	Stop	
RT Channelized	None	-	None	-	None	
Storage Length	-	-	-	-	-	
Vel in Median Storage, #	0	0	0	0	0	
Grade, %	0	0	0	0	0	
Peak Hour Factor	92	92	92	92	89	89
Heavy Vehicles, %	0	0	1	1	1	1
Mvmt Flow	15	334	457	101	100	12
Major/Minor						
Major1	Major2	Minor2				
Conflicting Flow Adj	577	0	0	901	547	
Stage 1						
Stage 2	-	-	-	-	-	
Critical Hdwy	4.1	-	-	-	6.21	
Critical Hdwy Stg 1	-	-	-	-	5.41	
Critical Hdwy Stg 2	-	-	-	-	5.41	
Follow-up Hdwy	2.2	-	-	-	3.509	
Plat Cap-1 Maneuver	1006	-	-	-	310	
Stage 1						
Stage 2	-	-	-	-	698	
Platoon blocked, %	-	-	-	-	-	
Mov Cap-1 Maneuver	988	-	-	-	293	
Mov Cap-2 Maneuver	-	-	-	-	519	
Stage 1						
Stage 2	-	-	-	-	572	
Stage 2						
Approach						
EB	WB	SB				
HCM Control Delay, s	0.4	0	23.3			
HCM LOS	C	A	C			
Minor Lane/Major Mvmt						
EBL	EBT	WBT	WBR	SBL1	SBR1	
Capacity (veh/h)	988	-	-	-	308	
HCM Lane V/C Ratio	0.015	-	-	-	0.365	
HCM Control Delay (s)	8.7	-	-	-	29.3	
HCM Lane LOS	A	A	-	-	C	
HCM 95th %ile Q(veh)	0	-	-	-	1.6	

HCM 6th AWSC Future Conditions #3 (Main Closed) PM Peak Hour
6: Wing Street & Main Street

Intersection												
Int Delay, s/veh	10											
Intersection LOS	A											
Movement												
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Vol, veh/h	84	41	71	13	39	22	40	127	46	25	75	35
Future Vol, veh/h	84	41	71	13	39	22	40	127	46	25	75	35
Peak Hour Factor	0.82	0.82	0.82	0.80	0.80	0.80	0.91	0.91	0.91	0.76	0.76	0.76
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	102	50	87	16	49	28	44	140	51	33	99	46
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach												
EB	WB	NB	SB									
Opposing Approach	WB	SB	EB									
Opposing Lanes	1	1	1									
Conflicting Approach Left	SB	EB	WB									
Conflicting Lanes Left	1	1	1									
Conflicting Approach Right	NB	SB	WB									
Conflicting Lanes Right	1	1	1									
HCM Control Delay	10.4	9	10.2									
HCM LOS	B	A	B									
Lane												
NBLn1	WBLn1	NBLn2	SBLn1	SBLn2								
Vol Left, %	19%	43%	18%	19%								
Vol Thru, %	60%	21%	53%	56%								
Vol Right, %	22%	36%	30%	26%								
Sign Control	Stop	Stop	Stop	Stop								
Traffic Vol by Lane	213	196	74	155								
LT Vol	40	84	13	25								
Through Vol	127	41	39	75								
RT Vol	46	71	22	35								
Lane Flow Rate	234	239	92	178								
Geometry Grp	1	1	1	1								
Degree of Util (X)	0.316	0.325	0.133	0.242								
Disruptive Headway (Hd)	4.854	4.891	5.187	4.854								
Convergence, Y/N	Yes	Yes	Yes	Yes								
Cap	730	727	696	725								
Service Time	2.952	2.978	3.187	2.957								
HCM Lane V/C Ratio	0.221	0.229	0.192	0.246								
HCM Control Delay	10.2	10.4	9	9.6								
HCM Lane LOS	B	B	A	A								
HCM 95th-ile Q	1.4	1.4	0.5	0.9								

HCM 6th Signalized Intersection Summary Future Conditions #3 (Main Closed) PM Peak Hour
7: Center Street & Main Street

Intersection						
Int Delay, s/veh	2.7					
Movement						
EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations						
Traffic Volume (veh/h)	28	58	10	485	511	23
Future Volume (veh/h)	28	58	10	485	511	23
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	1.00	0.94	0.99	1.00	1.00	0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1984	1984	2000	2000	1984	1984
Adj Flow Rate, veh/h	31	65	11	511	538	24
Peak Hour Factor	0.89	0.89	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	0	0	0	1
Cap, veh/h	140	294	68	1100	1051	47
Arrive On Green	0.26	0.26	0.56	0.56	1.00	1.00
Sat Flow, veh/h	532	1116	13	1970	1863	84
Grp Volume(v), veh/h	97	0	522	0	0	562
Grp Sat Flow(s), veh/h/ln	1666	0	1983	0	0	1987
Q Served, s, s	2.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clearing, c, s	2.7	0.0	9.4	0.0	0.0	0.0
Prop In Lane	0.32	0.67	0.02	0.02	0.04	0.04
Lane Grp Cap(c), veh/h	439	0	1168	0	0	1098
V/C Ratio(X)	0.22	0.00	0.45	0.00	0.00	0.51
Avail Cap(c), veh/h	439	0	1168	0	0	1098
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	17.3	0.0	7.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	1.2	0.0	0.0	1.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
% BackOfQ(50%), veh/h	1.1	0.0	3.7	0.0	0.0	0.5
Unsig. Movement Delay, s/veh	18.4	0.0	9.2	0.0	0.0	1.7
LnGrp Delay(d), s/veh	B	A	A	A	A	A
LnGrp LOS	B	A	A	A	A	A
Approach Vol, veh/h	97	522	562			
Approach Delay, s/veh	18.4	9.2	1.7			
Approach LOS	B	A	A			
Timer - Assigned Phs						
2	4	6				
Phs Duration (G+Y+Rc), s	39.0	21.0	39.0			
Change Period (Y+Rc), s	5.5	* 5.2	5.5			
Max Green Setting (Gmax), s	33.5	* 16	33.5			
Max Q Clear Time (g, c+1), s	11.4	4.7	2.0			
Green Exit Time (g, c), s	3.7	0.2	4.4			
Intersection Summary						
HCM 6th Ctrl Delay	6.4					
HCM 6th LOS	A					
Notes						
User approved volume balancing among the lanes for turning movement.						
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.						

HCM 6th AWSC Future Conditions #3 (Main Closed) PM Peak Hour
8: Hutton Street & Main Street

Intersection						
Int Delay, s/veh	15.3					
Intersection LOS	C					
Movement						
WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations						
Traffic Vol, veh/h	48	356	157	25	282	114
Future Vol, veh/h	48	356	157	25	282	114
Peak Hour Factor	0.92	0.92	0.89	0.89	0.91	0.91
Heavy Vehicles, %	1	1	0	0	1	1
Mvmt Flow	52	387	176	28	310	125
Number of Lanes	1	1	1	0	1	1
Approach						
WB	NB	SB				
Opposing Approach	WB	SB				
Opposing Lanes	0	2				
Conflicting Approach Left	NB	WB				
Conflicting Lanes Left	1	0				
Conflicting Approach Right	SB	WB				
Conflicting Lanes Right	2	2				
HCM Control Delay	16	12.6	15.8			
HCM LOS	C	B	C			
Lane						
NBLn1	WBLn1	WBLn2	SBLn1	SBLn2		
Vol Left, %	0%	100%	0%	100%	0%	
Vol Thru, %	86%	0%	0%	0%	100%	
Vol Right, %	14%	0%	100%	0%	0%	
Sign Control	Stop	Stop	Stop	Stop	Stop	
Traffic Vol by Lane	182	48	356	282	114	
LT Vol	0	48	0	282	0	
Through Vol	157	0	0	0	114	
RT Vol	25	0	356	0	0	
Lane Flow Rate	204	52	387	310	125	
Geometry Grp	4	7	7	7	7	
Degree of Util (X)	0.351	0.099	0.607	0.571	0.213	
Disruptive Headway (Hd)	6.179	6.36	6.644	6.636	6.129	
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	
Cap	581	522	638	542	585	
Service Time	4.232	4.61	3.394	4.394	3.877	
HCM Lane V/C Ratio	0.361	0.1	0.607	0.572	0.214	
HCM Control Delay	12.6	10.4	16.8	17.9	10.5	
HCM Lane LOS	B	B	C	C	B	
HCM 95th-ile Q	1.6	0.3	4.1	3.6	0.8	

HCM 6th Signalized Intersection Summary Future Conditions #3 (Main Closed) PM Peak Hour
9: Griswold Street & Main Street

Intersection												
Int Delay, s/veh	15.3											
Intersection LOS	C											
Movement												
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Volume (veh/h)	50	273	28	15	296	260	26	226	25	180	202	87
Future Volume (veh/h)	50	273	28	15	296	260	26	226	25	180	202	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	1.00	0	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	2000	2000	2000	1984	1984	1984	2000	2000	2000	2000	2000	2000
Adj Flow Rate, veh/h	54	297	30	16	315	277	30	257	28	189	213	92
Peak Hour Factor	0.92	0.92	0.92	0.94	0.94	0.94	0.88	0.88	0.88	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	1	1	1	0	0	0	0	0	0
Cap, veh/h	221	1196	124	78	890	701	98	571	59	270	252	100
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	309	2382	268	33	1922	1514	92	1646	170	540	726	290
Grp Volume(v), veh/h	183	0										

HCM 6th AWSC Future Conditions #3 (Main Closed) PM Peak Hour
11: Wing Street & Cady Street

Intersection										
Int Delay, s/veh										
Intersection LOS										
8.8										
A										
Movement										
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations										
Traffic Vol, veh/h										
Future Vol, veh/h										
Peak Hour Factor										
Heavy Vehicles, %										
Mvmt Flow										
Number of Lanes										
Approach										
Opposing Approach										
Opposing Lanes										
Conflicting Approach Left										
Conflicting Lanes Left										
Conflicting Approach Right										
Conflicting Lanes Right										
HCM Control Delay										
HCM LOS										

Lane				
NBLn1	EBLn1	WBLn1	SBLn1	SBRn1
Vol Left, %				
Vol Thru, %				
Vol Right, %				
Sign Control				
Traffic Vol by Lane				
LT Vol				
Through Vol				
RT Vol				
Lane Flow Rate				
Geometry Grp				
Degree of U/I (X)				
Disruptive Headway (Hd)				
Convergence, Y/N				
Cap				
Service Time				
HCM Lane V/C Ratio				
HCM Control Delay				
HCM Lane LOS				
HCM 95th %ile Q				

HCM 6th TWSC Future Conditions #3 (Main Closed) PM Peak Hour
12: Center Street & Cady Street

Intersection										
Int Delay, s/veh										
Movement										
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations										
Traffic Vol, veh/h										
Future Vol, veh/h										
Conflicting Peds, #/hr										
Sign Control										
RT Channelized										
Storage Length										
Veh in Median Storage, #										
Grade, %										
Peak Hour Factor										
Heavy Vehicles, %										
Mvmt Flow										
Major/Minor										
Conflicting Flow All										
Stage 1										
Stage 2										
Critical Hdwy										
Critical Hdwy Stg 1										
Critical Hdwy Stg 2										
Follow-up Hdwy										
Platoon blocked, %										
Mov Cap-1 Maneuver										
Mov Cap-2 Maneuver										
Stage 1										
Stage 2										
Approach										
HCM Control Delay, s										
HCM LOS										
Minor Lane/Major Mvmt										
Capacity (veh/h)										
HCM Lane V/C Ratio										
HCM Control Delay (s)										
HCM Lane LOS										
HCM 95th %ile Q(veh)										

Approach				
EB	WB	NB	SB	
HCM Control Delay, s				
HCM LOS				
Minor Lane/Major Mvmt				
NBLn1	NBLn2	NBLn3	NBLn4	NBLn5

Notes
- Volume exceeds capacity \$ Delay exceeds 300s * Computation Not Defined ** All major volume in platoon

HCM 6th TWSC Future Conditions #3 (Main Closed) PM Peak Hour
13: N. Site Drive/Hutton Street & Cady Street

Intersection										
Int Delay, s/veh										
Movement										
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations										
Traffic Vol, veh/h										
Future Vol, veh/h										
Conflicting Peds, #/hr										
Sign Control										
RT Channelized										
Storage Length										
Veh in Median Storage, #										
Grade, %										
Peak Hour Factor										
Heavy Vehicles, %										
Mvmt Flow										
Major/Minor										
Conflicting Flow All										
Stage 1										
Stage 2										
Critical Hdwy										
Critical Hdwy Stg 1										
Critical Hdwy Stg 2										
Follow-up Hdwy										
Platoon blocked, %										
Mov Cap-1 Maneuver										
Mov Cap-2 Maneuver										
Stage 1										
Stage 2										
Approach										
HCM Control Delay, s										
HCM LOS										
Minor Lane/Major Mvmt										
Capacity (veh/h)										
HCM Lane V/C Ratio										
HCM Control Delay (s)										
HCM Lane LOS										
HCM 95th %ile Q(veh)										

Approach				
EB	WB	NB	SB	
HCM Control Delay, s				
HCM LOS				
Minor Lane/Major Mvmt				
NBLn1	NBLn2	NBLn3	NBLn4	NBLn5

HCM 6th TWSC Future Conditions #3 (Main Closed) PM Peak Hour
14: Cady Street & Church Street

Intersection										
Int Delay, s/veh										
Movement										
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations										
Traffic Vol, veh/h										
Future Vol, veh/h										
Conflicting Peds, #/hr										
Sign Control										
RT Channelized										
Storage Length										
Veh in Median Storage, #										
Grade, %										
Peak Hour Factor										
Heavy Vehicles, %										
Mvmt Flow										
Major/Minor										
Conflicting Flow All										
Stage 1										
Stage 2										
Critical Hdwy										
Critical Hdwy Stg 1										
Critical Hdwy Stg 2										
Follow-up Hdwy										
Platoon blocked, %										
Mov Cap-1 Maneuver										
Mov Cap-2 Maneuver										
Stage 1										
Stage 2										
Approach										
HCM Control Delay, s										
HCM LOS										
Minor Lane/Major Mvmt										
Capacity (veh/h)										
HCM Lane V/C Ratio										
HCM Control Delay (s)										
HCM Lane LOS										
HCM 95th %ile Q(veh)										

Approach				
EB	WB	NB	SB	
HCM Control Delay, s				
HCM LOS				
Minor Lane/Major Mvmt				
EBT	WBT	SBLn1	SBLn2	SBLn3

HCM 6th TWSC Future Conditions #3 (Main Closed) PM Peak Hour
15: Griswold Street & Cady Street

Intersection										
Int Delay, s/veh										
Movement										
EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations										
Traffic Vol, veh/h										
Future Vol, veh/h										
Conflicting Peds, #/hr										
Sign Control										
RT Channelized										
Storage Length										
Veh in Median Storage, #										
Grade, %										
Peak Hour Factor										
Heavy Vehicles, %										
Mvmt Flow										
Major/Minor										
Conflicting Flow All										
Stage 1										
Stage 2										
Critical Hdwy										
Critical Hdwy Stg 1										
Critical Hdwy Stg 2										
Follow-up Hdwy										
Platoon blocked, %										
Mov Cap-1 Maneuver										
Mov Cap-2 Maneuver										
Stage 1										
Stage 2										
Approach										
HCM Control Delay, s										
HCM LOS										
Minor Lane/Major Mvmt										
Capacity (veh/h)										
HCM Lane V/C Ratio										
HCM Control Delay (s)										
HCM Lane LOS										
HCM 95th %ile Q(veh)										

Approach				
EB	WB	NB	SB	
HCM Control Delay, s				
HCM LOS				
Minor Lane/Major Mvmt				
NBLn1	NBLn2	NBLn3	NBLn4	NBLn5

SimTraffic Performance Report Future Conditions #3 (Main Closed) PM Peak Hour
16: Proposed Beal Street/Beal Street & Griswold Street Performance by movement

Movement					
EBL	EBT	WBL	WBR	SBL	SB
Denied Delay (hr)					
Denied Del/Veh (s)					
Total Delay (hr)					
Total Del/Veh (s)					

HCM 6th TWSC Future Conditions #3 (Main Closed) PM Peak Hour
17: River Street & Beal Street

Intersection						
Int Delay, s/veh	3.1					
Movement						
	EBL	EBT	EBR	WBL	WBT	NBR
Lane Configurations	T L L L L L					
Traffic Vol, veh/h	82	61	5	47	58	7
Future Vol, veh/h	82	61	5	47	58	7
Conflicting Peds, #/hr	0	3	0	3	0	10
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	None	None	None	None	None	None
Storage Length	-	-	-	-	-	-
Vel in Median Storage, #	0	-	-	0	-	-
Grade, %	0	-	-	0	-	-
Peak Hour Factor	92	92	66	66	70	70
Heavy Vehicles, %	1	1	0	0	2	2
Mvmt Flow	89	66	8	71	83	10
Major/Minor						
	Major1	Major2	Minor1	Minor2	Minor3	Minor4
Conflicting Flow All	0	0	158	0	215	135
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	4.1	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.2	-	3.518	3.318
Plat Cap-1 Maneuver	-	-	1434	-	773	914
Stage 1	-	-	-	-	901	-
Stage 2	-	-	-	-	934	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1430	-	764	903
Mov Cap-2 Maneuver	-	-	-	-	764	-
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	926	-
Approach						
	EB	WB	NB	SB	EB	WB
HCM Control Delay, s	0	0.7	10.3	-	-	-
HCM LOS	-	-	B	-	-	-
Minor Lane/Major Mvmt						
	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1
Capacity (veh/h)	777	-	-	1430	-	-
HCM Lane V/C Ratio	0.12	-	-	0.005	-	-
HCM Control Delay (s)	10.3	-	-	7.5	-	-
HCM Lane LOS	B	-	-	A	-	-
HCM 95th %ile Q(veh)	0.4	-	-	0	-	-

HCM 6th TWSC Future Conditions #3 (Main Closed) PM Peak Hour
18: Main Street/Northville Road & Beal Street

Intersection						
Int Delay, s/veh	1.4					
Movement						
	EBL	EBT	EBR	NBL	NBT	SBR
Lane Configurations	T T T T T T					
Traffic Vol, veh/h	5	84	46	607	531	6
Future Vol, veh/h	5	84	46	607	531	6
Conflicting Peds, #/hr	0	0	4	0	0	4
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None
Storage Length	0	-	-	-	-	-
Vel in Median Storage, #	0	-	-	0	-	-
Grade, %	0	-	-	0	-	-
Peak Hour Factor	80	80	90	90	95	95
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	6	105	51	674	559	6
Major/Minor						
	Minor1	Minor2	Major1	Major2	Minor3	Minor4
Conflicting Flow All	1005	287	569	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	6.8	6.9	4.12	-
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	3.5	3.3	2.21	-
Plat Cap-1 Maneuver	-	-	241	716	1006	-
Stage 1	-	-	-	-	537	-
Stage 2	-	-	-	-	623	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	220	713	1002	-
Mov Cap-2 Maneuver	-	-	-	-	220	-
Stage 1	-	-	-	-	491	-
Stage 2	-	-	-	-	621	-
Approach						
	EB	NB	SB	EB	NB	SB
HCM Control Delay, s	11.9	0.9	0	-	-	-
HCM LOS	B	-	-	-	-	-
Minor Lane/Major Mvmt						
	NBL	NBT	EBLn1	SBT	SBR	SBLn1
Capacity (veh/h)	1002	-	-	633	-	-
HCM Lane V/C Ratio	0.051	-	-	0.176	-	-
HCM Control Delay (s)	8.8	0.3	11.9	0	-	-
HCM Lane LOS	A	A	B	-	-	-
HCM 95th %ile Q(veh)	0.2	-	0.6	-	-	-

SimTraffic Performance Report Future Conditions #3 (Main Closed) PM Peak Hour
19: Seven Mile Road & Fairbrook Street & First Street Performance by movement

Movement	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Alt
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (s)	0.3	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Total Del/Veh (s)	1.8	1.1	1.0	9.4	5.8	2.0	1.5	1.0	5.0	12.4	4.5	1.7

HCM 6th AWSC Future Conditions #3 (Main Closed) PM Peak Hour
20: Wing Street & Fairbrook Street

Intersection												
Int Delay, s/veh	8.1											
Intersection LOS	B											
Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	T T T T T T T T T T T T											
Traffic Vol, veh/h	15	23	1	0	15	106	1	90	4	35	55	13
Future Vol, veh/h	15	23	1	0	15	106	1	90	4	35	55	13
Peak Hour Factor	0.83	0.83	0.83	0.91	0.91	0.69	0.69	0.69	0.91	0.91	0.91	0.91
Heavy Vehicles, %	5	5	5	5	5	5	1	1	1	0	0	0
Mvmt Flow	16	28	1	0	16	116	1	130	6	38	60	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach												
	EB	WB	NB	SB	EB	WB	NB	SB	EB	WB	NB	SB
Opposing Approach	WB	-	-	-	EB	-	-	-	WB	-	-	-
Opposing Lanes	1	-	-	-	1	-	-	-	1	-	-	-
Conflicting Approach Left	SB	-	-	-	NB	-	-	-	EB	-	-	WB
Conflicting Lanes Left	1	-	-	-	1	-	-	-	1	-	-	1
Conflicting Approach Right	NB	-	-	-	SB	-	-	-	WB	-	-	EB
Conflicting Lanes Right	1	-	-	-	1	-	-	-	1	-	-	1
HCM Control Delay	8.1	-	-	-	7.8	-	-	-	8.3	-	-	8.2
HCM LOS	A	-	-	-	A	-	-	-	A	-	-	A
Lane												
	NBLn1	EBLn1	EBLn2	WBLn1	WBLn2	SBLn1	SBLn2	SBLn3	SBLn4	SBLn5	SBLn6	SBLn7
Vol Left, %	1%	38%	0%	34%	-	-	-	-	-	-	-	-
Vol Thru, %	95%	59%	12%	53%	-	-	-	-	-	-	-	-
Vol Right, %	4%	3%	88%	13%	-	-	-	-	-	-	-	-
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	95	39	121	103	-	-	-	-	-	-	-	-
LT Vol	1	15	0	35	-	-	-	-	-	-	-	-
Through Vol	90	23	15	55	-	-	-	-	-	-	-	-
RT Vol	4	1	106	13	-	-	-	-	-	-	-	-
Lane Flow Rate	138	47	133	113	-	-	-	-	-	-	-	-
Geometry Grp	1	1	1	1	-	-	-	-	-	-	-	-
Degree of Upl (X)	0.169	0.062	0.151	0.14	-	-	-	-	-	-	-	-
Departure Headway (Hd)	4.16	4.763	4.089	4.441	-	-	-	-	-	-	-	-
Convergence, Y/N	Yes	Yes	Yes	Yes	-	-	-	-	-	-	-	-
Cap	814	753	879	808	-	-	-	-	-	-	-	-
Service Time	2.436	2.786	2.107	2.461	-	-	-	-	-	-	-	-
HCM Lane V/C Ratio	0.17	0.082	0.151	0.14	-	-	-	-	-	-	-	-
HCM Control Delay	8.3	8.1	7.8	8.2	-	-	-	-	-	-	-	-
HCM Lane LOS	A	A	A	A	-	-	-	-	-	-	-	-
HCM 95th %ile Q	0.6	0.2	0.5	0.5	-	-	-	-	-	-	-	-

HCM 6th TWSC Future Conditions #3 (Main Closed) PM Peak Hour
21: Center Street & Fairbrook Street/W. Site Drive

Intersection												
Int Delay, s/veh	4.5											
Movement												
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	T T T T T T T T T T T T											
Traffic Vol, veh/h	15	7	42	9	4	9	108	667	23	9	651	13
Future Vol, veh/h	15	7	42	9	4	9	108	667	23	9	651	13
Conflicting Peds, #/hr	1	0	0	0	0	0	4	0	0	0	0	4
Sign Control	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	Free
RT Channelized	None	None	None	None	None	None	None	None	None	None	None	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Vel in Median Storage, #	0	-	-	-	-	-	-	-	-	-	-	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	92	92	92	94	94	94	91	91	91	91
Heavy Vehicles, %	0	0	0	2	2	1	1	1	0	0	1	1
Mvmt Flow	18	9	51	10	4	10	115	710	24	10	715	14
Major/Minor												
	Minor1	Minor2	Minor3	Major1	Major2	Minor4	Minor5	Minor6	Minor7	Minor8	Minor9	Minor10
Conflicting Flow All	1705	1710	726	1224	1705	723	733	0	0	734	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	6.5	6.2	7.12	6.52	6.22	4.11	-	4.1	-
Critical Hdwy Stg 1	-	-	-	6.1	5.5	-	6.12	5.52	-	-	-	-
Critical Hdwy Stg 2	-	-	-	6.1	5.5	-	6.12	5.52	-	-	-	-
Follow-up Hdwy	-	-	-	3.5	4	3.3	3.518	4.018	3.318	2.209	-	2.2
Plat Cap-1 Maneuver	-	-	-	73	428	70	81	426	876	-	880	-
Stage 1	-	-	-	409	424	-	312	338	-			

HCM 6th Signalized Intersection Summary
23: Sheldon Avenue/Center Street & Seven Mile Road

Future Conditions #3 (Main Closed)
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (veh/h)	32	331	116	97	458	151	110	615	94	73	582	47
Future Volume (veh/h)	32	331	116	97	458	151	110	615	94	73	582	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ranking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1984	1984	1984	2000	2000	2000	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	36	368	129	102	482	159	116	647	99	78	619	50
Peak Hour Factor	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	222	516	181	220	735	622	261	819	125	210	883	71
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	294	1403	492	914	2000	1693	774	1690	297	720	1811	146
Grp Volume(v), veh/h	36	0	497	102	482	159	116	0	746	78	0	669
Grp Sat Flow(s), veh/h/ln	794	0	1895	914	2000	1693	774	0	1937	720	0	1958
Q Served, s/h, s	3.2	0.0	18.0	8.6	16.1	5.2	11.0	0.0	25.7	8.1	0.0	21.3
Cycle Q Clear(g_c), s	19.2	0.0	18.0	26.6	16.1	5.2	32.3	0.0	25.7	33.8	0.0	21.3
Prop In Lane	1.00	0.26	1.00	1.00	1.00	1.00	0.13	1.00	0.07	1.00	0.07	1.00
Lane Grp Cap(c), veh/h	222	0	696	220	735	622	261	0	944	210	0	954
V/C Ratio(X)	0.16	1.00	0.71	0.46	0.56	0.26	0.44	0.00	0.79	0.37	0.00	0.70
Avail Cap(c), veh/h	222	0	696	220	735	622	261	0	944	210	0	954
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(f)	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.1	0.0	21.7	33.1	21.1	17.7	26.5	0.0	17.1	31.2	0.0	16.0
Initial Delay (d0), s/veh	1.6	0.0	6.1	6.8	4.5	1.0	5.4	0.0	6.7	5.0	0.0	4.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	8.6	2.2	7.9	2.1	2.3	0.0	11.8	1.6	0.0	2.0
Unsig. Movement Delay, s/veh	30.7	0.0	27.8	39.9	25.6	18.7	33.9	0.0	23.8	36.1	0.0	20.2
LnCrp Delay(d), s/veh	C	A	C	D	C	B	C	A	C	D	A	C
Approach Vol, veh/h	533			743			862			747		
Approach Delay, s/veh	28.0			26.1			25.1			21.9		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	45.0		35.0		45.0		35.0					
Change Period (Y+Rc), s	6.0		5.6		6.0		5.6					
Max Green Setting (Gmax), s	39.0		29.4		39.0		29.4					
Max Q Clear Time (g_c+1), s	34.3		21.2		35.8		26.6					
Green Ext Time (g_ext), s	1.6		2.4		2.1		1.5					
Intersection Summary												
HCM 6th Ctrl Delay	25.1											
HCM 6th LOS	C											

SimTraffic Performance Report

Future Conditions #3 (Main Closed)
PM Peak Hour

24: Hines Drive & Seven Mile Road Performance by movement

Movement	WBL	WBT	WBR	NBT	NBR	SBL	SBT	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Denied Del/Veh (h)	0.0	0.0	0.4	0.2	0.2	0.0	0.0	0.2
Total Delay (hr)	0.7	0.0	5.0	5.9	1.6	0.2	0.2	13.7
Total Del/Veh (s)	43.0	1.8	42.4	95.1	97.6	3.1	4.3	40.4

HCM 6th TWSC

Future Conditions #3 (Main Closed)
PM Peak Hour

25: Seven Mile Road & River Street

Intersection	EBL	EBT	WBT	WBR	SBL	SBR
Int Delay, s/veh	1.6					
Lane Configurations	4	1	1	1	1	1
Traffic Vol, veh/h	35	312	496	30	13	53
Future Vol, veh/h	35	312	496	30	13	53
Conflicting Peds, #/hr	4	0	0	4	6	12
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	-	0	-	-	-
Peak Hour Factor	92	92	90	90	77	77
Heavy Vehicles, %	2	2	1	1	6	6
Mvmt Flow	38	339	551	33	17	69
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	588	0	0	953	584	
Stage 1	-	-	-	-	572	-
Stage 2	-	-	-	-	421	-
Critical Hdwy	4.12	-	-	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.218	-	-	-	3.554	3.354
Rot Cap(1) Maneuver	987	-	-	-	286	504
Stage 1	-	-	-	-	557	-
Stage 2	-	-	-	-	654	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap(1) Maneuver	983	-	-	-	253	496
Mov Cap(2) Maneuver	-	-	-	-	253	-
Stage 1	-	-	-	-	528	-
Stage 2	-	-	-	-	651	-
Approach	EB	WB	SB			
HCM Control Delay, s	0.9	0	15.9	C		
HCM LOS	C					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBL	SBR
Capacity (veh/h)	983	-	-	-	-	417
HCM Lane V/C Ratio	0.039	-	-	-	-	0.206
HCM Control Delay (s)	8.8	0	-	-	-	15.9
HCM Lane LOS	A	A	-	-	-	C
HCM 95th %ile Q(veh)	0.1	-	-	-	-	0.8

HCM Unsignalized Intersection Capacity Analysis
26: SB Northville Road & N. Seven Mile Road

Future Conditions #3 (Main Closed)
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Traffic Volume (veh/h)	0	51	273	0	429	0	0	0	0	0	511	104
Future Volume (Veh/h)	0	51	273	0	429	0	0	0	0	0	511	104
Sign Control	Stop	Stop	Yield	Yield	Free	Free	Free	Free	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.91	0.91	0.91	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95
Hourly flow rate (vph)	0	56	300	0	456	0	0	0	0	0	538	109
Pedestrians												
Lane Width (ft)										None	None	
Median type										None	None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC1, conflicting volume	820	592	324	597	647	0	647	0				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vC4, unblocked vol	820	592	324	597	647	0	647	0				
IC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1	4.1				
IC, 2 stage (s)												
IF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2	2.2				
P0 queue free %	0	87	95	100	0	100	100	100				
cM capacity (veh/h)	0	417	672	193	390	1088	934	1629				
Approach Lane #	EB1	EB2	EB3	WB1	WB2	WB3	SB1	SB2				
Volume Total	56	300	456	359	288							
Volume Left	0	0	0	0	0							
Volume Right	0	300	0	0	109							
ESH	417	672	390	1700	1700							
Volume to Capacity	0.13	0.45	1.17	0.21	0.17							
Queue Length 95th (ft)	12	58	445	0	0							
Control Delay (s)	15.0	14.6	131.4	0.0	0.0							
Lane LOS	B	B	B									
Approach Delay (s)	14.7		131.4	0.0								
Approach LOS	B	F	F									
Intersection Summary												
Average Delay	44.6											
Intersection Capacity Utilization	68.9%											
Analysis Period (min)	15											
ICU Level of Service	C											

HCM Unsignalized Intersection Capacity Analysis
27: NB Northville Road & N. Seven Mile Road

Future Conditions #3 (Main Closed)
PM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBL	SBR
Lane Configurations	1	1	1	1	1	1
Traffic Volume (veh/h)	0	51	429	602	0	0
Future Volume (Veh/h)	0	51	429	602	0	0
Sign Control	Yield	Yield	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.91	0.91	0.94			

HCM 6th TWSC Future Conditions #3 (Main Closed) PM Peak Hour
29: N.E. Site Drive (Egress Only) & Cady Street

Intersection						
Int Delay, s/veh						
	0.2					
Movement						
Lane Configurations						
Traffic Vol, veh/h	237	0	0	207	5	4
Future Vol, veh/h	237	0	0	207	5	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control						
Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized						
None	None	None	None	None	None	None
Storage Length						
0	-	-	-	0	-	-
Veh in Median Storage, #						
0	-	-	-	0	-	-
Grade, %						
0	-	-	-	0	-	-
Peak Hour Factor						
95	95	95	95	92	92	92
Heavy Vehicles, %						
0	0	0	0	2	2	2
Mvmt Flow						
249	0	0	218	5	4	

Major/Minor			
Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt			
NBLn1	EBT	WBT	SBR
Capacity (veh/h)	639	-	-
HCM Lane V/C Ratio	0.015	-	-
HCM Control Delay (s)	10.7	-	-
HCM Lane LOS	B	-	-
HCM 95th %ile Q(veh)	0	-	-

HCM 6th TWSC Future Conditions #3 (Main Closed) PM Peak Hour
30: Griswold Street & E. Site Drive

Intersection						
Int Delay, s/veh						
	0.2					
Movement						
Lane Configurations						
Traffic Vol, veh/h	1	1	2	71	117	1
Future Vol, veh/h	1	1	2	71	117	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control						
Stop	Stop	Free	Free	Free	Free	Free
RT Channelized						
None	None	None	None	None	None	None
Storage Length						
0	-	-	-	0	-	-
Veh in Median Storage, #						
0	-	-	-	0	-	-
Grade, %						
0	-	-	-	0	-	-
Peak Hour Factor						
92	92	86	86	92	92	92
Heavy Vehicles, %						
2	2	0	0	1	1	1
Mvmt Flow						
1	1	2	83	127	1	

Major/Minor			
Minor2	Major1	Major2	Minor1
Conflicting Flow All	215	128	0
Stage 1	128	-	-
Stage 2	87	-	-
Critical Hdwy	6.42	6.22	4.1
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.2
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	772	922	1470
Stage 1	898	-	-
Stage 2	936	-	-

Approach			
EB	NB	SB	EB
HCM Control Delay, s	0.3	0.2	0
HCM LOS	A	A	A

Minor Lane/Major Mvmt			
NBL	NBT	EBLn1	SBR
Capacity (veh/h)	1470	-	840
HCM Lane V/C Ratio	0.002	-	0.003
HCM Control Delay (s)	7.5	-	9.3
HCM Lane LOS	A	-	A
HCM 95th %ile Q(veh)	0	-	0

HCM 6th TWSC Future Conditions #3 (Main Closed) PM Peak Hour
31: Griswold Street & S.E. Site Drive

Intersection						
Int Delay, s/veh						
	0.2					
Movement						
Lane Configurations						
Traffic Vol, veh/h	1	2	2	72	116	2
Future Vol, veh/h	1	2	2	72	116	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control						
Stop	Stop	Free	Free	Free	Free	Free
RT Channelized						
None	None	None	None	None	None	None
Storage Length						
0	-	-	-	0	-	-
Veh in Median Storage, #						
0	-	-	-	0	-	-
Grade, %						
0	-	-	-	0	-	-
Peak Hour Factor						
92	92	86	86	92	92	92
Heavy Vehicles, %						
2	2	0	0	1	1	1
Mvmt Flow						
1	2	2	84	126	2	

Major/Minor			
Minor2	Major1	Major2	Minor1
Conflicting Flow All	215	127	0
Stage 1	127	-	-
Stage 2	88	-	-
Critical Hdwy	6.42	6.22	4.1
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.2
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	772	923	1470
Stage 1	892	-	-
Stage 2	935	-	-

Approach			
EB	NB	SB	EB
HCM Control Delay, s	9.2	0.2	0
HCM LOS	A	A	A

Minor Lane/Major Mvmt			
NBL	NBT	EBLn1	SBR
Capacity (veh/h)	1470	-	867
HCM Lane V/C Ratio	0.002	-	0.004
HCM Control Delay (s)	7.5	-	9.2
HCM Lane LOS	A	-	A
HCM 95th %ile Q(veh)	0	-	0

HCM 6th TWSC Future Conditions #3 (Main Closed) PM Peak Hour
32: Center Street & Proposed Beal Street

Intersection						
Int Delay, s/veh						
	1					
Movement						
Lane Configurations						
Traffic Vol, veh/h	27	11	650	41	13	646
Future Vol, veh/h	27	11	650	41	13	646
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control						
Stop	Stop	Free	Free	Free	Free	Free
RT Channelized						
None	None	None	None	None	None	None
Storage Length						
0	-	-	-	0	-	-
Veh in Median Storage, #						
0	-	-	-	0	-	-
Grade, %						
0	-	-	-	0	-	-
Peak Hour Factor						
92	92	90	90	94	94	94
Heavy Vehicles, %						
2	2	1	1	1	1	1
Mvmt Flow						
29	12	722	46	14	687	

Major/Minor			
Minor1	Major1	Major2	Minor2
Conflicting Flow All	1450	745	0
Stage 1	745	-	-
Stage 2	715	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	142	414	-
Stage 1	469	-	-
Stage 2	485	-	-

Approach			
WB	NB	SB	WB
HCM Control Delay, s	32.6	0	0.2
HCM LOS	D	A	A

Minor Lane/Major Mvmt			
NBT	NBRWLn1	SBL	SBT
Capacity (veh/h)	-	171	850
HCM Lane V/C Ratio	-	0.242	0.016
HCM Control Delay (s)	-	32.6	9.3
HCM Lane LOS	-	D	A
HCM 95th %ile Q(veh)	-	0.9	0.1

HCM 6th TWSC Future Conditions #3 (Main Closed) PM Peak Hour
33: S.W. Site Drive & Fairbrook Street

Intersection						
Int Delay, s/veh						
	0.2					
Movement						
Lane Configurations						
Traffic Vol, veh/h	61	1	4	121	0	3
Future Vol, veh/h	61	1	4	121	0	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control						
Free	Free	Free	Free	Stop	Stop	Stop
RT Channelized						
None	None	None	None	None	None	None
Storage Length						
0	-	-	-	0	-	-
Veh in Median Storage, #						
0	-	-	-	0	-	-
Grade, %						
0	-	-	-	0	-	-
Peak Hour Factor						
62	62	91	91	92	92	92
Heavy Vehicles, %						
0	0	5	5	2	2	2
Mvmt Flow						
98	2	4	133	0	3	

Major/Minor			
Major1	Major2	Minor1	Minor2
Conflicting Flow All	0	100	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	4.15	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.245	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1474	-
Stage 1	-	925	-
Stage 2	-	886	-

Approach			
EB	WB	NB	SB
HCM Control Delay, s	0	0.2	8.8
HCM LOS	A	A	A

Minor Lane/Major Mvmt			
NBLn1	EBT	WBL	WBT
Capacity (veh/h)	957	-	1474
HCM Lane V/C Ratio	0.003	-	0.003
HCM Control Delay (s)	8.8	-	7.5
HCM Lane LOS	A	-	A
HCM 95th %ile Q(veh)	0	-	0

HCM 6th TWSC Future Conditions #3 (Main Closed) PM Peak Hour
34: Wing Street & S.W. Site Drive

Intersection						
Int Delay, s/veh						
	0.1					
Movement						
Lane Configurations						
Traffic Vol, veh/h	3	0	95	4	0	56
Future Vol, veh/h	3	0	95	4	0	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control						
Stop	Stop	Free	Free	Free	Free	Free
RT Channelized						
None	None	None	None	None	None	None
Storage Length						
0	-	-	-	0	-	-
Veh in Median Storage, #						
0	-	-	-	0	-	-
Grade, %						
0	-	-	-	0	-	-
Peak Hour Factor						
92	92	69	69	82	82	82
Heavy Vehicles, %						
2	2	1	1	1	1	1
Mvmt Flow						
3	0	138	6	0	68	

Major/Minor			
Minor1	Major1	Major2	Minor2
Conflicting Flow All	209	141	0
Stage 1	141	-	-
Stage 2	68	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	779	907	-
Stage 1	886	-	-
Stage 2	955	-	-

Queuing and Blocking Report

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection: 1: Wing Street & Randolph Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	36	77
Average Queue (ft)	3	34
95th Queue (ft)	18	58
Link Distance (ft)	394	263
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	L	L	TR
Maximum Queue (ft)	155	34	46	29	55
Average Queue (ft)	52	9	12	2	2
95th Queue (ft)	113	32	38	15	26
Link Distance (ft)	394	193			1449
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			500	500	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 3: Wing Street & Dunlap Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	53	89	72	74
Average Queue (ft)	34	39	36	38
95th Queue (ft)	54	60	56	62
Link Distance (ft)	740	122	165	263
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection: 4: Center Street & Dunlap Street

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	L	TR	L	TR	L
Maximum Queue (ft)	81	97	32	105	45	177	132
Average Queue (ft)	29	38	6	50	10	86	55
95th Queue (ft)	64	78	26	89	35	153	101
Link Distance (ft)	192			135		326	153
Upstream Blk Time (%)				0		0	1
Queuing Penalty (veh)				0		0	5
Storage Bay Dist (ft)	100			75		30	500
Storage Blk Time (%)	0	0		3	2	22	0
Queuing Penalty (veh)	0	0		0	13	3	0

Intersection: 5: Dunlap Street & Hutton Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	18	6	60
Average Queue (ft)	1	0	30
95th Queue (ft)	9	4	53
Link Distance (ft)	274	328	819
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Wing Street & Main Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	96	71	64	70
Average Queue (ft)	49	39	31	39
95th Queue (ft)	78	62	53	60
Link Distance (ft)	767	174	307	132
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection: 7: Center Street & Main Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	136	132	174	199
Average Queue (ft)	76	44	134	81
95th Queue (ft)	126	93	189	157
Link Distance (ft)	115	521	143	326
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Hutton Street & Main Street

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	LT	R	LT	R	LTR	LT	R
Maximum Queue (ft)	122	35	131	97	64	172	23
Average Queue (ft)	49	5	45	39	25	85	6
95th Queue (ft)	100	24	93	78	55	145	21
Link Distance (ft)	521		381		114		328
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			25		75		175
Storage Blk Time (%)	22	1	1	0	0	0	0
Queuing Penalty (veh)	2	1	2	0	0	0	0

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	120	101	94	126	153	195
Average Queue (ft)	63	42	47	61	72	87
95th Queue (ft)	101	84	81	107	128	158
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)						
Queuing Penalty (veh)	1	0			2	
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Queuing and Blocking Report

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection: 10: Cady Street & Main Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	28	51
Average Queue (ft)	2	19
95th Queue (ft)	16	43
Link Distance (ft)	749	406
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 11: Wing Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	64	54	52	64
Average Queue (ft)	30	27	30	35
95th Queue (ft)	56	51	47	53
Link Distance (ft)	728	142	267	307
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	47	105	136	88
Average Queue (ft)	17	41	17	8
95th Queue (ft)	43	81	75	46
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection: 13: N. Site Drive/Hutton Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	43	12	49	52
Average Queue (ft)	8	0	19	14
95th Queue (ft)	31	6	45	42
Link Distance (ft)	250	85	264	123
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Cady Street & Chruh Street

Movement	SB
Directions Served	LR
Maximum Queue (ft)	64
Average Queue (ft)	57
95th Queue (ft)	57
Link Distance (ft)	243
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 15: Griswold Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	76	39	24	12
Average Queue (ft)	46	16	1	0
95th Queue (ft)	70	41	10	6
Link Distance (ft)	354	204	96	143
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection: 16: Proposed Beal Street/Beal Street & Griswold Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	72	45
Average Queue (ft)	34	23
95th Queue (ft)	64	45
Link Distance (ft)	280	111
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17: River Street & Beal Street

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	6	12	65
Average Queue (ft)	0	0	23
95th Queue (ft)	4	6	54
Link Distance (ft)	137	604	1186
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 18: Main Street/Northville Road & Beal Street

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	73	54
Average Queue (ft)	31	10
95th Queue (ft)	57	37
Link Distance (ft)	604	75
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection: 19: Seven Mile Road & Fairbrook Street & First Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	36	48	61	27
Average Queue (ft)	2	9	7	4
95th Queue (ft)	16	30	34	17
Link Distance (ft)	1220	965	1045	482
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 20: Wing Street & Fairbrook Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	42	31	57	57
Average Queue (ft)	19	17	24	30
95th Queue (ft)	44	42	53	50
Link Distance (ft)	965	218	163	570
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 21: Center Street & Fairbrook Street/W. Site Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	74	65	86	55
Average Queue (ft)	25	26	10	4
95th Queue (ft)	56	56	47	27
Link Distance (ft)	96	653	531	423
Upstream Blk Time (%)	0			
Queueing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection: 22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Movement	EB	WB	NB	SB
Directions Served	L	TR	L	LTR
Maximum Queue (ft)	16	37	25	32
Average Queue (ft)	1	1	2	15
95th Queue (ft)	8	15	14	42
Link Distance (ft)	1045		426	110
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)	100		500	
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	NB	SB
Directions Served	L	TR	L	TR
Maximum Queue (ft)	63	362	59	126
Average Queue (ft)	22	191	21	49
95th Queue (ft)	50	306	52	99
Link Distance (ft)	386	578	578	21448
Upstream Blk Time (%)	0			
Queueing Penalty (veh)				
Storage Bay Dist (ft)	500		150	
Storage Blk Time (%)	0		0	2
Queueing Penalty (veh)	0		0	14

Intersection: 24: Hines Drive & Seven Mile Road

Movement	WB	NB	SB
Directions Served	L	TR	L
Maximum Queue (ft)	3	127	4
Average Queue (ft)	0	55	0
95th Queue (ft)	2	99	3
Link Distance (ft)	3643	578	
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)	225		
Storage Blk Time (%)			
Queueing Penalty (veh)			

Queuing and Blocking Report

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection: 25: Seven Mile Road & River Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	52	55
Average Queue (ft)	6	20
95th Queue (ft)	30	46
Link Distance (ft)	621	1186
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	WB
Directions Served	T	R
Maximum Queue (ft)	37	137
Average Queue (ft)	20	58
95th Queue (ft)	37	104
Link Distance (ft)	180	180
Upstream Blk Time (%)	0	5
Queueing Penalty (veh)	0	9
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 27: NB Northville Road & N. Seven Mile Road

Movement	EB	NB
Directions Served	L	LT
Maximum Queue (ft)	30	67
Average Queue (ft)	13	11
95th Queue (ft)	34	42
Link Distance (ft)	16	233
Upstream Blk Time (%)	4	
Queueing Penalty (veh)	2	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Queuing and Blocking Report

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection: 28: Northville Road & S. Seven Mile Road

Movement	WB	WB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T
Maximum Queue (ft)	98	45	180	207	199	250
Average Queue (ft)	73	7	108	115	160	82
95th Queue (ft)	105	28	164	191	222	247
Link Distance (ft)	82	82	219	219	222	222
Upstream Blk Time (%)	2		0	0		5
Queueing Penalty (veh)	5		0	0		14
Storage Bay Dist (ft)					120	
Storage Blk Time (%)					30	
Queueing Penalty (veh)					30	

Intersection: 29: N.E. Site Drive (Egress Only) & Cady Street

Movement	NB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	5
95th Queue (ft)	22
Link Distance (ft)	188
Upstream Blk Time (%)	
Queueing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queueing Penalty (veh)	

Intersection: 30: Griswold Street & E. Site Drive

Movement	EB
Directions Served	LR
Maximum Queue (ft)	25
Average Queue (ft)	3
95th Queue (ft)	18
Link Distance (ft)	201
Upstream Blk Time (%)	
Queueing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queueing Penalty (veh)	

Queuing and Blocking Report

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection: 31: Griswold Street & S.E. Site Drive

Movement	EB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	2
95th Queue (ft)	15
Link Distance (ft)	236
Upstream Blk Time (%)	
Queueing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queueing Penalty (veh)	

Intersection: 32: Center Street & Proposed Beal Street

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	62	82
Average Queue (ft)	27	5
95th Queue (ft)	56	37
Link Distance (ft)	293	124
Upstream Blk Time (%)	0	
Queueing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 33: S.W. Site Drive & Fairbrook Street

Movement	NB
Directions Served	LR
Maximum Queue (ft)	34
Average Queue (ft)	6
95th Queue (ft)	25
Link Distance (ft)	271
Upstream Blk Time (%)	
Queueing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queueing Penalty (veh)	

Queuing and Blocking Report

Future Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection: 34: Wing Street & S.W. Site Drive

Movement	WB
Directions Served	LR
Maximum Queue (ft)	25
Average Queue (ft)	3
95th Queue (ft)	19
Link Distance (ft)	292
Upstream Blk Time (%)	
Queueing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queueing Penalty (veh)	

Zone Summary

Zone wide Queueing Penalty: 179

Intersection: 1: Wing Street & Randolph Street

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	34	34	115
Average Queue (ft)	1	3	49
95th Queue (ft)	14	20	87
Link Distance (ft)	835	394	263
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	372	64	54	54	29	98
Average Queue (ft)	140	33	20	3	7	11
95th Queue (ft)	312	59	47	23	27	54
Link Distance (ft)	394	193		153		1449
Upstream Blk Time (%)	1					
Queuing Penalty (veh)	3					
Storage Bay Dist (ft)			500		500	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 3: Wing Street & Dunlap Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	65	112	76	74
Average Queue (ft)	37	59	44	40
95th Queue (ft)	56	94	67	61
Link Distance (ft)	740	122	165	263
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Center Street & Dunlap Street

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L
Maximum Queue (ft)	91	105	35	154	49	230	152
Average Queue (ft)	41	47	8	82	11	88	55
95th Queue (ft)	80	83	30	140	39	172	113
Link Distance (ft)	192		135		326		153
Upstream Blk Time (%)			2		0		2
Queuing Penalty (veh)			4		0		20
Storage Bay Dist (ft)	100		75		30		500
Storage Blk Time (%)	0	0		18	4	22	0
Queuing Penalty (veh)	0	0		2	24	4	0

Intersection: 5: Dunlap Street & Hutton Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	53	70	83
Average Queue (ft)	10	6	38
95th Queue (ft)	38	34	84
Link Distance (ft)	274	328	819
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: Wing Street & Main Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	84	106	105	82
Average Queue (ft)	48	49	45	38
95th Queue (ft)	73	81	76	61
Link Distance (ft)	767	174	307	132
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Center Street & Main Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	139	238	175	289
Average Queue (ft)	82	107	120	115
95th Queue (ft)	135	238	182	232
Link Distance (ft)	115	521	143	326
Upstream Blk Time (%)			6	0
Queuing Penalty (veh)		9	35	1
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Hutton Street & Main Street

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	LT	R	LT	R	LTR	LT	R
Maximum Queue (ft)	131	35	200	100	65	243	178
Average Queue (ft)	53	8	68	70	25	124	14
95th Queue (ft)	110	30	166	117	57	204	86
Link Distance (ft)	521		381		114		328
Upstream Blk Time (%)					0		0
Queuing Penalty (veh)					0		0
Storage Bay Dist (ft)			25		75		175
Storage Blk Time (%)			23		1		6
Queuing Penalty (veh)			4		2		17

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR	LTR
Maximum Queue (ft)	141	126	157	189	160	1063	
Average Queue (ft)	84	72	91	112	96	924	
95th Queue (ft)	130	120	148	168	151	1233	
Link Distance (ft)	103	103	336	336	125	1018	
Upstream Blk Time (%)			5			4	
Queuing Penalty (veh)		11	3			11	0
Storage Bay Dist (ft)							
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 10: Cady Street & Main Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	68	68
Average Queue (ft)	14	31
95th Queue (ft)	47	55
Link Distance (ft)	748	406
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 11: Wing Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	61	55	67	72
Average Queue (ft)	34	34	38	38
95th Queue (ft)	51	51	57	58
Link Distance (ft)	728	142	267	307
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	109	126	170	143
Average Queue (ft)	38	53	37	29
95th Queue (ft)	79	98	126	98
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)		0		1
Queuing Penalty (veh)	0		3	7
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 13: N. Site Drive/Hutton Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	30	7	37	54
Average Queue (ft)	6	0	17	25
95th Queue (ft)	25	0	43	49
Link Distance (ft)	250	85	264	123
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Cady Street & Chruh Street

Movement	SB
Directions Served	LR
Maximum Queue (ft)	53
Average Queue (ft)	49
95th Queue (ft)	49
Link Distance (ft)	243
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 15: Griswold Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	87	54	30	28
Average Queue (ft)	43	29	3	2
95th Queue (ft)	70	51	17	16
Link Distance (ft)	354	204	96	143
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 16: Proposed Beal Street/Beal Street & Griswold Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	49	63
Average Queue (ft)	23	32
95th Queue (ft)	49	47
Link Distance (ft)	280	111
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17: River Street & Beal Street

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	7	13	59
Average Queue (ft)	0	0	37
95th Queue (ft)	5	6	57
Link Distance (ft)	137	604	1186
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 18: Main Street/Northville Road & Beal Street

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	65	74
Average Queue (ft)	35	19
95th Queue (ft)	57	57
Link Distance (ft)	604	75
Upstream Blk Time (%)		0
Queuing Penalty (veh)	1	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection: 19: Seven Mile Road & Fairbrook Street & First Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	50	52	129	25
Average Queue (ft)	2	14	24	2
95th Queue (ft)	21	38	84	13
Link Distance (ft)	1220	965	1045	482
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 20: Wing Street & Fairbrook Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	64	69	56	54
Average Queue (ft)	25	37	33	33
95th Queue (ft)	52	57	53	47
Link Distance (ft)	965	218	163	570
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 21: Center Street & Fairbrook Street/W. Site Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	91	89	326	141
Average Queue (ft)	39	21	88	14
95th Queue (ft)	74	52	227	70
Link Distance (ft)	96	653	531	423
Upstream Blk Time (%)	1			
Queueing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection: 22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Movement	EB	WB	NB	SB
Directions Served	L	TR	L	TR
Maximum Queue (ft)	54	13	25	22
Average Queue (ft)	10	0	3	1
95th Queue (ft)	37	8	15	10
Link Distance (ft)	1045		386	426
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)	100		500	
Storage Blk Time (%)	0			
Queueing Penalty (veh)	0			

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	NB	SB
Directions Served	L	TR	L	TR
Maximum Queue (ft)	64	261	236	356
Average Queue (ft)	21	150	80	193
95th Queue (ft)	50	237	162	308
Link Distance (ft)	386	578	578	21448
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)	500		150	
Storage Blk Time (%)	2		18	
Queueing Penalty (veh)	13		20	

Intersection: 24: Hines Drive & Seven Mile Road

Movement	WB	NB	SB
Directions Served	L	TR	L
Maximum Queue (ft)	8	515	5
Average Queue (ft)	1	195	0
95th Queue (ft)	5	406	3
Link Distance (ft)		3643	578
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)	225		
Storage Blk Time (%)			
Queueing Penalty (veh)			

Queuing and Blocking Report

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection: 25: Seven Mile Road & River Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	78	6	58
Average Queue (ft)	25	0	31
95th Queue (ft)	61	4	53
Link Distance (ft)	621	395	1186
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	WB	SB
Directions Served	T	R	T
Maximum Queue (ft)	56	124	64
Average Queue (ft)	24	51	48
95th Queue (ft)	46	90	61
Link Distance (ft)	180	180	16
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 27: NB Northville Road & N. Seven Mile Road

Movement	EB	NB	SB
Directions Served	L	LT	T
Maximum Queue (ft)	32	147	43
Average Queue (ft)	19	54	1
95th Queue (ft)	37	114	28
Link Distance (ft)	16	233	233
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Queuing and Blocking Report

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection: 28: Northville Road & S. Seven Mile Road

Movement	WB	WB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T
Maximum Queue (ft)	97	59	258	262	200	261
Average Queue (ft)	81	24	223	224	160	107
95th Queue (ft)	103	55	291	301	215	259
Link Distance (ft)	82	82	219	219	222	222
Upstream Blk Time (%)	3	0	39	42		6
Queueing Penalty (veh)	13	0	171	182		27
Storage Bay Dist (ft)					120	
Storage Blk Time (%)					33	
Queueing Penalty (veh)					69	

Intersection: 29: N.E. Site Drive (Egress Only) & Cady Street

Movement	EB	NB
Directions Served	T	LR
Maximum Queue (ft)	10	30
Average Queue (ft)	0	8
95th Queue (ft)	7	29
Link Distance (ft)	85	188
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 30: Griswold Street & E. Site Drive

Movement	EB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	2
95th Queue (ft)	14
Link Distance (ft)	201
Upstream Blk Time (%)	
Queueing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queueing Penalty (veh)	

Queuing and Blocking Report

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection: 31: Griswold Street & S.E. Site Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	30	12
Average Queue (ft)	2	0
95th Queue (ft)	15	8
Link Distance (ft)	236	111
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 32: Center Street & Proposed Beal Street

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	92	100
Average Queue (ft)	26	9
95th Queue (ft)	63	50
Link Distance (ft)	293	124
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 33: S.W. Site Drive & Fairbrook Street

Movement	EB	WB	NB
Directions Served	LR	LT	LR
Maximum Queue (ft)	8	8	22
Average Queue (ft)	0	0	2
95th Queue (ft)	5	5	13
Link Distance (ft)	218	96	271
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Queuing and Blocking Report

Future Conditions #1 (Pre-COVID)
PM Peak Hour

Intersection: 34: Wing Street & S.W. Site Drive

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	31	8
Average Queue (ft)	3	0
95th Queue (ft)	18	5
Link Distance (ft)	292	163
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Zone Summary

Zone wide Queueing Penalty: 1118

Queuing and Blocking Report Future Conditions #2 (Both Closed)
AM Peak Hour

Intersection: 1: Wing Street & Randolph Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	25	80
Average Queue (ft)	2	34
95th Queue (ft)	13	58
Link Distance (ft)	394	263
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	82	30	34	18
Average Queue (ft)	35	8	4	1
95th Queue (ft)	66	30	22	11
Link Distance (ft)	394	193		
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)		500	500	
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 3: Wing Street & Dunlap Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	55	102	100	94
Average Queue (ft)	32	47	47	42
95th Queue (ft)	51	79	76	68
Link Distance (ft)	740	122	165	263
Upstream Blk Time (%)				
Queueing Penalty (veh)		1		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Future Conditions #2 (Both Closed)
AM Peak Hour

Intersection: 4: Dunlap Street & Center Street

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	103	56	80	103	94
Average Queue (ft)	44	30	42	51	51
95th Queue (ft)	76	50	65	85	80
Link Distance (ft)			195	134	154
Upstream Blk Time (%)					
Queueing Penalty (veh)					
Storage Bay Dist (ft)		100		500	
Storage Blk Time (%)		0		0	
Queueing Penalty (veh)		0		0	

Intersection: 5: Dunlap Street & Hutton Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	42	27	53
Average Queue (ft)	3	2	29
95th Queue (ft)	23	17	52
Link Distance (ft)	274	333	819
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 6: Wing Street & Main Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	125	68	79	128
Average Queue (ft)	53	35	40	54
95th Queue (ft)	94	57	62	92
Link Distance (ft)	767	174	307	132
Upstream Blk Time (%)				
Queueing Penalty (veh)		2		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Future Conditions #2 (Both Closed)
AM Peak Hour

Intersection: 7: Center Street & Main Street

Movement	EB	NB
Directions Served	LTR	LTR
Maximum Queue (ft)	54	55
Average Queue (ft)	34	40
95th Queue (ft)	50	61
Link Distance (ft)	115	141
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 8: Hutton Street & Main Street

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	63	90	84	88	62
Average Queue (ft)	20	48	47	49	33
95th Queue (ft)	49	76	76	76	54
Link Distance (ft)	375	124	124	333	
Upstream Blk Time (%)					
Queueing Penalty (veh)					
Storage Bay Dist (ft)		75	0	175	
Storage Blk Time (%)		1		0	
Queueing Penalty (veh)		0		0	

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	91	84	112	122	161	205
Average Queue (ft)	47	38	48	59	83	93
95th Queue (ft)	79	72	94	103	142	167
Link Distance (ft)	103	103	336	336	126	1018
Upstream Blk Time (%)						
Queueing Penalty (veh)	0	0			5	
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queueing Penalty (veh)						

