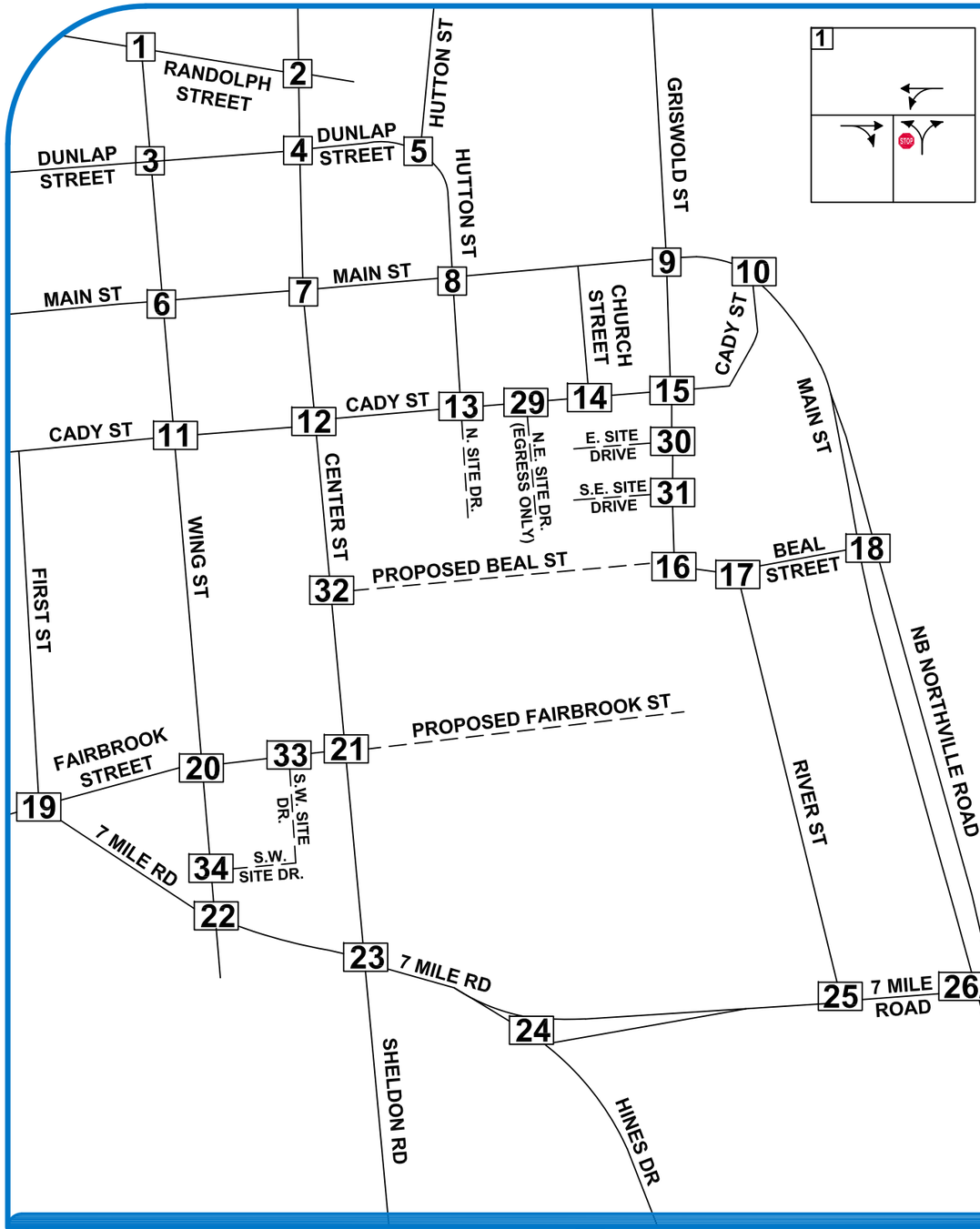
Appendix A

BACKGROUND INFORMATION



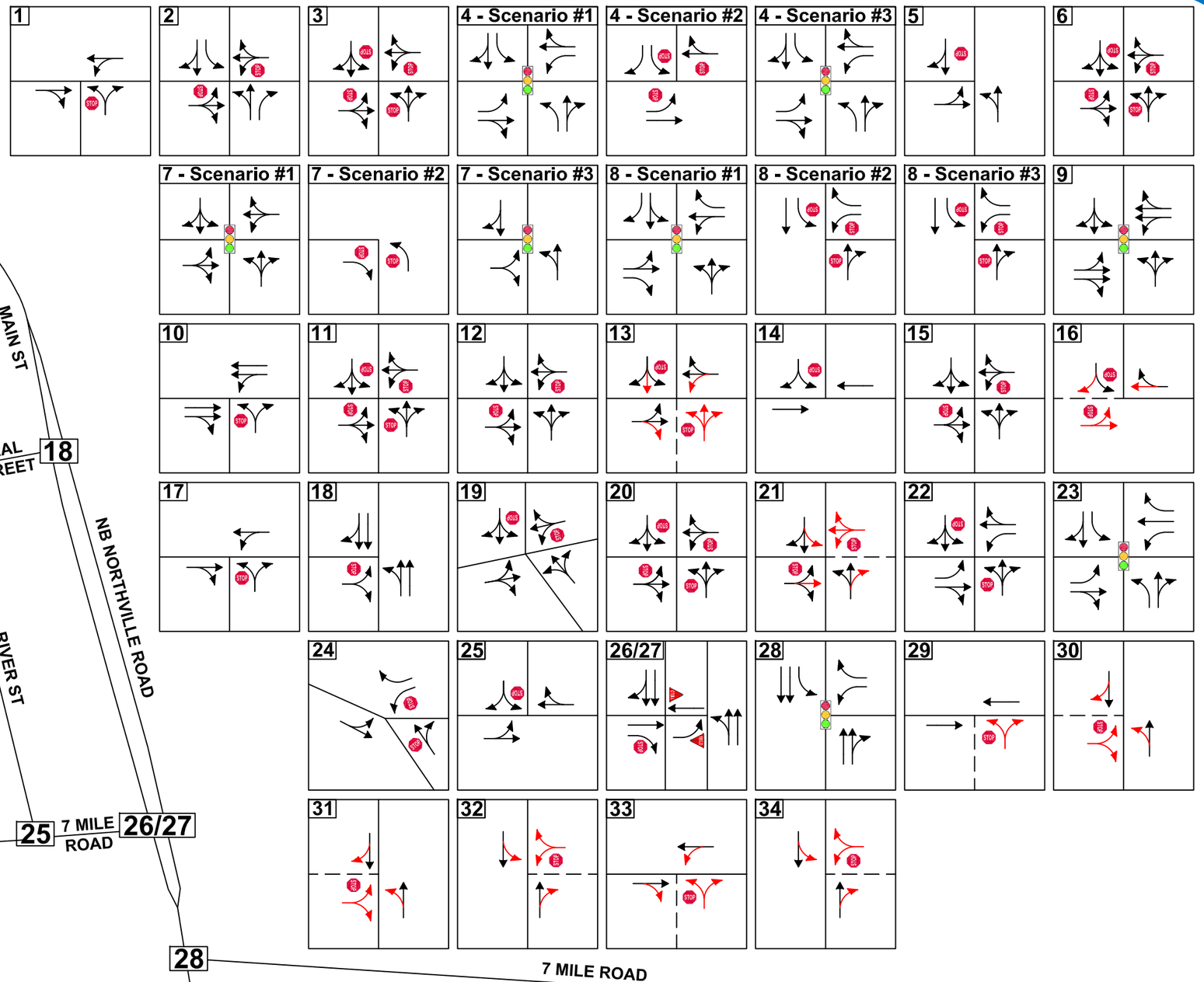


FIGURE 2
LANE USE AND TRAFFIC CONTROL

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

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

NORTH

SCALE: NOT TO SCALE

F&V

Traffic Data Collection, LLC

www:tdccounts.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 5RA 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.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Center Street Southbound					Mian Street Westbound					Center Street Northbound					Mian Street Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	1	126	7	5	139	2	9	8	0	19	8	57	1	0	66	11	18	4	1	34	258
07:15 AM	3	81	3	2	89	4	18	7	1	30	7	96	1	1	105	5	25	5	0	35	259
07:30 AM	1	86	7	2	96	3	14	12	1	30	9	115	0	2	126	9	22	9	0	40	292
07:45 AM	5	98	5	3	111	5	15	12	1	33	6	132	2	2	142	4	22	8	0	34	320
Total	10	391	22	12	435	14	56	39	3	112	30	400	4	5	439	29	87	26	1	143	1129
08:00 AM	7	82	13	1	103	7	15	7	0	29	7	96	1	2	106	5	34	8	2	49	287
08:15 AM	7	72	6	0	85	8	15	13	0	36	7	89	2	0	98	3	26	20	0	49	268
08:30 AM	5	82	6	3	96	6	15	12	0	33	8	106	0	1	115	3	32	9	3	47	291
08:45 AM	5	80	7	2	94	6	21	12	1	40	10	104	5	5	124	6	25	9	3	43	301
Total	24	316	32	6	378	27	66	44	1	138	32	395	8	8	443	17	117	46	8	188	1147
*** BREAK ***																					
04:00 PM	10	76	6	9	101	19	27	11	7	64	24	100	2	7	133	7	27	7	9	50	348
04:15 PM	7	105	6	4	122	9	37	11	2	59	11	122	4	5	142	5	32	9	11	57	380
04:30 PM	8	118	4	8	138	11	32	17	1	61	16	116	3	9	144	10	19	9	12	50	393
04:45 PM	4	123	6	4	137	20	39	18	4	81	10	120	2	6	138	6	21	8	5	40	396
Total	29	422	22	25	498	59	135	57	14	265	61	458	11	27	557	28	99	33	37	197	1517
05:00 PM	9	130	7	8	154	9	36	23	7	75	6	141	2	7	156	7	30	13	1	51	436
05:15 PM	7	134	5	12	158	13	24	26	7	70	6	131	4	11	152	10	28	7	9	54	434
05:30 PM	6	137	6	9	158	16	23	20	6	65	8	133	1	10	152	9	35	4	8	56	431
05:45 PM	1	114	8	12	135	21	32	26	4	83	8	118	6	16	148	7	15	9	8	39	405
Total	23	515	26	41	605	59	115	95	24	293	28	523	13	44	608	33	108	33	26	200	1706
Grand Total	86	1644	102	84	1916	159	372	235	42	808	151	1776	36	84	2047	107	411	138	72	728	5499
Apprch %	4.5	85.8	5.3	4.4		19.7	46	29.1	5.2		7.4	86.8	1.8	4.1		14.7	56.5	19	9.9		
Total %	1.6	29.9	1.9	1.5	34.8	2.9	6.8	4.3	0.8	14.7	2.7	32.3	0.7	1.5	37.2	1.9	7.5	2.5	1.3	13.2	
Pass Cars	86	1612	101	0	1799	159	367	234	0	760	150	1740	35	0	1925	106	407	136	0	649	5133
% Pass Cars	100	98.1	99	0	93.9	100	98.7	99.6	0	94.1	99.3	98	97.2	0	94	99.1	99	98.6	0	89.1	93.3
Single Units	0	32	1	0	33	0	5	1	0	6	1	34	1	0	36	1	3	2	0	6	81
% Single Units	0	1.9	1	0	1.7	0	1.3	0.4	0	0.7	0.7	1.9	2.8	0	1.8	0.9	0.7	1.4	0	0.8	1.5
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	1	0	0	1	3
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0.1	0	0	0.1	0	0.2	0	0	0.1	0.1
Peds	0	0	0	84	84	0	0	0	42	42	0	0	0	84	84	0	0	0	72	72	282
% Peds	0	0	0	100	4.4	0	0	0	100	5.2	0	0	0	100	4.1	0	0	0	100	9.9	5.1

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.

Traffic Data Collection, LLC

www:tdccounts.com

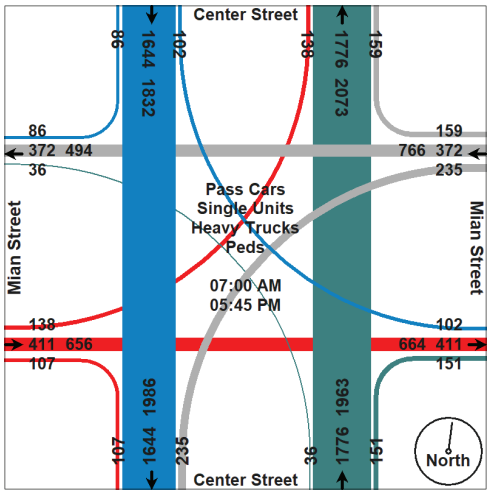
Phone: 586.786-5407

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 5RA SW

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



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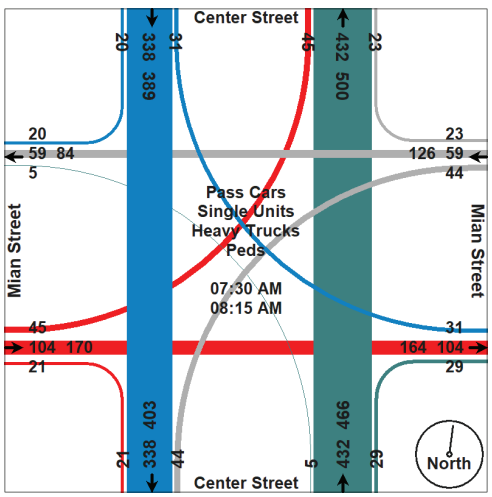
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 5RA SW

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

	Center Street Southbound				Mian Street Westbound				Center Street Northbound				Mian Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	1	86	7	94	3	14	12	29	**9**	115	0	124	**9**	22	9	40	287
07:45 AM	5	**98**	5	**108**	5	**15**	12	32	6	**132**	**2**	**140**	4	22	8	34	**314**
08:00 AM	**7**	82	**13**	102	7	15	7	29	7	96	1	104	5	**34**	8	47	282
08:15 AM	7	72	6	85	**8**	15	**13**	**36**	7	89	2	98	3	26	**20**	**49**	268
Total Volume	20	338	31	389	23	59	44	126	29	432	5	466	21	104	45	170	1151
% App. Total	5.1	86.9	8		18.3	46.8	34.9		6.2	92.7	1.1		12.4	61.2	26.5		
PHF	.714	.862	.596	.900	.719	.983	.846	.875	.806	.818	.625	.832	.583	.765	.563	.867	.916
Pass Cars	20	326	31	377	23	57	44	124	29	417	5	451	21	103	44	168	1120
% Pass Cars	100	96.4	100	96.9	100	96.6	100	98.4	100	96.5	100	96.8	100	99.0	97.8	98.8	97.3
Single Units	0	12	0	12	0	2	0	2	0	15	0	15	0	1	1	2	31
% Single Units	0	3.6	0	3.1	0	3.4	0	1.6	0	3.5	0	3.2	0	1.0	2.2	1.2	2.7
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC

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Phone: 586.786-5407

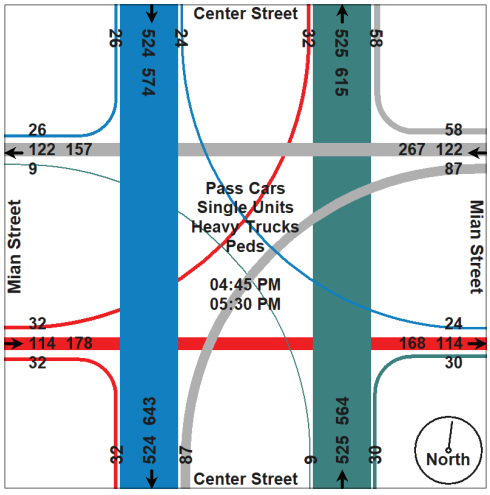
Traffic Study Performed For:

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 5RA SW

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

	Center Street Southbound				Mian Street Westbound				Center Street Northbound				Mian Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	4	123	6	133	**20**	**39**	18	**77**	**10**	120	2	132	6	21	8	35	377
05:00 PM	**9**	130	**7**	146	9	36	23	68	6	**141**	2	**149**	7	30	**13**	**50**	**413**
05:15 PM	7	134	5	146	13	24	**26**	63	6	131	**4**	141	**10**	28	7	45	395
05:30 PM	6	**137**	6	**149**	16	23	20	59	8	133	1	142	9	**35**	4	48	398
Total Volume	26	524	24	574	58	122	87	267	30	525	9	564	32	114	32	178	1583
% App. Total	4.5	91.3	4.2		21.7	45.7	32.6		5.3	93.1	1.6		18	64	18		
PHF	.722	.956	.857	.963	.725	.782	.837	.867	.750	.931	.563	.946	.800	.814	.615	.890	.958
Pass Cars	26	521	24	571	58	122	87	267	30	525	9	564	32	112	32	176	1578
% Pass Cars	100	99.4	100	99.5	100	100	100	100	100	100	100	100	100	98.2	100	98.9	99.7
Single Units	0	3	0	3	0	0	0	0	0	0	0	0	0	2	0	2	5
% Single Units	0	0.6	0	0.5	0	0	0	0	0	0	0	0	0	1.8	0	1.1	0.3
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC

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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 5DV 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.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Hutton Street Southbound					Main Street Westbound					Hutton Street Northbound					Main Street Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	3	0	27	1	31	12	18	0	0	30	2	3	0	1	6	0	31	0	0	31	98
07:15 AM	1	2	29	4	36	16	21	1	1	39	8	2	2	0	12	1	32	1	0	34	121
07:30 AM	0	0	41	1	42	37	27	1	0	65	6	2	2	2	12	1	33	1	0	35	154
07:45 AM	2	2	40	0	44	22	30	3	0	55	5	8	2	0	15	1	38	0	0	39	153
Total	6	4	137	6	153	87	96	5	1	189	21	15	6	3	45	3	134	2	0	139	526
08:00 AM	2	2	40	1	45	24	27	1	2	54	3	2	0	5	10	1	45	2	1	49	158
08:15 AM	5	2	38	0	45	27	29	3	0	59	6	2	1	2	11	1	35	1	0	37	152
08:30 AM	2	3	41	2	48	39	32	1	2	74	11	2	1	2	16	2	38	3	0	43	181
08:45 AM	4	2	50	6	62	39	32	2	0	73	6	6	4	5	21	4	30	1	0	35	191
Total	13	9	169	9	200	129	120	7	4	260	26	12	6	14	58	8	148	7	1	164	682
*** BREAK ***																					
04:00 PM	5	0	50	6	61	63	60	3	7	133	4	10	0	7	21	1	43	10	3	57	272
04:15 PM	3	3	41	3	50	52	49	0	1	102	1	10	2	3	16	5	40	8	4	57	225
04:30 PM	5	5	39	2	51	65	53	4	2	124	3	8	1	1	13	10	26	4	3	43	231
04:45 PM	4	4	62	3	73	81	73	3	6	163	4	7	3	5	19	1	34	1	7	43	298
Total	17	12	192	14	235	261	235	10	16	522	12	35	6	16	69	17	143	23	17	200	1026
05:00 PM	2	4	66	2	74	74	65	1	1	141	4	9	3	3	19	4	36	4	4	48	282
05:15 PM	4	3	45	6	58	64	58	2	1	125	3	6	1	5	15	1	36	1	7	45	243
05:30 PM	4	0	65	4	73	68	55	4	0	127	4	4	2	10	20	5	43	1	6	55	275
05:45 PM	10	5	57	5	77	67	68	3	0	138	2	3	3	11	19	2	29	5	2	38	272
Total	20	12	233	17	282	273	246	10	2	531	13	22	9	29	73	12	144	11	19	186	1072
Grand Total	56	37	731	46	870	750	697	32	23	1502	72	84	27	62	245	40	569	43	37	689	3306
Apprch %	6.4	4.3	84	5.3		49.9	46.4	2.1	1.5		29.4	34.3	11	25.3		5.8	82.6	6.2	5.4		
Total %	1.7	1.1	22.1	1.4	26.3	22.7	21.1	1	0.7	45.4	2.2	2.5	0.8	1.9	7.4	1.2	17.2	1.3	1.1	20.8	
Pass Cars	56	33	727	0	816	742	693	32	0	1467	71	84	27	0	182	40	566	43	0	649	3114
% Pass Cars	100	89.2	99.5	0	93.8	98.9	99.4	100	0	97.7	98.6	100	100	0	74.3	100	99.5	100	0	94.2	94.2
Single Units	0	4	4	0	8	8	4	0	0	12	1	0	0	0	1	0	3	0	0	3	24
% Single Units	0	10.8	0.5	0	0.9	1.1	0.6	0	0	0.8	1.4	0	0	0	0.4	0	0.5	0	0	0.4	0.7
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	46	46	0	0	0	23	23	0	0	0	62	62	0	0	0	37	37	168
% Peds	0	0	0	100	5.3	0	0	0	100	1.5	0	0	0	100	25.3	0	0	0	100	5.4	5.1

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.

Traffic Data Collection, LLC

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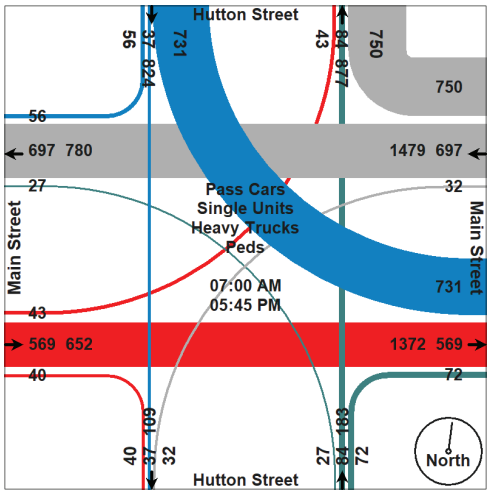
Phone: 586.786-5407

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 5DV SW

File Name : TMC_2 Main & Hutton_5-15-18
Site Code : TMC_2
Start Date : 5/15/2018
Page No : 2



Traffic Data Collection, LLC

www.tdccounts.com

Phone: 586.786-5407

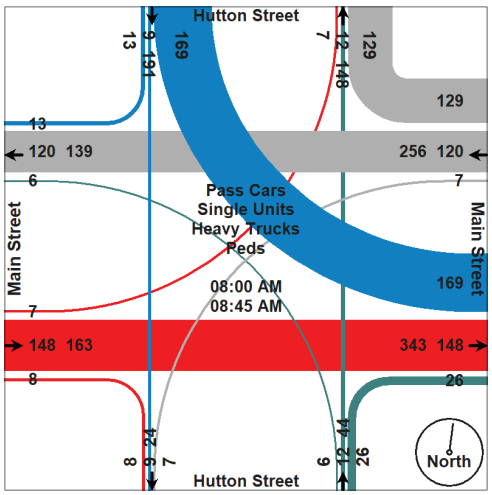
Traffic Study Performed For:

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 5DV SW

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

	Hutton Street Southbound				Main Street Westbound				Hutton Street Northbound				Main Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	2	2	40	44	24	27	1	52	3	2	0	5	1	**45**	2	**48**	149
08:15 AM	**5**	2	38	45	27	29	**3**	59	6	2	1	9	1	35	1	37	150
08:30 AM	2	**3**	41	46	**39**	**32**	1	72	**11**	2	1	14	2	38	**3**	43	175
08:45 AM	4	2	**50**	**56**	39	32	2	**73**	6	**6**	**4**	**16**	**4**	30	1	35	**180**
Total Volume	13	9	169	191	129	120	7	256	26	12	6	44	8	148	7	163	654
% App. Total	6.8	4.7	88.5	0	50.4	46.9	2.7	0	59.1	27.3	13.6	0	4.9	90.8	4.3	0	0
PHF	.650	.750	.845	.853	.827	.938	.583	.877	.591	.500	.375	.688	.500	.822	.583	.849	.908
Pass Cars	13	8	166	187	126	118	7	251	26	12	6	44	8	148	7	163	645
% Pass Cars	100	88.9	98.2	97.9	97.7	98.3	100	98.0	100	100	100	100	100	100	100	100	98.6
Single Units	0	1	3	4	3	2	0	5	0	0	0	0	0	0	0	0	9
% Single Units	0	11.1	1.8	2.1	2.3	1.7	0	2.0	0	0	0	0	0	0	0	0	1.4
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC

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Phone: 586.786-5407

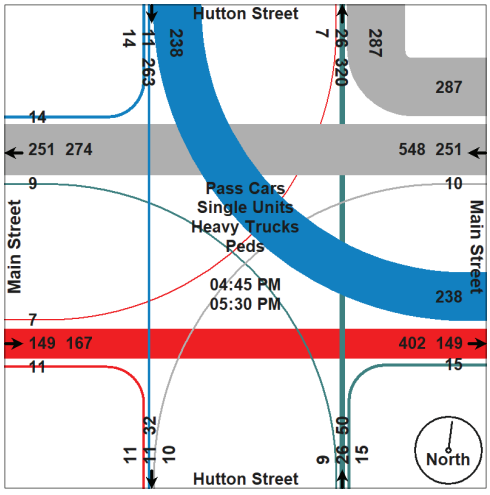
Traffic Study Performed For:

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 5DV SW

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

	Hutton Street Southbound				Main Street Westbound				Hutton Street Northbound				Main Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	**4**	**4**	62	70	**81**	**73**	3	**157**	**4**	7	**3**	14	1	34	1	36	**277**
05:00 PM	2	4	**66**	**72**	74	65	1	140	4	**9**	3	**16**	4	36	**4**	44	272
05:15 PM	4	3	45	52	64	58	2	124	3	6	1	10	1	36	1	38	224
05:30 PM	4	0	65	69	68	55	**4**	127	4	4	2	10	**5**	**43**	1	**49**	255
Total Volume	14	11	238	263	287	251	10	548	15	26	9	50	11	149	7	167	1028
% App. Total	5.3	4.2	90.5		52.4	45.8	1.8		30	52	18		6.6	89.2	4.2		
PHF	.875	.688	.902	.913	.886	.860	.625	.873	.938	.722	.750	.781	.550	.866	.438	.852	.928
Pass Cars	14	11	238	263	285	251	10	546	15	26	9	50	11	149	7	167	1026
% Pass Cars	100	100	100	100	99.3	100	100	99.6	100	100	100	100	100	100	100	100	99.8
Single Units	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
% Single Units	0	0	0	0	0.7	0	0	0.4	0	0	0	0	0	0	0	0	0.2
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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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 24L NE

File Name : TMC_3 Main & Griswold_5-15-18
Site Code : TMC_3
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.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Griswold Street Southbound					Main Street Westbound					Griswold Street Northbound					Main Street Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	17	10	13	0	40	15	22	0	0	37	3	16	2	3	24	0	26	12	2	40	141
07:15 AM	23	13	21	0	57	18	28	1	0	47	1	21	3	3	28	0	36	20	4	60	192
07:30 AM	30	8	23	0	61	21	34	0	0	55	0	42	6	2	50	2	33	19	2	56	222
07:45 AM	29	17	21	0	67	33	35	0	0	68	1	36	3	1	41	1	44	14	2	61	237
Total	99	48	78	0	225	87	119	1	0	207	5	115	14	9	143	3	139	65	10	217	792
08:00 AM	22	10	18	1	51	28	41	0	0	69	3	43	1	1	48	3	46	21	0	70	238
08:15 AM	28	9	14	0	51	27	39	1	0	67	1	40	0	0	41	0	36	23	2	61	220
08:30 AM	30	11	19	0	60	29	46	0	1	76	3	38	2	0	43	2	32	16	1	51	230
08:45 AM	24	10	28	0	62	32	59	0	0	91	3	31	1	0	35	5	48	26	1	80	268
Total	104	40	79	1	224	116	185	1	1	303	10	152	4	1	167	10	162	86	4	262	956
*** BREAK ***																					
04:00 PM	31	15	35	0	81	42	96	3	0	141	2	23	9	3	37	5	63	19	2	89	348
04:15 PM	29	15	41	0	85	49	67	1	0	117	3	31	7	0	41	4	47	25	0	76	319
04:30 PM	38	10	37	0	85	55	89	4	0	148	7	46	5	3	61	2	44	14	1	61	355
04:45 PM	44	16	49	0	109	52	101	0	4	157	5	34	10	3	52	2	63	22	4	91	409
Total	142	56	162	0	360	198	353	8	4	563	17	134	31	9	191	13	217	80	7	317	1431
05:00 PM	53	18	40	0	111	57	96	0	1	154	3	55	9	2	69	9	68	23	1	101	435
05:15 PM	47	21	46	0	114	76	81	2	0	159	2	56	8	0	66	1	54	20	0	75	414
05:30 PM	39	27	57	2	125	70	92	0	0	162	6	47	6	3	62	4	71	32	4	111	460
05:45 PM	54	30	42	2	128	72	84	0	1	157	0	45	10	2	57	4	54	23	1	82	424
Total	193	96	185	4	478	275	353	2	2	632	11	203	33	7	254	18	247	98	6	369	1733
Grand Total	538	240	504	5	1287	676	1010	12	7	1705	43	604	82	26	755	44	765	329	27	1165	4912
Apprch %	41.8	18.6	39.2	0.4		39.6	59.2	0.7	0.4		5.7	80	10.9	3.4		3.8	65.7	28.2	2.3		
Total %	11	4.9	10.3	0.1	26.2	13.8	20.6	0.2	0.1	34.7	0.9	12.3	1.7	0.5	15.4	0.9	15.6	6.7	0.5	23.7	
Pass Cars	533	237	491	0	1261	649	1003	12	0	1664	43	599	82	0	724	44	759	324	0	1127	4776
% Pass Cars	99.1	98.8	97.4	0	98	96	99.3	100	0	97.6	100	99.2	100	0	95.9	100	99.2	98.5	0	96.7	97.2
Single Units	5	3	11	0	19	26	7	0	0	33	0	4	0	0	4	0	6	5	0	11	67
% Single Units	0.9	1.2	2.2	0	1.5	3.8	0.7	0	0	1.9	0	0.7	0	0	0.5	0	0.8	1.5	0	0.9	1.4
Heavy Trucks	0	0	2	0	2	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	4
% Heavy Trucks	0	0	0.4	0	0.2	0.1	0	0	0	0.1	0	0.2	0	0	0.1	0	0	0	0	0	0.1
Peds	0	0	0	5	5	0	0	0	7	7	0	0	0	26	26	0	0	0	27	27	65
% Peds	0	0	0	100	0.4	0	0	0	100	0.4	0	0	0	100	3.4	0	0	0	100	2.3	1.3

TDC Traffic Comments: Signalized intersection with push button ped. signals for all quadrants. Video VCU camera was located within SE intersection quadrant. Note: Peds. are excluded from peak hour reports.