Queuing and Blocking Report Future Conditions #2 (Both Closed)
AM Peak Hour

Intersection: 10: Cady Street & Main Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	60	45
Average Queue (ft)	7	18
95th Queue (ft)	34	42
Link Distance (ft)	749	406
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 11: Wing Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	72	67	67	92
Average Queue (ft)	32	39	37	44
95th Queue (ft)	55	58	56	70
Link Distance (ft)	728	142	267	307
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	95	121	44	47
Average Queue (ft)	40	59	5	8
95th Queue (ft)	71	99	22	29
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Future Conditions #2 (Both Closed)
AM Peak Hour

Intersection: 13: N. Site Drive/Hutton Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	105	17	54	69
Average Queue (ft)	30	1	23	31
95th Queue (ft)	77	7	47	56
Link Distance (ft)	250	85	264	123
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 14: Cady Street & Chruh Street

Movement	EB	WB	SB
Directions Served	T	TR	LR
Maximum Queue (ft)	12	6	60
Average Queue (ft)	0	0	37
95th Queue (ft)	6	4	56
Link Distance (ft)	52	354	243
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 15: Griswold Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	109	35	24	12
Average Queue (ft)	50	17	1	0
95th Queue (ft)	84	42	12	6
Link Distance (ft)	354	204	96	143
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Future Conditions #2 (Both Closed)
AM Peak Hour

Intersection: 16: Proposed Beal Street/Beal Street & Griswold Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	84	34
Average Queue (ft)	33	20
95th Queue (ft)	67	42
Link Distance (ft)	280	111
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 17: River Street & Beal Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	6	47
Average Queue (ft)	0	20
95th Queue (ft)	4	45
Link Distance (ft)	604	1186
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 18: Main Street/Northville Road & Beal Street

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	57	39
Average Queue (ft)	28	10
95th Queue (ft)	46	34
Link Distance (ft)	604	75
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Queuing and Blocking Report Future Conditions #2 (Both Closed) AM Peak Hour

Intersection: 19: Seven Mile Road & Fairbrook Street & First Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	22	48	63	15
Average Queue (ft)	1	11	5	3
95th Queue (ft)	13	33	29	12
Link Distance (ft)	1220	965	1045	482
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 20: Wing Street & Fairbrook Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	43	36	86	79
Average Queue (ft)	21	21	38	39
95th Queue (ft)	45	45	68	61
Link Distance (ft)	965	218	163	570
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 21: Center Street & Fairbrook Street/W. Site Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	81	86	74	23
Average Queue (ft)	30	21	11	1
95th Queue (ft)	55	48	44	12
Link Distance (ft)	96	653	531	423
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report Future Conditions #2 (Both Closed) AM Peak Hour

Intersection: 22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Movement	EB	WB	NB	SB
Directions Served	L	TR	L	TR
Maximum Queue (ft)	28	10	25	13
Average Queue (ft)	4	0	2	1
95th Queue (ft)	19	5	14	8
Link Distance (ft)	1045	386	426	110
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100	500		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	NB	SB
Directions Served	L	TR	L	TR
Maximum Queue (ft)	37	291	108	148
Average Queue (ft)	7	143	45	62
95th Queue (ft)	26	347	92	119
Link Distance (ft)	386	578	578	21448
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	500	150	50	150
Storage Blk Time (%)	0	0	6	30
Queuing Penalty (veh)	0	0	30	26

Intersection: 24: Hines Drive & Seven Mile Road

Movement	NB	SB
Directions Served	TR	LT
Maximum Queue (ft)	90	11
Average Queue (ft)	45	1
95th Queue (ft)	74	7
Link Distance (ft)	3643	578
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report Future Conditions #2 (Both Closed) AM Peak Hour

Intersection: 25: Seven Mile Road & River Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	40	61
Average Queue (ft)	4	18
95th Queue (ft)	21	48
Link Distance (ft)	621	1186
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	WB
Directions Served	T	R
Maximum Queue (ft)	40	92
Average Queue (ft)	18	42
95th Queue (ft)	37	70
Link Distance (ft)	180	180
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		8
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 27: NB Northville Road & N. Seven Mile Road

Movement	EB	NB
Directions Served	L	LT
Maximum Queue (ft)	33	60
Average Queue (ft)	10	9
95th Queue (ft)	31	36
Link Distance (ft)	16	233
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		1
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report Future Conditions #2 (Both Closed) AM Peak Hour

Intersection: 28: Northville Road & S. Seven Mile Road

Movement	WB	WB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T
Maximum Queue (ft)	99	37	187	213	198	191
Average Queue (ft)	76	6	115	115	125	35
95th Queue (ft)	105	27	171	195	198	118
Link Distance (ft)	82	82	219	219	222	222
Upstream Blk Time (%)	3		0	1		1
Queuing Penalty (veh)	6		0	2		1
Storage Bay Dist (ft)					120	
Storage Blk Time (%)					12	0
Queuing Penalty (veh)					12	0

Intersection: 29: N.E. Site Drive (Egress Only) & Cady Street

Movement	EB	NB
Directions Served	T	LR
Maximum Queue (ft)	4	30
Average Queue (ft)	0	3
95th Queue (ft)	3	17
Link Distance (ft)	85	188
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 30: Griswold Street & E. Site Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	12	6
Average Queue (ft)	1	0
95th Queue (ft)	11	5
Link Distance (ft)	201	195
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report Future Conditions #2 (Both Closed) AM Peak Hour

Intersection: 31: Griswold Street & S.E. Site Drive

Movement	EB
Directions Served	LR
Maximum Queue (ft)	24
Average Queue (ft)	2
95th Queue (ft)	14
Link Distance (ft)	236
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 32: Center Street & Proposed Beal Street

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	49	17
Average Queue (ft)	21	1
95th Queue (ft)	47	10
Link Distance (ft)	293	124
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 33: S.W. Site Drive & Fairbrook Street

Movement	NB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	4
95th Queue (ft)	20
Link Distance (ft)	271
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report Future Conditions #2 (Both Closed) AM Peak Hour

Intersection: 34: Wing Street & S.W. Site Drive

Movement	WB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	5
95th Queue (ft)	23
Link Distance (ft)	292
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 98

Queuing and Blocking Report Future Conditions #2 (Both Closed)
PM Peak Hour

Intersection: 1: Wing Street & Randolph Street

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	10	25	104
Average Queue (ft)	0	2	48
95th Queue (ft)	6	13	86
Link Distance (ft)	835	394	263
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	128	71	43	52	29	71
Average Queue (ft)	55	28	14	3	6	5
95th Queue (ft)	98	55	41	23	26	39
Link Distance (ft)	394	193	154		1449	
Upstream Blk Time (%)						
Queueing Penalty (veh)						
Storage Bay Dist (ft)		500		500		
Storage Blk Time (%)						
Queueing Penalty (veh)						

Intersection: 3: Wing Street & Dunlap Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	68	136	188	112
Average Queue (ft)	36	59	75	48
95th Queue (ft)	58	108	139	84
Link Distance (ft)	740	122	165	263
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)		12	9	
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Future Conditions #2 (Both Closed)
PM Peak Hour

Intersection: 4: Dunlap Street & Center Street

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	130	115	161	139	141
Average Queue (ft)	64	36	82	71	53
95th Queue (ft)	111	71	139	121	103
Link Distance (ft)		195	134	1	154
Upstream Blk Time (%)		0	4	1	0
Queueing Penalty (veh)		0	17	0	1
Storage Bay Dist (ft)		100		500	
Storage Blk Time (%)		4		1	0
Queueing Penalty (veh)		4		1	1

Intersection: 5: Dunlap Street & Hutton Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	70	60	105
Average Queue (ft)	17	9	45
95th Queue (ft)	53	38	77
Link Distance (ft)	274	333	819
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 6: Wing Street & Main Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	98	100	134	139
Average Queue (ft)	52	46	67	58
95th Queue (ft)	83	78	115	102
Link Distance (ft)	767	174	307	132
Upstream Blk Time (%)				
Queueing Penalty (veh)			2	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Future Conditions #2 (Both Closed)
PM Peak Hour

Intersection: 7: Center Street & Main Street

Movement	EB	NB
Directions Served	LTR	LTR
Maximum Queue (ft)	70	101
Average Queue (ft)	36	48
95th Queue (ft)	55	80
Link Distance (ft)	115	141
Upstream Blk Time (%)		0
Queueing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 8: Hutton Street & Main Street

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	204	100	93	114	71
Average Queue (ft)	51	78	49	59	39
95th Queue (ft)	136	108	79	94	60
Link Distance (ft)	375	124	333		
Upstream Blk Time (%)					
Queueing Penalty (veh)					
Storage Bay Dist (ft)		75		175	
Storage Blk Time (%)		0	11	0	0
Queueing Penalty (veh)		0	6	0	0

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	100	69	158	157	162	1023
Average Queue (ft)	55	54	83	77	108	841
95th Queue (ft)	87	85	125	129	172	1287
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)						
Queueing Penalty (veh)	0	0			26	0
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queueing Penalty (veh)						

Queuing and Blocking Report Future Conditions #2 (Both Closed)
PM Peak Hour

Intersection: 10: Cady Street & Main Street

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	11	74	76
Average Queue (ft)	0	15	32
95th Queue (ft)	8	51	57
Link Distance (ft)	336	749	406
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 11: Wing Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	55	68	98	99
Average Queue (ft)	33	39	49	49
95th Queue (ft)	51	60	79	77
Link Distance (ft)	728	142	267	307
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	133	224	73	69
Average Queue (ft)	54	98	13	18
95th Queue (ft)	103	184	48	48
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)				
Queueing Penalty (veh)	1	3		0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Future Conditions #2 (Both Closed)
PM Peak Hour

Intersection: 13: N. Site Drive/Hutton Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	92	38	48	104
Average Queue (ft)	33	3	17	42
95th Queue (ft)	72	18	44	75
Link Distance (ft)	250	85	264	123
Upstream Blk Time (%)				
Queueing Penalty (veh)			1	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 14: Cady Street & Chruh Street

Movement	WB	SB
Directions Served	T	LR
Maximum Queue (ft)	6	45
Average Queue (ft)	0	25
95th Queue (ft)	4	49
Link Distance (ft)	354	243
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 15: Griswold Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	103	45	44	52
Average Queue (ft)	60	22	6	3
95th Queue (ft)	91	47	27	22
Link Distance (ft)	354	204	96	143
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Future Conditions #2 (Both Closed)
PM Peak Hour

Intersection: 16: Proposed Beal Street/Beal Street & Griswold Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	55	55
Average Queue (ft)	25	32
95th Queue (ft)	49	47
Link Distance (ft)	280	111
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 17: River Street & Beal Street

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	6	31	56
Average Queue (ft)	0	2	29
95th Queue (ft)	4	13	49
Link Distance (ft)	137	604	1186
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 18: Main Street/Northville Road & Beal Street

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	74	88
Average Queue (ft)	34	24
95th Queue (ft)	58	64
Link Distance (ft)	604	75
Upstream Blk Time (%)		0
Queueing Penalty (veh)		1
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Queuing and Blocking Report

Future Conditions #2 (Both Closed)

PM Peak Hour

Intersection: 19: Seven Mile Road & Fairbrook Street & First Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	17	53	48	15
Average Queue (ft)	1	13	7	2
95th Queue (ft)	9	36	30	10
Link Distance (ft)	1220	965	1045	482
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 20: Wing Street & Fairbrook Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	64	63	66	55
Average Queue (ft)	22	35	37	38
95th Queue (ft)	50	54	57	56
Link Distance (ft)	965	218	163	570
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 21: Center Street & Fairbrook Street/W. Site Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	79	43	122	64
Average Queue (ft)	34	17	34	5
95th Queue (ft)	63	43	91	29
Link Distance (ft)	96	653	531	423
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report

Future Conditions #2 (Both Closed)

PM Peak Hour

Intersection: 22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Movement	EB	WB	NB	SB
Directions Served	L	TR	L	TR
Maximum Queue (ft)	32	25	42	36
Average Queue (ft)	7	2	2	10
95th Queue (ft)	27	13	13	32
Link Distance (ft)	1045	386	426	110
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100	500		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	NB	SB
Directions Served	L	TR	L	TR
Maximum Queue (ft)	56	263	250	442
Average Queue (ft)	16	145	107	215
95th Queue (ft)	42	206	233	438
Link Distance (ft)	386	578	578	21448
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	500	150	4	50
Storage Blk Time (%)	14	19	8	43
Queuing Penalty (veh)	62	24	50	55

Intersection: 24: Hines Drive & Seven Mile Road

Movement	WB	NB	SB
Directions Served	L	R	L
Maximum Queue (ft)	91	151	272
Average Queue (ft)	7	18	113
95th Queue (ft)	79	179	220
Link Distance (ft)	621	3643	578
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	225		
Storage Blk Time (%)	2		
Queuing Penalty (veh)	1		

Queuing and Blocking Report

Future Conditions #2 (Both Closed)

PM Peak Hour

Intersection: 25: Seven Mile Road & River Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	78	37	61
Average Queue (ft)	14	1	34
95th Queue (ft)	50	9	63
Link Distance (ft)	621	395	1186
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	WB	SB
Directions Served	T	R	T
Maximum Queue (ft)	49	102	69
Average Queue (ft)	19	54	46
95th Queue (ft)	41	89	63
Link Distance (ft)	180	180	16
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 27: NB Northville Road & N. Seven Mile Road

Movement	EB	NB	SB
Directions Served	L	LT	T
Maximum Queue (ft)	33	144	21
Average Queue (ft)	17	52	1
95th Queue (ft)	36	107	20
Link Distance (ft)	16	233	233
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Queuing and Blocking Report

Future Conditions #2 (Both Closed)

PM Peak Hour

Intersection: 28: Northville Road & S. Seven Mile Road

Movement	WB	WB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T
Maximum Queue (ft)	98	54	256	256	200	258
Average Queue (ft)	82	16	200	206	162	106
95th Queue (ft)	103	45	282	294	222	251
Link Distance (ft)	82	82	219	219	222	222
Upstream Blk Time (%)	3		20	22		5
Queuing Penalty (veh)	15		80	91		18
Storage Bay Dist (ft)					120	
Storage Blk Time (%)					31	
Queuing Penalty (veh)					61	

Intersection: 29: N.E. Site Drive (Egress Only) & Cady Street

Movement	WB	NB
Directions Served	T	LR
Maximum Queue (ft)	5	30
Average Queue (ft)	0	5
95th Queue (ft)	3	24
Link Distance (ft)	52	188
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 30: Griswold Street & E. Site Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	19	6
Average Queue (ft)	1	0
95th Queue (ft)	11	6
Link Distance (ft)	201	195
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report

Future Conditions #2 (Both Closed)

PM Peak Hour

Intersection: 31: Griswold Street & S.E. Site Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	31	26
Average Queue (ft)	3	1
95th Queue (ft)	16	12
Link Distance (ft)	236	111
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 32: Center Street & Proposed Beal Street

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	64	49
Average Queue (ft)	25	3
95th Queue (ft)	53	24
Link Distance (ft)	293	124
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 33: S.W. Site Drive & Fairbrook Street

Movement	WB	NB
Directions Served	LR	LT
Maximum Queue (ft)	12	23
Average Queue (ft)	0	2
95th Queue (ft)	6	13
Link Distance (ft)	96	271
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report

Future Conditions #2 (Both Closed)

PM Peak Hour

Intersection: 34: Wing Street & S.W. Site Drive

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	30	39
Average Queue (ft)	3	5
95th Queue (ft)	18	48
Link Distance (ft)	292	163
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 657

Queuing and Blocking Report Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection: 1: Wing Street & Randolph Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	30	75
Average Queue (ft)	2	32
95th Queue (ft)	13	56
Link Distance (ft)	394	263
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	117	45	30	27
Average Queue (ft)	41	9	6	2
95th Queue (ft)	81	33	27	15
Link Distance (ft)	394	193		
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)	500	500		
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 3: Wing Street & Dunlap Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	54	75	62	74
Average Queue (ft)	31	39	35	39
95th Queue (ft)	49	61	49	65
Link Distance (ft)	740	122	165	263
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection: 4: Center Street & Dunlap Street

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	TR	L	TR	L	TR	L
Maximum Queue (ft)	79	92	25	144	42	158	131
Average Queue (ft)	42	42	6	67	8	75	45
95th Queue (ft)	74	76	25	116	31	136	94
Link Distance (ft)	192	135	15	323	153		
Upstream Blk Time (%)							
Queueing Penalty (veh)							
Storage Bay Dist (ft)	100		75		30		500
Storage Blk Time (%)	0	0		19	2	20	0
Queueing Penalty (veh)	0	0		1	9	3	0

Intersection: 5: Dunlap Street & Hutton Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	58	21	68
Average Queue (ft)	4	1	29
95th Queue (ft)	29	11	53
Link Distance (ft)	274	333	819
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 6: Wing Street & Main Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	88	58	57	74
Average Queue (ft)	49	33	29	36
95th Queue (ft)	76	52	51	55
Link Distance (ft)	767	174	307	132
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection: 7: Center Street & Main Street

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	109	165	83
Average Queue (ft)	50	121	48
95th Queue (ft)	87	190	78
Link Distance (ft)	114	149	323
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 8: Hutton Street & Main Street

Movement	WB	WB	NB	SB	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	77	94	91	113	51
Average Queue (ft)	19	47	45	54	31
95th Queue (ft)	54	79	73	96	48
Link Distance (ft)	375	124	124	333	
Upstream Blk Time (%)					
Queueing Penalty (veh)					
Storage Bay Dist (ft)			75		175
Storage Blk Time (%)					
Queueing Penalty (veh)					

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	92	72	117	134	145	191
Average Queue (ft)	47	35	51	62	69	89
95th Queue (ft)	77	69	95	116	120	153
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)						
Queueing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queueing Penalty (veh)						

Queuing and Blocking Report Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection: 10: Cady Street & Main Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	38	43
Average Queue (ft)	5	17
95th Queue (ft)	24	41
Link Distance (ft)	748	406
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 11: Wing Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	47	54	53	58
Average Queue (ft)	29	29	29	35
95th Queue (ft)	46	46	49	50
Link Distance (ft)	728	142	267	307
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	94	209	127	120
Average Queue (ft)	44	82	14	24
95th Queue (ft)	81	156	67	83
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection: 13: N. Site Drive/Hutton Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	75	10	38	62
Average Queue (ft)	20	0	17	27
95th Queue (ft)	58	6	43	51
Link Distance (ft)	250	85	264	123
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 14: Cady Street & Chruh Street

Movement	SB
Directions Served	LR
Maximum Queue (ft)	64
Average Queue (ft)	59
95th Queue (ft)	59
Link Distance (ft)	243
Upstream Blk Time (%)	
Queueing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queueing Penalty (veh)	

Intersection: 15: Griswold Street & Cady Street

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	94	37	46
Average Queue (ft)	45	15	5
95th Queue (ft)	71	40	25
Link Distance (ft)	354	204	96
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Queuing and Blocking Report Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection: 16: Proposed Beal Street/Beal Street & Griswold Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	67	37
Average Queue (ft)	32	22
95th Queue (ft)	60	43
Link Distance (ft)	280	111
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 17: River Street & Beal Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	10	52
Average Queue (ft)	1	24
95th Queue (ft)	8	46
Link Distance (ft)	604	1186
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Intersection: 18: Main Street/Northville Road & Beal Street

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	45	68
Average Queue (ft)	30	13
95th Queue (ft)	44	45
Link Distance (ft)	604	75
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Queuing and Blocking Report Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection: 19: Seven Mile Road & Fairbrook Street & First Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	50	54	75	15
Average Queue (ft)	4	11	8	3
95th Queue (ft)	27	35	40	13
Link Distance (ft)	1220	965	1045	482
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 20: Wing Street & Fairbrook Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	37	31	64	46
Average Queue (ft)	20	13	22	27
95th Queue (ft)	43	37	52	47
Link Distance (ft)	965	218	163	570
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 21: Center Street & Fairbrook Street/W. Site Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	53	87	111	38
Average Queue (ft)	23	24	8	2
95th Queue (ft)	49	52	66	17
Link Distance (ft)	96	653	531	423
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection: 22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Movement	EB	WB	NB	SB
Directions Served	L	L	TR	LTR
Maximum Queue (ft)	19	25	7	50
Average Queue (ft)	1	2	0	11
95th Queue (ft)	6	14	4	38
Link Distance (ft)			386	426
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	100	500		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	NB	SB
Directions Served	L	TR	L	TR
Maximum Queue (ft)	50	220	65	154
Average Queue (ft)	18	107	15	67
95th Queue (ft)	42	177	42	123
Link Distance (ft)		386	578	578
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	500	150		50
Storage Blk Time (%)			0	1
Queuing Penalty (veh)			0	6

Intersection: 24: Hines Drive & Seven Mile Road

Movement	NB	SB
Directions Served	TR	L
Maximum Queue (ft)	136	87
Average Queue (ft)	51	0
95th Queue (ft)	91	0
Link Distance (ft)	3643	578
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection: 25: Seven Mile Road & River Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	42	62
Average Queue (ft)	3	16
95th Queue (ft)	20	48
Link Distance (ft)	621	1186
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	WB
Directions Served	T	R
Maximum Queue (ft)	47	117
Average Queue (ft)	18	47
95th Queue (ft)	39	90
Link Distance (ft)	180	180
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		8
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 27: NB Northville Road & N. Seven Mile Road

Movement	EB	NB
Directions Served	L	LT
Maximum Queue (ft)	50	75
Average Queue (ft)	10	11
95th Queue (ft)	33	44
Link Distance (ft)	16	233
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Queuing and Blocking Report Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection: 28: Northville Road & S. Seven Mile Road

Movement	WB	NB	SB
Directions Served	L	R	T
Maximum Queue (ft)	98	52	216
Average Queue (ft)	78	7	113
95th Queue (ft)	98	31	188
Link Distance (ft)	82	62	219
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			120
Storage Blk Time (%)			16
Queuing Penalty (veh)			0

Intersection: 29: N.E. Site Drive (Egress Only) & Cady Street

Movement	NB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	3
95th Queue (ft)	18
Link Distance (ft)	188
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 30: Griswold Street & E. Site Drive

Movement	EB
Directions Served	LR
Maximum Queue (ft)	27
Average Queue (ft)	2
95th Queue (ft)	13
Link Distance (ft)	201
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection: 31: Griswold Street & S.E. Site Drive

Movement	EB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	2
95th Queue (ft)	16
Link Distance (ft)	236
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 32: Center Street & Proposed Beal Street

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	52	52
Average Queue (ft)	23	4
95th Queue (ft)	50	26
Link Distance (ft)	293	124
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 33: S.W. Site Drive & Fairbrook Street

Movement	NB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	6
95th Queue (ft)	26
Link Distance (ft)	271
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Queuing and Blocking Report Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection: 34: Wing Street & S.W. Site Drive

Movement	WB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	2
95th Queue (ft)	16
Link Distance (ft)	292
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 116

Queuing and Blocking Report Future Conditions #3 (Main Closed) PM Peak Hour

Intersection: 1: Wing Street & Randolph Street

Movement	EB	WB	NB	SB
Directions Served	TR	LT	LR	
Maximum Queue (ft)	534	17	202	
Average Queue (ft)	244	1	108	
95th Queue (ft)	837	11	267	
Link Distance (ft)	835	394	263	
Upstream Blk Time (%)	22	20		
Queuing Penalty (veh)	0	36		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	L	TR
Maximum Queue (ft)	413	150	76	126
Average Queue (ft)	210	69	16	5
95th Queue (ft)	470	182	52	52
Link Distance (ft)	394	193	153	1449
Upstream Blk Time (%)	34	18	0	0
Queuing Penalty (veh)	88	0	0	0
Storage Bay Dist (ft)	500	0	500	0
Storage Blk Time (%)	0	0	0	30
Queuing Penalty (veh)	0	0	0	4

Intersection: 3: Wing Street & Dunlap Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	388	118	55	77
Average Queue (ft)	118	55	77	30
95th Queue (ft)	426	112	175	65
Link Distance (ft)	740	122	165	263
Upstream Blk Time (%)	3	10	24	
Queuing Penalty (veh)	0	19	54	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report Future Conditions #3 (Main Closed) PM Peak Hour

Intersection: 4: Center Street & Dunlap Street

Movement	EB	WB	NB	SB
Directions Served	L	TR	L	TR
Maximum Queue (ft)	134	198	90	165
Average Queue (ft)	42	109	7	85
95th Queue (ft)	109	234	43	189
Link Distance (ft)	192	0	12	29
Upstream Blk Time (%)	26	0	12	29
Queuing Penalty (veh)	50	0	45	148
Storage Bay Dist (ft)	100	75	30	500
Storage Blk Time (%)	4	33	25	2
Queuing Penalty (veh)	6	24	2	9

Intersection: 5: Dunlap Street & Hutton Street

Movement	EB	WB	NB	SB
Directions Served	LT	TR	L	R
Maximum Queue (ft)	308	142	635	
Average Queue (ft)	153	13	313	
95th Queue (ft)	376	91	850	
Link Distance (ft)	274	333	819	
Upstream Blk Time (%)	41	0	20	
Queuing Penalty (veh)	131	1	0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: Wing Street & Main Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	502	134	149	82
Average Queue (ft)	176	55	74	28
95th Queue (ft)	602	146	210	56
Link Distance (ft)	767	174	307	132
Upstream Blk Time (%)	11	12	7	
Queuing Penalty (veh)	0	8	15	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report Future Conditions #3 (Main Closed) PM Peak Hour

Intersection: 7: Center Street & Main Street

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	116	188	192
Average Queue (ft)	51	140	69
95th Queue (ft)	116	204	151
Link Distance (ft)	114	149	323
Upstream Blk Time (%)	17	34	
Queuing Penalty (veh)	14	156	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 8: Hutton Street & Main Street

Movement	WB	WB	NB	SB
Directions Served	L	R	L	T
Maximum Queue (ft)	417	100	117	250
Average Queue (ft)	255	57	49	88
95th Queue (ft)	526	129	112	240
Link Distance (ft)	375	124	333	
Upstream Blk Time (%)	49	8	45	
Queuing Penalty (veh)	198	14	175	
Storage Bay Dist (ft)				
Storage Blk Time (%)	53	16	9	57
Queuing Penalty (veh)	189	8	10	162

Intersection: 9: Griswold Street & Main Street

Movement	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR
Maximum Queue (ft)	124	117	372	384	1033
Average Queue (ft)	51	50	206	198	110
95th Queue (ft)	111	108	413	423	175
Link Distance (ft)	103	103	336	336	125
Upstream Blk Time (%)	2	5	32	32	49
Queuing Penalty (veh)	3	9	89	91	82
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Queuing and Blocking Report Future Conditions #3 (Main Closed) PM Peak Hour

Intersection: 10: Cady Street & Main Street

Movement	EB	WB	WB	NB
Directions Served	T	TR	LT	L
Maximum Queue (ft)	19	18	609	611
Average Queue (ft)	1	1	210	203
95th Queue (ft)	15	11	699	700
Link Distance (ft)	336	336	749	749
Upstream Blk Time (%)	17	17	12	
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 11: Wing Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	373	70	182	130
Average Queue (ft)	98	31	59	51
95th Queue (ft)	333	76	162	162
Link Distance (ft)	728	142	267	307
Upstream Blk Time (%)	1	5	5	
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	184	293	240	154
Average Queue (ft)	107	282	107	71
95th Queue (ft)	202	301	294	159
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)	33	97	27	13
Queuing Penalty (veh)	37	264	184	69
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report Future Conditions #3 (Main Closed) PM Peak Hour

Intersection: 13: N. Site Drive/Hutton Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	216	121	175	166
Average Queue (ft)	49	66	47	116
95th Queue (ft)	162	144	149	187
Link Distance (ft)	250	85	264	123
Upstream Blk Time (%)	1	42	1	73
Queuing Penalty (veh)	4	89	0	92
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Cady Street & Chruh Street

Movement	EB	WB	NB	SB
Directions Served	T	T	L	R
Maximum Queue (ft)	32	163	160	
Average Queue (ft)	5	43	44	
95th Queue (ft)	34	153	123	
Link Distance (ft)	52	354	243	
Upstream Blk Time (%)	5	0		
Queuing Penalty (veh)	11	0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 15: Griswold Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	216	91	74	22
Average Queue (ft)	92	35	17	1
95th Queue (ft)	264	95	69	12
Link Distance (ft)	354	204	96	143
Upstream Blk Time (%)	7	12	7	
Queuing Penalty (veh)	18	5		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report Future Conditions #3 (Main Closed) PM Peak Hour

Intersection: 16: Proposed Beal Street/Beal Street & Griswold Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	45	49
Average Queue (ft)	23	25
95th Queue (ft)	47	48
Link Distance (ft)	280	111
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 17: River Street & Beal Street

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	4	12	48
Average Queue (ft)	0	5	24
95th Queue (ft)	3	6	49
Link Distance (ft)	137	604	1186
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 18: Main Street/Northville Road & Beal Street

Movement	EB	NB	NB	SB
Directions Served	LR	LT	T	TR
Maximum Queue (ft)	66	91	72	4
Average Queue (ft)	27	31	14	0
95th Queue (ft)	48	62	64	0
Link Distance (ft)	604	75	154	
Upstream Blk Time (%)	14	14		
Queuing Penalty (veh)	45	44		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report Future Conditions #3 (Main Closed) PM Peak Hour

Intersection: 19: Seven Mile Road & Fairbrook Street & First Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	26	54	53	15
Average Queue (ft)	1	10	7	3
95th Queue (ft)	15	33	32	12
Link Distance (ft)	1220	965	1045	482
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 20: Wing Street & Fairbrook Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	49	78	60	54
Average Queue (ft)	22	34	30	26
95th Queue (ft)	48	67	58	50
Link Distance (ft)	965	218	163	570
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 21: Center Street & Fairbrook Street/W. Site Drive

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	100	138	402	197
Average Queue (ft)	45	40	183	30
95th Queue (ft)	91	136	520	157
Link Distance (ft)	96	653	531	423
Upstream Blk Time (%)	14			
Queueing Penalty (veh)	7	172	8	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queueing Penalty (veh)				

Queuing and Blocking Report Future Conditions #3 (Main Closed) PM Peak Hour

Intersection: 22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Movement	EB	WB	NB	SB
Directions Served	L	TR	L	TR
Maximum Queue (ft)	37	30	25	36
Average Queue (ft)	9	2	3	1
95th Queue (ft)	31	16	15	12
Link Distance (ft)	1045		386	426
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)	100		500	
Storage Blk Time (%)				
Queueing Penalty (veh)				

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	NB	SB
Directions Served	L	TR	L	TR
Maximum Queue (ft)	171	292	210	454
Average Queue (ft)	53	154	63	257
95th Queue (ft)	150	248	166	549
Link Distance (ft)	386	578	578	21448
Upstream Blk Time (%)				
Queueing Penalty (veh)				
Storage Bay Dist (ft)	500	150		50
Storage Blk Time (%)	4	24	12	61
Queueing Penalty (veh)	20	23	83	66

Intersection: 24: Hines Drive & Seven Mile Road

Movement	WB	NB	SB
Directions Served	L	R	TR
Maximum Queue (ft)	105	509	1005
Average Queue (ft)	6	125	228
95th Queue (ft)	6	595	801
Link Distance (ft)	621	3643	578
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)	225		
Storage Blk Time (%)			
Queueing Penalty (veh)			

Queuing and Blocking Report Future Conditions #3 (Main Closed) PM Peak Hour

Intersection: 25: Seven Mile Road & River Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	243	229	98
Average Queue (ft)	29	34	30
95th Queue (ft)	154	205	68
Link Distance (ft)	621	395	1186
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	WB	SB
Directions Served	T	R	TR
Maximum Queue (ft)	50	105	65
Average Queue (ft)	20	46	40
95th Queue (ft)	41	85	66
Link Distance (ft)	180	180	16
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 27: NB Northville Road & N. Seven Mile Road

Movement	EB	NB	NB
Directions Served	L	LT	T
Maximum Queue (ft)	33	204	85
Average Queue (ft)	14	62	13
95th Queue (ft)	35	167	102
Link Distance (ft)	16	233	233
Upstream Blk Time (%)			
Queueing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Queuing and Blocking Report Future Conditions #3 (Main Closed) PM Peak Hour

Intersection: 28: Northville Road & S. Seven Mile Road

Movement	WB	NB	SB
Directions Served	L	R	TR
Maximum Queue (ft)	98	253	252
Average Queue (ft)	80	24	197
95th Queue (ft)	110	62	274
Link Distance (ft)	82	62	219
Upstream Blk Time (%)	3	4	19
Queueing Penalty (veh)	14	18	79
Storage Bay Dist (ft)			120
Storage Blk Time (%)			21
Queueing Penalty (veh)			41

Intersection: 29: N.E. Site Drive (Egress Only) & Cady Street

Movement	EB	WB	NB
Directions Served	T	T	LR
Maximum Queue (ft)	38	64	95
Average Queue (ft)	3	22	23
95th Queue (ft)	31	65	78
Link Distance (ft)	85	52	188
Upstream Blk Time (%)	0	31	
Queueing Penalty (veh)	0	63	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 30: Griswold Street & E. Site Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	31	15
Average Queue (ft)	2	2
95th Queue (ft)	16	18
Link Distance (ft)	201	195
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Queuing and Blocking Report Future Conditions #3 (Main Closed) PM Peak Hour

Intersection: 31: Griswold Street & S.E. Site Drive

Movement	EB
Directions Served	LR
Maximum Queue (ft)	24
Average Queue (ft)	1
95th Queue (ft)	11
Link Distance (ft)	236
Upstream Blk Time (%)	
Queueing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queueing Penalty (veh)	

Intersection: 32: Center Street & Proposed Beal Street

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	188	277	96
Average Queue (ft)	58	120	9
95th Queue (ft)	177	445	51
Link Distance (ft)	293	423	124
Upstream Blk Time (%)	2	24	0
Queueing Penalty (veh)	0	160	1
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queueing Penalty (veh)			

Intersection: 33: S.W. Site Drive & Fairbrook Street

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	46	34
Average Queue (ft)	5	6
95th Queue (ft)	37	27
Link Distance (ft)	218	271
Upstream Blk Time (%)		
Queueing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queueing Penalty (veh)		

Queuing and Blocking Report Future Conditions #3 (Main Closed) PM Peak Hour

Intersection: 34: Wing Street & S.W. Site Drive

Movement	WB
Directions Served	LR
Maximum Queue (ft)	30
Average Queue (ft)	3
95th Queue (ft)	18
Link Distance (ft)	292
Upstream Blk Time (%)	
Queueing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queueing Penalty (veh)	

Zone Summary

Zone wide Queueing Penalty: 4268

HCM 6th Signalized Intersection Summary
2: Center Street & Randolph Street/Private Drive

Future Conditions #1 (Pre-COVID) w/ IMP
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	2	2	1	4	0	6	3	5	1	6	4	5
Traffic Volume (veh/h)	22	129	4	0	6	30	517	1	6	472	50	1
Future Volume (veh/h)	22	129	4	0	6	30	517	1	6	472	50	1
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1984	1984	1984	2000	2000	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	33	3	195	5	0	8	33	568	1	9	684	72
Peak Hour Factor	0.66	0.66	0.75	0.75	0.75	0.91	0.91	0.91	0.69	0.69	0.69	0.69
Percent Heavy Veh. %	1	1	1	0	0	0	2	2	2	2	2	2
Cap, veh/h	94	19	243	162	34	181	421	1276	2	666	1137	120
Arrive On Green	0.17	0.17	0.17	0.00	0.17	0.00	1.00	1.00	0.65	0.65	0.65	0.65
Sat Flow, veh/h	159	110	1440	459	197	1050	708	1965	3	841	1751	194
Grp Volume(v), veh/h	231	0	0	13	0	0	33	0	569	9	0	755
Grp Sat Flow(s), veh/h/ln	1671	0	0	1706	0	0	708	0	1968	841	0	1935
Q Serwig, s	4.2	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.2	0.0	13.5	0.0
Cycle Q Clear(c), s	7.9	0.0	0.0	0.4	0.0	0.0	14.5	0.0	0.0	0.2	0.0	14.2
Prop In Lane	0.14	0.84	0.38	0.62	1.00	0.00	1.00	1.00	0.00	1.00	0.00	0.10
Lane Grp Cap(c), veh/h	356	0	0	376	0	0	421	0	1279	666	0	1257
V/C Ratio(X)	0.65	0.00	0.00	0.33	0.00	0.00	0.88	0.00	0.44	0.01	0.00	0.60
Avail Cap(c), veh/h	495	0	0	495	0	0	421	0	1279	666	0	1257
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.89	0.00	0.89	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.8	0.0	0.0	20.7	0.0	0.0	2.5	0.0	0.0	3.7	0.0	6.0
Inc/Dec Delay (d2), s/veh	2.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	2.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	0.0	0.1	0.0	0.0	0.1	0.0	0.4	0.0	0.0	4.7
Unsig. Movement Delay, s/veh	25.8	0.0	0.0	20.8	0.0	0.0	2.8	0.0	1.0	3.8	0.0	8.2
LnGrp Delay(d), s/veh	C	A	A	C	A	A	A	A	A	A	A	A
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h	231	13	602	765	13	602	765	13	602	765	13	602
Approach Delay, s/veh	25.8	20.8	1.1	8.1	20.8	1.1	8.1	20.8	1.1	8.1	20.8	1.1
Approach LOS	C	A	A	C	A	A	A	A	A	A	A	A
Timer - Assigned Phs	2	4	6	8	6	8	6	8	6	8	6	8
Phs Duration (G+Y+Rc), s	44.5	15.5	44.5	15.5	44.5	15.5	44.5	15.5	44.5	15.5	44.5	15.5
Change Period (Y+Rc), s	5.5	*5.2	5.5	*5.2	5.5	*5.2	5.5	*5.2	5.5	*5.2	5.5	*5.2
Max Green Setting (Gmax), s	34.5	*15	34.5	*15	34.5	*15	34.5	*15	34.5	*15	34.5	*15
Max Q Clear Time (q_c+1), s	16.5	9.9	15.5	2.4	16.5	9.9	15.5	2.4	16.5	9.9	15.5	2.4
Green Ext Time (g_c), s	2.0	4.0	0.5	5.8	2.0	4.0	0.5	5.8	2.0	4.0	0.5	5.8
Intersection Summary												
HCM 6th Cst Delay												
HCM 6th LOS												

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HCM 6th Signalized Intersection Summary
12: Center Street & Cady Street

Future Conditions #1 (Pre-COVID) w/ IMP
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	9	12	48	20	6	29	504	164	7	418	5
Traffic Volume (veh/h)	1	9	12	48	20	6	29	504	164	7	418	5
Future Volume (veh/h)	1	9	12	48	20	6	29	504	164	7	418	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99	0.99	0.99	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	1953	1953	1953	1969	1969	1969	1969
Adj Flow Rate, veh/h	2	15	20	89	24	7	32	560	182	8	470	6
Peak Hour Factor	0.60	0.60	0.60	0.62	0.62	0.62	0.90	0.90	0.90	0.89	0.89	0.89
Percent Heavy Veh. %	0	0	0	0	0	0	3	3	3	2	2	2
Cap, veh/h	67	84	104	196	62	13	88	977	308	67	1370	17
Arrive On Green	0.11	0.11	0.11	0.11	0.11	0.11	0.71	0.71	0.71	0.10	0.10	1.00
Sat Flow, veh/h	39	787	972	972	978	125	35	1927	431	8	1918	24
Grp Volume(v), veh/h	37	0	0	90	0	0	774	0	0	494	0	0
Grp Sat Flow(s), veh/h/ln	1798	0	0	1604	0	0	1834	0	0	1834	0	0
Q Serwig, s	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(c), s	11.1	0.0	0.0	3.9	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.05	0.54	0.66	0.08	0.04	0.24	0.02	0.01	0.01	0.01	0.01	0.01
Lane Grp Cap(c), veh/h	256	0	0	271	0	0	1373	0	0	1454	0	0
V/C Ratio(X)	0.14	0.00	0.00	0.33	0.00	0.00	0.56	0.00	0.00	0.33	0.00	0.00
Avail Cap(c), veh/h	504	0	0	486	0	0	1373	0	0	1454	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.4	0.0	0.0	25.2	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0
Inc/Dec Delay (d2), s/veh	0.5	0.0	0.0	0.7	0.0	0.0	1.7	0.0	0.0	0.6	0.0	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	0.0	1.2	0.0	0.0	3.4	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh	24.7	0.0	0.0	25.9	0.0	0.0	5.8	0.0	0.0	0.6	0.0	0.0
LnGrp Delay(d), s/veh	C	A	A	C	A	A	A	A	A	A	A	A
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h	37	90	774	484	37	90	774	484	37	90	774	484
Approach Delay, s/veh	24.7	25.9	5.8	0.6	24.7	25.9	5.8	0.6	24.7	25.9	5.8	0.6
Approach LOS	C	A	A	C	A	A	A	A	C	A	A	C
Timer - Assigned Phs	2	4	6	8	6	8	6	8	6	8	6	8
Phs Duration (G+Y+Rc), s	48.4	11.6	48.4	11.6	48.4	11.6	48.4	11.6	48.4	11.6	48.4	11.6
Change Period (Y+Rc), s	5.5	*5.2	5.5	*5.2	5.5	*5.2	5.5	*5.2	5.5	*5.2	5.5	*5.2
Max Green Setting (Gmax), s	34.5	*15	34.5	*15	34.5	*15	34.5	*15	34.5	*15	34.5	*15
Max Q Clear Time (q_c+1), s	14.1	3.1	2.0	5.0	14.1	3.1	2.0	5.0	14.1	3.1	2.0	5.0
Green Ext Time (g_c), s	6.3	0.1	3.7	0.2	6.3	0.1	3.7	0.2	6.3	0.1	3.7	0.2
Intersection Summary												
HCM 6th Cst Delay												
HCM 6th LOS												

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HCM 6th Signalized Intersection Summary
23: Sheldon Avenue/Center Street & Seven Mile Road

Future Conditions #1 (Pre-COVID) w/ IMP
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	4	4	3	3	15	15	9	58	58	7	4	3
Traffic Volume (veh/h)	46	432	73	35	157	90	58	584	73	89	411	21
Future Volume (veh/h)	46	432	73	35	157	90	58	584	73	89	411	21
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1984	1984	1984	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	54	508	86	38	171	98	63	646	79	103	478	24
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.86	0.86
Percent Heavy Veh. %	1	1	1	4	4	4	2	2	2	2	2	2
Cap, veh/h	432	608	103	160	712	603	368	960	813	263	906	45
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1118	1654	290	810	1938	1640	866	1969	1667	729	1859	93
Grp Volume(v), veh/h	54	0	594	38	171	98	63	646	79	103	0	502
Grp Sat Flow(s), veh/h/ln	1118	0	1938	810	1938	1640	866	1969	1667	729	0	1969
Q Serwig, s	2.8	0.0	22.4	3.6	4.9	3.2	4.2	20.0	2.0	10.0	0.0	14.2
Cycle Q Clear(c), s	7.7	0.0	22.4	3.6	4.9	3.2	4.2	20.0	2.0	10.0	0.0	14.2
Prop In Lane	1.00	1.00	0.14	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.05
Lane Grp Cap(c), veh/h	432	0	711	160	712	603	368	960	813	263	0	952
V/C Ratio(X)	0.12	0.00	0.84	0.24	0.24	0.16	0.17	0.67	0.10	0.39	0.00	0.53
Avail Cap(c), veh/h	432	0	711	160	712	603	368	960	813	263	0	952
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00						

HCM 6th Signalized Intersection Summary
8: Hutton Street & Main Street

Future Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	166	17	10	273	308	12	40	15	257	28	14
Future Volume (veh/h)	7	166	17	10	273	308	12	40	15	257	28	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	0.99	1.00	0.97	0.98	0.97	0.99	0.97	0.98	0.97	0.98	0.97	0.97
Parking Bus, Adj	1.00	1.00	0.90	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Adj Flow Rate, veh/h	8	195	20	11	314	354	15	51	19	282	31	15
Peak Hour Factor	0.95	0.95	0.87	0.87	0.95	0.95	0.87	0.87	0.95	0.95	0.87	0.87
Percent Heavy Veh. %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	70	665	504	69	671	504	174	570	194	715	66	71
Arrive On Green	0.11	0.11	0.11	0.34	0.34	0.48	0.48	0.48	0.48	0.48	0.48	0.48
Cap, veh/h	21	1945	1474	22	1963	1474	217	1191	405	1257	138	1487
Grp Volume(v), veh/h	203	0	20	325	0	354	85	0	0	313	0	15
Grp Sat Flow(s), veh/hln	1966	0	1474	1984	0	1474	1914	0	0	1395	0	1487
Q Serwig, s, s	0.0	0.0	0.7	0.0	0.0	12.5	0.0	0.0	0.0	7.1	0.0	0.3
Cycle Q Clearing, c, s	5.6	0.0	0.7	7.7	0.0	12.5	5.5	0.0	0.0	8.6	0.0	0.3
Prop In Lane	0.04	1.00	0.03	1.00	0.18	0.22	0.90	0.22	0.90	0.02	0.90	1.00
Lane Grp Cap(c), veh/h	734	0	504	740	0	504	938	0	0	781	0	711
V/C Ratio(X)	0.28	1.00	0.04	0.44	0.00	0.70	0.09	0.00	0.00	0.40	0.00	0.02
Aval Cap(c), s, veh/h	734	0	504	740	0	504	938	0	0	781	0	711
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.0	0.0	17.8	15.5	0.0	17.1	8.5	0.0	0.0	10.3	0.0	8.2
Incr Delay (d2), s/veh	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/hln	2.8	0.0	0.2	3.6	0.0	5.0	0.6	0.0	0.0	2.7	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.9	0.0	18.0	17.4	0.0	25.1	8.7	0.0	0.0	11.8	0.0	8.3
LnGrp LOS	C	A	B	B	A	C	A	A	A	B	A	A
Approach Vol, veh/h	223			679			85			328		
Approach Delay, s/veh	20.7			21.4			8.7			11.6		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	2	4		6			8			8		
Phs Duration (G+Y+Rc), s	26.0	34.0		26.0			34.0			26.0		
Change Period (Y+Rc), s	5.5	*5.3		5.5			*5.3			5.5		
Max Green Setting (Gmax), s	20.5	*29		20.5			*29			20.5		
Max Q Clear Time (q, c+1), s	7.6	10.6		14.5			7.6			10.6		
Green Ext Time (g, c), s	1.0	2.0		1.9			0.4			1.0		
Intersection Summary												
HCM 6th Ctrl Delay	18.0											
HCM 6th LOS	B											

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
9: Griswold Street & Main Street

Future Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	101	268	28	7	376	296	47	238	18	203	153	198
Future Volume (veh/h)	101	268	28	7	376	296	47	238	18	203	153	198
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	1.00	1.00	0.99	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	119	515	33	7	396	312	51	259	20	216	163	211
Peak Hour Factor	0.95	0.95	0.85	0.85	0.95	0.95	0.92	0.92	0.92	0.94	0.94	0.94
Percent Heavy Veh. %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	213	663	75	64	702	540	147	694	50	317	217	251
Arrive On Green	0.12	0.12	0.12	0.36	0.36	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Cap, veh/h	304	1960	211	9	1997	1519	170	1531	110	519	478	555
Grp Volume(v), veh/h	190	0	277	403	0	312	330	0	0	590	0	0
Grp Sat Flow(s), veh/hln	628	0	1765	1976	0	1515	1812	0	0	1551	0	0
Q Serwig, s, s	9.2	0.0	8.8	0.0	10.0	0.0	10.0	0.0	0.0	12.8	0.0	0.0
Cycle Q Clearing, c, s	19.2	0.0	8.8	9.8	0.0	10.0	6.5	0.0	0.0	19.4	0.0	0.0
Prop In Lane	0.63	0.12	0.02	1.00	0.15	0.06	0.37	0.36	0.36	0.02	0.36	0.36
Lane Grp Cap(c), veh/h	322	0	630	766	0	540	890	0	0	785	0	0
V/C Ratio(X)	0.59	0.00	0.44	0.53	0.00	0.58	0.37	0.00	0.00	0.75	0.00	0.00
Aval Cap(c), s, veh/h	322	0	630	766	0	540	890	0	0	785	0	0
HCM Platoon Ratio	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.5	0.0	20.9	15.6	0.0	15.6	10.8	0.0	0.0	13.8	0.0	0.0
Incr Delay (d2), s/veh	2.8	0.0	2.2	2.8	0.0	4.4	1.2	0.0	0.0	6.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/hln	3.6	0.0	4.3	4.6	0.0	3.8	2.7	0.0	0.0	6.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	35.3	0.0	23.1	18.2	0.0	20.1	12.0	0.0	0.0	20.4	0.0	0.0
LnGrp LOS	D	A	C	B	A	C	B	A	A	C	A	A
Approach Vol, veh/h	467			715			330			590		
Approach Delay, s/veh	28.1			19.0			12.0			20.4		
Approach LOS	C			B			C			C		
Timer - Assigned Phs	2	4		6			8			8		
Phs Duration (G+Y+Rc), s	27.0	33.0		27.0			33.0			27.0		
Change Period (Y+Rc), s	5.6	*5.8		5.6			*5.8			5.6		
Max Green Setting (Gmax), s	21.4	*27		21.4			*27			21.4		
Max Q Clear Time (q, c+1), s	21.2	21.4		12.0			8.6			21.2		
Green Ext Time (g, c), s	0.1	2.1		3.3			1.9			0.1		
Intersection Summary												
HCM 6th Ctrl Delay							20.3					
HCM 6th LOS							C					

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary
12: Center Street & Cady Street

Future Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	19	30	65	13	20	26	539	130	15	639	38
Future Volume (veh/h)	11	19	30	65	13	20	26	539	130	15	639	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	0.95	0.92	0.94	1.00	0.92	1.00	0.99	1.00	0.99	1.00	0.99	0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1938	1938	1938	2000	2000	2000	1984	1984	1984	2000	2000	2000
Adj Flow Rate, veh/h	14	24	38	63	17	26	27	567	137	16	673	40
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh. %	4	4	4	4	4	4	4	4	4	4	4	4
Cap, veh/h	94	103	125	232	32	48	83	993	234	71	1224	72
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.67	0.67</				

HCM 6th AWSC Future Conditions #2 (Both Closed) w/ IMP
2: Center Street & Randolph Street/Private Drive AM Peak Hour

Intersection																																																																																																																		
Intersection	Delay, s/veh																																																																																																																	
Intersection LOS	D																																																																																																																	
<table border="1"> <thead> <tr> <th>Movement</th> <th>EBL</th> <th>EBT</th> <th>EBR</th> <th>WBL</th> <th>WBT</th> <th>WBR</th> <th>NBL</th> <th>NBT</th> <th>NBR</th> <th>SBL</th> <th>SBT</th> <th>SBR</th> </tr> </thead> <tbody> <tr> <td>Lane Configurations</td> <td></td> <td>↕</td> <td>↕</td> <td>↕</td> <td>↕</td> <td>↕</td> <td>↕</td> <td>↕</td> <td>↕</td> <td>↕</td> <td>↕</td> <td>↕</td> </tr> <tr> <td>Traffic Vol. veh/h</td> <td>20</td> <td>2</td> <td>82</td> <td>4</td> <td>0</td> <td>5</td> <td>15</td> <td>339</td> <td>1</td> <td>5</td> <td>387</td> <td>47</td> </tr> <tr> <td>Future Vol. veh/h</td> <td>20</td> <td>2</td> <td>82</td> <td>4</td> <td>0</td> <td>5</td> <td>15</td> <td>339</td> <td>1</td> <td>5</td> <td>387</td> <td>47</td> </tr> <tr> <td>Peak Hour Factor</td> <td>0.66</td> <td>0.66</td> <td>0.66</td> <td>0.75</td> <td>0.75</td> <td>0.75</td> <td>0.91</td> <td>0.91</td> <td>0.91</td> <td>0.69</td> <td>0.69</td> <td>0.69</td> </tr> <tr> <td>Heavy Vehicles, %</td> <td>1</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Mvmt Flow</td> <td>30</td> <td>3</td> <td>124</td> <td>5</td> <td>0</td> <td>7</td> <td>16</td> <td>373</td> <td>1</td> <td>7</td> <td>561</td> <td>68</td> </tr> <tr> <td>Number of Lanes</td> <td>0</td> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> </tr> </tbody> </table>											Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Lane Configurations		↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	Traffic Vol. veh/h	20	2	82	4	0	5	15	339	1	5	387	47	Future Vol. veh/h	20	2	82	4	0	5	15	339	1	5	387	47	Peak Hour Factor	0.66	0.66	0.66	0.75	0.75	0.75	0.91	0.91	0.91	0.69	0.69	0.69	Heavy Vehicles, %	1	1	1	0	0	0	2	2	2	2	2	2	Mvmt Flow	30	3	124	5	0	7	16	373	1	7	561	68	Number of Lanes	0	1	0	0	1	0	1	0	1	0	1	0
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR																																																																																																						
Lane Configurations		↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕																																																																																																						
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Peak Hour Factor	0.66	0.66	0.66	0.75	0.75	0.75	0.91	0.91	0.91	0.69	0.69	0.69																																																																																																						
Heavy Vehicles, %	1	1	1	0	0	0	2	2	2	2	2	2																																																																																																						
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Number of Lanes	0	1	0	0	1	0	1	0	1	0	1	0																																																																																																						
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Approach	EB	WB	NB	SB																																																																																																														
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Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	19%	44%	100%	0%
Vol Thru, %	0%	100%	2%	0%	0%	89%
Vol Right, %	0%	0%	79%	56%	0%	11%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	340	104	9	5	434
LT Vol	15	0	20	4	5	0
Through Vol	0	339	2	0	0	387
RT Vol	0	0	82	5	0	47
Lane Flow Rate	16	374	158	12	7	629
Geometry Grp	7	7	2	7	2	7
Degree of Util (X)	0.029	0.801	0.267	0.023	0.012	0.956
Departure Headway (Hd)	6.295	5.788	6.302	6.789	6.051	5.489
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	569	624	586	525	592	667
Service Time	4.035	3.526	4.163	4.853	3.783	3.201
HCM Lane V/C Ratio	0.028	0.599	0.227	0.023	0.012	0.943
HCM Control Delay	9.2	16.9	11.4	10	6.5	47.9
HCM Lane LOS	A	C	B	A	A	E
HCM 95th-ile Q	0.1	4	1.1	0.1	0	13.6

Northville Downs TIS
Fleis & VandenBink Engineering
Synchro 11 Report
12/12/2021

HCM 6th AWSC Future Conditions #2 (Both Closed) w/ IMP
12: Center Street & Cady Street AM Peak Hour

Intersection																																																																																																																				
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Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	1%	64%	21%
Vol Thru, %	26%	45%	30%	72%
Vol Right, %	62%	54%	6%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	440	149	205	127
LT Vol	53	1	132	27
Through Vol	113	67	61	92
RT Vol	0	0	274	8
Lane Flow Rate	468	169	266	169
Geometry Grp	1	1	1	1
Degree of Util (X)	0.675	0.276	0.452	0.285
Departure Headway (Hd)	5.19	5.897	6.106	6.059
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	693	606	586	588
Service Time	3.265	3.966	4.193	4.155
HCM Lane V/C Ratio	0.675	0.279	0.454	0.287
HCM Control Delay	19.5	11.2	14.2	11.6
HCM Lane LOS	C	B	B	B
HCM 95th-ile Q	5.2	1.1	2.3	1.2

Northville Downs TIS
Fleis & VandenBink Engineering
Synchro 11 Report
12/12/2021

HCM 6th Signalized Intersection Summary Future Conditions #2 (Both Closed) w/ IMP
23: Sheldon Avenue/Center Street & Seven Mile Road AM Peak Hour