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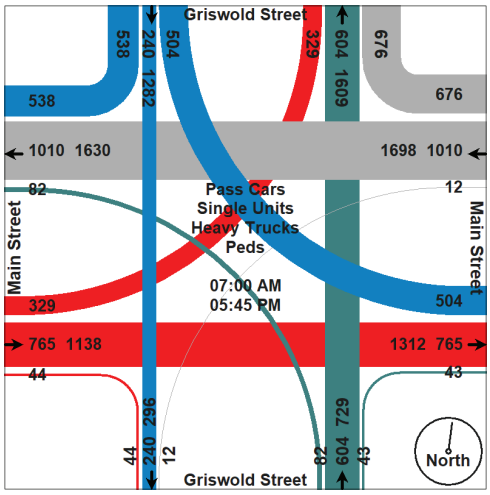
Phone: 586.786-5407

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 24L NE

File Name : TMC_3 Main & Griswold_5-15-18
Site Code : TMC_3
Start Date : 5/15/2018
Page No : 2



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Traffic Study Performed For:

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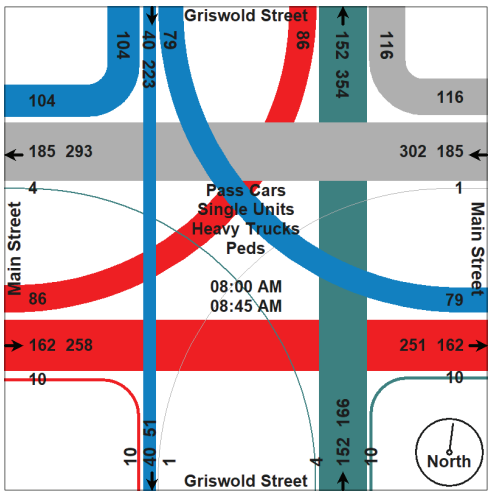
Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 24L NE

File Name : TMC_3 Main & Griswold_5-15-18
Site Code : TMC_3
Start Date : 5/15/2018
Page No : 3

	Griswold Street Southbound				Main Street Westbound				Griswold Street Northbound				Main Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	22	10	18	50	28	41	0	69	**3**	**43**	1	**47**	3	46	21	70	236
08:15 AM	28	9	14	51	27	39	**1**	67	1	40	0	41	0	36	23	59	218
08:30 AM	**30**	**11**	19	60	29	46	0	75	3	38	**2**	43	2	32	16	50	228
08:45 AM	24	10	**28**	**62**	**32**	**59**	0	**91**	3	31	1	35	**5**	**48**	**26**	**79**	**267**
Total Volume	104	40	79	223	116	185	1	302	10	152	4	166	10	162	86	258	949
% App. Total	46.6	17.9	35.4		38.4	61.3	0.3		6	91.6	2.4		3.9	62.8	33.3		
PHF	.867	.909	.705	.899	.906	.784	.250	.830	.833	.884	.500	.883	.500	.844	.827	.816	.889
Pass Cars	102	38	76	216	108	182	1	291	10	151	4	165	10	160	85	255	927
% Pass Cars	98.1	95.0	96.2	96.9	93.1	98.4	100	96.4	100	99.3	100	99.4	100	98.8	98.8	98.8	97.7
Single Units	2	2	3	7	8	3	0	11	0	1	0	1	0	2	1	3	22
% Single Units	1.9	5.0	3.8	3.1	6.9	1.6	0	3.6	0	0.7	0	0.6	0	1.2	1.2	1.2	2.3
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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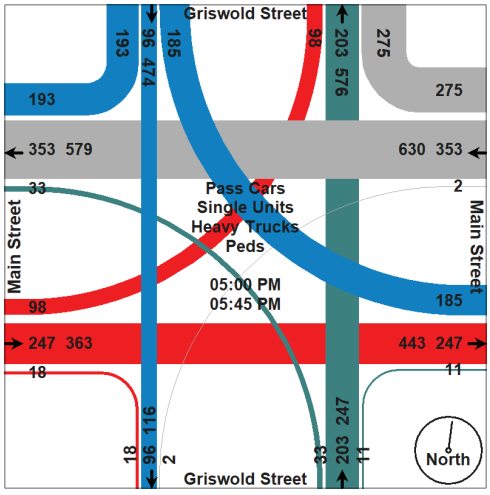
Traffic Study Performed For:

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 24L NE

File Name : TMC_3 Main & Griswold_5-15-18
Site Code : TMC_3
Start Date : 5/15/2018
Page No : 4

	Griswold Street Southbound				Main Street Westbound				Griswold Street Northbound				Main Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	53	18	40	111	57	**96**	0	153	3	55	9	**67**	**9**	68	23	100	431
05:15 PM	47	21	46	114	**76**	81	**2**	159	2	**56**	8	66	1	54	20	75	414
05:30 PM	39	27	**57**	123	70	92	0	**162**	**6**	47	6	59	4	**71**	**32**	**107**	**451**
05:45 PM	**54**	**30**	42	**126**	72	84	0	156	0	45	**10**	55	4	54	23	81	418
Total Volume	193	96	185	474	275	353	2	630	11	203	33	247	18	247	98	363	1714
% App. Total	40.7	20.3	39		43.7	56	0.3		4.5	82.2	13.4		5	68	27		
PHF	.894	.800	.811	.940	.905	.919	.250	.972	.458	.906	.825	.922	.500	.870	.766	.848	.950
Pass Cars	192	96	182	470	272	352	2	626	11	201	33	245	18	244	97	359	1700
% Pass Cars	99.5	100	98.4	99.2	98.9	99.7	100	99.4	100	99.0	100	99.2	100	98.8	99.0	98.9	99.2
Single Units	1	0	3	4	3	1	0	4	0	2	0	2	0	3	1	4	14
% Single Units	0.5	0	1.6	0.8	1.1	0.3	0	0.6	0	1.0	0	0.8	0	1.2	1.0	1.1	0.8
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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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 : 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.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Center Street Southbound					Cady Street Westbound					Center Street Northbound					Cady Street Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. 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	298
07:45 AM	2	112	1	0	115	1	4	15	0	20	36	140	6	0	182	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
08:00 AM	1	93	1	0	95	1	4	6	0	11	51	107	11	0	169	6	5	0	0	11	286
08:15 AM	5	77	5	0	87	1	2	8	1	12	40	96	3	0	139	2	5	0	0	7	245
08:30 AM	4	94	1	0	99	3	5	11	1	20	37	104	10	0	151	6	3	2	6	17	287
08:45 AM	4	82	12	2	100	5	3	9	0	17	45	113	5	0	163	2	6	2	4	14	294
Total	14	346	19	2	381	10	14	34	2	60	173	420	29	0	622	16	19	4	10	49	1112
*** BREAK ***																					
04:00 PM	8	81	8	4	101	3	6	8	0	17	13	116	6	0	135	11	2	3	4	20	273
04:15 PM	7	113	4	2	126	4	3	11	0	18	19	127	4	2	152	6	1	1	2	10	306
04:30 PM	13	139	5	5	162	9	4	10	1	24	33	117	6	2	158	12	9	4	4	29	373
04:45 PM	8	143	5	0	156	3	3	10	1	17	20	125	8	1	154	9	6	0	3	18	345
Total	36	476	22	11	545	19	16	39	2	76	85	485	24	5	599	38	18	8	13	77	1297
05:00 PM	15	149	3	7	174	8	3	11	0	22	34	131	2	0	167	11	4	3	3	21	384
05:15 PM	3	165	1	4	173	3	3	14	1	21	30	134	8	0	172	5	4	1	0	10	376
05:30 PM	13	154	3	11	181	2	1	14	0	17	28	128	8	0	164	7	5	5	10	27	389
05:45 PM	6	142	2	1	151	6	4	18	0	28	29	119	7	2	157	6	3	2	0	11	347
Total	37	610	9	23	679	19	11	57	1	88	121	512	25	2	660	29	16	11	13	69	1496
Grand Total	94	1883	55	38	2070	57	57	189	5	308	499	1847	96	8	2450	90	57	24	37	208	5036
Apprch %	4.5	91	2.7	1.8		18.5	18.5	61.4	1.6		20.4	75.4	3.9	0.3		43.3	27.4	11.5	17.8		
Total %	1.9	37.4	1.1	0.8	41.1	1.1	1.1	3.8	0.1	6.1	9.9	36.7	1.9	0.2	48.6	1.8	1.1	0.5	0.7	4.1	
Pass Cars	93	1847	52	0	1992	57	57	188	0	302	495	1804	92	0	2391	86	57	24	0	167	4852
% Pass Cars	98.9	98.1	94.5	0	96.2	100	100	99.5	0	98.1	99.2	97.7	95.8	0	97.6	95.6	100	100	0	80.3	96.3
Single Units	1	36	2	0	39	0	0	1	0	1	3	40	4	0	47	3	0	0	0	3	90
% Single Units	1.1	1.9	3.6	0	1.9	0	0	0.5	0	0.3	0.6	2.2	4.2	0	1.9	3.3	0	0	0	1.4	1.8
Heavy Trucks	0	0	1	0	1	0	0	0	0	0	1	3	0	0	4	1	0	0	0	1	6
% Heavy Trucks	0	0	1.8	0	0	0	0	0	0	0	0.2	0.2	0	0	0.2	1.1	0	0	0	0.5	0.1
Peds	0	0	0	38	38	0	0	0	5	5	0	0	0	8	8	0	0	0	37	37	88
% Peds	0	0	0	100	1.8	0	0	0	100	1.6	0	0	0	100	0.3	0	0	0	100	17.8	1.7

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.

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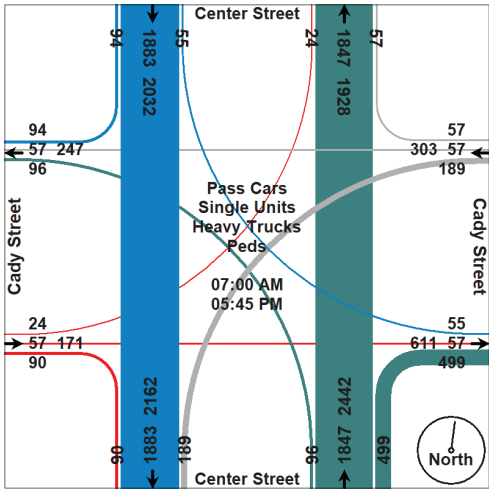
Traffic Study Performed For:

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 : 2



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Phone: 586.786-5407

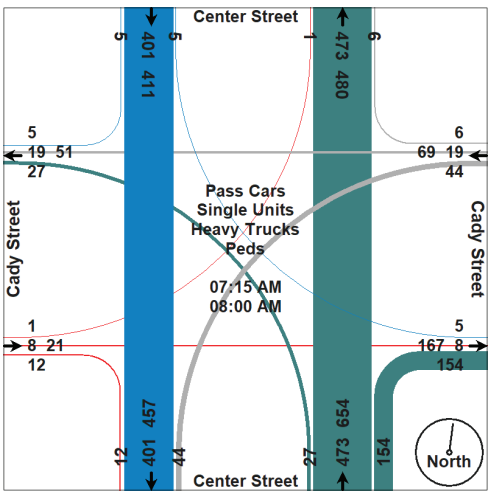
Traffic Study Performed For:

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 : 3

	Center Street Southbound				Cady Street Westbound				Center Street Northbound				Cady Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 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	168	2	0	0	2	295
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
% App. Total	1.2	97.6	1.2		8.7	27.5	63.8		23.5	72.3	4.1		57.1	38.1	4.8		
PHF	.625	.895	.417	.893	.500	.792	.733	.821	.755	.845	.614	.898	.500	.400	.250	.477	.900
Pass Cars	5	392	4	401	6	19	44	69	153	458	26	637	12	8	1	21	1128
% Pass Cars	100	97.8	80.0	97.6	100	100	100	100	99.4	96.8	96.3	97.4	100	100	100	100	97.7
Single Units	0	9	0	9	0	0	0	0	0	15	1	16	0	0	0	0	25
% Single Units	0	2.2	0	2.2	0	0	0	0	0	3.2	3.7	2.4	0	0	0	0	2.2
Heavy Trucks	0	0	1	1	0	0	0	0	1	0	0	1	0	0	0	0	2
% Heavy Trucks	0	0	20.0	0.2	0	0	0	0	0.6	0	0	0.2	0	0	0	0	0.2
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC

www.tdccounts.com

Phone: 586.786-5407

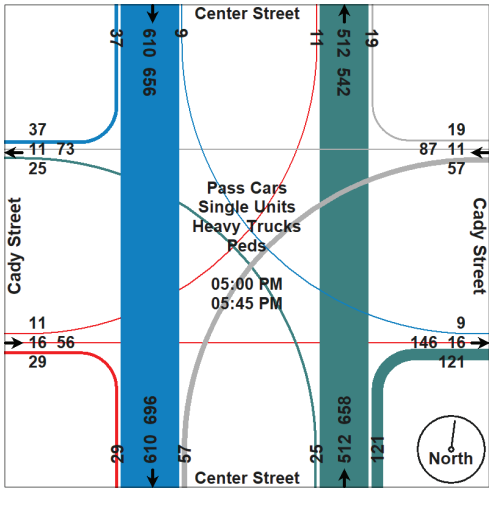
Traffic Study Performed For:

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 : 4

	Center Street Southbound				Cady Street Westbound				Center Street Northbound				Cady Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	**15**	149	**3**	167	**8**	3	11	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**	**5**	17	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
% App. Total	5.6	93	1.4		21.8	12.6	65.5		18.4	77.8	3.8		51.8	28.6	19.6		
PHF	.617	.924	.750	.965	.594	.688	.792	.777	.890	.955	.781	.956	.659	.800	.550	.778	.974
Pass Cars	37	608	9	654	19	11	57	87	119	510	23	652	27	16	11	54	1447
% Pass Cars	100	99.7	100	99.7	100	100	100	100	98.3	99.6	92.0	99.1	93.1	100	100	96.4	99.3
Single Units	0	2	0	2	0	0	0	0	2	2	2	6	2	0	0	2	10
% Single Units	0	0.3	0	0.3	0	0	0	0	1.7	0.4	8.0	0.9	6.9	0	0	3.6	0.7
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC

www:tdccounts.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 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.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Hutton Street Southbound				Cady Street Westbound				Cady Street Eastbound				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	4	25	0	29	13	3	0	16	45
07:15 AM	2	0	0	2	5	17	0	22	17	9	0	26	50
07:30 AM	1	0	2	3	6	21	0	27	35	9	0	44	74
07:45 AM	2	1	0	3	7	18	0	25	30	8	0	38	66
Total	5	1	2	8	22	81	0	103	95	29	0	124	235
08:00 AM	1	2	1	4	0	11	1	12	42	11	1	54	70
08:15 AM	0	1	2	3	2	12	0	14	33	7	0	40	57
08:30 AM	1	1	0	2	6	21	1	28	30	9	0	39	69
08:45 AM	2	1	1	4	8	24	1	33	37	19	0	56	93
Total	4	5	4	13	16	68	3	87	142	46	1	189	289
*** BREAK ***													
04:00 PM	2	0	2	4	9	14	0	23	22	7	0	29	56
04:15 PM	0	1	1	2	5	15	1	21	28	7	0	35	58
04:30 PM	4	2	4	10	6	20	0	26	36	10	0	46	82
04:45 PM	2	0	1	3	8	19	0	27	32	4	0	36	66
Total	8	3	8	19	28	68	1	97	118	28	0	146	262
05:00 PM	5	1	0	6	8	20	0	28	36	11	0	47	81
05:15 PM	0	4	1	5	6	17	0	23	36	7	2	45	73
05:30 PM	2	1	2	5	10	21	0	31	32	6	0	38	74
05:45 PM	3	4	0	7	9	26	0	35	28	12	0	40	82
Total	10	10	3	23	33	84	0	117	132	36	2	170	310
Grand Total	27	19	17	63	99	301	4	404	487	139	3	629	1096
Apprch %	42.9	30.2	27		24.5	74.5	1		77.4	22.1	0.5		
Total %	2.5	1.7	1.6	5.7	9	27.5	0.4	36.9	44.4	12.7	0.3	57.4	
Pass Cars	26	19	0	45	99	300	0	399	482	137	0	619	1063
% Pass Cars	96.3	100	0	71.4	100	99.7	0	98.8	99	98.6	0	98.4	97
Single Units	1	0	0	1	0	1	0	1	3	2	0	5	7
% Single Units	3.7	0	0	1.6	0	0.3	0	0.2	0.6	1.4	0	0.8	0.6
Heavy Trucks	0	0	0	0	0	0	0	0	2	0	0	2	2
% Heavy Trucks	0	0	0	0	0	0	0	0	0.4	0	0	0.3	0.2
Peds	0	0	17	17	0	0	4	4	0	0	3	3	24
% Peds	0	0	100	27	0	0	100	1	0	0	100	0.5	2.2

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

Traffic Data Collection, LLC

www:tdccounts.com

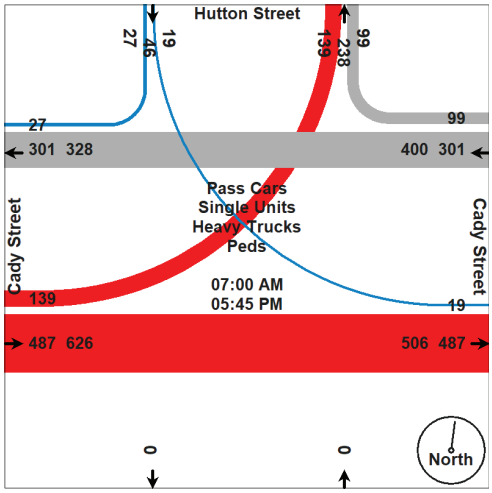
Phone: 586 786-5407

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 6H3 SW

File Name : TMC_5 Cady & Hutton_5-15-18
Site Code : TMC_5
Start Date : 5/15/2018
Page No : 2



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Phone: 586 786-5407

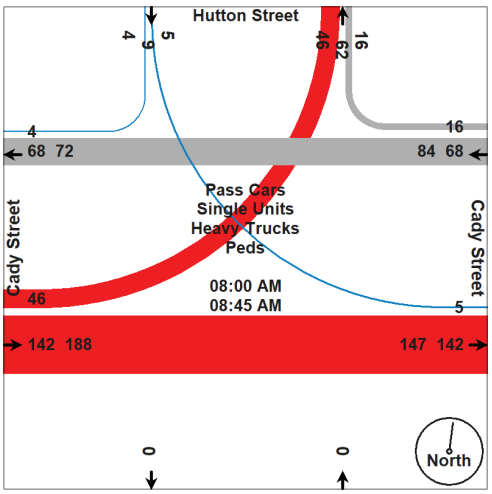
Traffic Study Performed For:

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 6H3 SW

File Name : TMC_5 Cady & Hutton_5-15-18
Site Code : TMC_5
Start Date : 5/15/2018
Page No : 3

	Hutton Street Southbound			Cady Street Westbound			Cady Street Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	1	**2**	**3**	0	11	11	**42**	11	53	67
08:15 AM	0	1	1	2	12	14	33	7	40	55
08:30 AM	1	1	2	6	21	27	30	9	39	68
08:45 AM	**2**	1	3	**8**	**24**	**32**	37	**19**	**56**	**91**
Total Volume	4	5	9	16	68	84	142	46	188	281
% App. Total	44.4	55.6		19	81		75.5	24.5		
PHF	.500	.625	.750	.500	.708	.656	.845	.605	.839	.772
Pass Cars	3	5	8	16	67	83	141	45	186	277
% Pass Cars	75.0	100	88.9	100	98.5	98.8	99.3	97.8	98.9	98.6
Single Units	1	0	1	0	1	1	1	1	2	4
% Single Units	25.0	0	11.1	0	1.5	1.2	0.7	2.2	1.1	1.4
Heavy Trucks	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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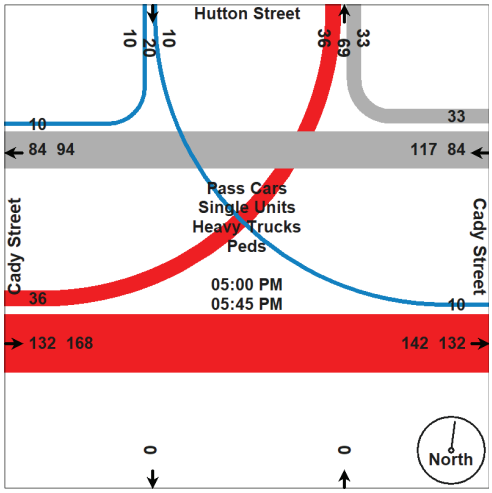
Traffic Study Performed For:

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 6H3 SW

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

	Hutton Street Southbound			Cady Street Westbound			Cady Street Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**5**	1	6	8	20	28	**36**	11	**47**	81
05:15 PM	0	**4**	4	6	17	23	36	7	43	70
05:30 PM	2	1	3	**10**	21	31	32	6	38	72
05:45 PM	3	4	**7**	9	**26**	**35**	28	**12**	40	**82**
Total Volume	10	10	20	33	84	117	132	36	168	305
% App. Total	50	50		28.2	71.8		78.6	21.4		
PHF	.500	.625	.714	.825	.808	.836	.917	.750	.894	.930
Pass Cars	10	10	20	33	84	117	130	36	166	303
% Pass Cars	100	100	100	100	100	100	98.5	100	98.8	99.3
Single Units	0	0	0	0	0	0	0	0	0	0
% Single Units	0	0	0	0	0	0	0	0	0	0
Heavy Trucks	0	0	0	0	0	0	2	0	2	2
% Heavy Trucks	0	0	0	0	0	0	1.5	0	1.2	0.7
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC

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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 4SY NW

File Name : TMC_6 Cady & Griswold_5-15-18
Site Code : TMC_6
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.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Griswold Street Southbound					Cady Street Westbound					Griswold Street Northbound					Cady Street Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	8	1	1	0	10	0	0	0	0	0	0	7	2	0	9	2	4	11	1	18	37
07:15 AM	8	5	0	0	13	0	1	1	0	2	0	5	1	0	6	6	2	21	0	29	50
07:30 AM	5	4	0	0	9	0	0	0	1	1	0	9	2	0	11	6	1	39	0	46	67
07:45 AM	10	3	0	0	13	0	0	0	0	0	0	4	2	0	6	6	5	35	1	47	66
Total	31	13	1	0	45	0	1	1	1	3	0	25	7	0	32	20	12	106	2	140	220
08:00 AM	6	9	1	0	16	1	2	0	0	3	0	4	3	0	7	6	4	41	1	52	78
08:15 AM	7	0	1	4	12	0	1	0	0	1	1	8	1	0	10	5	2	35	0	42	65
08:30 AM	11	2	0	1	14	1	1	0	0	2	2	3	7	0	12	4	3	39	1	47	75
08:45 AM	13	5	0	0	18	0	0	0	0	0	3	3	6	0	12	4	9	34	1	48	78
Total	37	16	2	5	60	2	4	0	0	6	6	18	17	0	41	19	18	149	3	189	296
*** BREAK ***																					
04:00 PM	7	11	0	0	18	1	3	0	0	4	1	9	6	0	16	9	2	16	0	27	65
04:15 PM	11	12	2	0	25	2	2	1	0	5	2	18	2	0	22	8	5	17	0	30	82
04:30 PM	9	13	1	0	23	2	3	0	0	5	0	24	4	0	28	9	3	31	1	44	100
04:45 PM	7	12	2	0	21	1	4	1	0	6	0	15	7	0	22	7	5	30	1	43	92
Total	34	48	5	0	87	6	12	2	0	20	3	66	19	0	88	33	15	94	2	144	339
05:00 PM	13	18	0	0	31	2	1	0	0	3	0	26	4	0	30	12	3	34	0	49	113
05:15 PM	11	16	2	0	29	3	1	3	0	7	1	30	5	0	36	7	2	30	0	39	111
05:30 PM	17	22	1	0	40	2	2	0	0	4	2	21	8	0	31	7	2	32	0	41	116
05:45 PM	16	15	1	0	32	3	2	0	0	5	0	23	7	0	30	5	2	26	3	36	103
Total	57	71	4	0	132	10	6	3	0	19	3	100	24	0	127	31	9	122	3	165	443
Grand Total	159	148	12	5	324	18	23	6	1	48	12	209	67	0	288	103	54	471	10	638	1298
Apprch %	49.1	45.7	3.7	1.5		37.5	47.9	12.5	2.1		4.2	72.6	23.3	0		16.1	8.5	73.8	1.6		
Total %	12.2	11.4	0.9	0.4	25	1.4	1.8	0.5	0.1	3.7	0.9	16.1	5.2	0	22.2	7.9	4.2	36.3	0.8	49.2	
Pass Cars	158	146	12	0	316	18	23	5	0	46	12	209	67	0	288	103	54	466	0	623	1273
% Pass Cars	99.4	98.6	100	0	97.5	100	100	83.3	0	95.8	100	100	100	0	100	100	100	98.9	0	97.6	98.1
Single Units	1	2	0	0	3	0	0	1	0	1	0	0	0	0	0	0	0	5	0	5	9
% Single Units	0.6	1.4	0	0	0.9	0	0	16.7	0	2.1	0	0	0	0	0	0	0	1.1	0	0.8	0.7
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	5	5	0	0	0	1	1	0	0	0	0	0	0	0	0	10	10	16
% Peds	0	0	0	100	1.5	0	0	0	100	2.1	0	0	0	0	0	0	0	0	100	1.6	1.2

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

Traffic Data Collection, LLC

www.tdccounts.com

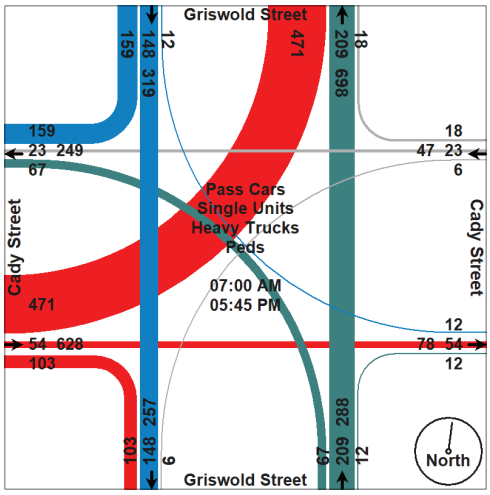
Phone: 586.786-5407

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 4SY NW

File Name : TMC_6 Cady & Griswold_5-15-18
Site Code : TMC_6
Start Date : 5/15/2018
Page No : 2



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Phone: 586.786-5407

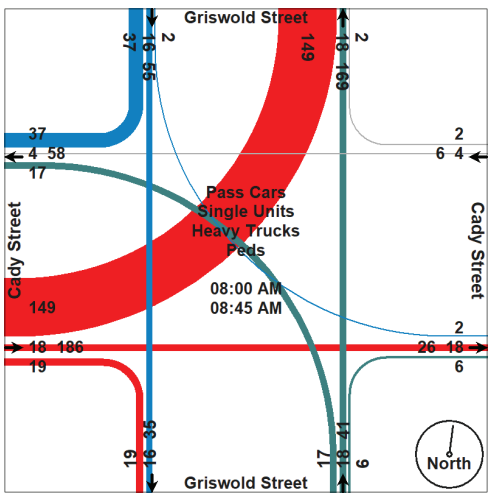
Traffic Study Performed For:

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 4SY NW

File Name : TMC_6 Cady & Griswold_5-15-18
Site Code : TMC_6
Start Date : 5/15/2018
Page No : 3

	Griswold Street Southbound				Cady Street Westbound				Griswold Street Northbound				Cady Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	6	**9**	**1**	16	**1**	**2**	0	**3**	0	4	3	7	**6**	4	**41**	**51**	**77**
08:15 AM	7	0	1	8	0	1	0	1	1	**8**	1	10	5	2	35	42	61
08:30 AM	11	2	0	13	1	1	0	2	2	3	**7**	**12**	4	3	39	46	73
08:45 AM	**13**	5	0	**18**	0	0	0	0	**3**	3	6	12	4	**9**	34	47	77
Total Volume	37	16	2	55	2	4	0	6	6	18	17	41	19	18	149	186	288
% App. Total	67.3	29.1	3.6		33.3	66.7	0		14.6	43.9	41.5		10.2	9.7	80.1	0	0
PHF	.712	.444	.500	.764	.500	.500	.000	.500	.500	.563	.607	.854	.792	.500	.909	.912	.935
Pass Cars	36	15	2	53	2	4	0	6	6	18	17	41	19	18	148	185	285
% Pass Cars	97.3	93.8	100	96.4	100	100	0	100	100	100	100	100	100	100	99.3	99.5	99.0
Single Units	1	1	0	2	0	0	0	0	0	0	0	0	0	0	1	1	3
% Single Units	2.7	6.3	0	3.6	0	0	0	0	0	0	0	0	0	0	0.7	0.5	1.0
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC

www.tdccounts.com

Phone: 586.786-5407

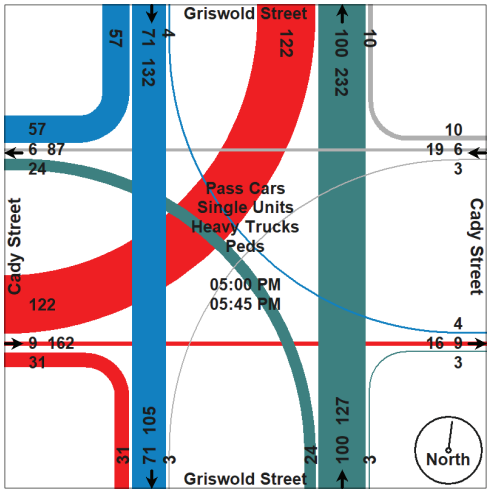
Traffic Study Performed For:

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 4SY NW

File Name : TMC_6 Cady & Griswold_5-15-18
Site Code : TMC_6
Start Date : 5/15/2018
Page No : 4

	Griswold Street Southbound				Cady Street Westbound				Griswold Street Northbound				Cady Street Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	13	18	0	31	2	1	0	3	0	26	4	30	**12**	**3**	**34**	**49**	113
05:15 PM	11	16	**2**	29	**3**	1	**3**	**7**	1	**30**	5	**36**	7	2	30	39	111
05:30 PM	**17**	**22**	1	**40**	2	**2**	0	4	**2**	21	**8**	31	7	2	32	41	**116**
05:45 PM	16	15	1	32	3	2	0	5	0	23	7	30	5	2	26	33	100
Total Volume	57	71	4	132	10	6	3	19	3	100	24	127	31	9	122	162	440
% App. Total	43.2	53.8	3		52.6	31.6	15.8		2.4	78.7	18.9		19.1	5.6	75.3		
PHF	.838	.807	.500	.825	.833	.750	.250	.679	.375	.833	.750	.882	.646	.750	.897	.827	.948
Pass Cars	57	71	4	132	10	6	3	19	3	100	24	127	31	9	120	160	438
% Pass Cars	100	100	100	100	100	100	100	100	100	100	100	100	100	100	98.4	98.8	99.5
Single Units	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
% Single Units	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.6	1.2	0.5
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC

www:tdccounts.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 2Z4 NE

File Name : TMC_7 Beal & Griswold_5-15-18
Site Code : TMC_7
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.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Griswold Street Southbound				Beal Street Westbound				Beal Street Eastbound				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	3	1	4	7	0	0	7	0	0	0	0	11
07:15 AM	0	12	0	12	5	1	0	6	0	1	0	1	19
07:30 AM	0	10	0	10	11	0	0	11	0	0	0	0	21
07:45 AM	0	9	1	10	4	0	0	4	0	1	0	1	15
Total	0	34	2	36	27	1	0	28	0	2	0	2	66
08:00 AM	2	13	1	16	6	0	0	6	1	1	0	2	24
08:15 AM	0	5	0	5	9	3	0	12	1	1	0	2	19
08:30 AM	0	6	1	7	11	1	0	12	1	1	1	3	22
08:45 AM	0	9	1	10	11	0	0	11	0	1	0	1	22
Total	2	33	3	38	37	4	0	41	3	4	1	8	87
*** BREAK ***													
04:00 PM	3	16	3	22	12	0	0	12	1	5	0	6	40
04:15 PM	2	19	3	24	18	2	0	20	6	6	0	12	56
04:30 PM	3	20	3	26	19	2	0	21	4	8	0	12	59
04:45 PM	5	13	3	21	18	0	0	18	3	5	0	8	47
Total	13	68	12	93	67	4	0	71	14	24	0	38	202
05:00 PM	4	26	3	33	26	1	0	27	4	5	0	9	69
05:15 PM	0	26	0	26	27	1	0	28	3	7	0	10	64
05:30 PM	5	24	0	29	27	1	0	28	5	4	0	9	66
05:45 PM	3	18	0	21	23	0	0	23	6	5	0	11	55
Total	12	94	3	109	103	3	0	106	18	21	0	39	254
Grand Total	27	229	20	276	234	12	0	246	35	51	1	87	609
Apprch %	9.8	83	7.2		95.1	4.9	0		40.2	58.6	1.1		
Total %	4.4	37.6	3.3	45.3	38.4	2	0	40.4	5.7	8.4	0.2	14.3	
Pass Cars	27	226	0	253	234	11	0	245	34	51	0	85	583
% Pass Cars	100	98.7	0	91.7	100	91.7	0	99.6	97.1	100	0	97.7	95.7
Single Units	0	3	0	3	0	1	0	1	1	0	0	1	5
% Single Units	0	1.3	0	1.1	0	8.3	0	0.4	2.9	0	0	1.1	0.8
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	20	20	0	0	0	0	0	0	1	1	21
% Peds	0	0	100	7.2	0	0	0	0	0	0	100	1.1	3.4

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

Traffic Data Collection, LLC

www:tdccounts.com

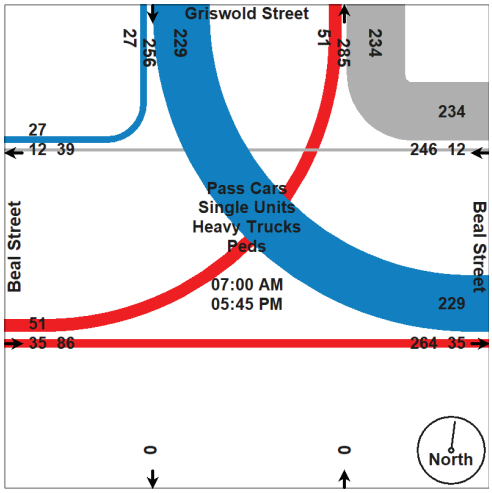
Phone: 586 786-5407

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 2Z4 NE

File Name : TMC_7 Beal & Griswold_5-15-18
Site Code : TMC_7
Start Date : 5/15/2018
Page No : 2



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Traffic Study Performed For:

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Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
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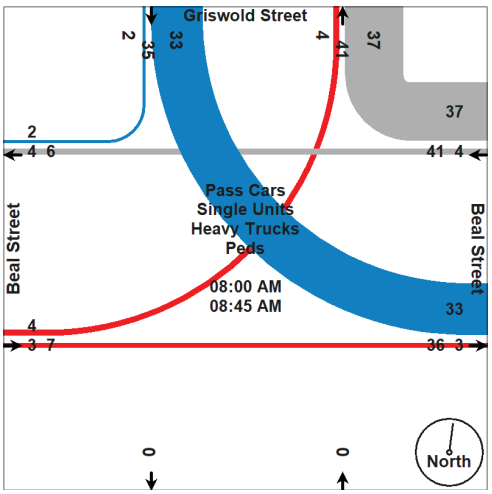
Count By Miovision Video VCU 2Z4 NE

File Name : TMC_7 Beal & Griswold_5-15-18
Site Code : TMC_7
Start Date : 5/15/2018
Page No : 3

	Griswold Street Southbound			Beal Street Westbound			Beal Street Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	**2**	**13**	**15**	6	0	6	**1**	**1**	**2**	**23**
08:15 AM	0	5	5	9	**3**	**12**	1	1	2	19
08:30 AM	0	6	6	**11**	1	12	1	1	2	20
08:45 AM	0	9	9	11	0	11	0	1	1	21
Total Volume	2	33	35	37	4	41	3	4	7	83
% App. Total	5.7	94.3		90.2	9.8		42.9	57.1		
PHF	.250	.635	.583	.841	.333	.854	.750	1.00	.875	.902
Pass Cars	2	32	34	37	4	41	2	4	6	81
% Pass Cars	100	97.0	97.1	100	100	100	66.7	100	85.7	97.6
Single Units	0	1	1	0	0	0	1	0	1	2
% Single Units	0	3.0	2.9	0	0	0	33.3	0	14.3	2.4
Heavy Trucks	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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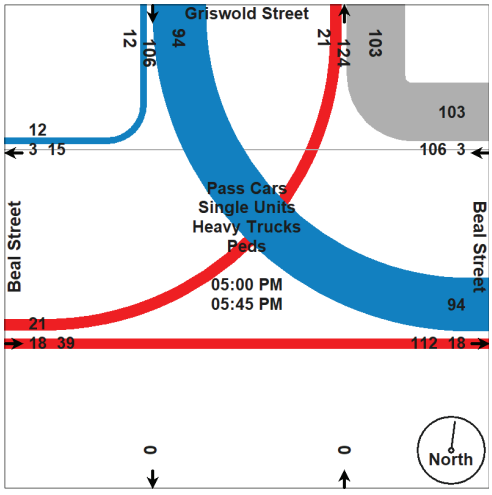
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 2Z4 NE

File Name : TMC_7 Beal & Griswold_5-15-18
Site Code : TMC_7
Start Date : 5/15/2018
Page No : 4

	Griswold Street Southbound			Beal Street Westbound			Beal Street Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	4	**26**	**30**	26	**1**	27	4	5	9	**66**
05:15 PM	0	26	26	**27**	1	**28**	3	**7**	10	64
05:30 PM	**5**	24	29	27	1	28	5	4	9	66
05:45 PM	3	18	21	23	0	23	**6**	5	**11**	55
Total Volume	12	94	106	103	3	106	18	21	39	251
% App. Total	11.3	88.7		97.2	2.8		46.2	53.8		
PHF	.600	.904	.883	.954	.750	.946	.750	.750	.886	.951
Pass Cars	12	94	106	103	3	106	18	21	39	251
% Pass Cars	100	100	100	100	100	100	100	100	100	100
Single Units	0	0	0	0	0	0	0	0	0	0
% Single Units	0	0	0	0	0	0	0	0	0	0
Heavy Trucks	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC

www:tdccounts.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 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.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Beal Street Westbound				River Street Northbound				Beal Street Eastbound				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
07:00 AM	2	0	0	2	1	6	0	7	0	3	0	3	12
07:15 AM	2	1	0	3	1	4	0	5	7	5	0	12	20
07:30 AM	6	1	0	7	1	5	0	6	1	9	0	10	23
07:45 AM	3	0	0	3	1	2	1	4	2	6	0	8	15
Total	13	2	0	15	4	17	1	22	10	23	0	33	70
08:00 AM	2	0	0	2	3	4	0	7	6	9	1	16	25
08:15 AM	7	2	0	9	1	5	0	6	2	4	0	6	21
08:30 AM	6	3	0	9	4	6	0	10	4	3	0	7	26
08:45 AM	5	1	1	7	0	5	0	5	3	6	0	9	21
Total	20	6	1	27	8	20	0	28	15	22	1	38	93
*** BREAK ***													
04:00 PM	5	2	0	7	2	7	0	9	7	11	0	18	34
04:15 PM	6	2	0	8	1	11	1	13	10	15	2	27	48
04:30 PM	5	1	1	7	1	16	1	18	9	15	0	24	49
04:45 PM	5	0	3	8	0	13	0	13	9	7	0	16	37
Total	21	5	4	30	4	47	2	53	35	48	2	85	168
05:00 PM	3	1	3	7	4	24	0	28	14	16	0	30	65
05:15 PM	4	2	0	6	1	25	0	26	18	11	0	29	61
05:30 PM	3	1	0	4	2	24	0	26	13	14	0	27	57
05:45 PM	5	0	3	8	2	18	1	21	17	9	0	26	55
Total	15	4	6	25	9	91	1	101	62	50	0	112	238
*** BREAK ***													
Grand Total	69	17	11	97	25	175	4	204	122	143	3	268	569
Apprch %	71.1	17.5	11.3		12.3	85.8	2		45.5	53.4	1.1		
Total %	12.1	3	1.9	17	4.4	30.8	0.7	35.9	21.4	25.1	0.5	47.1	
Pass Cars	68	17	0	85	24	174	0	198	120	141	0	261	544
% Pass Cars	98.6	100	0	87.6	96	99.4	0	97.1	98.4	98.6	0	97.4	95.6
Single Units	1	0	0	1	1	1	0	2	2	2	0	4	7
% Single Units	1.4	0	0	1	4	0.6	0	1	1.6	1.4	0	1.5	1.2
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
Peds	0	0	11	11	0	0	4	4	0	0	3	3	18
% Peds	0	0	100	11.3	0	0	100	2	0	0	100	1.1	3.2

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.