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<td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> </tr> <tr> <td>Parking Bus, Adj</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> </tr> <tr> <td>Work Zone On Approach</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> <td>No</td> </tr> <tr> <td>Adj Sat Flow, veh/h/ln</td> <td>1953</td> <td>1953</td> <td>1953</td> <td>1922</td> <td>1922</td> <td>1922</td> <td>1969</td> <td>1969</td> <td>1969</td> <td>1969</td> <td>1969</td> <td>1969</td> </tr> <tr> <td>Adj Flow Rate, veh/h</td> <td>21</td> <td>320</td> <td>192</td> <td>85</td> <td>202</td> <td>61</td> <td>93</td> <td>453</td> <td>86</td> <td>56</td> <td>511</td> <td>27</td> </tr> <tr> <td>Peak Hour Factor</td> 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<td>672</td> <td>195</td> <td>706</td> <td>598</td> <td>343</td> <td>960</td> <td>811</td> <td>379</td> <td>0</td> <td>951</td> </tr> <tr> <td>V/C Ratio(X)</td> <td>0.05</td> <td>0.00</td> <td>0.76</td> <td>0.44</td> <td>0.29</td> <td>0.10</td> <td>0.27</td> <td>0.47</td> <td>0.11</td> <td>0.15</td> <td>0.00</td> <td>0.57</td> </tr> <tr> <td>Avail Cap(c), veh/h</td> <td>414</td> <td>0</td> <td>672</td> <td>195</td> <td>706</td> <td>598</td> <td>343</td> <td>960</td> <td>811</td> <td>379</td> <td>0</td> <td>951</td> </tr> <tr> <td>HCM Platoon Ratio</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> </tr> <tr> <td>Upstream Filter(i)</td> <td>1.00</td> <td>0.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>1.00</td> <td>0.00</td> <td>1.00</td> </tr> <tr> <td>Uniform Delay (d), s/veh</td> <td>20.4</td> <td>0.0</td> <td>22.2</td> <td>34.2</td> <td>17.9</td> <td>16.6</td> <td>22.4</td> <td>13.6</td> <td>11.1</td> <td>19.0</td> <td>0.0</td> <td>14.5</td> </tr> <tr> <td>Incr Delay (d2), s/veh</td> <td>0.2</td> <td>0.0</td> <td>6.0</td> <td>6.6</td> <td>1.0</td> <td>0.3</td> <td>1.8</td> <td>1.7</td> <td>0.3</td> <td>0.8</td> <td>0.0</td> <td>2.4</td> </tr> <tr> <td>Initial Q Delay(d3),s/veh</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> <td>0.0</td> </tr> <tr> <td>%ile BackOfQ(50%),veh/ln</td> <td>0.3</td> <td>0.0</td> <td>9.3</td> <td>1.9</td> <td>2.7</td> <td>0.7</td> <td>1.5</td> <td>5.3</td> <td>0.8</td> <td>0.8</td> <td>0.0</td> <td>6.8</td> </tr> <tr> <td>Unsig. Movement Delay, s/veh</td> <td>20.6</td> <td>0.0</td> <td>30.2</td> <td>41.1</td> <td>18.9</td> <td>17.0</td> <td>24.4</td> <td>15.3</td> <td>11.3</td> <td>19.8</td> <td>0.0</td> <td>16.9</td> </tr> <tr> <td>LnGrp Delay(d),s/veh</td> <td>C</td> <td>A</td> <td>C</td> <td>D</td> <td>B</td> <td>B</td> <td>C</td> <td>B</td> <td>B</td> <td>B</td> <td>A</td> <td>B</td> </tr> <tr> <td>Approach Vol, veh/h</td> <td>533</td> <td></td> <td></td> <td>348</td> <td></td> <td></td> <td>632</td> <td></td> <td></td> <td></td> <td>594</td> <td></td> </tr> <tr> <td>Approach Delay, s/veh</td> <td>29.8</td> <td></td> <td></td> <td>24.0</td> <td></td> <td></td> <td>16.1</td> <td></td> <td></td> <td></td> <td>17.2</td> <td></td> </tr> <tr> <td>Approach LOS</td> <td>C</td> <td></td> <td></td> <td>C</td> <td></td> <td></td> <td>B</td> <td></td> <td></td> <td></td> <td>B</td> <td></td> </tr> </tbody> </table>													Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	Lane Configurations		↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	↕	Traffic Volume (veh/h)	18	275	165	75	178	54	86	417	79	41	373	20	Future Volume (veh/h)	18	275	165	75	178	54	86	417	79	41	373	20	Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	Ped-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No	Adj Sat Flow, veh/h/ln	1953	1953	1953	1922	1922	1922	1969	1969	1969	1969	1969	1969	Adj Flow Rate, veh/h	21	320	192	85	202	61	93	453	86	56	511	27	Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.92	0.92	0.92	0.73	0.73	0.73	Percent Heavy Veh, %	3	3	3	5	5	5	2	2	2	2	2	2	Cap, veh/h	414	420	252	195	706	598	343	960	811	379	903	48	Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49	Sat Flow, veh/h	1107	1143	696	867	1922	1627	867	1969	1663	863	1953	98	Grp Volume(v), veh/h	21	0	512	85	202	61	93	453	86	56	0	538	Grp Sat Flow(s), veh/h/ln	1107	0	1829	867	1922	1627	867	1969	1663	866	0	1951	Q Served, s, s	1.1	0.0	19.7	7.6	5.9	2.0	6.8	12.3	2.2	3.7	0.0	15.6	Cycle Q Clearing, (c), s	7.0	0.0	19.7	27.3	5.9	2.0	22.4	12.3	2.2	15.9	0.0	15.6	Prop In Lane	1.00	1.00	0.38	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	Lane Grp Cap(c), veh/h	414	0	672	195	706	598	343	960	811	379	0	951	V/C Ratio(X)	0.05	0.00	0.76	0.44	0.29	0.10	0.27	0.47	0.11	0.15	0.00	0.57	Avail Cap(c), veh/h	414	0	672	195	706	598	343	960	811	379	0	951	HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	Upstream Filter(i)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	Uniform Delay (d), s/veh	20.4	0.0	22.2	34.2	17.9	16.6	22.4	13.6	11.1	19.0	0.0	14.5	Incr Delay (d2), s/veh	0.2	0.0	6.0	6.6	1.0	0.3	1.8	1.7	0.3	0.8	0.0	2.4	Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	%ile BackOfQ(50%),veh/ln	0.3	0.0	9.3	1.9	2.7	0.7	1.5	5.3	0.8	0.8	0.0	6.8	Unsig. Movement Delay, s/veh	20.6	0.0	30.2	41.1	18.9	17.0	24.4	15.3	11.3	19.8	0.0	16.9	LnGrp Delay(d),s/veh	C	A	C	D	B	B	C	B	B	B	A	B	Approach Vol, veh/h	533			348			632				594		Approach Delay, s/veh	29.8			24.0			16.1				17.2		Approach LOS	C			C			B				B	
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Ped-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Adj Sat Flow, veh/h/ln	1953	1953	1953	1922	1922	1922	1969	1969	1969	1969	1969	1969																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Adj Flow Rate, veh/h	21	320	192	85	202	61	93	453	86	56	511	27																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Peak Hour Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.92	0.92	0.92	0.73	0.73	0.73																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Sat Flow, veh/h	1107	1143	696	867	1922	1627	867	1969	1663	863	1953	98																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Grp Volume(v), veh/h	21	0	512	85	202	61	93	453	86	56	0	538																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Grp Sat Flow(s), veh/h/ln	1107	0	1829	867	1922	1627	867	1969	1663	866	0	1951																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Q Served, s, s	1.1	0.0	19.7	7.6	5.9	2.0	6.8	12.3	2.2	3.7	0.0	15.6																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Cycle Q Clearing, (c), s	7.0	0.0	19.7	27.3	5.9	2.0	22.4	12.3	2.2	15.9	0.0	15.6																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Prop In Lane	1.00	1.00	0.38	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Lane Grp Cap(c), veh/h	414	0	672	195	706	598	343	960	811	379	0	951																																																																																																																																																																																																																																																																																																																																																																																																																																																										
V/C Ratio(X)	0.05	0.00	0.76	0.44	0.29	0.10	0.27	0.47	0.11	0.15	0.00	0.57																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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Upstream Filter(i)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Uniform Delay (d), s/veh	20.4	0.0	22.2	34.2	17.9	16.6	22.4	13.6	11.1	19.0	0.0	14.5																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Incr Delay (d2), s/veh	0.2	0.0	6.0	6.6	1.0	0.3	1.8	1.7	0.3	0.8	0.0	2.4																																																																																																																																																																																																																																																																																																																																																																																																																																																										
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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Unsig. Movement Delay, s/veh	20.6	0.0	30.2	41.1	18.9	17.0	24.4	15.3	11.3	19.8	0.0	16.9																																																																																																																																																																																																																																																																																																																																																																																																																																																										
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Approach Vol, veh/h	533			348			632				594																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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<table border="1"> <thead> <tr> <th>Timer - Assigned Phs</th> <th>2</th> <th>4</th> <th>5</th> <th>6</th> </tr> </thead> <tbody> <tr> <td>Phs Duration (G+Y+Rc), s</td> <td>45.0</td> <td>35.0</td> <td>45.0</td> <td>35.0</td> </tr> <tr> <td>Change Period (Y+Rc), s</td> <td>6.0</td> <td>5.6</td> <td>6.0</td> <td>5.6</td> </tr> <tr> <td>Max Green Setting (Gmax), s</td> <td>39.0</td> <td>29.4</td> <td>39.0</td> <td>29.4</td> </tr> <tr> <td>Max Q Clear Time (q_c+1), s</td> <td>24.4</td> <td>21.7</td> <td>17.9</td> <td>23.3</td> </tr> <tr> <td>Green Ext Time (g_c), s</td> <td>3.1</td> <td>2.0</td> <td>3.7</td> <td>0.0</td> </tr> </tbody> </table>													Timer - Assigned Phs	2	4	5	6	Phs Duration (G+Y+Rc), s	45.0	35.0	45.0	35.0	Change Period (Y+Rc), s	6.0	5.6	6.0	5.6	Max Green Setting (Gmax), s	39.0	29.4	39.0	29.4	Max Q Clear Time (q_c+1), s	24.4	21.7	17.9	23.3	Green Ext Time (g_c), s	3.1	2.0	3.7	0.0																																																																																																																																																																																																																																																																																																																																																																																																																												
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Northville Downs TIS
Fleis & VandenBink Engineering
Synchro 11 Report
12/12/2021

HCM 6th Signalized Intersection Summary Future Conditions #2 (Both Closed) w/ IMP
26: SB Northville Road & N. Seven Mile Road AM Peak Hour

Intersection																																																																																																																																								
Intersection	Delay, s/veh																																																																																																																																							
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Movement	EBL	EBR	NBL	NBT	SBT	SBR																																																																																																																																		
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Work Zone On Approach	No	No	No	No	No	No																																																																																																																																		
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HCM 6th Signalized Intersection Summary Future Conditions #2 (Both Closed) w/ IMP
9: Griswold Street & Main Street PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	50	273	28	15	295	260	26	266	25	180	235	93
Traffic Volume (veh/h)	50	273	28	15	295	260	26	266	25	180	235	93
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	0.99	1.00	0.99	1.00	0.99	0.99	1.00	1.00	1.00	0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	2000	2000	1984	1984	1984	1984	2000	2000	2000	2000	2000	2000
Adj Flw Rate, veh/h	54	297	30	16	315	277	30	302	28	189	247	98
Peak Hour Factor	1.92	1.92	1.94	1.94	1.94	1.94	1.92	1.92	1.94	1.92	1.94	1.92
Percent Heavy Veh. %	0	0	0	1	1	1	0	0	0	0	0	0
Cap, veh/h	167	900	95	75	684	538	100	765	67	305	382	132
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Start Flow, veh/h	290	2924	299	35	1918	1509	77	1697	149	494	788	291
Grp Volume(v), veh/h	182	0	199	331	0	277	360	0	0	534	0	0
Grp Sat Flow(s), veh/hln	1272	0	1768	1953	0	1509	1914	0	0	1583	0	0
Q Served(s), s	0.6	0.0	4.9	0.0	0.0	8.7	0.0	0.0	0.0	8.3	0.0	0.0
Cycle Q Clearing(c), s	9.3	0.0	4.9	7.7	0.0	8.7	7.3	0.0	0.0	16.6	0.0	9.8
Prop In Lane	0.30	0.0	1.5	0.05	1.00	0.08	0.08	0.35	1.0	0.0	0.5	0.18
Lane Grp Cap(c), veh/h	531	0	630	760	0	538	933	0	0	799	0	0
V/C Ratio(X)	0.34	1.00	0.32	0.44	0.00	0.51	0.39	0.00	0.00	0.67	0.00	0.00
Avail Cap(c), veh/h	531	0	630	760	0	538	933	0	0	799	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.8	0.0	14.0	14.9	0.0	15.2	11.0	0.0	0.0	12.9	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.0	1.3	1.8	0.0	3.5	1.2	0.0	0.0	4.4	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q)(50%), veh/h	1.9	0.0	2.0	3.6	0.0	3.3	3.0	0.0	0.0	5.5	0.0	0.0
Unsig. Movement Delay, s/veh	15.6	0.0	15.3	16.7	0.0	18.7	12.2	0.0	0.0	17.3	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h	381		608		360		534			534		
Approach Delay, s/veh	15.4		17.6		12.2		17.3			17.3		
Approach LOS	B		B		B		B			B		
Timer - Assigned Phs	2	4	6	8	6	8	6	8	6	8	6	8
Phs Duration (G+Y+Rc), s	27.0	33.0	27.0	33.0	27.0	33.0	27.0	33.0	27.0	33.0	27.0	33.0
Change Period (Y+Rc), s	5.6	*5.8	5.6	*5.8	5.6	*5.8	5.6	*5.8	5.6	*5.8	5.6	*5.8
Max Green Setting (Gmax), s	21.4	*27	21.4	*27	21.4	*27	21.4	*27	21.4	*27	21.4	*27
Max Q Clear Time (g_c+1), s	11.3	17.6	11.3	17.6	11.3	17.6	11.3	17.6	11.3	17.6	11.3	17.6
Green Ext Time (p_c), s	1.8	2.6	1.8	2.6	1.8	2.6	1.8	2.6	1.8	2.6	1.8	2.6
Intersection Summary												
HCM 6th Cst Delay		16.0										
HCM 6th LOS		B										

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Northville Downs TIS
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HCM 6th AWSC Future Conditions #2 (Both Closed) w/ IMP
12: Center Street & Cady Street PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	5	75	73	240	61	11	60	143	307	56	114	16
Traffic Volume (veh/h)	5	75	73	240	61	11	60	143	307	56	114	16
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	0.79	0.79	0.79	0.88	0.88	0.88	0.90	0.90	0.90	0.80	0.80	0.80
Adj Flw Rate, veh/h	1	1	1	1	1	1	1	1	1	1	1	1
Peak Hour Factor	6	95	92	273	69	13	67	159	341	70	143	20
Percent Heavy Veh. %	0	1	0	0	1	0	0	1	0	0	1	0
Cap, veh/h	167	900	95	75	684	538	100	765	67	305	382	132
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.45	0.45	0.45	0.45	0.45	0.45	0.45
Start Flow, veh/h	290	2924	299	35	1918	1509	77	1697	149	494	788	291
Grp Volume(v), veh/h	182	0	199	331	0	277	360	0	0	534	0	0
Grp Sat Flow(s), veh/hln	1272	0	1768	1953	0	1509	1914	0	0	1583	0	0
Q Served(s), s	0.6	0.0	4.9	0.0	0.0	8.7	0.0	0.0	0.0	8.3	0.0	0.0
Cycle Q Clearing(c), s	9.3	0.0	4.9	7.7	0.0	8.7	7.3	0.0	0.0	16.6	0.0	9.8
Prop In Lane	0.30	0.0	1.5	0.05	1.00	0.08	0.08	0.35	1.0	0.0	0.5	0.18
Lane Grp Cap(c), veh/h	531	0	630	760	0	538	933	0	0	799	0	0
V/C Ratio(X)	0.34	1.00	0.32	0.44	0.00	0.51	0.39	0.00	0.00	0.67	0.00	0.00
Avail Cap(c), veh/h	531	0	630	760	0	538	933	0	0	799	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.8	0.0	14.0	14.9	0.0	15.2	11.0	0.0	0.0	12.9	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.0	1.3	1.8	0.0	3.5	1.2	0.0	0.0	4.4	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q)(50%), veh/h	1.9	0.0	2.0	3.6	0.0	3.3	3.0	0.0	0.0	5.5	0.0	0.0
Unsig. Movement Delay, s/veh	15.6	0.0	15.3	16.7	0.0	18.7	12.2	0.0	0.0	17.3	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h	381		608		360		534			534		
Approach Delay, s/veh	15.4		17.6		12.2		17.3			17.3		
Approach LOS	B		B		B		B			B		
Timer - Assigned Phs	2	4	6	8	6	8	6	8	6	8	6	8
Phs Duration (G+Y+Rc), s	27.0	33.0	27.0	33.0	27.0	33.0	27.0	33.0	27.0	33.0	27.0	33.0
Change Period (Y+Rc), s	5.6	*5.8	5.6	*5.8	5.6	*5.8	5.6	*5.8	5.6	*5.8	5.6	*5.8
Max Green Setting (Gmax), s	21.4	*27	21.4	*27	21.4	*27	21.4	*27	21.4	*27	21.4	*27
Max Q Clear Time (g_c+1), s	11.3	17.6	11.3	17.6	11.3	17.6	11.3	17.6	11.3	17.6	11.3	17.6
Green Ext Time (p_c), s	1.8	2.6	1.8	2.6	1.8	2.6	1.8	2.6	1.8	2.6	1.8	2.6
Intersection Summary												
HCM 6th Cst Delay		16.0										
HCM 6th LOS		B										

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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HCM 6th Signalized Intersection Summary Future Conditions #2 (Both Closed) w/ IMP
23: Sheldon Avenue/Center Street & Seven Mile Road PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	27	318	134	128	448	131	127	499	105	74	368	26
Traffic Volume (veh/h)	27	318	134	128	448	131	127	499	105	74	368	26
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	0.99	1.00	0.99	1.00	1.00	0.99	1.00	1.00	1.00	0.99
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1984	1984	1984	1984	1984	2000	1984	1984	2000	1984	1984	2000
Adj Flw Rate, veh/h	31	361	152	145	509	149	141	554	117	80	396	28
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.90	0.90	0.88	0.88	0.88
Percent Heavy Veh. %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	207	486	205	206	729	619	426	967	811	315	899	64

HCM 6th Signalized Intersection Summary Future Conditions #3 (Main Closed) w/ IMP

12: Center Street & Cady Street AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	59	11	112	57	9	26	428	212	28	369	5
Traffic Volume (veh/h)	1	59	11	112	57	9	26	428	212	28	369	5
Future Volume (veh/h)	1	59	11	112	57	9	26	428	212	28	369	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	1.00	1.00	0.99	1.00	0.99	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	2000	2000	2000	2000	2000	1953	1953	1953	1953	1969	1969	1969
Adj Flow Rate, veh/h	1	87	12	137	70	11	29	476	236	31	415	6
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh. %	0	0	0	0	0	0	3	3	2	2	2	2
Cap, veh/h	62	282	50	261	97	14	84	783	376	102	1160	16
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.65	0.65	0.65	1.00	1.00	1.00
Sat Flow, veh/h	5	1945	221	955	365	81	33	1203	578	99	1163	26
Grp Volume(v), veh/h	80	0	0	218	0	0	741	0	0	452	0	0
Grp Sat Flow(s),veh/hln	1943	0	0	1601	0	0	1814	0	0	1867	0	0
Q Served, s/h	0.0	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clearing, c/s	2.1	0.0	0.0	7.7	0.0	0.0	14.1	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.01	0.15	0.63	0.05	0.04	0.32	0.07	0.01	0.01	0.01	0.01	0.01
Lane Grp Cap(c), veh/h	393	0	0	372	0	0	1242	0	0	1278	0	0
V/C Ratio(X)	0.20	1.00	0.00	0.59	0.00	0.00	0.60	0.00	0.00	0.35	0.00	0.00
Aval Cap(c), al, veh/h	405	0	0	486	0	0	1242	0	0	1278	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.5	0.0	0.0	23.6	0.0	0.0	6.1	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	1.5	0.0	0.0	2.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q)(50%),veh/ln	1.0	0.0	0.0	2.9	0.0	0.0	4.6	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh	21.7	0.0	0.0	25.1	0.0	0.0	8.2	0.0	0.0	0.8	0.0	0.0
LnGrp Delay(d),s/veh	C	A	A	C	A	A	A	A	A	A	A	A
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h	80			218			741			452		
Approach Delay, s/veh	21.7			25.1			8.2			0.8		
Approach LOS	C			A			A			B		
Timer - Assigned Phs	2	4	6	8	8							
Phs Duration (G+Y+Rc), s	44.5	15.5	44.5	15.5								
Change Period (Y+Rc), s	5.5	*5.2	5.5	*5.2								
Max Green Setting (Gmax), s	34.5	*15	34.5	*15								
Max Q Clear Time (g, c+1), s	16.1	4.1	24.0	5.7								
Green Ext Time (g, c), s	5.7	0.2	3.5	0.5								
Intersection Summary												
HCM 6th Ctl Delay				9.2								
HCM 6th LOS				A								

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary Future Conditions #3 (Main Closed) w/ IMP

23: Sheldon Avenue/Center Street & Seven Mile Road AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	41	277	64	31	195	81	51	524	64	80	366	19
Traffic Volume (veh/h)	41	277	64	31	195	81	51	524	64	80	366	19
Future Volume (veh/h)	41	277	64	31	195	81	51	524	64	80	366	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1984	1984	1984	1938	1938	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	48	326	76	34	212	88	55	570	70	93	426	22
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh. %	1	1	1	4	4	4	2	2	2	2	2	2
Cap, veh/h	405	573	132	284	712	603	405	960	811	310	905	47
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1097	1560	359	969	1938	1640	941	1969	1663	789	1655	86
Grp Volume(v), veh/h	48	0	401	34	212	88	55	570	70	93	0	448
Grp Sat Flow(s),veh/hln	1087	0	1919	968	1938	1640	941	1969	1663	789	0	1951
Q Served, s/h	2.6	0.0	13.4	2.3	6.2	2.9	3.3	16.7	1.8	7.7	0.0	12.2
Cycle Q Clearing, c/s	8.8	0.0	13.4	15.7	6.2	2.9	15.5	16.7	1.8	24.4	0.0	12.2
Prop In Lane	1.00	0.0	0.19	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.05	1.00
Lane Grp Cap(c), veh/h	405	0	705	284	712	603	405	960	811	310	0	951
V/C Ratio(X)	0.12	0.00	0.57	0.12	0.30	0.15	0.14	0.59	0.09	0.30	0.00	0.47
Aval Cap(c), al, veh/h	405	0	705	284	712	603	405	960	811	310	0	951
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.1	0.0	20.2	26.5	18.0	16.9	18.8	14.8	11.0	23.6	0.0	13.6
Incr Delay (d2), s/veh	0.6	0.0	0.6	1.5	0.0	0.6	0.7	0.2	0.2	2.5	0.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q)(50%),veh/ln	0.7	0.0	6.2	0.6	2.8	1.1	0.8	7.4	0.7	1.6	0.0	5.2
Unsig. Movement Delay, s/veh	21.7	0.0	23.5	27.4	19.0	17.4	19.5	17.5	11.2	26.1	0.0	15.3
LnGrp Delay(d),s/veh	C	A	C	C	B	B	B	B	B	C	A	B
LnGrp LOS	C	A	C	C	B	B	B	B	B	C	A	B
Approach Vol, veh/h	449			334			695			541		
Approach Delay, s/veh	23.3			19.5			17.0			17.2		
Approach LOS	C			B			B			B		
Timer - Assigned Phs	2	4	6	8	8							
Phs Duration (G+Y+Rc), s	45.0	35.0	45.0	35.0								
Change Period (Y+Rc), s	6.0	5.6	6.0	5.6								
Max Green Setting (Gmax), s	39.0	29.4	39.0	29.4								
Max Q Clear Time (g, c+1), s	18.7	15.4	26.4	17.7								
Green Ext Time (g, c), s	4.1	2.2	2.7	1.2								
Intersection Summary												
HCM 6th Ctl Delay				18.9								
HCM 6th LOS				B								

Notes
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

HCM 6th Signalized Intersection Summary Future Conditions #3 (Main Closed) w/ IMP

26: SB Northville Road & N. Seven Mile Road AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	46	222	16	352	296	50
Traffic Volume (veh/h)	46	222	16	352	296	50
Future Volume (veh/h)	46	222	16	352	296	50
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1953	1953	1938	1938	1953	1953
Adj Flow Rate, veh/h	54	261	19	414	329	56
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85
Percent Heavy Veh. %	3	3	4	4	3	3
Cap, veh/h	251	795	92	2605	898	151
Arrive On Green	0.34	0.14	0.69	1.00	0.28	0.28
Sat Flow, veh/h	1680	1655	1845	3778	3275	535
Grp Volume(v), veh/h	54	261	19	414	191	194
Grp Sat Flow(s),veh/hln	1860	1655	1845	3778	1856	1857
Q Served, s/h	2.1	7.8	1.8	0.0	6.6	6.7
Cycle Q Clearing, c/s	2.1	7.8	1.8	0.0	6.6	6.7
Prop In Lane	1.00	1.00	1.00	1.00	0.00	0.29
Lane Grp Cap(c), veh/h	251	795	92	2605	524	525
V/C Ratio(X)	0.22	0.33	0.22	0.16	0.36	0.37
Aval Cap(c), al, veh/h	251	795	92	2605	524	525

HCM 6th Signalized Intersection Summary Future Conditions #3 (Main Closed) w/ IMP

12: Center Street & Cady Street PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	10	76	27	189	65	18	23	467	219	57	499	33
Traffic Volume (veh/h)	10	76	27	189	65	18	23	467	219	57	499	33
Future Volume (veh/h)	10	76	27	189	65	18	23	467	219	57	499	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	0.97	1.00	0.95	0.96	0.95	0.99	0.96	0.98	1.00	1.00	1.00	0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1984	1984	1984	2000	2000	2000	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	13	96	34	215	74	20	24	452	231	60	525	35
Adj Flow Factor	0.97	0.79	0.79	0.86	0.86	0.86	0.95	0.95	0.95	0.95	0.95	0.95
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Percent Heavy Veh. %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	82	316	104	345	85	23	77	733	335	128	948	60
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	0.59	0.59	0.59	0.59	1.00	1.00
Sat Flow, veh/h	73	1963	448	1051	367	98	25	1243	598	106	1008	103
Grp Volume(v), veh/h	143	0	0	309	0	0	747	0	0	620	0	0
Grp Sat Flow(s),veh/hln	1884	0	0	1516	0	0	1836	0	0	1816	0	0
Q Served, s/s	0.0	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clearing, c/s	3.8	0.0	0.0	11.5	0.0	0.0	16.4	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.09	0.24	0.70	0.06	0.03	0.31	0.10	0.07				
Lane Grp Cap(c), veh/h	502	0	0	453	0	0	1145	0	0	1137	0	0
V/C Ratio(x)	0.28	1.00	0.00	0.68	0.00	0.00	0.65	0.00	0.00	0.55	0.00	0.00
Avail Cap(c), veh/h	0	0	0	462	0	0	1145	0	0	1137	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(f)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.2	0.0	0.0	21.7	0.0	0.0	8.4	0.0	0.0	0.0	0.0	0.0
Intr Delay (d2), s/veh	0.0	0.0	0.0	4.0	0.0	0.0	2.9	0.0	0.0	1.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q/50%),veh/ln	1.6	0.0	0.0	4.4	0.0	0.0	6.1	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh	19.5	0.0	0.0	25.7	0.0	0.0	11.3	0.0	0.0	1.9	0.0	0.0
LnGrp Delay(d),s/veh	B	A	A	C	A	A	B	A	A	A	A	A
LnGrp LOS	B	A	A	C	A	A	B	A	A	A	A	A
Approach Vol, veh/h	143			309			747			620		
Approach Delay, s/veh	19.5			25.7			11.3			1.9		
Approach LOS	B			C			B			C		
Timer - Assigned Phs	2	4	6	8	8							
Phs Duration (G+Y+Rc), s	40.9	19.1	40.9	19.1								
Change Period (Y+Rc), s	5.5	*5.2	5.5	*5.2								
Max Green Setting (Gmax), s	35.0	*14	35.0	*14								
Max Q Clear Time (g, c+1), s	18.4	5.8	2.0	13.5								
Green Ext Time (g, c), s	5.5	0.4	5.8	0.2								
Intersection Summary												
HCM 6th Ctrl Delay				11.2								
HCM 6th LOS				B								

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HCM 6th Signalized Intersection Summary Future Conditions #3 (Main Closed) w/ IMP

23: Sheldon Avenue/Center Street & Seven Mile Road PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	32	331	116	97	458	151	110	615	94	73	582	47
Traffic Volume (veh/h)	32	331	116	97	458	151	110	615	94	73	582	47
Future Volume (veh/h)	32	331	116	97	458	151	110	615	94	73	582	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1984	1984	1984	2000	2000	2000	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	36	368	129	102	482	159	116	647	99	78	619	50
Adj Flow Factor	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.94	0.94
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh. %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	222	516	181	220	735	262	261	967	817	263	883	71
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	794	1403	492	914	2000	1693	774	1984	1677	720	1811	146
Grp Volume(v), veh/h	36	0	497	102	482	159	116	647	99	78	0	669
Grp Sat Flow(s),veh/hln	794	0	1895	914	2000	1693	774	1984	1677	720	0	1958
Q Served, s/s	3.2	0.0	18.0	8.6	16.1	5.2	11.0	19.8	2.6	7.4	0.0	21.3
Cycle Q Clearing, c/s	19.2	0.0	18.0	26.6	16.1	5.2	32.3	19.8	2.6	27.2	0.0	21.3
Prop In Lane	1.00	0.00	0.26	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.07
Lane Grp Cap(c), veh/h	222	0	696	220	735	262	261	967	817	263	0	954
V/C Ratio(x)	0.16	0.00	0.71	0.46	0.66	0.26	0.44	0.67	0.12	0.30	0.00	0.70
Avail Cap(c), veh/h	222	0	696	220	735	262	261	967	817	263	0	954
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(f)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.1	0.0	21.7	33.1	21.1	17.7	28.5	15.6	11.2	25.9	0.0	16.0
Intr Delay (d2), s/veh	0.0	0.0	0.0	6.8	4.5	1.0	5.4	3.7	0.3	2.9	0.0	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q/50%),veh/ln	0.7	0.0	8.6	2.2	7.9	2.1	3.3	8.9	0.9	1.4	0.0	9.5
Unsig. Movement Delay, s/veh	30.7	0.0	27.8	29.9	25.6	18.7	33.9	19.3	11.5	28.8	0.0	20.2
LnGrp Delay(d),s/veh	C	A	C	D	C	B	C	B	C	A	C	A
LnGrp LOS	C	A	C	D	C	B	C	B	C	A	C	A
Approach Vol, veh/h	533			743			862			747		
Approach Delay, s/veh	28.0			26.1			20.3			21.1		
Approach LOS	C			B			C			C		
Timer - Assigned Phs	2	4	6	8	8							
Phs Duration (G+Y+Rc), s	45.0	35.0	45.0	35.0								
Change Period (Y+Rc), s	6.0	5.6	6.0	5.6								
Max Green Setting (Gmax), s	39.0	29.4	39.0	29.4								
Max Q Clear Time (g, c+1), s	34.3	21.2	29.2	28.6								
Green Ext Time (g, c), s	2.2	2.1	3.5	0.4								
Intersection Summary												
HCM 6th Ctrl Delay				23.4								
HCM 6th LOS				C								

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HCM 6th Signalized Intersection Summary Future Conditions #3 (Main Closed) w/ IMP

26: SB Northville Road & N. Seven Mile Road PM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	51	273	429	602	511	104
Traffic Volume (veh/h)	51	273	429	602	511	104
Future Volume (veh/h)	51	273	429	602	511	104
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A, pbT)	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No
Adj Sat Flow, veh/hln	1969	1969	1984	1984	1984	1984
Adj Flow Rate, veh/h	56	300	456	640	538	109
Adj Flow Factor	0.91	0.91	0.94	0.94	0.95	0.95
Peak Hour Factor	0.91	0.91	0.94	0.94	0.95	0.95
Percent Heavy Veh. %	2	2	1	1	1	1
Cap, veh/h	206	738	859	2762	603	599
Arrive On Green	0.11	0.11	0.67	1.00	0.32	0.32
Sat Flow, veh/h	1875	1668	1890	3800	3025	631
Grp Volume(v), veh/h	56	300	456	640	324	323
Grp Sat Flow(s),veh/hln	1875	1668	1890	1885	1885	1871
Q Served, s/s	2.2	8.8	6.0	0.0	11.3	11.4
Cycle Q Clearing, c/s	2.2					

Queuing and Blocking Report Future Conditions #1 (Pre-COVID) w/ IMP
AM Peak Hour

Intersection: 28: Northville Road & S. Seven Mile Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	111	85	195	221	195	163	62
Average Queue (ft)	84	31	98	104	104	17	24
95th Queue (ft)	113	69	159	180	179	96	54
Link Distance (ft)	82	82	219	219	222	222	
Upstream Blk Time (%)	8	1	9	0	0		
Queuing Penalty (veh)	19	2	0	1	1		
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					9		
Queuing Penalty (veh)					9		

Zone Summary

Zone wide Queuing Penalty: 121

Queuing and Blocking Report Future Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	266	87	103	161	42	263
Average Queue (ft)	107	35	31	89	10	114
95th Queue (ft)	209	73	73	159	34	224
Link Distance (ft)	394	193		153		1449
Upstream Blk Time (%)	0	0	0	0		
Queuing Penalty (veh)	0	0	0	3		
Storage Bay Dist (ft)			500		500	
Storage Blk Time (%)			0		0	
Queuing Penalty (veh)			0		0	

Intersection: 8: Hutton Street & Main Street

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	LT	R	LT	R	LTR	LT	R
Maximum Queue (ft)	181	35	316	100	68	148	22
Average Queue (ft)	84	14	126	81	19	78	3
95th Queue (ft)	150	39	255	121	48	128	15
Link Distance (ft)	521		381		114		328
Upstream Blk Time (%)			0				
Queuing Penalty (veh)			0				
Storage Bay Dist (ft)		25	3	75	175		
Storage Blk Time (%)		41	2	12	2	0	
Queuing Penalty (veh)		7	3	38	5	0	

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	140	140	153	205	155	597
Average Queue (ft)	91	78	99	123	85	264
95th Queue (ft)	142	130	150	190	137	494
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)	10	2				
Queuing Penalty (veh)	19	5			4	
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Queuing and Blocking Report Future Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	94	111	283	155
Average Queue (ft)	34	50	160	98
95th Queue (ft)	69	91	287	172
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)	0	4	7	
Queuing Penalty (veh)	0	29	45	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T
Maximum Queue (ft)	120	294	249	410	342	519	739
Average Queue (ft)	37	158	110	216	100	219	361
95th Queue (ft)	94	287	239	387	293	479	690
Link Distance (ft)	386	565	565	565	21443		532
Upstream Blk Time (%)					0	0	
Queuing Penalty (veh)					1	1	
Storage Bay Dist (ft)	500	150	1	600	50	250	
Storage Blk Time (%)		5	23		38	2	1
Queuing Penalty (veh)		25	25		88	15	4

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	TR
Maximum Queue (ft)	76	147	199	138	74	215
Average Queue (ft)	33	58	102	17	39	113
95th Queue (ft)	66	115	175	71	67	195
Link Distance (ft)	164	164	240	240	357	357
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)			150			
Storage Blk Time (%)			3			
Queuing Penalty (veh)			10			

Queuing and Blocking Report Future Conditions #1 (Pre-COVID) w/ IMP
PM Peak Hour

Intersection: 28: Northville Road & S. Seven Mile Road

Movement	WB	WB	NB	NB	SB	SB	SB
Directions Served	L	R	T	TR	L	T	T
Maximum Queue (ft)	119	106	247	248	199	254	88
Average Queue (ft)	88	70	162	155	116	49	34
95th Queue (ft)	112	110	239	244	196	177	72
Link Distance (ft)	82	82	219	219	222	222	
Upstream Blk Time (%)	10	9	2	3			
Queuing Penalty (veh)	46	41	9	11	11		
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					17	0	
Queuing Penalty (veh)					35	0	

Zone Summary

Zone wide Queuing Penalty: 492

Queuing and Blocking Report Future Conditions #2 (Both Closed) w/ IMP
AM Peak Hour

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	63	30	35	92	29	180
Average Queue (ft)	32	7	13	49	3	78
95th Queue (ft)	53	28	38	75	18	133
Link Distance (ft)	394	193		154		1449
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			500		500	
Storage Blk Time (%)			0		0	
Queuing Penalty (veh)			0		0	

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	93	86	107	122	155	192
Average Queue (ft)	46	40	49	57	78	98
95th Queue (ft)	74	71	90	103	134	161
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)	0	0			1	
Queuing Penalty (veh)					3	
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	69	86	209	55
Average Queue (ft)	36	47	95	26
95th Queue (ft)	54	73	162	45
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report Future Conditions #2 (Both Closed) w/ IMP
AM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T
Maximum Queue (ft)	43	343	149	214	64	108	339
Average Queue (ft)	8	164	52	67	10	39	162
95th Queue (ft)	28	281	115	142	36	86	292
Link Distance (ft)	386	565	565	565	21443		532
Upstream Blk Time (%)					0		
Queuing Penalty (veh)					1		
Storage Bay Dist (ft)	500	150		600	50	250	
Storage Blk Time (%)		0	1	2	22	1	0
Queuing Penalty (veh)		0	2	1	36	5	0

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	EB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	TR
Maximum Queue (ft)	75	105	105	38	52	146
Average Queue (ft)	24	40	44	6	14	87
95th Queue (ft)	54	84	89	26	42	137
Link Distance (ft)	164	164	240	240	357	357
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					150	
Storage Bay Dist (ft)					0	
Storage Blk Time (%)					0	
Queuing Penalty (veh)					0	

Intersection: 28: Northville Road & S. Seven Mile Road

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	TR	L	T
Maximum Queue (ft)	120	65	207	235	143	71
Average Queue (ft)	88	25	101	107	64	10
95th Queue (ft)	117	59	169	193	118	40
Link Distance (ft)	82	82	219	219	222	222
Upstream Blk Time (%)	12	0			0	
Queuing Penalty (veh)	29	0	1	2		
Storage Bay Dist (ft)					120	
Storage Blk Time (%)					1	0
Queuing Penalty (veh)					1	0

Zone Summary

Zone wide Queuing Penalty: 83

Queuing and Blocking Report Future Conditions #2 (Both Closed) w/ IMP

PM Peak Hour

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	SB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	83	49	53	114	34	154
Average Queue (ft)	42	26	59	12	73	
95th Queue (ft)	71	49	49	93	36	119
Link Distance (ft)	394	193	154			1449
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)		500			500	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 9: Griswold Street & Main Street

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	110	105	187	172	160	573
Average Queue (ft)	64	60	99	83	90	260
95th Queue (ft)	98	97	157	147	144	526
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)	0	0			2	
Queuing Penalty (veh)	1	1			6	
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	94	123	259	90
Average Queue (ft)	42	65	119	36
95th Queue (ft)	74	104	210	69
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)	0	0		
Queuing Penalty (veh)	0	5	0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report Future Conditions #2 (Both Closed) w/ IMP

PM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	T	R	L
Maximum Queue (ft)	64	273	228	392	298	147
Average Queue (ft)	20	148	95	173	59	53
95th Queue (ft)	50	244	195	335	248	106
Link Distance (ft)		386		565	565	21443
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	500		150			600
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	L	R	L	T	T	TR
Maximum Queue (ft)	106	103	174	40	58	212
Average Queue (ft)	30	44	92	8	28	134
95th Queue (ft)	70	89	156	31	58	209
Link Distance (ft)	164	164	240	240	357	357
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			150			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 28: Northville Road & S. Seven Mile Road

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	TR	L	T
Maximum Queue (ft)	135	117	237	246	196	152
Average Queue (ft)	95	56	145	138	99	29
95th Queue (ft)	118	103	217	221	175	103
Link Distance (ft)	62	62	219	219	222	222
Upstream Blk Time (%)	18	4			1	
Queuing Penalty (veh)	90	20	3	5	2	
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Zone Summary

Zone wide Queuing Penalty: 287

Queuing and Blocking Report Future Conditions #3 (Main Closed) w/ IMP

AM Peak Hour

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L
Maximum Queue (ft)	138	39	44	161	29
Average Queue (ft)	48	6	11	57	2
95th Queue (ft)	94	26	37	145	15
Link Distance (ft)	394	193	153		1449
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		500		500	
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 9: Griswold Street & Main Street

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	100	86	108	122	151	249
Average Queue (ft)	45	32	50	60	75	102
95th Queue (ft)	78	69	94	109	133	211
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)	0	0			2	
Queuing Penalty (veh)	0	0			4	
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	72	155	270	156
Average Queue (ft)	34	79	151	78
95th Queue (ft)	66	129	267	144
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)				
Queuing Penalty (veh)	5	14		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report Future Conditions #3 (Main Closed) w/ IMP

AM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	T	R	L
Maximum Queue (ft)	68	249	64	134	82	370
Average Queue (ft)	19	110	18	66	16	20
95th Queue (ft)	49	186	49	121	49	53
Link Distance (ft)	396		565	565		21443
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	500		150			600
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	WB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	TR
Maximum Queue (ft)	94	114	132	38	65	172
Average Queue (ft)	28	40	59	21	15	89
95th Queue (ft)	64	85	103	22	47	143
Link Distance (ft)	164	164	240	240	357	357
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)			150			
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 28: Northville Road & S. Seven Mile Road

Movement	WB	WB	NB	NB	SB	SB
Directions Served	L	R	T	TR	L	T
Maximum Queue (ft)	126	80	187	214	148	39
Average Queue (ft)	88	28	100	102	67	6
95th Queue (ft)	114	65	157	170	119	26
Link Distance (ft)	62	62	219	219	222	222
Upstream Blk Time (%)	10	0			0	
Queuing Penalty (veh)	26	1	0	1		
Storage Bay Dist (ft)					120	
Storage Blk Time (%)						
Queuing Penalty (veh)						

Zone Summary

Zone wide Queuing Penalty: 88

Queuing and Blocking Report Future Conditions #3 (Main Closed) w/ IMP

PM Peak Hour

Intersection: 2: Center Street & Randolph Street/Private Drive

Movement	EB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	253	74	128	165	42	235
Average Queue (ft)	93	30	29	109	13	91
95th Queue (ft)	153	64	79	179	39	188
Link Distance (ft)	394	193	153			1449
Upstream Blk Time (%)	1		0	1		
Queuing Penalty (veh)	1		0	9		
Storage Bay Dist (ft)			500			500
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 9: Griswold Street & Main Street

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	121	118	168	175	144	425
Average Queue (ft)	69	66	95	80	91	178
95th Queue (ft)	110	110	150	139	130	335
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)	2	1			1	
Queuing Penalty (veh)	3	1			2	
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	124	250	297	170
Average Queue (ft)	48	134	187	130
95th Queue (ft)	96	224	298	188
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)	0	2	4	26
Queuing Penalty (veh)	0	5	29	158
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Queuing and Blocking Report Future Conditions #3 (Main Closed) w/ IMP

PM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	T	R	L
Maximum Queue (ft)	72	312	243	360	203	299
Average Queue (ft)	20	164	84	175	51	87
95th Queue (ft)	53	274	189	293	141	235
Link Distance (ft)	386		565	565		21443
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	500		150		</	

Scheme Summary

Control Data

Control Data and Model Parameters

Northville Downs - RDBT @ Central/Sheldon & 7 Mile Future Conditions - Scenario #1 (Pre-COVID) Rodel-Win1 Right Hand Drive AM Peak Hour Full Geometry English Units (ft)	2028 PHF Flow Profile (veh) 7.5 min Time Slice Queuing Delays (sec) Daylight conditions Peak 60/15 min Results Output flows: Vehicles 50% Confidence Level
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Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation 0	Half Width V	Approach Lanes P	Entry Width E	Entry Lanes R	Flare Length L	Entry Radius R	Entry Angle Phi
1	Central SB	0	0	12.00	1	14.00	1	100.00	90.00	30.00
2	7 Mile EB	90	0	12.00	1	14.00	1	100.00	90.00	30.00
3	Sheldon NB	180	0	12.00	1	14.00	1	100.00	90.00	30.00
4	7 Mile WB	270	0	12.00	1	28.00	2	100.00	90.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nrx
1	Central SB	120.00	30.00	2	16.00	1	12.00	1
2	7 Mile EB	120.00	18.00	1	16.00	1	12.00	1
3	Sheldon NB	120.00	18.00	1	16.00	1	12.00	1
4	7 Mile WB	120.00	18.00	1	16.00	1	12.00	1

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road		Exit Road			
		Capacity	XWalk Factor	Intercept	Slope	V (ft)	Default Capacity	Calib Capacity	V (ft)	Default Capacity	Calib Capacity
1	Central SB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0
2	7 Mile EB	0	1.000	0	1.000	20.00	1792	0	12.00	1792	0
3	Sheldon NB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0
4	7 Mile WB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0

Bypass Geometry

Bypass Approach Geometry (ft)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
1	Central SB	Exclusive	21	12	1	12	1	12	1
3	Sheldon NB	Exclusive	73	12	1	12	1	12	1

Bypass Entry and Exit Geometry (ft)

Leg	Leg Names	Entry Geometry					Leg	Leg Names	Exit Lanes		
		Eb	neb	Lb	Lt	Rb			Phib	nex	Nmx
1	Central SB	12	1	0	100	66.00076	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00076	30	4	7 Mile WB	1	2

Traffic Flow Data (veh/hr)

2028 AM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows					Flow Modifiers		
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	Central SB	0	89	411	0	21	2.0	1.00	0.860
2	7 Mile EB	0	46	432	73	0	1.0	1.00	0.850
3	Sheldon NB	0	58	594	0	73	2.0	1.00	0.920
4	7 Mile WB	0	35	157	90	0	4.0	1.00	0.920

Operational Results

2028 AM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass	Entry	Entry	Bypass	Entry	Bypass
1	Central SB	Exclusive	500	21	250	250	729	1120	992	0.4462	0.0212
2	7 Mile EB	None	551	535	236	519	944	944	0.5838		
3	Sheldon NB	Exclusive	652	73	567	567	519	900	693	0.7244	0.1053
4	7 Mile WB	None	282	697	594	594	1266		0.2227		

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)			Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg	
1	Central SB	Exclusive	5.55	3.66	5.48	2.66	0.07	A	A	A	
2	7 Mile EB	None	9.27		9.27	5.92		A		A	
3	Sheldon NB	Exclusive	13.75	5.75	12.94	9.64	0.37	B	A	B	
4	7 Mile WB	None	5.06		5.06	1.23		A		A	

Global Results

Performance and Accidents

2028 AM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	1985	94	2079
Capacity	veh/hr	4230	1685	5915
Average Delay	sec/veh	9.21	5.28	9.03
L.O.S. (Signal)	A - F	A	A	A
L.O.S. (Unsig)	A - F	A	A	A
Total Delay	veh.hrs	5.08	0.14	5.21

Scheme Summary

Control Data

Control Data and Model Parameters

Northville Downs - RDBT @ Central/Sheldon & 7 Mile Future Conditions - Scenario #1 (Pre-COVID) Rodel-Win1 Right Hand Drive PM Peak Hour Full Geometry English Units (ft)	2028 PHF Flow Profile (veh) 7.5 min Time Slice Queuing Delays (sec) Daylight conditions Peak 60/15 min Results Output flows: Vehicles 50% Confidence Level
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Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation 0	Half Width V	Approach Lanes P	Entry Width E	Entry Lanes R	Flare Length L	Entry Radius R	Entry Angle Phi
1	Central SB	0	0	12.00	1	14.00	1	100.00	90.00	30.00
2	7 Mile EB	90	0	12.00	1	14.00	1	100.00	90.00	30.00
3	Sheldon NB	180	0	12.00	1	14.00	1	100.00	90.00	30.00
4	7 Mile WB	270	0	12.00	1	28.00	2	100.00	90.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	Central SB	120.00	30.00	2	16.00	1	12.00	1
2	7 Mile EB	120.00	18.00	1	16.00	1	12.00	1
3	Sheldon NB	120.00	18.00	1	16.00	1	12.00	1
4	7 Mile WB	120.00	18.00	1	16.00	1	12.00	1

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road		Exit Road			
		Capacity	XWalk Factor	Intercept	Slope	V (ft)	Default Capacity	Calib Capacity	V (ft)	Default Capacity	Calib Capacity
1	Central SB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0
2	7 Mile EB	0	1.000	0	1.000	20.00	1792	0	12.00	1792	0
3	Sheldon NB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0
4	7 Mile WB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0

Bypass Geometry

Bypass Approach Geometry (ft)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
1	Central SB	Exclusive	53	12	1	12	1	12	1
3	Sheldon NB	Exclusive	107	12	1	12	1	12	1

Bypass Entry and Exit Geometry (ft)

Leg	Leg Names	Entry Geometry						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			nex	Nmx
1	Central SB	12	1	0	100	66.00076	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00076	30	4	7 Mile WB	1	2

Traffic Flow Data (veh/hr)

2028 PM Peak Peak Hour Flows

Leg	Leg Names	Turning Flows					Flow Modifiers		
		U-Turn	Exit-1	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	Central SB	0	81	655	0	53	1.0	1.00	0.940
2	7 Mile EB	0	32	319	116	0	1.0	1.00	0.900
3	Sheldon NB	0	125	700	0	107	1.0	1.00	0.950
4	7 Mile WB	0	111	513	166	0	0.0	1.00	0.950

Operational Results

2028 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	Central SB	Exclusive	736	53	748	748	896	931	629	0.7905	0.0843
2	7 Mile EB	None	467		846		690	773		0.6039	
3	Sheldon NB	Exclusive	825	107	432	432	881	970	599	0.8506	0.1788
4	7 Mile WB	None	790		855		507	1210		0.6531	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Central SB	Exclusive	17.05	6.19	16.32	11.21	0.26	C	A	C
2	7 Mile EB	None	11.38		11.38	5.34		B		B
3	Sheldon NB	Exclusive	22.15	7.24	20.44	16.61	0.63	C	A	C
4	7 Mile WB	None	10.67		10.67	7.26		B		B

Global Results

Performance and Accidents

2028 PM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	2818	160	2978
Capacity	veh/hr	3884	1228	5112
Average Delay	sec/veh	15.81	6.90	15.33
L.O.S. (Signal)	A - F	B	A	B
L.O.S. (Unsig)	A - F	C	A	C
Total Delay	veh.hrs	12.38	0.31	12.68

Scheme Summary

Control Data

Control Data and Model Parameters

Northville Downs - RDBT @ Central/Sheldon & 7 Mile Future Conditions - Scenario #2 (Both Closed) Rodel-Win1 Right Hand Drive AM Peak Hour Full Geometry English Units (ft)	2028 PHF Flow Profile (veh) 7.5 min Time Slice Queuing Delays (sec) Daylight conditions Peak 60/15 min Results Output flows: Vehicles 50% Confidence Level
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Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation	Half Width V	Approach Lanes P	Entry Width E	Entry Lanes R	Flare Length L	Entry Radius R	Entry Angle Phi
1	Central SB	0	0	12.00	1	14.00	1	100.00	90.00	30.00
2	7 Mile EB	90	0	12.00	1	14.00	1	100.00	90.00	30.00
3	Sheldon NB	180	0	12.00	1	14.00	1	100.00	90.00	30.00
4	7 Mile WB	270	0	12.00	1	28.00	2	100.00	90.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	Central SB	120.00	30.00	2	16.00	1	12.00	1
2	7 Mile EB	120.00	18.00	1	16.00	1	12.00	1
3	Sheldon NB	120.00	18.00	1	16.00	1	12.00	1
4	7 Mile WB	120.00	18.00	1	16.00	1	12.00	1

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity		Entry Calibration		Approach Road		Exit Road			
		Capacity	XWalk Factor	Intercept	Slope Factor	V (ft)	Default Capacity	Calib Capacity	V (ft)	Default Capacity	Calib Capacity
1	Central SB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0
2	7 Mile EB	0	1.000	0	1.000	20.00	1792	0	12.00	1792	0
3	Sheldon NB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0
4	7 Mile WB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0

Bypass Geometry

Bypass Approach Geometry (ft)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
1	Central SB	Exclusive	20	12	1	12	1	12	1
3	Sheldon NB	Exclusive	79	12	1	12	1	12	1

Bypass Entry and Exit Geometry (ft)

Leg	Leg Names	Entry Geometry						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			nex	Nmx
1	Central SB	12	1	0	100	66.00076	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00076	30	4	7 Mile WB	1	2

Operational Results

2028 AM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)					Capacity (veh/hr)			
			Arrival Flow	Bypass	Opposing Flow	Bypass	Exit Flow	Capacity	Bypass	Average VCR	
1	Central SB	Exclusive	414	20	339	339	489	1083	957	0.3822	0.0209
2	7 Mile EB	None	458	489	489	284	932	932	0.4915		
3	Sheldon NB	Exclusive	503	79	334	334	612	1036	909	0.4855	0.0869
4	7 Mile WB	None	307	521	521	395	1412	1412	0.2174		

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Central SB	Exclusive	5.36	3.77	5.28	2.75	0.08	A	A	A
2	7 Mile EB	None	7.42		7.42	3.88		A	A	A
3	Sheldon NB	Exclusive	6.44	4.30	6.15	2.90	0.29	A	A	A
4	7 Mile WB	None	4.02		4.02	1.11		A	A	A

Global Results

Performance and Accidents

2028 AM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	1682	99	1781
Capacity	veh/hr	4463	1866	6329
Average Delay	sec/veh	6.00	4.19	5.90
L.O.S. (Signal)	A - F	A	A	A
L.O.S. (Unsig)	A - F	A	A	A
Total Delay	veh.hrs	2.80	0.12	2.92

Scheme Summary

Control Data

Control Data and Model Parameters

Northville Downs - RDBT @ Central/Sheldon & 7 Mile Future Conditions - Scenario #2 (Both Closed) Rodel-Win1 Right Hand Drive PM Peak Hour Full Geometry English Units (ft)	2028 PHF Flow Profile (veh) 7.5 min Time Slice Queuing Delays (sec) Daylight conditions Peak 60/15 min Results Output flows: Vehicles 50% Confidence Level
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Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle Phi
1	Central SB	0	0	12.00	1	14.00	1	100.00	90.00	30.00
2	7 Mile EB	90	0	12.00	1	14.00	1	100.00	90.00	30.00
3	Sheldon NB	180	0	12.00	1	14.00	1	100.00	90.00	30.00
4	7 Mile WB	270	0	12.00	1	28.00	2	100.00	90.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes max
1	Central SB	120.00	30.00	2	16.00	1	12.00	1
2	7 Mile EB	120.00	18.00	1	16.00	1	12.00	1
3	Sheldon NB	120.00	18.00	1	16.00	1	12.00	1
4	7 Mile WB	120.00	18.00	1	16.00	1	12.00	1

Capacity Modifiers and Capacity Calibration (veh/hr)

Leg	Leg Names	Entry Capacity + or -	Capacity XWalk Factor	Entry Calibration		Approach Road		Exit Road			
				Intercept + or -	Slope Factor	V (ft)	Default Capacity	Calib	V (ft)	Default Capacity	Calib
1	Central SB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0
2	7 Mile EB	0	1.000	0	1.000	20.00	1792	0	12.00	1792	0
3	Sheldon NB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0
4	7 Mile WB	0	1.000	0	1.000	12.00	1792	0	12.00	1792	0

Bypass Geometry

Bypass Approach Geometry (ft)

Leg	Leg Names	Bypass Type	Bypass Flows	v	nv	Vb	nvb	Vt	nvT
1	Central SB	Exclusive	26	12	1	12	1	12	1
3	Sheldon NB	Exclusive	105	12	1	12	1	12	1

Bypass Entry and Exit Geometry (ft)

Leg	Leg Names	Entry Geometry						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			nex	Nmx
1	Central SB	12	1	0	100	66.00077	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00077	30	4	7 Mile WB	1	2

Operational Results

2028 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)				Capacity (veh/hr)				
			Arrival Flow	Opposing Flow	Exit Flow	Capacity	Average VCR				
1	Central SB	Exclusive	442	26	703	703	657	980	842	0.4510	0.0309
2	7 Mile EB	None	479	570	601	930	1013	877	0.6182	0.1198	
3	Sheldon NB	Exclusive	626	105	419	419	630	1395	0.5067		
4	7 Mile WB	None	707	653	497	1395					

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)		95% Queue (veh)		Level of Service			
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Central SB	Exclusive	6.82	4.37	6.50	2.57	0.09	A	A	A
2	7 Mile EB	None	7.79	7.79	3.67	A	A	A	A	
3	Sheldon NB	Exclusive	9.05	4.61	8.41	5.56	0.42	A	A	A
4	7 Mile WB	None	6.33	6.33	4.55	A	A	A	A	

Global Results

Performance and Accidents

2028 PM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	2254	131	2385
Capacity	veh/hr	4318	1719	6037
Average Delay	sec/veh	7.45	4.57	7.29
L.O.S. (Signal)	A - F	A	A	A
L.O.S. (Unsig)	A - F	A	A	A
Total Delay	veh.hrs	4.67	0.17	4.83

Scheme Summary

Control Data

Control Data and Model Parameters

Control Data	Model Parameters
Northville Downs - RDBT @ Central/Sheldon & 7 Mile Future Conditions - Scenario #3 (Main Closed) Rodel-Win1 Right Hand Drive AM Peak Hour Full Geometry English Units (ft)	2028 PHF Flow Profile (veh) 7.5 min Time Slice Queuing Delays (sec) Daylight conditions Peak 60/15 min Results Output flows: Vehicles 50% Confidence Level

Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle Phi
1	Central SB	0	0	12.00	1	14.00	1	100.00	90.00	30.00
2	7 Mile EB	90	0	12.00	1	14.00	1	100.00	90.00	30.00
3	Sheldon NB	180	0	12.00	1	14.00	1	100.00	90.00	30.00
4	7 Mile WB	270	0	12.00	1	28.00	2	100.00	90.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes max
1	Central SB	120.00	30.00	2	16.00	1	12.00	1
2	7 Mile EB	120.00	18.00	1	16.00	1	12.00	1
3	Sheldon NB	120.00	18.00	1	16.00	1	12.00	1
4	7 Mile WB	120.00	18.00	1	16.00	1	12.00	1

Bypass Geometry

Bypass Approach Geometry (ft)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
1	Central SB	Exclusive	19	12	1	12	1	12	1
3	Sheldon NB	Exclusive	64	12	1	12	1	12	1

Bypass Entry and Exit Geometry (ft)

Leg	Leg Names	Entry Geometry					Leg	Leg Names	Exit Lanes		
		Eb	neb	Lb	Lt	Rb			Phib	nex	Nmx
1	Central SB	12	1	0	100	66.00077 088	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00077 088	30	4	7 Mile WB	1	2

Traffic Flow Data (veh/hr)

2028 AM Peak Hour Flows

Leg	Leg Names	Turning Flows					Flow Modifiers		
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	Central SB	0	80	366	0	19	2.0	1.00	0.860
2	7 Mile EB	0	41	277	64	0	1.0	1.00	0.850
3	Sheldon NB	0	51	524	0	64	2.0	1.00	0.920
4	7 Mile WB	0	31	195	81	0	4.0	1.00	0.920

Operational Results

2028 AM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)				Capacity (veh/hr)				
			Arrival Flow		Opposing Flow		Capacity		Average VCR		
			Entry	Bypass	Entry	Bypass	Entry	Bypass	Entry	Bypass	
1	Central SB	Exclusive	446	19	277	277	646	1109	982	0.4021	0.0194
2	7 Mile EB	None	382		477		265	977		0.3911	
3	Sheldon NB	Exclusive	575	64	398	398	481	1004	878	0.5730	0.0729
4	7 Mile WB	None	307		616		421	1346		0.2280	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
1	Central SB	Exclusive	5.20	3.69	5.14	2.19	0.06	A	A	A
2	7 Mile EB	None	5.95		5.95	2.31		A	A	A
3	Sheldon NB	Exclusive	7.96	4.38	7.61	4.25	0.24	A	A	A
4	7 Mile WB	None	4.42		4.42	1.16		A	A	A

Global Results

Performance and Accidents

2028 AM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	1710	83	1793
Capacity	veh/hr	4436	1860	6296
Average Delay	sec/veh	6.16	4.22	6.07
L.O.S. (Signal)	A - F	A	A	A
L.O.S. (Unsig)	A - F	A	A	A
Total Delay	veh.hrs	2.92	0.10	3.02

Scheme Summary

Control Data

Control Data and Model Parameters

Control Data and Model Parameters	2028 PHF Flow Profile (veh)
Northville Downs - RDBT @ Central/Sheldon & 7 Mile	7.5 min Time Slice
Future Conditions - Scenario #3 (Main Closed)	Queuing Delays (sec)
Rodel-Win1	Daylight conditions
Right Hand Drive	Peak 60/15 min Results
PM Peak Hour	Output flows: Vehicles
Full Geometry	50% Confidence Level
English Units (ft)	

Operational Data

Main Geometry (ft)

Approach and Entry Geometry

Leg	Leg Names	Approach Bearing (deg)	Grade Separation G	Half Width V	Approach Lanes n	Entry Width E	Entry Lanes n	Flare Length L'	Entry Radius R	Entry Angle Phi
1	Central SB	0	0	12.00	1	14.00	1	100.00	90.00	30.00
2	7 Mile EB	90	0	12.00	1	14.00	1	100.00	90.00	30.00
3	Sheldon NB	180	0	12.00	1	14.00	1	100.00	90.00	30.00
4	7 Mile WB	270	0	12.00	1	28.00	2	100.00	90.00	30.00

Circulating and Exit Geometry

Leg	Leg Names	Inscribed Diameter D	Circulating Width C	Circulating Lanes nc	Exit Width Ex	Exit Lanes nex	Exit Half Width Vx	Exit Half Width Lanes nvx
1	Central SB	120.00	30.00	2	16.00	1	12.00	1
2	7 Mile EB	120.00	18.00	1	16.00	1	12.00	1
3	Sheldon NB	120.00	18.00	1	16.00	1	12.00	1
4	7 Mile WB	120.00	18.00	1	16.00	1	12.00	1

Bypass Geometry

Bypass Approach Geometry (ft)

Leg	Leg Names	Bypass Type	Bypass Flows	V	nv	Vb	nvb	Vt	nvt
1	Central SB	Exclusive	47	12	1	12	1	12	1
3	Sheldon NB	Exclusive	94	12	1	12	1	12	1

Bypass Entry and Exit Geometry (ft)

Leg	Leg Names	Entry Geometry					Leg	Leg Names	Exit Lanes		
		Eb	neb	Lb	Lt	Rb			Phib	nex	Nmx
1	Central SB	12	1	0	100	66.00077	30	2	7 Mile EB	1	2
						511					
3	Sheldon NB	12	1	0	100	66.00077	30	4	7 Mile WB	1	2
						511					

Traffic Flow Data (veh/hr)

2028 PM Peak Hour Flows

Leg	Leg Names	Turning Flows				Flow Modifiers			
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
1	Central SB	0	73	562	0	47	1.0	1.00	0.940
2	7 Mile EB	0	32	331	116	0	1.0	1.00	0.900
3	Sheldon NB	0	110	615	0	94	1.0	1.00	0.950
4	7 Mile WB	0	97	458	151	0	0.0	1.00	0.950

Operational Results

2028 PM Peak - 60 minutes

Flows and Capacity

Leg	Leg Names	Bypass Type	Flows (veh/hr)				Capacity (veh/hr)		Average VCR		
			Arrival Flow	Opposing Flow	Exit Flow	Capacity	Average VCR				
			Entry	Bypass	Entry	Bypass	Entry	Bypass			
1	Central SB	Exclusive	655	47	665	665	798	978	850	0.6694	0.0553
2	7 Mile EB	None	479		752		615	826		0.5799	
3	Sheldon NB	Exclusive	725	94	436	436	795	990	768	0.7325	0.1224
4	7 Mile WB	None	706		757		498	1314		0.5375	

Delays, Queues and Level of Service

Leg	Leg Names	Bypass Type	Average Delay (sec)		95% Queue (veh)		Level of Service			
			Entry	Bypass	Entry	Bypass	Entry	Bypass	Leg	
1	Central SB	Exclusive	10.59	4.45	10.18	5.93	0.17	B	A	B
2	7 Mile EB	None	10.05		10.05	4.64		B		B
3	Sheldon NB	Exclusive	12.81	5.30	11.55	8.09	0.40	B	A	B
4	7 Mile WB	None	7.44		7.44	4.40		A		A

Global Results

Performance and Accidents

2028 PM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	2565	141	2706
Capacity	veh/hr	4108	1618	5726
Average Delay	sec/veh	10.25	5.01	9.98
L.O.S. (Signal)	A - F	B	A	A
L.O.S. (Unsig)	A - F	B	A	A
Total Delay	veh.hrs	7.30	0.20	7.50

Queuing and Blocking Report

Future Conditions #1 (Pre-COVID) w/ Roundabout
AM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	TR	LT	R	LT	R
Maximum Queue (ft)	398	116	55	3808	75	300	405
Average Queue (ft)	219	35	9	2174	67	144	54
95th Queue (ft)	435	78	35	3787	105	308	277
Link Distance (ft)	344	541	541	21410			491
Upstream Bk Time (%)	23						
Queuing Penalty (veh)	132						
Storage Bay Dist (ft)				50	250		
Storage Bk Time (%)			97	0	12		
Queuing Penalty (veh)			71	2	2		

Queuing and Blocking Report

Future Conditions #1 (Pre-COVID) w/ Roundabout
PM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	TR	LT	R	LT	R
Maximum Queue (ft)	380	555	647	10105	75	300	530
Average Queue (ft)	112	425	422	5215	57	265	444
95th Queue (ft)	271	668	774	9441	110	410	744
Link Distance (ft)	344	541	541	21410			491
Upstream Bk Time (%)	9	14	9				73
Queuing Penalty (veh)	40	55	37				581
Storage Bay Dist (ft)				50	250		
Storage Bk Time (%)			98	0	84		
Queuing Penalty (veh)			105	1	45		

Queuing and Blocking Report Future Conditions #2 (Both Closed) w/ Roundabout AM Peak Hour

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	LT	TR	LT	R	LT
Maximum Queue (ft)	164	88	34	404	75	377
Average Queue (ft)	64	38	4	150	48	103
95th Queue (ft)	139	76	21	284	105	284
Link Distance (ft)	344	541	541	21410		490
Upstream Blk Time (%)						
Queueing Penalty (veh)					50	
Storage Bay Dist (ft)						50
Storage Bk Time (%)				35		
Queueing Penalty (veh)				28	1	

Queuing and Blocking Report Future Conditions #2 (Both Closed) w/ Roundabout PM Peak Hour

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	LT	TR	LT	R	LT
Maximum Queue (ft)	125	351	340	2031	75	316
Average Queue (ft)	65	183	119	1070	70	135
95th Queue (ft)	106	364	295	2121	101	258
Link Distance (ft)	344	541	541	21410		490
Upstream Blk Time (%)						
Queueing Penalty (veh)					50	
Storage Bay Dist (ft)						50
Storage Bk Time (%)				95		
Queueing Penalty (veh)				100	2	


Queuing and Blocking Report Future Conditions #3 (Main Closed) w/ Roundabout AM Peak Hour

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	LT	TR	LT	R	LT
Maximum Queue (ft)	136	76	53	385	75	222
Average Queue (ft)	58	35	13	247	62	23
95th Queue (ft)	110	69	41	395	108	165
Link Distance (ft)	344	541	541	21410		491
Upstream Blk Time (%)						
Queueing Penalty (veh)					50	250
Storage Bay Dist (ft)						50
Storage Bk Time (%)				66		
Queueing Penalty (veh)				42	1	

Queuing and Blocking Report Future Conditions #3 (Main Closed) w/ Roundabout PM Peak Hour

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	LT	TR	LT	R	LT
Maximum Queue (ft)	378	541	645	6210	75	300
Average Queue (ft)	104	231	183	2355	64	299
95th Queue (ft)	246	477	515	4890	107	302
Link Distance (ft)	344	541	541	21410		491
Upstream Blk Time (%)		3	7	10		96
Queueing Penalty (veh)		15	24	34		672
Storage Bay Dist (ft)					50	250
Storage Bk Time (%)				97		99
Queueing Penalty (veh)				91	2	47


HCM 6th Signalized Intersection Summary Future Conditions #1 (Pre-COVID) w/ Signal OPT 23: Sheldon Avenue/Center Street & Seven Mile Road AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR																										
Lane Configurations	<table border="0"> <tr> <td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td> </tr> <tr> <td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td> </tr> </table>												↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔																										
↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔																										
Traffic Volume (veh/h)	46	432	73	35	157	90	58	594	73	89	411	21																										
Future Volume (veh/h)	46	432	73	35	157	90	58	594	73	89	411	21																										
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0																										
Pk-Slck Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00																										
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00																										
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No																										
Adj Sat Flow, veh/hln	1984	1984	1984	1938	1938	1938	1969	1969	1969	1969	1969	1969																										
Adj Flow Rate, veh/h	54	508	86	38	171	98	63	646	68	103	478	24																										
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.96	0.86																										
Percent Heavy Veh. %	1	1	1	4	4	4	2	2	2	2	2	2																										
Cap, veh/h	424	548	93	149	632	608	300	678	71	168	731	37																										
Arrive On Green	0.04	0.33	0.33	0.03	0.33	0.33	0.04	0.39	0.39	0.04	0.39	0.39																										
Sat Flow, veh/h	1990	1654	280	1845	1938	1640	1875	1751	194	1875	1859	93																										
Grp Volume(v), veh/h	54	0	594	38	171	98	63	0	714	103	0	502																										
Grp Sat Flow(s), veh/hln	1990	0	1934	1845	1938	1640	1875	0	1935	1875	0	1952																										
Q Serwig, s, s	2.1	0.0	33.4	1.5	7.3	4.5	2.2	0.0	40.3	3.7	0.0	23.6																										
Cycle Q Clearing, c, s	2.1	0.0	33.4	1.5	7.3	4.5	2.2	0.0	40.3	3.7	0.0	23.6																										
Prop In Lane	1.00	0.14	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.05	0.05																										
Lane Grp Cap(c), veh/h	424	0	641	149	632	608	300	0	749	168	0	768																										
V/C Ratio(X)	0.13	0.00	0.33	0.25	0.27	0.16	0.21	0.00	0.95	0.61	0.00	0.65																										
Aval Cap(c), veh/h	446	0	711	191	715	876	311	0	774	168	0	790																										
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00																										
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00																										
Uniform Delay (d), s/veh	23.8	0.0	38.3	28.8	28.0	23.7	21.9	0.0	33.5	27.3	0.0	27.9																										
Incr Delay (d2), s/veh	0.1	0.0	17.3	0.9	0.2	0.1	0.3	0.0	21.4	6.4	0.0	1.9																										
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0																										
File Back(Q)(50%), veh/h	0.9	0.0	18.3	0.7	3.4	1.7	1.0	0.0	22.6	1.9	0.0	11.1																										
Unsig. Movement Delay, s/veh																																						
LnGrp Delay(d), s/veh	23.9	0.0	53.6	29.6	28.3	23.8	22.1	0.0	54.9	33.7	0.0	29.8																										
LnGrp LOS	C	A	D	C	C	C	A	D	C	A	D	A																										
Approach Vol, veh/h	648		307		777				605			839																										
Approach Delay, s/veh	51.1		27.0		52.2				30.5			43.8																										
Approach LOS	D		D		D				D			D																										
Timer - Assigned Phs	1	2	3	4	5	6	7	8																														
Phs Duration (G+Y+Rc), s	11.0	49.6	9.1	42.9	10.3	50.3	9.7	42.3																														
Change Period (Y+Rc), s	6.0	6.0	5.6	5.6	6.0	6.0	5.6	5.6																														
Max Green Setting (Gmax), s	5.0	45.0	5.4	41.4	5.0	45.0	5.4	41.4																														
Max Q Clear Time (g_c+1), s	5.7	42.3	3.5	35.4	4.2	25.6	4.1	9.3																														
Green Ext Time (g_e), s	0.0	1.2	0.0	2.0	0.0	3.0	0.0	1.3																														

Intersection Summary	HCM 6th Ctrl Delay	HCM 6th LOS
	43.0	D

HCM 6th Signalized Intersection Summary Future Conditions #1 (Pre-COVID) w/ Signal OPT 23: Sheldon Avenue/Center Street & Seven Mile Road PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR																										
Lane Configurations	<table border="0"> <tr> <td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td> </tr> <tr> <td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td><td>↔</td> </tr> </table>												↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔																										
↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔																										
Traffic Volume (veh/h)	32	319	116	111	513	166	125	700	107	81	655	53																										
Future Volume (veh/h)	32	319	116	111	513	166	125	700	107	81	655	53																										
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0																										
Pk-Slck Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00																										
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00																										
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No																										
Adj Sat Flow, veh/hln	1984	1984	1984	2000	2000	2000	1984	1984	1984	1984	1984	1984																										
Adj Flow Rate, veh/h	36	354	129	117	540	175	132	737	113	86	697	56																										
Peak Hour Factor	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.95	0.94	0.94	0.94																										
Percent Heavy Veh. %	1	1	1	0	0	0	1	1	1	1	1	1																										
Cap, veh/h	150	390	142	187	598	576	190	713	109	142	764	61																										
Arrive On Green	0.03	0.28	0.28	0.05	0.30	0.30	0.04	0.42	0.42	0.04	0.42	0.42																										
Sat Flow, veh/h	1990	1387	505	1905	2000	1692	1890	1679	258	1890	1812	146																										
Grp Volume(v), veh/h	36	0	483	117	540	175	132	0	850	86	0	753																										
Grp Sat Flow(s), veh/hln	1990	0	1892	1905	2000	1692	1890	0	1937	1890	0	1958																										
Q Serwig, s, s	1.5	0.0	27.8	5.0	29.3	8.6	4.5	0.0	48.0	2.9	0.0	40.9																										
Cycle Q Clearing, c, s	1.5	0.0	27.8	5.0	29.3	8.6	4.5	0.0	48.0	2.9	0.0	40.9																										
Prop In Lane	1.00	0.27	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.13	1.00	0.07																										
Lane Grp Cap(c), veh/h	150	0	532	187	598	576	190	0	822	142	0	825																										
V/C Ratio(X)	0.24	0.00	0.91	0.63	0.90	0.30	0.69	0.00	1.03	0.61	0.00	0.91																										
Aval Cap(c), veh/h	183	0	643	197	694	645	190	0	822	147	0	831																										
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00																										
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00																										
Uniform Delay (d), s/veh	30.8	0.0	39.2	31.0	36.0	27.4	25.3	0.0	32.5	27.1	0.0	30.7																										
Incr Delay (d2), s/veh	0.8	0.0	14.9																																			

HCM 6th Signalized Intersection Summary Future Conditions #2 (Both Closed) w/ Signal OPT
23: Sheldon Avenue/Center Street & Seven Mile Road

AM Peak Hour												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	7	7	7	7	7	7	7	7	7	7	7
Traffic Volume (veh/h)	18	275	165	75	178	54	86	417	79	41	373	20
Future Volume (veh/h)	18	275	165	75	178	54	86	417	79	41	373	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1953	1953	1953	1922	1922	1922	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	21	320	192	85	202	61	93	453	86	56	511	27
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh. %	3	3	3	5	5	5	2	2	2	2	2	2
Cap, veh/h	422	366	220	220	667	633	228	526	100	215	591	31
Arrive On Green	0.02	0.32	0.35	0.35	0.35	0.35	0.33	0.33	0.34	0.32	0.32	0.32
Sat Flow, veh/h	1890	1443	896	1830	1922	1626	1875	1807	305	1875	1853	98
Grp Volume(v), veh/h	21	0	512	85	202	61	93	0	539	56	0	538
Grp Sat Flow(s), veh/h/ln	1860	0	1829	1830	1922	1626	1875	0	1912	1875	0	1951
Q Served, s/l, s	0.7	0.0	23.5	2.7	6.8	2.1	2.9	0.0	23.5	1.8	0.0	23.1
Cycle Q Clear(g, c), s	0.7	0.0	23.5	2.7	6.8	2.1	2.9	0.0	23.5	1.8	0.0	23.1
Prop In Lane	1.00	1.00	0.38	1.00	1.00	1.00	0.16	1.00	0.37	1.00	0.07	1.00
Lane Grp Cap(c), veh/h	422	0	586	220	667	633	228	0	626	215	0	623
V/C Ratio(X)	0.05	1.00	0.87	0.39	0.30	0.10	0.41	0.00	0.86	0.26	0.00	0.86
Avail Cap(c), veh/h	493	0	1.00	240	894	825	238	0	987	241	0	986
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(f)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.5	0.0	28.6	2.0	21.2	17.3	22.0	0.0	28.0	21.8	0.0	28.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q)(50%),veh/ln	0.3	0.0	10.9	1.2	3.0	0.8	1.3	0.0	11.0	0.8	0.0	11.0
Unsig. Movement Delay, s/veh	19.6	0.0	35.7	2.1	21.5	17.3	23.1	0.0	33.0	22.5	0.0	33.4
LnGrp Delay(d), s/veh	B	A	D	C	C	B	C	A	C	C	A	C
LnGrp LOS	C	A	D	C	C	B	C	A	C	C	A	C
Approach Vol, veh/h	533			348				632			594	
Approach Delay, s/veh	35.0			21.1				31.6			32.4	
Approach LOS	D			C				C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R), s	9.7	35.2	10.0	34.1	10.5	34.4	7.6	36.5				
Change Period (Y+R), s	6.0	6.0	5.6	5.6	6.0	5.6	5.6	5.6				
Max Green Setting (Gmax), s	5.0	45.0	5.4	41.4	5.0	45.0	5.4	41.4				
Max Q Clear Time (g_c+1), s	3.8	25.5	4.7	25.5	4.9	25.1	2.7	26.8				
Green Ext Time (g_c), s	0.0	3.4	0.0	3.0	0.0	3.3	0.0	1.3				
Intersection Summary												
HCM 6th Ctrl Delay	30.9											
HCM 6th LOS	C											

HCM 6th Signalized Intersection Summary Future Conditions #2 (Both Closed) w/ Signal OPT
23: Sheldon Avenue/Center Street & Seven Mile Road

PM Peak Hour												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	7	7	7	7	7	7	7	7	7	7	7
Traffic Volume (veh/h)	27	318	134	128	448	131	127	459	105	74	368	26
Future Volume (veh/h)	27	318	134	128	448	131	127	459	105	74	368	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	2000	1984	1984	1984	2000	2000	2000
Adj Flow Rate, veh/h	31	361	152	145	509	149	141	554	117	80	396	28
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh. %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	195	401	169	202	647	622	359	605	128	189	696	49
Arrive On Green	0.03	0.30	0.35	0.35	0.35	0.33	0.33	0.33	0.34	0.34	0.33	0.38
Sat Flow, veh/h	1890	1923	857	1890	1984	1865	1890	1984	335	1905	1844	138
Grp Volume(v), veh/h	31	0	513	145	509	149	141	0	671	80	0	424
Grp Sat Flow(s), veh/h/ln	1890	0	1880	1890	1984	1865	1890	0	1919	1905	0	1974
Q Served, s/l, s	1.2	0.0	27.5	5.4	24.4	6.4	4.9	0.0	34.9	2.7	0.0	17.9
Cycle Q Clear(g, c), s	1.2	0.0	27.5	5.4	24.4	6.4	4.9	0.0	34.9	2.7	0.0	17.9
Prop In Lane	1.00	1.00	0.30	1.00	1.00	1.00	0.17	1.00	0.47	1.00	0.07	1.00
Lane Grp Cap(c), veh/h	195	0	569	202	647	622	359	0	733	189	0	745
V/C Ratio(X)	0.16	0.00	0.30	0.72	0.79	0.24	0.39	0.00	0.92	0.42	0.00	0.57
Avail Cap(c), veh/h	238	0	705	202	744	704	359	0	868	198	0	883
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(f)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.3	0.0	35.1	28.9	32.1	23.0	20.5	0.0	30.8	24.7	0.0	25.9
Incr Delay (d2), s/veh	0.4	0.0	12.8	11.5	4.8	0.2	0.7	0.0	13.0	5.5	0.0	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back(Q)(50%),veh/ln	0.5	0.0	14.2	3.1	12.2	2.5	2.1	0.0	18.1	1.2	0.0	8.3
Unsig. Movement Delay, s/veh	26.7	0.0	48.0	40.3	37.1	23.2	21.2	0.0	43.8	26.2	0.0	26.6
LnGrp Delay(d), s/veh	C	A	D	D	C	C	C	A	D	C	A	C
LnGrp LOS	C	A	D	D	C	C	C	A	D	C	A	C
Approach Vol, veh/h	544			803				812			504	
Approach Delay, s/veh	46.8			35.1				39.9			26.6	
Approach LOS	D			C				D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+R), s	10.5	46.1	11.0	37.4	11.0	45.7	8.6	39.8				
Change Period (Y+R), s	6.0	6.0	5.6	5.6	6.0	5.6	5.6	5.6				
Max Green Setting (Gmax), s	5.0	47.0	5.4	39.4	5.0	47.0	5.4	39.4				
Max Q Clear Time (g_c+1), s	4.7	36.9	7.4	29.5	6.9	19.9	3.2	26.4				
Green Ext Time (g_c), s	0.0	3.2	0.0	2.3	0.0	2.7	0.0	3.0				
Intersection Summary												
HCM 6th Ctrl Delay	37.3											
HCM 6th LOS	D											

HCM 6th Signalized Intersection Summary Future Conditions #3 (Main Closed) w/ Signal OPT
23: Sheldon Avenue/Center Street & Seven Mile Road

AM Peak Hour												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	7	7	7	7	7	7	7	7	7	7	7	7
Traffic Volume (veh/h)	41	277	64	31	195	81	51	524	64	80	366	19
Future Volume (veh/h)	41	277	64	31	195	81	51	524	64	80	366	19
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No	No	No	No	No	No	No	No	No	No	No	No
Adj Sat Flow, veh/h/ln	1984	1984	1984	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	48	326	75	34	212	88	55	570	70	93	426	22
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.86	0.86
Percent Heavy Veh. %	1	1	1	4	4	4	2	2	2	2	2	2
Cap, veh/h	329	395	91	202	476	490	365	654	80	244	724	37
Arrive On Green	0.04	0.25	0.25	0.03	0.25	0.25	0.24	0.38	0.38	0.35	0.39	0.39
Sat Flow, veh/h	1890	1660	369	1845	1938	1938	1875	1919	212			

Queuing and Blocking Report Future Conditions #2 (Both Closed) w/ Signal OPT
AM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	42	363	101	149	79	59	537	60	296
Average Queue (ft)	10	159	38	62	13	38	244	24	141
95th Queue (ft)	30	273	78	126	46	67	467	66	235
Link Distance (ft)	386		578		578		21448		532
Upstream Blk Time (%)	0								
Queuing Penalty (veh)	3								
Storage Bay Dist (ft)	500		150		50		250		1
Storage Blk Time (%)	0		0		2		38		1
Queuing Penalty (veh)	0		0		12		33		0

Queuing and Blocking Report Future Conditions #2 (Both Closed) w/ Signal OPT
PM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	77	404	249	332	277	60	1362	169	310
Average Queue (ft)	15	240	80	182	55	44	671	45	163
95th Queue (ft)	48	376	184	290	167	75	1348	104	264
Link Distance (ft)	386		578		578		21448		532
Upstream Blk Time (%)	0								
Queuing Penalty (veh)	3								
Storage Bay Dist (ft)	500		150		50		250		1
Storage Blk Time (%)	0		1		15		6		55
Queuing Penalty (veh)	0		3		19		36		69

Queuing and Blocking Report Future Conditions #3 (Main Closed) w/ Signal OPT
AM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	84	249	42	143	77	60	607	67	220
Average Queue (ft)	19	141	11	69	16	28	264	32	103
95th Queue (ft)	52	229	30	127	48	63	481	59	174
Link Distance (ft)	386		578		578		21448		532
Upstream Blk Time (%)	0								
Queuing Penalty (veh)	3								
Storage Bay Dist (ft)	500		150		50		250		1
Storage Blk Time (%)	0		0		1		38		1
Queuing Penalty (veh)	0		0		6		19		0

Queuing and Blocking Report Future Conditions #3 (Main Closed) w/ Signal OPT
PM Peak Hour

Intersection: 23: Sheldon Avenue/Center Street & Seven Mile Road

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	56	358	249	390	258	60	2172	300	496
Average Queue (ft)	18	212	70	217	86	47	1351	83	292
95th Queue (ft)	43	329	193	344	222	72	2281	237	475
Link Distance (ft)	386		578		578		21448		532
Upstream Blk Time (%)	0								
Queuing Penalty (veh)	3								
Storage Bay Dist (ft)	500		150		50		250		15
Storage Blk Time (%)	0		0		24		9		58
Queuing Penalty (veh)	0		0		24		63		61

Appendix E

WARRANT SUMMARIES

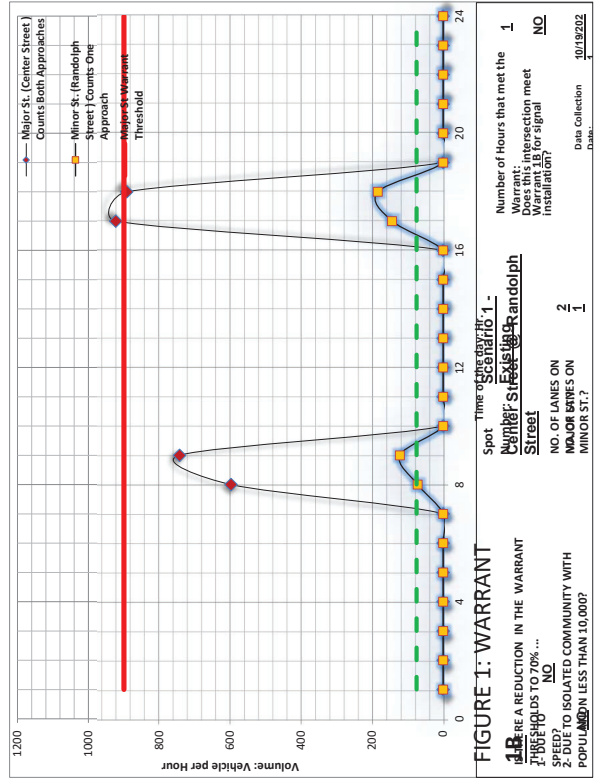
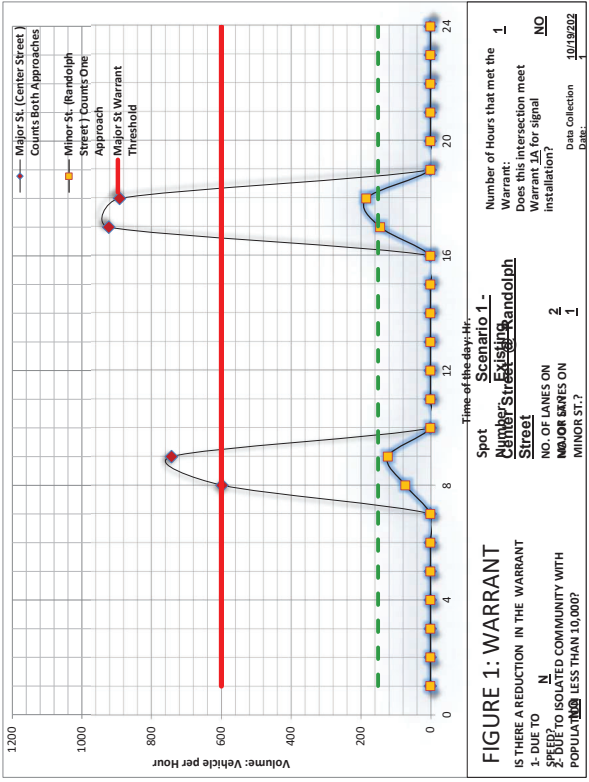
Summary of Warrants			
Spot Number:	Scenario 1 - Existing		
Major Street:	Center Street	Minor Street:	Randolph Street
Intersection:	Center Street at Randolph Street		
City/Twp:	Northville		
Date Performed:	1/14/2022	Performed By:	FV
Date Volumes Collected:	10/19/2021		
Warrant	Condition	Is Warrant Met	
Data Validation Error		NO	
WARRANT 1: Eight-Hour Vehicular Volume		NO	
	Condition A	NO	
	Condition B	NO	
	Condition A&B	N/A	
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO	
WARRANT 3: Peak-Hour Vehicular Volume	(100%)	NO	
	Condition A	N/A	
	Condition B	NO	
WARRANT 4: Pedestrian Volume	(100%)	NO	
	Four Hour	NO	
	Peak Hour	NO	
	(Threshold)	HAWK	
	(Threshold)	RRFB	
WARRANT 5: School Crossing		NO	
WARRANT 6: Coordinated Signal System		NO	
WARRANT 7: Crash Experience		NO	
	Condition A	NO	
	Condition B	NO	
WARRANT 8: Roadway Network		NO	
WARRANT 9: Intersection Near a Grade Crossing		#N/A	
Issue to Be Addressed by Signalization:			
0			

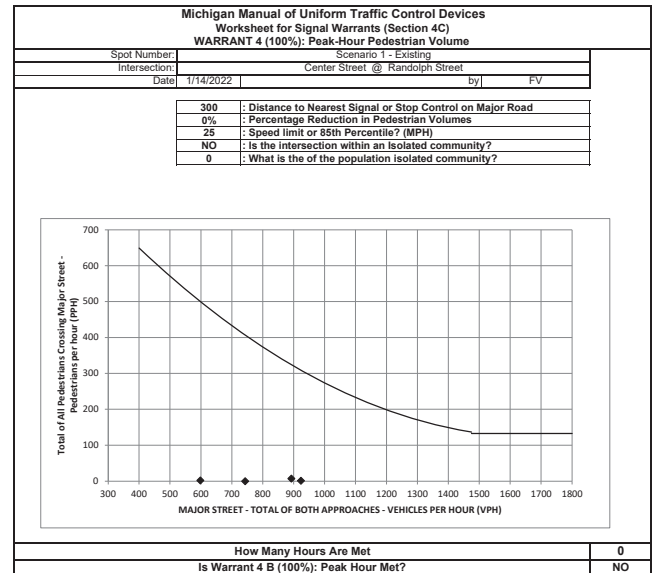
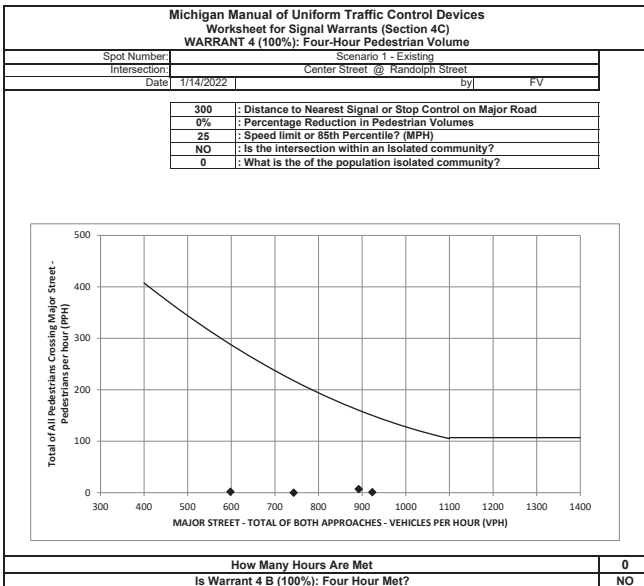
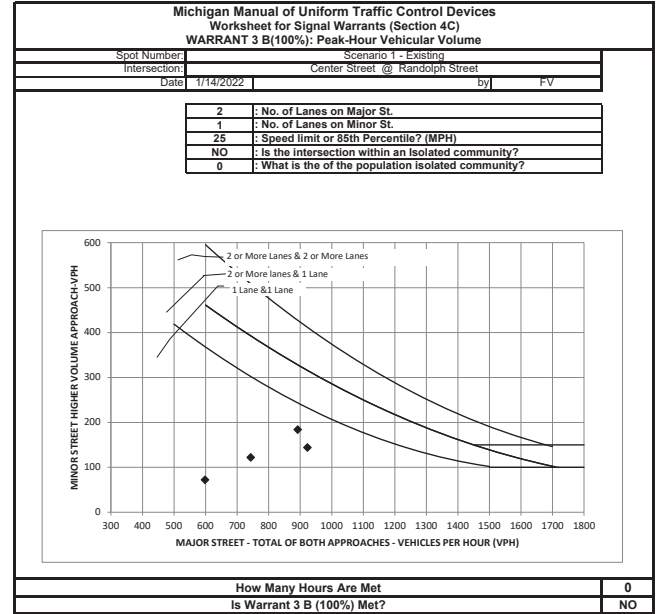
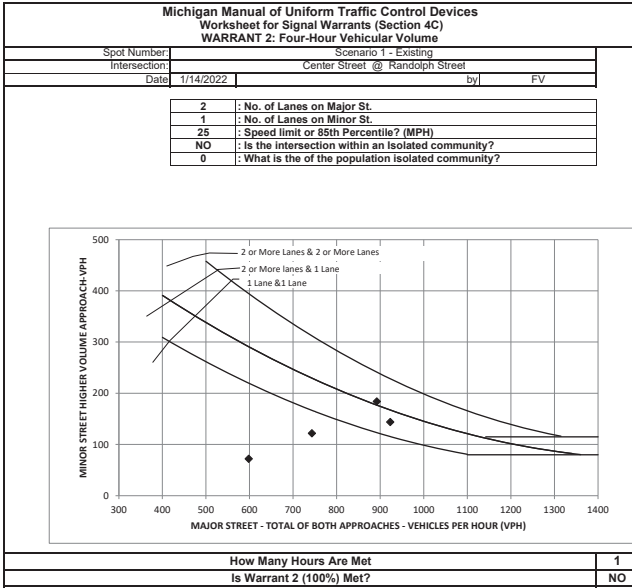
Intersection	Date	Time of Day	Major Street	Minor Street	Warrant	Condition	Major Volume	Minor Volume	Condition A Major Volume	Condition B Major Volume	Warrant Condition A Met?	Warrant Condition B Met?	Combination Major A	Combination Major B	Combination Major A&B	Warrant Condition A&B Met?
Center St. (Center Street)	10/19/2021	07:00	Center Street	Randolph Street	1	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					2	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					3	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					4	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					5	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					6	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					7	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					8	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					9	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					10	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					11	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					12	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					13	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					14	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					15	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					16	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					17	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					18	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					19	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					20	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					21	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					22	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					23	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A
					24	NO	600	150	600	150	NO	NO	N/A	N/A	N/A	N/A

USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B

Number of Hours that met the warrant 1A = 0
 Number of Hours that met the warrant 1B = 0
 Number of Hours that met the warrant 1A & B = 0

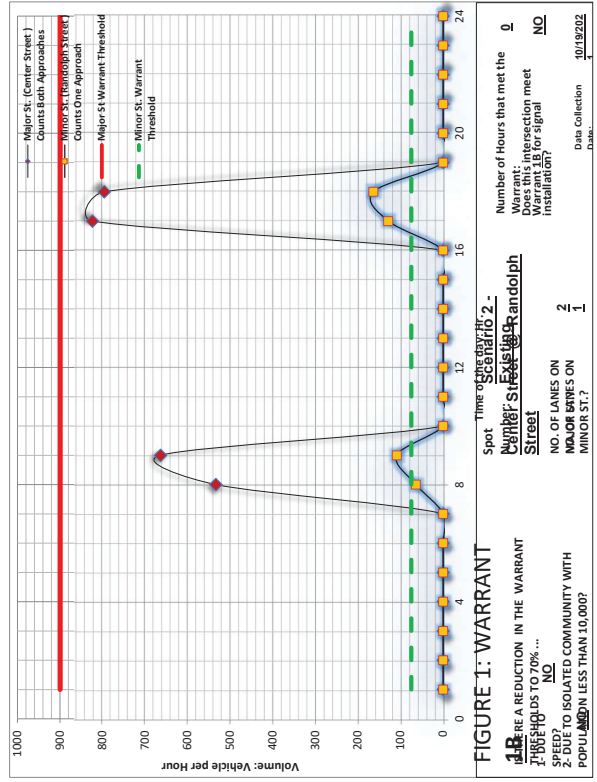
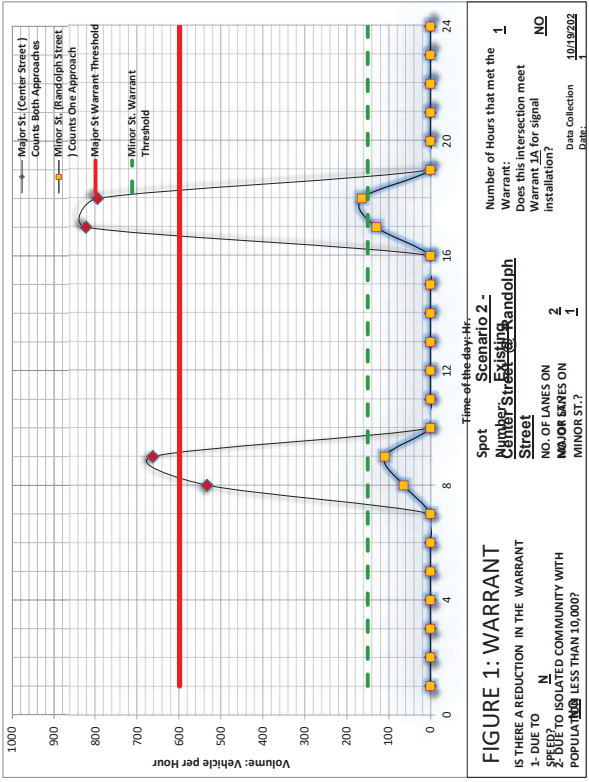
A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)
 B. Is the Intersection of Continuous Traffic Met? (Condition B)
 C. Combination of Warrants A and B Criteria Met?

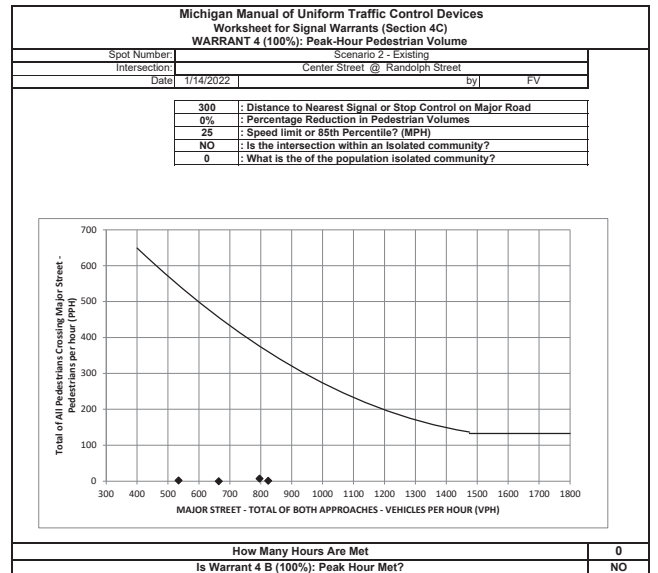
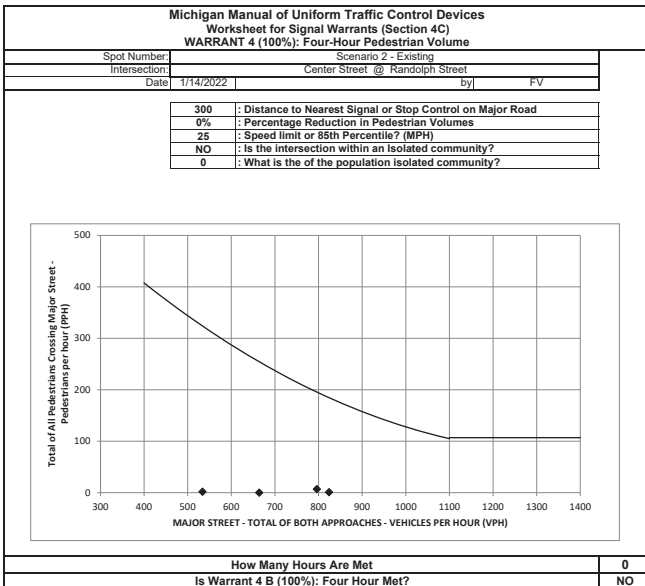
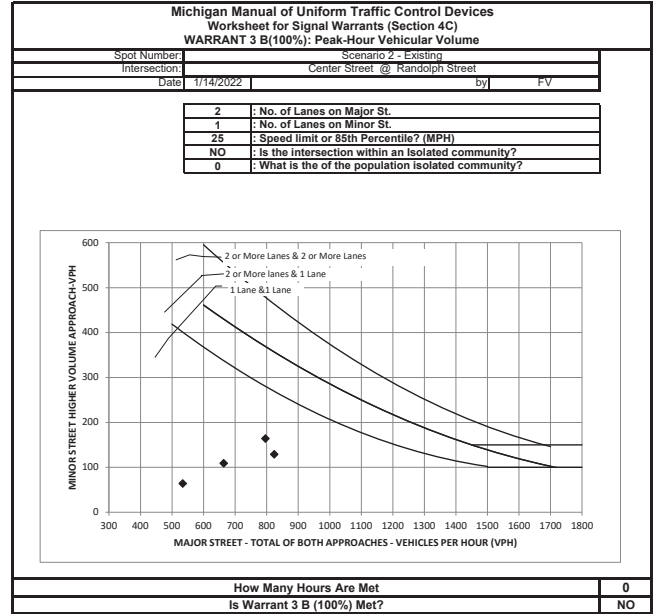
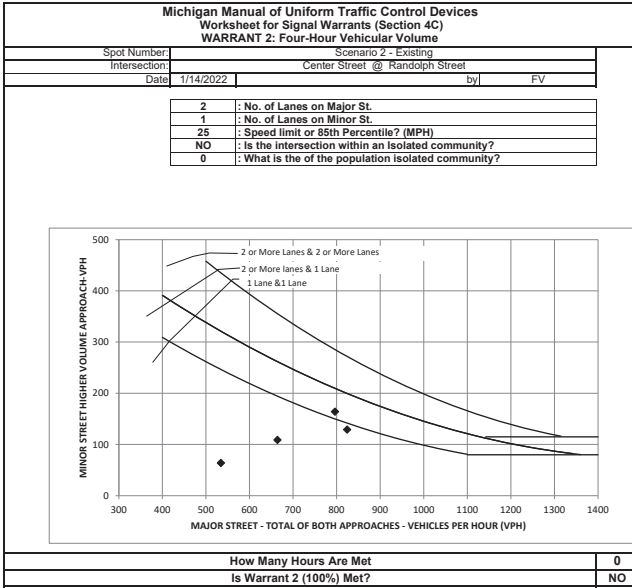




Summary of Warrants		
Spot Number:	Scenario 2 - Existing	
Major Street:	Center Street	Minor Street: Randolph Street
Intersection:	Center Street at Randolph Street	
City/Twp:	Northville	
Date Performed:	1/14/2022	Performed By: FV
Date Volumes Collected:	10/19/2021	
Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume		NO
	Condition A	NO
	Condition B	NO
	Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%)	NO
	Condition A	N/A
	Condition B	NO
WARRANT 4: Pedestrian Volume	(100%)	NO
	Four Hour	NO
	Peak Hour	NO
	(Threshold)	HAWK
	(Threshold)	RRFB
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience		NO
	Condition A	NO
	Condition B	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
0		

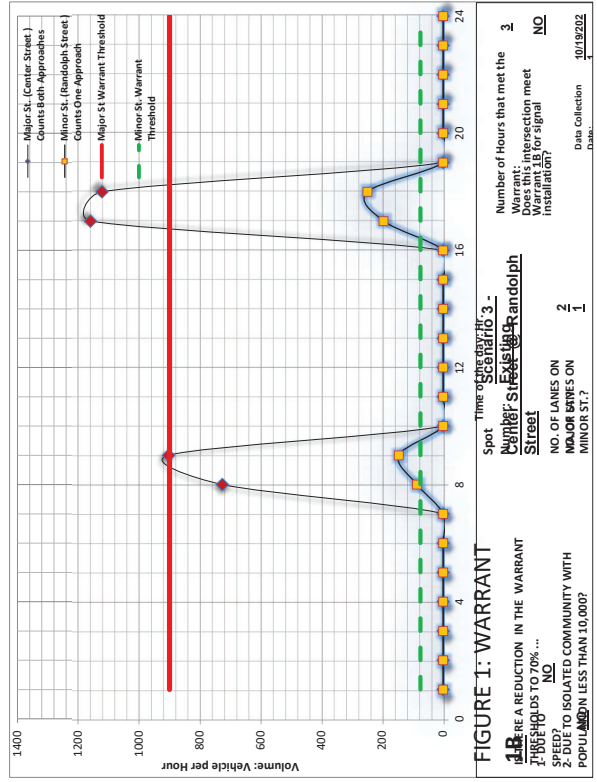
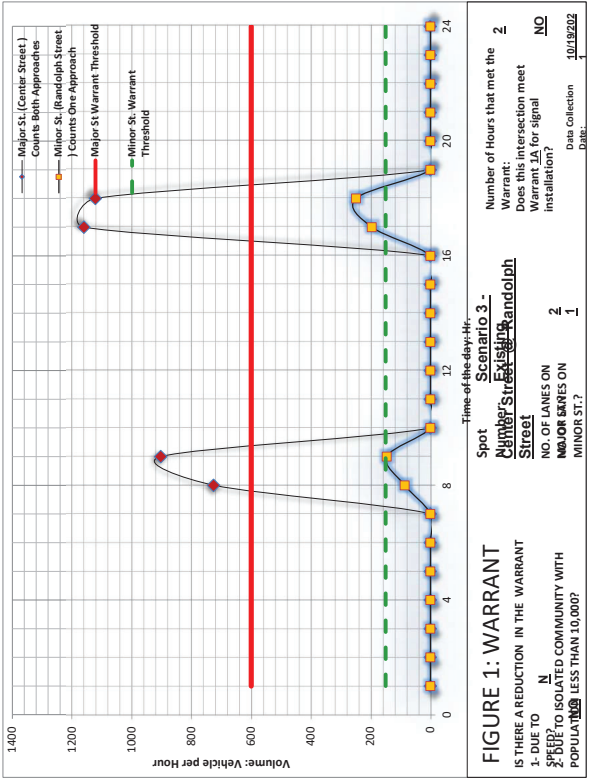
Intersection	Date	Time of Day	Major Street	Minor Street	Warrant	Condition	Major Volume	Minor Volume	Condition A Major Volume	Condition B Major Volume	Warrant Condition A Met?	Warrant Condition B Met?	Combination A Major Volume	Combination B Major Volume	Combination A Met?	Combination B Met?	Warrant Condition A&B Met?
Center Street	10/19/2021	07:00-08:00	Center Street	Center Street	WARRANT 1: Eight-Hour Vehicular Volume	Condition A	600	600	600	600	NO	NO	600	600	NO	NO	N/A
Center Street	10/19/2021	08:00-09:00	Center Street	Center Street	WARRANT 1: Eight-Hour Vehicular Volume	Condition A	600	600	600	600	NO	NO	600	600	NO	NO	N/A
Center Street	10/19/2021	09:00-10:00	Center Street	Center Street	WARRANT 1: Eight-Hour Vehicular Volume	Condition A	600	600	600	600	NO	NO	600	600	NO	NO	N/A
Center Street	10/19/2021	10:00-11:00	Center Street	Center Street	WARRANT 1: Eight-Hour Vehicular Volume	Condition A	600	600	600	600	NO	NO	600	600	NO	NO	N/A
Center Street	10/19/2021	11:00-12:00	Center Street	Center Street	WARRANT 1: Eight-Hour Vehicular Volume	Condition A	600	600	600	600	NO	NO	600	600	NO	NO	N/A
Center Street	10/19/2021	12:00-13:00	Center Street	Center Street	WARRANT 1: Eight-Hour Vehicular Volume	Condition A	600	600	600	600	NO	NO	600	600	NO	NO	N/A
Center Street	10/19/2021	13:00-14:00	Center Street	Center Street	WARRANT 1: Eight-Hour Vehicular Volume	Condition A	600	600	600	600	NO	NO	600	600	NO	NO	N/A
Center Street	10/19/2021	14:00-15:00	Center Street	Center Street	WARRANT 1: Eight-Hour Vehicular Volume	Condition A	600	600	600	600	NO	NO	600	600	NO	NO	N/A
Center Street	10/19/2021	15:00-16:00	Center Street	Center Street	WARRANT 1: Eight-Hour Vehicular Volume	Condition A	600	600	600	600	NO	NO	600	600	NO	NO	N/A
Center Street	10/19/2021	16:00-17:00	Center Street	Center Street	WARRANT 1: Eight-Hour Vehicular Volume	Condition A	600	600	600	600	NO	NO	600	600	NO	NO	N/A
Center Street	10/19/2021	17:00-18:00	Center Street	Center Street	WARRANT 1: Eight-Hour Vehicular Volume	Condition A	600	600	600	600	NO	NO	600	600	NO	NO	N/A
Center Street	10/19/2021	18:00-19:00	Center Street	Center Street	WARRANT 1: Eight-Hour Vehicular Volume	Condition A	600	600	600	600	NO	NO	600	600	NO	NO	N/A
Center Street	10/19/2021	19:00-20:00	Center Street	Center Street	WARRANT 1: Eight-Hour Vehicular Volume	Condition A	600	600	600	600	NO	NO	600	600	NO	NO	N/A
Center Street	10/19/2021	20:00-21:00	Center Street	Center Street	WARRANT 1: Eight-Hour Vehicular Volume	Condition A	600	600	600	600	NO	NO	600	600	NO	NO	N/A
Center Street	10/19/2021	21:00-22:00	Center Street	Center Street	WARRANT 1: Eight-Hour Vehicular Volume	Condition A	600	600	600	600	NO	NO	600	600	NO	NO	N/A
Center Street	10/19/2021	22:00-23:00	Center Street	Center Street	WARRANT 1: Eight-Hour Vehicular Volume	Condition A	600	600	600	600	NO	NO	600	600	NO	NO	N/A
Center Street	10/19/2021	23:00-00:00	Center Street	Center Street	WARRANT 1: Eight-Hour Vehicular Volume	Condition A	600	600	600	600	NO	NO	600	600	NO	NO	N/A

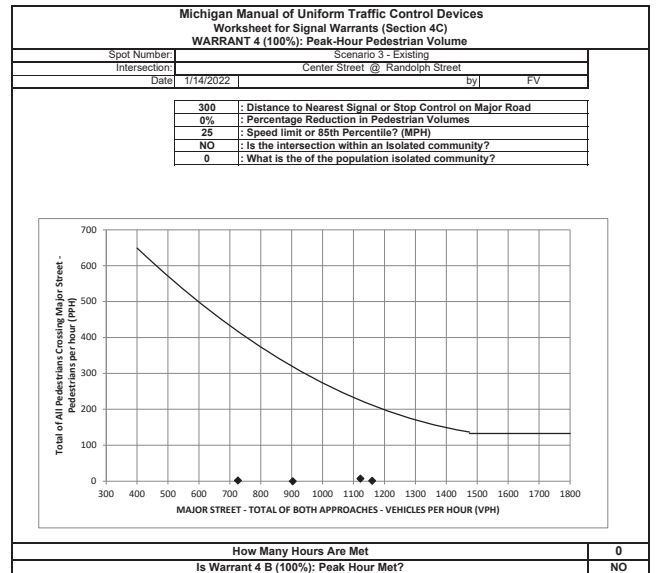
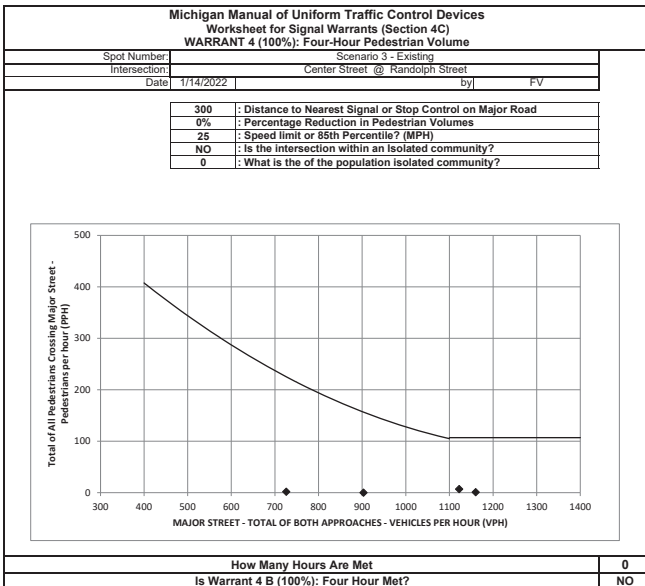
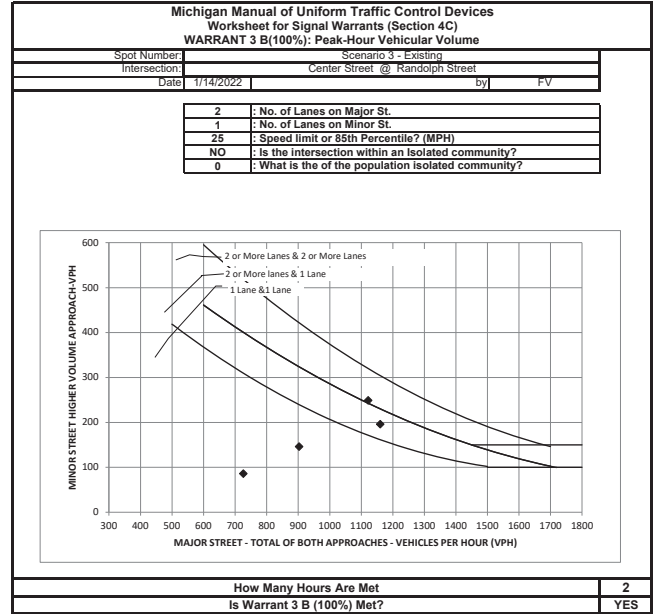
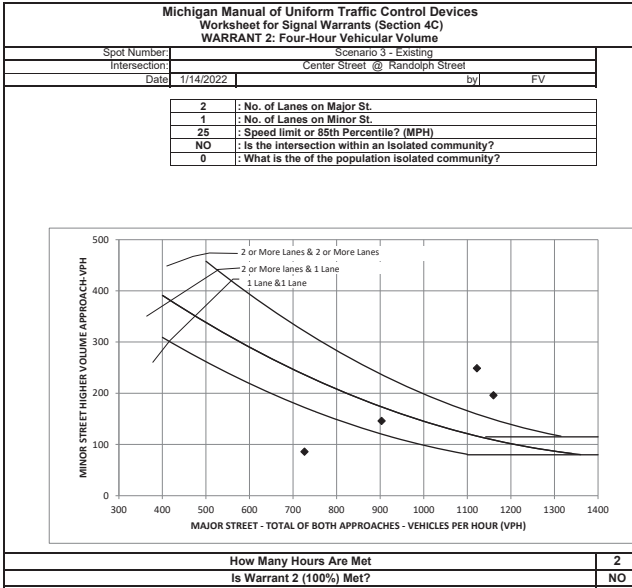




Summary of Warrants		
Spot Number:	Scenario 3 - Existing	
Major Street:	Center Street	Minor Street: Randolph Street
Intersection:	Center Street at Randolph Street	
City/Twp:	Northville	
Date Performed:	1/14/2022	Performed By: FV
Date Volumes Collected:	10/19/2021	
Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume	Condition A Condition B Condition A&B	NO NO N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%) Condition A Condition B	YES YES YES
WARRANT 4: Pedestrian Volume	(100%) Four Hour Peak Hour (Threshold) (Threshold)	NO NO NO HAWK RRFB
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience	Condition A Condition B	NO NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
0		

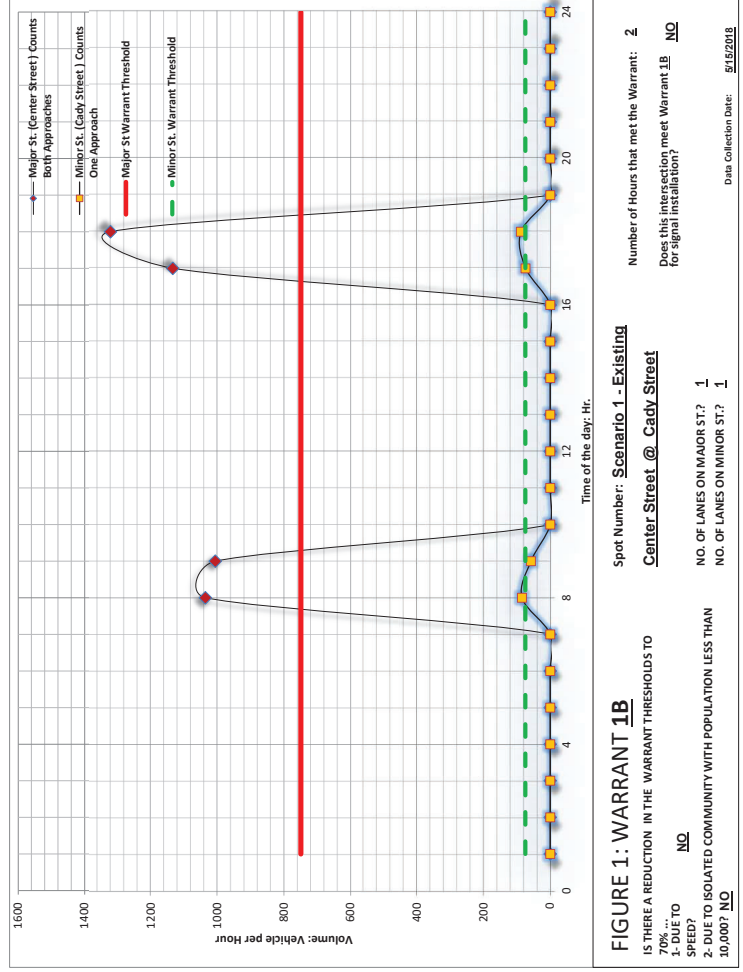
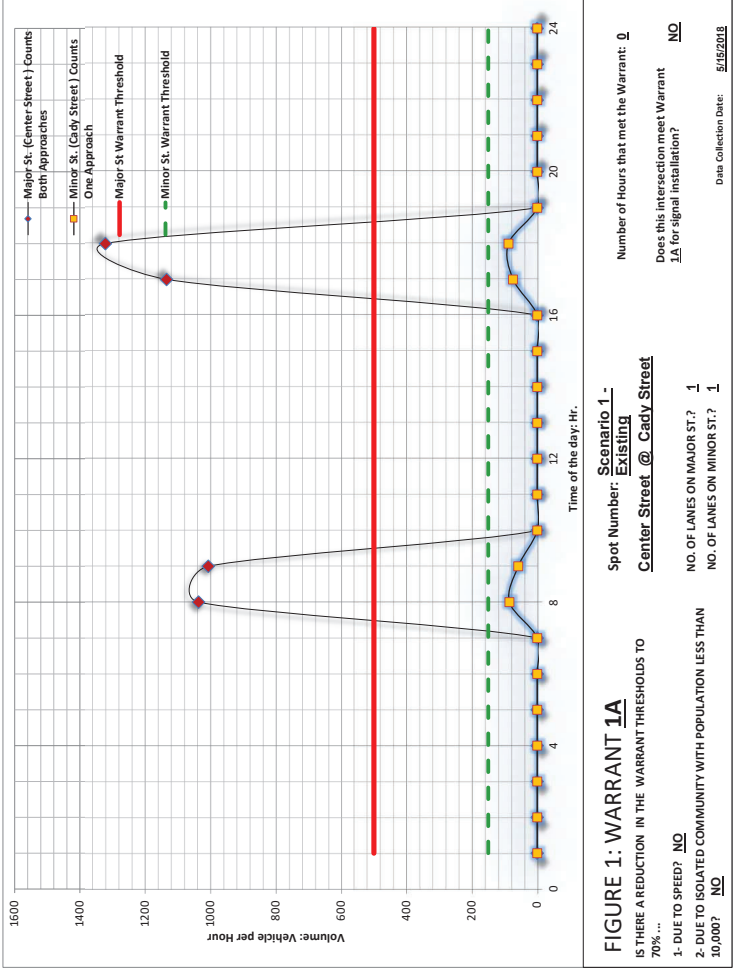
Intersection	Date	Time of Day	Major Volume (Both Apr.)	Minor Volume (One Apr.)	Condition A Major Volume	Condition B Major Volume	Warrant Condition A Met?	Warrant Condition B Met?	Combination A Major Volume	Combination B Major Volume	Combination A&B Met?	Warrant Condition A&B Met?
Center St. / Randolph Street	10/19/2021	07:00 - 07:59	600	150	600	150	NO	NO	600	150	NO	N/A
		08:00 - 08:59	600	150	600	150	NO	NO	600	150	NO	N/A
		09:00 - 09:59	600	150	600	150	NO	NO	600	150	NO	N/A
		10:00 - 10:59	600	150	600	150	NO	NO	600	150	NO	N/A
		11:00 - 11:59	600	150	600	150	NO	NO	600	150	NO	N/A
		12:00 - 12:59	600	150	600	150	NO	NO	600	150	NO	N/A
		13:00 - 13:59	600	150	600	150	NO	NO	600	150	NO	N/A
		14:00 - 14:59	600	150	600	150	NO	NO	600	150	NO	N/A
		15:00 - 15:59	600	150	600	150	NO	NO	600	150	NO	N/A
		16:00 - 16:59	600	150	600	150	NO	NO	600	150	NO	N/A
		17:00 - 17:59	600	150	600	150	NO	NO	600	150	NO	N/A
		18:00 - 18:59	600	150	600	150	NO	NO	600	150	NO	N/A
		19:00 - 19:59	600	150	600	150	NO	NO	600	150	NO	N/A
		20:00 - 20:59	600	150	600	150	NO	NO	600	150	NO	N/A
		21:00 - 21:59	600	150	600	150	NO	NO	600	150	NO	N/A
		22:00 - 22:59	600	150	600	150	NO	NO	600	150	NO	N/A
		23:00 - 23:59	600	150	600	150	NO	NO	600	150	NO	N/A
USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B A, B, IS THE MINIMUM VEHICULAR VOLUME WARRANT MET? (Condition A) B, IS THE INTERRUPTION OF CONTINUOUS TRAFFIC WARRANT MET? (Condition B) C, COMBINATION OF WARRANTS A AND B CRITERIA MET?												
Number of Hours that met the warrant 1A = 3 Number of Hours that met the warrant 1B = 0 Number of Hours that met the warrant 1A & B = 0												

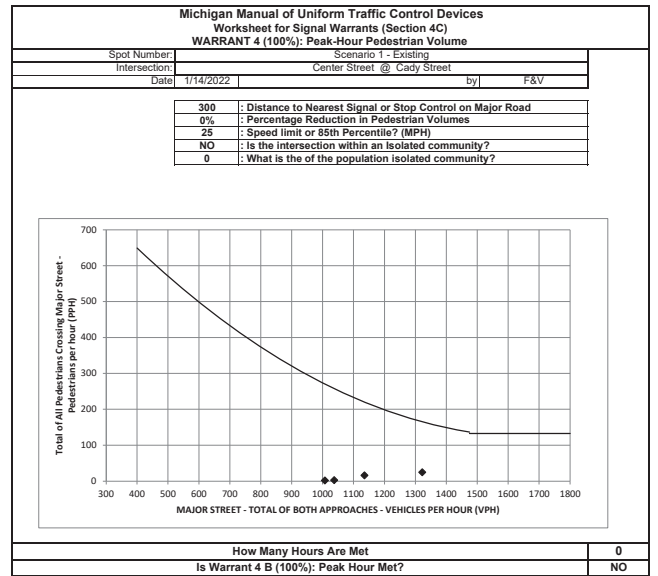
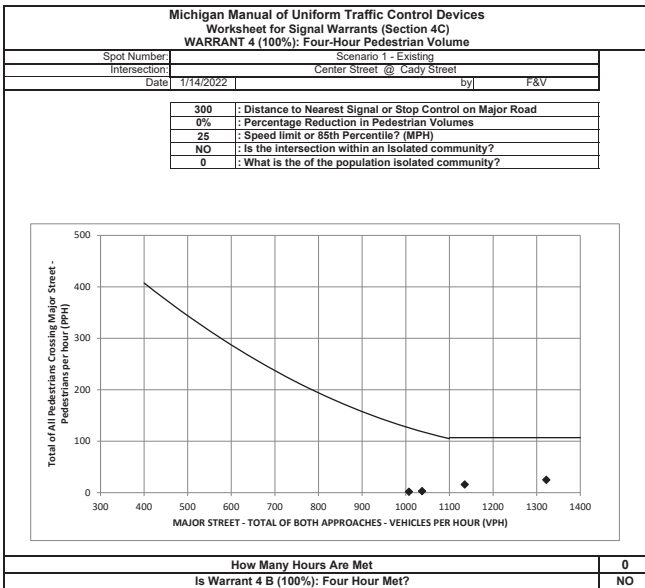
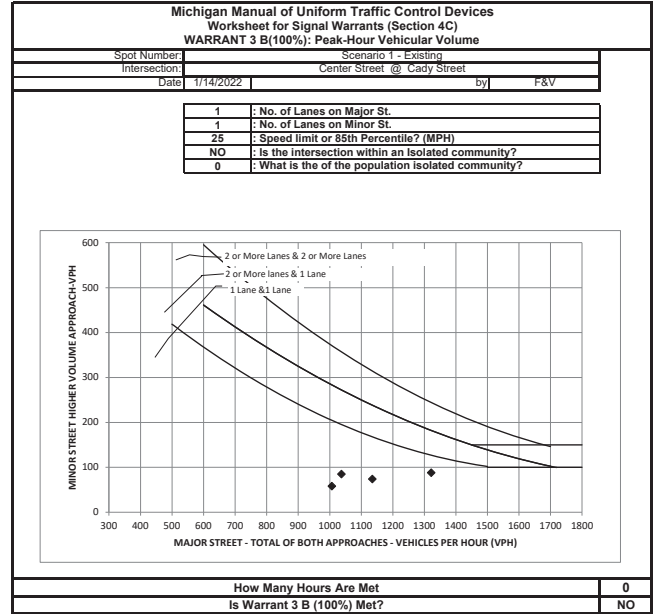
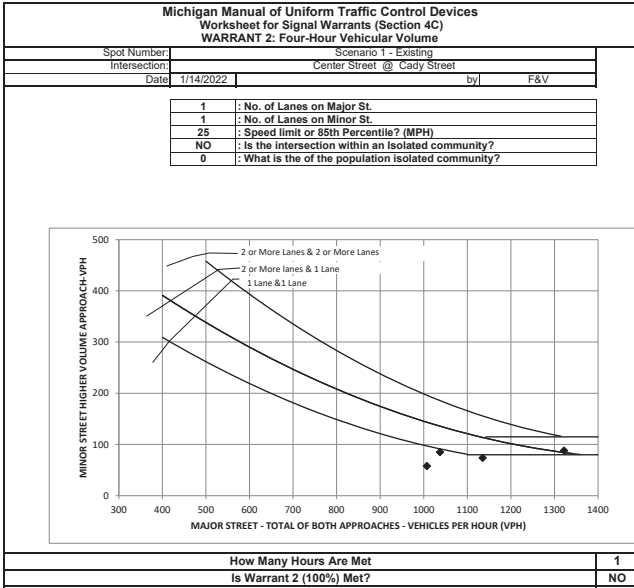




Summary of Warrants		
Spot Number:	Scenario 1 - Existing	
Major Street:	Center Street	Minor Street: Cady Street
Intersection:	Center Street at Cady Street	
City/Twp:	Northville, MI	
Date Performed:	1/14/2022	Performed By: F&V
Date Volumes Collected:	5/15/2018	
Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume	Condition A Condition B Condition A&B	NO NO N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%) Condition A Condition B	NO N/A NO
WARRANT 4: Pedestrian Volume	(100%) Four Hour Peak Hour (Threshold) HAWK (Threshold) RRFB	NO NO NO NO NO NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience	Condition A Condition B	NO NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
0		

MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES														
WARRANT 1: Eight-Hour Vehicular Volume														
Intersection	Date	Center Street	By	At	Time	Major Volume (Both Apr.)	Minor Volume (One Apr.)	Condition A Major Volume	Condition B Minor Volume	Warrant Condition A Met?	Warrant Condition B Met?	Combination Major A	Combination Minor B	Combination A&B Met?
Center Street @ Cady Street	5/15/2018	Center Street	F&V	At	7:30	150	75	150	75	NO	NO	N/A	N/A	N/A
USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B														
A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)														
B. Is the Intersection of Continuous Traffic Met? (Condition B)														
C. Combination of Warrants A and B Criteria Met?														
													Number of Hours that met the warrant 1A =	0
													Number of Hours that met the warrant 1B =	0
													Number of Hours that met the warrant 1A & B =	0





Summary of Warrants			
Spot Number:	Scenario 2 - Existing		
Major Street:	Center Street	Minor Street:	Cady Street
Intersection:	Center Street at Cady Street		
City/Twp:	Northville, MI		
Date Performed:	1/14/2022	Performed By:	F&V
Date Volumes Collected:	5/15/2018		
Warrant	Condition	Is Warrant Met	
Data Validation Error		NO	
WARRANT 1: Eight-Hour Vehicular Volume	Condition A Condition B Condition A&B	NO NO N/A	
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO	
WARRANT 3: Peak-Hour Vehicular Volume	(100%) Condition A Condition B	NO N/A NO	
WARRANT 4: Pedestrian Volume	(100%) Four Hour Peak Hour (Threshold) HAWK (Threshold) RRFB	NO NO NO NO NO NO	
WARRANT 5: School Crossing		NO	
WARRANT 6: Coordinated Signal System		NO	
WARRANT 7: Crash Experience	Condition A Condition B	NO NO	
WARRANT 8: Roadway Network		NO	
WARRANT 9: Intersection Near a Grade Crossing		#N/A	
Issue to Be Addressed by Signalization:			
0			

MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES

WARRANT 1: Eight-Hour Vehicular Volume

USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B

Major Volume (Both Apr.)	Minor Volume (One Apr.)	Condition A Major Volume	Condition A Minor Volume	Warrant A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant B Met?	Combination Major A	Combination Minor A	Combination Major B	Combination Minor B	Warrant AB Met?
0-300	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
300-450	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
450-600	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
600-750	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
750-900	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
900-1050	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
1050-1200	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
1200-1350	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
1350-1500	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
1500-1650	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
1650-1800	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
1800-1950	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
1950-2100	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
2100-2250	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
2250-2400	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
2400-2550	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
2550-2700	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
2700-2850	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
2850-3000	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
3000-3150	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
3150-3300	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
3300-3450	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
3450-3600	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
3600-3750	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
3750-3900	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
3900-4050	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
4050-4200	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
4200-4350	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
4350-4500	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
4500-4650	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
4650-4800	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
4800-4950	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
4950-5100	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
5100-5250	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
5250-5400	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
5400-5550	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
5550-5700	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
5700-5850	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
5850-6000	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
6000-6150	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
6150-6300	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
6300-6450	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
6450-6600	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
6600-6750	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
6750-6900	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
6900-7050	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
7050-7200	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
7200-7350	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
7350-7500	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
7500-7650	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
7650-7800	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
7800-7950	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
7950-8100	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
8100-8250	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
8250-8400	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
8400-8550	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
8550-8700	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
8700-8850	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
8850-9000	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
9000-9150	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
9150-9300	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
9300-9450	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
9450-9600	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
9600-9750	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
9750-9900	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
9900-10050	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
10050-10200	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
10200-10350	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
10350-10500	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
10500-10650	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
10650-10800	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
10800-10950	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
10950-11100	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
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11400-11550	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
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12000-12150	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
12150-12300	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
12300-12450	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
12450-12600	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
12600-12750	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
12750-12900	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
12900-13050	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
13050-13200	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
13200-13350	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
13350-13500	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
13500-13650	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
13650-13800	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
13800-13950	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
13950-14100	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
14100-14250	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
14250-14400	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
14400-14550	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
14550-14700	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
14700-14850	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
14850-15000	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
15000-15150	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
15150-15300	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
15300-15450	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
15450-15600	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
15600-15750	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
15750-15900	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
15900-16050	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
16050-16200	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
16200-16350	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
16350-16500	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
16500-16650	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
16650-16800	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
16800-16950	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
16950-17100	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
17100-17250	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
17250-17400	150	0	0	NO	750	375	NO	N/A	N/A	N/A	N/A	N/A
17400-17550	150	0	0	NO	750							

Michigan Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) WARRANT 2: Four-Hour Vehicular Volume			
Spot Number:	Scenario 2 - Existing		
Intersection:	Center Street @ Cady Street		
Date:	1/14/2022	by:	F&V
1	: No. of Lanes on Major St.		
1	: No. of Lanes on Minor St.		
25	: Speed limit or 85th Percentile? (MPH)		
NO	: Is the intersection within an isolated community?		
0	: What is the of the population isolated community?		