Traffic Data Collection, LLC

www:tdccounts.com

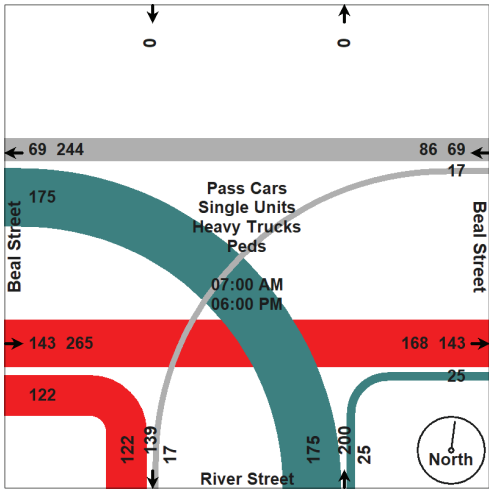
Phone: 586 786-5407

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 3CU NW

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



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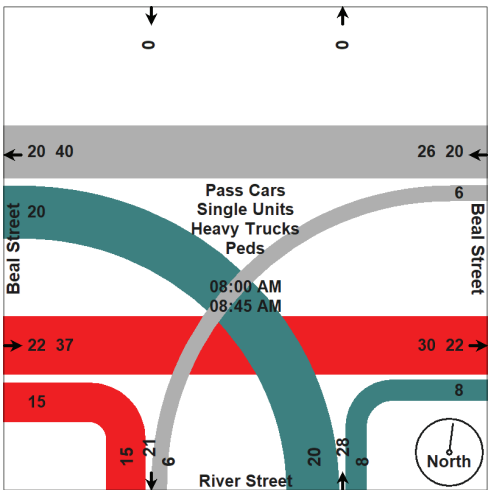
Traffic Study Performed For:

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 3CU NW

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

	Beal Street Westbound			River Street Northbound			Beal Street Eastbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	2	0	2	3	4	7	**6**	**9**	**15**	24
08:15 AM	**7**	2	**9**	1	5	6	2	4	6	21
08:30 AM	6	**3**	9	**4**	**6**	**10**	4	3	7	**26**
08:45 AM	5	1	6	0	5	5	3	6	9	20
Total Volume	20	6	26	8	20	28	15	22	37	91
% App. Total	76.9	23.1		28.6	71.4		40.5	59.5		
PHF	.714	.500	.722	.500	.833	.700	.625	.611	.617	.875
Pass Cars	20	6	26	7	19	26	14	21	35	87
% Pass Cars	100	100	100	87.5	95.0	92.9	93.3	95.5	94.6	95.6
Single Units	0	0	0	1	1	2	1	1	2	4
% Single Units	0	0	0	12.5	5.0	7.1	6.7	4.5	5.4	4.4
Heavy Trucks	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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Phone: 586.786-5407

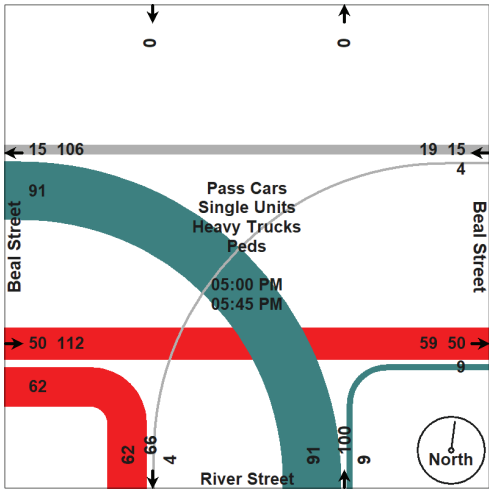
Traffic Study Performed For:

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 3CU NW

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

	Beal Street Westbound			River Street Northbound			Beal Street Eastbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	3	1	4	**4**	24	**28**	14	**16**	**30**	**62**
05:15 PM	4	**2**	**6**	1	**25**	26	**18**	11	29	61
05:30 PM	3	1	4	2	24	26	13	14	27	57
05:45 PM	**5**	0	5	2	18	20	17	9	26	51
Total Volume	15	4	19	9	91	100	62	50	112	231
% App. Total	78.9	21.1		9	91		55.4	44.6		
PHF	.750	.500	.792	.563	.910	.893	.861	.781	.933	.931
Pass Cars	15	4	19	9	91	100	62	50	112	231
% Pass Cars	100	100	100	100	100	100	100	100	100	100
Single Units	0	0	0	0	0	0	0	0	0	0
% Single Units	0	0	0	0	0	0	0	0	0	0
Heavy Trucks	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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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 2Z4 NW

File Name : TMC_9 Center & Fairbrook_5-15-18
Site Code : TMC_9
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.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Center Street Southbound				Center Street Northbound				Fairbrook Street Eastbound				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
07:00 AM	1	167	0	168	79	1	0	80	10	2	0	12	260
07:15 AM	0	102	0	102	141	4	0	145	1	1	0	2	249
07:30 AM	0	117	0	117	173	2	0	175	3	1	0	4	296
07:45 AM	0	130	0	130	186	4	0	190	3	4	0	7	327
Total	1	516	0	517	579	11	0	590	17	8	0	25	1132
08:00 AM	2	104	0	106	173	3	0	176	5	3	0	8	290
08:15 AM	1	89	0	90	136	4	0	140	7	2	0	9	239
08:30 AM	2	112	0	114	156	0	0	156	3	0	1	4	274
08:45 AM	0	96	0	96	168	4	0	172	3	2	2	7	275
Total	5	401	0	406	633	11	0	644	18	7	3	28	1078
*** BREAK ***													
04:00 PM	3	115	0	118	149	11	0	160	6	3	1	10	288
04:15 PM	3	126	0	129	168	23	0	191	6	1	2	9	329
04:30 PM	4	164	0	168	177	42	0	219	4	1	2	7	394
04:45 PM	1	162	1	164	173	27	0	200	3	1	1	5	369
Total	11	567	1	579	667	103	0	770	19	6	6	31	1380
05:00 PM	3	173	0	176	179	31	0	210	7	0	0	7	393
05:15 PM	0	192	0	192	173	20	0	193	5	2	1	8	393
05:30 PM	1	173	0	174	173	17	0	190	3	1	0	4	368
05:45 PM	7	166	0	173	178	27	0	205	9	1	2	12	390
Total	11	704	0	715	703	95	0	798	24	4	3	31	1544
Grand Total	28	2188	1	2217	2582	220	0	2802	78	25	12	115	5134
Apprch %	1.3	98.7	0		92.1	7.9	0		67.8	21.7	10.4		
Total %	0.5	42.6	0	43.2	50.3	4.3	0	54.6	1.5	0.5	0.2	2.2	
Pass Cars	27	2149	0	2176	2541	218	0	2759	78	24	0	102	5037
% Pass Cars	96.4	98.2	0	98.2	98.4	99.1	0	98.5	100	96	0	88.7	98.1
Single Units	0	38	0	38	38	2	0	40	0	1	0	1	79
% Single Units	0	1.7	0	1.7	1.5	0.9	0	1.4	0	4	0	0.9	1.5
Heavy Trucks	1	1	0	2	3	0	0	3	0	0	0	0	5
% Heavy Trucks	3.6	0	0	0.1	0.1	0	0	0.1	0	0	0	0	0.1
Peds	0	0	1	1	0	0	0	0	0	0	12	12	13
% Peds	0	0	100	0	0	0	0	0	0	0	100	10.4	0.3

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

Traffic Data Collection, LLC

www:tdccounts.com

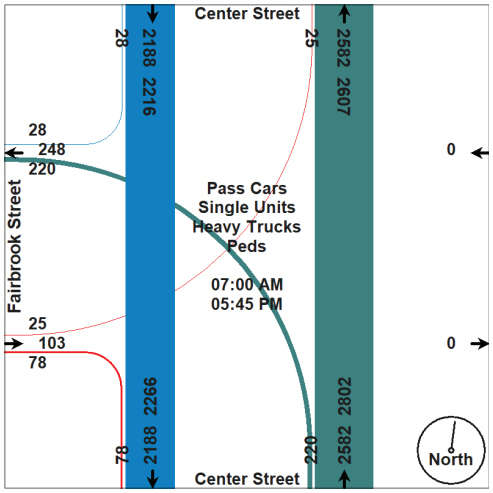
Phone: 586 786-5407

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 2Z4 NW

File Name : TMC_9 Center & Fairbrook_5-15-18
Site Code : TMC_9
Start Date : 5/15/2018
Page No : 2



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Phone: 586.786-5407

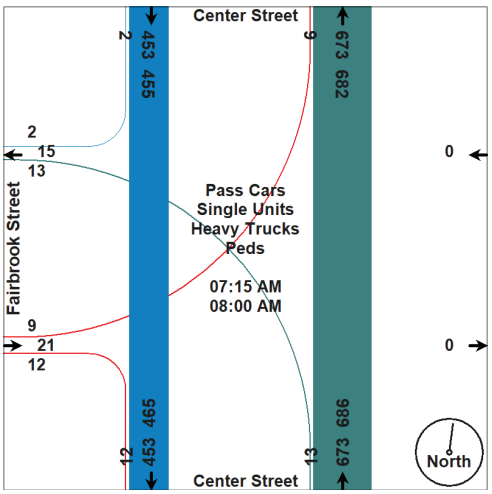
Traffic Study Performed For:

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 2Z4 NW

File Name : TMC_9 Center & Fairbrook_5-15-18
Site Code : TMC_9
Start Date : 5/15/2018
Page No : 3

	Center Street Southbound			Center Street Northbound			Fairbrook Street Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	0	102	102	141	**4**	145	1	1	2	249
07:30 AM	0	117	117	173	2	175	3	1	4	296
07:45 AM	0	**130**	**130**	**186**	4	**190**	3	**4**	7	**327**
08:00 AM	**2**	104	106	173	3	176	**5**	3	**8**	290
Total Volume	2	453	455	673	13	686	12	9	21	1162
% App. Total	0.4	99.6		98.1	1.9		57.1	42.9		
PHF	.250	.871	.875	.905	.813	.903	.600	.563	.656	.888
Pass Cars	2	444	446	658	12	670	12	8	20	1136
% Pass Cars	100	98.0	98.0	97.8	92.3	97.7	100	88.9	95.2	97.8
Single Units	0	9	9	14	1	15	0	1	1	25
% Single Units	0	2.0	2.0	2.1	7.7	2.2	0	11.1	4.8	2.2
Heavy Trucks	0	0	0	1	0	1	0	0	0	1
% Heavy Trucks	0	0	0	0.1	0	0.1	0	0	0	0.1
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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Traffic Study Performed For:

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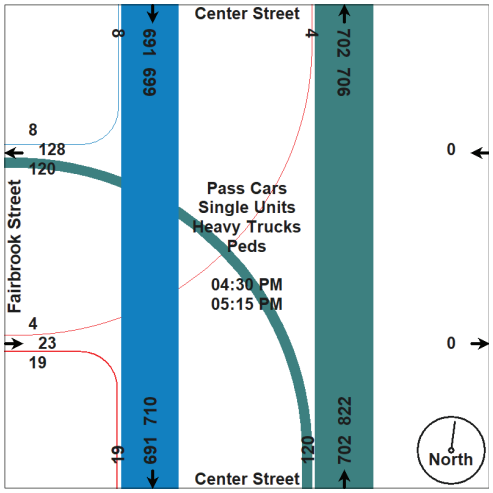
Project: Northville Down TIS
Study:4 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 70's
Count By Miovision Video VCU 2Z4 NW

File Name : TMC_9 Center & Fairbrook_5-15-18
Site Code : TMC_9
Start Date : 5/15/2018
Page No : 4

	Center Street Southbound			Center Street Northbound			Fairbrook Street Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	**4**	164	168	177	**42**	**219**	4	1	5	392
04:45 PM	1	162	163	173	27	200	3	1	4	367
05:00 PM	3	173	176	**179**	31	210	**7**	0	**7**	**393**
05:15 PM	0	**192**	**192**	173	20	193	5	**2**	7	392
Total Volume	8	691	699	702	120	822	19	4	23	1544
% App. Total	1.1	98.9		85.4	14.6		82.6	17.4		
PHF	.500	.900	.910	.980	.714	.938	.679	.500	.821	.982
Pass Cars	8	688	696	697	120	817	19	4	23	1536
% Pass Cars	100	99.6	99.6	99.3	100	99.4	100	100	100	99.5
Single Units	0	2	2	4	0	4	0	0	0	6
% Single Units	0	0.3	0.3	0.6	0	0.5	0	0	0	0.4
Heavy Trucks	0	1	1	1	0	1	0	0	0	2
% Heavy Trucks	0	0.1	0.1	0.1	0	0.1	0	0	0	0.1
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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

File Name : TMC_10 7Mile & Center_Sheldon_5-15-18
Site Code : TMC_10
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.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

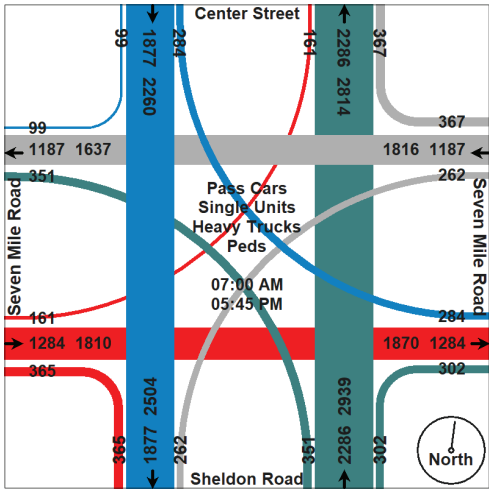
	Center Street Southbound					Seven Mile Road Westbound					Sheldon Road Northbound					Seven Mile Road Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	1	159	11	0	171	5	36	19	0	60	7	67	6	0	80	47	81	6	0	134	445
07:15 AM	3	84	16	0	103	15	28	12	0	55	22	124	17	0	163	14	90	6	0	110	431
07:30 AM	6	97	18	0	121	23	31	13	0	67	21	140	10	1	172	14	92	12	0	118	478
07:45 AM	0	112	24	0	136	18	44	5	0	67	17	161	10	0	188	32	106	12	0	150	541
Total	10	452	69	0	531	61	139	49	0	249	67	492	43	1	603	107	369	36	0	512	1895
08:00 AM	6	82	18	0	106	21	45	5	1	72	12	139	20	0	171	12	130	15	0	157	506
08:15 AM	4	76	15	0	95	17	31	9	0	57	17	110	10	0	137	21	99	12	0	132	421
08:30 AM	7	88	19	0	114	17	43	7	0	67	21	136	12	0	169	14	77	9	1	101	451
08:45 AM	3	85	13	0	101	24	36	6	0	66	12	127	17	1	157	20	74	16	2	112	436
Total	20	331	65	0	416	79	155	27	1	262	62	512	59	1	634	67	380	52	3	502	1814
*** BREAK ***																					
04:00 PM	6	95	9	0	110	23	82	16	0	121	15	128	30	0	173	15	52	12	0	79	483
04:15 PM	11	109	19	0	139	22	91	20	0	133	16	161	29	0	206	15	57	11	0	83	561
04:30 PM	7	134	17	0	158	25	111	21	0	157	16	189	29	1	235	19	51	8	0	78	628
04:45 PM	10	139	31	0	180	29	109	22	0	160	21	159	39	0	219	29	65	10	0	104	663
Total	34	477	76	0	587	99	393	79	0	571	68	637	127	1	833	78	225	41	0	344	2335
05:00 PM	8	155	10	0	173	35	129	27	0	191	28	166	28	0	222	21	77	10	0	108	694
05:15 PM	9	160	25	0	194	34	131	29	1	195	25	154	28	0	207	32	82	7	0	121	717
05:30 PM	9	155	19	0	183	21	116	26	1	164	34	166	24	0	224	37	84	6	0	127	698
05:45 PM	9	147	20	1	177	38	124	25	1	188	18	159	42	0	219	23	67	9	0	99	683
Total	35	617	74	1	727	128	500	107	3	738	105	645	122	0	872	113	310	32	0	455	2792
Grand Total	99	1877	284	1	2261	367	1187	262	4	1820	302	2286	351	3	2942	365	1284	161	3	1813	8836
Apprch %	4.4	83	12.6	0		20.2	65.2	14.4	0.2		10.3	77.7	11.9	0.1		20.1	70.8	8.9	0.2		
Total %	1.1	21.2	3.2	0	25.6	4.2	13.4	3	0	20.6	3.4	25.9	4	0	33.3	4.1	14.5	1.8	0	20.5	
Pass Cars	97	1857	269	0	2223	355	1172	259	0	1786	296	2252	345	0	2893	359	1265	160	0	1784	8686
% Pass Cars	98	98.9	94.7	0	98.3	96.7	98.7	98.9	0	98.1	98	98.5	98.3	0	98.3	98.4	98.5	99.4	0	98.4	98.3
Single Units	2	20	15	0	37	11	14	2	0	27	5	32	5	0	42	5	15	0	0	20	126
% Single Units	2	1.1	5.3	0	1.6	3	1.2	0.8	0	1.5	1.7	1.4	1.4	0	1.4	1.4	1.2	0	0	1.1	1.4
Heavy Trucks	0	0	0	0	0	1	1	1	0	3	1	2	1	0	4	1	4	1	0	6	13
% Heavy Trucks	0	0	0	0	0	0.3	0.1	0.4	0	0.2	0.3	0.1	0.3	0	0.1	0.3	0.3	0.6	0	0.3	0.1
Peds	0	0	0	1	1	0	0	0	4	4	0	0	0	3	3	0	0	0	3	3	11
% Peds	0	0	0	100	0	0	0	0	100	0.2	0	0	0	100	0.1	0	0	0	100	0.2	0.1

TDC Traffic Comments: Skewed signalized intersection with ped. signals for all quadrants, no push buttons. Trail X-ing for NB approach leg. Video VCU camera was located within SW intersection quadrant. Note: Peds. are excluded from peak hour reports.

Traffic Data Collection, LLC
www:tdccounts.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 4PU SW

File Name : TMC_10 7Mile & Center_Sheldon_5-15-18
Site Code : TMC_10
Start Date : 5/15/2018
Page No : 2



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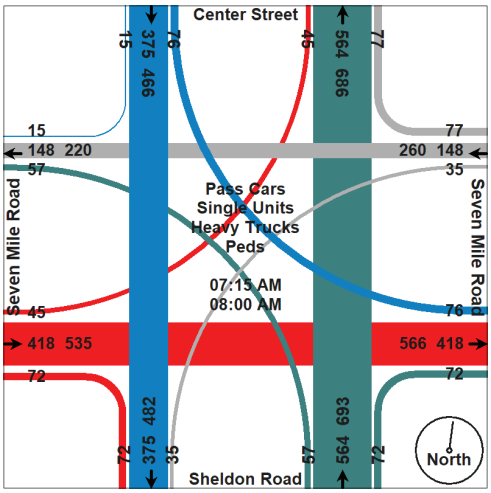
www:tdccounts.com
Phone: 586 786-5407
Traffic Study Performed For:
Fleis &VandenBrink

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

File Name : TMC_10 7Mile & Center_Sheldon_5-15-18
Site Code : TMC_10
Start Date : 5/15/2018
Page No : 3

	Center Street Southbound				Seven Mile Road Westbound				Sheldon Road Northbound				Seven Mile Road Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15 AM																	
07:15 AM	3	84	16	103	15	28	12	55	**22**	124	17	163	14	90	6	110	431
07:30 AM	**6**	97	18	121	**23**	31	**13**	67	21	140	10	171	14	92	12	118	477
07:45 AM	0	**112**	**24**	**136**	18	44	5	67	17	**161**	10	**188**	**32**	106	12	150	**541**
08:00 AM	6	82	18	106	21	**45**	5	**71**	12	139	**20**	171	12	**130**	**15**	**157**	505
Total Volume	15	375	76	466	77	148	35	260	72	564	57	693	72	418	45	535	1954
% App. Total	3.2	80.5	16.3		29.6	56.9	13.5		10.4	81.4	8.2		13.5	78.1	8.4		
PHF	.625	.837	.792	.857	.837	.822	.673	.915	.818	.876	.713	.922	.563	.804	.750	.852	.903
Pass Cars	14	369	74	457	73	144	34	251	70	550	56	676	71	412	45	528	1912
% Pass Cars	93.3	98.4	97.4	98.1	94.8	97.3	97.1	96.5	97.2	97.5	98.2	97.5	98.6	98.6	100	98.7	97.9
Single Units	1	6	2	9	4	4	1	9	1	14	1	16	1	4	0	5	39
% Single Units	6.7	1.6	2.6	1.9	5.2	2.7	2.9	3.5	1.4	2.5	1.8	2.3	1.4	1.0	0	0.9	2.0
Heavy Trucks	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	2	3
% Heavy Trucks	0	0	0	0	0	0	0	0	1.4	0	0	0.1	0	0.5	0	0.4	0.2
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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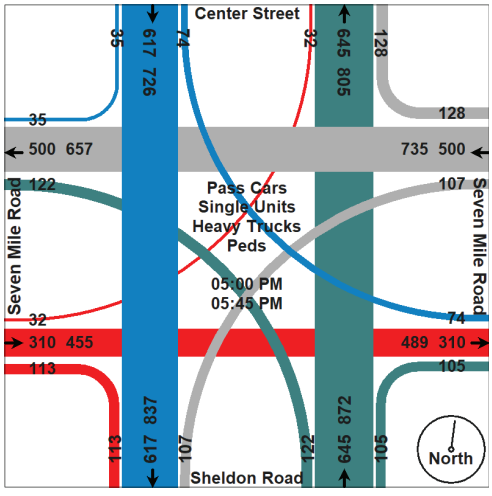
Phone: 586 786-5407
Traffic Study Performed For:
Fleis &VandenBrink

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

File Name : TMC_10 7Mile & Center_Sheldon_5-15-18
Site Code : TMC_10
Start Date : 5/15/2018
Page No : 4

	Center Street Southbound				Seven Mile Road Westbound				Sheldon Road Northbound				Seven Mile Road Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	8	155	10	173	35	129	27	191	28	**166**	28	222	21	77	**10**	108	694
05:15 PM	**9**	**160**	**25**	**194**	34	**131**	**29**	**194**	25	154	28	207	32	82	7	121	**716**
05:30 PM	9	155	19	183	21	116	26	163	**34**	166	24	**224**	**37**	**84**	6	**127**	697
05:45 PM	9	147	20	176	**38**	124	25	187	18	159	**42**	219	23	67	9	99	681
Total Volume	35	617	74	726	128	500	107	735	105	645	122	872	113	310	32	455	2788
% App. Total	4.8	85	10.2		17.4	68	14.6		12	74	14		24.8	68.1	7		
PHF	.972	.964	.740	.936	.842	.954	.922	.947	.772	.971	.726	.973	.764	.923	.800	.896	.973
Pass Cars	35	614	73	722	128	498	107	733	103	643	120	866	112	306	31	449	2770
% Pass Cars	100	99.5	98.6	99.4	100	99.6	100	99.7	98.1	99.7	98.4	99.3	99.1	98.7	96.9	98.7	99.4
Single Units	0	3	1	4	0	2	0	2	2	2	1	5	1	3	0	4	15
% Single Units	0	0.5	1.4	0.6	0	0.4	0	0.3	1.9	0.3	0.8	0.6	0.9	1.0	0	0.9	0.5
Heavy Trucks	0	0	0	0	0	0	0	0	0	0	1	1	0	1	1	2	3
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0	0.8	0.1	0	0.3	3.1	0.4	0.1
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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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 1US NE

File Name : TMC_11 7Mile & Hines_5-15-18
Site Code : TMC_11
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.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Seven Mile Road Southbound				Seven Mile Road Westbound				Edward Hines Drive Northbound				
Start Time	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Int. Total
07:00 AM	40	58	0	98	44	0	0	44	1	14	0	15	157
07:15 AM	43	86	0	129	38	4	0	42	5	15	0	20	191
07:30 AM	52	79	0	131	45	2	0	47	2	27	0	29	207
07:45 AM	51	95	0	146	43	3	0	46	6	25	0	31	223
Total	186	318	0	504	170	9	0	179	14	81	0	95	778
08:00 AM	57	102	0	159	41	2	0	43	5	26	0	31	233
08:15 AM	40	91	0	131	34	1	0	35	1	23	0	24	190
08:30 AM	36	80	0	116	50	2	0	52	2	21	0	23	191
08:45 AM	28	71	0	99	42	4	0	46	3	22	0	25	170
Total	161	344	0	505	167	9	0	176	11	92	0	103	784
*** BREAK ***													
04:00 PM	15	66	0	81	79	4	0	83	4	39	0	43	207
04:15 PM	32	65	0	97	106	4	0	110	9	41	0	50	257
04:30 PM	18	61	0	79	118	11	0	129	12	58	0	70	278
04:45 PM	45	72	0	117	99	9	0	108	11	59	5	75	300
Total	110	264	0	374	402	28	0	430	36	197	5	238	1042
05:00 PM	36	80	0	116	124	7	0	131	15	79	0	94	341
05:15 PM	58	73	0	131	101	17	0	118	18	82	0	100	349
05:30 PM	55	82	0	137	96	20	0	116	17	72	0	89	342
05:45 PM	30	75	0	105	121	6	0	127	14	71	0	85	317
Total	179	310	0	489	442	50	0	492	64	304	0	368	1349
Grand Total	636	1236	0	1872	1181	96	0	1277	125	674	5	804	3953
Apprch %	34	66	0		92.5	7.5	0		15.5	83.8	0.6		
Total %	16.1	31.3	0	47.4	29.9	2.4	0	32.3	3.2	17.1	0.1	20.3	
Pass Cars	627	1210	0	1837	1154	96	0	1250	125	671	0	796	3883
% Pass Cars	98.6	97.9	0	98.1	97.7	100	0	97.9	100	99.6	0	99	98.2
Single Units	9	22	0	31	24	0	0	24	0	3	0	3	58
% Single Units	1.4	1.8	0	1.7	2	0	0	1.9	0	0.4	0	0.4	1.5
Heavy Trucks	0	4	0	4	3	0	0	3	0	0	0	0	7
% Heavy Trucks	0	0.3	0	0.2	0.3	0	0	0.2	0	0	0	0	0.2
Peds	0	0	0	0	0	0	0	0	0	0	5	5	5
% Peds	0	0	0	0	0	0	0	0	0	0	100	0.6	0.1

TDC Traffic Comments: Non-signalized skewed intersection. NB Hines Drive is stop controlled & WB Seven Mile to go SB is also stop controlled. Video VCU camera was located within NE intersection quadrant. Note: Peds. are excluded from peak hour reports.

Traffic Data Collection, LLC

www:tdccounts.com

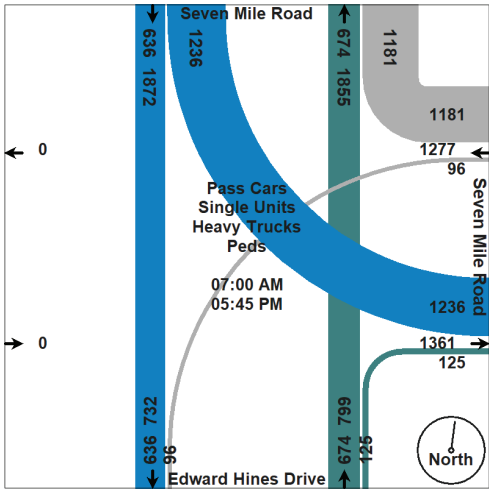
Phone: 586 786-5407

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 1US NE

File Name : TMC_11 7Mile & Hines_5-15-18
Site Code : TMC_11
Start Date : 5/15/2018
Page No : 2



Traffic Data Collection, LLC

www:tdccounts.com

Phone: 586.786-5407

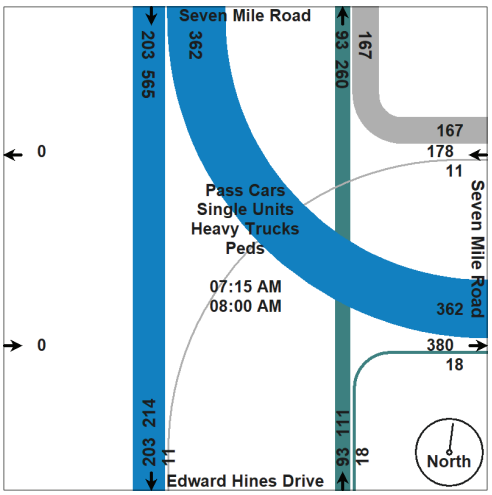
Traffic Study Performed For:

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 1US NE

File Name : TMC_11 7Mile & Hines_5-15-18
Site Code : TMC_11
Start Date : 5/15/2018
Page No : 3

	Seven Mile Road Southbound			Seven Mile Road Westbound			Edward Hines Drive Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:15 AM										
07:15 AM	43	86	129	38	**4**	42	5	15	20	191
07:30 AM	52	79	131	**45**	2	**47**	2	**27**	29	207
07:45 AM	51	95	146	43	3	46	**6**	25	**31**	223
08:00 AM	**57**	**102**	**159**	41	2	43	5	26	31	**233**
Total Volume	203	362	565	167	11	178	18	93	111	854
% App. Total	35.9	64.1		93.8	6.2		16.2	83.8		
PHF	.890	.887	.888	.928	.688	.947	.750	.861	.895	.916
Pass Cars	203	354	557	160	11	171	18	90	108	836
% Pass Cars	100	97.8	98.6	95.8	100	96.1	100	96.8	97.3	97.9
Single Units	0	6	6	6	0	6	0	3	3	15
% Single Units	0	1.7	1.1	3.6	0	3.4	0	3.2	2.7	1.8
Heavy Trucks	0	2	2	1	0	1	0	0	0	3
% Heavy Trucks	0	0.6	0.4	0.6	0	0.6	0	0	0	0.4
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC

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Phone: 586.786-5407

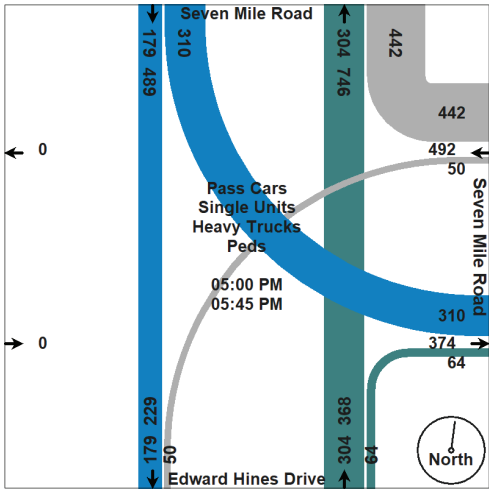
Traffic Study Performed For:

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 1US NE

File Name : TMC_11 7Mile & Hines_5-15-18
Site Code : TMC_11
Start Date : 5/15/2018
Page No : 4

	Seven Mile Road Southbound			Seven Mile Road Westbound			Edward Hines Drive Northbound			
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Right	Thru	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	36	80	116	**124**	7	**131**	15	79	94	341
05:15 PM	**58**	73	131	101	17	118	**18**	**82**	**100**	**349**
05:30 PM	55	**82**	**137**	96	**20**	116	17	72	89	342
05:45 PM	30	75	105	121	6	127	14	71	85	317
Total Volume	179	310	489	442	50	492	64	304	368	1349
% App. Total	36.6	63.4		89.8	10.2		17.4	82.6		
PHF	.772	.945	.892	.891	.625	.939	.889	.927	.920	.966
Pass Cars	179	305	484	440	50	490	64	304	368	1342
% Pass Cars	100	98.4	99.0	99.5	100	99.6	100	100	100	99.5
Single Units	0	5	5	2	0	2	0	0	0	7
% Single Units	0	1.6	1.0	0.5	0	0.4	0	0	0	0.5
Heavy Trucks	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC

www:tdccounts.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 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.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	River Street Southbound				Seven Mile Road Westbound				Seven Mile Road Eastbound				
Start Time	Right	Left	Peds	App. Total	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	1	0	0	1	3	48	0	51	50	4	2	56	108
07:15 AM	7	1	0	8	2	30	0	32	89	7	0	96	136
07:30 AM	6	0	1	7	4	41	0	45	77	4	2	83	135
07:45 AM	2	1	0	3	0	44	0	44	95	7	0	102	149
Total	16	2	1	19	9	163	0	172	311	22	4	337	528
08:00 AM	3	3	0	6	1	41	0	42	98	8	0	106	154
08:15 AM	2	0	0	2	3	33	3	39	88	4	2	94	135
08:30 AM	4	2	3	9	4	49	0	53	80	4	0	84	146
08:45 AM	4	1	2	7	0	40	1	41	68	6	3	77	125
Total	13	6	5	24	8	163	4	175	334	22	5	361	560
*** BREAK ***													
04:00 PM	4	5	1	10	4	78	0	82	63	6	0	69	161
04:15 PM	8	3	1	12	4	105	0	109	62	13	1	76	197
04:30 PM	5	7	0	12	5	124	0	129	57	15	2	74	215
04:45 PM	8	3	3	14	4	102	0	106	71	11	5	87	207
Total	25	18	5	48	17	409	0	426	253	45	8	306	780
05:00 PM	15	2	0	17	7	116	0	123	69	25	0	94	234
05:15 PM	18	1	0	19	5	102	0	107	65	22	0	87	213
05:30 PM	12	2	0	14	9	100	0	109	80	22	1	103	226
05:45 PM	13	4	0	17	4	116	0	120	73	15	0	88	225
Total	58	9	0	67	25	434	0	459	287	84	1	372	898
Grand Total	112	35	11	158	59	1169	4	1232	1185	173	18	1376	2766
Apprch %	70.9	22.2	7		4.8	94.9	0.3		86.1	12.6	1.3		
Total %	4	1.3	0.4	5.7	2.1	42.3	0.1	44.5	42.8	6.3	0.7	49.7	
Pass Cars	109	35	0	144	57	1143	0	1200	1158	171	0	1329	2673
% Pass Cars	97.3	100	0	91.1	96.6	97.8	0	97.4	97.7	98.8	0	96.6	96.6
Single Units	3	0	0	3	2	22	0	24	22	2	0	24	51
% Single Units	2.7	0	0	1.9	3.4	1.9	0	1.9	1.9	1.2	0	1.7	1.8
Heavy Trucks	0	0	0	0	0	4	0	4	5	0	0	5	9
% Heavy Trucks	0	0	0	0	0	0.3	0	0.3	0.4	0	0	0.4	0.3
Peds	0	0	11	11	0	0	4	4	0	0	18	18	33
% Peds	0	0	100	7	0	0	100	0.3	0	0	100	1.3	1.2

TDC Traffic Comments: Non-signalized "T intersection. River St. is stop controllled 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.

Traffic Data Collection, LLC

www:tdccounts.com

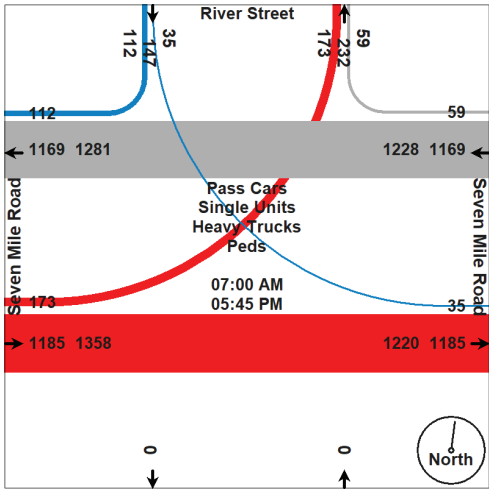
Phone: 586 786-5407

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 3HT SE

File Name : TMC_12 7Mile & River_5-15-18
Site Code : TMC_12
Start Date : 5/15/2018
Page No : 2



Traffic Data Collection, LLC

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Phone: 586 786-5407

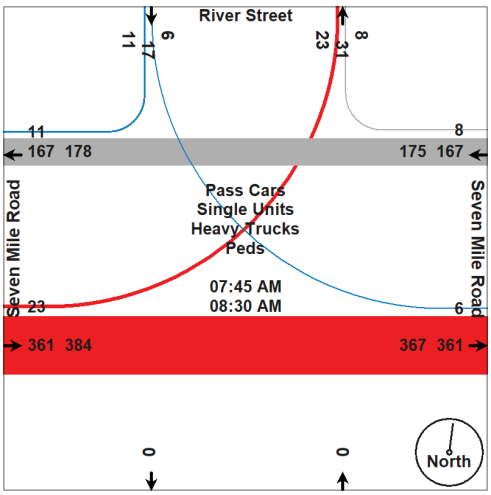
Traffic Study Performed For:

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 3HT SE

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

	River Street Southbound			Seven Mile Road Westbound			Seven Mile Road Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	2	1	3	0	44	44	95	7	102	149
08:00 AM	3	**3**	**6**	1	41	42	**98**	**8**	**106**	**154**
08:15 AM	2	0	2	3	33	36	88	4	92	130
08:30 AM	**4**	2	6	**4**	**49**	**53**	80	4	84	143
Total Volume	11	6	17	8	167	175	361	23	384	576
% App. Total	64.7	35.3		4.6	95.4		94	6		
PHF	.688	.500	.708	.500	.852	.825	.921	.719	.906	.935
Pass Cars	10	6	16	7	159	166	355	23	378	560
% Pass Cars	90.9	100	94.1	87.5	95.2	94.9	98.3	100	98.4	97.2
Single Units	1	0	1	1	7	8	6	0	6	15
% Single Units	9.1	0	5.9	12.5	4.2	4.6	1.7	0	1.6	2.6
Heavy Trucks	0	0	0	0	1	1	0	0	0	1
% Heavy Trucks	0	0	0	0	0.6	0.6	0	0	0	0.2
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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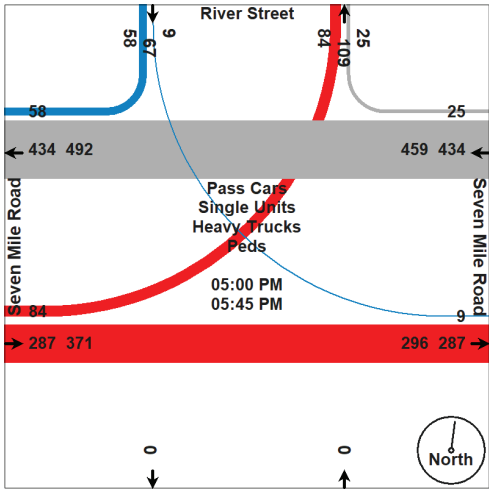
Traffic Study Performed For:

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 3HT SE

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

	River Street Southbound			Seven Mile Road Westbound			Seven Mile Road Eastbound			
Start Time	Right	Left	App. Total	Right	Thru	App. Total	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	15	2	17	7	**116**	**123**	69	**25**	94	**234**
05:15 PM	**18**	1	**19**	5	102	107	65	22	87	213
05:30 PM	12	2	14	**9**	100	109	**80**	22	**102**	225
05:45 PM	13	**4**	17	4	116	120	73	15	88	225
Total Volume	58	9	67	25	434	459	287	84	371	897
% App. Total	86.6	13.4		5.4	94.6		77.4	22.6		
PHF	.806	.563	.882	.694	.935	.933	.897	.840	.909	.958
Pass Cars	58	9	67	24	431	455	282	83	365	887
% Pass Cars	100	100	100	96.0	99.3	99.1	98.3	98.8	98.4	98.9
Single Units	0	0	0	1	3	4	5	1	6	10
% Single Units	0	0	0	4.0	0.7	0.9	1.7	1.2	1.6	1.1
Heavy Trucks	0	0	0	0	0	0	0	0	0	0
% Heavy Trucks	0	0	0	0	0	0	0	0	0	0
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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www:tdccounts.com

Phone: 586 786-5407

Traffic Study Performed 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 : 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.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Northville Road Southbound				Northville Road Northbound				7 Mile Road Eastbound				
Start Time	Right	Thru	Peds	App. Total	Thru	Left	Peds	App. Total	Right	Left	Peds	App. Total	Int. Total
07:00 AM	4	62	0	66	34	0	0	34	2	0	0	2	102
07:15 AM	3	52	0	55	50	2	0	52	6	2	0	8	115
07:30 AM	2	58	0	60	55	1	0	56	7	0	0	7	123
07:45 AM	0	66	0	66	81	3	0	84	6	1	0	7	157
Total	9	238	0	247	220	6	0	226	21	3	0	24	497
08:00 AM	2	63	0	65	67	2	0	69	3	1	0	4	138
08:15 AM	1	74	0	75	79	2	0	81	5	1	0	6	162
08:30 AM	2	71	0	73	87	4	0	91	7	4	0	11	175
08:45 AM	0	81	0	81	93	3	0	96	6	0	0	6	183
Total	5	289	0	294	326	11	0	337	21	6	0	27	658
*** BREAK ***													
04:00 PM	3	96	0	99	137	5	0	142	12	0	3	15	256
04:15 PM	1	86	0	87	155	1	0	156	10	1	0	11	254
04:30 PM	1	93	0	94	170	2	0	172	10	1	1	12	278
04:45 PM	3	124	0	127	156	4	0	160	8	1	1	10	297
Total	8	399	0	407	618	12	0	630	40	3	5	48	1085
05:00 PM	1	126	0	127	156	3	0	159	12	2	1	15	301
05:15 PM	1	123	0	124	181	4	0	185	12	4	1	17	326
05:30 PM	1	118	0	119	172	1	0	173	12	2	0	14	306
05:45 PM	1	110	0	111	170	0	0	170	0	0	0	0	281
Total	4	477	0	481	679	8	0	687	36	8	2	46	1214
Grand Total	26	1403	0	1429	1843	37	0	1880	118	20	7	145	3454
Apprch %	1.8	98.2	0		98	2	0		81.4	13.8	4.8		
Total %	0.8	40.6	0	41.4	53.4	1.1	0	54.4	3.4	0.6	0.2	4.2	
Pass Cars	26	1390	0	1416	1815	37	0	1852	117	19	0	136	3404
% Pass Cars	100	99.1	0	99.1	98.5	100	0	98.5	99.2	95	0	93.8	98.6
Single Units	0	11	0	11	22	0	0	22	1	1	0	2	35
% Single Units	0	0.8	0	0.8	1.2	0	0	1.2	0.8	5	0	1.4	1
Heavy Trucks	0	2	0	2	6	0	0	6	0	0	0	0	8
% Heavy Trucks	0	0.1	0	0.1	0.3	0	0	0.3	0	0	0	0	0.2
Peds	0	0	0	0	0	0	0	0	0	0	7	7	7
% Peds	0	0	0	0	0	0	0	0	0	0	100	4.8	0.2

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.

Traffic Data Collection, LLC

www:tdccounts.com

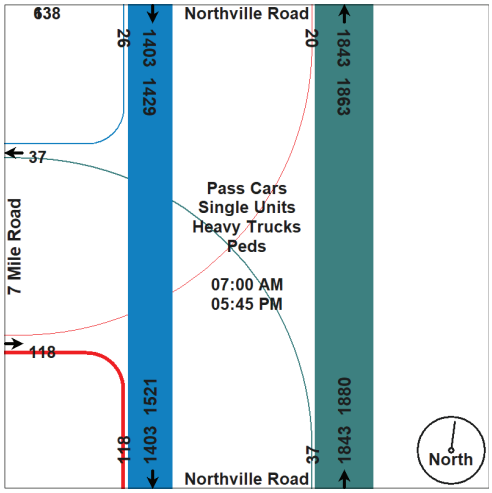
Phone: 586 786-5407

Traffic Study Performed 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



Traffic Data Collection, LLC

www:tdccounts.com

Phone: 586.786-5407

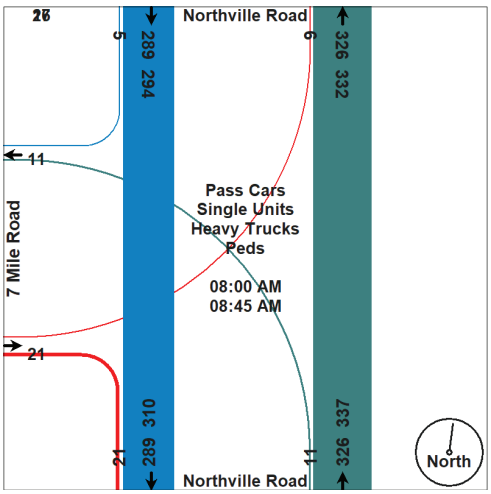
Traffic Study Performed For:

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 : 3

	Northville Road Southbound			Northville Road Northbound			7 Mile Road Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	**2**	63	65	67	2	69	3	1	4	138
08:15 AM	1	74	75	79	2	81	5	1	6	162
08:30 AM	2	71	73	87	**4**	91	**7**	**4**	**11**	175
08:45 AM	0	**81**	**81**	**93**	3	**96**	6	0	6	**183**
Total Volume	5	289	294	326	11	337	21	6	27	658
% App. Total	1.7	98.3		96.7	3.3		77.8	22.2		
PHF	.625	.892	.907	.876	.688	.878	.750	.375	.614	.899
Pass Cars	5	284	289	316	11	327	21	5	26	642
% Pass Cars	100	98.3	98.3	96.9	100	97.0	100	83.3	96.3	97.6
Single Units	0	5	5	9	0	9	0	1	1	15
% Single Units	0	1.7	1.7	2.8	0	2.7	0	16.7	3.7	2.3
Heavy Trucks	0	0	0	1	0	1	0	0	0	1
% Heavy Trucks	0	0	0	0.3	0	0.3	0	0	0	0.2
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC

www:tdccounts.com

Phone: 586.786-5407

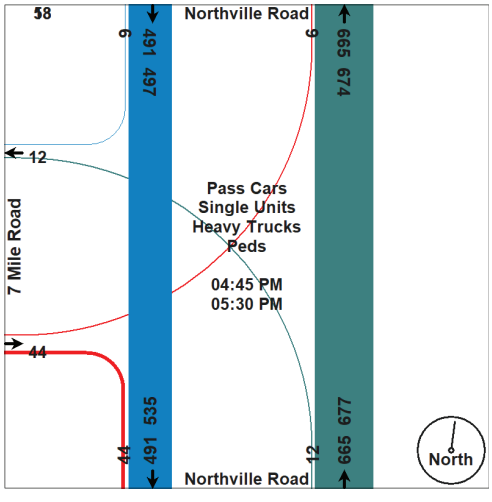
Traffic Study Performed For:

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 : 4

	Northville Road Southbound			Northville Road Northbound			7 Mile Road Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:45 PM										
04:45 PM	**3**	124	**127**	156	**4**	160	8	1	9	296
05:00 PM	1	**126**	127	156	3	159	**12**	2	14	300
05:15 PM	1	123	124	**181**	4	**185**	12	**4**	**16**	**325**
05:30 PM	1	118	119	172	1	173	12	2	14	306
Total Volume	6	491	497	665	12	677	44	9	53	1227
% App. Total	1.2	98.8		98.2	1.8		83	17		
PHF	.500	.974	.978	.919	.750	.915	.917	.563	.828	.944
Pass Cars	6	486	492	660	12	672	44	9	53	1217
% Pass Cars	100	99.0	99.0	99.2	100	99.3	100	100	100	99.2
Single Units	0	3	3	4	0	4	0	0	0	7
% Single Units	0	0.6	0.6	0.6	0	0.6	0	0	0	0.6
Heavy Trucks	0	2	2	1	0	1	0	0	0	3
% Heavy Trucks	0	0.4	0.4	0.2	0	0.1	0	0	0	0.2
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



Traffic Data Collection, LLC

www:tdccounts.com

Phone: 586 786-5407

Traffic Study Performed For:

Fleis & Vandenbrink

Project: Northville Traffic Impact Study
Study:8 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 50's
Count By Miovision Video VCU 6H3 SW

File Name : TMC_2 Northville & 7Mile_N_10-18-18
Site Code : TMC_2
Start Date : 10/18/2018
Page No : 1

8 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning, 11:00 AM - 1:00 PM mid-day & 2:00 PM - 6:00 PM afternoon peak hours, while school was in session.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Northville Road Southbound				Northville Road Northbound				7 Mile Road Eastbound				
Start Time	Right	Thru	U-Turns	App. Total	Thru	Left	U-Turns	App. Total	Right	Left	Peds	App. Total	Int. Total
07:00 AM	13	57	2	72	28	31	0	59	54	6	0	60	191
07:15 AM	9	52	1	62	43	25	0	68	54	5	0	59	189
07:30 AM	8	61	3	72	53	29	1	83	67	5	0	72	227
07:45 AM	9	67	1	77	71	43	0	114	72	9	0	81	272
Total	39	237	7	283	195	128	1	324	247	25	0	272	879
08:00 AM	12	60	0	72	63	37	1	101	64	9	0	73	246
08:15 AM	10	70	0	80	67	50	0	117	86	14	0	100	297
08:30 AM	15	66	3	84	79	33	0	112	71	14	0	85	281
08:45 AM	15	68	1	84	98	32	1	131	62	5	0	67	282
Total	52	264	4	320	307	152	2	461	283	42	0	325	1106
*** BREAK ***													
11:00 AM	9	76	2	87	78	47	1	126	68	8	0	76	289
11:15 AM	9	65	0	74	92	48	1	141	44	9	0	53	268
11:30 AM	12	61	1	74	89	49	1	139	53	7	0	60	273
11:45 AM	16	72	4	92	84	57	0	141	58	11	0	69	302
Total	46	274	7	327	343	201	3	547	223	35	0	258	1132
12:00 PM	12	81	1	94	74	52	0	126	68	9	0	77	297
12:15 PM	19	58	0	77	81	68	1	150	68	13	0	81	308
12:30 PM	19	87	0	106	83	62	2	147	56	6	0	62	315
12:45 PM	14	82	0	96	105	56	1	162	62	16	0	78	336
Total	64	308	1	373	343	238	4	585	254	44	0	298	1256
*** BREAK ***													
02:00 PM	8	77	2	87	74	62	0	136	51	2	0	53	276
02:15 PM	11	71	1	83	72	47	1	120	50	14	0	64	267
02:30 PM	12	93	2	107	87	66	1	154	48	11	0	59	320
02:45 PM	13	94	1	108	100	71	0	171	57	12	0	69	348
Total	44	335	6	385	333	246	2	581	206	39	0	245	1211
03:00 PM	20	78	1	99	128	74	0	202	62	10	0	72	373
03:15 PM	14	93	2	109	130	83	0	213	48	4	0	52	374
03:30 PM	6	94	1	101	117	58	0	175	68	18	0	86	362
03:45 PM	23	84	0	107	129	78	0	207	60	9	0	69	383
Total	63	349	4	416	504	293	0	797	238	41	0	279	1492
04:00 PM	18	93	1	112	135	92	1	228	46	10	0	56	396
04:15 PM	22	80	1	103	127	83	0	210	60	20	0	80	393
04:30 PM	22	91	2	115	155	88	0	243	63	17	0	80	438
04:45 PM	25	96	3	124	156	102	0	258	66	11	0	77	459
Total	87	360	7	454	573	365	1	939	235	58	0	293	1686
05:00 PM	32	116	0	148	160	114	1	275	70	13	0	83	506
05:15 PM	27	116	1	144	169	99	0	268	64	15	0	79	491
05:30 PM	29	109	0	138	163	86	3	252	57	17	0	74	464
05:45 PM	22	111	2	135	168	85	0	253	71	17	0	88	476
Total	110	452	3	565	660	384	4	1048	262	62	0	324	1937
Grand Total	505	2579	39	3123	3258	2007	17	5282	1948	346	0	2294	10699
Apprch %	16.2	82.6	1.2		61.7	38	0.3		84.9	15.1	0		
Total %	4.7	24.1	0.4	29.2	30.5	18.8	0.2	49.4	18.2	3.2	0	21.4	

Traffic Data Collection, LLC

www:tdccounts.com

Phone: 586 786-5407

Traffic Study Performed For:

Fleis & Vandenbrink

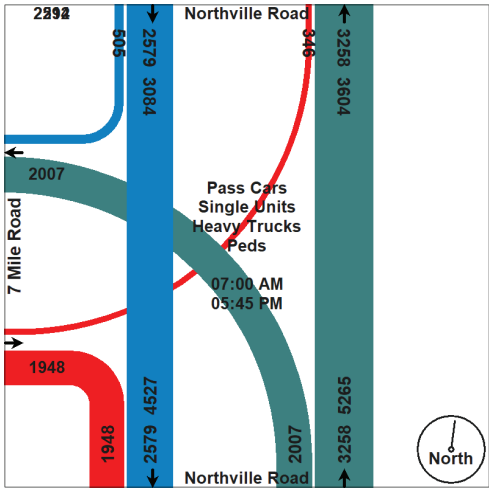
Project: Northville Traffic Impact Study
Study:8 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 50's
Count By Miovision Video VCU 6H3 SW

File Name : TMC_2 Northville & 7Mile_N_10-18-18
Site Code : TMC_2
Start Date : 10/18/2018
Page No : 2

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Northville Road Southbound				Northville Road Northbound				7 Mile Road Eastbound				
	Right	Thru	U-Turns	App. Total	Thru	Left	U-Turns	App. Total	Right	Left	Peds	App. Total	Int. Total
Pass Cars	499	2542	39	3080	3201	1956	17	5174	1895	334	0	2229	10483
% Pass Cars	98.8	98.6	100	98.6	98.3	97.5	100	98	97.3	96.5	0	97.2	98
Single Units	6	30	0	36	50	41	0	91	34	10	0	44	171
% Single Units	1.2	1.2	0	1.2	1.5	2	0	1.7	1.7	2.9	0	1.9	1.6
Heavy Trucks	0	7	0	7	7	10	0	17	19	2	0	21	45
% Heavy Trucks	0	0.3	0	0.2	0.2	0.5	0	0.3	1	0.6	0	0.9	0.4
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0

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



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Phone: 586.786-5407

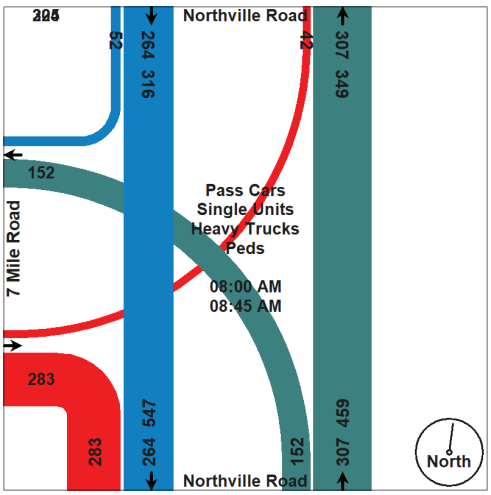
Traffic Study Performed For:

Fleis & Vandenbrink

Project: Northville Traffic Impact Study
Study:8 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 50's
Count By Miovision Video VCU 6H3 SW

File Name : TMC_2 Northville & 7Mile_N_10-18-18
Site Code : TMC_2
Start Date : 10/18/2018
Page No : 3

	Northville Road Southbound			Northville Road Northbound			7 Mile Road Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 08:00 AM										
08:00 AM	12	60	72	63	37	100	64	9	73	245
08:15 AM	10	**70**	80	67	**50**	117	**86**	**14**	**100**	**297**
08:30 AM	**15**	66	81	79	33	112	71	14	85	278
08:45 AM	15	68	**83**	**98**	32	**130**	62	5	67	280
Total Volume	52	264	316	307	152	459	283	42	325	1100
% App. Total	16.5	83.5		66.9	33.1		87.1	12.9		
PHF	.867	.943	.952	.783	.760	.883	.823	.750	.813	.926
Pass Cars	52	260	312	299	139	438	279	40	319	1069
% Pass Cars	100	98.5	98.7	97.4	91.4	95.4	98.6	95.2	98.2	97.2
Single Units	0	3	3	7	11	18	2	1	3	24
% Single Units	0	1.1	0.9	2.3	7.2	3.9	0.7	2.4	0.9	2.2
Heavy Trucks	0	1	1	1	2	3	2	1	3	7
% Heavy Trucks	0	0.4	0.3	0.3	1.3	0.7	0.7	2.4	0.9	0.6
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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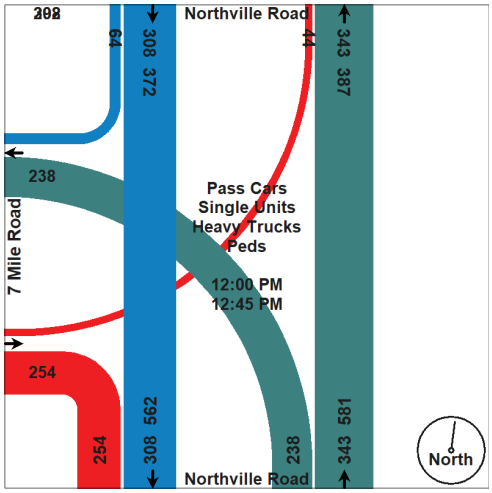
Traffic Study Performed For:

Fleis & Vandenbrink

Project: Northville Traffic Impact Study
Study:8 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 50's
Count By Miovision Video VCU 6H3 SW

File Name : TMC_2 Northville & 7Mile_N_10-18-18
Site Code : TMC_2
Start Date : 10/18/2018
Page No : 4

	Northville Road Southbound			Northville Road Northbound			7 Mile Road Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 12:00 PM										
12:00 PM	12	81	93	74	52	126	**68**	9	77	296
12:15 PM	**19**	58	77	81	**68**	149	68	13	**81**	307
12:30 PM	19	**87**	**106**	83	62	145	56	6	62	313
12:45 PM	14	82	96	**105**	56	**161**	62	**16**	78	**335**
Total Volume	64	308	372	343	238	581	254	44	298	1251
% App. Total	17.2	82.8		59	41		85.2	14.8		
PHF	.842	.885	.877	.817	.875	.902	.934	.688	.920	.934
Pass Cars	62	304	366	339	235	574	247	43	290	1230
% Pass Cars	96.9	98.7	98.4	98.8	98.7	98.8	97.2	97.7	97.3	98.3
Single Units	2	3	5	3	3	6	5	0	5	16
% Single Units	3.1	1.0	1.3	0.9	1.3	1.0	2.0	0	1.7	1.3
Heavy Trucks	0	1	1	1	0	1	2	1	3	5
% Heavy Trucks	0	0.3	0.3	0.3	0	0.2	0.8	2.3	1.0	0.4
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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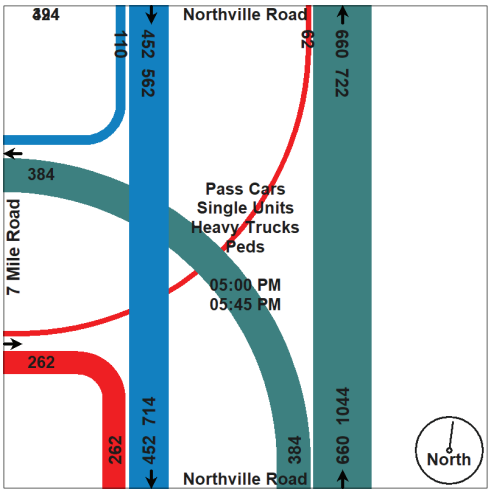
Traffic Study Performed For:

Fleis & Vandenbrink

Project: Northville Traffic Impact Study
Study:8 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 50's
Count By Miovision Video VCU 6H3 SW

File Name : TMC_2 Northville & 7Mile_N_10-18-18
Site Code : TMC_2
Start Date : 10/18/2018
Page No : 5

	Northville Road Southbound			Northville Road Northbound			7 Mile Road Eastbound			
Start Time	Right	Thru	App. Total	Thru	Left	App. Total	Right	Left	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 05:00 PM										
05:00 PM	**32**	**116**	**148**	160	**114**	**274**	70	13	83	**505**
05:15 PM	27	116	143	**169**	99	268	64	15	79	490
05:30 PM	29	109	138	163	86	249	57	**17**	74	461
05:45 PM	22	111	133	168	85	253	**71**	17	**88**	474
Total Volume	110	452	562	660	384	1044	262	62	324	1930
% App. Total	19.6	80.4		63.2	36.8		80.9	19.1		
PHF	.859	.974	.949	.976	.842	.953	.923	.912	.920	.955
Pass Cars	109	448	557	654	380	1034	257	61	318	1909
% Pass Cars	99.1	99.1	99.1	99.1	99.0	99.0	98.1	98.4	98.1	98.9
Single Units	1	3	4	6	3	9	3	1	4	17
% Single Units	0.9	0.7	0.7	0.9	0.8	0.9	1.1	1.6	1.2	0.9
Heavy Trucks	0	1	1	0	1	1	2	0	2	4
% Heavy Trucks	0	0.2	0.2	0	0.3	0.1	0.8	0	0.6	0.2
Peds	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0



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Phone: 586 786-5407

Traffic Study Performed For:

Fleis & Vandenbrink

Project: Northville Traffic Impact Study
Study:8 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 50's
Count By Miovision Video VCU 5DW SE

File Name : TMC_3 Northville & 7Mile_S_10-18-18
Site Code : TMC_3
Start Date : 10/18/2018
Page No : 1

8 Hour traffic study was conducted during typical weekday (Tuesday-Thursday) from 7:00 AM - 9:00 AM morning, 11:00 AM - 1:00 PM mid-day & 2:00 PM - 6:00 PM afternoon peak hours, while school was in session.

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Northville Road Southbound					7 Mile Road Westbound					Northville Road Northbound					Monro Brakes Dw. Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	1	39	65	0	105	37	0	39	0	76	41	29	0	0	70	0	0	0	0	0	251
07:15 AM	1	42	71	0	114	29	0	32	0	61	42	41	0	0	83	0	0	0	0	0	258
07:30 AM	1	44	78	0	123	36	1	61	0	98	49	44	0	0	93	1	0	0	0	1	315
07:45 AM	0	42	91	0	133	55	1	75	0	131	70	61	0	0	131	0	0	0	0	0	395
Total	3	167	305	0	475	157	2	207	0	366	202	175	0	0	377	1	0	0	0	1	1219
08:00 AM	2	36	87	0	125	40	2	48	0	90	73	61	0	0	134	0	1	0	0	1	350
08:15 AM	1	49	108	0	158	61	0	63	0	124	72	56	0	0	128	2	0	0	0	2	412
08:30 AM	1	42	91	0	134	47	0	57	0	104	68	64	0	0	132	0	0	0	0	0	370
08:45 AM	0	57	77	0	134	52	0	43	0	95	60	77	0	0	137	0	0	0	0	0	366
Total	4	184	363	0	551	200	2	211	0	413	273	258	0	0	531	2	1	0	0	3	1498
*** BREAK ***																					
11:00 AM	1	56	94	0	151	76	0	39	0	115	42	53	0	0	95	0	0	0	0	0	361
11:15 AM	0	30	80	0	110	60	0	40	0	100	49	80	0	0	129	0	0	0	0	0	339
11:30 AM	0	44	71	0	115	77	1	35	0	113	38	63	0	0	101	0	0	0	0	0	329
11:45 AM	0	49	75	0	124	83	0	33	0	116	41	52	0	0	93	0	0	0	0	0	333
Total	1	179	320	0	500	296	1	147	0	444	170	248	0	0	418	0	0	0	0	0	1362
12:00 PM	0	56	86	0	142	81	0	40	0	121	67	47	0	0	114	0	0	0	0	0	377
12:15 PM	0	49	87	0	136	93	0	45	0	138	54	51	0	0	105	0	0	0	0	0	379
12:30 PM	0	46	96	0	142	98	0	40	0	138	49	53	0	0	102	0	0	0	0	0	382
12:45 PM	1	49	90	0	140	93	0	60	0	153	52	69	0	0	121	1	0	0	0	1	415
Total	1	200	359	0	560	365	0	185	0	550	222	220	0	0	442	1	0	0	0	1	1553
*** BREAK ***																					
02:00 PM	0	55	73	0	128	79	0	52	0	131	45	63	0	0	108	1	0	0	0	1	368
02:15 PM	2	52	75	0	129	84	0	39	0	123	48	37	0	0	85	0	0	0	0	0	337
02:30 PM	0	61	74	0	135	95	0	56	0	151	59	62	0	0	121	0	0	0	0	0	407
02:45 PM	1	67	81	0	149	106	0	50	0	156	43	64	0	0	107	0	0	0	0	0	412
Total	3	235	303	0	541	364	0	197	0	561	195	226	0	0	421	1	0	0	0	1	1524
03:00 PM	0	61	80	0	141	119	0	53	0	172	53	84	1	0	138	0	0	1	0	1	452
03:15 PM	1	63	72	0	136	89	0	52	0	141	65	126	0	0	191	0	0	0	0	0	468
03:30 PM	1	77	83	0	161	92	0	54	0	146	60	81	0	0	141	0	0	0	0	0	448
03:45 PM	0	60	72	0	132	121	0	55	0	176	67	81	0	0	148	0	0	0	0	0	456
Total	2	261	307	0	570	421	0	214	0	635	245	372	1	0	618	0	0	1	0	1	1824
04:00 PM	0	69	72	0	141	119	0	70	0	189	59	111	0	0	170	0	0	0	0	0	500
04:15 PM	1	61	77	0	139	115	0	62	0	177	73	93	1	0	167	0	0	0	0	0	483
04:30 PM	0	69	98	0	167	141	1	83	0	225	76	105	0	0	181	3	0	0	0	3	576
04:45 PM	1	77	80	0	158	133	0	73	0	206	75	123	0	0	198	1	0	0	0	1	563
Total	2	276	327	0	605	508	1	288	0	797	283	432	1	0	716	4	0	0	0	4	2122
05:00 PM	2	98	88	0	188	136	0	81	0	217	75	130	0	0	205	0	0	1	0	1	611
05:15 PM	0	93	84	0	177	133	1	65	0	199	89	122	0	0	211	0	0	0	0	0	587
05:30 PM	2	87	76	0	165	120	0	77	0	197	88	113	0	0	201	6	0	0	0	6	569
05:45 PM	0	83	91	0	174	121	0	75	0	196	85	113	0	0	198	0	0	0	0	0	568
Total	4	361	339	0	704	510	1	298	0	809	337	478	0	0	815	6	0	1	0	7	2335
Grand Total	20	1863	2623	0	4506	2821	7	1747	0	4575	1927	2409	2	0	4338	15	1	2	0	18	13437
Approch %	0.4	41.3	58.2	0		61.7	0.2	38.2	0		44.4	55.5	0	0		83.3	5.6	11.1	0		
Total %	0.1	13.9	19.5	0	33.5	21	0.1	13	0	34	14.3	17.9	0	0	32.3	0.1	0	0	0	0.1	

Traffic Data Collection, LLC

www.tdccounts.com

Phone: 586.786-5407

Traffic Study Performed For:

Fleis & Vandenbrink

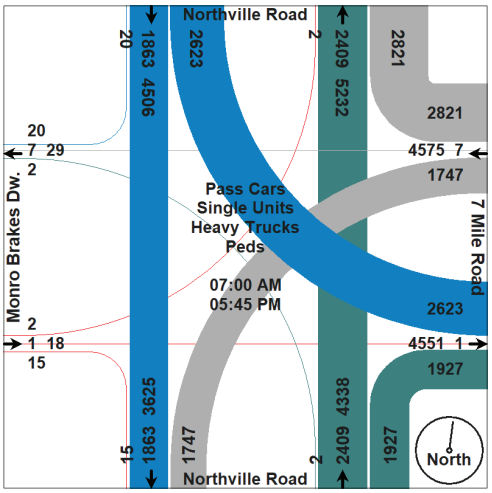
Project: Northville Traffic Impact Study
Study:8 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 50's
Count By Miovision Video VCU 5DW SE

File Name : TMC_3 Northville & 7Mile_S_10-18-18
Site Code : TMC_3
Start Date : 10/18/2018
Page No : 2

Groups Printed- Pass Cars - Single Units - Heavy Trucks - Peds

	Northville Road Southbound					7 Mile Road Westbound					Northville Road Northbound					Monro Brakes Dw. Eastbound					
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Pass Cars	19	1831	2569	0	4419	2771	6	1706	0	4483	1875	2351	2	0	4228	15	1	2	0	18	13148
% Pass Cars	95	98.3	97.9	0	98.1	98.2	85.7	97.7	0	98	97.3	97.6	100	0	97.5	100	100	100	0	100	97.8
Single Units	1	26	38	0	65	37	1	24	0	62	42	52	0	0	94	0	0	0	0	0	221
% Single Units	5	1.4	1.4	0	1.4	1.3	14.3	1.4	0	1.4	2.2	2.2	0	0	2.2	0	0	0	0	0	1.6
Heavy Trucks	0	6	16	0	22	13	0	17	0	30	10	6	0	0	16	0	0	0	0	0	68
% Heavy Trucks	0	0.3	0.6	0	0.5	0.5	0	1	0	0.7	0.5	0.2	0	0	0.4	0	0	0	0	0	0.5
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TDC Traffic Comments: Signalized "T" intersection, no ped. signals. NTOR overhead case sign for NB approach. 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.