How Many Hours Are Met	2
Is Warrant 2 (100%) Met?	NO

Michigan Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) WARRANT 3 B(100%): Peak-Hour Vehicular Volume			
Spot Number:	Scenario 2 - Existing		
Intersection:	Center Street @ Cady Street		
Date:	1/14/2022	by:	F&V
1	: No. of Lanes on Major St.		
1	: No. of Lanes on Minor St.		
25	: Speed limit or 85th Percentile? (MPH)		
NO	: Is the intersection within an isolated community?		
0	: What is the of the population isolated community?		

How Many Hours Are Met	0
Is Warrant 3 B (100%) Met?	NO

Michigan Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) WARRANT 4 (100%): Four-Hour Pedestrian Volume			
Spot Number:	Scenario 2 - Existing		
Intersection:	Center Street @ Cady Street		
Date:	1/14/2022	by:	F&V
300	: Distance to Nearest Signal or Stop Control on Major Road		
0%	: Percentage Reduction in Pedestrian Volumes		
25	: Speed limit or 85th Percentile? (MPH)		
NO	: Is the intersection within an isolated community?		
0	: What is the of the population isolated community?		

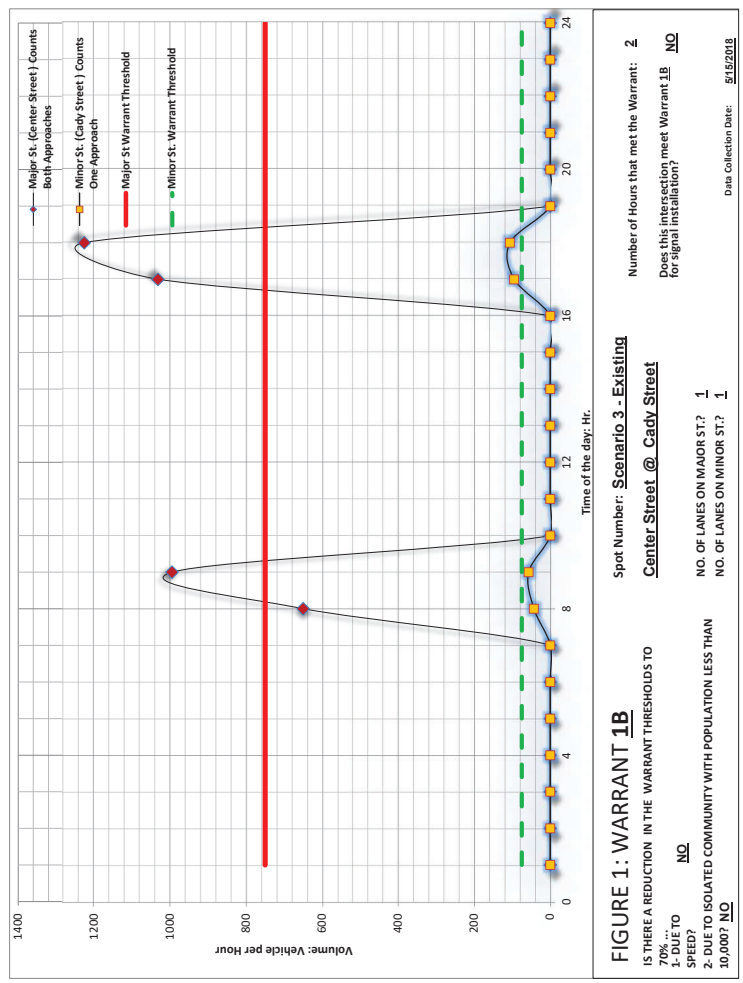
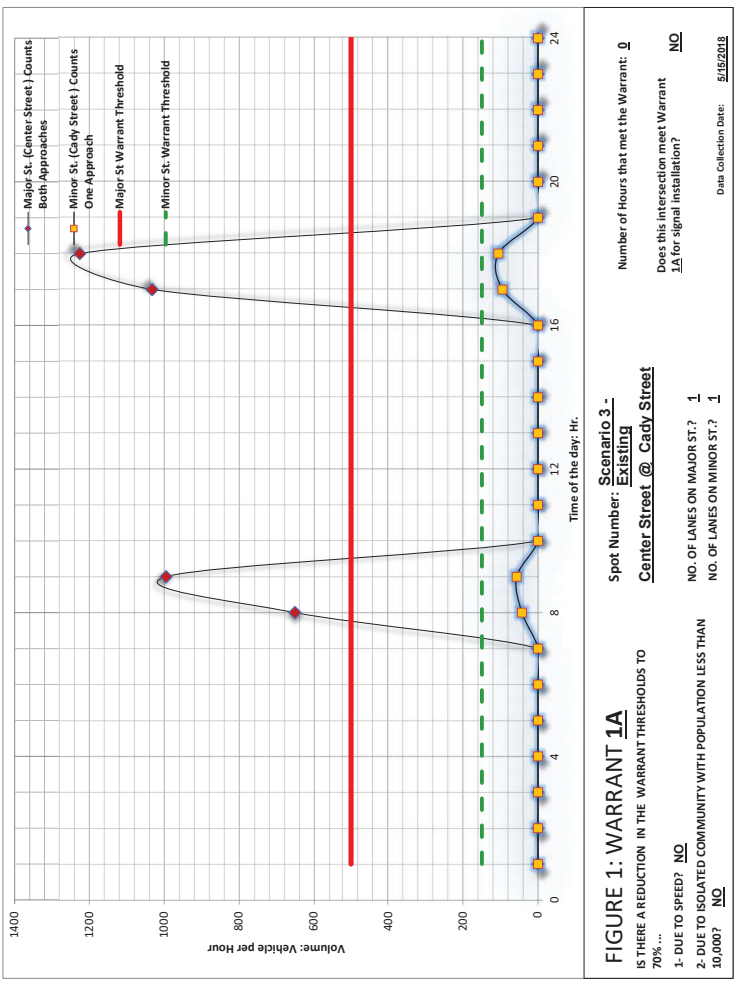
How Many Hours Are Met	0
Is Warrant 4 B (100%): Four Hour Met?	NO

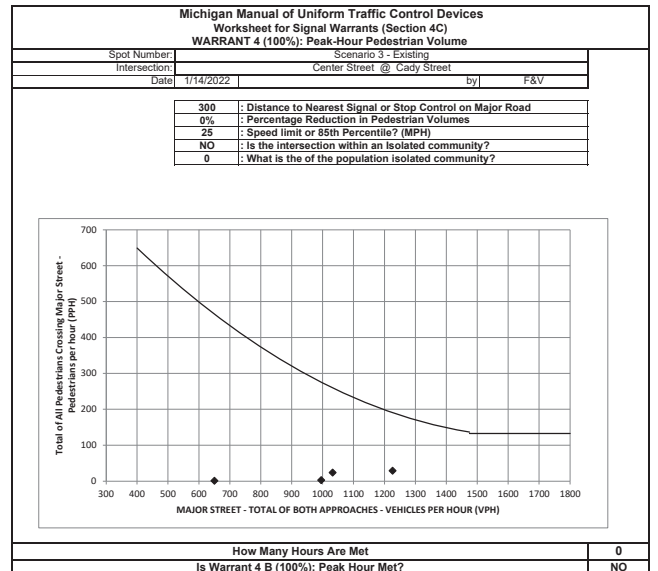
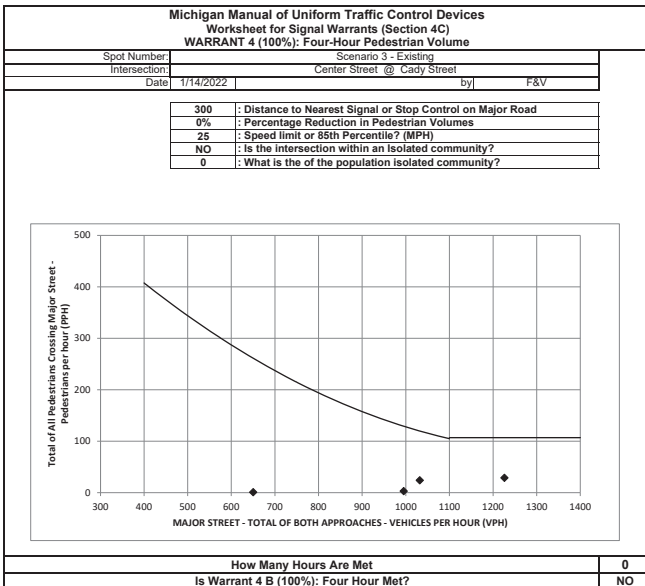
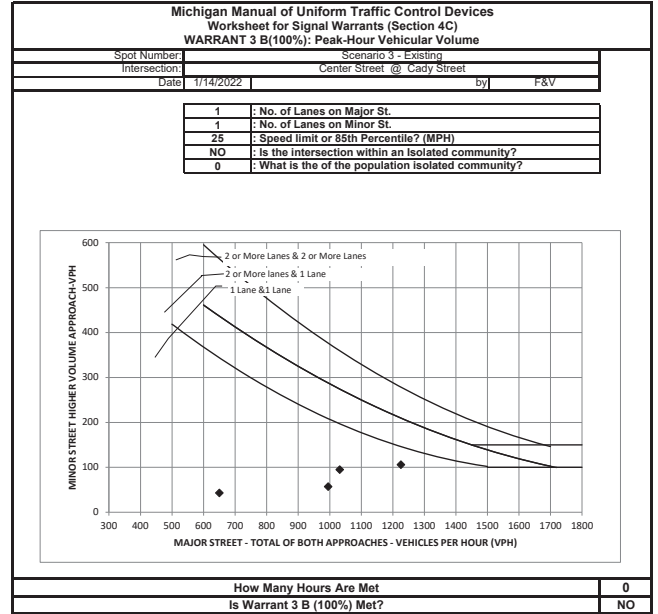
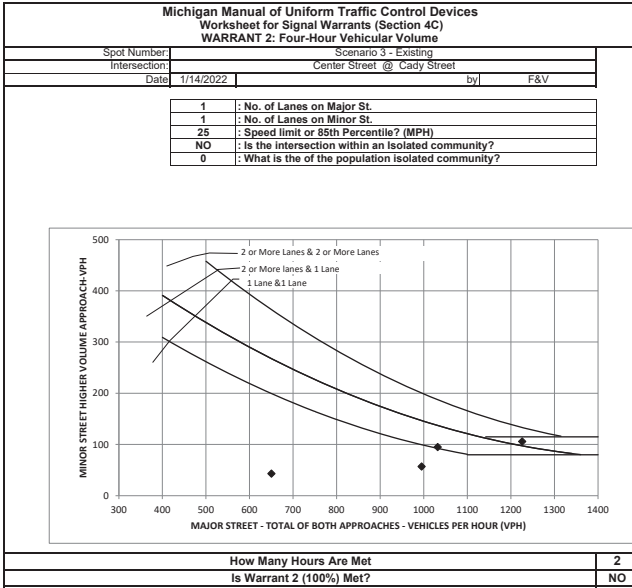
Michigan Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) WARRANT 4 (100%): Peak-Hour Pedestrian Volume			
Spot Number:	Scenario 2 - Existing		
Intersection:	Center Street @ Cady Street		
Date:	1/14/2022	by:	F&V
300	: Distance to Nearest Signal or Stop Control on Major Road		
0%	: Percentage Reduction in Pedestrian Volumes		
25	: Speed limit or 85th Percentile? (MPH)		
NO	: Is the intersection within an isolated community?		
0	: What is the of the population isolated community?		

How Many Hours Are Met	0
Is Warrant 4 B (100%): Peak Hour Met?	NO

Summary of Warrants		
Spot Number:	Scenario 3 - Existing	
Major Street:	Center Street	Minor Street: Cady Street
Intersection:	Center Street at Cady Street	
City/Twp:	Northville, MI	
Date Performed:	1/14/2022	Performed By: F&V
Date Volumes Collected:	5/15/2018	
Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume	Condition A Condition B Condition A&B	NO NO N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%) Condition A Condition B	NO N/A NO
WARRANT 4: Pedestrian Volume	(100%) Four Hour Peak Hour (Threshold) (Threshold)	NO NO HAWK RRFB NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience	Condition A Condition B	NO NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
0		

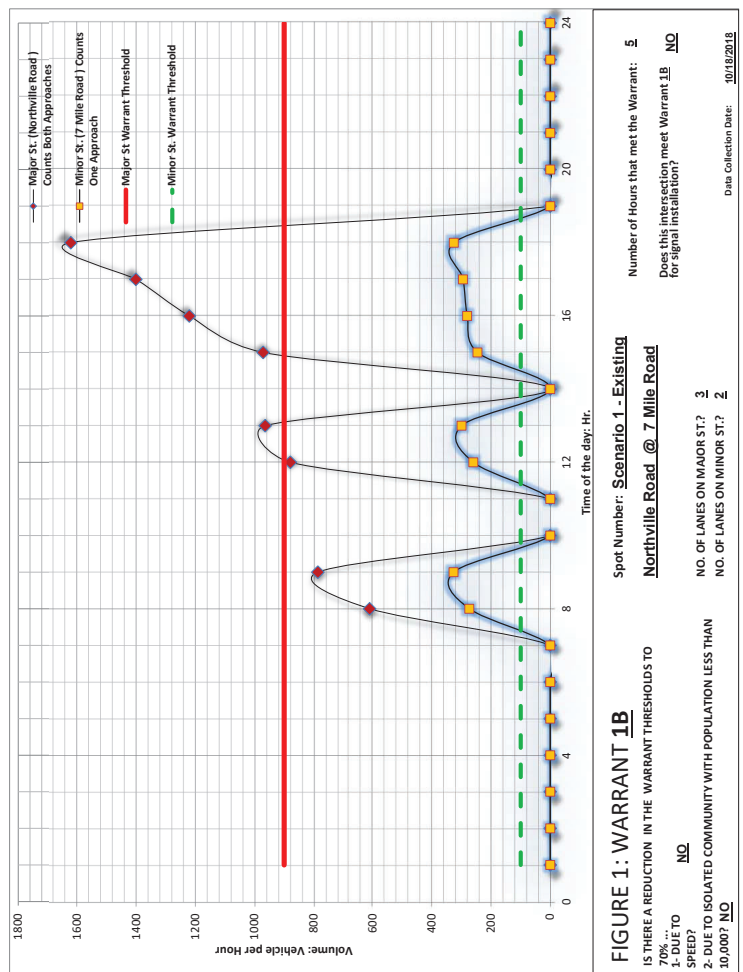
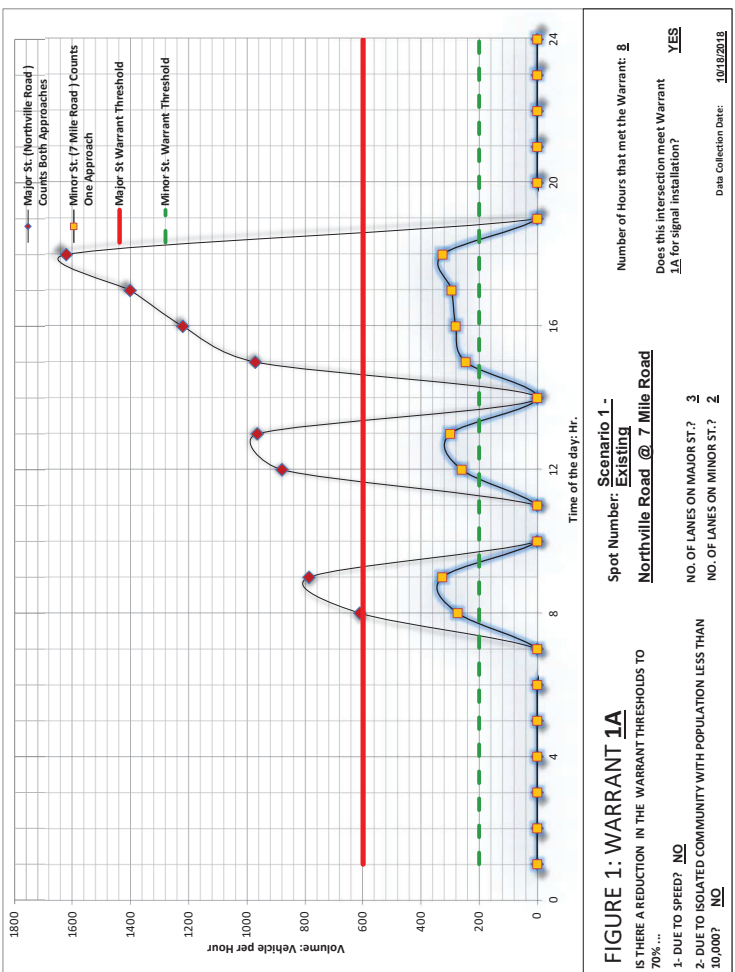
Michigan Manual of Uniform Traffic Control Devices (MMUTCD) - 8th Edition										
WARRANT 1: Eight-Hour Vehicular Volume										
Intersection	Date	Center Street @ Cady Street	Spot	Time	Major Volume (Both Apr.)	Condition A Major Volume	Condition B Major Volume	Warrant Condition A Met?	Warrant Condition B Met?	Warrant Condition A&B Met?
1	5/15/2018	Center Street @ Cady Street	1	8:00-9:00	500	500	500	NO	NO	N/A
2	5/15/2018	Center Street @ Cady Street	2	9:00-10:00	500	500	500	NO	NO	N/A
3	5/15/2018	Center Street @ Cady Street	3	10:00-11:00	500	500	500	NO	NO	N/A
4	5/15/2018	Center Street @ Cady Street	4	11:00-12:00	500	500	500	NO	NO	N/A
5	5/15/2018	Center Street @ Cady Street	5	12:00-1:00	500	500	500	NO	NO	N/A
6	5/15/2018	Center Street @ Cady Street	6	1:00-2:00	500	500	500	NO	NO	N/A
7	5/15/2018	Center Street @ Cady Street	7	2:00-3:00	500	500	500	NO	NO	N/A
8	5/15/2018	Center Street @ Cady Street	8	3:00-4:00	500	500	500	NO	NO	N/A
9	5/15/2018	Center Street @ Cady Street	9	4:00-5:00	500	500	500	NO	NO	N/A
10	5/15/2018	Center Street @ Cady Street	10	5:00-6:00	500	500	500	NO	NO	N/A
11	5/15/2018	Center Street @ Cady Street	11	6:00-7:00	500	500	500	NO	NO	N/A
12	5/15/2018	Center Street @ Cady Street	12	7:00-8:00	500	500	500	NO	NO	N/A
13	5/15/2018	Center Street @ Cady Street	13	8:00-9:00	500	500	500	NO	NO	N/A
14	5/15/2018	Center Street @ Cady Street	14	9:00-10:00	500	500	500	NO	NO	N/A
15	5/15/2018	Center Street @ Cady Street	15	10:00-11:00	500	500	500	NO	NO	N/A
16	5/15/2018	Center Street @ Cady Street	16	11:00-12:00	500	500	500	NO	NO	N/A
17	5/15/2018	Center Street @ Cady Street	17	12:00-1:00	500	500	500	NO	NO	N/A
18	5/15/2018	Center Street @ Cady Street	18	1:00-2:00	500	500	500	NO	NO	N/A
19	5/15/2018	Center Street @ Cady Street	19	2:00-3:00	500	500	500	NO	NO	N/A
20	5/15/2018	Center Street @ Cady Street	20	3:00-4:00	500	500	500	NO	NO	N/A
21	5/15/2018	Center Street @ Cady Street	21	4:00-5:00	500	500	500	NO	NO	N/A
22	5/15/2018	Center Street @ Cady Street	22	5:00-6:00	500	500	500	NO	NO	N/A
23	5/15/2018	Center Street @ Cady Street	23	6:00-7:00	500	500	500	NO	NO	N/A
24	5/15/2018	Center Street @ Cady Street	24	7:00-8:00	500	500	500	NO	NO	N/A
USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B. A. Is the Minimum Vehicular Volume Warrant Met? (Condition A) B. Is the Interruption of Continuous Traffic Met? (Condition B) C. Combination of Warrants A and B Criteria Met?										
Number of Hours that met the warrant 1A = 0 Number of Hours that met the warrant 1B = 0 Number of Hours that met the warrant 1A & B = 0										





Summary of Warrants		
Spot Number:	Scenario 1 - Existing	
Major Street:	Northville Road	Minor Street: 7 Mile Road
Intersection:	Northville Road at 7 Mile Road	
City/Twp:	Northville	
Date Performed:	1/13/2022	Performed By: FV
Date Volumes Collected:	10/18/2018	
Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume	Condition A YES Condition B NO Condition A&B N/A	YES
WARRANT 2: Four-Hour Vehicular Volume	(100%)	YES
WARRANT 3: Peak-Hour Vehicular Volume	(100%) Condition A N/A Condition B YES	YES
WARRANT 4: Pedestrian Volume	(100%) Four Hour NO Peak Hour NO (Threshold) HAWK NO (Threshold) RRFB NO	NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience	Condition A NO Condition B NO	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
0		

Michigan Manual of Uniform Traffic Control Devices (MMUTCD) - 11th Edition														
WARRANT 1: Eight-Hour Vehicular Volume														
Intersection	Date	North	East	South	West	Major Volume (Both Apr.)	Condition A Major Volume	Condition B Major Volume	Warrant Condition A Met?	Condition B Met?	Warrant Condition B Met?	Combination Major A	Combination Major B	Combination A&B Met?
3	10/18/2018	0	0	0	0	0	0	0	NO	NO	NO	N/A	N/A	N/A
35	10/18/2018	0	0	0	0	0	0	0	NO	NO	NO	N/A	N/A	N/A
0	10/18/2018	0	0	0	0	0	0	0	NO	NO	NO	N/A	N/A	N/A
USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B														
A, B, or the Minimum Vehicular Volume Warrant Met? (Condition A)														
B, is the Intersection of Continuous Traffic Met? (Condition B)														
C, Combination of Warrants A and B Criteria Met?														
													Number of Hours that met the warrant 1A & B =	0
													Number of Hours that met the warrant 1A & B =	0



Michigan Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) WARRANT 2: Four-Hour Vehicular Volume	
Spot Number:	Scenario 1 - Existing
Intersection:	Northville Road @ 7 Mile Road
Date:	1/13/2022 by FV
3	: No. of Lanes on Major St.
2	: No. of Lanes on Minor St.
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

How Many Hours Are Met	7
Is Warrant 2 (100%) Met?	YES

Michigan Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) WARRANT 3 B(100%): Peak-Hour Vehicular Volume	
Spot Number:	Scenario 1 - Existing
Intersection:	Northville Road @ 7 Mile Road
Date:	1/13/2022 by FV
3	: No. of Lanes on Major St.
2	: No. of Lanes on Minor St.
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

How Many Hours Are Met	3
Is Warrant 3 B (100%) Met?	YES

Michigan Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) WARRANT 4 (100%): Four-Hour Pedestrian Volume	
Spot Number:	Scenario 1 - Existing
Intersection:	Northville Road @ 7 Mile Road
Date:	1/13/2022 by FV
500	: Distance to Nearest Signal or Stop Control on Major Road
0%	: Percentage Reduction in Pedestrian Volumes
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

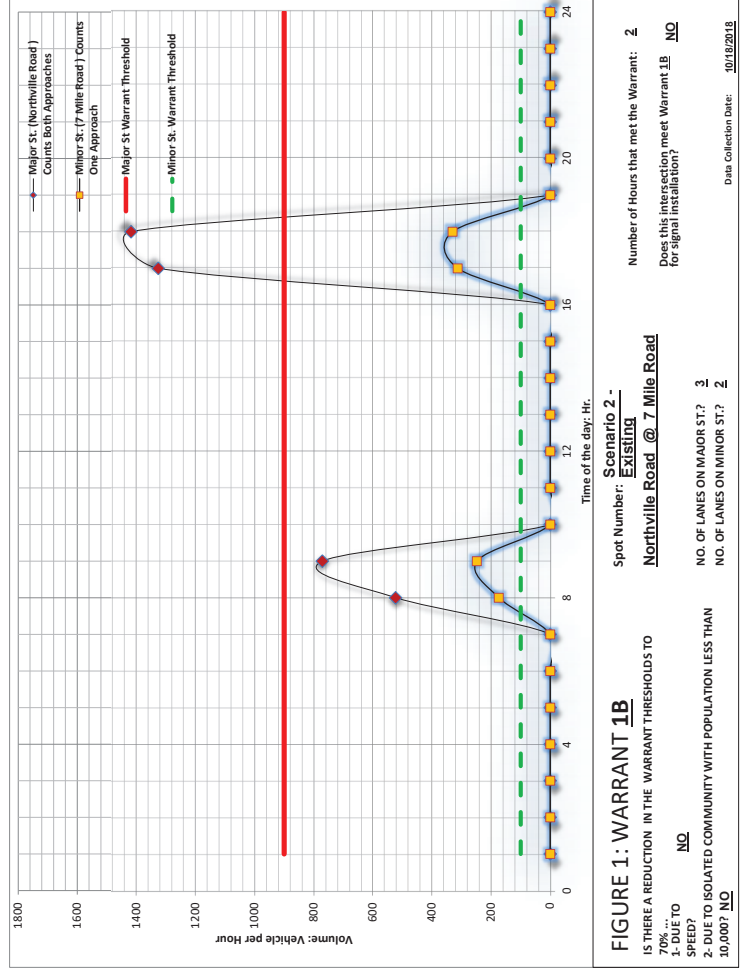
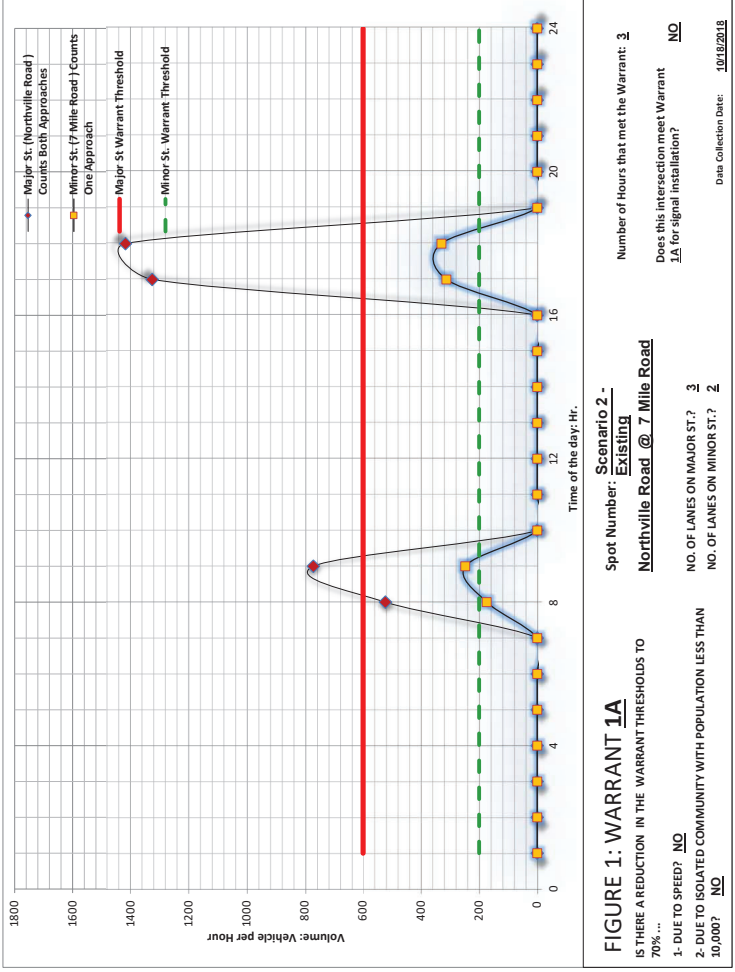
How Many Hours Are Met	0
Is Warrant 4 B (100%): Four Hour Met?	NO

Michigan Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) WARRANT 4 (100%): Peak-Hour Pedestrian Volume	
Spot Number:	Scenario 1 - Existing
Intersection:	Northville Road @ 7 Mile Road
Date:	1/13/2022 by FV
500	: Distance to Nearest Signal or Stop Control on Major Road
0%	: Percentage Reduction in Pedestrian Volumes
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

How Many Hours Are Met	0
Is Warrant 4 B (100%): Peak Hour Met?	NO

Summary of Warrants		
Spot Number:	Scenario 2 - Existing	
Major Street:	Northville Road	Minor Street: 7 Mile Road
Intersection:	Northville Road at 7 Mile Road	
City/Twp:	Northville	
Date Performed:	1/13/2022	Performed By: FV
Date Volumes Collected:	10/18/2018	
Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume		NO
	Condition A	NO
	Condition B	NO
	Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%)	YES
	Condition A	N/A
	Condition B	YES
WARRANT 4: Pedestrian Volume	(100%)	NO
	Four Hour	NO
	Peak Hour	NO
	(Threshold)	HAWK
	(Threshold)	RRFB
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience		NO
	Condition A	NO
	Condition B	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
0		

Michigan Manual of Uniform Traffic Control Devices (MMUTCD) - 8th Edition											
WARRANT 1: Eight-Hour Vehicular Volume											
Intersection	Date	North	East	South	West	Major Volume (Both Apr.)	Condition A Major Volume	Condition B Major Volume	Warrant Condition A Met?	Warrant Condition B Met?	Warrant Condition A&B Met?
05/21/11/00	10/18/2018	0	0	0	0	0	0	0	NO	NO	N/A
01/00-02/00		0	0	0	0	0	0	0	NO	NO	N/A
03/00-04/00		0	0	0	0	0	0	0	NO	NO	N/A
05/00-06/00		0	0	0	0	0	0	0	NO	NO	N/A
07/00-08/00		0	0	0	0	0	0	0	NO	NO	N/A
09/00-10/00		0	0	0	0	0	0	0	NO	NO	N/A
11/00-12/00		0	0	0	0	0	0	0	NO	NO	N/A
13/00-14/00		0	0	0	0	0	0	0	NO	NO	N/A
15/00-16/00		0	0	0	0	0	0	0	NO	NO	N/A
17/00-18/00		0	0	0	0	0	0	0	NO	NO	N/A
19/00-20/00		0	0	0	0	0	0	0	NO	NO	N/A
21/00-22/00		0	0	0	0	0	0	0	NO	NO	N/A
23/00-24/00		0	0	0	0	0	0	0	NO	NO	N/A
25/00-26/00		0	0	0	0	0	0	0	NO	NO	N/A
27/00-28/00		0	0	0	0	0	0	0	NO	NO	N/A
29/00-30/00		0	0	0	0	0	0	0	NO	NO	N/A
31/00-32/00		0	0	0	0	0	0	0	NO	NO	N/A
33/00-34/00		0	0	0	0	0	0	0	NO	NO	N/A
35/00-36/00		0	0	0	0	0	0	0	NO	NO	N/A
37/00-38/00		0	0	0	0	0	0	0	NO	NO	N/A
39/00-40/00		0	0	0	0	0	0	0	NO	NO	N/A
41/00-42/00		0	0	0	0	0	0	0	NO	NO	N/A
43/00-44/00		0	0	0	0	0	0	0	NO	NO	N/A
45/00-46/00		0	0	0	0	0	0	0	NO	NO	N/A
47/00-48/00		0	0	0	0	0	0	0	NO	NO	N/A
49/00-50/00		0	0	0	0	0	0	0	NO	NO	N/A
51/00-52/00		0	0	0	0	0	0	0	NO	NO	N/A
53/00-54/00		0	0	0	0	0	0	0	NO	NO	N/A
55/00-56/00		0	0	0	0	0	0	0	NO	NO	N/A
57/00-58/00		0	0	0	0	0	0	0	NO	NO	N/A
59/00-60/00		0	0	0	0	0	0	0	NO	NO	N/A
61/00-62/00		0	0	0	0	0	0	0	NO	NO	N/A
63/00-64/00		0	0	0	0	0	0	0	NO	NO	N/A
65/00-66/00		0	0	0	0	0	0	0	NO	NO	N/A
67/00-68/00		0	0	0	0	0	0	0	NO	NO	N/A
69/00-70/00		0	0	0	0	0	0	0	NO	NO	N/A
71/00-72/00		0	0	0	0	0	0	0	NO	NO	N/A
73/00-74/00		0	0	0	0	0	0	0	NO	NO	N/A
75/00-76/00		0	0	0	0	0	0	0	NO	NO	N/A
77/00-78/00		0	0	0	0	0	0	0	NO	NO	N/A
79/00-80/00		0	0	0	0	0	0	0	NO	NO	N/A
81/00-82/00		0	0	0	0	0	0	0	NO	NO	N/A
83/00-84/00		0	0	0	0	0	0	0	NO	NO	N/A
85/00-86/00		0	0	0	0	0	0	0	NO	NO	N/A
87/00-88/00		0	0	0	0	0	0	0	NO	NO	N/A
89/00-90/00		0	0	0	0	0	0	0	NO	NO	N/A
91/00-92/00		0	0	0	0	0	0	0	NO	NO	N/A
93/00-94/00		0	0	0	0	0	0	0	NO	NO	N/A
95/00-96/00		0	0	0	0	0	0	0	NO	NO	N/A
97/00-98/00		0	0	0	0	0	0	0	NO	NO	N/A
99/00-100/00		0	0	0	0	0	0	0	NO	NO	N/A
USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B A. Is the Minimum Vehicular Volume Warrant Met? (Condition A) B. Is the Intersection of Continuous Traffic Met? (Condition B) C. Combination of Warrants A and B Criteria Met?											
Number of Hours that met the warrant 1A = 0 Number of Hours that met the warrant 1B = 0 Number of Hours that met the warrant 1A & B = 0											



Michigan Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) WARRANT 2: Four-Hour Vehicular Volume	
Spot Number:	Scenario 2 - Existing
Intersection:	Northville Road @ 7 Mile Road
Date:	1/13/2022 by FV
3	: No. of Lanes on Major St.
2	: No. of Lanes on Minor St.
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

How Many Hours Are Met	2
Is Warrant 2 (100%) Met?	NO

Michigan Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) WARRANT 3 B(100%): Peak-Hour Vehicular Volume	
Spot Number:	Scenario 2 - Existing
Intersection:	Northville Road @ 7 Mile Road
Date:	1/13/2022 by FV
3	: No. of Lanes on Major St.
2	: No. of Lanes on Minor St.
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

How Many Hours Are Met	2
Is Warrant 3 B (100%) Met?	YES

Michigan Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) WARRANT 4 (100%): Four-Hour Pedestrian Volume	
Spot Number:	Scenario 2 - Existing
Intersection:	Northville Road @ 7 Mile Road
Date:	1/13/2022 by FV
500	: Distance to Nearest Signal or Stop Control on Major Road
0%	: Percentage Reduction in Pedestrian Volumes
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

How Many Hours Are Met	0
Is Warrant 4 B (100%): Four Hour Met?	NO

Michigan Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) WARRANT 4 (100%): Peak-Hour Pedestrian Volume	
Spot Number:	Scenario 2 - Existing
Intersection:	Northville Road @ 7 Mile Road
Date:	1/13/2022 by FV
500	: Distance to Nearest Signal or Stop Control on Major Road
0%	: Percentage Reduction in Pedestrian Volumes
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

How Many Hours Are Met	0
Is Warrant 4 B (100%): Peak Hour Met?	NO

Michigan Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) WARRANT 2: Four-Hour Vehicular Volume	
Spot Number:	Scenario 3 - Existing
Intersection:	Northville Road @ 7 Mile Road
Date:	1/13/2022 by FV
3	: No. of Lanes on Major St.
2	: No. of Lanes on Minor St.
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

How Many Hours Are Met	2
Is Warrant 2 (100%) Met?	NO

Michigan Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) WARRANT 3 B(100%): Peak-Hour Vehicular Volume	
Spot Number:	Scenario 3 - Existing
Intersection:	Northville Road @ 7 Mile Road
Date:	1/13/2022 by FV
3	: No. of Lanes on Major St.
2	: No. of Lanes on Minor St.
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

How Many Hours Are Met	2
Is Warrant 3 B (100%) Met?	YES

Michigan Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) WARRANT 4 (100%): Four-Hour Pedestrian Volume	
Spot Number:	Scenario 3 - Existing
Intersection:	Northville Road @ 7 Mile Road
Date:	1/13/2022 by FV
500	: Distance to Nearest Signal or Stop Control on Major Road
0%	: Percentage Reduction in Pedestrian Volumes
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

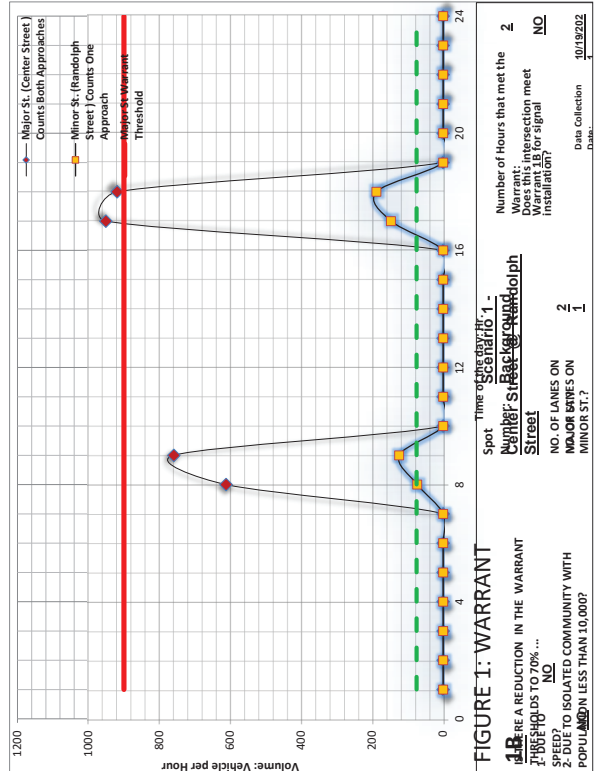
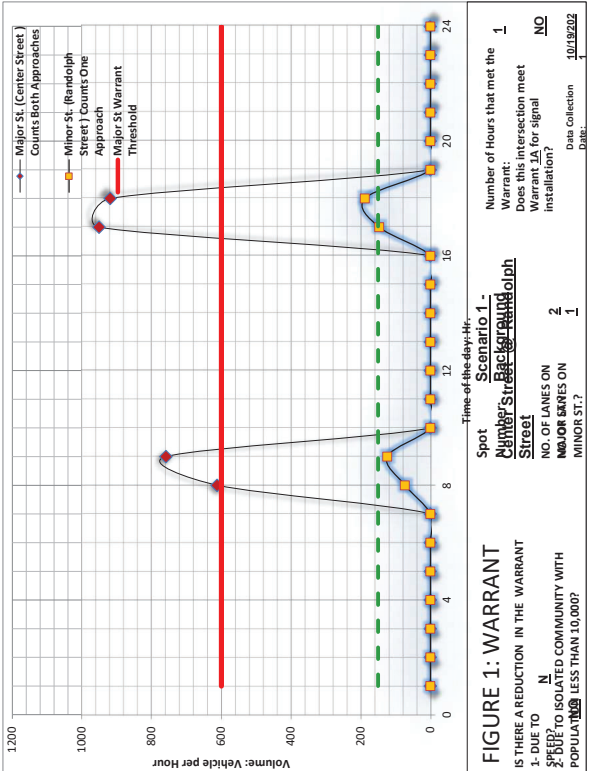
How Many Hours Are Met	0
Is Warrant 4 B (100%): Four Hour Met?	NO

Michigan Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) WARRANT 4 (100%): Peak-Hour Pedestrian Volume	
Spot Number:	Scenario 3 - Existing
Intersection:	Northville Road @ 7 Mile Road
Date:	1/13/2022 by FV
500	: Distance to Nearest Signal or Stop Control on Major Road
0%	: Percentage Reduction in Pedestrian Volumes
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

How Many Hours Are Met	0
Is Warrant 4 B (100%): Peak Hour Met?	NO

Summary of Warrants		
Spot Number:	Scenario 1 - Background	
Major Street:	Center Street	Minor Street: Randolph Street
Intersection:	Center Street at Randolph Street	
City/Twp:	Northville	
Date Performed:	1/14/2022	Performed By: FV
Date Volumes Collected:	10/19/2021	
Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume		NO
	Condition A	NO
	Condition B	NO
	Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%)	NO
	Condition A	N/A
	Condition B	NO
WARRANT 4: Pedestrian Volume	(100%)	NO
	Four Hour	NO
	Peak Hour	NO
	(Threshold)	HAWK
	(Threshold)	RRFB
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience		NO
	Condition A	NO
	Condition B	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
0		

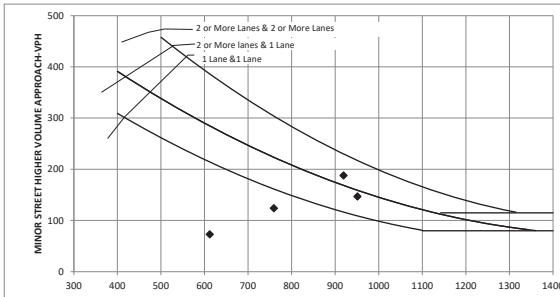
Michigan Manual of Uniform Traffic Control Devices (MMUTCD) - 11th Edition									
WARRANT 1: Eight-Hour Vehicular Volume									
Intersection	Date	Time of Day	Street	City	County	Performed By	Condition A	Condition B	Condition A & B
2	10/19/2021	07:00-08:00	Center Street	Northville	Washtenaw	FV	NO	NO	NO
25	10/19/2021	08:00-09:00	Center Street	Northville	Washtenaw	FV	NO	NO	NO
0	10/19/2021	09:00-10:00	Center Street	Northville	Washtenaw	FV	NO	NO	NO
0	10/19/2021	10:00-11:00	Center Street	Northville	Washtenaw	FV	NO	NO	NO
0	10/19/2021	11:00-12:00	Center Street	Northville	Washtenaw	FV	NO	NO	NO
0	10/19/2021	12:00-13:00	Center Street	Northville	Washtenaw	FV	NO	NO	NO
0	10/19/2021	13:00-14:00	Center Street	Northville	Washtenaw	FV	NO	NO	NO
0	10/19/2021	14:00-15:00	Center Street	Northville	Washtenaw	FV	NO	NO	NO
0	10/19/2021	15:00-16:00	Center Street	Northville	Washtenaw	FV	NO	NO	NO
0	10/19/2021	16:00-17:00	Center Street	Northville	Washtenaw	FV	NO	NO	NO
0	10/19/2021	17:00-18:00	Center Street	Northville	Washtenaw	FV	NO	NO	NO
0	10/19/2021	18:00-19:00	Center Street	Northville	Washtenaw	FV	NO	NO	NO
0	10/19/2021	19:00-20:00	Center Street	Northville	Washtenaw	FV	NO	NO	NO
0	10/19/2021	20:00-21:00	Center Street	Northville	Washtenaw	FV	NO	NO	NO
0	10/19/2021	21:00-22:00	Center Street	Northville	Washtenaw	FV	NO	NO	NO
0	10/19/2021	22:00-23:00	Center Street	Northville	Washtenaw	FV	NO	NO	NO
0	10/19/2021	23:00-24:00	Center Street	Northville	Washtenaw	FV	NO	NO	NO
USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B Warrant Condition A Met? Warrant Condition B Met? Warrant Condition A & B Met?									
Number of Hours that met the warrant 1A = 1 Number of Hours that met the warrant 1B = 0 Number of Hours that met the warrant 1A & B = 0									
A. Is the Minimum Vehicular Volume Warrant Met? (Condition A) B. Is the Intersection of Continuous Traffic Met? (Condition B) C. Combination of Warrants A and B Criteria Met?									



Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 2: Four-Hour Vehicular Volume

Spot Number:	Scenario 1 - Background		
Intersection:	Center Street	@	Randolph Street
Date:	1/14/2022	by	FV

2	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

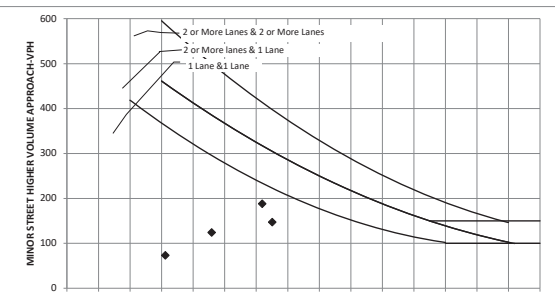


How Many Hours Are Met	1
Is Warrant 2 (100%) Met?	NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 3 B (100%): Peak-Hour Vehicular Volume

Spot Number:	Scenario 1 - Background		
Intersection:	Center Street	@	Randolph Street
Date:	1/14/2022	by	FV

2	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?



How Many Hours Are Met	0
Is Warrant 3 B (100%) Met?	NO

Summary of Warrants		
Spot Number: Scenario 2 - Background		
Major Street:	Center Street	Minor Street: Randolph Street
Intersection: Center Street at Randolph Street		
City/Twp: Northville		
Date Performed:	1/14/2022	Performed By: FV
Date Volumes Collected:	10/19/2021	
Warrant	Condition	Is Warrant Met
Data Validation Error		
WARRANT 1: Eight-Hour Vehicular Volume	Condition A: NO Condition B: NO Condition A&B: N/A	NO
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%) Condition A: N/A Condition B: NO	NO
WARRANT 4: Pedestrian Volume	(100%) Four Hour: NO Peak Hour: NO (Threshold) HAWK: NO (Threshold) RRF: NO	NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience	Condition A: NO Condition B: NO	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
0		

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 1: Eight-Hour Vehicular Volume

Intersection:	Center Street	@	Randolph Street
Date:	1/14/2022	by	FV

2	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: If answer 4 is Yes, then what is the of the population isolated community?
NO	: Have other remedial measures been tried?

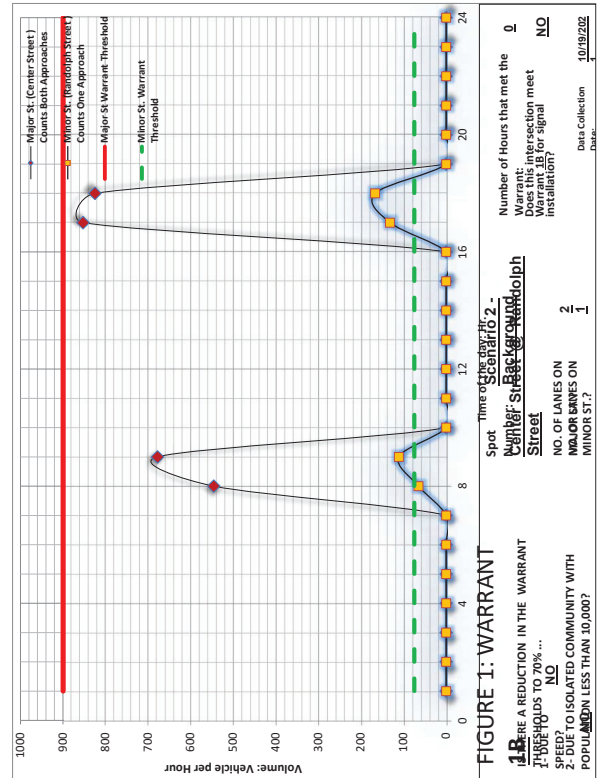
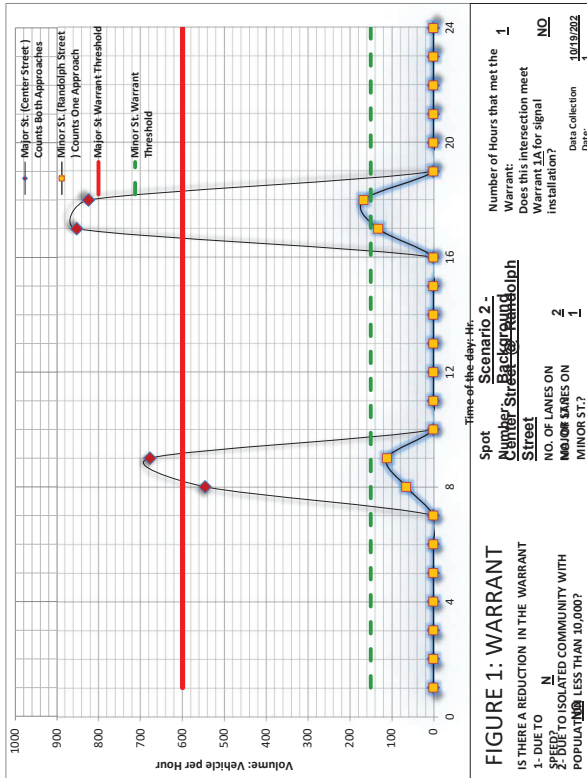
USE 100% WARRANTS A AND B. DO NOT USE COMBINATION OF A & B

Major Volume (Both App)	Minor Volume (One App)	Condition A Major Volume	Condition A Minor Volume	Warrant Condition A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant Condition B Met?	Combination Major A	Combination Minor A	Combination Major B	Combination Minor B	Warrant Condition A&B Met?
0-50	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
51-100	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
101-150	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
151-200	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
201-250	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
251-300	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
301-350	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
351-400	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
401-450	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
451-500	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
501-550	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
551-600	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
601-650	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
651-700	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
701-750	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
751-800	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
801-850	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
851-900	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
901-950	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
951-1000	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
1001-1100	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
1101-1200	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
1201-1300	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
1301-1400	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
1401-1500	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
1501-1600	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
1601-1700	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
1701-1800	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
1801-1900	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
1901-2000	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
2001-2100	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
2101-2200	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
2201-2300	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
2301-2400	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
2401-2500	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
2501-2600	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
2601-2700	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
2701-2800	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
2801-2900	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A
2901-3000	0	0-50	0	NO	0-50	0	NO	N/A	N/A	N/A	N/A	N/A

Number of Hours that met the warrant 1A =	1
Number of Hours that met the warrant 1B =	0
Number of Hours that met the warrant 1A & B =	0

A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)
B. Is the Interruption of Continuous Traffic Met? (Condition B)
C. Combination of Warrants A and B Criteria Met?

Condition A	NO
Condition B	NO
Combination of Warrants A and B	N/A



W2-100%

W3B-100%

Michigan Manual of Uniform Traffic Control Devices
 Worksheet for Signal Warrants (Section 4C)
WARRANT 2: Four-Hour Vehicular Volume

Spot Number: _____ Scenario 2 - Background
 Intersection: Center Street @ Randolph Street
 Date: 1/14/2022 by FV

2	No. of Lanes on Major St.
1	No. of Lanes on Minor St.
25	Speed limit or 85th Percentile? (MPH)
NO	Is the intersection within an isolated community?
0	What is the of the population isolated community?