Traffic Data Collection, LLC

www.tdccounts.com

Phone: 586.786-5407

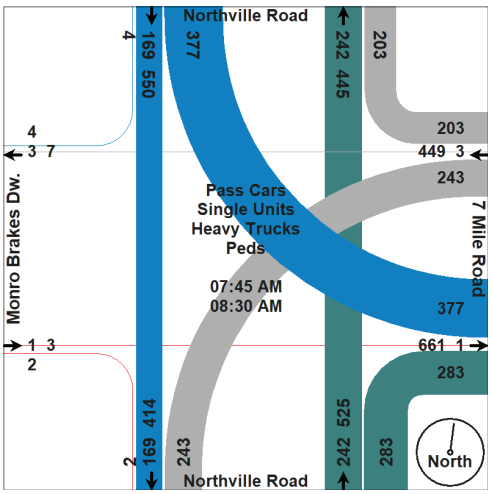
Traffic Study Performed For:

Fleis & Vandenbrink

Project: Northville Traffic Impact Study
Study:8 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 50's
Count By Miovision Video VCU 5DW SE

File Name : TMC_3 Northville & 7Mile_S_10-18-18
Site Code : TMC_3
Start Date : 10/18/2018
Page No : 3

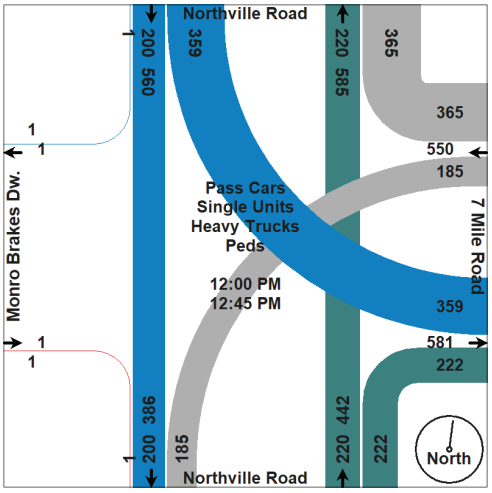
	Northville Road Southbound				7 Mile Road Westbound				Northville Road Northbound				Monro Brakes Dw. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	42	91	133	55	1	**75**	**131**	70	61	0	131	0	0	0	0	395
08:00 AM	**2**	36	87	125	40	**2**	48	90	**73**	61	0	**134**	0	**1**	0	1	350
08:15 AM	1	**49**	**108**	**158**	**61**	0	63	124	72	56	0	128	**2**	0	0	**2**	**412**
08:30 AM	1	42	91	134	47	0	57	104	68	**64**	0	132	0	0	0	0	370
Total Volume	4	169	377	550	203	3	243	449	283	242	0	525	2	1	0	3	1527
% App. Total	0.7	30.7	68.5		45.2	0.7	54.1		53.9	46.1	0		66.7	33.3	0		
PHF	.500	.862	.873	.870	.832	.375	.810	.857	.969	.945	.000	.979	.250	.250	.000	.375	.927
Pass Cars	4	167	375	546	198	3	236	437	274	232	0	506	2	1	0	3	1492
% Pass Cars	100	98.8	99.5	99.3	97.5	100	97.1	97.3	96.8	95.9	0	96.4	100	100	0	100	97.7
Single Units	0	2	2	4	1	0	4	5	7	7	0	14	0	0	0	0	23
% Single Units	0	1.2	0.5	0.7	0.5	0	1.6	1.1	2.5	2.9	0	2.7	0	0	0	0	1.5
Heavy Trucks	0	0	0	0	4	0	3	7	2	3	0	5	0	0	0	0	12
% Heavy Trucks	0	0	0	0	2.0	0	1.2	1.6	0.7	1.2	0	1.0	0	0	0	0	0.8
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Project: Northville Traffic Impact Study
Study:8 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 50's
Count By Miovision Video VCU 5DW SE

File Name : TMC_3 Northville & 7Mile_S_10-18-18
Site Code : TMC_3
Start Date : 10/18/2018
Page No : 4

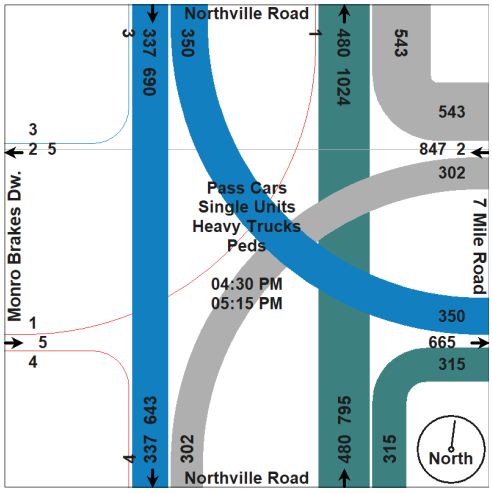
	Northville Road Southbound				7 Mile Road Westbound				Northville Road Northbound				Monro Brakes Dw. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	**56**	86	**142**	81	0	40	121	**67**	47	0	114	0	0	0	0	377
12:15 PM	0	49	87	136	93	0	45	138	54	51	0	105	0	0	0	0	379
12:30 PM	0	46	**96**	142	**98**	0	40	138	49	53	0	102	0	0	0	0	382
12:45 PM	**1**	49	90	140	93	0	**60**	**153**	52	**69**	0	**121**	**1**	0	0	**1**	**415**
Total Volume	1	200	359	560	365	0	185	550	222	220	0	442	1	0	0	1	1553
% App. Total	0.2	35.7	64.1		66.4	0	33.6		50.2	49.8	0		100	0	0		
PHF	.250	.893	.935	.986	.931	.000	.771	.899	.828	.797	.000	.913	.250	.000	.000	.250	.936
Pass Cars	1	198	351	550	361	0	179	540	214	217	0	431	1	0	0	1	1522
% Pass Cars	100	99.0	97.8	98.2	98.9	0	96.8	98.2	96.4	98.6	0	97.5	100	0	0	100	98.0
Single Units	0	1	6	7	3	0	4	7	5	2	0	7	0	0	0	0	21
% Single Units	0	0.5	1.7	1.3	0.8	0	2.2	1.3	2.3	0.9	0	1.6	0	0	0	0	1.4
Heavy Trucks	0	1	2	3	1	0	2	3	3	1	0	4	0	0	0	0	10
% Heavy Trucks	0	0.5	0.6	0.5	0.3	0	1.1	0.5	1.4	0.5	0	0.9	0	0	0	0	0.6
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Project: Northville Traffic Impact Study
Study:8 Hr. Video Turning Movement Count
Weather: Sunny/Cldy. Dry Deg's 50's
Count By Miovision Video VCU 5DW SE

File Name : TMC_3 Northville & 7Mile_S_10-18-18
Site Code : TMC_3
Start Date : 10/18/2018
Page No : 5

	Northville Road Southbound				7 Mile Road Westbound				Northville Road Northbound				Monro Brakes Dw. Eastbound				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	69	**98**	167	**141**	**1**	**83**	**225**	76	105	0	181	**3**	0	0	**3**	576
04:45 PM	1	77	80	158	133	0	73	206	75	123	0	198	1	0	0	1	563
05:00 PM	**2**	**98**	88	**188**	136	0	81	217	75	**130**	0	205	0	0	**1**	1	**611**
05:15 PM	0	93	84	177	133	1	65	199	**89**	122	0	**211**	0	0	0	0	587
Total Volume	3	337	350	690	543	2	302	847	315	480	0	795	4	0	1	5	2337
% App. Total	0.4	48.8	50.7		64.1	0.2	35.7		39.6	60.4	0		80	0	20		
PHF	.375	.860	.893	.918	.963	.500	.910	.941	.885	.923	.000	.942	.333	.000	.250	.417	.956
Pass Cars	3	332	343	678	537	2	302	841	311	473	0	784	4	0	1	5	2308
% Pass Cars	100	98.5	98.0	98.3	98.9	100	100	99.3	98.7	98.5	0	98.6	100	0	100	100	98.8
Single Units	0	3	4	7	4	0	0	4	4	7	0	11	0	0	0	0	22
% Single Units	0	0.9	1.1	1.0	0.7	0	0	0.5	1.3	1.5	0	1.4	0	0	0	0	0.9
Heavy Trucks	0	2	3	5	2	0	0	2	0	0	0	0	0	0	0	0	7
% Heavy Trucks	0	0.6	0.9	0.7	0.4	0	0	0.2	0	0	0	0	0	0	0	0	0.3
Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Peds	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Wing & Randolph - 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: 886942, Location: 42.433, -83.484894

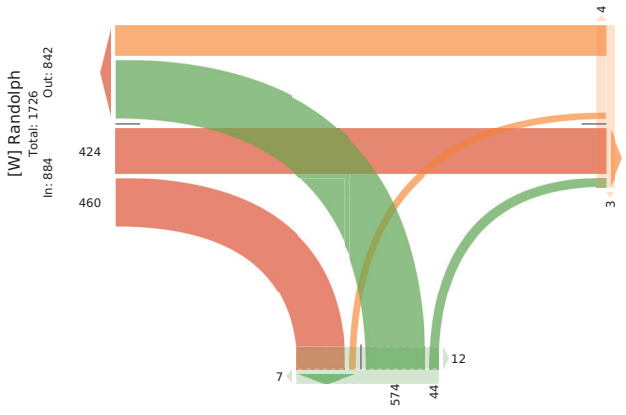
GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg / Direction	Randolph Eastbound					Randolph Westbound					Wing Northbound					
Time	T	R	U	App	Ped*	L	T	U	App	Ped*	L	R	U	App	Ped*	Int
2021-10-19 7:00AM	6	17	0	**23**	0	1	4	0	**5**	0	22	1	0	**23**	1	**51**
7:15AM	17	19	0	**36**	0	0	8	0	**8**	0	24	2	0	**26**	0	**70**
7:30AM	14	19	0	**33**	0	0	7	0	**7**	1	33	0	0	**33**	2	**73**
7:45AM	23	32	0	**55**	0	3	22	0	**25**	0	30	1	0	**31**	0	**111**
Hourly Total	60	87	0	**147**	0	4	41	0	**45**	1	109	4	0	**113**	3	**305**
8:00AM	13	35	0	**48**	0	1	26	0	**27**	0	17	3	0	**20**	0	**95**
8:15AM	22	34	0	**56**	0	0	3	0	**3**	0	18	2	0	**20**	0	**79**
8:30AM	35	22	0	**57**	0	1	5	0	**6**	0	22	2	0	**24**	0	**87**
8:45AM	30	27	0	**57**	0	0	14	0	**14**	0	20	5	0	**25**	0	**96**
Hourly Total	100	118	0	**218**	0	2	48	0	**50**	0	77	12	0	**89**	0	**357**
4:00PM	26	16	0	**42**	0	2	29	0	**31**	0	37	5	0	**42**	2	**115**
4:15PM	20	19	0	**39**	0	3	14	0	**17**	0	35	7	0	**42**	0	**98**
4:30PM	16	16	0	**32**	0	2	21	0	**23**	0	60	0	0	**60**	1	**115**
4:45PM	49	47	0	**96**	0	1	23	0	**24**	0	66	4	0	**70**	0	**190**
Hourly Total	111	98	0	**209**	0	8	87	0	**95**	0	198	16	0	**214**	3	**518**
5:00PM	47	35	0	**82**	0	1	29	0	**30**	0	54	1	0	**55**	4	**167**
5:15PM	39	54	0	**93**	0	0	26	0	**26**	2	52	5	0	**57**	1	**176**
5:30PM	37	28	0	**65**	0	2	17	0	**19**	2	37	1	0	**38**	6	**122**
5:45PM	30	40	0	**70**	0	1	20	0	**21**	2	47	5	0	**52**	2	**143**
Hourly Total	153	157	0	**310**	0	4	92	0	**96**	6	190	12	0	**202**	13	**608**
Total	424	460	0	**884**	0	18	268	0	**286**	7	574	44	0	**618**	19	**1788**
% Approach	48.0%	52.0%	0%	-	-	6.3%	93.7%	0%	-	-	92.9%	7.1%	0%	-	-	-
% Total	23.7%	25.7%	0%	**49.4%**	-	1.0%	15.0%	0%	**16.0%**	-	32.1%	2.5%	0%	**34.6%**	-	-
Lights	423	450	0	**873**	-	18	263	0	**281**	-	562	41	0	**603**	-	1757
% Lights	99.8%	97.8%	0%	**98.8%**	-	100%	98.1%	0%	**98.3%**	-	97.9%	93.2%	0%	**97.6%**	-	98.3%
Single-Unit Trucks	0	2	0	**2**	-	0	1	0	**1**	-	3	1	0	**4**	-	7
% Single-Unit Trucks	0%	0.4%	0%	**0.2%**	-	0%	0.4%	0%	**0.3%**	-	0.5%	2.3%	0%	**0.6%**	-	0.4%
Articulated Trucks	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Buses	1	5	0	**6**	-	0	1	0	**1**	-	4	2	0	**6**	-	13
% Buses	0.2%	1.1%	0%	**0.7%**	-	0%	0.4%	0%	**0.3%**	-	0.7%	4.5%	0%	**1.0%**	-	0.7%
Bicycles on Road	0	3	0	**3**	-	0	3	0	**3**	-	5	0	0	**5**	-	11
% Bicycles on Road	0%	0.7%	0%	**0.3%**	-	0%	1.1%	0%	**1.0%**	-	0.9%	0%	0%	**0.8%**	-	0.6%
Pedestrians	-	-	-	-	0	-	-	-	-	7	-	-	-	-	17	
% Pedestrians	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	89.5%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	2	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	10.5%	-

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

Wing & Randolph - 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: 886942, Location: 42.433, -83.484894

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



Out: 478 In: 618
Total: 1096
[S] Wing

GEWALT HAMILTON ASSOCIATES, INC.

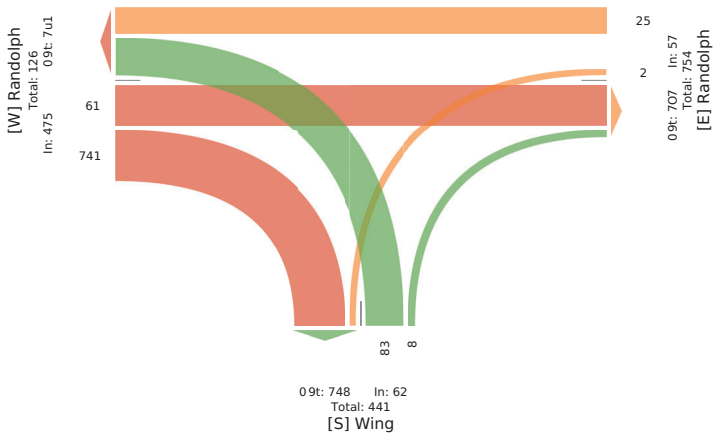
LdRmsBeBbo7Gev nfi Hnl s6tRr F CCRcsnteCDrc.
82M5RdeCl EBi e : dsne, Vedr Rr Hs6tC, Da , 80081, k U

a ei : sdectsRr	wnr BRRpS EnCtbRur B				wnr BRRpS WeCtbRur B				Wsr i NRttSbRur B				
Tsl e	T	w	k	**F pp**	LeB*	a	T	k	**F pp**	LeB*	a	w	k	**F pp**	LeB*	**Dt**
2021-10-19 (7AMF l	23	32	0	**M4**	0	3	22	0	**2M**	0	30	1	0	**31**	0	**111**
47b0F l	13	3M	0	**A4**	0	1	28	0	**2(**	0	1(	3	0	**20**	0	**9M**
47l MF l	22	3A	0	**M8**	0	0	3	0	**3**	0	14	2	0	**20**	0	**(9**
4730F l	3M	22	0	**Mj**	0	1	M	0	**8**	0	22	2	0	**2A**	0	**4(**
TRtn6	93	123	0	**218**	0	M	M8	0	**81**	0	4(	4	0	**9M**	0	**3(2**
% F ppRncS	A3.1%	M8.9%	0%	**-**	-	4.2%	91.4%	0%	**-**	-	91.8%	4.A%	0%	**-**	-	-
% TRtn6	2M0%	33.1%	0%	**M.1%**	-	1.3%	1M1%	0%	**18.A%**	-	23.A%	2.2%	0%	**2MM%**	-	-
LH5	0.88A	0.4(9	-	**0.9A(**	-	0.A1 (	0.M4	-	**0.M8M**	-	0.(2M	0.88(	-	**0.(88**	-	0.434
a si StC	92	114	0	**210**	-	M	MM	0	**80**	-	43	4	0	**91**	-	381
% a si StC	94.9%	9M9%	0%	**9(.2%**	-	100%	94.2%	0%	**94.A%**	-	9MA%	100%	0%	**9M4%**	-	9(.0%
Usr i 6e-k r st TducgC	0	0	0	**0**	-	0	0	0	**0**	-	1	0	0	**1**	-	1
% Usr i 6e-k r st TducgC	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	1.1%	0%	0%	**1.1%**	-	0.3%
F dscu6nteB TducgC	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% F dscu6nteB TducgC	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
y uCeC	1	M	0	**8**	-	0	1	0	**1**	-	3	0	0	**3**	-	10
% y uCeC	1.1%	A1%	0%	**2.4%**	-	0%	1.4%	0%	**1.8%**	-	3.A%	0%	0%	**3.2%**	-	2.(%
y scoc6eCRr wRnB	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% y scoc6eCRr wRnB	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
LeBeCdcknr C	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% LeBeCdcknr C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
y scoc6eCRr) dRCCv nfg	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% y scoc6eCRr) dRCCv nfg	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*LeBeCdcknr Cnr B y scoc6eCRr) dRCCv nfg. a 7a eft, w7wsi St, T7TSdu, k 7k -Tudr

Wing & Randolph - TMC
Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 6) 6nCCeChn si StC, Usr i 6e-k r st TducgC, F dscu6nteB TducgC, y uCeC,
LeBeCdcknr C, y scoc6eCRr wRnB, y scoc6eCRr) dRCCv nfgP
F 6l l Rme l er tC
D 74489A2, a RcntsRr 7A2.A33, -43.A4A49A

GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeBbo7Gev nfi Hnl s6tRr F CCRcsnteCDrc.
82M5RdeCl EBi e : dsne, Vedr Rr Hs6tC, Da , 80081, k U



Wing & Randolph - TMC
Tue Oct 19, 2021
Fl FeLn gh(h7 Fl A7(h7 Fl MAO - e4LPFeLn 6) u4
CPPa Flsses gl SLr ts, k SlUtePBdSt T4ucns, C4tScuRLtey T4ucns, o uses, Feyest4SLds, o StRcRes) d w) Ly, o StRcRes) d a 4) ssv LPhM
CPPl) - emedts
ID(: : 89h2, i) cLrS) d(h2.h33, A 3.h: h: 9h

GEWALT HAMILTON ASSOCIATES, INC.

F4) - Syey bR(Gev LPt 6 LmSPt) d Css) cSLtes Idc.
827 H) 4est 5 yUe D4Se, E e4t) d 6 SPBs, Ii , 80081, Bk

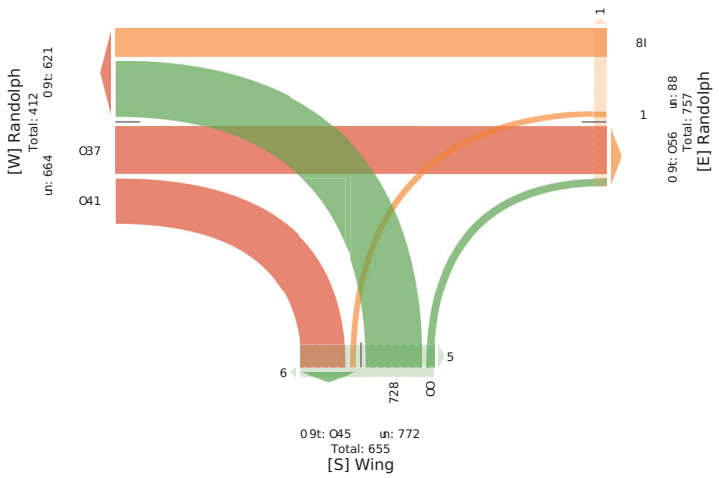
i eU DSlectSyd	wLdy) PAr 5 Lstb) udy					wLdy) PAr p estb) udy					p SlU W) 4r b) udy					
TSne	T	w	B	**CW**	FeyN	i	T	B	**CW**	FeyN	i	w	B	**CW**	FeyN	**Idt**
2021A10A19 h(h7Fl	h9	h*	0	**98**	0	1	23	0	**2h**	0	88	h	0	***0**	0	**190**
7(00Fl	h*	37	0	**: 2**	0	1	29	0	**30**	0	7h	1	0	**77**	h	**18***
7(17Fl	39	7h	0	**93**	0	0	28	0	**28**	2	72	7	0	**7***	1	**1*8**
7(30Fl	3*	2:	0	**87**	0	2	1*	0	**19**	2	3*	1	0	**3:**	8	**122**
T) tLP	1*2	18h	0	**338**	0	h	97	0	**99**	h	209	11	0	**220**	11	**877**
% CVWtj Lcr	71.2%	h: .: %	0%	**A**	A	h.0%	98.0%	0%	**A**	A	97.0%	7.0%	0%	**A**	A	A
% T) tLP	28.3%	27.0%	0%	**71.3%**	A	0.8%	1h.7%	0%	**17.1%**	A	31.9%	1.*%	0%	**33.8%**	A	A
F6 H	0.: *:	0.*79	A	**0.: 8***	A	0.700	0.: 02	A	**0.: 0:**	A	0.*: h	0.770	A	**0.**9**	A	0.: 73
i SLr ts	1*2	180	0	**332**	A	h	93	0	**9***	A	208	10	0	**218**	A	8h7
% i SLr ts	100%	9*.8%	0%	**9: .: %**	A	100%	9*.9%	0%	**9: .0%**	A	9: .8%	90.9%	0%	**9: .2%**	A	9: .7%
k SlUtePBdSt T4ucns	0	1	0	**1**	A	0	0	0	**0**	A	1	0	0	**1**	A	2
% k SlUtePBdSt T4ucns	0%	0.8%	0%	**0.3%**	A	0%	0%	0%	**0%**	A	0.7%	0%	0%	**0.7%**	A	0.3%
C4tScuRLtey T4ucns	0	0	0	**0**	A	0	0	0	**0**	A	0	0	0	**0**	A	0
% C4tScuRLtey T4ucns	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%
o uses	0	0	0	**0**	A	0	0	0	**0**	A	0	1	0	**1**	A	1
% o uses	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%	9.1%	0%	**0.7%**	A	0.2%
o StRcRes) d w) Ly	0	3	0	**3**	A	0	2	0	**2**	A	2	0	0	**2**	A	*
% o StRcRes) d w) Ly	0%	1.: %	0%	**0.9%**	A	0%	2.1%	0%	**2.0%**	A	1.0%	0%	0%	**0.9%**	A	1.1%
Feyest4SLds	A	A	A	A	0	A	A	A	A	h	A	A	A	A	10	
% Feyest4SLds	A	A	A	A	A	A	A	A	A	100%	A	A	A	A	90.9%	A
o StRcRes) d a 4) ssv LIh	A	A	A	A	0	A	A	A	A	0	A	A	A	A	1	
% o StRcRes) d a 4) ssv LIh	A	A	A	A	A	A	A	A	A	0%	A	A	A	A	9.1%	A

NFeyest4SLds Ldy o StRcRes) d a 4) ssv LIh. i (i eft, w(wSLr t, T(Tr 4u, B(BAf u4d

Wing & Randolph - TMC
Tue Oct 19, 2021
PM Peak (4:45 PM - 5:45 PM) - Overall Peak Hour
All Classes (Lights, Single-Unit Trucks, Articulated Trucks, Buses, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 886942, Location: 42.433, -83.484894

GEWALT HAMILTON ASSOCIATES, INC.

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



Randolph & Center - 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: 4234. 2774, -8. 348. 249

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

Leg	Randolph						Randolph						Center						Center						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2021-10-19 7:00AM	2	0	5	0	**7**	0	0	0	0	0	**0**	0	.	.9	1	0	**4.**	0	1	.8	2	0	**41**	0	**91**
7:15AM	6	0	12	0	**18**	0	0	0	0	0	**0**	0	5	47	0	0	**52**	0	0	.9	.	0	**42**	0	**112**
7:. 0AM	.	0	12	0	**15**	0	0	0	0	0	**0**	0	.	56	1	0	**60**	2	2	62	4	0	**68**	0	**14.**
7:45AM	6	0	18	0	**24**	0	0	0	2	0	**2**	0	2	87	0	0	**89**	0	1	116	22	0	**1.9**	0	**254**
Hourly Total	17	0	47	0	**64**	0	0	0	2	0	**2**	0	1.	229	2	0	**244**	2	4	255	.1	0	**290**	0	**600**
8:00AM	6	0	9	0	**15**	1	1	0	0	0	**1**	1	7	75	0	0	**82**	0	1	1.1	19	0	**151**	0	**249**
8:15AM	1	0	21	0	**22**	2	2	0	1	0	**.**	1	2	85	1	0	**88**	0	1	74	1	0	**76**	0	**189**
8:. 0AM	7	2	28	0	**.7**	2	1	0	2	0	**.**	2	4	60	0	0	**64**	0	2	47	2	0	**51**	0	**155**
8:45AM	10	1	24	0	**.5**	4	2	2	2	0	**6**	1	10	58	1	0	**69**	0	.	76	4	0	**8.**	0	**19.**
Hourly Total	24	.	82	0	**109**	9	6	2	5	0	**1.**	5	2.	278	2	0	**.0.**	0	7	.28	26	0	**.61**	0	**786**
4:00PM	12	1	18	0	**.1**	7	1	5	9	0	**15**	5	16	116	2	0	**1.4**	0	2	88	10	0	**100**	1	**280**
4:15PM	9	.	17	0	**29**	.	1	2	5	0	**8**	1	7	78	1	0	**86**	0	.	91	8	0	**102**	0	**225**
4:. 0PM	2	0	15	0	**17**	6	5	.	5	0	**1.**	1	15	98	2	0	**115**	0	4	84	9	0	**97**	0	**242**
4:45PM	19	2	.1	0	**52**	1	1	0	9	0	**10**	0	1.	108	1	0	**122**	0	0	55	1.	0	**68**	0	**252**
Hourly Total	42	6	81	0	**129**	17	8	10	28	0	**46**	7	51	400	6	0	**457**	0	9	.18	40	0	**.67**	1	**999**
5:00PM	14	.	.2	0	**49**	4	4	.	7	0	**14**	2	15	85	2	0	**102**	1	2	46	8	0	**56**	0	**221**
5:15PM	11	2	.1	0	**44**	2	.	5	5	0	**1.**	.	10	117	1	0	**128**	0	2	52	10	0	**64**	0	**249**
5:. 0PM	7	7	2.	0	**.7**	6	4	1	6	0	**11**	4	10	99	.	0	**112**	4	5	96	9	0	**110**	2	**270**
5:45PM	8	0	26	0	**.4**	.	2	4	7	0	**1.**	.	12	92	2	0	**106**	0	7	107	4	0	**118**	0	**271**
Hourly Total	40	12	112	0	**164**	15	1.	1.	25	0	**51**	12	47	.9.	8	0	**448**	5	16	.01	.1	0	**.48**	2	**1011**
Total	12.	21	.22	0	**466**	41	27	25	60	0	**112**	24	1.4	1.00	18	0	**1452**	7	.6	1202	128	0	**1.66**	.	**..96**
% Approach	2634%	435%	6931%	0%	**-**	-	2431%	223 %	5.36%	0%	**-**	-	932%	8935%	132%	0%	**-**	-	236%	8830%	934%	0%	**-**	-	-
% Total	.36%	036%	935%	0%	**1.37%**	-	038%	037%	138%	0%	**.3 %**	-	.39%	.83 %	035%	0%	**4238%**	-	131%	.534%	.38%	0%	**4032%**	-	-
Lights	120	21	.21	0	**462**	-	26	25	60	0	**111**	-	1.1	1279	18	0	**1428**	-	.6	1185	125	0	**1.46**	-	..47
% Lights	9736%	100%	9937%	0%	**9931%**	-	963 %	100%	100%	0%	**9931%**	-	9738%	9834%	100%	0%	**983 %**	-	100%	9836%	9737%	0%	**9835%**	-	9836%
Single-Unit Trucks	1	0	0	0	**1**	-	0	0	0	0	**0**	-	1	11	0	0	**12**	-	0	8	1	0	**9**	-	22
% Single-Unit Trucks	038%	0%	0%	0%	**032%**	-	0%	0%	0%	0%	**0%**	-	037%	038%	0%	0%	**038%**	-	0%	037%	038%	0%	**037%**	-	036%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Buses	2	0	1	0	**.**	-	1	0	0	0	**1**	-	1	4	0	0	**5**	-	0	4	0	0	**4**	-	1.
% Buses	136%	0%	03 %	0%	**036%**	-	.37%	0%	0%	0%	**039%**	-	037%	03 %	0%	0%	**03 %**	-	0%	03 %	0%	0%	**03 %**	-	034%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1	6	0	0	**7**	-	0	5	2	0	**7**	-	14
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	037%	035%	0%	0%	**035%**	-	0%	034%	136%	0%	**035%**	-	034%
Pedestrians	-	-	-	-	-	..	-	-	-	-	-	2.	-	-	-	-	-	6	-	-	-	-	-	.	
% Pedestrians	-	-	-	-	-	8035%	-	-	-	-	-	9538%	-	-	-	-	-	8537%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	8	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	1935%	-	-	-	-	-	432%	-	-	-	-	-	143 %	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk3L: Left, R: Right, T: Thru, U: U-Turn

Randolph & Center - 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: 4234. 2774, -8. 348. 249

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

Randolph & Center - TMC

Tue Oct 19, 2021
F1 Leng h(7AMF1 - 47AMF1 P
F 66) 6nCCeCha si StC, Usr i 6e-k r st TducgC, F dtscu6nteB TducgC, y uCeC, LeBeCtdsnr C,
y scoc6eCRr wRnB, y scoc6eCRr) dRCCv n6gP
F 66l RmeI er tC
D 74489A , a RcntsRr 7 A23A. 2((A, -4. 3A4. 2A9

GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeB bo7Gev n6 HnI s6Rr F CCRcsnteCD c3
82M5 RdeCt EBi e : dsme, Vedr Rr Hs66C, Da , 80081, k U

a ei	wnr BR6pS						wnr BR6pS						) er ted						) er ted						
: sdectsRr	EnCtbRur B						WeCtbRur B						NRdSbRur B						URutSbRur B						
TsI e	a	T	w	k	Fpp	LeB*	a	T	w	k	Fpp	LeB*	a	T	w	k	Fpp	LeB*	a	T	w	k	Fpp	LeB*	Dt
2021-10-19 (7AMF1	8	0	14	0	**2A**	0	0	0	2	0	**2**	0	2	4(	0	0	**49**	0	1	118	22	0	**1.9**	0	**2MA**
4700F1	8	0	9	0	**1M**	1	1	0	0	0	**1**	1	(	(M	0	0	**42**	0	1	1.1	19	0	**1M**	0	**2A9**
471MF1	1	0	21	0	**22**	2	2	0	1	0	**.**	1	2	4M	1	0	**44**	0	1	(A	1	0	**(8**	0	**149**
47.0F1	(	2	24	0	**.(**	2	1	0	2	0	**.**	2	A	80	0	0	**8A**	0	2	A(	2	0	**M**	0	**1MM**
TRm6	20	2	(8	0	**94**	M	A	0	M	0	**9**	A	1M	.0(	1	0	**.2.**	0	M	.84	AA	0	**A1(**	0	**4A(**
% FppdRncS	203A%	230%	((38%	0%	**-**	-	AA3A%	0%	MM3%	0%	**-**	-	A38%	9M30%	03 %	0%	**-**	-	132%	4432%	1038%	0%	**-**	-	-
% TRm6	23A%	032%	930%	0%	**1138%**	-	03M%	0%	038%	0%	**131%**	-	134%	.832%	031%	0%	**.431%**	-	038%	A3A%	M32%	0%	**A932%**	-	-
LH5	03(1A	032M0	03(9	-	**03882**	-	03M00	-	0382M	-	**03(M0**	-	03M8	03442	032M0	-	**0390(**	-	0382M	03(00	03M00	-	**03849**	-	034..
a si StC	20	2	(M	0	**9(**	-	A	0	M	0	**9**	-	1A	.01	1	0	**.18**	-	M	.80	AA	0	**A09**	-	4. 1
% a si StC	100%	100%	943(%	0%	**9930%**	-	100%	0%	100%	0%	**100%**	-	9. 3 %	9430%	100%	0%	**9(34%**	-	100%	9(34%	100%	0%	**9431%**	-	9431%
Usri 6e-k rst TducgC	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	M	0	0	**M**	-	0	A	0	0	**A**	-	9
% Usri 6e-k rst TducgC	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	138%	0%	0%	**13M%**	-	0%	131%	0%	0%	**130%**	-	131%
F dtscu6nteB TducgC	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% F dtscu6nteB TducgC	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
y uGeC	0	0	1	0	**1**	-	0	0	0	0	**0**	-	1	1	0	0	**2**	-	0	.	0	0	**.**	-	8
% y uGeC	0%	0%	13 %	0%	**130%**	-	0%	0%	0%	0%	**0%**	-	83(%	03 %	0%	0%	**038%**	-	0%	034%	0%	0%	**03(%**	-	03(%
y scoc6eCRr wRnB	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	1
% y scoc6eCRr wRnB	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	03 %	0%	0%	**032%**	-	031%
LeBeCtdsnr C	-	-	-	-	-	A	-	-	-	-	-	A	-	-	-	-	-	0	-	-	-	-	-	0	
% LeBeCtdsnr C	-	-	-	-	-	4030%	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-
y scoc6eCRr) dRCCv n6g	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% y scoc6eCRr) dRCCv n6g	-	-	-	-	-	2030%	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-	-

*LeBeCtdsnr Cnr B y scoc6eCRr) dRCCv n6g3a 7a eft, w7wsi St, T7TSdu, k 7k -Tudr

Randolph & Center - TMC

Tue Oct 19, 2021
F1 Leng h(7AMF1 - 47AMF1 P
F 66) 6nCCeCha si StC, Usr i 6e-k r st TducgC, F dtscu6nteB TducgC, y uCeC,
LeBeCtdsnr C, y scoc6eCRr wRnB, y scoc6eCRr) dRCCv n6gP
F 66l RmeI er tC
D 74489A , a RcntsRr 7 A23A. 2((A, -4. 3A4. 2A9

GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeB bo7Gev n6 HnI s6Rr F CCRcsnteCD c3
82M5 RdeCt EBi e : dsme, Vedr Rr Hs66C, Da , 80081, k U

Randolph & Center - TMC

Tue Oct 19, 2021
Fl FeLn gh Fl (7 Fl A(OM4-L4l FeLn P 6u-
) 4l C4Laaea gs iSUta, r ikS4e(d kit T-ucna,) -ticu4LteB T-ucna, y uaea, FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4nA
) 4l l 6Mev ekta
nh D : 798. , s 6cLti6kDB23B. 2bb8, (: . 3B: . 289

GEWALT HAMILTON ASSOCIATES, INC.
F-6MBeB GoDHewL4 P Lv i46k) aa6ciLtea nhc3
72h 56-eat EBSe I -iMv, Ve-k6k P i4a, ns , 70071, d r

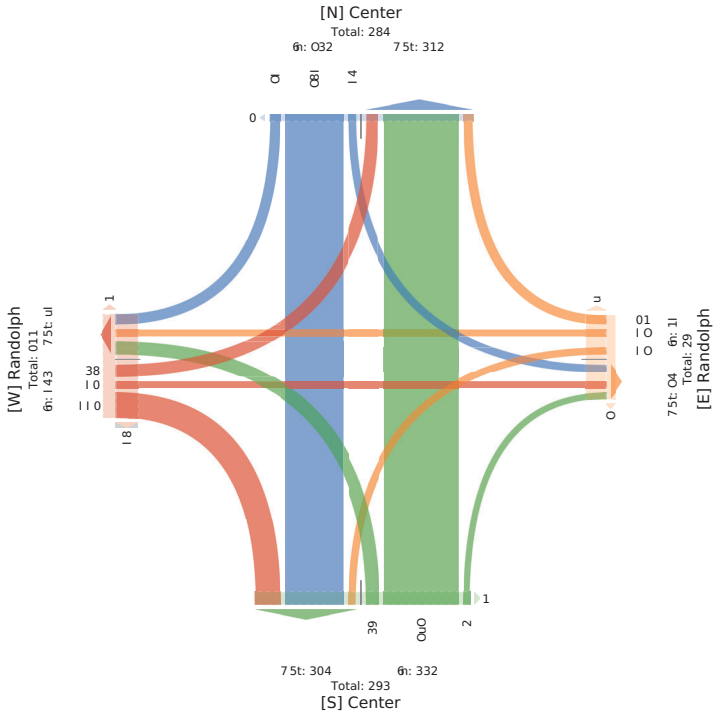
s eS t i-ectl6k	R1kB64pU ELatG6ukB						R1kB64pU WeatG6ukB						Cekte- N6-tUG6ukB						Cekte- r 6utUG6ukB						
Tiv e	s	T	R	d	) pp	FeB*	s	T	R	d	) pp	FeB*	s	T	R	d	) pp	FeB*	s	T	R	d	) pp	FeB*	nkt
2021(10(19 h00F1	18	.	. 2	0	89	8	8	.	b	0	18	2	1h	: h	2	0	102	1	2	87	:	0	h7	0	221
h0hFl	11	2	. 1	0	88	2	.	h	h	0	1.	.	10	11b	1	0	12:	0	2	h2	10	0	78	0	289
hD0F1	b	b	2.	0	. b	7	8	1	7	0	11	8	10	99	.	0	112	8	h	97	9	0	110	2	2b0
h0hFl	:	0	27	0	. 8		2	8	b	0	1.	.	12	92	2	0	107	0	b	10b	8	0	11:	0	2b1
T6tL4	80	12	112	0	**178**	1h	1.	1.	2h	0	**h1**	12	8b	. 9.	:	0	**88:**	h	17	. 01	. 1	0	**. 8:**	2	**1011**
%) pp-6LcU	28.8%	b3 %	7: 3 %	0%	**(**	(	2h.h%	2h.h%	89.0%	0%	**(**	(	103.h%	: b.h%	13 %	0%	**(**	(	8.7%	: 7.h%	: 3%	0%	**(**	(	(
% T6tL4	83.0%	1.2%	11.3%	0%	**17.2%**	(	13 %	13 %	2.h%	0%	**h.0%**	(	8.7%	. : 3%	03 %	0%	**883 %**	(	1.7%	293 %	. 3 %	0%	**. 8.8%**	(	(
FP 5	03.b18	03.29	03 hh	(	**03 . b**	(	03 1.	0.7h0	03 9.	(	**03.911**	(	03.b7b	03 29	0.77b	(	**03 b0**	(	03.hb1	0.797	03 . .	(	**03.b29**	(	0.92.
s iSUta	80	12	112	0	**178**	(	1.	1.	2h	0	**h1**	(	87	. : :	:	0	**882**	(	17	29h	. 0	0	**. 81**	(	99:
% s iSUta	100%	100%	100%	0%	**100%**	(	100%	100%	100%	0%	**100%**	(	9h.9%	9: 3%	100%	0%	**9: 3%**	(	100%	9: 10%	97.3 %	0%	**9: 3%**	(	9: 3%
r ikS4e(d kit T-ucna	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	.	0	0	**.**	(	.
% r ikS4e(d kit T-ucna	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	1.0%	0%	0%	**0.9%**	(	0.3 %
) -ticu4LteB T-ucna	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0
%) -ticu4LteB T-ucna	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	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%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%
y icoc4ea 6k R6LB	0	0	0	0	**0**	(	0	0	0	0	**0**	(	1	h	0	0	**7**	(	0	.	1	0	**8**	(	10
% y icoc4ea 6k R6LB	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	23%	13 %	0%	0%	**13 %**	(	0%	1.0%	. 2%	0%	**1.3%**	(	1.0%
FeBeat-iLka	(	(	(	(	(	9	(	(	(	(	(	11	(	(	(	(	(	8	(	(	(	(	(	2	
% FeBeat-iLka	(	(	(	(	(70.0%		(	(	(	(	(91.3%		(	(	(	(	(: 0.0%		(	(	(	(	(100%		(
y icoc4ea 6k C-6aawL4n	(	(	(	(	(	7	(	(	(	(	(	1	(	(	(	(	(	1	(	(	(	(	(	0	
% y icoc4ea 6k C-6aawL4n	(	(	(	(	(80.0%		(	(	(	(	(: 3 %		(	(	(	(	(20.0%		(	(	(	(	(0%		(

*FeBeat-iLka IkB y icoc4ea 6k C-6aawL4n3s Ds eft, RDRiSU, TDTU-u, d Dtl (Tu-k

Randolph & Center - TMC

Tue Oct 19, 2021
Fl FeLn gh Fl (7 Fl A(OM4-L4l FeLn P 6u-
) 4l C4Laaea gs iSUta, r ikS4e(d kit T-ucna,) -ticu4LteB T-ucna, y uaea, FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4nA
) 4l l 6Mev ekta
nh D : 798. , s 6cLti6kDB23B. 2bb8, (: . 3B: . 289

GEWALT HAMILTON ASSOCIATES, INC.
F-6MBeB GoDHewL4 P Lv i46k) aa6ciLtea nhc3
72h 56-eat EBSe I -iMv, Ve-k6k P i4a, ns , 70071, d r



Wing & Dunlap - 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: 886941, Location: 42.432119, -83.484794

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

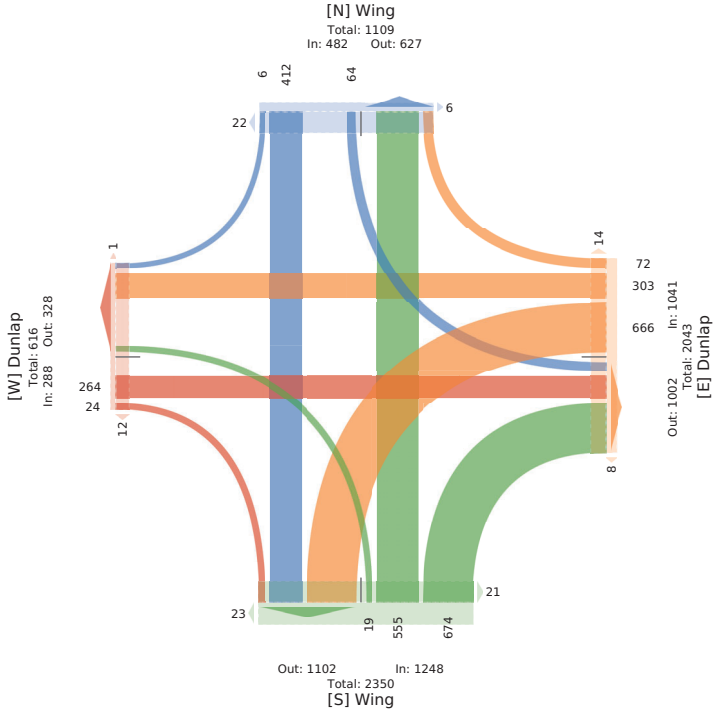
Leg Direction	Dunlap Eastbound						Dunlap Westbound						Wing Northbound						Wing Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2021-10-19 7:00AM	0	6	1	0	**7**	0	24	6	2	0	**32**	1	0	21	15	0	**36**	0	1	17	0	0	**18**	0	**93**
7:15AM	0	12	0	0	**12**	0	24	12	2	0	**38**	0	0	23	23	0	**46**	1	1	16	0	0	**17**	0	**113**
7:30AM	0	15	0	0	**15**	0	33	8	3	0	**44**	1	0	30	18	0	**48**	1	3	19	0	0	**22**	0	**129**
7:45AM	0	25	0	0	**25**	1	72	14	3	0	**89**	0	1	30	47	0	**78**	1	3	32	0	0	**35**	0	**227**
Hourly Total	0	58	1	0	**59**	1	153	40	10	0	**203**	2	1	104	103	0	**208**	3	8	84	0	0	**92**	0	**562**
8:00AM	0	17	1	0	**18**	0	66	25	3	0	**94**	0	2	16	46	0	**64**	2	3	33	0	0	**36**	0	**212**
8:15AM	0	20	0	0	**20**	0	35	12	2	0	**49**	0	1	19	50	0	**70**	1	3	31	0	0	**34**	0	**173**
8:30AM	0	15	0	0	**15**	0	28	13	4	0	**45**	1	2	19	30	0	**51**	1	4	18	0	0	**22**	1	**133**
8:45AM	0	17	2	0	**19**	1	39	20	3	0	**62**	2	1	24	32	0	**57**	0	5	23	0	0	**28**	3	**166**
Hourly Total	0	69	3	0	**72**	1	168	70	12	0	**250**	3	6	78	158	0	**242**	4	15	105	0	0	**120**	4	**684**
4:00PM	0	23	4	0	**27**	1	49	28	4	0	**81**	3	0	37	54	0	**91**	1	1	18	0	0	**19**	6	**218**
4:15PM	0	11	0	0	**11**	5	52	20	5	0	**77**	0	0	39	39	0	**78**	7	4	17	0	0	**21**	1	**187**
4:30PM	0	12	2	0	**14**	1	35	28	9	0	**72**	0	1	53	59	0	**113**	7	2	14	2	0	**18**	2	**217**
4:45PM	0	19	3	0	**22**	1	31	19	8	0	**58**	0	2	61	54	0	**117**	4	7	39	1	0	**47**	1	**244**
Hourly Total	0	65	9	0	**74**	8	167	95	26	0	**288**	3	3	190	206	0	**399**	19	14	88	3	0	**105**	10	**866**
5:00PM	0	16	1	0	**17**	0	31	17	5	0	**53**	5	4	51	49	0	**104**	0	3	33	2	0	**38**	4	**212**
5:15PM	0	21	6	0	**27**	2	40	28	6	0	**74**	4	2	52	61	0	**115**	9	8	48	0	0	**56**	4	**272**
5:30PM	0	18	2	0	**20**	0	47	25	2	0	**74**	2	3	37	47	0	**87**	4	4	26	1	0	**31**	3	**212**
5:45PM	0	17	2	0	**19**	1	60	28	11	0	**99**	3	0	43	50	0	**93**	5	12	28	0	0	**40**	3	**251**
Hourly Total	0	72	11	0	**83**	3	178	98	24	0	**300**	14	9	183	207	0	**399**	18	27	135	3	0	**165**	14	**947**
Total	0	264	24	0	**288**	13	666	303	72	0	**1041**	22	19	555	674	0	**1248**	44	64	412	6	0	**482**	28	**3059**
% Approach	0%	91.7%	8.3%	0%	**-**	-	64.0%	29.1%	6.9%	0%	**-**	-	1.5%	44.5%	54.0%	0%	**-**	-	13.3%	85.5%	1.2%	0%	**-**	-	-
% Total	0%	8.6%	0.8%	0%	**9.4%**	-	21.8%	9.9%	2.4%	0%	**34.0%**	-	0.6%	18.1%	22.0%	0%	**40.8%**	-	2.1%	13.5%	0.2%	0%	**15.8%**	-	-
Lights	0	261	23	0	**284**	-	662	299	72	0	**1033**	-	19	540	664	0	**1223**	-	64	400	6	0	**470**	-	3010
% Lights	0%	98.9%	95.8%	0%	**98.6%**	-	99.4%	98.7%	100%	0%	**99.2%**	-	100%	97.3%	98.5%	0%	**98.0%**	-	100%	97.1%	100%	0%	**97.5%**	-	98.4%
Single-Unit Trucks	0	0	0	0	**0**	-	2	1	0	0	**3**	-	0	3	7	0	**10**	-	0	2	0	0	**2**	-	15
% Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0.3%	0.3%	0%	0%	**0.3%**	-	0%	0.5%	1.0%	0%	**0.8%**	-	0%	0.5%	0%	0%	**0.4%**	-	0.5%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Buses	0	1	0	0	**1**	-	0	1	0	0	**1**	-	0	6	2	0	**8**	-	0	5	0	0	**5**	-	15
% Buses	0%	0.4%	0%	0%	**0.3%**	-	0%	0.3%	0%	0%	**0.1%**	-	0%	1.1%	0.3%	0%	**0.6%**	-	0%	1.2%	0%	0%	**1.0%**	-	0.5%
Bicycles on Road	0	2	1	0	**3**	-	2	2	0	0	**4**	-	0	6	1	0	**7**	-	0	5	0	0	**5**	-	19
% Bicycles on Road	0%	0.8%	4.2%	0%	**1.0%**	-	0.3%	0.7%	0%	0%	**0.4%**	-	0%	1.1%	0.1%	0%	**0.6%**	-	0%	1.2%	0%	0%	**1.0%**	-	0.6%
Pedestrians	-	-	-	-	-	13	-	-	-	-	-	22	-	-	-	-	-	44	-	-	-	-	-	25	
% Pedestrians	-	-	-	-	-	- 100%	-	-	-	-	-	- 100%	-	-	-	-	-	- 100%	-	-	-	-	-	- 89.3%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	3	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	- 10.7%	-

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

Wing & Dunlap - 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: 886941, Location: 42.432119, -83.484794

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



Wing & Dunlap - TMC
Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 66) 6nCCeCha si StC, Usr i 6e-k r st TducgC, F dscu6nteB TducgC, y uCeC, LeBeCdsnr C,
y scoc6eCRr wRnB, y scoc6eCRr) dRCCv n6gP
F 66l RmeI er tC
D 74489A1, a RcntsRr 7A2.A32119, -43.A4A(9A

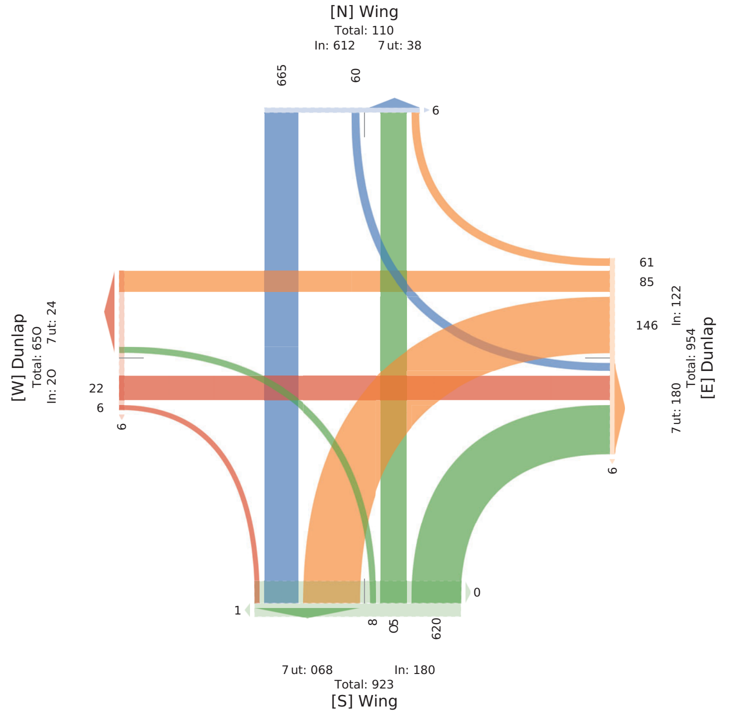
GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeB bo7Gev n6t HnI s6Rr F CCRcsnteCDc.
82M5 RdeCt EBi e : dsme, Vedr Rr Hs66C, Da , 80081, k U

a ei	: ur 6np						: ur 6np						Wsr i						Wsr i						
: sdectsRr	EnCtbRur B						WeCtbRur B						NRdtSbRur B						URutSbRur B						
TsI e	a	T	w	k	**F pp**	LeB*	a	T	w	k	**F pp**	LeB*	a	T	w	k	**F pp**	LeB*	a	T	w	k	**F pp**	LeB*	**Dt**
2021-10-19 (7AMF l	0	2M	0	0	**2M**	1	(2	1A	3	0	**49**	0	1	30	A(	0	**(4**	1	3	32	0	0	**3M**	0	**22(**
4700F l	0	1(	1	0	**14**	0	88	2M	3	0	**9A**	0	2	18	A8	0	**8A**	2	3	33	0	0	**38**	0	**212**
471MF l	0	20	0	0	**20**	0	3M	12	2	0	**A9**	0	1	19	M0	0	**(0**	1	3	31	0	0	**3A**	0	**1(3**
4730F l	0	1M	0	0	**1M**	0	24	13	A	0	**AM**	1	2	19	30	0	**M**	1	A	14	0	0	**22**	1	**133**
TRtn6	0	((	1	0	**(4**	1	201	8A	12	0	**2((**	1	8	4A	1(3	0	**283**	M	13	11A	0	0	**12(**	1	**(AM**
% F ppdRncS	0%	94.(%	1.3%	0%	-	-	(2.8%	23.1%	A3%	0%	-	-	2.3%	31.9%	8M4%	0%	-	-	10.2%	49.4%	0%	0%	-	-	-
% TRtn6	0%	10.3%	0.1%	0%	**10.M%**	-	2(.0%	4.8%	1.8%	0%	**3(.2%**	-	0.4%	11.3%	23.2%	0%	**3M3%**	-	1.(%	1M3%	0%	0%	**1(.0%**	-	-
LH5	-	0.((0	0.2M0	-	**0.(40**	-	0.894	0.830	0.(M0	-	**0.(3A**	-	0.(M0	0.(00	0.48M	-	**0.4A3**	-	0.413	0.48A	-	-	**0.442**	-	0.423
a si StC	0	((	1	0	**(4**	-	201	83	12	0	**2(8**	-	8	40	1(0	0	**2M8**	-	13	109	0	0	**122**	-	(32
% a si StC	0%	100%	100%	0%	**100%**	-	100%	94.A%	100%	0%	**99.8%**	-	100%	9M2%	94.3%	0%	**9(.3%**	-	100%	9M8%	0%	0%	**98.1%**	-	94.3%
Usr i 6e-k r st TducgC	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	1	3	0	**A**	-	0	0	0	0	**0**	-	A
% Usr i 6e-k r st TducgC	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	1.2%	1.(%	0%	**1.M%**	-	0%	0%	0%	0%	**0%**	-	0.M%
F dscu6nteB TducgC	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% F dscu6nteB TducgC	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
y uCeC	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	3	0	0	**3**	-	0	M	0	0	**M**	-	4
% y uCeC	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	3.8%	0%	0%	**1.1%**	-	0%	AA%	0%	0%	**3.9%**	-	1.1%
y scoc6eCRr wRnB	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1
% y scoc6eCRr wRnB	0%	0%	0%	0%	**0%**	-	0%	1.8%	0%	0%	**0.A%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.1%
LeBeCdsnr C	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	M	-	-	-	-	-	1	
% LeBeCdsnr C	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
y scoc6eCRr) dRCCv n6g	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% y scoc6eCRr) dRCCv n6g	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*LeBeCdsnr Cnr B y scoc6eCRr) dRCCv n6g. a 7a eft, w7wsi St, T7TSdu, k 7k -Tudr

Wing & Dunlap - TMC
Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 66) 6nCCeCha si StC, Usr i 6e-k r st TducgC, F dscu6nteB TducgC, y uCeC,
LeBeCdsnr C, y scoc6eCRr wRnB, y scoc6eCRr) dRCCv n6gP
F 66l RmeI er tC
D 74489A1, a RcntsRr 7A2.A32119, -43.A4A(9A

GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeB bo7Gev n6t HnI s6Rr F CCRcsnteCDc.
82M5 RdeCt EBi e : dsme, Vedr Rr Hs66C, Da , 80081, k U



Wing & Dunlap - TMC
Tue Oct 19, 2021
Fl FeLn gh Fl (7 Fl A(OMt-L44FeLn P 6u-
) 44C4Laaea gs iSUta, r ikS4e(d kit T-ucna,) -ticu4LteB T-ucna, y uaea, FeBeat-iLka,
y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4hA
) 44l 6Mev ekta
nh D : 7981, s 6cLti6kD82.832119, (: 3.8: 8b98

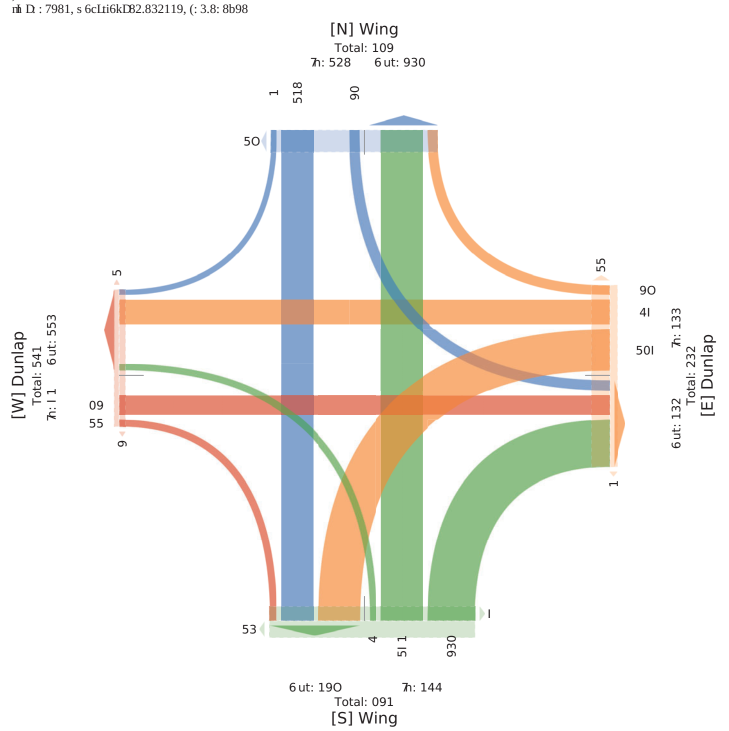
GEWALT HAMILTON ASSOCIATES, INC.
F-6MBeB GoDHewL4t P Lv i46k) aa6ciLtea nkc.
72h 56-eat EBSe I -iMe, Ve-k6k P i44a, ns , 70071, d r

s eS	I uk4Lp						I uk4Lp						WikS						WikS						
I i-ecti6k	ELatG6ukB						WeatG6ukB						N6-tUG6ukB						r 6utUG6ukB						
Tiv e	s	T	R	d	**) pp**	FeB*	s	T	R	d	**) pp**	FeB*	s	T	R	d	**) pp**	FeB*	s	T	R	d	**) pp**	FeB*	**nkt**
2021(10(19 hD0Fl	0	17	1	0	**1b**	0	31	1b	h	0	**h3**	h	8	h1	89	0	**108**	0	3	33	2	0	**3:**	8	**212**
hDhFl	0	21	7	0	**2b**	2	80	2:	7	0	**b8**	8	2	h2	71	0	**11h**	9	:	8:	0	0	**h7**	8	**2b2**
hD30Fl	0	1:	2	0	**20**	0	8b	2h	2	0	**b8**	2	3	3b	8b	0	**: b**	8	8	27	1	0	**31**	3	**212**
hD3hFl	0	1b	2	0	**19**	1	70	2:	11	0	**99**	3	0	83	h0	0	**93**	h	12	2:	0	0	**80**	3	**2h1**
T6tL4	0	b2	11	0	**: 3**	3	1b:	9:	28	0	**300**	18	9	1: 3	20b	0	**399**	1:	2b	13h	3	0	**17h**	18	**98b**
%) pp-6LcU	0%	: 7.b%	13.3%	0%	**(**	(	h9.3%	32.b%	: .0%	0%	**(**	(	2.3%	8h.9%	h1.9%	0%	**(**	(	17.8%	: 1.: %	1.: %	0%	**(**	(	(
% T6tL4	0%	b.7%	1.2%	0%	**: .: %**	(	1: .: %	10.3%	2.h%	0%	**31.b%**	(	1.0%	19.3%	21.9%	0%	**82.1%**	(	2.9%	18.3%	0.3%	0%	**1b.8%**	(	(
FP 5	(	0.: hb	0.8h:	(	**0.b79**	(	0.b33	0.: 77	0.h8h	(	**0.bh0**	(	0.h73	0.: bb	0.: 8:	(	**0.: 77**	(	0.h73	0.79b	0.3bh	(	**0.b32**	(	0.: 7b
s iSUta	0	b2	11	0	**: 3**	(	1bh	9b	28	0	**297**	(	9	1b:	20b	0	**398**	(	2b	130	3	0	**170**	(	933
% s iSUta	0%	100%	100%	0%	**100%**	(	9: .3%	99.0%	100%	0%	**9: .b%**	(	100%	9b.3%	100%	0%	**9: .b%**	(	100%	97.3%	100%	0%	**9b.0%**	(	9: .h%
r ikS4e(d kit T-ucna	0	0	0	0	**0**	(	1	0	0	0	**1**	(	0	1	0	0	**1**	(	0	1	0	0	**1**	(	3
% r ikS4e(d kit T-ucna	0%	0%	0%	0%	**0%**	(	0.7%	0%	0%	0%	**0.3%**	(	0%	0.h%	0%	0%	**0.3%**	(	0%	0.b%	0%	0%	**0.7%**	(	0.3%
) -ticu4LteB T-ucna	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0
%) -ticu4LteB T-ucna	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	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%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%
y icoc4ea 6k R6LB	0	0	0	0	**0**	(	2	1	0	0	**3**	(	0	8	0	0	**8**	(	0	8	0	0	**8**	(	11
% y icoc4ea 6k R6LB	0%	0%	0%	0%	**0%**	(	1.1%	1.0%	0%	0%	**1.0%**	(	0%	2.2%	0%	0%	**1.0%**	(	0%	3.0%	0%	0%	**2.8%**	(	1.2%
FeBeat-iLka	(	(	(	(	(	3	(	(	(	(	(	18	(	(	(	(	(	1:	(	(	(	(	(	11	
% FeBeat-iLka	(	(	(	(	(	100%	(	(	(	(	(	100%	(	(	(	(	(	100%	(	(	(	(	(	b: .7%	(
y icoc4ea 6k C-6aawL4h	(	(	(	(	(	0	(	(	(	(	(	0	(	(	(	(	(	0	(	(	(	(	(	3	
% y icoc4ea 6k C-6aawL4h	(	(	(	(	(	0%	(	(	(	(	(	0%	(	(	(	(	(	0%	(	(	(	(	(	21.8%	(

*FeBeat-iLka LkB y icoc4ea 6k C-6aawL4h. s Ds eft, RDRiSUt, TDTU-u, d Dd (Tu-k

Wing & Dunlap - TMC
Tue Oct 19, 2021
Fl FeLn gh Fl (7 Fl A(OMt-L44FeLn P 6u-
) 44C4Laaea gs iSUta, r ikS4e(d kit T-ucna,) -ticu4LteB T-ucna, y uaea,
FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4hA
) 44l 6Mev ekta
nh D : 7981, s 6cLti6kD82.832119, (: 3.8: 8b98

GEWALT HAMILTON ASSOCIATES, INC.
F-6MBeB GoDHewL4t P Lv i46k) aa6ciLtea nkc.
72h 56-eat EBSe I -iMe, Ve-k6k P i44a, ns , 70071, d r



Dunlap & Center - 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: 886944, Location: 42.432191, -83.483249

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg / Direction	Dunlap Eastbound							Dunlap Westbound							Center Northbound							Center Southbound						
Time	L	T	R	U	App	Ped*	Int	L	T	R	U	App	Ped*	Int	L	T	R	U	App	Ped*	Int	L	T	R	U	App	Ped*	Int
2021-10-19 7:00AM	19	5	0	0	24	0	99	0	8	25	0	33	0	99	0	0	0	0	0	2	99	18	0	24	0	42	0	99
7:15AM	28	10	0	0	38	0	127	0	13	24	0	37	2	127	0	0	0	0	0	1	127	25	0	27	0	52	0	127
7:30AM	30	7	0	0	37	0	147	0	10	30	0	40	0	147	0	0	0	0	0	1	147	29	0	41	0	70	0	147
7:45AM	60	14	0	0	74	0	245	0	9	31	0	40	1	245	0	0	0	0	0	1	245	47	0	84	0	131	0	245
Hourly Total	137	36	0	0	173	0	618	0	40	110	0	150	3	618	0	0	0	0	0	5	618	119	0	176	0	295	0	618
8:00AM	50	17	0	0	67	1	251	0	10	31	0	41	1	251	0	0	0	0	0	0	251	54	0	89	0	143	0	251
8:15AM	61	16	0	0	77	1	209	0	9	26	0	35	1	209	0	0	0	0	0	2	209	46	1	50	0	97	0	209
8:30AM	35	18	0	0	53	1	177	0	18	30	0	48	1	177	0	0	0	0	0	1	177	44	0	32	0	76	1	177
8:45AM	34	19	0	0	53	2	210	1	20	34	0	55	0	210	0	0	0	0	0	1	210	54	0	48	0	102	1	210
Hourly Total	180	70	0	0	250	5	847	1	57	121	0	179	3	847	0	0	0	0	0	4	847	198	1	219	0	418	2	847
4:00PM	70	25	0	0	95	4	304	2	35	64	0	101	6	304	0	0	0	0	0	13	304	55	0	53	0	108	4	304
4:15PM	44	20	0	0	64	3	241	0	29	42	0	71	3	241	0	1	0	0	1	7	241	49	0	56	0	105	2	241
4:30PM	60	24	0	0	84	4	267	0	28	54	0	82	2	267	0	0	0	0	0	7	267	53	0	48	0	101	1	267
4:45PM	60	24	0	0	84	1	258	0	27	62	0	89	0	258	0	0	0	0	0	10	258	47	0	38	0	85	0	258
Hourly Total	234	93	0	0	327	12	1070	2	119	222	0	343	11	1070	0	1	0	0	1	37	1070	204	0	195	0	399	7	1070
5:00PM	61	17	0	0	78	4	230	0	28	43	0	71	2	230	0	2	0	0	2	8	230	48	0	31	0	79	6	230
5:15PM	69	27	0	0	96	3	271	0	31	55	0	86	3	271	0	1	0	0	1	5	271	38	0	50	0	88	2	271
5:30PM	59	23	0	0	82	11	284	0	25	54	0	79	5	284	0	0	0	0	0	18	284	63	0	60	0	123	7	284
5:45PM	54	28	0	0	82	4	302	0	34	51	0	85	5	302	0	0	0	0	0	6	302	63	0	72	0	135	5	302
Hourly Total	243	95	0	0	338	22	1087	0	118	203	0	321	15	1087	0	3	0	0	3	37	1087	212	0	213	0	425	20	1087
Total	794	294	0	0	**1088**	39	**3622**	3	334	656	0	**993**	32	**3622**	0	4	0	0	**4**	83	**3622**	733	1	803	0	**1537**	29	**3622**
% Approach	73.0%	27.0%	0%	0%	-	-	-	0.3%	33.6%	66.1%	0%	-	-	-	0%	100%	0%	0%	-	-	-	47.7%	0.1%	52.2%	0%	-	-	-
% Total	21.9%	8.1%	0%	0%	**30.0%**	-	-	0.1%	9.2%	18.1%	0%	**27.4%**	-	-	0%	0.1%	0%	0%	**0.1%**	-	-	20.2%	0%	22.2%	0%	**42.4%**	-	-
Lights	783	290	0	0	**1073**	-	-	0	330	647	0	**977**	-	-	0	0	0	0	**0**	-	-	723	0	797	0	**1520**	-	3570
% Lights	98.6%	98.6%	0%	0%	**98.6%**	-	-	0%	98.8%	98.6%	0%	**98.4%**	-	-	0%	0%	0%	0%	**0%**	-	-	98.6%	0%	99.3%	0%	**98.9%**	-	98.6%
Single-Unit Trucks	8	1	0	0	**9**	-	-	0	2	5	0	**7**	-	-	0	0	0	0	**0**	-	-	4	0	3	0	**7**	-	23
% Single-Unit Trucks	1.0%	0.3%	0%	0%	**0.8%**	-	-	0%	0.6%	0.8%	0%	**0.7%**	-	-	0%	0%	0%	0%	**0%**	-	-	0.5%	0%	0.4%	0%	**0.5%**	-	0.6%
Articulated Trucks	0	0	0	0	**0**	-	-	0	0	0	0	**0**	-	-	0	0	0	0	**0**	-	-	0	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	-	0%	0%	0%	0%	**0%**	-	-	0%	0%	0%	0%	**0%**	-	-	0%	0%	0%	0%	**0%**	-	0%
Buses	3	0	0	0	**3**	-	-	0	0	1	0	**1**	-	-	0	0	0	0	**0**	-	-	4	0	1	0	**5**	-	9
% Buses	0.4%	0%	0%	0%	**0.3%**	-	-	0%	0%	0.2%	0%	**0.1%**	-	-	0%	0%	0%	0%	**0%**	-	-	0.5%	0%	0.1%	0%	**0.3%**	-	0.2%
Bicycles on Road	0	3	0	0	**3**	-	-	3	2	3	0	**8**	-	-	0	4	0	0	**4**	-	-	2	1	2	0	**5**	-	20
% Bicycles on Road	0%	1.0%	0%	0%	**0.3%**	-	-	100%	0.6%	0.5%	0%	**0.8%**	-	-	0%	100%	0%	0%	**100%**	-	-	0.3%	100%	0.2%	0%	**0.3%**	-	0.6%
Pedestrians	-	-	-	-	-	35	-	-	-	-	-	-	31	-	-	-	-	-	-	71	-	-	-	-	-	24	-
% Pedestrians	-	-	-	-	-	- 89.7%	-	-	-	-	-	-	- 96.9%	-	-	-	-	-	-	- 85.5%	-	-	-	-	-	- 82.8%	-
Bicycles on Crosswalk	-	-	-	-	-	4	-	-	-	-	-	-	1	-	-	-	-	-	-	12	-	-	-	-	-	5	-
% Bicycles on Crosswalk	-	-	-	-	-	- 10.3%	-	-	-	-	-	-	- 3.1%	-	-	-	-	-	-	- 14.5%	-	-	-	-	-	- 17.2%	-

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

Dunlap & Center - TMC
Tue Oct 19, 2021
Full Length (7 AM-9 AM, 4 PM-6 PM)
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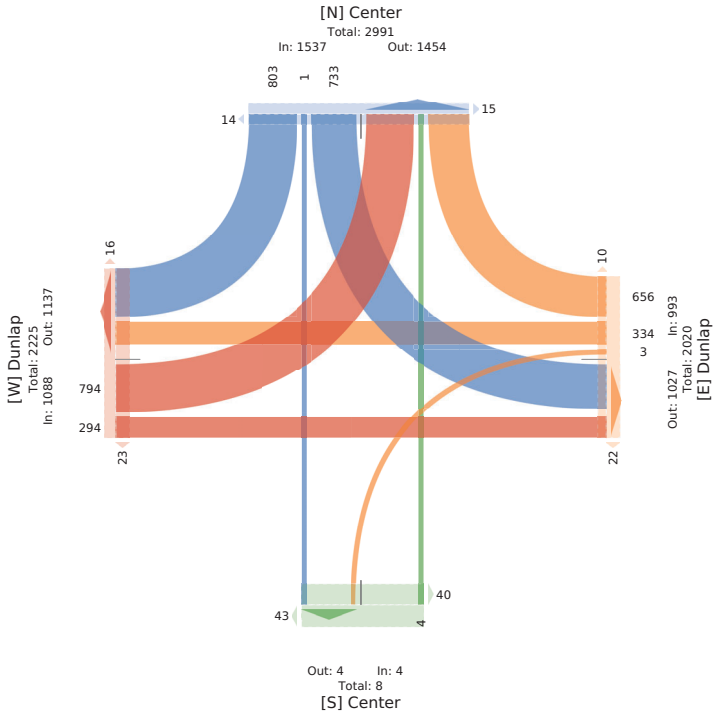
All Movements
ID: 886944, Location: 42.432191, -83.483249

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



Dunlap & Center - TMC
Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 6) 6nCCeChn si StC, Usr i 6e-k r s: TducgC, F dscucGnteB TducgC, y uCeC,
LeBeCdcnr C, y scocGeCRr wRnB, y scocGeCRr) dRCCv nGgP
F 6l Rme l er tC
D 74489AA, a RcntsRr 7A2. A32191, -43. A432A9

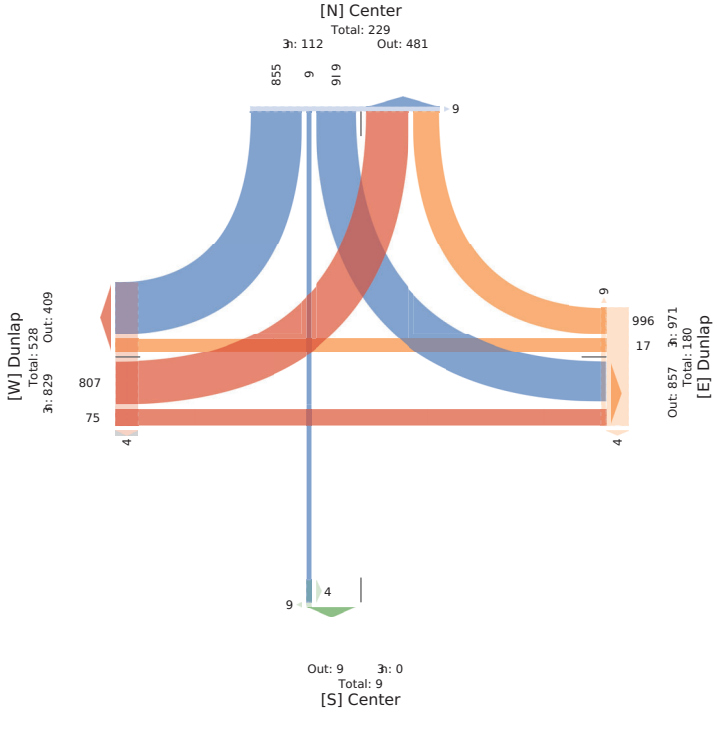
GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeB bo7Gev n6 Hnl s6lRr F CCRcsnteCDc.
82M5RdeCl EBi e : dsne, Vedr Rr Hs6fC, Da , 80081, k U

a ei / : sdectsRr	: ur 6ip EnCbRur B							: ur 6ip WeCbRur B							) er ted NRdSbRur B							) er ted URurSbRur B						
Tsl e	a	T	w	k	Fpp	LeB*	Dt	a	T	w	k	Fpp	LeB*	Dt	a	T	w	k	Fpp	LeB*	Dt	a	T	w	k	Fpp	LeB*	Dt
2021-10-19 (7AMF1	80	1A	0	0	(A	0		0	9	31	0	A0	1		0	0	0	0	0	1		A(	0	4A	0	131	0	2AM
4700F1	M	1(	0	0	8(	1		0	10	31	0	Al	1		0	0	0	0	0	0		MA	0	49	0	1A3	0	2M
47tMF1	81	18	0	0	((	1		0	9	28	0	3M	1		0	0	0	0	0	2		A8	1	M	0	9(	0	209
4730F1	3M	14	0	0	M	1		0	14	30	0	A4	1		0	0	0	0	0	1		AA	0	32	0	(8	1	1((
TRn6	208	8M	0	0	**2(1**	3		0	A8	114	0	**18A**	A		0	0	0	0	**0**	A		191	1	2MM	0	**AA(**	1	**442**
% FppRncS	(8.0%	2A0%	0%	0%	**-**	-		0%	24.0%	(2.0%	0%	**-**	-		0%	0%	0%	0%	**-**	-		A2.(%	0.2%	M.0%	0%	**-**	-	-
% TRn6	23.A%	(.A%	0%	0%	**30.(%**	-		0%	M2%	13.A%	0%	**14.8%**	-		0%	0%	0%	0%	**0%**	-		21.(%	0.1%	24.9%	0%	**M.(%**	-	-
LH5	0.4AA	0.903	-	-	**0.440**	-		-	0.839	0.9N2	-	**0.4MA**	-		-	-	-	-	**-**	-		0.44A	-	0.(18	-	**0.(40**	-	0.4((
a si StC	203	8A	0	0	**28(**	-		0	A8	11A	0	**180**	-		0	0	0	0	**0**	-		14A	0	2MA	0	**A34**	-	48M
% a si StC	94.M%	94.M%	0%	0%	**94.M%**	-		0%	100%	98.8%	0%	**9(.8%**	-		0%	0%	0%	0%	**-**	-		98.3%	0%	99.8%	0%	**94.0%**	-	94.1%
Usr i 6e-k r s: TducgC	3	1	0	0	**A**	-		0	0	3	0	**3**	-		0	0	0	0	**0**	-		3	0	1	0	**A**	-	11
% Usr i 6e-k r s: TducgC	1.M%	1.M%	0%	0%	**1.M%**	-		0%	0%	2.M%	0%	**1.4%**	-		0%	0%	0%	0%	**-**	-		1.8%	0%	0.A%	0%	**0.9%**	-	1.2%
F dscuGnteB TducgC	0	0	0	0	**0**	-		0	0	0	0	**0**	-		0	0	0	0	**0**	-		0	0	0	0	**0**	-	0
% F dscuGnteB TducgC	0%	0%	0%	0%	**0%**	-		0%	0%	0%	0%	**0%**	-		0%	0%	0%	0%	**-**	-		0%	0%	0%	0%	**0%**	-	0%
y uCeC	0	0	0	0	**0**	-		0	0	1	0	**1**	-		0	0	0	0	**0**	-		A	0	0	0	**A**	-	M
% y uCeC	0%	0%	0%	0%	**0%**	-		0%	0%	0.4%	0%	**0.8%**	-		0%	0%	0%	0%	**-**	-		2.1%	0%	0%	0%	**0.9%**	-	0.8%
y scocGeCRr wRnB	0	0	0	0	**0**	-		0	0	0	0	**0**	-		0	0	0	0	**0**	-		0	1	0	0	**1**	-	1
% y scocGeCRr wRnB	0%	0%	0%	0%	**0%**	-		0%	0%	0%	0%	**0%**	-		0%	0%	0%	0%	**-**	-		0%	100%	0%	0%	**0.2%**	-	0.1%
LeBeCdcnr C	-	-	-	-	-	3		-	-	-	-	-	A		-	-	-	-	-	3		-	-	-	-	-	1	
% LeBeCdcnr C	-	-	-	-	-	- 100%		-	-	-	-	-	- 100%		-	-	-	-	-	- (M0%		-	-	-	-	-	- 100%	-
y scocGeCRr) dRCCv nGg	-	-	-	-	-	0		-	-	-	-	-	0		-	-	-	-	-	1		-	-	-	-	-	0	
% y scocGeCRr) dRCCv nGg	-	-	-	-	-	0%		-	-	-	-	-	0%		-	-	-	-	-	- 2M0%		-	-	-	-	-	0%	-

*LeBeCdcnr Cnr B y scocGeCRr) dRCCv nGg. a 7a eft, w7wsi St, T7T Sdu, k 7k -Tudr

Dunlap & Center - TMC
Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 6) 6nCCeChn si StC, Usr i 6e-k r s: TducgC, F dscucGnteB TducgC, y uCeC,
LeBeCdcnr C, y scocGeCRr wRnB, y scocGeCRr) dRCCv nGgP
F 6l Rme l er tC
D 74489AA, a RcntsRr 7A2. A32191, -43. A432A9

GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeB bo7Gev n6 Hnl s6lRr F CCRcsnteCDc.
82M5RdeCl EBi e : dsne, Vedr Rr Hs6fC, Da , 80081, k U



Dunlap & Center - TMC

Tue Oct 19, 2021
Fl FeLn gh Fl (7 Fl A(OMe-L44FeLn P 6u-
) 44C4Laaea gs iSUa, r ikS4e(d kit T-ucna,) -ticu4LteB T-ucna, y uaea,
FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4nA
) 44l 6Mev ekta
mh D: : 7988, s 6cLti6kD82.832191, (: 3.8: 3289

F-6MBeB boDGewL4 P Lv i46k) aa6ciLtea mkc.
72h H6-eat 5BSe I -iMe, E e-k6k P i44a, ms , 70071, d r

s eS I i-ecti6k	I uk4LV 5Latb6ukB						I uk4LV p eatb6ukB						Cekte- W6-tUb6ukB						Cekte- r 6utUb6ukB						
Tiv e	s	T	R	d	**) W**	FeBN	s	T	R	d	**) W**	FeBN	s	T	R	d	**) W**	FeBN	s	T	R	d	**) W**	FeBN	**nkt**
2021(10(19 hD0Fl	71	1*	0	0	***:**	8	0	2:	83	0	***1**	2	0	2	0	0	**2**	:	8:	0	31	0	***9**	7	**230**
hDhFl	79	2*	0	0	**97**	3	0	31	hh	0	**:7**	3	0	1	0	0	**1**	h	3:	0	h0	0	**::**	2	**2*1**
hB0Fl	h9	23	0	0	**:2**	11	0	2h	h8	0	***9**	h	0	0	0	0	**0**	1:	73	0	70	0	**123**	*	**2:8**
hBhFl	h8	2:	0	0	**:2**	8	0	38	h1	0	**:h**	h	0	0	0	0	**0**	7	73	0	*2	0	**13h**	h	**302**
T6tL4	283	9h	0	0	**33:**	22	0	11:	203	0	**321**	1h	0	3	0	0	**3**	3*	212	0	213	0	**82h**	20	**10:***
%) W-6LcU	*1.9%	2:.1%	0%	0%	**(**	(	0%	37.:%	73.2%	0%	**(**	(	0%	100%	0%	0%	**(**	(	89.9%	0%	h0.1%	0%	**(**	(	(
% T6tL4	22.8%	:.*%	0%	0%	**31.1%**	(	0%	10.9%	1:.*%	0%	**29.h%**	(	0%	0.3%	0%	0%	**0.3%**	(	19.h%	0%	19.7%	0%	**39.1%**	(	(
FPH	0.::0	0.:8:	(	(	**0.::0**	(	(	0.:70	0.909	(	**0.922**	(	(	(	(	(	**(**	(	0.:3*	(	0.*33	(	**0.*:1**	(	0.:92
s iSUa	283	9h	0	0	**33:**	(	0	11*	200	0	**31***	(	0	0	0	0	**0**	(	211	0	210	0	**821**	(	10*7
% s iSUa	100%	100%	0%	0%	**100%**	(	0%	99.2%	9:.h%	0%	**9:.:%**	(	0%	0%	0%	0%	**0%**	(	99.h%	0%	9:.7%	0%	**99.1%**	(	99.0%
r ikS4e(d kit T-ucna	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	1	0	**1**	(	1
% r ikS4e(d kit T-ucna	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0.h%	0%	**0.2%**	(	0.1%
) -ticu4LteB T-ucna	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0
%) -ticu4LteB T-ucna	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	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%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%
y icoc4ea 6k R6LB	0	0	0	0	**0**	(	0	1	3	0	**8**	(	0	3	0	0	**3**	(	1	0	2	0	**3**	(	10
% y icoc4ea 6k R6LB	0%	0%	0%	0%	**0%**	(	0%	0.:%	1.h%	0%	**1.2%**	(	0%	100%	0%	0%	**100%**	(	0.h%	0%	0.9%	0%	**0.*%**	(	0.9%
FeBeat-iLka	(	(	(	(	(	21	(	(	(	(	(	1h	(	(	(	(	(	32	(	(	(	(	(	1h	
% FeBeat-iLka	(	(	(	(	(	9h.h%	(	(	(	(	(	100%	(	(	(	(	(	:7.h%	(	(	(	(	(	*h.0%	(
y icoc4ea 6k C-6aawL4n	(	(	(	(	(	1	(	(	(	(	(	0	(	(	(	(	(	h	(	(	(	(	(	h	
% y icoc4ea 6k C-6aawL4n	(	(	(	(	(	8.h%	(	(	(	(	(	0%	(	(	(	(	(	13.h%	(	(	(	(	(	2h.0%	(

NFeBeat-iLka LkB y icoc4ea 6k C-6aawL4n. s Ds eft, RDRiSUt, TDTU-u, d Dd (Tu-k

Dunlap & Center - TMC

Tue Oct 19, 2021
PM Peak (4 PM : 5 PM- : O) evarr Peak l Huv
o rr AraCGeC(s Li gtC, hISi re:n SIt TvuckC, o vtIcurateUTvuckC, d uCeC,
PeUeCtvIaSC, d IcBcreCHS y HaU, d IcBcreCHS AvHCCRark-
o rr MH) eweStC
mI D885966, s HcatIHSD62.632191, :83.683269

PvH) ILeUbBDGeRart l awIrtHS o CCHcIateCmSc.
524 FHveCt EUi e I vI) e, VevSHS l IrrC, ms , 50051, n h

Hutton & Dunlap - 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: 886949, Location: 42.432251, -83.48131

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

Leg Direction	Dunlap Eastbound					Dunlap Westbound					Hutton Southbound					
Time	L	T	U	**App**	Ped*	T	R	U	**App**	Ped*	L	R	U	**App**	Ped*	**Int**
2021-10-19 7:00AM	0	19	0	**19**	0	25	5	0	**30**	0	5	0	0	**5**	0	**54**
7:15AM	1	30	0	**31**	0	33	7	0	**40**	0	10	2	0	**12**	1	**83**
7:30AM	1	35	0	**36**	1	39	15	0	**54**	0	5	0	0	**5**	1	**95**
7:45AM	0	50	0	**50**	0	40	13	0	**53**	1	11	0	0	**11**	1	**114**
Hourly Total	2	134	0	**136**	1	137	40	0	**177**	1	31	2	0	**33**	3	**346**
8:00AM	2	59	0	**61**	0	40	14	0	**54**	0	10	0	0	**10**	0	**125**
8:15AM	1	60	0	**61**	2	33	12	0	**45**	2	9	2	0	**11**	0	**117**
8:30AM	1	54	0	**55**	2	54	10	0	**64**	2	13	2	0	**15**	0	**134**
8:45AM	0	65	0	**65**	1	48	21	0	**69**	1	16	3	0	**19**	0	**153**
Hourly Total	4	238	0	**242**	5	175	57	0	**232**	5	48	7	0	**55**	0	**529**
4:00PM	4	67	0	**71**	14	93	21	0	**114**	2	18	3	0	**21**	14	**206**
4:15PM	1	61	0	**62**	3	64	17	0	**81**	2	19	3	0	**22**	1	**165**
4:30PM	6	65	0	**71**	2	91	22	0	**113**	3	20	1	0	**21**	2	**205**
4:45PM	3	59	0	**62**	1	85	25	0	**110**	3	22	4	0	**26**	2	**198**
Hourly Total	14	252	0	**266**	20	333	85	0	**418**	10	79	11	0	**90**	19	**774**
5:00PM	3	54	0	**57**	0	69	33	0	**102**	1	16	4	0	**20**	8	**179**
5:15PM	2	57	0	**59**	4	82	27	0	**109**	4	17	2	0	**19**	2	**187**
5:30PM	1	70	0	**71**	11	74	19	0	**93**	3	27	6	0	**33**	4	**197**
5:45PM	4	76	0	**80**	8	83	18	0	**101**	0	17	2	0	**19**	6	**200**
Hourly Total	10	257	0	**267**	23	308	97	0	**405**	8	77	14	0	**91**	20	**763**
Total	30	881	0	**911**	49	953	279	0	**1232**	24	235	34	0	**269**	42	**2412**
% Approach	3.3%	96.7%	0%	**-**	-	77.4%	22.6%	0%	**-**	-	87.4%	12.6%	0%	**-**	-	-
% Total	1.2%	36.5%	0%	**37.8%**	-	39.5%	11.6%	0%	**51.1%**	-	9.7%	1.4%	0%	**11.2%**	-	-
Lights	28	869	0	**897**	-	941	276	0	**1217**	-	232	32	0	**264**	-	2378
% Lights	93.3%	98.6%	0%	**98.5%**	-	98.7%	98.9%	0%	**98.8%**	-	98.7%	94.1%	0%	**98.1%**	-	98.6%
Single-Unit Trucks	0	4	0	**4**	-	7	2	0	**9**	-	1	0	0	**1**	-	14
% Single-Unit Trucks	0%	0.5%	0%	**0.4%**	-	0.7%	0.7%	0%	**0.7%**	-	0.4%	0%	0%	**0.4%**	-	0.6%
Articulated Trucks	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Buses	0	4	0	**4**	-	1	0	0	**1**	-	0	0	0	**0**	-	5
% Buses	0%	0.5%	0%	**0.4%**	-	0.1%	0%	0%	**0.1%**	-	0%	0%	0%	**0%**	-	0.2%
Bicycles on Road	2	4	0	**6**	-	4	1	0	**5**	-	2	2	0	**4**	-	15
% Bicycles on Road	6.7%	0.5%	0%	**0.7%**	-	0.4%	0.4%	0%	**0.4%**	-	0.9%	5.9%	0%	**1.5%**	-	0.6%
Pedestrians	-	-	-	-	42	-	-	-	-	20	-	-	-	-	36	
% Pedestrians	-	-	-	-	85.7%	-	-	-	-	83.3%	-	-	-	-	85.7%	-
Bicycles on Crosswalk	-	-	-	-	7	-	-	-	-	4	-	-	-	-	6	
% Bicycles on Crosswalk	-	-	-	-	14.3%	-	-	-	-	16.7%	-	-	-	-	14.3%	-

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

Hutton & Dunlap - 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: 886949, Location: 42.4322b1, -83.48131

Provided Gy: Hewalt 5 amilton Associates Inc.
62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US

Hutton & Dunlap - TMC

Tue Oct 19, 2021
Fl Leng h(Fl 79 Fl A
F MM4 M44e4 hP6) Ct4, a 6s) Me7i s 6t TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUe4tS6ns 4, r 6ckcMe44 ds BdnU, r 6ckcMe44 ds - Sd44y nMgA
F MMl doeRest4
w m((I 9D9, Pdcnt6ds mD2:D822. 1, 7(8:D(181

LSdo6UeU3km5 ey nMb nR6Mds F 44dc6nte4 ws c:
I 2. GdSe4t HU) e v S6oe, E eSsds b 6MM, wP, I 00I 1, i a

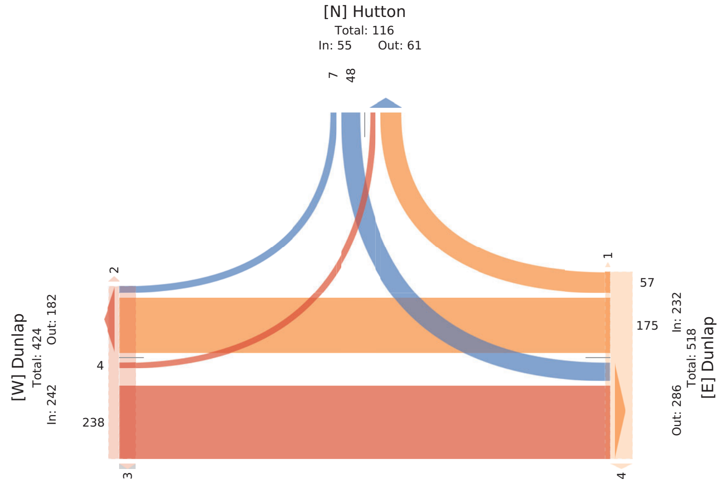
Pe) v 6Sect6ds	v us MV Hn4t3dus U					v us MV p e4t3dus U					b uttds a dutC3dus U					
T6Re	P	T	i	FW	LeUW	T	B	i	FW	LeUW	P	B	i	FW	LeUW	wst
2021710719 (m0F l	2	. 9	0	I 1	0	D0	1D	0	. D	0	10	0	0	10	0	12.
(m1. F l	1	I 0	0	I 1	2	88	12	0	D	2	9	2	0	11	0	11*
(m80F l	1	. D	0	. .	2	. D	10	0	I D	2	18	2	0	1.	0	18D
(mD F l	0	I .	0	I .	1	D(	21	0	I 9	1	1I	8	0	19	0	1. 8
TdtnM	D	28(	0	**2D2**	.	1*.	. *	0	**282**	.	D(	*	0	**. .**	0	**. 29**
% F WSdncC	1:*%	9(:8%	0%	**7**	7	*. :D%	2DI %	0%	**7**	7	(*:8%	12:*%	0%	**7**	7	7
% TdtnM	0:(%	D :0%	0%	**D :*%**	7	88:1%	10:(%	0%	**D8:9%**	7	9:1%	1:8%	0%	**10:D%**	7	7
Lb G	0:. 00	0:91.	7	**0:981**	7	0:(10	0:I *9	7	**0:(D1**	7	0:*. 0	0:I 2.	7	**0:*8I**	7	0:(I *
P6) Ct4	D	281	0	**28.**	7	1*0	. *	0	**22***	7	D(	.	0	**. 8**	7	. 1.
% P6) Ct4	100%	9*:1%	0%	**9*:1%**	7	9*:1%	100%	0%	**9*:(%**	7	100%	*1:D%	0%	**9I :D%**	7	9*:D%
a 6s) Me7i s 6t TSucg4	0	8	0	**8**	7	D	0	0	**D**	7	0	0	0	**0**	7	*
% a 6s) Me7i s 6t TSucg4	0%	1:8%	0%	**1:2%**	7	2:8%	0%	0%	**1:*%**	7	0%	0%	0%	**0%**	7	1:8%
F St6cuMteUTSucg4	0	0	0	**0**	7	0	0	0	**0**	7	0	0	0	**0**	7	0
% F St6cuMteUTSucg4	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%
r u4e4	0	D	0	**D**	7	1	0	0	**1**	7	0	0	0	**0**	7	.
% r u4e4	0%	1:*%	0%	**1:*%**	7	0:I %	0%	0%	**0:D%**	7	0%	0%	0%	**0%**	7	0:9%
r 6ckcMe44 ds BdnU	0	0	0	**0**	7	0	0	0	**0**	7	0	2	0	**2**	7	2
% r 6ckcMe44 ds BdnU	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%	2(:I %	0%	**8:I %**	7	0:D%
LeUe4tS6ns 4	7	7	7	7	D	7	7	7	7	.	7	7	7	7	0	
% LeUe4tS6ns 4	7	7	7	7	(0:0%	7	7	7	7	100%	7	7	7	7	7	7
r 6ckcMe44 ds - Sd44y nMg	7	7	7	7	1	7	7	7	7	0	7	7	7	7	0	
% r 6ckcMe44 ds - Sd44y nMg	7	7	7	7	20:0%	7	7	7	7	0%	7	7	7	7	7	7

W LeUe4tS6ns 4 ns Ur 6ckcMe44 ds - Sd44y nMg: PmPeft, BmB6) Ct, TmTCSu, i mi 7TuSs

Hutton & Dunlap - TMC

Tue Oct 19, 2021
P M aek(4: P M 59 P M-
P)) v)krrer 4l HoAtr, CHo)e5L s HTiuc(r, P itHu)kteg Tiuc(r, h urer,
a egertiHsr, h HSc)er ns Unkg, h HSc)er ns v inrrd k)(-
P)) MnBey es tr
Rwm : I 9D9, l nckttHsmD28D622. 1, 5: 68D: 161

a inBHeg 3Smb ed k)t Gky Htns P rrncHter Rsc8
I 2. Fniert Egoe wiBe, Veis ns GH)r, R , I 00I 1, L C



Hutton & Dunlap - TMC

Tue Oct 19, 2021
Fl FeLn gh Fl (7 Fl A(OMe-L44FeLn P 6u-
) 44C4Laaea gs iSUta, r ikS4e(d kit T-ucna,) -ticu4LteB T-ucna, y uaea,
FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4nA
) 44l 6Mev ekta
mh D: : 89h9, s 6cLti6kDh2.h32271, (: 3.h: 131

F-6MBeB 5oDb ewL4t P Lv i46k) aa6ciLtea mkc.
827 G6-eat HBSe I -iMe, E e-k6k P i44a, ms , 80081, d r

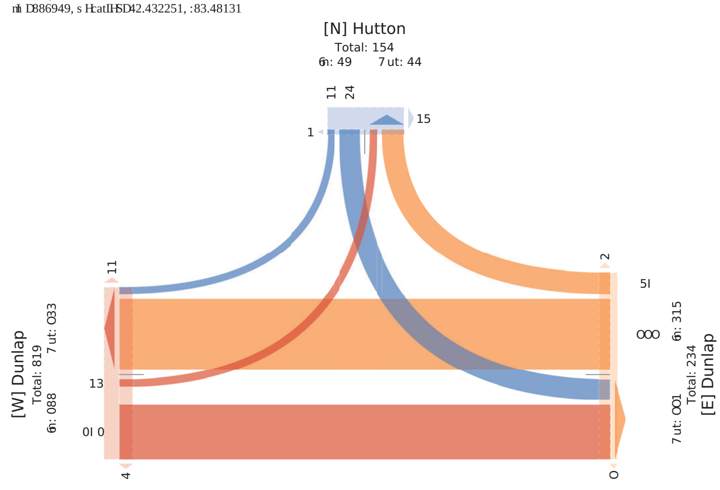
s eS I i-ecti6k	I uk4LV HLat56ukB					I uk4LV p eat56ukB					P utt6k r 6utU56ukB					
Tiv e	s	T	d	) W	FeBW	T	R	d	) W	FeBW	s	R	d	) W	FeBW	mkt
2021(10(19 hD0Fl	h	8*	0	***1**	1h	93	21	0	**11h**	2	1:	3	0	**21**	1h	**208**
hD7Fl	1	81	0	**82**	3	8h	1*	0	**: 1**	2	19	3	0	**22**	1	**187**
hD30Fl	8	87	0	***1**	2	91	22	0	**113**	3	20	1	0	**21**	2	**207**
hDh7Fl	3	79	0	**82**	1	: 7	27	0	**110**	3	22	h	0	**28**	2	**19:**
T6tL4	1h	272	0	**288**	20	333	: 7	0	**h1:**	10	*9	11	0	**90**	19	****h**
%) W-6LcU	7.3%	9h.*%	0%	**(**	(	*9.*%	20.3%	0%	**(**	(	: *.: %	12.2%	0%	**(**	(	(
% T6tL4	1.: %	32.8%	0%	**3h.h%**	(	h3.0%	11.0%	0%	**7h.0%**	(	10.2%	1.h%	0%	**11.8%**	(	(
FP G	0.700	0.9h*	(	**0.923**	(	0.: 97	0.: 70	(	**0.91***	(	0.929	0.8: :	(	**0.: 90**	(	0.93:
s iSUta	12	2h9	0	**281**	(	332	: 3	0	**h17**	(	**	11	0	**: :**	(	*8h
% s iSUta	: 7.*%	9: .: %	0%	**9: .1%**	(	99.*%	9*.8%	0%	**99.3%**	(	9*.7%	100%	0%	**9*.: %**	(	9: .*%
r ikS4e(d kit T-ucna	0	1	0	**1**	(	1	2	0	**3**	(	1	0	0	**1**	(	7
% r ikS4e(d kit T-ucna	0%	0.h%	0%	**0.h%**	(	0.3%	2.h%	0%	**0.*%**	(	1.3%	0%	0%	**1.1%**	(	0.8%
) -ticu4LteB T-ucna	0	0	0	**0**	(	0	0	0	**0**	(	0	0	0	**0**	(	0
%) -ticu4LteB T-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
% y uaea	0%	0%	0%	**0%**	(	0%	0%	0%	**0%**	(	0%	0%	0%	**0%**	(	0%
y icoc4ea 6k R6LB	2	2	0	**h**	(	0	0	0	**0**	(	1	0	0	**1**	(	7
% y icoc4ea 6k 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.*%	(
y icoc4ea 6k C-6aawL4n	(	(	(	(	1	(	(	(	(	3	(	(	(	(	1	
% y icoc4ea 6k C-6aawL4n	(	(	(	(	7.0%	(	(	(	(	30.0%	(	(	(	(	7.3%	(

W FeBeat-iLka LkB y icoc4ea 6k C-6aawL4n. s Ds eft, RDRiSUt, TDTU-u, d Dd (Tu-k

Hutton & Dunlap - TMC

Tue Oct 19, 2021
PM Peak (4 PM : 5 PM- : O) evarr Peak l Huv
o rr AraCCeC(s Li gtC, hLSi re:n SLt TvuckC, o vtLcurateUTvuckC, d uCeC,
PeUeCtvLaSC, d LcBcreCHS y HaU, d LcBcreCHS AvHCCRark-
o rr MH) eweStC
mh D886949, s HcatLHSD42.432251, :83.48131

PvH) LUeUbBDGeRart l awLrtHS o CCHcLateCmSc.
625 FHveCt EUi e I vL) e, VevSHS l LrrC, ms , 60061, n h