How Many Hours Are Met **0**
 Is Warrant 2 (100%) Met? **NO**

Michigan Manual of Uniform Traffic Control Devices
 Worksheet for Signal Warrants (Section 4C)
WARRANT 3 B(100%): Peak-Hour Vehicular Volume

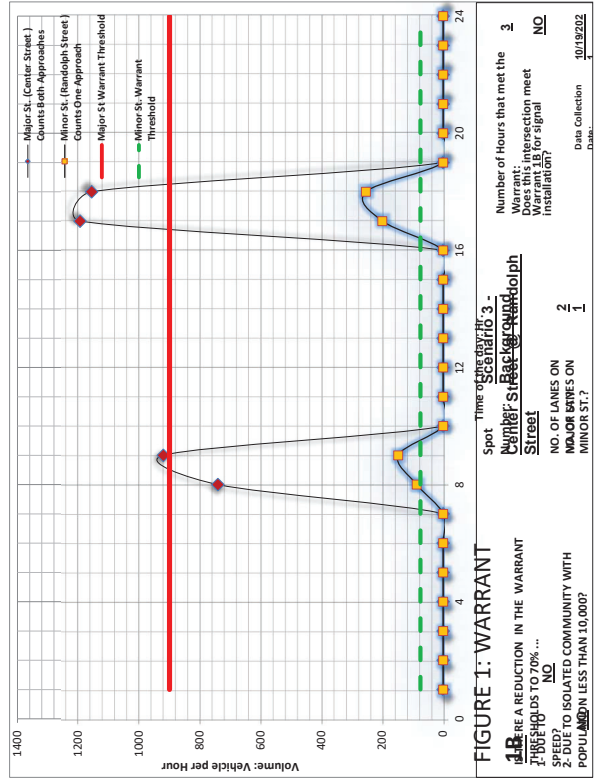
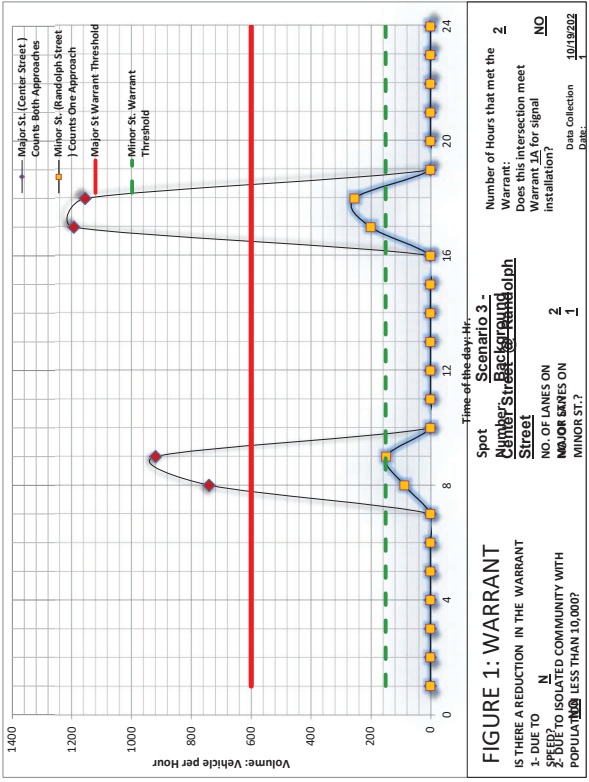
Spot Number: _____ Scenario 2 - Background
 Intersection: Center Street @ Randolph Street
 Date: 1/14/2022 by FV

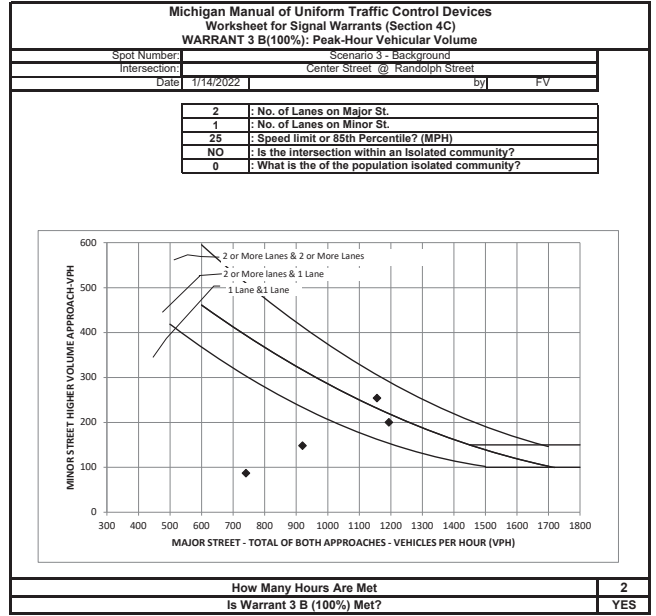
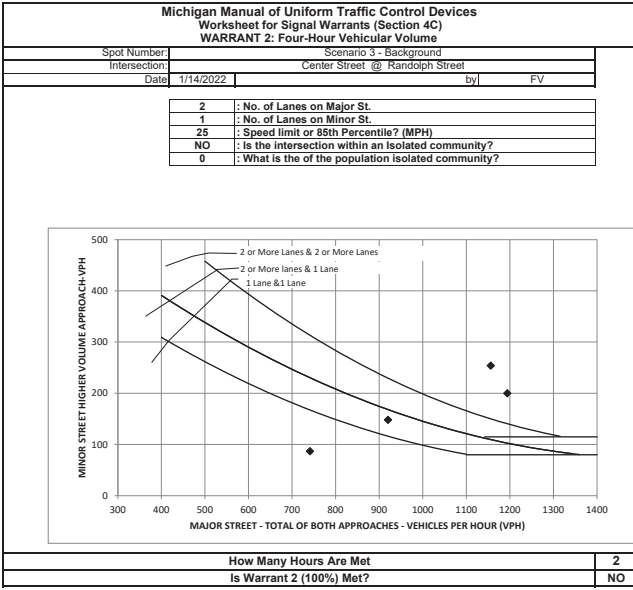
2	No. of Lanes on Major St.
1	No. of Lanes on Minor St.
25	Speed limit or 85th Percentile? (MPH)
NO	Is the intersection within an isolated community?
0	What is the of the population isolated community?

How Many Hours Are Met **0**
 Is Warrant 3 B (100%) Met? **NO**

Summary of Warrants		
Spot Number:	Scenario 3 - Background	
Major Street:	Center Street	Minor Street: Randolph Street
Intersection:	Center Street at Randolph Street	
City/Twp:	Northville	
Date Performed:	1/14/2022	Performed By: FV
Date Volumes Collected:	10/19/2021	
Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume	Condition A Condition B Condition A&B	NO NO N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%) Condition A Condition B	YES YES YES
WARRANT 4: Pedestrian Volume	(100%) Four Hour Peak Hour (Threshold) (Threshold)	NO NO HAWK RRFB
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience	Condition A Condition B	NO NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
0		

Intersection	Date	Time of Day	Major Street	Minor Street	Warrant	Condition	Major Volume	Minor Volume	Condition A Major Volume	Condition B Major Volume	Warrant Condition Met?	Combination Major A	Combination Major B	Combination A&B met?
Center St. / Randolph Street	10/19/2021	07:00	Center St.	Randolph Street	1	NO	600	150	600	150	NO	N/A	N/A	N/A
Center St. / Randolph Street	10/19/2021	08:00	Center St.	Randolph Street	1	NO	600	150	600	150	NO	N/A	N/A	N/A
Center St. / Randolph Street	10/19/2021	09:00	Center St.	Randolph Street	1	NO	600	150	600	150	NO	N/A	N/A	N/A
Center St. / Randolph Street	10/19/2021	10:00	Center St.	Randolph Street	1	NO	600	150	600	150	NO	N/A	N/A	N/A
Center St. / Randolph Street	10/19/2021	11:00	Center St.	Randolph Street	1	NO	600	150	600	150	NO	N/A	N/A	N/A
Center St. / Randolph Street	10/19/2021	12:00	Center St.	Randolph Street	1	NO	600	150	600	150	NO	N/A	N/A	N/A
Center St. / Randolph Street	10/19/2021	13:00	Center St.	Randolph Street	1	NO	600	150	600	150	NO	N/A	N/A	N/A
Center St. / Randolph Street	10/19/2021	14:00	Center St.	Randolph Street	1	NO	600	150	600	150	NO	N/A	N/A	N/A
Center St. / Randolph Street	10/19/2021	15:00	Center St.	Randolph Street	1	NO	600	150	600	150	NO	N/A	N/A	N/A
Center St. / Randolph Street	10/19/2021	16:00	Center St.	Randolph Street	1	NO	600	150	600	150	NO	N/A	N/A	N/A
Center St. / Randolph Street	10/19/2021	17:00	Center St.	Randolph Street	1	NO	600	150	600	150	NO	N/A	N/A	N/A
Center St. / Randolph Street	10/19/2021	18:00	Center St.	Randolph Street	1	NO	600	150	600	150	NO	N/A	N/A	N/A
Center St. / Randolph Street	10/19/2021	19:00	Center St.	Randolph Street	1	NO	600	150	600	150	NO	N/A	N/A	N/A
Center St. / Randolph Street	10/19/2021	20:00	Center St.	Randolph Street	1	NO	600	150	600	150	NO	N/A	N/A	N/A
Center St. / Randolph Street	10/19/2021	21:00	Center St.	Randolph Street	1	NO	600	150	600	150	NO	N/A	N/A	N/A
Center St. / Randolph Street	10/19/2021	22:00	Center St.	Randolph Street	1	NO	600	150	600	150	NO	N/A	N/A	N/A
Center St. / Randolph Street	10/19/2021	23:00	Center St.	Randolph Street	1	NO	600	150	600	150	NO	N/A	N/A	N/A
USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B A, B is the Minimum Vehicular Volume Warrant Met? (Condition A) B is the Interruption of Continuous Traffic Met? (Condition B) C. Combination of Warrants A and B Criteria Met?														
Number of Hours that met the warrant 1A = 3 Number of Hours that met the warrant 1B = 0 Number of Hours that met the warrant 1A & B = 0														





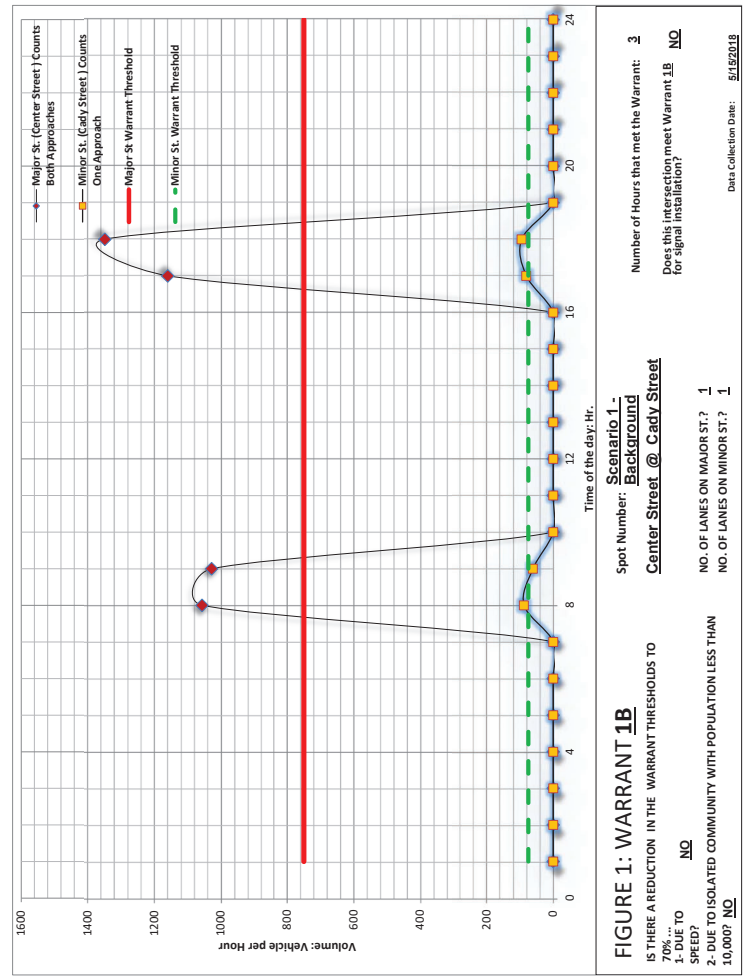
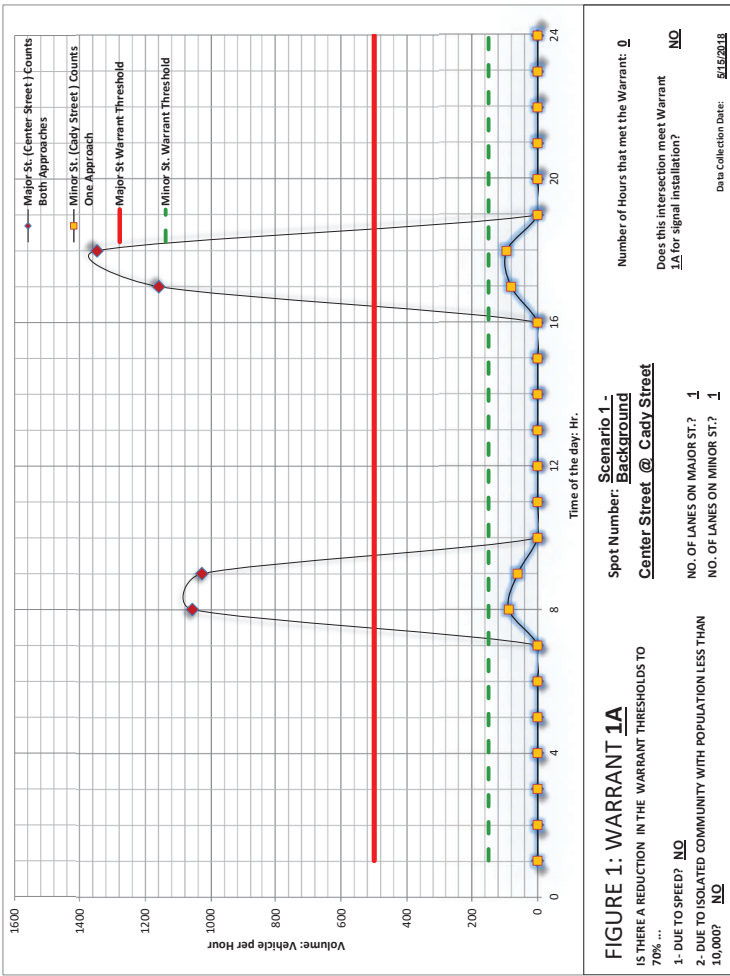
Summary of Warrants		
Spot Number: Scenario 1 - Background		
Major Street: Center Street		Minor Street: Cady Street
Intersection: Center Street at Cady Street		
City/Twp: Northville, MI		
Date Performed: 1/14/2022	Performed By: F&V	
Date Volumes Collected: 5/15/2018		
Warrant	Condition	Is Warrant Met
Data Validation Error		
		NO
WARRANT 1: Eight-Hour Vehicular Volume		
	Condition A	NO
	Condition B	NO
	Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume		
	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume		
	(100%)	NO
	Condition A	N/A
	Condition B	NO
WARRANT 4: Pedestrian Volume		
	(100%)	NO
	Four Hour	NO
	Peak Hour	NO
	(Threshold) HAWK	NO
	(Threshold) RRFB	NO
WARRANT 5: School Crossing		
		NO
WARRANT 6: Coordinated Signal System		
		NO
WARRANT 7: Crash Experience		
		NO
	Condition A	NO
	Condition B	NO
WARRANT 8: Roadway Network		
		NO
WARRANT 9: Intersection Near a Grade Crossing		
		#N/A
Issue to Be Addressed by Signalization:		
0		

**Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 1: Eight-Hour Vehicular Volume**

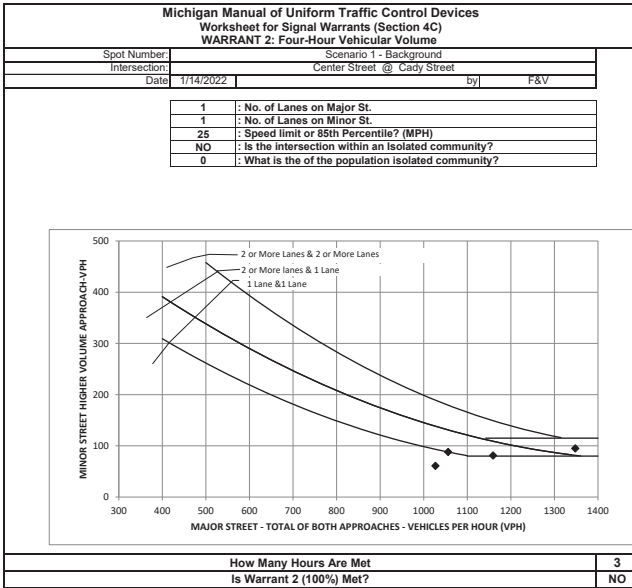
Spot Number: Scenario 1 - Background	
Intersection: Center Street @ Cady Street	
Date: 1/14/2022	by: FV

1	: No. of Lanes on Major St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

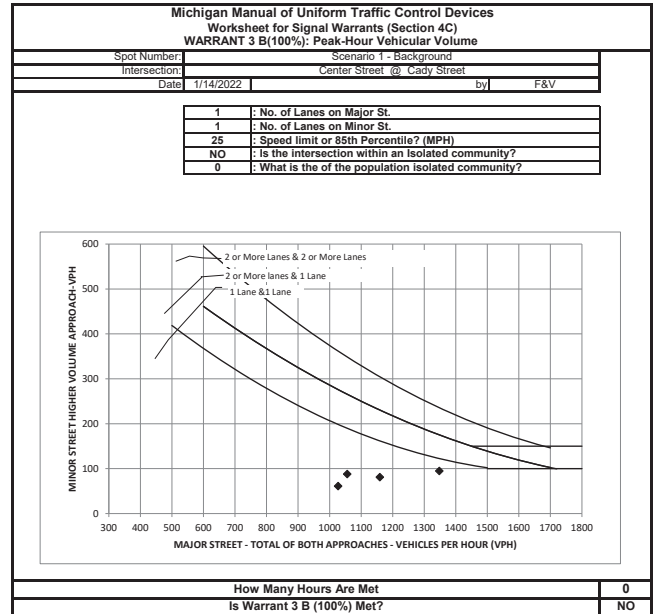
How Many Hours Are Met	3
Is Warrant 1 A, B & C Met?	0



W2-100%



W3B-100%



Summary of Warrants			
Spot Number:	Scenario 2 - Background		
Major Street:	Center Street	Minor Street:	Cady Street
Intersection:	Center Street at Cady Street		
City/Twp:	Northville, MI		
Date Performed:	1/14/2022	Performed By:	F&V
Date Volumes Collected:	5/15/2018		
Warrant	Condition	Is Warrant Met	
Data Validation Error		NO	
WARRANT 1: Eight-Hour Vehicular Volume	Condition A	NO	
	Condition B	NO	
	Condition A&B	N/A	
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO	
WARRANT 3: Peak-Hour Vehicular Volume	(100%)	NO	
	Condition A	N/A	
	Condition B	NO	
WARRANT 4: Pedestrian Volume	(100%)	NO	
	Four Hour	NO	
	Peak Hour	NO	
	(Threshold)	HAWK	NO
	(Threshold)	RRFB	NO
WARRANT 5: School Crossing		NO	
WARRANT 6: Coordinated Signal System		NO	
WARRANT 7: Crash Experience	Condition A	NO	
	Condition B	NO	
WARRANT 8: Roadway Network		NO	
WARRANT 9: Intersection Near a Grade Crossing		#N/A	
Issue to Be Addressed by Signalization:			
0			

W1

Michigan Manual of Uniform Traffic Control Devices (MMUTCD) - 11th Edition									
WARRANT 1: Eight-Hour Vehicular Volume									
Intersection	Date	Center Street @ Cady Street	Center Street @ One Approach	Major St. Warrant Threshold	Minor St. Warrant Threshold	Major St. Warrant Threshold	Minor St. Warrant Threshold	Major St. Warrant Threshold	Minor St. Warrant Threshold
1	2	3	4	5	6	7	8	9	10
1	1/14/2022	Center Street @ Cady Street	Center Street @ One Approach	500	200	500	200	500	200
USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B A. Is the Minimum Vehicular Volume Warrant Met? (Condition A) B. Is the Intersection of Continuous Traffic Met? (Condition B) C. Combination of Warrants A and B Criteria Met?									
Warrant Condition A Met? Warrant Condition B Met? Warrant Condition A&B Met? Warrant Condition C Met? Warrant Condition D Met?									
Number of Hours that met the warrant 1A = 0 Number of Hours that met the warrant 1B = 0 Number of Hours that met the warrant 1A & B = 0 Number of Hours that met the warrant 1A or B = 0									

Page 2

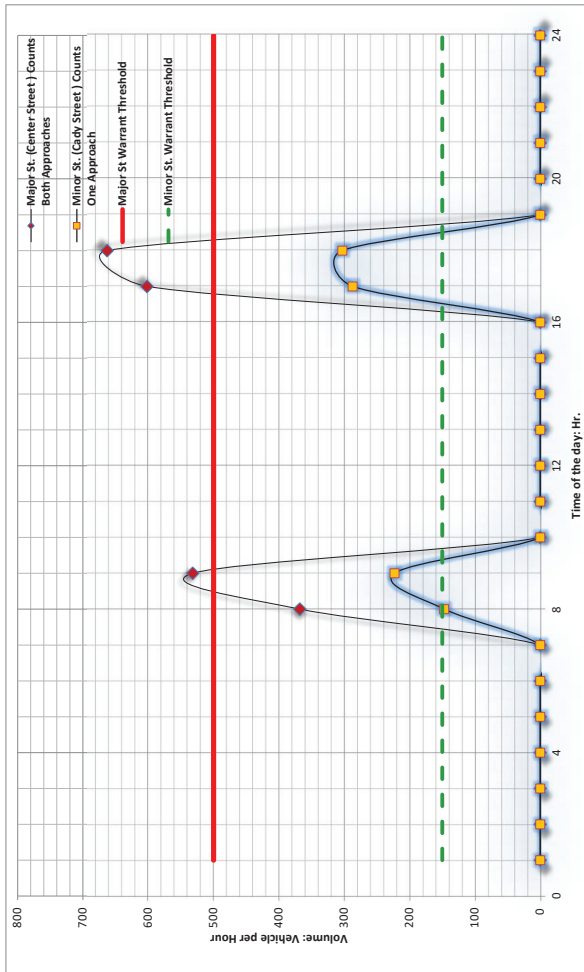


FIGURE 1: WARRANT 1A
 IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...
 1- DUE TO SPEED? **NO**
 2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? **NO**

Spot Number: **Scenario 2 - Background**
 Center Street @ Cady Street

Number of Hours that met the Warrant: **2**
 Does this intersection meet Warrant 1A for signal installation? **NO**

NO. OF LANES ON MAJOR ST.: **1**
 NO. OF LANES ON MINOR ST.: **1**

Data Collection Date: **5/15/2018**

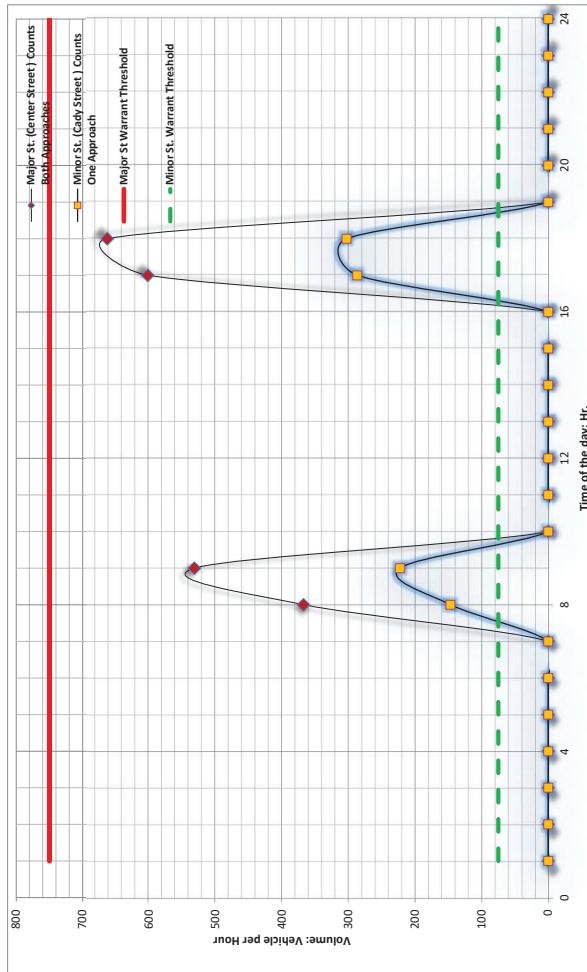


FIGURE 1: WARRANT 1B
 IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...
 1- DUE TO SPEED? **NO**
 2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? **NO**

Spot Number: **Scenario 2 - Background**
 Center Street @ Cady Street

Number of Hours that met the Warrant: **0**
 Does this intersection meet Warrant 1B for signal installation? **NO**

NO. OF LANES ON MAJOR ST.: **1**
 NO. OF LANES ON MINOR ST.: **1**

Data Collection Date: **5/15/2018**

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 2: Four-Hour Vehicular Volume

Spot Number:	Scenario 2 - Background		
Intersection:	Center Street @ Cady Street	by	F&V
Date:	1/14/2022		

1	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

How Many Hours Are Met	2
Is Warrant 2 (100%) Met?	NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 3 B(100%): Peak-Hour Vehicular Volume

Spot Number:	Scenario 2 - Background		
Intersection:	Center Street @ Cady Street	by	F&V
Date:	1/14/2022		

1	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

How Many Hours Are Met	0
Is Warrant 3 B (100%) Met?	NO

Summary of Warrants		
Spot Number: Scenario 3 - Background		
Major Street: Center Street		Minor Street: Cady Street
Intersection: Center Street at Cady Street		
City/Twp: Northville, MI		Performed By: F&V
Date Performed: 1/14/2022	Performed By: F&V	
Date Volumes Collected: 5/15/2018	Performed By: F&V	
Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume	Condition A Condition B Condition A&B	NO NO N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%) Condition A Condition B	NO N/A NO
WARRANT 4: Pedestrian Volume	(100%) Four Hour Peak Hour (Threshold) HAWK (Threshold) RRF&B	NO NO NO NO NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience	Condition A Condition B	NO NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
0		

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 1: Eight-Hour Vehicular Volume

Spot Number:	Scenario 3 - Background		
Intersection:	Center Street @ Cady Street	by	F&V
Date:	1/14/2022		

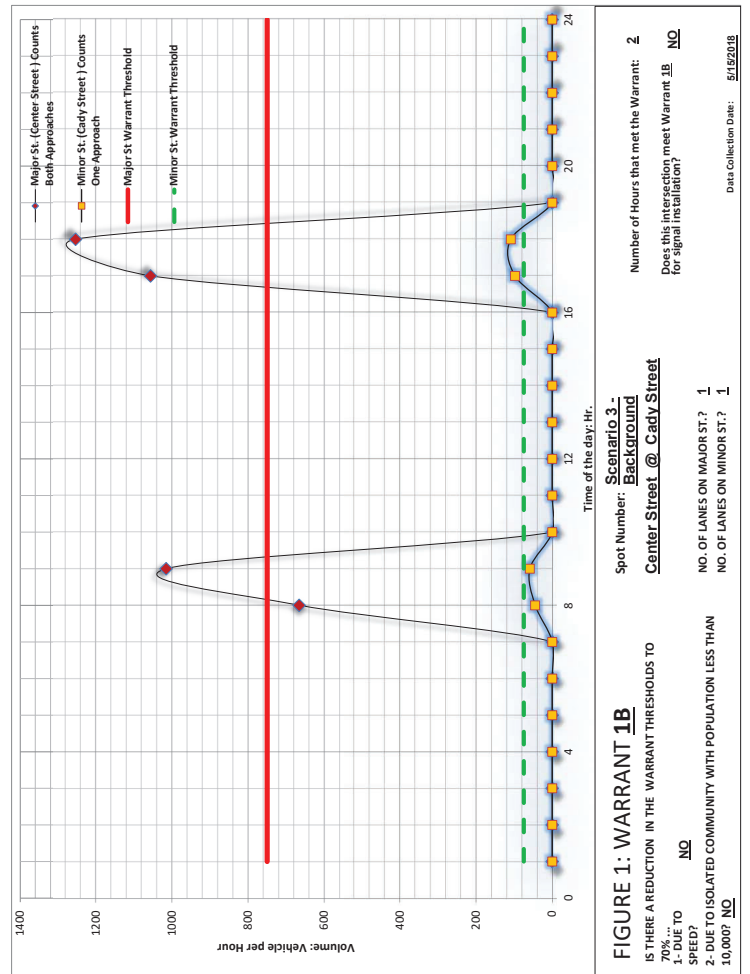
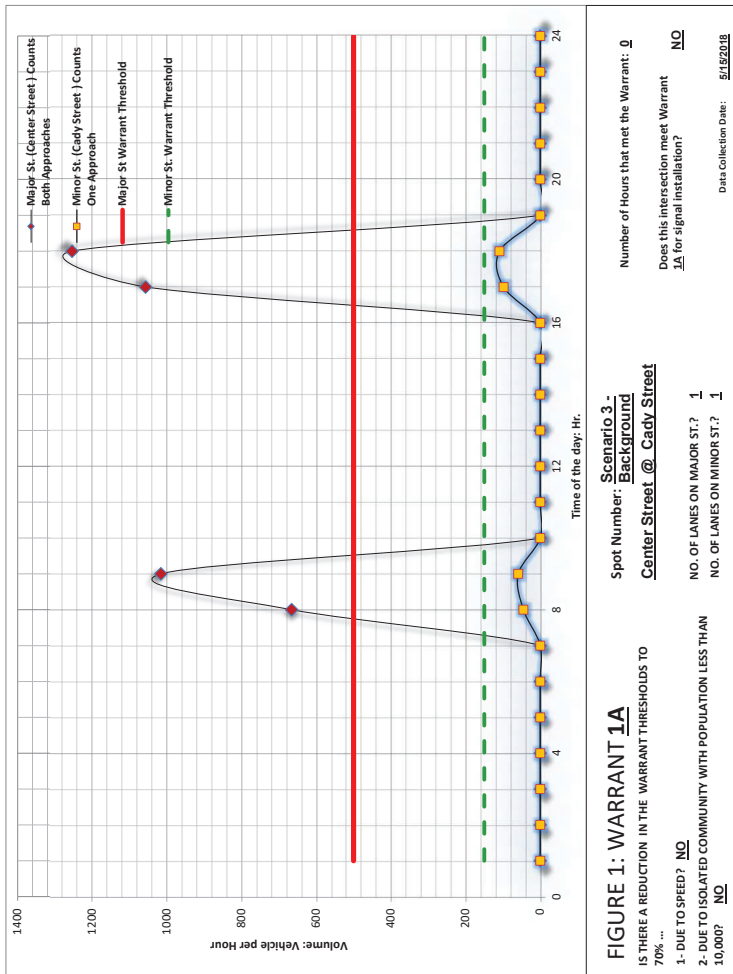
1	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

USE 100% WARRANTS A AND B. DO NOT USE COMBINATION OF A & B

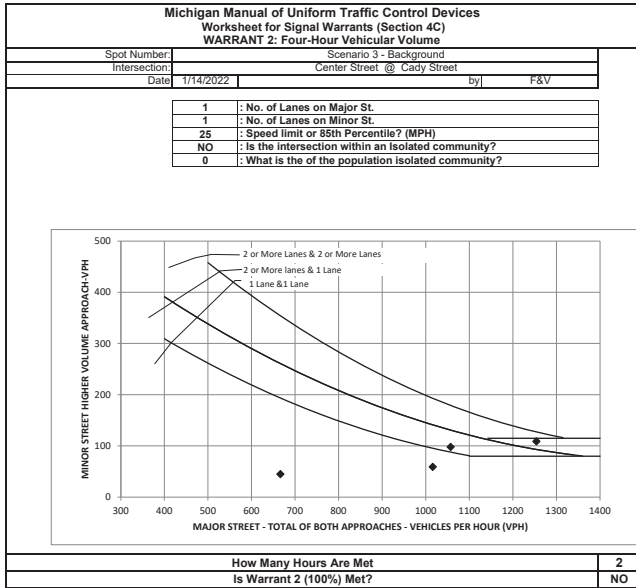
Major Street - Total of Both Approaches - Vehicles Per Hour (VPH)	Minor Street - Higher Volume Approach - Vehicles Per Hour (VPH)	Condition A Major Volume	Condition A Minor Volume	Condition B Major Volume	Condition B Minor Volume	Warrant Condition A Met?	Warrant Condition B Met?	Warrant Condition A&B Met?
0-500	0-500	NO	NO	NO	NO	NO	NO	N/A
0-500	500-1000	NO	NO	NO	NO	NO	NO	N/A
0-500	1000-1500	NO	NO	NO	NO	NO	NO	N/A
0-500	1500-2000	NO	NO	NO	NO	NO	NO	N/A
0-500	2000-2500	NO	NO	NO	NO	NO	NO	N/A
0-500	2500-3000	NO	NO	NO	NO	NO	NO	N/A
0-500	3000-3500	NO	NO	NO	NO	NO	NO	N/A
0-500	3500-4000	NO	NO	NO	NO	NO	NO	N/A
0-500	4000-4500	NO	NO	NO	NO	NO	NO	N/A
0-500	4500-5000	NO	NO	NO	NO	NO	NO	N/A
0-500	5000-5500	NO	NO	NO	NO	NO	NO	N/A
0-500	5500-6000	NO	NO	NO	NO	NO	NO	N/A
0-500	6000-6500	NO	NO	NO	NO	NO	NO	N/A
0-500	6500-7000	NO	NO	NO	NO	NO	NO	N/A
0-500	7000-7500	NO	NO	NO	NO	NO	NO	N/A
0-500	7500-8000	NO	NO	NO	NO	NO	NO	N/A
0-500	8000-8500	NO	NO	NO	NO	NO	NO	N/A
0-500	8500-9000	NO	NO	NO	NO	NO	NO	N/A
0-500	9000-9500	NO	NO	NO	NO	NO	NO	N/A
0-500	9500-10000	NO	NO	NO	NO	NO	NO	N/A
0-500	10000-10500	NO	NO	NO	NO	NO	NO	N/A
0-500	10500-11000	NO	NO	NO	NO	NO	NO	N/A
0-500	11000-11500	NO	NO	NO	NO	NO	NO	N/A
0-500	11500-12000	NO	NO	NO	NO	NO	NO	N/A
0-500	12000-12500	NO	NO	NO	NO	NO	NO	N/A
0-500	12500-13000	NO	NO	NO	NO	NO	NO	N/A
0-500	13000-13500	NO	NO	NO	NO	NO	NO	N/A
0-500	13500-14000	NO	NO	NO	NO	NO	NO	N/A
0-500	14000-14500	NO	NO	NO	NO	NO	NO	N/A
0-500	14500-15000	NO	NO	NO	NO	NO	NO	N/A
0-500	15000-15500	NO	NO	NO	NO	NO	NO	N/A
0-500	15500-16000	NO	NO	NO	NO	NO	NO	N/A
0-500	16000-16500	NO	NO	NO	NO	NO	NO	N/A
0-500	16500-17000	NO	NO	NO	NO	NO	NO	N/A
0-500	17000-17500	NO	NO	NO	NO	NO	NO	N/A
0-500	17500-18000	NO	NO	NO	NO	NO	NO	N/A
0-500	18000-18500	NO	NO	NO	NO	NO	NO	N/A
0-500	18500-19000	NO	NO	NO	NO	NO	NO	N/A
0-500	19000-19500	NO	NO	NO	NO	NO	NO	N/A
0-500	19500-20000	NO	NO	NO	NO	NO	NO	N/A
0-500	20000-20500	NO	NO	NO	NO	NO	NO	N/A
0-500	20500-21000	NO	NO	NO	NO	NO	NO	N/A
0-500	21000-21500	NO	NO	NO	NO	NO	NO	N/A
0-500	21500-22000	NO	NO	NO	NO	NO	NO	N/A
0-500	22000-22500	NO	NO	NO	NO	NO	NO	N/A
0-500	22500-23000	NO	NO	NO	NO	NO	NO	N/A
0-500	23000-23500	NO	NO	NO	NO	NO	NO	N/A
0-500	23500-24000	NO	NO	NO	NO	NO	NO	N/A
0-500	24000-24500	NO	NO	NO	NO	NO	NO	N/A
0-500	24500-25000	NO	NO	NO	NO	NO	NO	N/A
0-500	25000-25500	NO	NO	NO	NO	NO	NO	N/A
0-500	25500-26000	NO	NO	NO	NO	NO	NO	N/A
0-500	26000-26500	NO	NO	NO	NO	NO	NO	N/A
0-500	26500-27000	NO	NO	NO	NO	NO	NO	N/A
0-500	27000-27500	NO	NO	NO	NO	NO	NO	N/A
0-500	27500-28000	NO	NO	NO	NO	NO	NO	N/A
0-500	28000-28500	NO	NO	NO	NO	NO	NO	N/A
0-500	28500-29000	NO	NO	NO	NO	NO	NO	N/A
0-500	29000-29500	NO	NO	NO	NO	NO	NO	N/A
0-500	29500-30000	NO	NO	NO	NO	NO	NO	N/A

Number of Hours that met the warrant 1A = 0
Number of Hours that met the warrant 1B = 0
Number of Hours that met the warrant 1A & B = 0

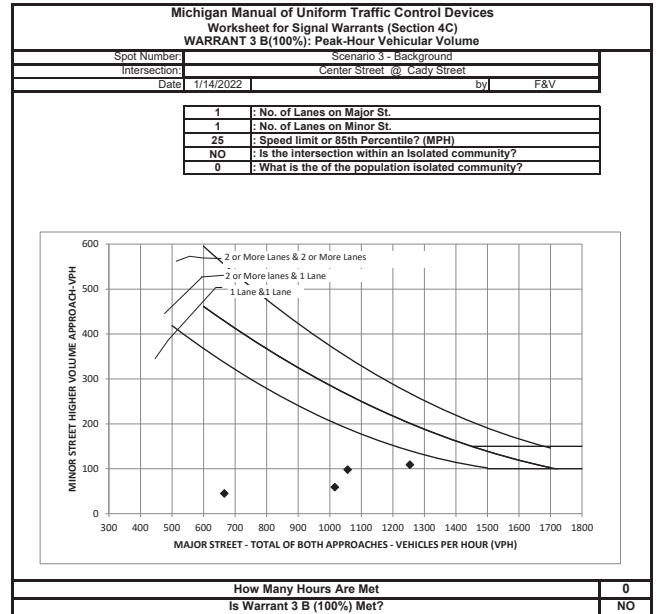
A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)	NO
B. Is the Interruption of Continuous Traffic Met? (Condition B)	NO
C. Combination of Warrants A and B Criteria Met?	N/A



W2-100%

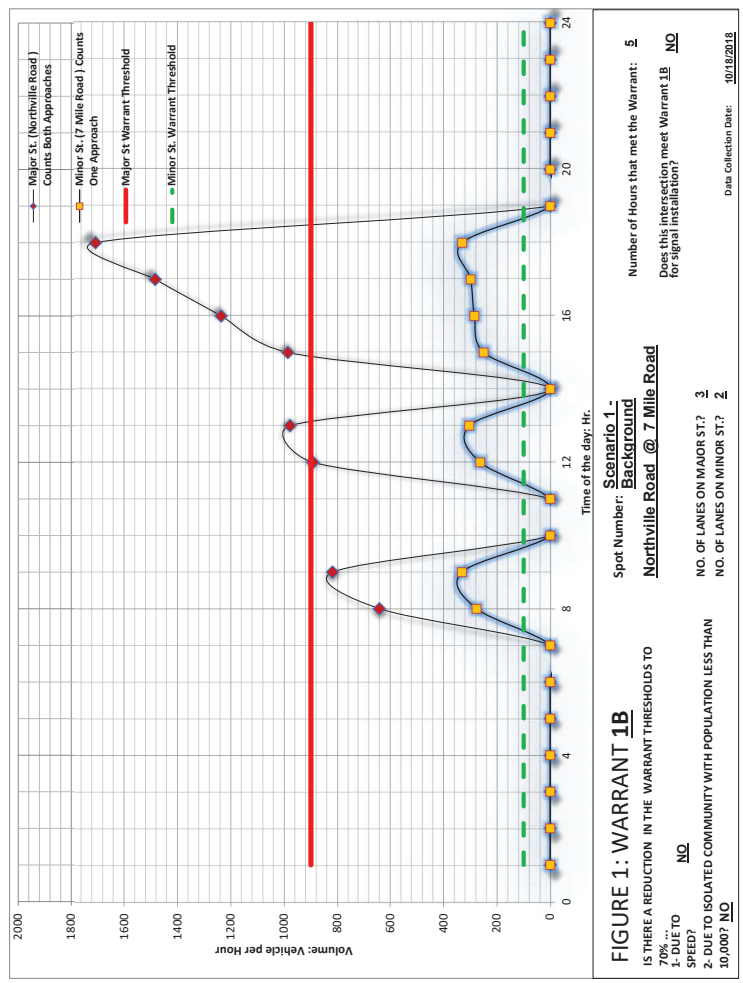
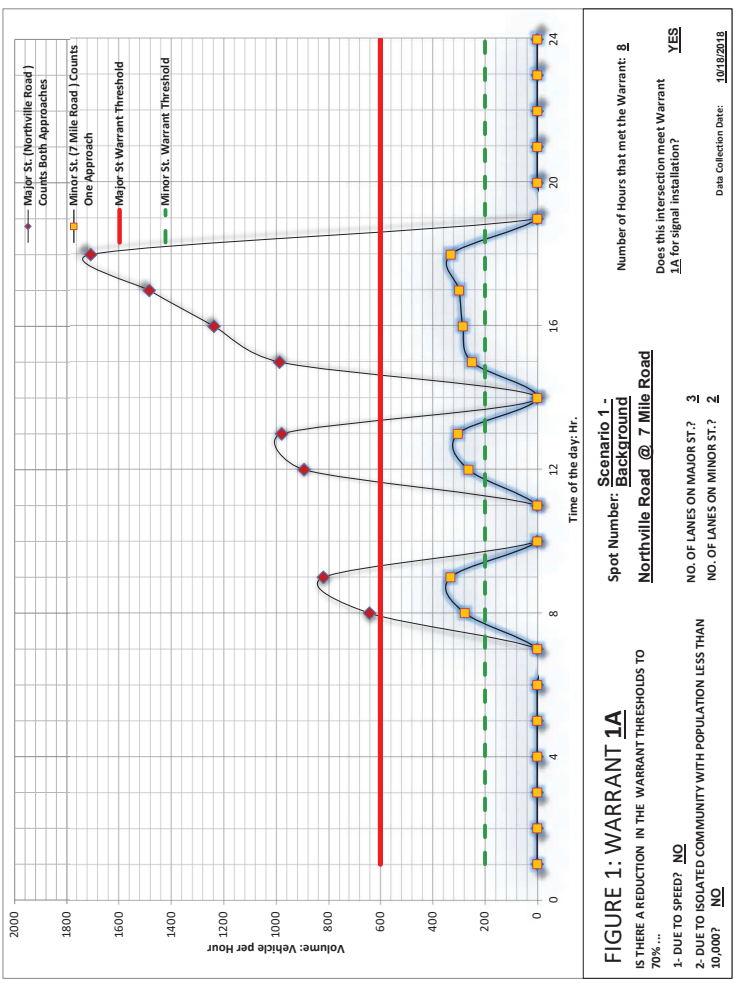


W3B-100%



Summary of Warrants		
Spot Number:	Scenario 1 - Background	
Major Street:	Northville Road	Minor Street: 7 Mile Road
Intersection:	Northville Road at 7 Mile Road	
City/Twp:	Northville	
Date Performed:	1/13/2022	Performed By: FV
Date Volumes Collected:	10/18/2018	
Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume		YES
	Condition A	YES
	Condition B	NO
	Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	YES
WARRANT 3: Peak-Hour Vehicular Volume	(100%)	YES
	Condition A	N/A
	Condition B	YES
WARRANT 4: Pedestrian Volume	(100%)	NO
	Four Hour	NO
	Peak Hour	NO
	(Threshold)	HAWK
	(Threshold)	RRFB
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience		NO
	Condition A	NO
	Condition B	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
0		

Michigan Manual of Uniform Traffic Control Devices (2003 Edition) Supplement															
WARRANT 1: Eight-Hour Vehicular Volume															
Intersection	Date	Northville Road @ 7 Mile Road	City	File Total	FV	USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B						Number of Hours that met the warrant 1A & B = 5			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Major Volume (Both Apr.)	Minor Volume (One Apr.)	Condition A Major Volume	Condition B Minor Volume	Warrant Condition A Met?	Warrant Condition B Met?	Warrant Condition A&B Met?	Combination Major A	Combination Major B	Combination Major C	Combination Major D	Combination Major E	Combination Major F	Combination Major G	Combination Major H	Combination Major I
1000	500	1000	500	NO	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1500	750	1500	750	NO	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2000	1000	2000	1000	NO	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2500	1250	2500	1250	NO	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3000	1500	3000	1500	NO	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3500	1750	3500	1750	NO	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4000	2000	4000	2000	NO	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4500	2250	4500	2250	NO	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5000	2500	5000	2500	NO	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5500	2750	5500	2750	NO	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6000	3000	6000	3000	NO	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6500	3250	6500	3250	NO	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7000	3500	7000	3500	NO	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7500	3750	7500	3750	NO	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8000	4000	8000	4000	NO	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8500	4250	8500	4250	NO	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9000	4500	9000	4500	NO	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9500	4750	9500	4750	NO	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10000	5000	10000	5000	NO	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A



Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 2: Four-Hour Vehicular Volume

Spot Number: Scenario 1 - Background
Intersection: Northville Road @ 7 Mile Road
Date: 1/13/2022 by: FV

3 : No. of Lanes on Major St.
2 : No. of Lanes on Minor St.
35 : Speed limit or 85th Percentile? (MPH)
NO : Is the intersection within an isolated community?
0 : What is the of the population isolated community?

How Many Hours Are Met: 7
Is Warrant 2 (100%) Met? YES

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 3 B(100%): Peak-Hour Vehicular Volume

Spot Number: Scenario 1 - Background
Intersection: Northville Road @ 7 Mile Road
Date: 1/13/2022 by: FV

3 : No. of Lanes on Major St.
2 : No. of Lanes on Minor St.
35 : Speed limit or 85th Percentile? (MPH)
NO : Is the intersection within an isolated community?
0 : What is the of the population isolated community?

How Many Hours Are Met: 3
Is Warrant 3 B (100%) Met? YES

Summary of Warrants

Spot Number: Scenario 2 - Background
Major Street: Northville Road Minor Street: 7 Mile Road
Intersection: Northville Road at 7 Mile Road
City/Twp: Northville
Date Performed: 1/13/2022 Performed By: FV
Date Volumes Collected: 10/18/2018

Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume	Condition A: NO Condition B: NO Condition A&B: N/A	NO
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%) Condition A: N/A Condition B: YES	YES
WARRANT 4: Pedestrian Volume	(100%) Four Hour: NO Peak Hour: NO (Threshold) HAWK: NO (Threshold) RRFEB: NO	NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience	Condition A: NO Condition B: NO	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		0

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 1: Eight-Hour Vehicular Volume

Intersection: Northville Road @ 7 Mile Road
Date: 1/13/2022 by: FV

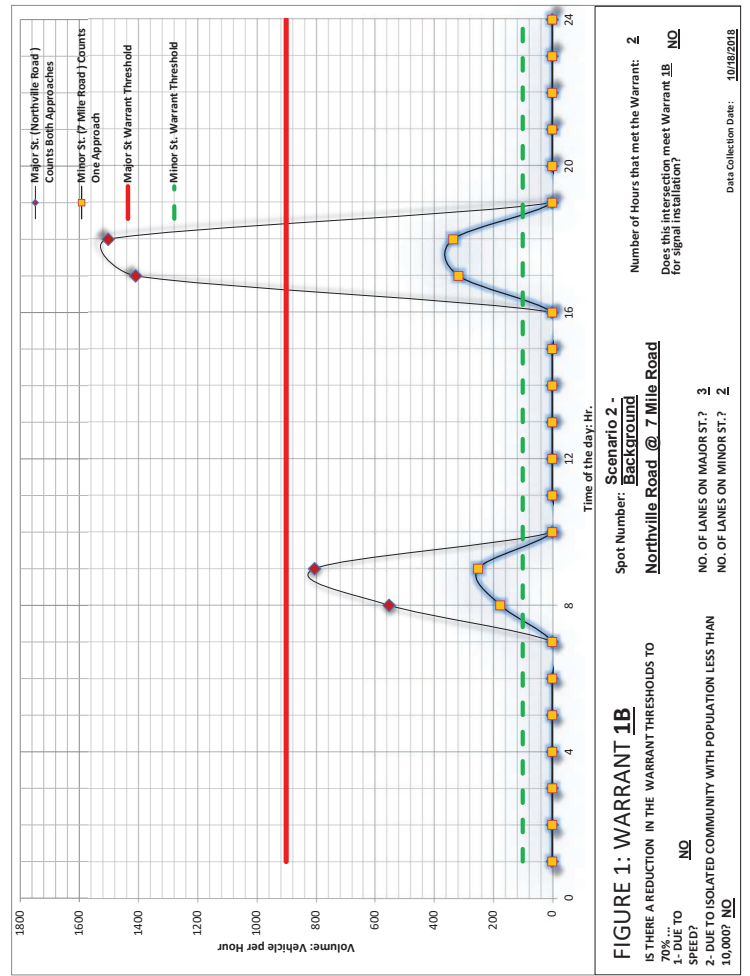
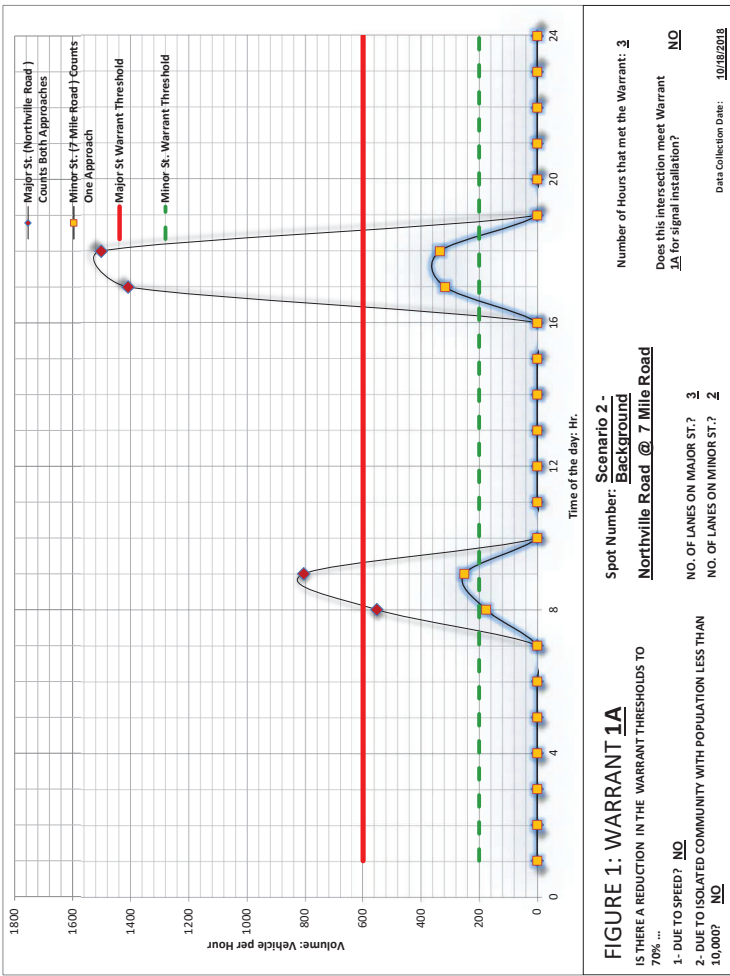
3 : No. of Lanes on Major St.
2 : No. of Lanes on Minor St.
35 : Speed limit or 85th Percentile? (MPH)
NO : Is the intersection within an isolated community?
0 : If answer 4 is Yes, then what is the of the population isolated community?
NO : Have other remedies measures been tried?

USE 100% WARRANTS A AND B. DO NOT USE COMBINATION OF A & B

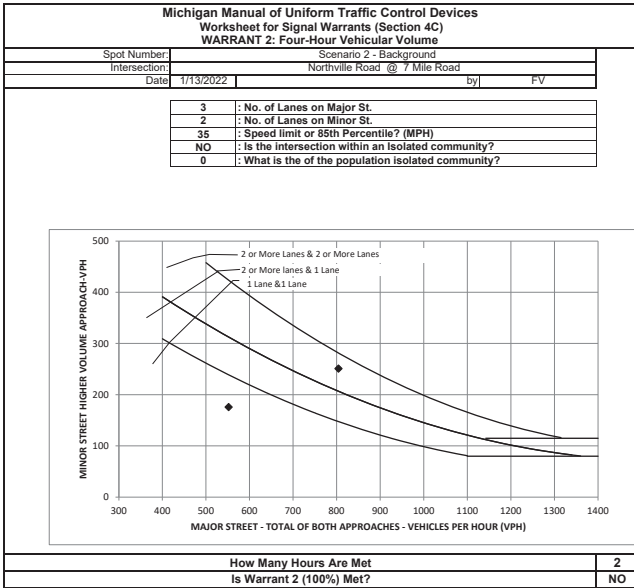
Major Street Volume (Both Apr)	Minor Street Volume (One Apr)	Condition A Major Volume	Condition A Minor Volume	Warrant Condition A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant Condition B Met?	Combination Major A	Combination Major B	Combination Major A & B	Warrant Condition A&B Met?
0-50	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
51-100	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
101-150	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
151-200	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
201-250	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
251-300	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
301-350	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
351-400	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
401-450	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
451-500	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
501-550	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
551-600	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
601-650	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
651-700	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
701-750	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
751-800	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
801-850	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
851-900	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
901-950	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
951-1000	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1001-1050	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1051-1100	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1101-1150	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1151-1200	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1201-1250	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1251-1300	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1301-1350	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1351-1400	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1401-1450	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1451-1500	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1501-1550	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1551-1600	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1601-1650	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1651-1700	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1701-1750	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1751-1800	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1801-1850	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1851-1900	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1901-1950	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1951-2000	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
2001-2050	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
2051-2100	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
2101-2150	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
2151-2200	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
2201-2250	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
2251-2300	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
2301-2350	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
2351-2400	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
2401-2450	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
2451-2500	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A

Number of Hours that met the warrant 1A = 3
Number of Hours that met the warrant 1B = 2
Number of Hours that met the warrant 1A & B = 0

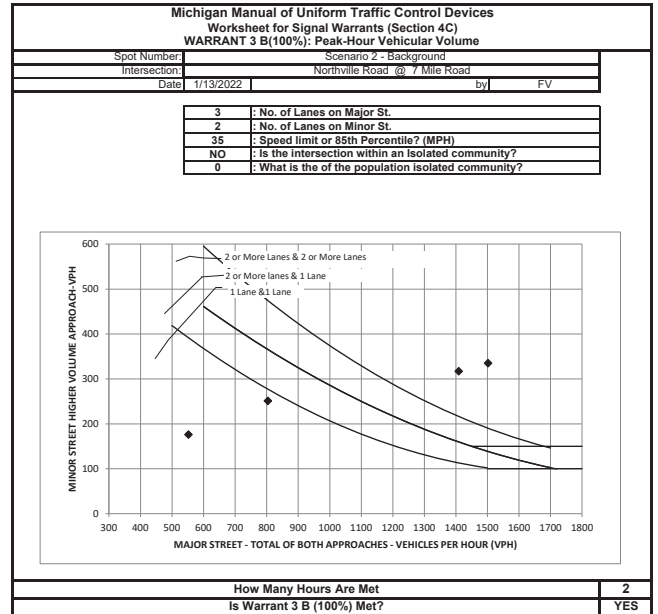
A. Is the Minimum Vehicular Volume Warrant Met? (Condition A) NO
B. Is the Interruption of Continuous Traffic Met? (Condition B) NO
C. Combination of Warrants A and B Criteria Met? N/A



W2-100%



W3B-100%



Summary of Warrants		
Spot Number:	Scenario 3 - Background	
Major Street:	Northville Road	Minor Street: 7 Mile Road
Intersection:	Northville Road at 7 Mile Road	
City/Twp:	Northville	
Date Performed:	1/13/2022	Performed By: FV
Date Volumes Collected:	10/18/2018	
Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume		NO
	Condition A	NO
	Condition B	NO
	Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%)	YES
	Condition A	N/A
	Condition B	YES
WARRANT 4: Pedestrian Volume	(100%)	NO
	Four Hour	NO
	Peak Hour	NO
	(Threshold) HAWK	NO
	(Threshold) RRFB	NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience		NO
	Condition A	NO
	Condition B	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
0		

W1

Michigan Manual of Uniform Traffic Control Devices (7th Edition) - Signalized Intersections													
WARRANT 1: Eight-Hour Vehicular Volume													
Intersection	Date	North	East	South	West	Major Volume (Both Apr.)	Condition A Major Volume	Condition B Minor Volume	Warrant Condition A Met?	Warrant Condition B Met?	Combination Major A	Combination Minor B	Combination A&B Met?
0	10/18/2018	0	0	0	0	0	0	0	NO	NO	N/A	N/A	N/A
3	10/18/2018	0	0	0	0	0	0	0	NO	NO	N/A	N/A	N/A
35	10/18/2018	0	0	0	0	0	0	0	NO	NO	N/A	N/A	N/A
NO													
0													
NO													

USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B
 A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)
 B. Is the Intersection of Continuous Traffic Met? (Condition B)
 C. Combination of Warrants A and B Criteria Met?
 Number of Hours that met the warrant 1A = 0
 Number of Hours that met the warrant 1B = 0
 Number of Hours that met the warrant 1A & B = 0

Page 2

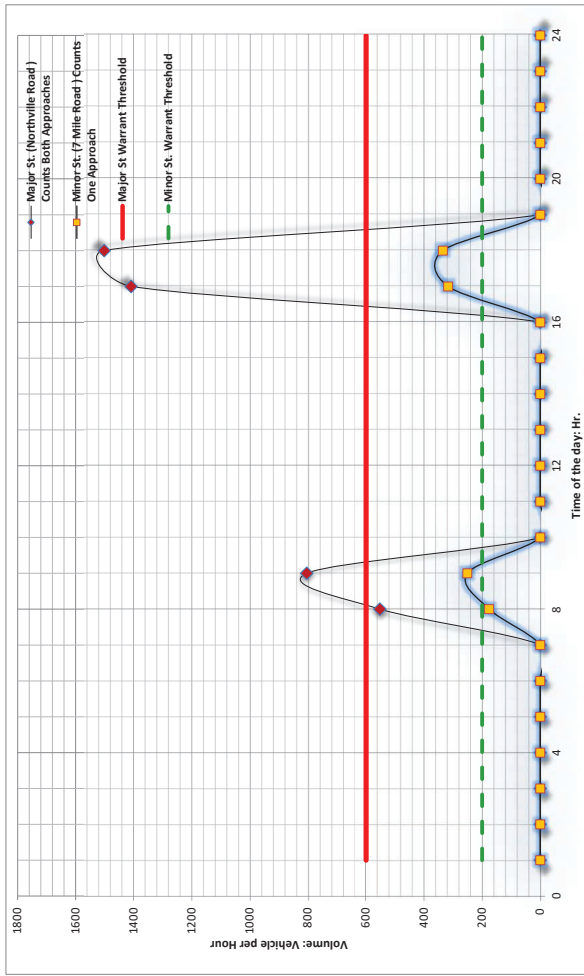


FIGURE 1: WARRANT 1A
 IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...
 1- DUE TO SPEED? **NO**
 2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? **NO**
 Spot Number: **Scenario 3 - Background**
 Northville Road @ 7 Mile Road
 NO. OF LANES ON MAJOR ST.: **3**
 NO. OF LANES ON MINOR ST.: **2**
 Number of Hours that met the Warrant: **2**
 Does this intersection meet Warrant 1A for signal installation? **NO**
 Data Collection Date: **10/18/2018**

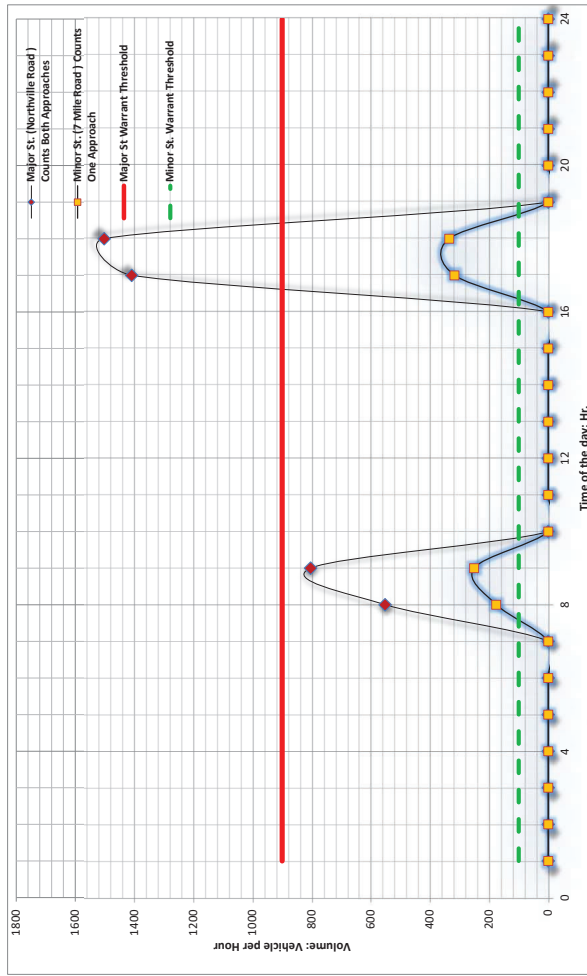


FIGURE 1: WARRANT 1B
 IS THERE A REDUCTION IN THE WARRANT THRESHOLDS TO 70% ...
 1- DUE TO SPEED? **NO**
 2- DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000? **NO**
 Spot Number: **Scenario 3 - Background**
 Northville Road @ 7 Mile Road
 NO. OF LANES ON MAJOR ST.: **3**
 NO. OF LANES ON MINOR ST.: **2**
 Number of Hours that met the Warrant: **2**
 Does this intersection meet Warrant 1B for signal installation? **NO**
 Data Collection Date: **10/18/2018**

Michigan Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) WARRANT 2: Four-Hour Vehicular Volume

Spot Number: Scenario 3 - Background	
Intersection: Northville Road @ 7 Mile Road	
Date: 1/13/2022	by: FV

3	: No. of Lanes on Major St.
2	: No. of Lanes on Minor St.
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

How Many Hours Are Met	2
Is Warrant 2 (100%) Met?	NO

Michigan Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) WARRANT 3 B (100%): Peak-Hour Vehicular Volume

Spot Number: Scenario 3 - Background	
Intersection: Northville Road @ 7 Mile Road	
Date: 1/13/2022	by: FV

3	: No. of Lanes on Major St.
2	: No. of Lanes on Minor St.
35	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

How Many Hours Are Met	2
Is Warrant 3 B (100%) Met?	YES

Summary of Warrants

Spot Number: Scenario 1 - Future		
Major Street: Center Street	Minor Street: Randolph Street	
Intersection: Center Street at Randolph Street		
City/Twp: Northville		
Date Performed: 1/14/2022	Performed By: FV	
Date Volumes Collected: 10/19/2021		

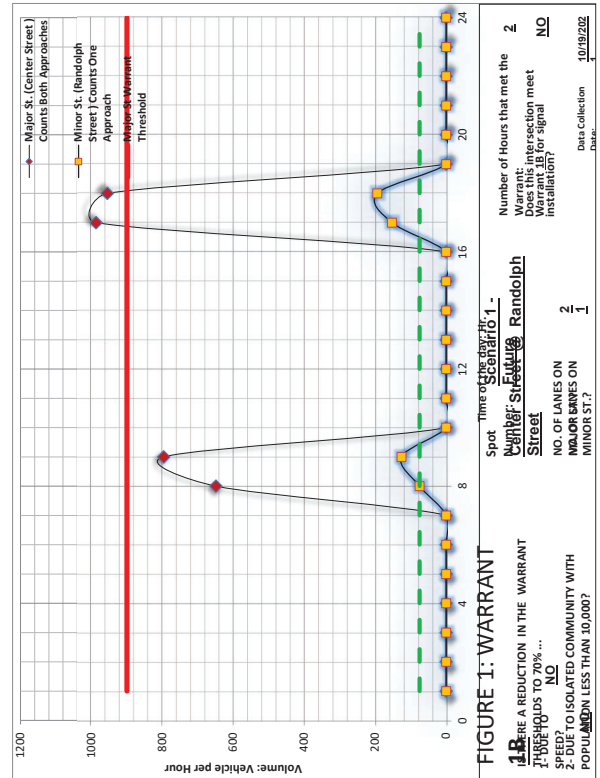
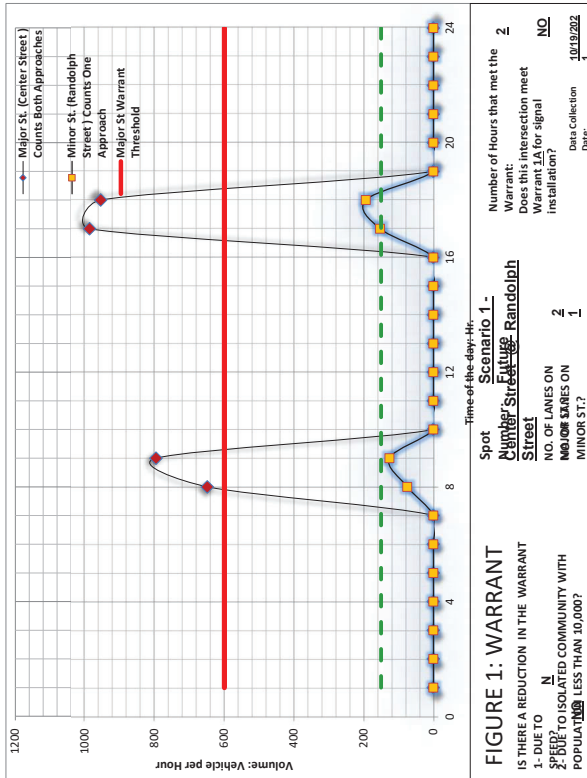
Warrant	Condition	Is Warrant Met
Data Validation Error		
		NO
WARRANT 1: Eight-Hour Vehicular Volume	Condition A Condition B Condition A&B	NO NO N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%) Condition A Condition B	NO N/A NO
WARRANT 4: Pedestrian Volume	(100%) Four Hour Peak Hour (Threshold) HAWK (Threshold) RRFB	NO NO NO NO NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience	Condition A Condition B	NO NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
0		

Michigan Manual of Uniform Traffic Control Devices Worksheet for Signal Warrants (Section 4C) WARRANT 1: Eight-Hour Vehicular Volume

Spot Number: Scenario 1 - Future	
Intersection: Center Street at Randolph Street	
Date: 1/14/2022	by: FV

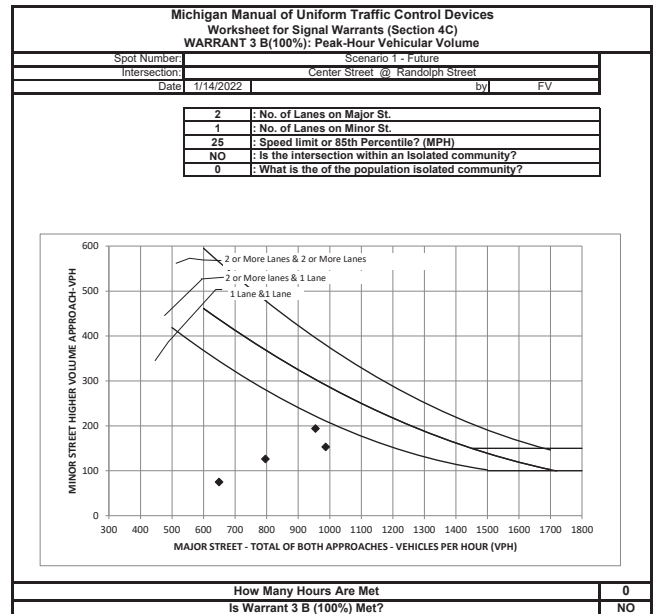
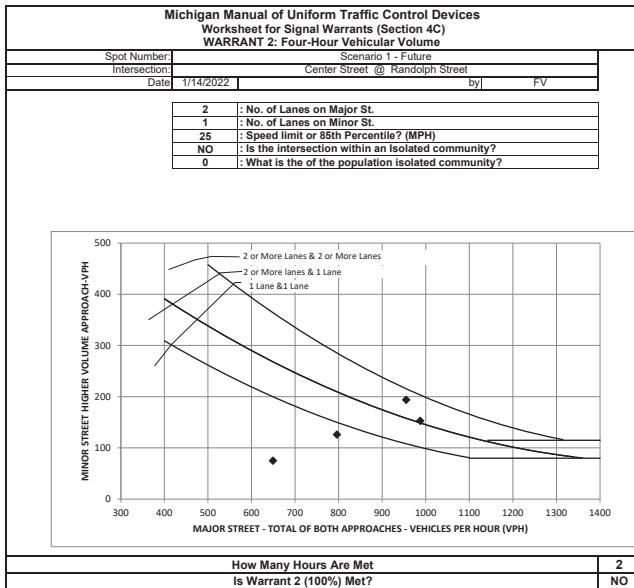
2	: No. of Lanes on Major St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

How Many Hours Are Met	2
Is Warrant 1 (100%) Met?	NO



W2-100%

W3B-100%



Summary of Warrants		
Spot Number:	Scenario 2 - Future	
Major Street:	Center Street	Minor Street: Randolph Street
Intersection:	Center Street at Randolph Street	
City/Twp:	Northville	
Date Performed:	1/14/2022	Performed By: FV
Date Volumes Collected:	10/19/2021	
Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume	Condition A Condition B Condition A&B	NO NO N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%) Condition A Condition B	NO N/A NO
WARRANT 4: Pedestrian Volume	(100%) Four Hour Peak Hour (Threshold) (Threshold)	NO NO HAWK RRFB NO NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience	Condition A Condition B	NO NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
0		

Michigan Manual of Uniform Traffic Control Devices									
WARRANT 1: Eight-Hour Vehicular Volume									
Intersection	Date	Time	By	Warrant	Condition	Major Volume	Minor Volume	Warrant Condition	Warrant A Met?
Center St. / Randolph Street	10/19/2021	07:00	FV	1	NO	600	300	NO	NO
USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B									
A, B, IS THE MINIMUM VEHICULAR VOLUME WARRANT MET? (Condition A)									
B, IS THE INTERSECTION OF CONTINUOUS TRAFFIC WARRANT MET? (Condition B)									
C, COMBINATION OF WARRANTS A AND B CRITERIA MET?									
Number of Hours that met the warrant 1A = 0									
Number of Hours that met the warrant 1B = 0									
Number of Hours that met the warrant 1A & B = 0									

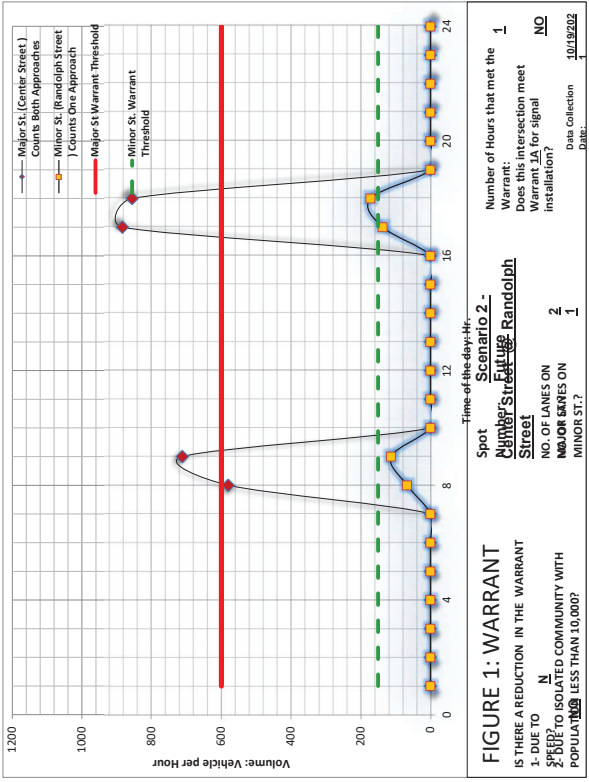


FIGURE 1: WARRANT
 IS THERE A REDUCTION IN THE WARRANT 1-DUE TO SPEED TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000?
 NO

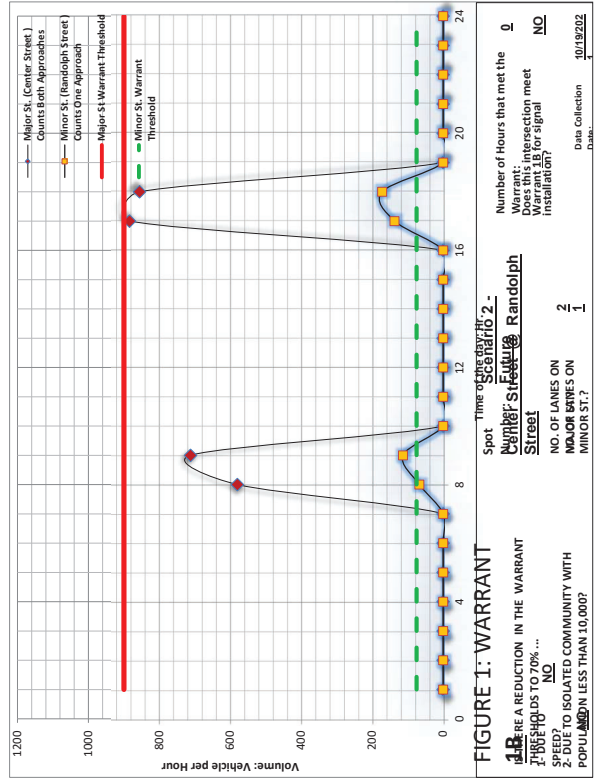


FIGURE 1: WARRANT
 IS THERE A REDUCTION IN THE WARRANT 2-DUE TO ISOLATED COMMUNITY WITH POPULATION LESS THAN 10,000?
 NO

**Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 2: Four-Hour Vehicular Volume**

Spot Number:	Scenario 2 - Future		
Intersection:	Center Street @ Randolph Street	by	FV
Date:	1/14/2022		

2	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

How Many Hours Are Met	0
Is Warrant 2 (100%) Met?	NO

**Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 3 B(100%): Peak-Hour Vehicular Volume**

Spot Number:	Scenario 2 - Future		
Intersection:	Center Street @ Randolph Street	by	FV
Date:	1/14/2022		

2	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

How Many Hours Are Met	0
Is Warrant 3 B (100%) Met?	NO

Summary of Warrants		
Spot Number: Scenario 3 - Future		
Major Street: Center Street		Minor Street: Randolph Street
City/Twp: Northville		
Date Performed: 1/14/2022	Performed By: FV	
Date Volumes Collected: 10/19/2021		
Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume	Condition A: NO Condition B: NO Condition A&B: N/A	NO
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%) Condition A: N/A Condition B: YES	YES
WARRANT 4: Pedestrian Volume	(100%) Four Hour: NO Peak Hour: NO (Threshold) HAWK: NO (Threshold) RRFB: NO	NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience	Condition A: NO Condition B: NO	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
0		

**Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 1: Eight-Hour Vehicular Volume**

Spot Number:	Scenario 3 - Future		
Intersection:	Center Street @ Randolph Street	by	FV
Date:	1/14/2022		

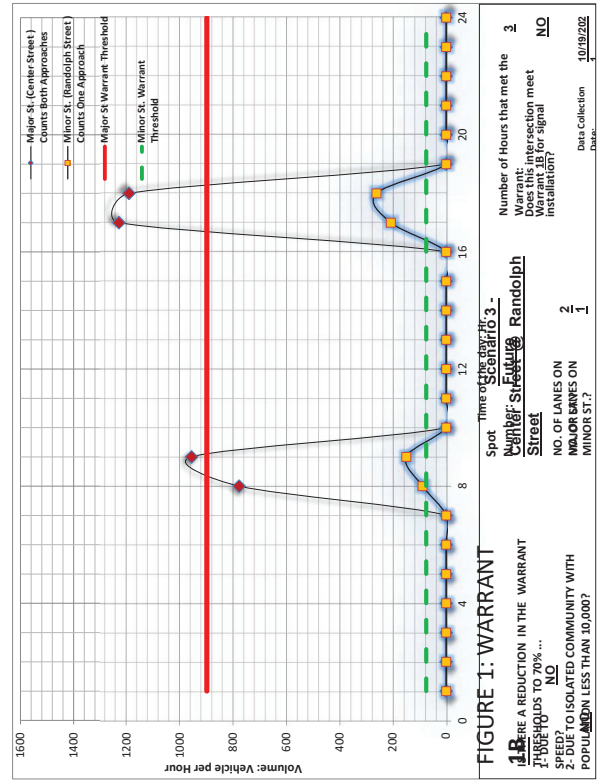
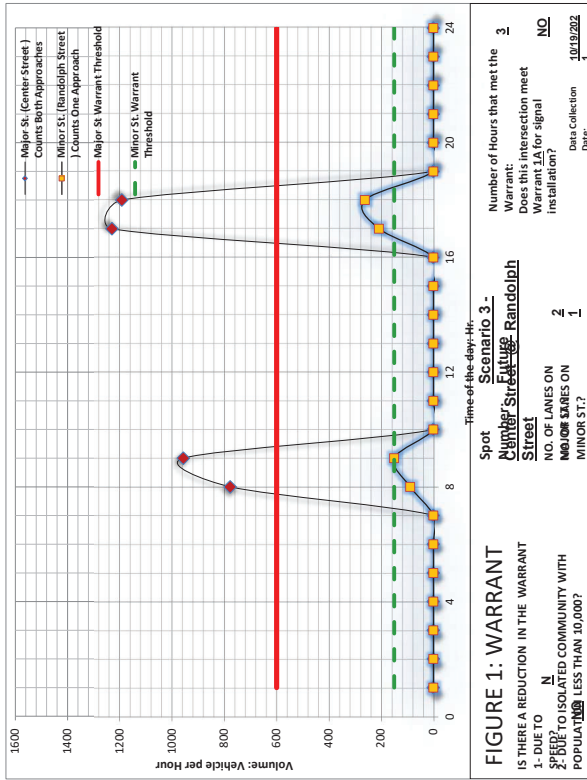
2	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

USE 100% WARRANTS A AND B. DO NOT USE COMBINATION OF A & B

Major Volume (Both Appr.)	Minor Volume (One Appr.)	Condition A Major Volume	Condition A Minor Volume	Warrant Condition A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant Condition B Met?	Combination Major A	Combination Major B	Combination Major A&B	Warrant Condition A&B Met?
0-50	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
51-100	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
101-150	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
151-200	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
201-250	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
251-300	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
301-350	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
351-400	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
401-450	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
451-500	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
501-550	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
551-600	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
601-650	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
651-700	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
701-750	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
751-800	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
801-850	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
851-900	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
901-950	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
951-1000	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1001-1100	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1101-1200	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1201-1300	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1301-1400	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1401-1500	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1501-1600	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1601-1700	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1701-1800	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1801-1900	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
1901-2000	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
2001-2100	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
2101-2200	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
2201-2300	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
2301-2400	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
2401-2500	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
2501-2600	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
2601-2700	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
2701-2800	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
2801-2900	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A
2901-3000	0-50	0-50	0-50	NO	0-50	0-50	NO	N/A	N/A	N/A	N/A

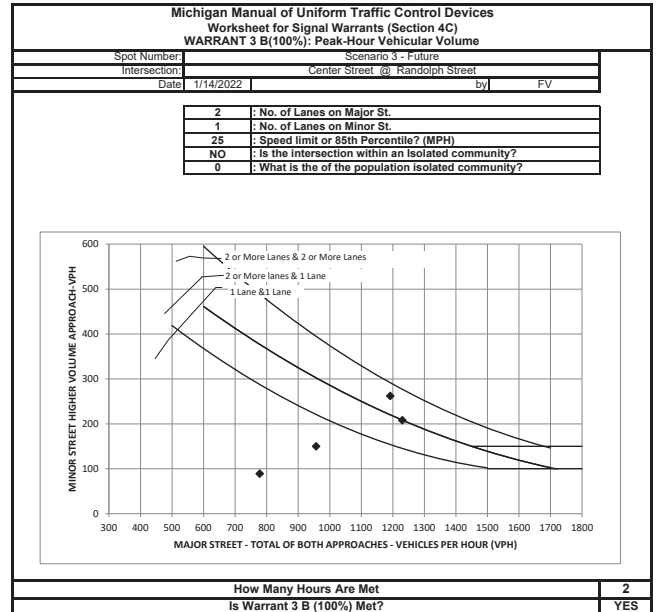
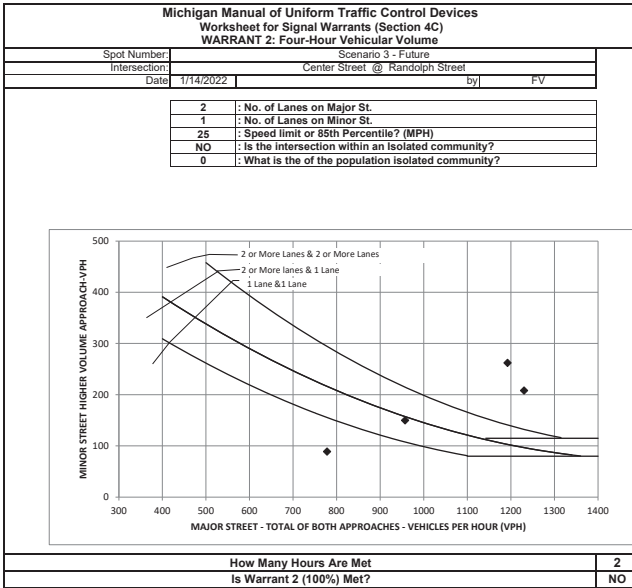
Number of Hours that met the warrant 1A = 3
Number of Hours that met the warrant 1B = 0
Number of Hours that met the warrant 1A & B = 0

A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)	NO
B. Is the Interruption of Continuous Traffic Met? (Condition B)	NO
C. Combination of Warrants A and B Criteria Met?	N/A



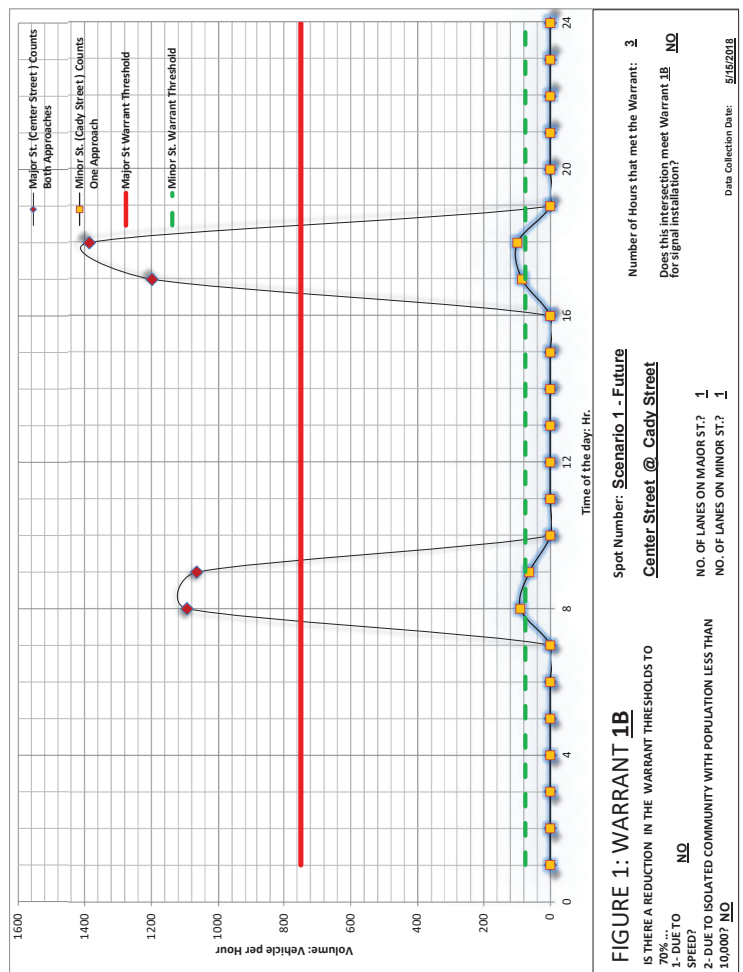
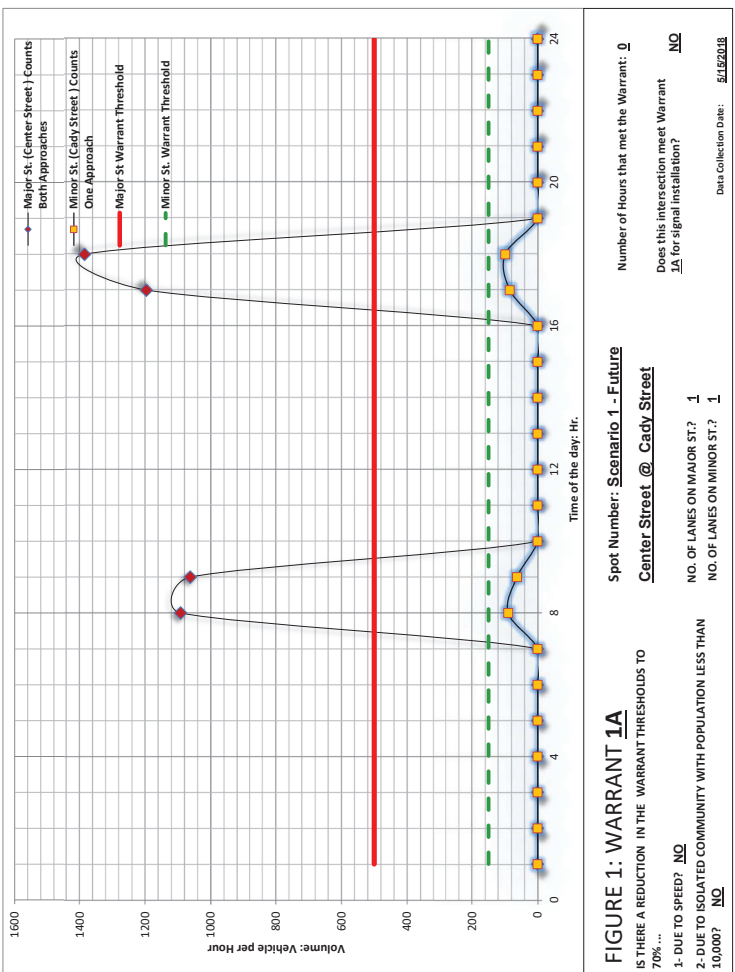
W2-100%

W3B-100%



Summary of Warrants			
Spot Number:	Scenario 1 - Future		
Major Street:	Center Street	Minor Street:	Cady Street
Intersection:	Center Street at Cady Street		
City/Twp:	Northville, MI		
Date Performed:	1/14/2022	Performed By:	F&V
Date Volumes Collected:	5/15/2018		
Warrant	Condition	Is Warrant Met	
Data Validation Error		NO	
WARRANT 1: Eight-Hour Vehicular Volume	Condition A Condition B Condition A&B	NO NO N/A	
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO	
WARRANT 3: Peak-Hour Vehicular Volume	(100%) Condition A Condition B	NO N/A NO	
WARRANT 4: Pedestrian Volume	(100%) Four Hour Peak Hour HAWK (Threshold) RRFB (Threshold)	NO NO NO NO NO NO	
WARRANT 5: School Crossing		NO	
WARRANT 6: Coordinated Signal System		NO	
WARRANT 7: Crash Experience	Condition A Condition B	NO NO	
WARRANT 8: Roadway Network		NO	
WARRANT 9: Intersection Near a Grade Crossing		#N/A	
Issue to Be Addressed by Signalization:			
0			

Michigan Manual on Uniform Traffic Control Devices (7th Edition)											
WARRANT 1: Eight-Hour Vehicular Volume											
Intersection	Center Street @ Cady Street	City	Year	NO. OF LANES ON MAJOR ST.?	NO. OF LANES ON MINOR ST.?	IS THIS INTERSECTION WITHIN AN ISOLATED COMMUNITY?	IF ANSWER IS YES, THEN WHAT IS THE POPULATION ISOLATED COMMUNITY?	DO OTHER REMEDIATION MEASURES BEEN TRIED?	USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B		
1	2	3	4	5	6	7	8	9	10		
NO	NO	NO	NO	NO	NO	NO	NO	NO	NO		
Major Volume (Both Appro)	Minor Volume (One Appr)	Condition A Major Volume	Condition B Minor Volume	Warrant Condition A Met?	Warrant Condition B Met?	Warrant Condition A&B Met?	Warrant Condition B Met?	Combination Major A	Combination Major B	Combination Major C	Warrant Condition A&B Met?
1000-1100	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
1100-1200	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
1200-1300	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
1300-1400	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
1400-1500	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
1500-1600	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
1600-1700	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
1700-1800	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
1800-1900	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
1900-2000	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
2000-2100	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
2100-2200	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
2200-2300	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
2300-2400	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
2400-2500	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
2500-2600	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
2600-2700	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
2700-2800	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
2800-2900	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
2900-3000	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
3000-3100	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
3100-3200	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
3200-3300	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
3300-3400	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
3400-3500	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
3500-3600	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
3600-3700	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
3700-3800	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
3800-3900	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
3900-4000	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
4000-4100	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
4100-4200	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
4200-4300	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
4300-4400	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
4400-4500	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
4500-4600	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
4600-4700	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
4700-4800	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
4800-4900	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A
4900-5000	500	150	75	NO	NO	N/A	N/A	N/A	N/A	N/A	N/A



**Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 2: Four-Hour Vehicular Volume**

Spot Number: Scenario 1 - Future
 Intersection: Center Street @ Cady Street
 Date: 1/14/2022 by: F&V

1 : No. of Lanes on Major St.
 1 : No. of Lanes on Minor St.
 25 : Speed limit or 85th Percentile? (MPH)
 NO : Is the intersection within an isolated community?
 0 : What is the of the population isolated community?

How Many Hours Are Met: 3
 Is Warrant 2 (100%) Met? NO

**Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 3 B (100%): Peak-Hour Vehicular Volume**

Spot Number: Scenario 1 - Future
 Intersection: Center Street @ Cady Street
 Date: 1/14/2022 by: F&V

1 : No. of Lanes on Major St.
 1 : No. of Lanes on Minor St.
 25 : Speed limit or 85th Percentile? (MPH)
 NO : Is the intersection within an isolated community?
 0 : What is the of the population isolated community?

How Many Hours Are Met: 0
 Is Warrant 3 B (100%) Met? NO

Summary of Warrants

Spot Number: Scenario 2 - Future
 Major Street: Center Street Minor Street: Cady Street
 City/Twp: Northville, MI
 Date Performed: 1/14/2022 Performed By: F&V
 Date Volumes Collected: 5/15/2018

Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume	Condition A: NO Condition B: NO Condition A&B: N/A	NO
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%) Condition A: N/A Condition B: NO	NO
WARRANT 4: Pedestrian Volume	(100%) Four Hour: NO Peak Hour: NO (Threshold) HAWK: NO (Threshold) RRFB: NO	NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience	Condition A: NO Condition B: NO	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization: 0		

**Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 1: Eight-Hour Vehicular Volume**

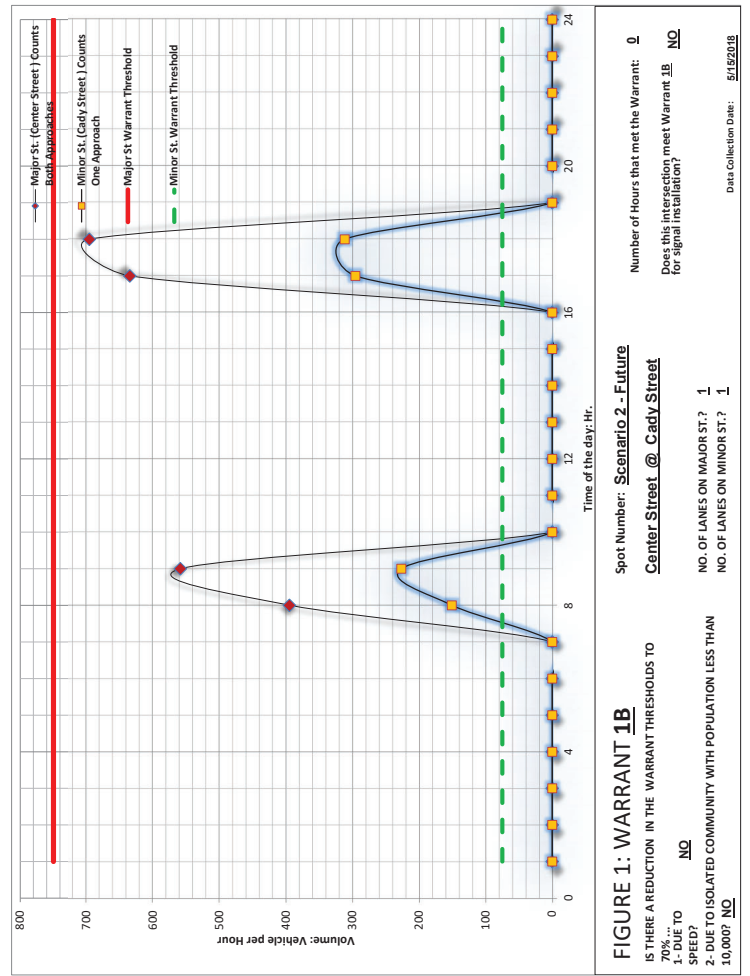
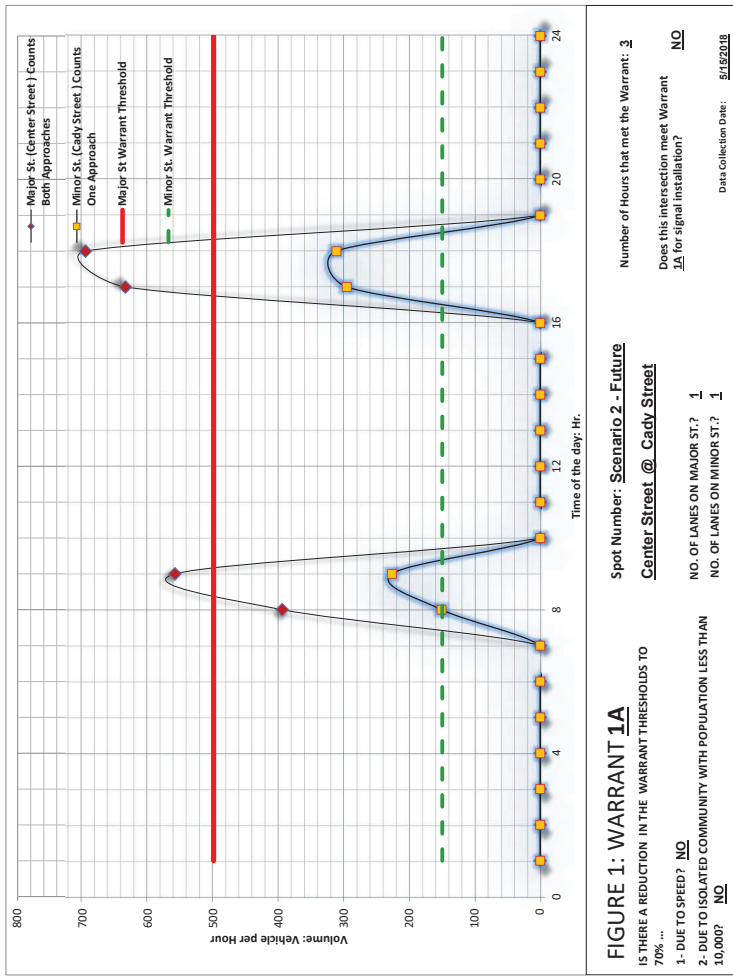
Intersection: Center Street @ Cady Street
 Date: 1/14/2022 by: F&V

1 : No. of Lanes on Major St.
 1 : No. of Lanes on Minor St.
 25 : Speed limit or 85th Percentile? (MPH)
 NO : Is the intersection within an isolated community?
 0 : If answer 4 is Yes, then what is the of the population isolated community?
 NO : Have other remedies measures been tried?

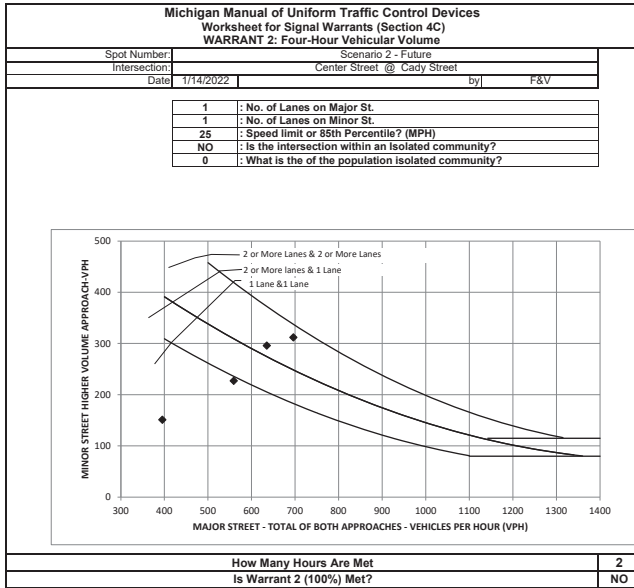
Minor Volume (Both Appr.)	Minor Volume (One Appr.)	Condition A Major Volume	Condition A Minor Volume	Warrant Condition A Met?	Condition B Major Volume	Condition B Minor Volume	Warrant Condition B Met?	Combination Major A	Combination Major B	Combination Major A & B	Warrant Condition A&B Met?
0-50	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
51-100	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
101-150	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
151-200	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
201-250	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
251-300	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
301-350	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
351-400	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
401-450	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
451-500	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
501-550	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
551-600	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
601-650	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
651-700	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
701-750	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
751-800	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
801-850	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
851-900	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
901-950	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
951-1000	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
1001-1050	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
1051-1100	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
1101-1150	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
1151-1200	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
1201-1250	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
1251-1300	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
1301-1350	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
1351-1400	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
1401-1450	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
1451-1500	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
1501-1550	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
1551-1600	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
1601-1650	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
1651-1700	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
1701-1750	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
1751-1800	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
1801-1850	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
1851-1900	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
1901-1950	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
1951-2000	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
2001-2050	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
2051-2100	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
2101-2150	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
2151-2200	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
2201-2250	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
2251-2300	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
2301-2350	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
2351-2400	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
2401-2450	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
2451-2500	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
2501-2550	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
2551-2600	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
2601-2650	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
2651-2700	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
2701-2750	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
2751-2800	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
2801-2850	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
2851-2900	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
2901-2950	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A
2951-3000	0-50	150	150	NO	750	75	NO	N/A	N/A	N/A	N/A

Number of Hours that met the warrant 1A = 3
 Number of Hours that met the warrant 1B = 0
 Number of Hours that met the warrant 1A & B = 0

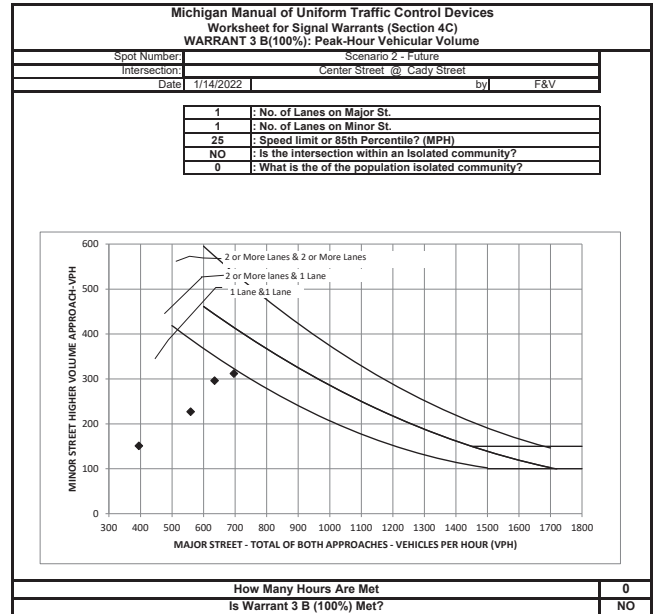
A. Is the Minimum Vehicular Volume Warrant Met? (Condition A) NO
 B. Is the Interruption of Continuous Traffic Met? (Condition B) NO
 C. Combination of Warrants A and B Criteria Met? N/A



W2-100%

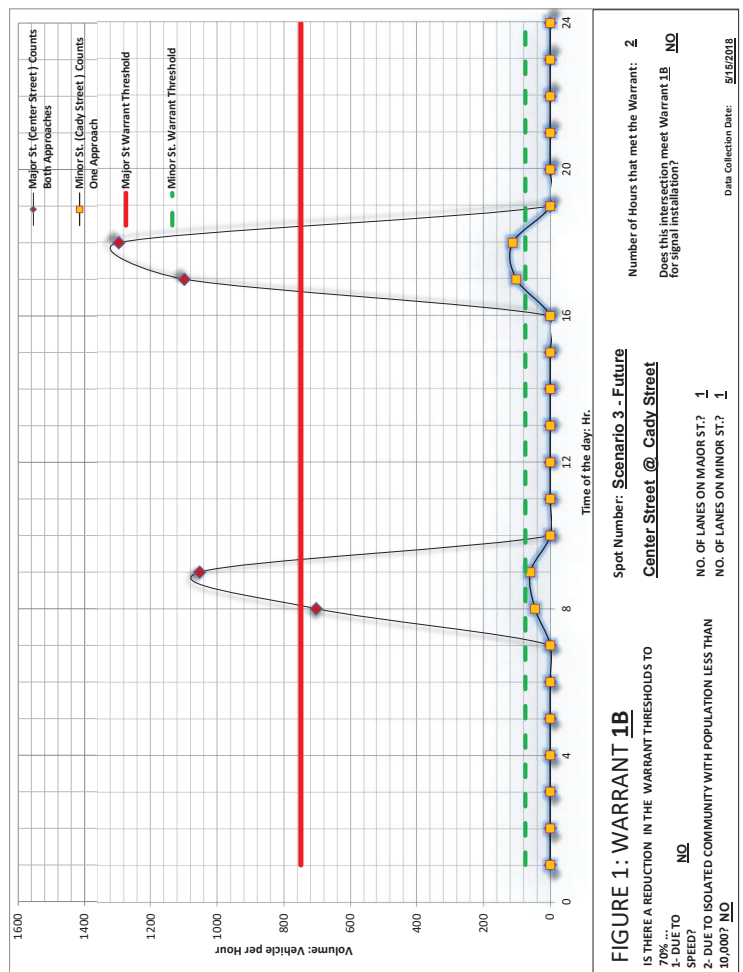
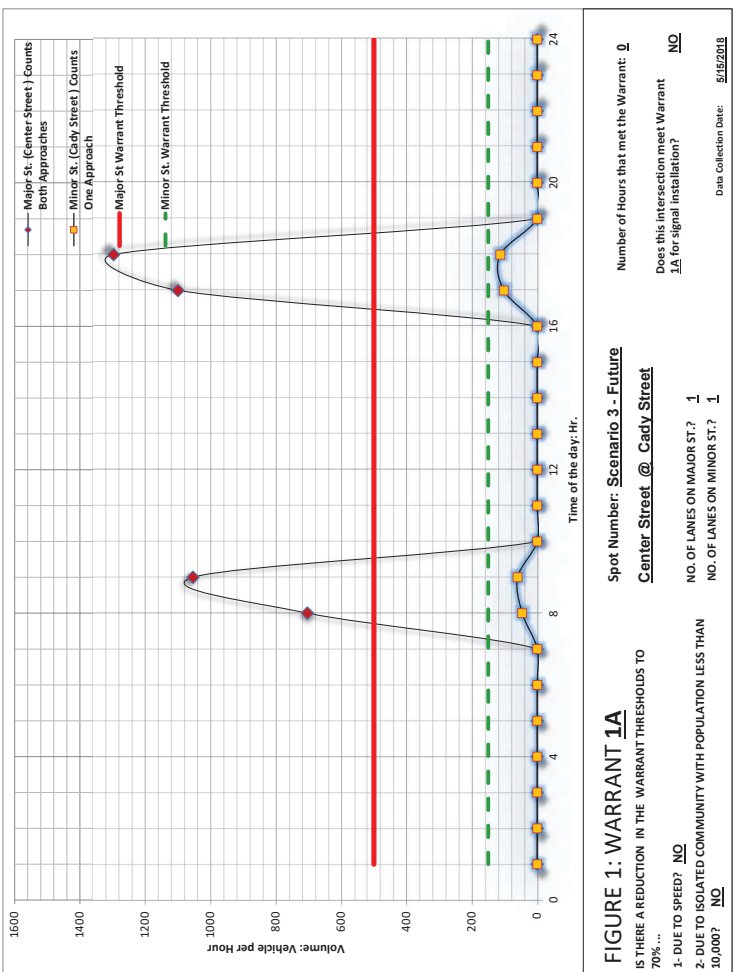


W3B-100%



Summary of Warrants		
Spot Number:	Scenario 3 - Future	
Major Street:	Center Street	Minor Street: Cady Street
Intersection:	Center Street at Cady Street	
City/Twp:	Northville, MI	
Date Performed:	1/14/2022	Performed By: F&V
Date Volumes Collected:	5/15/2018	
Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume	Condition A Condition B Condition A&B	NO NO N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%) Condition A Condition B	NO N/A NO
WARRANT 4: Pedestrian Volume	(100%) Four Hour Peak Hour (Threshold) HAWK (Threshold) RRFB	NO NO NO NO NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience	Condition A Condition B	NO NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
0		

MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES										
WARRANT 1: Eight-Hour Vehicular Volume										
Intersection	Date	Center Street @ Cady Street	Center Street @ Cady Street	Center Street @ Cady Street	Center Street @ Cady Street	Center Street @ Cady Street	Center Street @ Cady Street	Center Street @ Cady Street	Center Street @ Cady Street	Center Street @ Cady Street
1	5/15/2018	NO	NO	NO	NO	NO	NO	NO	NO	NO
25	5/15/2018	NO	NO	NO	NO	NO	NO	NO	NO	NO
0	5/15/2018	NO	NO	NO	NO	NO	NO	NO	NO	NO
NO	5/15/2018	NO	NO	NO	NO	NO	NO	NO	NO	NO



Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 2: Four-Hour Vehicular Volume

Spot Number:	Scenario 3 - Future		
Intersection:	Center Street @ Cady Street	by	F&V
Date:	1/14/2022		

1	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

How Many Hours Are Met	2
Is Warrant 2 (100%) Met?	NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 3 B(100%): Peak-Hour Vehicular Volume

Spot Number:	Scenario 3 - Future		
Intersection:	Center Street @ Cady Street	by	F&V
Date:	1/14/2022		

1	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: What is the of the population isolated community?

How Many Hours Are Met	0
Is Warrant 3 B (100%) Met?	NO

Summary of Warrants		
Spot Number: Scenario 1 - Future		
Major Street:	Northville Road	Minor Street: 7 Mile Road
Intersection: Northville Road at 7 Mile Road		
City/Twp: Northville		
Date Performed:	1/13/2022	Performed By: FV
Date Volumes Collected:	10/18/2018	
Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume	Condition A: YES Condition B: NO Condition A&B: N/A	YES
WARRANT 2: Four-Hour Vehicular Volume	(100%)	YES
WARRANT 3: Peak-Hour Vehicular Volume	(100%) Condition A: N/A Condition B: YES	YES
WARRANT 4: Pedestrian Volume	(100%) Four Hour: NO Peak Hour: NO (Threshold) HAWK: NO (Threshold) RRFB: NO	NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience	Condition A: NO Condition B: NO	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
0		

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 1: Eight-Hour Vehicular Volume

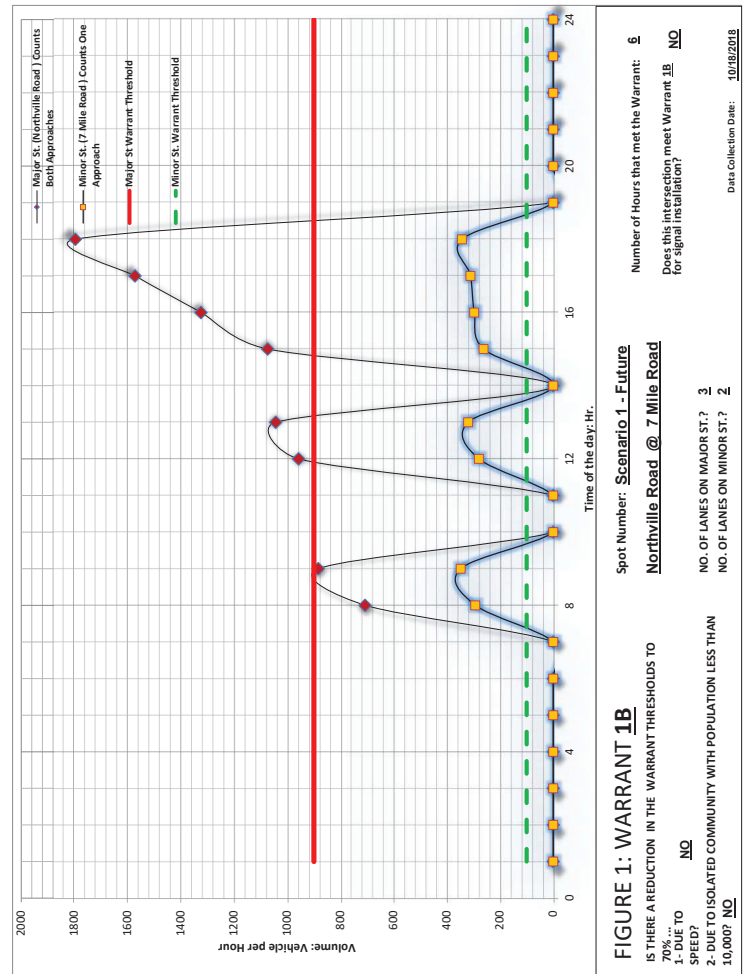
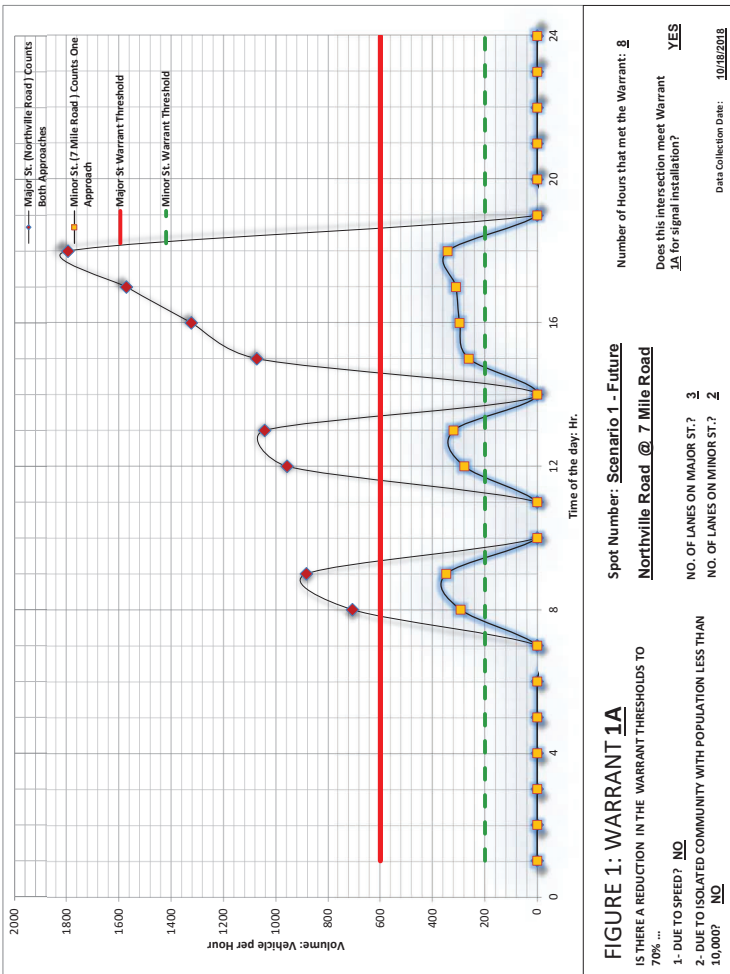
Intersection:	Northville Road @ 7 Mile Road	by	FV
Date:	1/13/2022		

3	: No. of Lanes on Major St.
1	: No. of Lanes on Minor St.
25	: Speed limit or 85th Percentile? (MPH)
NO	: Is the intersection within an isolated community?
0	: If answer 4 is Yes, then what is the of the population isolated community?
NO	: Have other remedies measures been tried?

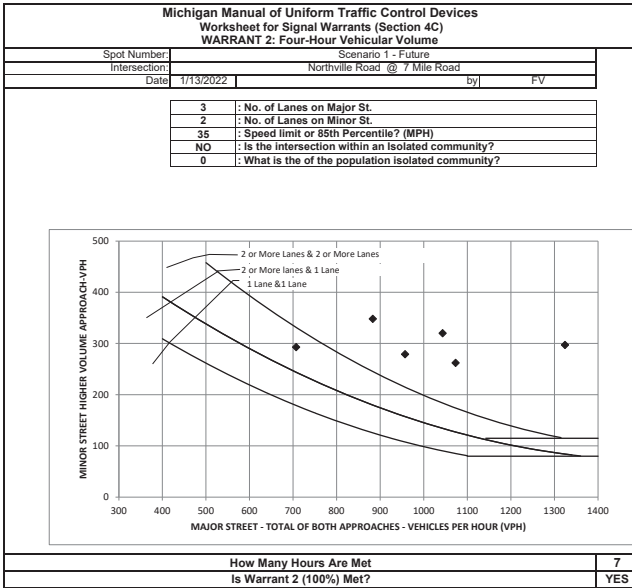
Major Street Volume (Both Appr.)	Minor Street Volume (One Appr.)	Condition A: Major Volume		Condition B: Minor Volume		Warrant Condition: A&B Met?	
		Major Volume	Minor Volume	Major Volume	Minor Volume	Combination Major A	Combination Major B
0-50	0-50	NO	NO	NO	NO	N/A	N/A
51-100	0-50	NO	NO	NO	NO	N/A	N/A
101-150	0-50	NO	NO	NO	NO	N/A	N/A
151-200	0-50	NO	NO	NO	NO	N/A	N/A
201-250	0-50	NO	NO	NO	NO	N/A	N/A
251-300	0-50	NO	NO	NO	NO	N/A	N/A
301-350	0-50	NO	NO	NO	NO	N/A	N/A
351-400	0-50	NO	NO	NO	NO	N/A	N/A
401-450	0-50	NO	NO	NO	NO	N/A	N/A
451-500	0-50	NO	NO	NO	NO	N/A	N/A
501-550	0-50	NO	NO	NO	NO	N/A	N/A
551-600	0-50	NO	NO	NO	NO	N/A	N/A
601-650	0-50	NO	NO	NO	NO	N/A	N/A
651-700	0-50	NO	NO	NO	NO	N/A	N/A
701-750	0-50	NO	NO	NO	NO	N/A	N/A
751-800	0-50	NO	NO	NO	NO	N/A	N/A
801-850	0-50	NO	NO	NO	NO	N/A	N/A
851-900	0-50	NO	NO	NO	NO	N/A	N/A
901-950	0-50	NO	NO	NO	NO	N/A	N/A
951-1000	0-50	NO	NO	NO	NO	N/A	N/A
1001-1050	0-50	NO	NO	NO	NO	N/A	N/A
1051-1100	0-50	NO	NO	NO	NO	N/A	N/A
1101-1150	0-50	NO	NO	NO	NO	N/A	N/A
1151-1200	0-50	NO	NO	NO	NO	N/A	N/A
1201-1250	0-50	NO	NO	NO	NO	N/A	N/A
1251-1300	0-50	NO	NO	NO	NO	N/A	N/A
1301-1350	0-50	NO	NO	NO	NO	N/A	N/A
1351-1400	0-50	NO	NO	NO	NO	N/A	N/A
1401-1450	0-50	NO	NO	NO	NO	N/A	N/A
1451-1500	0-50	NO	NO	NO	NO	N/A	N/A
1501-1550	0-50	NO	NO	NO	NO	N/A	N/A
1551-1600	0-50	NO	NO	NO	NO	N/A	N/A
1601-1650	0-50	NO	NO	NO	NO	N/A	N/A
1651-1700	0-50	NO	NO	NO	NO	N/A	N/A
1701-1750	0-50	NO	NO	NO	NO	N/A	N/A
1751-1800	0-50	NO	NO	NO	NO	N/A	N/A
1801-1850	0-50	NO	NO	NO	NO	N/A	N/A
1851-1900	0-50	NO	NO	NO	NO	N/A	N/A
1901-1950	0-50	NO	NO	NO	NO	N/A	N/A
1951-2000	0-50	NO	NO	NO	NO	N/A	N/A
2001-2050	0-50	NO	NO	NO	NO	N/A	N/A
2051-2100	0-50	NO	NO	NO	NO	N/A	N/A
2101-2150	0-50	NO	NO	NO	NO	N/A	N/A
2151-2200	0-50	NO	NO	NO	NO	N/A	N/A
2201-2250	0-50	NO	NO	NO	NO	N/A	N/A
2251-2300	0-50	NO	NO	NO	NO	N/A	N/A
2301-2350	0-50	NO	NO	NO	NO	N/A	N/A
2351-2400	0-50	NO	NO	NO	NO	N/A	N/A
2401-2450	0-50	NO	NO	NO	NO	N/A	N/A
2451-2500	0-50	NO	NO	NO	NO	N/A	N/A

Number of Hours that met the warrant 1A = 3
Number of Hours that met the warrant 1B = 0

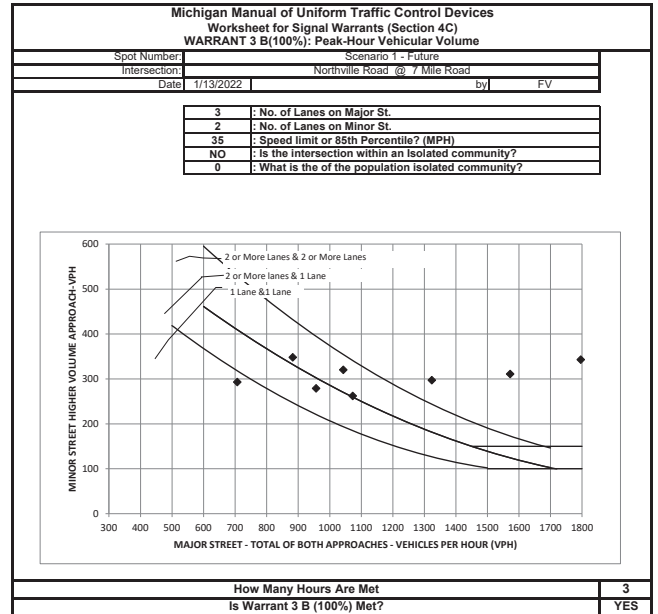
A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)	YES
B. Is the Interruption of Continuous Traffic Met? (Condition B)	NO
C. Combination of Warrants A and B Criteria Met?	N/A



W2-100%

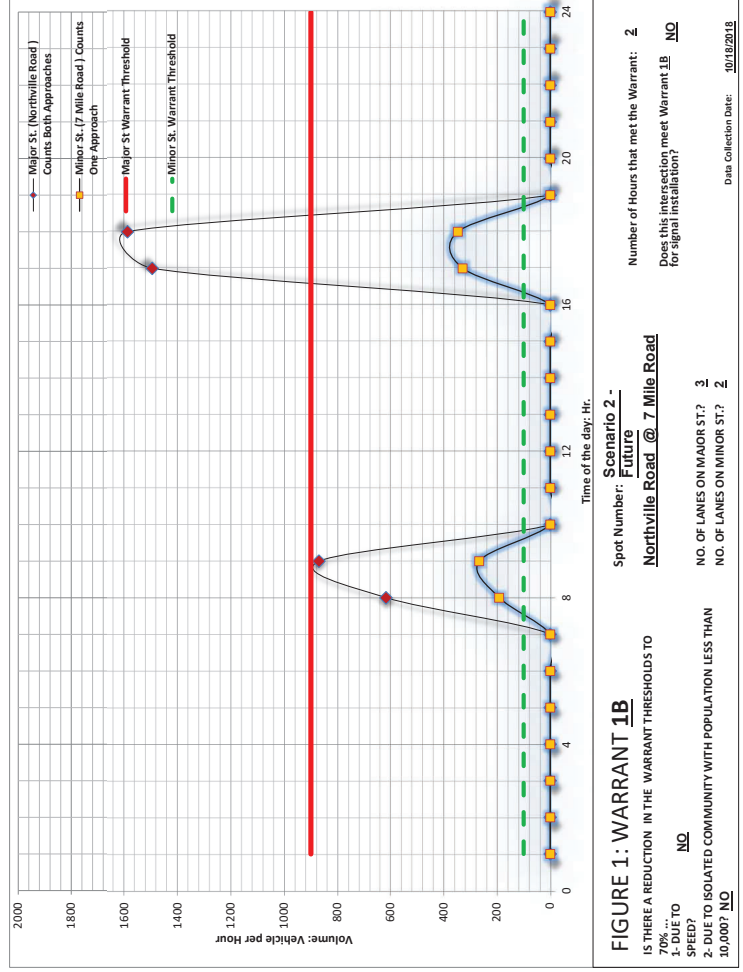
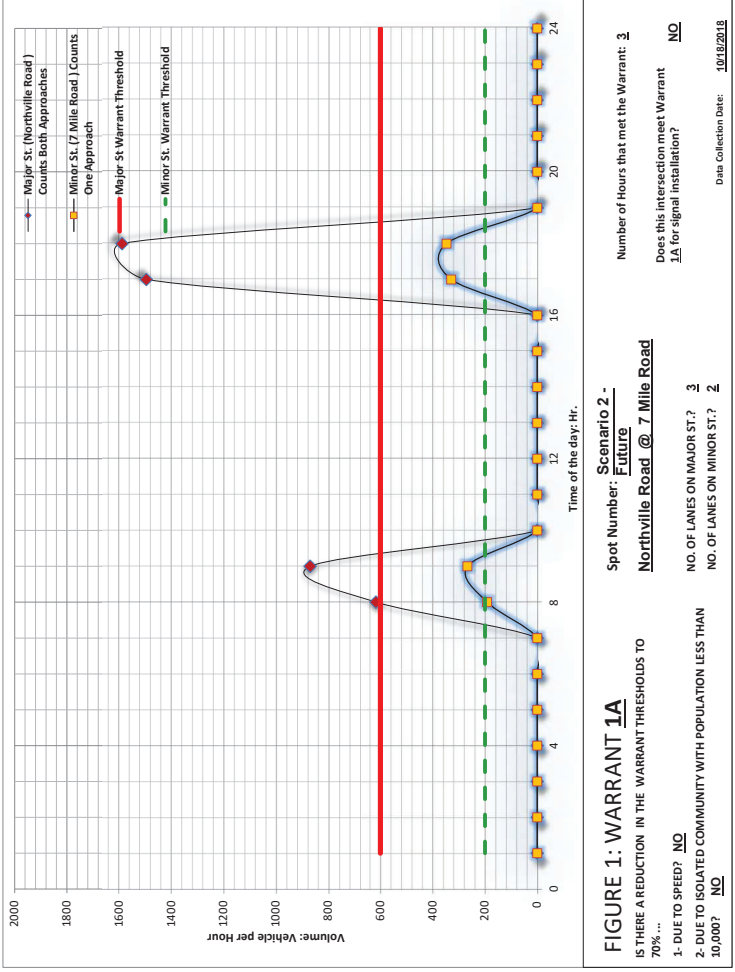


W3B-100%



Summary of Warrants		
Spot Number:	Scenario 2 - Future	
Major Street:	Northville Road	Minor Street: 7 Mile Road
Intersection:	Northville Road at 7 Mile Road	
City/Twp:	Northville	
Date Performed:	1/13/2022	Performed By: FV
Date Volumes Collected:	10/18/2018	
Warrant	Condition	Is Warrant Met
Data Validation Error		NO
WARRANT 1: Eight-Hour Vehicular Volume		NO
	Condition A	NO
	Condition B	NO
	Condition A&B	N/A
WARRANT 2: Four-Hour Vehicular Volume	(100%)	NO
WARRANT 3: Peak-Hour Vehicular Volume	(100%)	YES
	Condition A	N/A
	Condition B	YES
WARRANT 4: Pedestrian Volume	(100%)	NO
	Four Hour	NO
	Peak Hour	NO
	(Threshold) HAWK	NO
	(Threshold) RRFB	NO
WARRANT 5: School Crossing		NO
WARRANT 6: Coordinated Signal System		NO
WARRANT 7: Crash Experience		NO
	Condition A	NO
	Condition B	NO
WARRANT 8: Roadway Network		NO
WARRANT 9: Intersection Near a Grade Crossing		#N/A
Issue to Be Addressed by Signalization:		
0		

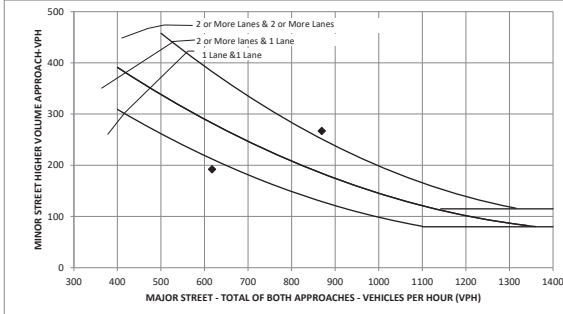
Michigan Manual of Uniform Traffic Control Devices (MMUTCD) - 2009 Edition									
WARRANT 1: Eight-Hour Vehicular Volume									
Intersection	Date	Northbound Lane #	Southbound Lane #	7 Mile Road	FV	3	5	8	NO
3 - No. of Lanes on Major St? 5 - Speed Limit (MPH) NO - Is the intersection within an isolated community? 0 - If answer A is Yes, then what is the population isolated community? NO - Have other remedial measures been tried?									
Time	Major Volume (Both Apr.)	Minor Volume (One Apr.)	Condition A Major Volume	Condition B Minor Volume	Warrant Condition A Met?	Warrant Condition B Met?	Combination Major A	Combination Minor B	Warrant Condition A&B Met?
05:31-07:00	8	600	200	NO	NO	NO	N/A	N/A	N/A
07:01-08:30	0	600	200	NO	NO	NO	N/A	N/A	N/A
08:31-10:00	0	600	200	NO	NO	NO	N/A	N/A	N/A
10:01-11:30	0	600	200	NO	NO	NO	N/A	N/A	N/A
11:31-13:00	0	600	200	NO	NO	NO	N/A	N/A	N/A
13:01-14:30	0	600	200	NO	NO	NO	N/A	N/A	N/A
14:31-16:00	0	600	200	NO	NO	NO	N/A	N/A	N/A
16:01-17:30	1268	625	200	YES	NO	NO	N/A	N/A	N/A
17:31-19:00	35	600	200	NO	NO	NO	N/A	N/A	N/A
19:01-20:30	0	600	200	NO	NO	NO	N/A	N/A	N/A
20:31-22:00	0	600	200	NO	NO	NO	N/A	N/A	N/A
22:01-23:30	0	600	200	NO	NO	NO	N/A	N/A	N/A
23:31-01:00	0	600	200	NO	NO	NO	N/A	N/A	N/A
USE 100% WARRANTS 1A AND 1B. DO NOT USE COMBINATION OF A & B. A. Is the Minimum Vehicular Volume Warrant Met? (Condition A) B. Is the Interruption of Continuous Traffic Met? (Condition B) C. Combination of Warrants A and B Criteria Met?									
Number of Hours that met the warrant 1A & B =									2
Number of Hours that met the warrant 1A & B =									0



Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 2: Four-Hour Vehicular Volume

Spot Number: Scenario 2 - Future
Intersection: Northville Road @ 7 Mile Road
Date: 1/13/2022 by: FV

- 3 : No. of Lanes on Major St.
2 : No. of Lanes on Minor St.
35 : Speed limit or 85th Percentile? (MPH)
NO : Is the intersection within an isolated community?
0 : What is the of the population isolated community?

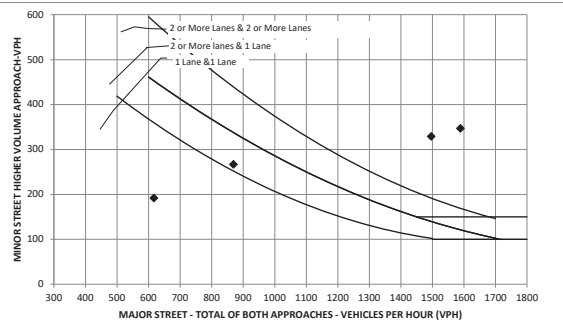


How Many Hours Are Met: 3
Is Warrant 2 (100%) Met?: NO

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 3 B(100%): Peak-Hour Vehicular Volume

Spot Number: Scenario 2 - Future
Intersection: Northville Road @ 7 Mile Road
Date: 1/13/2022 by: FV

- 3 : No. of Lanes on Major St.
2 : No. of Lanes on Minor St.
35 : Speed limit or 85th Percentile? (MPH)
NO : Is the intersection within an isolated community?
0 : What is the of the population isolated community?



How Many Hours Are Met: 2
Is Warrant 3 B (100%) Met?: YES

Summary of Warrants

Table with columns: Warrant, Condition, Is Warrant Met. Rows include Warrant 1: Eight-Hour Vehicular Volume, Warrant 2: Four-Hour Vehicular Volume, Warrant 3: Peak-Hour Vehicular Volume, Warrant 4: Pedestrian Volume, Warrant 5: School Crossing, Warrant 6: Coordinated Signal System, Warrant 7: Crash Experience, Warrant 8: Roadway Network, Warrant 9: Intersection Near a Grade Crossing.

0

Michigan Manual of Uniform Traffic Control Devices
Worksheet for Signal Warrants (Section 4C)
WARRANT 1: Eight-Hour Vehicular Volume

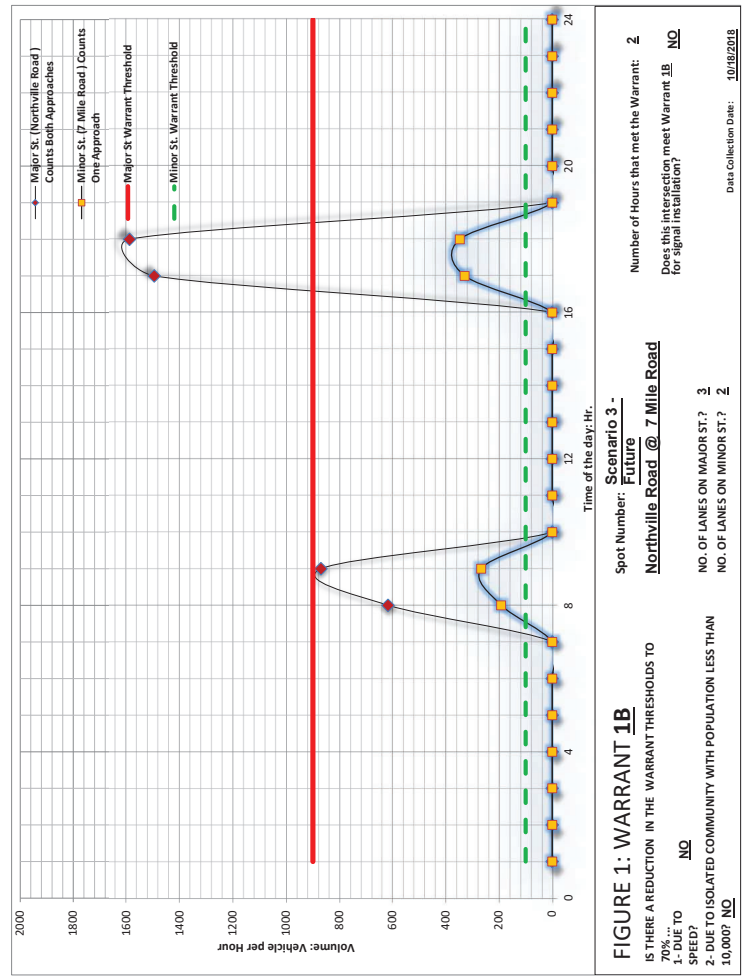
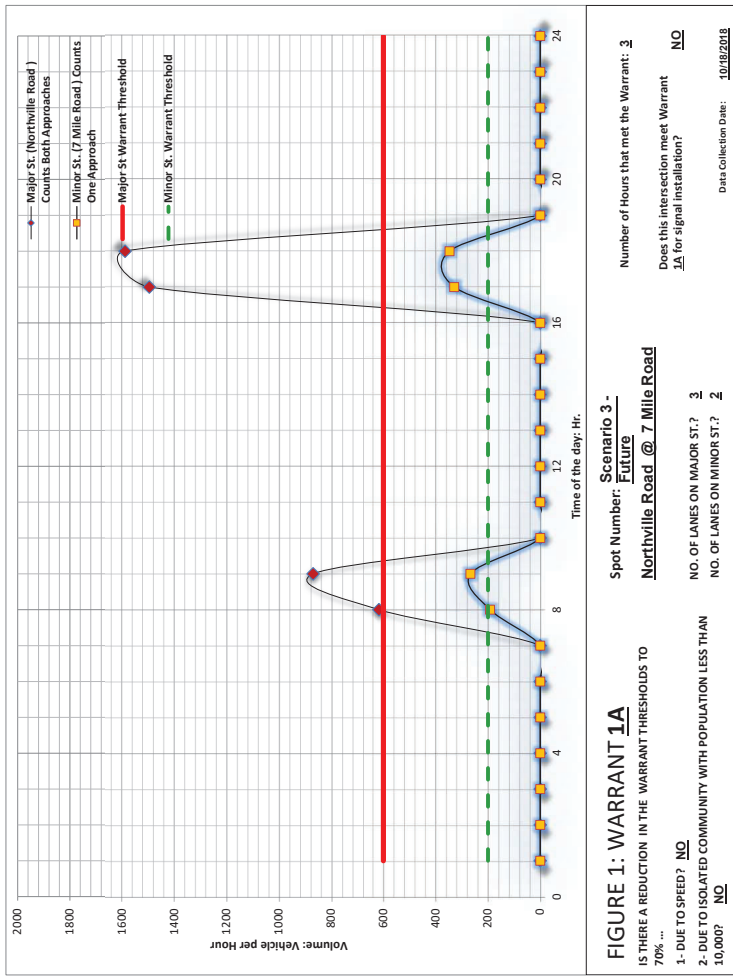
Spot Number: Scenario 3 - Future
Major Street: Northville Road
Minor Street: 7 Mile Road
City/Twp: Northville
Date Performed: 1/13/2022
Performed By: FV
Date Volumes Collected: 10/18/2018

3 : No. of Lanes on Major St.
2 : No. of Lanes on Minor St.
35 : Speed limit or 85th Percentile? (MPH)
NO : Is the intersection within an isolated community?
0 : If answer 4 is Yes, how many is the population isolated community?
NO : Have other remedies measures been tried?

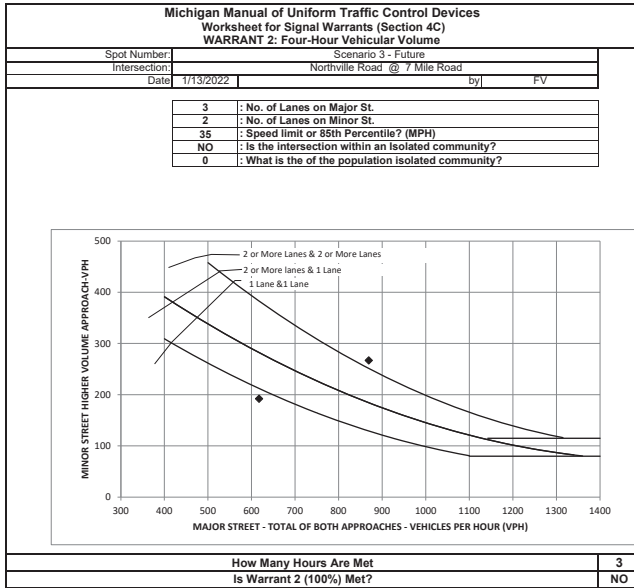
Large data table with columns: Major Volume, Minor Volume, Condition A, Condition B, Warrant Condition, etc. Includes a grid of data points and summary statistics.

Number of Hours that met the warrant 1A = 3
Number of Hours that met the warrant 1B = 0

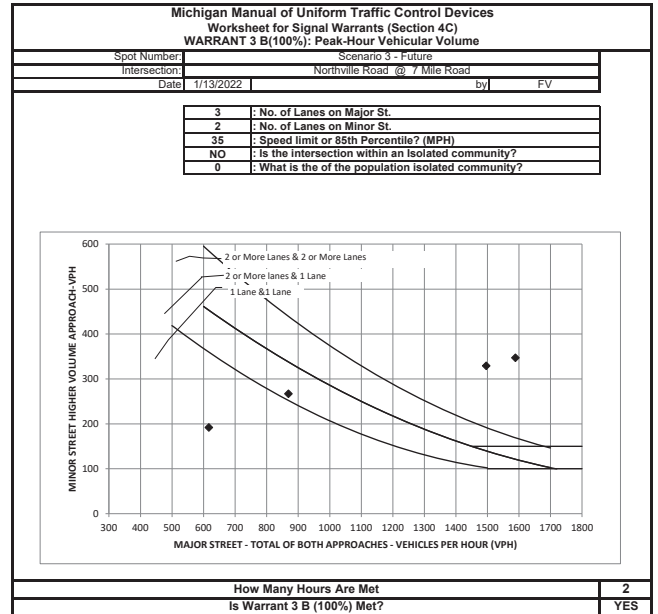
A. Is the Minimum Vehicular Volume Warrant Met? (Condition A)
B. Is the Intersection of Continuous Traffic Met? (Condition B)
C. Combination of Warrants A and B Criteria Met?



W2-100%



W3B-100%



Appendix F

SUPPLEMENTAL INFORMATION

Proportionality Analysis



The figure above depicts the percent increase the site-generated trips will have on existing traffic volume associated with the study intersections of concern i.e. Existing volume = 1,000 veh/hr > Future volume = 1,050 veh/hr ==> **5% Increase**

** Changes in traffic volumes of 5% or less are generally indiscernible from typical daily fluctuations in traffic volumes*

Optimizations consistent between ALL scenarios

Table: Proposed Signal Timing (Int #8 and Int #9)

Phase	PM Peak Hour					
	Existing Operations			Proposed Operations		
	Yellow Interval	Red Clearance	Green Split	Yellow Interval	Red Clearance	Green Split
INT #8 - Main Street & Hutton Street						
EB/WB	3.0	2.5	33.2	No Change		20.5
NB/SB	3.0	2.3	16.0			28.7
Cycle Length	60 seconds			No Change		
INT #9 - Main Street & Griswold Street						
EB/WB	3.0	2.6	27.8	No Change		21.4
NB/SB	3.6	2.2	20.8			27.8
Cycle Length	60 seconds			No Change		

* No change in signal timing during AM peak period.

Table: Proposed Signal Timing (Int #28)

INT #26/27 - Northville Road & S. Seven Mile Road							
Phase	Existing Operations			Proposed Operations			
	Yellow Interval	Red Clearance	Green Split (AM/PM)	Yellow Interval	Red Clearance	Green Split (AM)	Green Split (PM)
WB	4	2.2	28.6	No Change		18.8	20.8
NBTR		2.4	16.4			21.6	22.6
SBL		2.4	16.0			20.6	17.6
SBT		2.4	38.8			48.6	46.6
Cycle Length	80 seconds			No Change			

Scenerio 1 (Pre-COVID)

Intersection	Control	Approach	Background				Future				Differences				
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	
1	Randolph Street & Wing Street	Stop (Minor)	EB	Free				Free				Free			
			WBL	7.8	A	8.3	A	7.8	A	8.3	A	0.0	-	0.0	-
			NB	12.0	B	19.9	C	12.2	B	21.0	C	0.2	-	1.1	-
2	Randolph Street & Center Street	Stop (Minor)	EB	42.6	E	308.9	F	48.3	E	367.5	F	5.7	-	58.6	-
			WB	36.4	E	188.3	F	39.7	E	257.3	F	3.3	-	69.0	-
			NBL	9.3	A	9.4	A	9.4	A	9.5	A	0.1	-	0.1	-
			SBL	8.6	A	9.1	A	8.6	A	9.2	A	0.0	-	0.1	-
3	Dunlap Street & Wing Street	Stop (All-Way)	EB	8.6	A	9.9	A	8.7	A	10.1	B	0.1	-	0.2	A→B
			WB	9.1	A	12.6	B	9.2	A	13.0	B	0.1	-	0.4	-
			NB	8.6	A	11.8	B	8.7	A	12.0	B	0.1	-	0.2	-
			SB	8.9	A	10.5	B	9.0	A	10.7	B	0.1	-	0.2	-
			Overall	8.8	A	11.6	B	8.9	A	11.8	B	0.1	-	0.2	-
4	Center Street & Dunlap Street	Scenario #1 Signalized / Scenario #2 Stop (All-Way) / Scenario #3 Signalized	EBL	21.6	C	25.9	C	22.1	C	26.4	C	0.5	-	0.5	-
			EBTR	18.8	B	19.4	B	18.9	B	19.5	B	0.1	-	0.1	-
			WBL	19.1	B	17.5	B	19.2	B	17.6	B	0.1	-	0.1	-
			WBTR	19.9	B	20.9	C	20.4	C	21.5	C	0.5	B→C	0.6	-
			NBL	1.6	A	3.6	A	1.7	A	4.0	A	0.1	-	0.4	-
			NBTR	1.3	A	2.1	A	1.4	A	2.2	A	0.1	-	0.1	-
			SBL	6.4	A	6.0	A	6.6	A	6.3	A	0.2	-	0.3	-
			SBTR	8.0	A	10.2	B	8.2	A	10.6	B	0.2	-	0.4	-
Overall	7.7	A	9.6	A	7.9	A	9.9	A	0.2	-	0.3	-			
5	Dunlap Street & Hutton Street	Stop (Minor)	EBL	7.6	A	8.2	A	7.7	A	8.2	A	0.1	-	0.0	-
			WB	Free				Free				Free			
			SB	10.8	B	14.4	B	11.0	B	15.0	C	0.2	-	0.6	B→C
6	Main Street & Wing Street	Stop (All-Way)	EB	10.1	B	11.3	B	10.2	B	11.6	B	0.1	-	0.3	-
			WB	9.0	A	10.2	B	9.1	A	10.4	B	0.1	-	0.2	-
			NB	9.0	A	11.6	B	9.0	A	11.8	B	0.0	-	0.2	-
			SB	10.0	B	10.7	B	10.1	B	10.8	B	0.1	-	0.1	-
			Overall	9.7	A	11.0	B	9.8	A	11.2	B	0.1	-	0.2	-
7	Main Street & Center Street	#1 & #3 Signalized / #2 Stop (All-Way)	EB	20.2	B	20.5	C	20.2	B	20.7	C	0.0	-	0.2	-
			WB	19.4	B	20.8	C	19.5	B	21.0	C	0.1	-	0.2	-
			NB	9.9	A	10.1	B	10.2	B	10.4	B	0.3	A→B	0.3	-
			SB	1.1	A	1.9	A	1.2	A	2.0	A	0.1	-	0.1	-
			Overall	9.8	A	10.6	B	9.9	A	10.7	B	0.1	-	0.1	-
8	Main Street & Hutton Street	Scenario #1 Signalized / #2 & #3 Stop (All-Way)	EBTL	0.3	A	0.3	A	0.3	A	0.3	A	0.0	-	0.0	-
			EBR	0.0	A	0.0	A	0.0	A	0.1	A	0.0	-	0.1	-
			WBTL	12.8	B	4.6	A	12.8	B	4.6	A	0.0	-	0.0	-
			WBR	13.7	B	5.9	A	13.7	B	5.9	A	0.0	-	0.0	-
			NB	17.2	B	19.1	B	17.6	B	19.8	B	0.4	-	0.7	-
			SBTL	21.6	C	86.3	F	21.8	C	106.8	F	0.2	-	20.5	-
			SBR	16.5	B	16.5	B	16.5	B	16.5	B	0.0	-	0.0	-
			Overall	12.7	B	24.0	C	12.9	B	29.7	C	0.2	-	5.7	-

Scenerio 1 (Pre-COVID)

Intersection	Control	Approach	Background				Future				Differences				
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	
9	Main Street & Griswold Street	Signalized	EBTL	12.1	B	25.0	C	12.1	B	25.1	C	0.0	-	0.1	-
			EBTR	10.2	B	18.3	B	10.2	B	18.3	B	0.0	-	0.0	-
			WBTL	10.2	B	12.1	B	10.2	B	12.1	B	0.0	-	0.0	-
			WBTR	10.5	B	12.9	B	10.5	B	12.9	B	0.0	-	0.0	-
			NB	15.6	B	17.5	B	15.9	B	17.8	B	0.3	-	0.3	-
			SB	17.2	B	44.9	D	17.3	B	51.9	D	0.1	-	7.0	-
			Overall	13.1	B	24.1	C	13.2	B	26.3	C	0.1	-	2.2	-
10	Main Street & Cady Street	Stop (Minor)	EB	Free				Free				Free			
			WBL	7.9	A	8.9	A	7.9	A	8.9	A	0.0	-	0.0	-
			NB	10.0	B	20.3	C	10.0	B	20.3	C	0.0	-	0.0	-
11	Cady Street & Wing Street	Stop (All-Way)	EB	8.5	A	8.9	A	8.5	A	9.0	A	0.0	-	0.1	-
			WB	8.1	A	8.7	A	8.1	A	8.7	A	0.0	-	0.0	-
			NB	8.2	A	9.4	A	8.2	A	9.4	A	0.0	-	0.0	-
			SB	8.9	B	9.5	A	8.9	B	9.5	A	0.0	-	0.0	-
			Overall	8.6	A	9.2	A	8.6	A	9.2	A	0.0	-	0.0	-
12	Cady Street & Center Street	Stop (Minor)	EB	19.9	C	41.3	E	21.6	C	47.7	E	1.7	-	6.4	-
			WB	48.7	E	184.1	F	58.4	F	258.2	F	9.7	E→F	74.1	-
			NBL	8.4	A	9.2	A	8.4	A	9.3	A	0.0	-	0.1	-
			SBL	9.1	A	9.0	A	9.2	A	9.1	A	0.1	-	0.1	-
13	Cady Street & Hutton Street / N. Site Drive	Stop (Minor)	EBL	7.8	A	7.6	A	7.8	A	7.6	A	0.0	-	0.0	-
			WBL	Free				7.6	A	7.5	A	N/A			
			NB	Free				12.1	B	11.8	B	N/A			
			SB	11.6	B	10.3	B	12.9	B	11.9	B	1.3	-	1.6	-
14	Cady Street & Church Street	Stop (Minor)	EB	Free				Free				Free			
			WB	Free				Free				Free			
			SB	10.4	B	10.0	B	10.5	B	10.0	B	0.1	-	0.0	-
15	Cady Street & Griswold Street	Stop (Minor)	EB	11.7	B	16.1	C	12.2	B	17.3	C	0.5	-	1.2	-
			WB	9.1	A	11.2	B	9.1	A	11.4	B	0.0	-	0.2	-
			NBL	7.4	A	7.6	A	7.4	A	7.6	A	0.0	-	0.0	-
			SBL	7.3	A	7.5	A	7.3	A	7.5	A	0.0	-	0.0	-
16	Beal Street & Griswold Street	Stop (EB & SB)	EB	0.0*	A	0.0*	A	4.9**	A	4.8**	A	4.9**	-	4.8**	-
			WB	Free				Free				Free			
			SB	3.8**	A	3.9**	A	4.1**	A	4.2**	A	0.3**	-	0.3**	-
17	Beal Street & River Street	Stop (Minor)	EB	Free				Free				Free			
			WBL	7.3	A	7.5	A	7.5	A	7.6	A	0.2	-	0.1	-
			NB	9.1	A	9.9	A	9.7	A	10.7	B	0.6	-	0.8	A→B
18	Beal Street & Northville Road	Stop (Minor)	EB	10.6	B	13.0	B	10.7	B	13.3	B	0.1	-	0.3	-
			NBL	8.1	A	8.7	A	8.1	A	8.9	A	0.0	-	0.2	-
			SB	Free				Free				Free			
19	Seven Mile Road & First Street / Fairbrook	Stop (Minor)	EBL	1.5**	A	11.2**	B	1.8**	A	3.6**	A	0.3**	-	-7.6 **	B→A
			WB	Free				Free				Free			
			SB	12.7**	B	29.4**	D	14.5**	B	29.6**	D	1.8**	-	0.2**	-
			SW	10.2**	B	13.2**	B	6.4**	A	11.8**	B	-3.8**	B→A	-1.4**	-

Scenerio 1 (Pre-COVID)

Intersection	Control	Approach	Background				Future				Differences				
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	
20	Fairbrook Street & Wing Street	Stop (All-Way)	EB	7.5	A	8.1	A	7.5	A	8.3	A	0.0	-	0.2	-
			WB	6.8	A	7.9	A	7.0	A	8.1	A	0.2	-	0.2	-
			NB	7.5	A	8.5	A	7.6	A	8.6	A	0.1	-	0.1	-
			SB	7.5	A	8.3	A	7.6	A	8.4	A	0.1	-	0.1	-
			Overall	7.4	A	8.2	A	7.5	A	8.4	A	0.1	-	0.2	-
21	Fairbrook Street & Center Street	Stop (Minor)	EB	23.2	C	24.3	C	33.6	D	133.2	F	10.4	C→D	108.9	C→F
			WB	Free				37.3	E	134.8	F	N/A			
			NBL	8.5	A	10.2	B	8.6	A	10.3	B	0.1	-	0.1	-
			SBL	Free	0.0	0.0	0.0	9.4	A	9.5	A	N/A			
22	Seven Mile Road & Wing Street / St. Lawrence Blvd	Stop (Minor)	EBL	7.8	A	9.3	A	7.8	A	9.3	A	0.0	-	0.0	-
			WBL	8.9	A	8.4	A	8.9	A	8.4	A	0.0	-	0.0	-
			NB	15.5	C	22.5	C	15.6	C	22.9	C	0.1	-	0.4	-
			SB	17.9	C	41.9	E	18.4	C	44.4	E	0.5	-	2.5	-
23	Seven Mile Road & Sheldon Avenue / Center Street	Signalized	EBL	20.7	C	33.5	C	20.8	C	33.8	C	0.1	-	0.3	-
			EBTR	34.1	C	27.0	C	34.3	C	27.1	C	0.2	-	0.1	-
			WBL	38.3	D	40.5	D	38.4	D	40.9	D	0.1	-	0.4	-
			WBT	18.3	B	28.1	C	18.3	B	28.4	C	0.0	-	0.3	-
			WBR	17.4	B	18.5	B	17.6	B	19.0	B	0.2	-	0.5	-
			NBL	20.2	C	43.0	D	21.5	C	47.4	D	1.3	-	4.4	-
			NBTR	22.2	C	28.9	C	22.9	C	32.0	C	0.7	-	3.1	-
			SBL	34.8	C	45.8	D	38.3	D	53.7	D	3.5	C→D	7.9	-
			SBTR	15.6	B	22.4	C	16.2	B	23.7	C	0.6	-	1.3	-
Overall	24.2	C	28.0	C	24.6	C	29.5	C	0.4	-	1.5	-			
24	Seven Mile Road & Hines Drive	Stop (NB Hines & WBL 7 Mile)	WBL	14.7**	B	22.0**	C	20.2**	C	21.8**	C	5.5**	B→C	-0.2**	-
			WBR	Free				Free				Free			
			NB	17.2**	C	33.3**	D	18.5**	C	49.8**	E	1.3**	-	16.5**	D→E
			SBL	4.9**	A	4.0**	A	5.1**	A	4.0**	A	0.2**	-	0.0**	-
25	Seven Mile Road & River Street	Stop (Minor)	EBL	7.7	A	8.8	A	7.8	A	8.9	A	0.1	-	0.1	-
			WB	Free				Free				Free			
			SB	11.0	B	13.8	B	12.0	B	15.7	C	1.0	-	1.9	B→C
26	SB Northville Road & N. Seven Mile Road	Stop/Yield (Minor)	EBT	11.7	B	15.1	C	12.1	B	15.6	C	0.4	-	0.5	-
			EBR	12.4	B	14.3	B	13.2	B	15.0	C	0.8	-	0.7	B→C
			WB	14.2	B	91.3	F	15.4	C	135.0	F	1.2	B→C	43.7	-
			SB	Free				Free				Free			
27	NB Northville Road & N. Seven Mile Road	Yield (Minor)	EBL	14.8	B	33.8	D	15.5	C	41.0	E	0.7	B→C	0.0	D→E
			NBTL	4.8	A	5.9	A	4.9	A	6.0	A	0.1	-	0.0	-
			NBT	Free				Free				Free			
28	Northville Road & S. Seven Mile Road	Signalized	WBL	21.6	C	22.5	C	21.6	C	22.5	C	0.0	-	0.0	-
			WBR	10.0	B	16.0	B	10.2	B	16.9	B	0.2	-	0.9	-
			NBT	41.7	D	142.7	F	43.6	D	157.3	F	1.9	-	14.6	-
			NBTR	60.7	E	144.8	F	60.7	E	158.9	F	0.0	-	14.1	-
			SBL	62.7	E	49.3	D	82.4	F	56.4	E	19.7	E→F	7.1	D→E
			SBT	11.3	B	12.3	B	11.4	B	12.4	B	0.1	-	0.1	-
Overall	39.0	D	63.9	E	44.3	D	69.7	E	5.3	-	5.8	-			

* Indicates no vehicle volume present ** Indicates SimTraffic delay was utilized

Scenerio 2 (Both Closed)

Intersection	Control	Approach	Background				Future				Differences				
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	
1	Randolph Street & Wing Street	Stop (Minor)	EB	Free				Free				Free			
			WBL	7.7	A	8.1	A	7.7	A	8.2	A	0.0	-	0.1	-
			NB	11.1	B	17.4	C	11.3	B	18.3	C	0.2	-	0.9	-
2	Randolph Street & Center Street	Stop (Minor)	EB	19.4	C	38.7	E	20.5	C	44.7	E	1.1	-	6.0	-
			WB	18.7	C	27.5	D	19.8	C	29.9	D	1.1	-	2.4	-
			NBL	8.8	A	8.6	A	8.9	A	8.6	A	0.1	-	0.0	-
			SBL	8.0	A	8.5	A	8.1	A	8.5	A	0.1	-	0.0	-
3	Dunlap Street & Wing Street	Stop (All-Way)	EB	10.1	B	12.6	B	10.3	B	13.1	B	0.2	-	0.5	-
			WB	16.3	C	27.0	D	17.4	C	31.6	D	1.1	-	4.6	-
			NB	12.7	B	28.7	D	13.5	B	33.5	D	0.8	-	4.8	-
			SB	11.0	B	15.3	C	11.2	B	16.5	C	0.2	-	1.2	-
			Overall	13.6	B	24.1	C	14.4	B	27.7	D	0.8	-	3.6	C→D
4	Center Street & Dunlap Street	Scenario #1 Signalized / Scenario #2 Stop (All-Way) / Scenario #3 Signalized	EBL	15.4	C	19.5	C	16.3	C	20.6	C	0.9	-	1.1	-
			EBTR	10.2	B	11.6	B	10.0	B	11.8	B	-0.2	-	0.2	-
			WBL	N/A				N/A				N/A			
			WBTR	11.9	B	20.7	C	12.8	B	22.6	C	0.9	-	1.9	-
			NBL	N/A				N/A				N/A			
			NBTR	N/A				N/A				N/A			
			SBL	15.0	B	20.2	C	16.0	C	22.9	C	1.0	B→C	2.7	-
			SBTR	13.5	B	14.4	B	14.1	B	14.9	B	0.6	-	0.5	-
Overall	13.7	B	18.2	C	14.5	B	19.8	C	0.8	-	1.6	-			
5	Dunlap Street & Hutton Street	Stop (Minor)	EBL	8.0	A	8.7	A	8.1	A	8.7	A	0.1	-	0.0	-
			WB	Free				Free				Free			
			SB	13.9	B	21.7	C	14.5	B	23.5	C	0.6	-	1.8	-
6	Main Street & Wing Street	Stop (All-Way)	EB	11.9	B	13.9	B	12.2	B	14.8	B	0.3	-	0.9	-
			WB	10.0	A	12.8	B	10.4	B	13.8	B	0.4	A→B	1.0	-
			NB	10.9	B	19.0	C	11.2	B	20.5	C	0.3	-	1.5	-
			SB	15.5	C	19.3	C	16.5	C	22.1	C	1.0	-	2.8	-
			Overall	13.0	B	17.1	C	13.6	B	18.8	C	0.6	-	1.7	-
7	Main Street & Center Street	#1 & #3 Signalized / #2 Stop (All-Way)	EB	7.3	A	7.4	A	7.4	A	7.6	A	0.1	-	0.2	-
			WB	N/A				N/A				N/A			
			NB	8.4	A	8.9	A	8.6	A	9.2	A	0.2	-	0.3	-
			SB	N/A				N/A				1.0			
			Overall	7.9	A	8.3	A	8.0	A	8.6	A	0.1	-	0.3	-
8	Main Street & Hutton Street	Scenario #1 Signalized / #2 & #3 Stop (All-Way)	EBTL	N/A				N/A				N/A			
			EBr	N/A				N/A				N/A			
			WBTL	9.6	A	10.2	B	9.7	A	10.5	B	0.1	-	0.3	-
			WBR	10.6	B	16.3	C	11.0	B	16.9	C	0.4	-	0.6	-
			NB	10.6	B	12.1	B	11.4	B	12.7	B	0.8	-	0.6	-
			SBTL	13.2	B	17.6	C	13.6	B	18.1	C	0.4	-	0.5	-
			SBR	8.9	A	10.2	B	9.1	A	10.7	B	0.2	-	0.5	-
			Overall	11.3	B	15.0	B	11.7	B	15.4	C	0.4	-	0.4	B→C

Scenerio 2 (Both Closed)

Intersection	Control	Approach	Background				Future				Differences				
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	
9	Main Street & Griswold Street	Signalized	EBTL	9.6	A	10.4	B	9.6	A	10.4	B	0.0	-	0.0	-
			EBTR	9.7	A	10.4	B	9.7	A	10.4	B	0.0	-	0.0	-
			WBTL	10.5	B	11.3	B	10.5	B	11.3	B	0.0	-	0.0	-
			WBTR	10.9	B	12.2	B	10.9	B	12.2	B	0.0	-	0.0	-
			NB	16.6	B	17.8	B	17.0	B	18.1	B	0.4	-	0.3	-
			SB	17.7	B	32.5	C	17.9	B	35.8	D	0.2	-	3.3	C→D
			Overall	13.5	B	18.4	B	13.7	B	19.5	B	0.2	-	1.1	-
10	Main Street & Cady Street	Stop (Minor)	EB	Free				Free				Free			
			WBL	8.0	A	8.6	A	8.0	A	8.6	A	0.0	-	0.0	-
			NB	10.6	B	16.8	C	10.6	B	16.8	C	0.0	-	0.0	-
11	Cady Street & Wing Street	Stop (All-Way)	EB	9.5	A	9.9	A	9.6	A	10.0	A	0.1	-	0.1	-
			WB	9.3	A	10.2	B	9.4	A	10.2	B	0.1	-	0.0	-
			NB	9.4	A	11.4	B	9.5	A	11.5	B	0.1	-	0.1	-
			SB	12.1	B	13.0	B	12.2	B	13.1	B	0.1	-	0.1	-
			Overall	10.7	B	11.6	B	10.8	B	11.7	B	0.1	-	0.1	-
12	Cady Street & Center Street	Stop (Minor)	EB	15.2	C	25.3	D	15.9	C	29.0	D	0.7	-	3.7	-
			WB	52.7	F	436.6	F	67.5	F	564.0	F	14.8	-	127.4	-
			NBL	7.6	A	7.7	A	7.6	A	7.8	A	0.0	-	0.1	-
			SBL	8.2	A	8.5	A	8.3	A	8.6	A	0.1	-	0.1	-
13	Cady Street & Hutton Street	Stop (Minor)	EBL	8.4	A	8.3	A	8.4	A	8.4	A	0.0	-	0.1	-
			WB	Free				7.6	A	7.8	A	N/A			
			NB	Free				19.7	C	27.3	D	N/A			
			SB	11.8	B	15.5	C	14.3	B	26.8	D	2.5	-	11.3	C→D
14	Cady Street & Church Street	Stop (Minor)	EB	Free				Free				Free			
			WB	Free				Free				Free			
			SB	11.8	B	11.8	B	12.0	B	11.9	B	0.2	-	0.1	-
15	Cady Street & Griswold Street	Stop (Minor)	EB	14.1	B	18.4	C	15.1	C	19.8	C	1.0	B→C	1.4	-
			WB	10.1	B	11.0	B	10.3	B	11.2	B	0.2	-	0.2	-
			NBL	7.7	A	7.9	A	7.7	A	7.9	A	0.0	-	0.0	-
			SBL	7.3	A	7.3	A	7.4	A	7.4	A	0.1	-	0.1	-
16	Beal Street & Griswold Street	Stop (EB & SB)	EB	0.0*	A	0.0*	A	5.0**	A	5.1**	A	5.0**	-	5.1**	-
			WB	Free				Free				Free			
			SB	3.8**	A	3.8**	A	3.9**	A	4.2**	A	0.1**	-	0.4**	-
17	Beal Street & River Street	Stop (Minor)	EB	Free				Free				Free			
			WBL	7.3	A	7.4	A	7.5	A	7.5	A	0.2	-	0.1	-
			NB	9.2	A	9.6	A	9.6	A	10.3	B	0.4	-	0.7	A→B
18	Beal Street & Northville Road	Stop (Minor)	EB	9.9	A	11.6	B	9.9	A	11.9	B	0.0	-	0.3	-
			NBL	8.1	A	8.7	A	8.1	A	8.8	A	0.0	-	0.1	-
			SB	Free				Free				Free			
19	Seven Mile Road & First Street / Fairbrook Street	Stop (Minor)	EBL	1.3**	A	3.3**	A	2.2**	A	1.2**	A	0.9**	-	-2.1**	-
			WB	Free				Free				Free			
			SB	10.6**	B	14.4**	B	14.6**	B	10.8**	B	4.0**	-	-3.6**	-
			SW	9.9**	A	6.2**	A	9.9**	A	6.8**	A	0.0**	-	0.6**	-

Scenerio 2 (Both Closed)

Intersection	Control	Approach	Background				Future				Differences				
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	
20	Fairbrook Street & Wing Street	Stop (All-Way)	EB	8.1	A	8.4	A	8.2	A	8.6	A	0.1	-	0.2	-
			WB	7.4	A	8.1	A	7.6	A	8.2	A	0.2	-	0.1	-
			NB	8.3	A	8.8	A	8.4	A	8.9	A	0.1	-	0.1	-
			SB	8.9	A	9.4	A	9.1	A	9.5	A	0.2	-	0.1	-
			Overall	8.5	A	8.9	A	8.6	A	9.0	A	0.1	-	0.1	-
21	Fairbrook Street & Center Street	Stop (Minor)	EB	14.7	B	14.1	B	17.7	C	24.7	C	3.0	B→C	10.6	B→C
			WB	Free				23.2	C	30.1	D	N/A			
			NBL	8.3	A	8.4	A	8.4	A	8.5	A	3.0	-	0.1	-
			SB	Free				8.3	A	8.7	A	N/A			
22	Seven Mile Road & Wing Street / St. Lawrence Blvd	Stop (Minor)	EBL	7.9	A	8.9	A	7.9	A	9.0	A	0.0	-	0.1	-
			WBL	8.2	A	8.1	A	8.2	A	8.1	A	0.0	-	0.0	-
			NB	13.3	B	18.1	C	13.4	B	18.3	C	0.1	-	0.2	-
			SB	23.4	C	105.0	F	24.1	C	114.7	F	0.7	-	9.7	-
23	Seven Mile Road & Sheldon Avenue / Center Street	Signalized	EBL	20.5	C	31.4	C	20.6	C	31.7	C	0.1	-	0.3	-
			EBTR	30.0	C	29.0	C	30.2	C	29.1	C	0.2	-	0.1	-
			WBL	40.8	D	53.1	D	41.1	D	54.0	D	0.3	-	0.9	-
			WBT	18.9	B	26.8	C	18.9	B	27.0	C	0.0	-	0.2	-
			WBR	16.8	B	18.0	B	17.0	B	18.5	B	0.2	-	0.5	-
			NBL	22.5	C	21.0	C	24.4	C	22.0	C	1.9	-	1.0	-
			NBTR	16.9	B	19.8	B	17.2	B	20.8	C	0.3	-	1.0	B→C
			SBL	21.6	C	28.4	C	22.8	C	30.9	C	1.2	-	2.5	-
			SBTR	16.1	B	14.4	B	16.9	B	14.8	B	0.8	-	0.4	-
Overall	21.6	C	24.4	C	21.9	C	24.8	C	0.3	-	0.4	-			
24	Seven Mile Road & Hines Drive	Stop (NB Hines & WBL 7 Mile)	WBL	12.4**	B	19.8**	C	8.4**	A	21.5**	C	-4.0**	B→A	1.7**	-
			WBR	Free				Free				Free			
			NB	13.0**	B	35.5**	D	14.4**	B	30.3**	D	1.4**	-	-5.2**	-
			SBL	4.0**	A	3.8**	A	3.6**	A	3.7**	A	-0.4**	-	-0.1**	-
25	Seven Mile Road & River Street	Stop (Minor)	EBL	7.9	A	8.7	A	7.8	A	8.8	A	-0.1	-	0.1	-
			WB	Free				Free				Free			
			SB	10.9	B	14.1	B	11.8	B	15.8	C	0.9	-	1.7	B→C
26	SB Northville Road & N. Seven Mile Road	Stop/Yield (Minor)	EBT	11.6	B	14.5	B	12.0	B	15.0	B	0.4	-	0.5	-
			EBR	11.0	B	13.9	B	11.5	B	14.6	B	0.5	-	0.7	-
			WB	14.2	B	87.8	F	15.4	C	130.8	F	1.2	B→C	43.0	-
			SB	Free				Free				Free			
27	NB Northville Road & N. Seven Mile Road	Yield (Minor)	EBL	15.4	C	32.7	D	16.2	C	38.1	E	0.8	-	5.4	D→E
			NBTL	4.8	A	6.2	A	4.9	A	6.3	A	0.1	-	0.1	-
			NBT	Free				Free				Free			
28	Northville Road & S. Seven Mile Road	Signalized	WBL	21.6	C	24.9	C	21.6	C	24.9	C	0.0	-	0.0	-
			WBR	9.6	A	15.4	B	9.8	A	16.4	B	0.2	-	1.0	-
			NBT	53.6	D	120.1	F	58.4	E	133.4	F	4.8	D→E	13.3	-
			NBTR	71.9	E	123.3	F	71.9	E	136.1	F	0.0	-	12.8	-
			SBL	38.2	D	43.2	D	43.8	D	47.9	D	5.6	-	4.7	-
			SBT	11.4	B	12.1	B	11.5	B	12.2	B	0.1	-	0.1	-
Overall	37.8	D	54.4	D	39.4	D	59.2	E	1.6	-	4.8	D→E			

* Indicates no vehicle volume present ** Indicates SimTraffic delay was utilized

Scenerio 3 (Main St. Closed)

Intersection	Control	Approach	Background				Future				Differences				
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	
1	Randolph Street & Wing Street	Stop (Minor)	EB	Free				Free				Free			
			WBL	7.7	A	8.1	A	7.7	A	8.2	A	0.0	-	0.1	-
			NB	11.4	B	16.3	C	11.6	B	17.0	C	0.2	-	0.7	-
2	Randolph Street & Center Street	Stop (Minor)	EB	28.8	D	187.7	F	31.4	D	237.6	F	2.6	-	49.9	-
			WB	31.7	D	92.1	F	34.5	D	122.4	F	2.8	-	30.3	-
			NBL	9.0	A	9.1	A	9.1	A	9.2	A	0.1	-	0.1	-
			SBL	8.7	A	9.3	A	8.8	A	9.3	A	0.1	-	0.0	-
3	Dunlap Street & Wing Street	Stop (All-Way)	EB	8.5	A	9.5	A	8.5	A	9.6	A	0.0	-	0.1	-
			WB	8.8	A	11.4	B	8.9	A	11.7	B	0.1	-	0.3	-
			NB	8.4	A	10.9	B	8.5	A	11.0	B	0.1	-	0.1	-
			SB	8.8	B	9.9	A	8.9	B	10.1	B	0.1	-	0.2	A→B
			Overall	8.6	A	10.7	B	8.7	A	10.9	B	0.1	-	0.2	-
4	Center Street & Dunlap Street	Scenario #1 Signalized / Scenario #2 Stop (All-Way) / Scenario #3 Signalized	EBL	26.5	C	44.6	D	27.5	C	47.8	D	1.0	-	3.2	-
			EBTR	18.6	B	19.9	B	18.7	B	20.1	C	0.1	-	0.2	B→C
			WBL	18.9	B	20.1	C	19.0	B	20.2	C	0.1	-	0.1	-
			WBTR	23.4	C	48.2	D	24.3	C	52.7	D	0.9	-	4.5	-
			NBL	1.1	A	2.4	A	1.2	A	2.7	A	0.1	-	0.3	-
			NBTR	1.2	A	1.2	A	1.2	A	1.3	A	0.0	-	0.1	-
			SBL	6.0	A	5.8	A	6.2	A	6.0	A	0.2	-	0.2	-
			SBTR	7.4	A	8.9	A	7.5	A	9.2	A	0.1	-	0.3	-
Overall	9.2	A	16.6	B	9.5	A	17.7	B	0.3	-	1.1	-			
5	Dunlap Street & Hutton Street	Stop (Minor)	EBL	7.9	A	8.7	A	8.0	A	8.7	A	0.1	-	0.0	-
			WB	Free				Free				Free			
			SB	13.7	B	21.7	C	14.1	B	23.3	C	0.4	-	1.6	-
6	Main Street & Wing Street	Stop (All-Way)	EB	9.8	A	10.2	A	9.9	A	10.4	A	0.1	-	0.2	-
			WB	8.6	A	8.9	A	8.6	A	9.0	A	0.0	-	0.1	-
			NB	8.7	A	10.1	B	8.8	A	10.2	B	0.1	-	0.1	-
			SB	9.5	A	9.5	A	9.5	A	9.6	A	0.0	-	0.1	-
			Overall	9.3	A	9.8	A	9.4	A	10.0	A	0.1	-	0.2	-
7	Main Street & Center Street	#1 & #3 Signalized / #2 Stop (All-Way)	EB	20.0	C	18.3	C	20.1	C	18.4	C	0.1	-	0.1	-
			WB	N/A				N/A				N/A			
			NB	9.1	A	9.0	A	9.3	A	9.2	A	0.2	-	0.2	-
			SB	1.0	A	1.6	A	1.0	A	1.7	A	1.0			
			Overall	7.8	A	6.2	A	7.9	A	6.4	A	0.1	-	0.2	-
8	Main Street & Hutton Street	Scenario #1 Signalized / #2 & #3 Stop (All-Way)	EBTL	N/A				N/A				N/A			
			EBR	N/A				N/A				N/A			
			WBTL	9.5	A	10.2	B	9.6	A	10.4	B	0.1	-	0.2	-
			WBR	10.6	B	16.3	C	10.9	B	16.8	C	0.3	-	0.5	-
			NB	10.3	B	12.1	B	10.8	B	12.6	B	0.5	-	0.5	-
			SBTL	13.1	B	17.6	C	13.4	B	17.9	C	0.3	-	0.3	-
			SBR	8.9	A	10.2	B	9.1	A	10.5	B	0.2	-	0.3	-
			Overall	11.2	B	15.0	B	11.5	B	15.3	C	0.3	-	0.3	B→C

Scenerio 3 (Main St. Closed)

Intersection	Control	Approach	Background				Future				Differences				
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	
9	Main Street & Griswold Street	Signalized	EBTL	9.6	A	10.4	B	9.6	A	10.4	B	0.0	-	0.0	-
			EBTR	9.7	A	10.4	B	9.7	A	10.4	B	0.0	-	0.0	-
			WBTL	10.5	B	11.3	B	10.5	B	11.3	B	0.0	-	0.0	-
			WBTR	10.9	B	12.2	B	10.9	B	12.2	B	0.0	-	0.0	-
			NB	15.9	B	16.8	C	16.4	B	17.1	C	0.5	-	0.3	-
			SB	17.8	B	26.5	C	18.0	B	28.4	C	0.2	-	1.9	-
			Overall	13.3	B	16.3	B	13.5	B	17.0	B	0.2	-	0.7	-
10	Main Street & Cady Street	Stop (Minor)	EB	Free				Free				Free			
			WBL	8.0	A	8.6	A	8.0	A	8.6	A	0.0	-	0.0	-
			NB	10.6	B	16.8	C	10.6	B	16.8	C	0.0	-	0.0	-
11	Cady Street & Wing Street	Stop (All-Way)	EB	8.3	A	8.6	A	8.3	A	8.6	A	0.0	-	0.0	-
			WB	7.9	A	8.4	A	7.9	A	8.4	A	0.0	-	0.0	-
			NB	8.0	A	8.9	A	8.0	A	9.0	A	0.0	-	0.1	-
			SB	8.6	A	9.0	A	8.6	A	9.1	A	0.0	-	0.1	-
			Overall	8.3	A	8.8	A	8.3	A	8.8	A	0.0	-	0.0	-
12	Cady Street & Center Street	Stop (Minor)	EB	36.7	E	150.3	F	41.7	E	216.5	F	5.0	-	66.2	-
			WB	309.6	F	2200.0	F	410.3	F	3867.1	F	100.7	-	1667.1	-
			NBL	8.2	A	8.7	A	8.3	A	8.8	A	0.1	-	0.1	-
			SBL	9.1	A	9.3	A	9.2	A	9.4	A	0.1	-	0.1	-
13	Cady Street & Hutton Street	Stop (Minor)	EBL	8.3	A	8.1	A	8.3	A	8.1	A	0.0	-	0.0	-
			WB	Free				7.6	A	7.7	A	N/A			
			NB	N/A				16.1	C	19.1	C	N/A			
			SB	11.6	B	13.1	B	12.9	B	16.3	C	1.3	-	3.2	B→C
14	Cady Street & Church Street	Stop (Minor)	EB	Free				Free				Free			
			WB	Free				Free				Free			
			SB	11.6	B	11.1	B	11.8	B	11.2	B	0.2	-	0.1	-
15	Cady Street & Griswold Street	Stop (Minor)	EB	13.3	B	15.7	C	14.2	B	16.8	C	0.9	-	1.1	-
			WB	10.1	B	10.8	B	10.2	B	11.0	B	0.1	-	0.2	-
			NBL	7.7	A	7.8	A	7.7	A	7.8	A	0.0	-	0.0	-
			SBL	7.3	A	7.3	A	7.4	A	7.4	A	0.1	-	0.1	-
16	Beal Street & Griswold Street	Stop (EB & SB)	EB	0.0*	A	0.0*	A	4.8**	A	4.9**	A	4.8**	-	4.9**	-
			WB	Free				Free				Free			
			SB	3.7**	A	3.9**	A	3.8**	A	4.2**	A	0.1**	-	0.3**	-
17	Beal Street & River Street	Stop (Minor)	EB	Free				Free				Free			
			WBL	7.3	A	7.4	A	7.5	A	7.5	A	0.2	-	0.1	-
			NB	9.2	A	9.6	A	9.6	A	10.3	B	0.4	-	0.7	A→B
18	Beal Street & Northville Road	Stop (Minor)	EB	9.9	A	11.6	B	9.9	A	11.9	B	0.0	-	0.3	-
			NBL	8.1	A	8.7	A	8.1	A	8.8	A	0.0	-	0.1	-
			SB	Free				Free				Free			
19	Seven Mile Road & First Street / Fairbrook Street	Stop (Minor)	EBL	3.4**	A	2.5**	A	1.6**	A	1.8**	A	-1.8**	-	-0.7**	-
			WB	Free				Free				Free			
			SB	10.8**	B	11.3**	B	6.2**	A	12.4**	B	-4.6**	B→A	1.1**	-
			SW	12.8**	B	8.2**	A	8.9**	A	9.4**	A	-3.9**	B→A	1.2**	-

Scenerio 3 (Main St. Closed)

Intersection	Control	Approach	Background				Future				Differences				
			AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		
			Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	
20	Fairbrook Street & Wing Street	Stop (All-Way)	EB	7.4	A	8.0	A	7.5	A	8.1	A	0.1	-	0.1	-
			WB	6.7	A	7.7	A	6.9	A	7.8	A	0.2	-	0.1	-
			NB	7.5	A	8.2	A	7.5	A	8.3	A	0.0	-	0.1	-
			SB	7.5	A	8.1	A	7.5	A	8.2	A	0.0	-	0.1	-
			Overall	7.4	A	8.0	A	7.4	A	8.1	A	0.0	-	0.1	-
21	Fairbrook Street & Center Street	Stop (Minor)	EB	18.7	B	19.6	C	24.5	C	62.2	F	5.8	B→C	42.6	C→F
			WB	Free				28.2	D	68.1	F	N/A			
			NBL	8.3	A	9.6	A	8.4	A	9.7	A	0.1	-	0.1	-
			SB	Free				9.1	A	9.1	A	N/A			
22	Seven Mile Road & Wing Street / St. Lawrence Blvd	Stop (Minor)	EBL	7.8	A	9.0	A	7.9	A	9.0	A	0.1	-	0.0	-
			WBL	8.2	A	8.5	A	8.2	A	8.5	A	0.0	-	0.0	-
			NB	13.0	B	21.4	C	13.1	B	21.7	C	0.1	-	0.3	-
			SB	14.8	B	33.3	D	15.1	C	34.8	D	0.3	B→C	1.5	-
23	Seven Mile Road & Sheldon Avenue / Center Street	Signalized	EBL	21.6	C	30.4	C	21.7	C	30.7	C	0.1	-	0.3	-
			EBTR	23.5	C	27.7	C	23.5	C	27.8	C	0.0	-	0.1	-
			WBL	27.3	C	39.6	D	27.4	C	39.9	D	0.1	-	0.3	-
			WBT	19.0	B	25.5	C	19.0	B	25.6	C	0.0	-	0.1	-
			WBR	17.2	B	18.2	B	17.4	B	18.7	B	0.2	-	0.5	-
			NBL	18.4	B	31.8	C	19.5	B	33.9	C	1.1	-	2.1	-
			NBTR	19.2	B	22.4	C	19.7	B	23.8	C	0.5	-	1.4	-
			SBL	27.9	C	32.9	C	30.0	C	36.1	D	2.1	-	3.2	C→D
Overall	19.6	B	24.4	C	20.0	B	25.1	C	0.4	-	0.7	-			
24	Seven Mile Road & Hines Drive	Stop (NB Hines & WBL 7 Mile)	WBL	5.3**	A	23.1**	C	12.8**	B	43.0**	E	7.5**	A→B	19.9**	C→E
			WBR	Free				Free				Free			
			NB	12.1**	B	73.5**	F	15.0**	C	95.1**	F	2.9**	B→C	21.6**	-
			SBL	3.4**	A	4.2**	A	3.9**	A	4.3**	A	0.5**	-	0.1**	-
25	Seven Mile Road & River Street	Stop (Minor)	EBL	7.8	A	8.7	A	7.8	A	8.8	A	0.0	-	0.1	-
			WB	Free				Free				Free			
			SB	10.9	B	14.0	B	11.8	B	15.9	C	0.9	-	1.9	B→C
26	SB Northville Road & N. Seven Mile Road	Stop/Yield (Minor)	EBT	11.6	B	14.5	B	12.0	B	15.0	B	0.4	-	0.5	-
			EBR	11.0	B	13.9	B	11.5	B	14.6	B	0.5	-	0.7	-
			WB	14.2	B	88.2	F	15.4	C	131.4	F	1.2	B→C	43.2	-
			SB	Free				Free				Free			
27	NB Northville Road & N. Seven Mile Road	Yield (Minor)	EBL	15.4	C	32.7	D	16.2	C	38.1	E	0.8	-	5.4	D→E
			NBTL	4.8	A	6.2	A	4.9	A	6.3	A	0.1	-	0.1	-
			NBT	Free				Free				Free			
28	Northville Road & S. Seven Mile Road	Signalized	WBL	21.6	C	24.9	C	21.6	C	24.9	C	0.0	-	0.0	-
			WBR	9.6	A	15.4	B	9.8	A	16.4	B	0.2	-	1.0	-
			NBT	53.6	D	120.1	F	58.4	E	133.4	F	4.8	D→E	13.3	-
			NBTR	71.9	E	123.3	F	71.9	E	136.1	F	0.0	-	12.8	-
			SBL	38.2	D	43.2	D	43.8	D	47.9	D	5.6	-	4.7	-
			SBT	11.4	B	12.1	B	11.5	B	12.2	B	0.1	-	0.1	-
Overall	37.8	D	54.4	D	39.4	D	59.2	D	1.6	-	4.8	-			

* Indicates no vehicle volume present ** Indicates S.