Wing & Center - 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: 886940, Location: 42.431021, -83.48468b

GEWALT HAMILTON ASSOCIATES, INC.
Provided Gy: Hewalt 5 amilton Associates Inc.
62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US

Leg	Main						Main						p ing						p ing						
Direction	EastGound						p estGound						WorthGound						SouthGound						
Time	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	Int
2021-10-19 7:00AM	4	10	4	0	**18**	0	0	2	8	0	**10**	1	2	24	1	0	**27**	1	6	33	4	0	**43**	2	**98**
7:1bAM	6	b	2	0	**13**	1	0	4	8	0	**12**	0	2	33	2	0	**37**	2	4	36	2	0	**42**	3	**104**
7:30AM	9	4	3	0	**16**	0	2	8	10	0	**20**	1	b	30	1	0	**36**	4	6	41	4	0	**b1**	2	**123**
7:4bAM	18	7	10	0	**3b**	0	1	b	2b	0	**31**	0	2	38	2	0	**42**	4	1b	71	14	0	**100**	0	**208**
5 ourly Total	37	26	19	0	**82**	1	3	19	b1	0	**73**	2	11	12b	6	0	**142**	11	31	181	24	0	**236**	7	**b33**
8:00AM	24	1b	16	0	**bb**	0	0	13	12	0	**2b**	0	1	33	0	0	**34**	3	13	72	16	0	**101**	0	**21b**
8:1bAM	21	17	10	0	**48**	1	0	7	18	0	**2b**	0	4	33	1	0	**38**	3	11	49	7	0	**67**	2	**178**
8:30AM	14	14	13	0	**41**	2	1	4	8	0	**13**	0	7	34	1	0	**42**	1	7	38	1	0	**46**	7	**142**
8:4bAM	11	9	13	0	**33**	0	0	4	20	0	**24**	3	b	29	1	0	**3b**	3	9	4b	9	0	**63**	2	**1bb**
5 ourly Total	70	bb	b2	0	**177**	3	1	28	b8	0	**87**	3	17	129	3	0	**149**	10	40	204	33	0	**277**	11	**690**
4:00PM	16	8	11	0	**3b**	0	2	7	22	0	**31**	b	10	b2	3	0	**6b**	7	10	b7	3	0	**70**	4	**201**
4:1bPM	7	12	10	0	**29**	2	4	9	22	0	**3b**	4	6	48	2	0	**b6**	b	11	b6	7	0	**74**	1	**194**
4:30PM	16	9	16	0	**41**	1	b	8	19	0	**32**	2	10	81	1	0	**92**	2	8	38	8	0	**b4**	3	**219**
4:4bPM	13	9	20	0	**42**	1	1	b	3b	0	**41**	3	8	73	1	0	**82**	9	b	b8	11	0	**74**	8	**239**
5 ourly Total	b2	38	b7	0	**147**	4	12	29	98	0	**139**	14	34	2b4	7	0	**29b**	23	34	209	29	0	**272**	16	**8b3**
b:00PM	16	1b	2b	0	**b6**	1	3	10	18	0	**31**	9	6	63	4	0	**73**	8	9	48	b	0	**62**	3	**222**
b:1bPM	19	10	10	0	**39**	2	4	14	30	0	**48**	6	13	70	0	0	**83**	8	11	77	8	0	**96**	10	**266**
b:30PM	17	10	14	0	**41**	3	1	13	14	0	**28**	4	6	b6	b	0	**67**	13	18	42	14	0	**74**	16	**210**
b:4bPM	11	10	11	0	**32**	0	2	8	2b	0	**3b**	1b	13	bb	0	0	**68**	10	12	68	11	0	**91**	8	**226**
5 ourly Total	63	4b	60	0	**168**	6	10	4b	87	0	**142**	34	38	244	9	0	**291**	39	b0	23b	38	0	**323**	37	**924**
Total	222	164	188	0	**b74**	14	26	121	294	0	**441**	b3	100	7b2	2b	0	**877**	83	1bb	829	124	0	**1108**	71	**3000**
% ANNroach	38.7%	28.6%	32.8%	0%	-	-	b.9%	27.4%	66.7%	0%	-	-	11.4%	8b.7%	2.9%	0%	-	-	14.0%	74.8%	11.2%	0%	-	-	-
% Total	7.4%	b.b%	6.3%	0%	**19.1%**	-	0.9%	4.0%	9.8%	0%	**14.7%**	-	3.3%	2b.1%	0.8%	0%	**29.2%**	-	b.2%	27.6%	4.1%	0%	**36.9%**	-	-
Lights	220	1b6	18b	0	**b61**	-	26	11b	290	0	**431**	-	99	732	24	0	**8bb**	-	1b3	814	122	0	**1089**	-	2936
% Lights	99.1%	9b.1%	98.4%	0%	**97.7%**	-	100%	9b.0%	98.6%	0%	**97.7%**	-	99.0%	97.3%	96.0%	0%	**97.b%**	-	98.7%	98.2%	98.4%	0%	**98.3%**	-	97.9%
Single-Unit Trucks	1	0	0	0	**1**	-	0	2	3	0	**b**	-	0	6	0	0	**6**	-	1	2	2	0	**b**	-	17
% Single-Unit Trucks	0.b%	0%	0%	0%	**0.2%**	-	0%	1.7%	1.0%	0%	**1.1%**	-	0%	0.8%	0%	0%	**0.7%**	-	0.6%	0.2%	1.6%	0%	**0.b%**	-	0.6%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	1
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.1%	0%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0%
Buses	0	b	1	0	**6**	-	0	2	1	0	**3**	-	1	7	0	0	**8**	-	0	6	0	0	**6**	-	23
% Buses	0%	3.0%	0.b%	0%	**1.0%**	-	0%	1.7%	0.3%	0%	**0.7%**	-	1.0%	0.9%	0%	0%	**0.9%**	-	0%	0.7%	0%	0%	**0.b%**	-	0.8%
Bicycles on Road	1	3	2	0	**6**	-	0	2	0	0	**2**	-	0	6	1	0	**7**	-	1	7	0	0	**8**	-	23
% Bicycles on Road	0.b%	1.8%	1.1%	0%	**1.0%**	-	0%	1.7%	0%	0%	**0.b%**	-	0%	0.8%	4.0%	0%	**0.8%**	-	0.6%	0.8%	0%	0%	**0.7%**	-	0.8%
Pedestrians	-	-	-	-	-	14	-	-	-	-	-	46	-	-	-	-	-	77	-	-	-	-	-	69	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	86.8%	-	-	-	-	-	92.8%	-	-	-	-	-	97.2%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	7	-	-	-	-	-	6	-	-	-	-	-	2	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	13.2%	-	-	-	-	-	7.2%	-	-	-	-	-	2.8%	-

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

Wing & Center - 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: 886940, Location: 42.431021, -83.48468b

GEWALT HAMILTON ASSOCIATES, INC.
Provided Gy: Hewalt 5 amilton Associates Inc.
62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US

Wing & Center - TMC
Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 66) 6nGGeCha si StC, Usr i 6e-k r st TducgC, F dscu6nteB TducgC, y uGeC, LeBeGdsnr C, y scoc6eCRr wRnB, y scoc6eCRr) dRGGv n6gP
F 66l RmeI er tC
D 74489A0, a RcntsRr 7A2.A31021, -43.A4A84M

GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeB bo7Gev n6 HnI s6Rr F GGRcsnteCDc.
82M5 RdeGEBi e : dsme, Vedr Rr Hs66C, Da , 80081, k U

a ei	l nsr						l nsr						p sri						p sri						
: sdectsRr	EnGbRur B						p eGbRur B						WRdSbRur B						URutSbRur B						
TsI e	a	T	w	k	FNN	LeB*	a	T	w	k	FNN	LeB*	a	T	w	k	FNN	LeB*	a	T	w	k	FNN	LeB*	Dt
2021-10-19 (7AMF l	14	(	10	0	**3M**	0	1	M	2M	0	**31**	0	2	34	2	0	**A2**	A	1M	(1	1A	0	**100**	0	**204**
4700F l	2A	1M	18	0	**MM**	0	0	13	12	0	**2M**	0	1	33	0	0	**3A**	3	13	(2	18	0	**101**	0	**21M**
471MF l	21	1(	10	0	**A4**	1	0	(	14	0	**2M**	0	A	33	1	0	**34**	3	11	A9	(	0	**8(**	2	**1(4**
4730F l	1A	1A	13	0	**A1**	2	1	A	4	0	**13**	0	(	3A	1	0	**A2**	1	(	34	1	0	**A8**	(	**1A2**
TRm6	((	M3	A9	0	**1(9**	3	2	29	83	0	**9A**	0	1A	134	A	0	**1M8**	11	A8	230	34	0	**31A**	9	**(A3**
% F NNdRncS	A3.0%	29.8%	2(.A%	0%	-	-	2.1%	30.9%	8(.0%	0%	-	-	9.0%	44.M%	2.8%	0%	-	-	1A8%	(3.2%	12.1%	0%	-	-	-
% TRm6	10.A%	(.1%	8.8%	0%	**2A1%**	-	0.3%	3.9%	4.M%	0%	**12.(%**	-	1.9%	14.8%	0.M%	0%	**21.0%**	-	8.2%	31.0%	M1%	0%	**A2.3%**	-	-
LH5	0.402	0.((9	0.(88	-	**0.41A**	-	0.M00	0.MM4	0.830	-	**0.(M4**	-	0.M00	0.904	0.M00	-	**0.929**	-	0.(8(	0.(99	0.M9A	-	**0.(((**	-	0.48A
a si StC	((	M	A4	0	**1(8**	-	2	24	82	0	**92**	-	13	132	A	0	**1A9**	-	A8	22M	34	0	**309**	-	(28
% a si StC	100%	98.2%	94.0%	0%	**94.3%**	-	100%	98.8%	94.A%	0%	**9(.9%**	-	92.9%	9M(%	100%	0%	**9MM%**	-	100%	9(.4%	100%	0%	**94.A%**	-	9(.(%
Usri 6e-k r st TducgC	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	3	0	0	**3**	-	0	0	0	0	**0**	-	3
% Usri 6e-k r st TducgC	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	2.2%	0%	0%	**1.9%**	-	0%	0%	0%	0%	**0%**	-	0.A%
F dscu6nteB TducgC	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	1
% F dscu6nteB TducgC	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.(%	0%	0%	**0.8%**	-	0%	0%	0%	0%	**0%**	-	0.1%
y uGeC	0	2	1	0	**3**	-	0	1	1	0	**2**	-	1	2	0	0	**3**	-	0	M	0	0	**M**	-	13
% y uGeC	0%	3.4%	2.0%	0%	**1.(%**	-	0%	3.A%	1.8%	0%	**2.1%**	-	(.1%	1.A%	0%	0%	**1.9%**	-	0%	2.2%	0%	0%	**1.8%**	-	1.(%
y scoc6eCRr wRnB	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% y scoc6eCRr wRnB	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
LeBeGdsnr C	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	11	-	-	-	-	-	9	
% LeBeGdsnr C	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	100%	-
y scoc6eCRr) dRGGv n6g	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% y scoc6eCRr) dRGGv n6g	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*LeBeGdsnr Cnr B y scoc6eCRr) dRGGv n6g. a 7a eft, w7wsi St, T7TSdu, k 7k -Tudr

Wing & Center - TMC
Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 66) 6nGGeCha si StC, Usr i 6e-k r st TducgC, F dscu6nteB TducgC, y uGeC, LeBeGdsnr C, y scoc6eCRr wRnB, y scoc6eCRr) dRGGv n6gP
F 66l RmeI er tC
D 74489A0, a RcntsRr 7A2.A31021, -43.A4A84M

GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeB bo7Gev n6 HnI s6Rr F GGRcsnteCDc.
82M5 RdeGEBi e : dsme, Vedr Rr Hs66C, Da , 80081, k U

Wing & Center - TMC

Tue Oct 19, 2021
Fl FeLn gh(70 Fl AM(70 Fl - AO4ePL66FeLn) CuP
a 66s 6Liiei gSUkti, dUBr 6eAy BUl TPucni, a PUcfuGLteo TPucni, Ruiei, FeoeitPULBi,
RUcwc6ei CBvCLo, RUcwc6ei CBs PCiimLGn-
a 66l C4eI eBti
D (88.9h0, SCcLtUCB(h23h71021, A873h8h.8M

FPC4Uoeo bw(GemL6t) LI U6tCB a iiCcUUtei DBc3
.2MHCPeit 5ore: PU4e, EePBCB) U66i, DS,.00.1, y d

Ser : UPectUCB	l LUB 5LitbCuBo						l LUB V eitbCuBo						V UBr p CRkbCuBo						V UBr dCutkbCuBo						
TUI e	S	T	v	y	a WW	FeoN	S	T	v	y	a WW	FeoN	S	T	v	y	a WW	FeoN	S	T	v	y	a WW	FeoN	DBt
2021A10A19 h(70Fl	1.	9	1.	0	**h1**	1	M	8	19	0	**72**	2	10	81	1	0	**92**	2	8	78	8	0	**Mh**	7	**219**
h(hMFl	17	9	20	0	**h2**	1	1	M	7M	0	**h1**	7	8	*7	1	0	**82**	9	M	M8	11	0	***h**	8	**279**
M(00Fl	1.	1M	2M	0	**M**	1	7	10	18	0	**71**	9	.	.7	h	0	***7**	8	9	h8	M	0	**.2**	7	**222**
M(1MFl	19	10	10	0	**79**	2	h	1h	70	0	**h8**	.	17	*0	0	0	**87**	8	11	**	8	0	**9.**	10	**2..**
TOtL6	.h	h7	*1	0	**1*8**	M	17	7*	102	0	**1M2**	20	7*	28*	.	0	**770**	2*	77	221	72	0	**28.**	2h	**9h.**
% a WWPCLck	7.30%	2h32%	7939%	0%	**A**	A	83 %	2h37%	.*31%	0%	**A**	A	1132%	8*30%	138%	0%	**A**	A	113M%	**37%	1132%	0%	**A**	A	A
% TOtL6	.38%	h3M%	*3M%	0%	**1838%**	A	13h%	739%	1038%	0%	**1.31%**	A	739%	7037%	03 %	0%	**7h39%**	A	73M%	273h%	73h%	0%	**7032%**	A	A
F) H	03829	03*.9	03*29	A	**0381.**	A	03M0	0392	03*29	A	**03807**	A	03*12	03899	03*M	A	**03908**	A	03*M0	03*77	03*2*	A	**03*M8**	A	0389h
SUkti	.2	79	*0	0	**1*1**	A	17	7.	100	0	**1h9**	A	7*	282	.	0	**72M**	A	77	21.	72	0	**281**	A	92.
% SUkti	9.39%	903*%	983 %	0%	**9.31%**	A	100%	9*37%	9830%	0%	**9830%**	A	100%	9837%	100%	0%	**983M%**	A	100%	9*3*%	100%	0%	**9837%**	A	9*39%
dUBr 6eAy BUl TPucni	1	0	0	0	**1**	A	0	0	2	0	**2**	A	0	0	0	0	**0**	A	0	1	0	0	**1**	A	h
% dUBr 6eAy BUl TPucni	13 %	0%	0%	0%	**03 %**	A	0%	0%	230%	0%	**137%**	A	0%	0%	0%	0%	**0%**	A	0%	03M%	0%	0%	**037%**	A	03h%
a PUcfuGLteo TPucni	0	0	0	0	**0**	A	0	0	0	0	**0**	A	0	0	0	0	**0**	A	0	0	0	0	**0**	A	0
% a PUcfuGLteo TPucni	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	0%
Ruiei	0	1	0	0	**1**	A	0	0	0	0	**0**	A	0	2	0	0	**2**	A	0	0	0	0	**0**	A	7
% Ruiei	0%	237%	0%	0%	**03 %**	A	0%	0%	0%	0%	**0%**	A	0%	03*%	0%	0%	**03 %**	A	0%	0%	0%	0%	**0%**	A	037%
RUcwc6ei CBvCLo	1	7	1	0	**M**	A	0	1	0	0	**1**	A	0	7	0	0	**7**	A	0	h	0	0	**h**	A	17
% RUcwc6ei CBvCLo	13 %	*30%	13h%	0%	**238%**	A	0%	23*%	0%	0%	**03*%**	A	0%	130%	0%	0%	**039%**	A	0%	138%	0%	0%	**13h%**	A	13h%
FeoeitPULBi	A	A	A	A	A	M	A	A	A	A	A	1*	A	A	A	A	A	2M	A	A	A	A	A	2h	
% FeoeitPULBi	A	A	A	A	A	100%	A	A	A	A	A	8M30%	A	A	A	A	A	923 %	A	A	A	A	A	100%	A
RUcwc6ei CBs PCiimLGn	A	A	A	A	A	0	A	A	A	A	A	7	A	A	A	A	A	2	A	A	A	A	A	0	
% RUcwc6ei CBs PCiimLGn	A	A	A	A	A	0%	A	A	A	A	A	1M30%	A	A	A	A	A	*3h%	A	A	A	A	A	0%	A

[N]FeoeitPULBi LBo RUcwc6ei CBs PCiimLGn3S(Seft, v(vUkt, T(TkPu, y(y ATuPB

Wing & Center - TMC

Tue Oct 19, 2021
PM Peak (4:50 PM -):50 PMv- Or elaHHPeak o Aul
CHHs HLLeL(i ghStL, ngUhH-d Ug TluckL, CltgcuHteB TluckL, y uLeL,
PeBeLtlgaUL, y gcRcHL AUwAaB, y gcRcHL AUs lALLmaHkv
CHHMArel eUL
DB: 66.940, i AcatgAU: 423451021, -653464.6)

PlArgBeBbR: GemaHo aI gHAUCLLAcgateLDUc3
.2) FAleLt EBhe 8 lgre, VelUAUo gHHL, D,.00.1, d n

Main & Center - 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. 3, Location: 42b4. 1073, -8. b48. 227

Provided Gy: Hewalt 5 amilton Associates Incb
623 Forest Edge Drive, Vernon 5 ills, IL, 60061, US

Leg Direction	Main EastGound						Main p estGound						Center WorthGound						Center SouthGound						
Time	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	Int
2021-10-19 7:00AM	0	0	16	0	**16**	1	0	0	0	0	**0**	0	12	0	0	0	**12**	1	0	0	0	0	**0**	2	**28**
7:13AM	0	0	9	1	**10**	0	0	0	0	0	**0**	0	18	0	0	0	**18**	2	0	0	0	0	**0**	3	**28**
7:. 0AM	0	1	8	0	**9**	2	0	1	0	0	**1**	1	21	0	0	0	**21**	4	0	0	0	0	**0**	.	**.1**
7:43AM	0	0	23	0	**23**	0	0	0	2	0	**2**	0	.6	1	0	0	**.7**	3	0	0	0	0	**0**	.	**64**
5 ourly Total	0	1	38	1	**60**	.	0	1	2	0	**.**	1	87	1	0	0	**88**	12	0	0	0	0	**0**	1.	**131**
8:00AM	0	0	.4	0	**.4**	1	0	0	0	0	**0**	1	.0	0	0	0	**.0**	.	0	0	0	0	**0**	1	**64**
8:13AM	0	0	.2	0	**.2**	1	0	0	0	0	**0**	.	.1	0	0	0	**.1**	1	0	1	0	0	**1**	4	**64**
8:. 0AM	0	0	22	0	**22**	1	0	0	0	0	**0**	2	14	0	0	0	**14**	7	0	0	0	0	**0**	8	**.6**
8:43AM	0	0	19	0	**19**	1	0	0	0	0	**0**	4	.1	0	0	0	**.1**	4	0	1	0	0	**1**	3	**31**
5 ourly Total	0	0	107	0	**107**	4	0	0	0	0	**0**	10	106	0	0	0	**106**	13	0	2	0	0	**2**	18	**213**
4:00PM	0	0	22	1	**2.**	2	0	0	0	0	**0**	26	.1	1	0	0	**.2**	2	0	2	0	0	**2**	27	**37**
4:13PM	0	0	26	0	**26**	7	0	0	1	0	**1**	20	4.	1	0	0	**44**	13	0	0	0	0	**0**	20	**71**
4:. 0PM	1	1	14	0	**16**	4	0	0	0	0	**0**	14	.3	0	0	0	**.3**	17	0	0	0	0	**0**	17	**31**
4:43PM	0	0	18	0	**18**	8	0	0	0	0	**0**	21	49	2	0	0	**31**	1.	0	0	0	0	**0**	16	**69**
5 ourly Total	1	1	80	1	**8.**	21	0	0	1	0	**1**	81	138	4	0	0	**162**	47	0	2	0	0	**2**	80	**248**
3:00PM	0	0	27	0	**27**	1.	0	0	0	0	**0**	21	..	0	0	0	**..**	12	0	0	0	0	**0**	28	**60**
3:13PM	1	0	24	0	**23**	3	0	1	0	0	**1**	48	32	0	0	0	**32**	.2	0	0	0	0	**0**	28	**78**
3:. 0PM	0	0	.0	0	**.0**	11	0	0	0	0	**0**	.3	.8	0	0	0	**.8**	24	0	0	0	0	**0**	26	**68**
3:43PM	0	0	29	0	**29**	6	0	1	0	0	**1**	.8	.9	0	0	0	**.9**	16	0	0	0	0	**0**	33	**69**
5 ourly Total	1	0	110	0	**111**	.3	0	2	0	0	**2**	142	162	0	0	0	**162**	84	0	0	0	0	**0**	1. 7	**273**
Total	2	2	.33	2	**.61**	6.	0	.	.	0	**6**	2. 4	31.	3	0	0	**318**	138	0	4	0	0	**4**	248	**889**
% ANNroach	0b6%	0b6%	98b %	0b6%	**-**	-	0%	30b0%	30b0%	0%	**-**	-	99b0%	1b0%	0%	0%	**-**	-	0%	100%	0%	0%	**-**	-	-
% Total	0b2%	0b2%	.9b9%	0b2%	**40b6%**	-	0%	0b %	0b %	0%	**0b7%**	-	37b7%	0b6%	0%	0%	**38b %**	-	0%	0b4%	0%	0%	**0b4%**	-	-
Lights	0	0	.46	2	**.48**	-	0	0	0	0	**0**	-	303	0	0	0	**303**	-	0	0	0	0	**0**	-	83.
% Lights	0%	0%	97b3%	100%	**96b4%**	-	0%	0%	0%	0%	**0%**	-	98b4%	0%	0%	0%	**97b3%**	-	0%	0%	0%	0%	**0%**	-	96b0%
Single-Unit Trucks	0	0	2	0	**2**	-	0	0	0	0	**0**	-	4	0	0	0	**4**	-	0	0	0	0	**0**	-	6
% Single-Unit Trucks	0%	0%	0b6%	0%	**0b6%**	-	0%	0%	0%	0%	**0%**	-	0b8%	0%	0%	0%	**0b8%**	-	0%	0%	0%	0%	**0%**	-	0b7%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1	0	0	0	**1**	-	0	0	0	0	**0**	-	1
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0b2%	0%	0%	0%	**0b2%**	-	0%	0%	0%	0%	**0%**	-	0b1%
Buses	0	0	4	0	**4**	-	0	0	0	0	**0**	-	.	0	0	0	**.**	-	0	0	0	0	**0**	-	7
% Buses	0%	0%	1b1%	0%	**1b1%**	-	0%	0%	0%	0%	**0%**	-	0b6%	0%	0%	0%	**0b6%**	-	0%	0%	0%	0%	**0%**	-	0b8%
Bicycles on Road	2	2	.	0	**7**	-	0	.	.	0	**6**	-	0	3	0	0	**3**	-	0	4	0	0	**4**	-	22
% Bicycles on Road	100%	100%	0b8%	0%	**1b9%**	-	0%	100%	100%	0%	**100%**	-	0%	100%	0%	0%	**1b0%**	-	0%	100%	0%	0%	**100%**	-	2b3%
Pedestrians	-	-	-	-	-	6.	-	-	-	-	-	229	-	-	-	-	-	136	-	-	-	-	-	243	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	97b9%	-	-	-	-	-	98b7%	-	-	-	-	-	98b8%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	.	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	2b1%	-	-	-	-	-	1b %	-	-	-	-	-	1b2%	-

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

Main & Center - 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. 3, Location: 42b4. 1073, -8. b48. 227

Provided Gy: Hewalt 5 amilton Associates Incb
623 Forest Edge Drive, Vernon 5 ills, IL, 60061, US

GEWALT HAMILTON ASSOCIATES, INC.

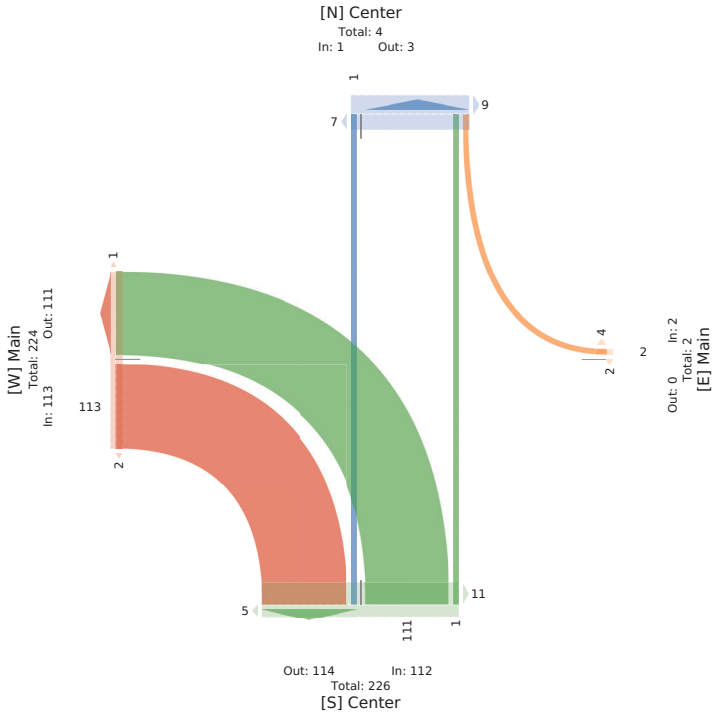
LdRmsBeBbo7Gev n6 Hnl s6tRr F CCRcsnteCDrc3
82M5RdeCl EBi e : dsne, Vedr Rr Hs6C, Da , 80081, k U

a ei : sdectsRr	l nsr EnCdbRur B					l nsr p eCdbRur B					) er ted WRdtSbRur B					) er ted URurSbRur B					
Tsl e	a	T	w	k	F NN	LeB*	a	T	w	k	F NN	LeB*	a	T	w	k	F NN	LeB*	a	T	w	k	F NN	LeB*	l0t
2021-10-19 (7AMF1	0	0	2M	0	**2M**	0	0	0	2	0	**2**	0	. 8	1	0	0	**. (**	M	0	0	0	0	**0**	.	**8A**
4700F1	0	0	. A	0	**. A**	1	0	0	0	0	**0**	1	. 0	0	0	0	**. 0**	.	0	0	0	0	**0**	1	**8A**
47tMF1	0	0	. 2	0	**. 2**	1	0	0	0	0	**0**	.	. 1	0	0	0	**. 1**	1	0	1	0	0	**1**	A	**8A**
47.0F1	0	0	22	0	**22**	1	0	0	0	0	**0**	2	1A	0	0	0	**1A**	(	0	0	0	0	**0**	4	**. 8**
TRn6	0	0	11.	0	**11.**	.	0	0	2	0	**2**	8	111	1	0	0	**112**	18	0	1	0	0	**1**	18	**224**
% F NNRncS	0%	0%	100%	0%	**-**	-	0%	0%	100%	0%	**-**	-	993l %	03P%	0%	0%	**-**	-	0%	100%	0%	0%	**-**	-	-
% TRn6	0%	0%	A93l %	0%	**A93l %**	-	0%	0%	03P%	0%	**03P%**	-	A43(%	03P%	0%	0%	**A93l %**	-	0%	03P%	0%	0%	**03P%**	-	-
LH5	-	-	03l. 1	-	**03l. 1**	-	-	-	-	-	**-**	-	03((1	-	-	-	**03((1**	-	-	-	-	-	**-**	-	03l(M
a si StC	0	0	110	0	**110**	-	0	0	0	0	**0**	-	109	0	0	0	**109**	-	0	0	0	0	**0**	-	219
% a si StC	0%	0%	9(3 %	0%	**9(3 %**	-	0%	0%	0%	0%	**0%**	-	943P%	0%	0%	0%	**9(3 %**	-	0%	0%	0%	0%	**0%**	-	983l%
Usr i 6e-k r st TducgC	0	0	1	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1
% Usr i 6e-k r st TducgC	0%	0%	03P%	0%	**03P%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	03l%
F dscu6nteB TducgC	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% F dscu6nteB TducgC	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
y uCeC	0	0	2	0	**2**	-	0	0	0	0	**0**	-	2	0	0	0	**2**	-	0	0	0	0	**0**	-	A
% y uCeC	0%	0%	13l%	0%	**13l%**	-	0%	0%	0%	0%	**0%**	-	13l%	0%	0%	0%	**13l%**	-	0%	0%	0%	0%	**0%**	-	13l%
y scoc6eCRr wRnB	0	0	0	0	**0**	-	0	0	2	0	**2**	-	0	1	0	0	**1**	-	0	1	0	0	**1**	-	A
% y scoc6eCRr wRnB	0%	0%	0%	0%	**0%**	-	0%	0%	100%	0%	**100%**	-	0%	100%	0%	0%	**03P%**	-	0%	100%	0%	0%	**100%**	-	13l%
LeBeCdsnr C	-	-	-	-	-	.	-	-	-	-	-	8	-	-	-	-	-	1M	-	-	-	-	-	1A	
% LeBeCdsnr C	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	9. 3l%	-	-	-	-	-	4(3M%	-
y scoc6eCRr) dRCCv nfg	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	2	
% y scoc6eCRr) dRCCv nfg	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	83 %	-	-	-	-	-	123M%	-

*LeBeCdsnr Cnr B y scoc6eCRr) dRCCv nfg3a 7a eft, w7wsi St, T7TSdu, k 7k -Tudr

GEWALT HAMILTON ASSOCIATES, INC.

LdRmsBeBbo7Gev n6 Hnl s6tRr F CCRcsnteCDrc3
82M5RdeCl EBi e : dsne, Vedr Rr Hs6C, Da , 80081, k U



GEWALT HAMILTON ASSOCIATES, INC.

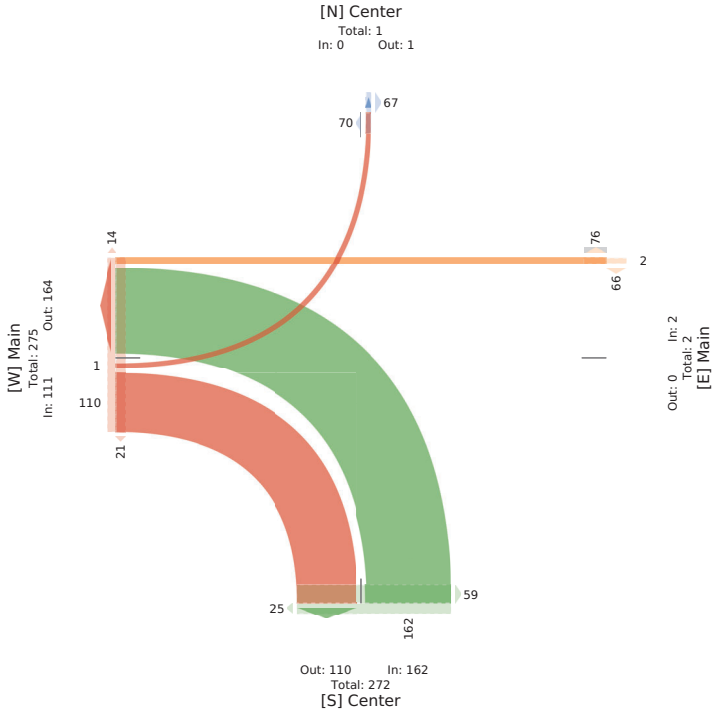
F-6MBeB GoDHewL4 P Lv i46k) aa6ciLtea nkc3
72h 56-eat EBSe I -iM4, Ve-k6k P i44h, ns , 70071, d r

s eS I i-ect i6k	l Lik ELatGukB						l Lik p eatGukB						Cekte- W6-tUGukB						Cekte- r 6utUGukB						
Tiv e	s	T	R	d	) NN	FeB*	s	T	R	d	) NN	FeB*	s	T	R	d	) NN	FeB*	s	T	R	d	) NN	FeB*	nkt
2021(10(19 hl0F1	0	0	2b	0	**2b**	18	0	0	0	0	**0**	21	88	0	0	0	**88**	12	0	0	0	0	**0**	2:	**70**
hDhF1	1	0	2.	0	**2h**	h	0	1	0	0	**1**	. :	h2	0	0	0	**h2**	82	0	0	0	0	**0**	2:	**h:**
hl0F1	0	0	80	0	**80**	11	0	0	0	0	**0**	8h	8:	0	0	0	**8:**	2.	0	0	0	0	**0**	27	**7:**
hDhF1	0	0	29	0	**29**	7	0	1	0	0	**1**	8:	89	0	0	0	**89**	17	0	0	0	0	**0**	hh	**79**
T6tL4	1	0	110	0	**111**	8h	0	2	0	0	**2**	1. 2	172	0	0	0	**172**	: .	0	0	0	0	**0**	18b	**2hh**
%) NN6LcU	03P%	0%	993l %	0%	**(**	(	0%	100%	0%	0%	**(**	(	100%	0%	0%	0%	**(**	(	0%	0%	0%	0%	**(**	(	(
% T6tL4	03 %	0%	. 03P%	0%	**. 03 %**	(	0%	03P%	0%	0%	**03P%**	(	h: 3P%	0%	0%	0%	**h: 3P%**	(	0%	0%	0%	0%	**0%**	(	(
FP 5	(	(	03l00	(	**03l00**	(	(	(	(	(	**(**	(	03hb9	(	(	(	**03hb9**	(	(	(	(	(	**(**	(	03l12
s iSUa	0	0	10b	0	**10b**	(	0	0	0	0	**0**	(	170	0	0	0	**170**	(	0	0	0	0	**0**	(	27b
% s iSUa	0%	0%	9b3l%	0%	**973 %**	(	0%	0%	0%	0%	**0%**	(	9: 3 %	0%	0%	0%	**9: 3 %**	(	0%	0%	0%	0%	**(**	(	9b3l%
r ikSde(d kit T-ucna	0	0	1	0	**1**	(	0	0	0	0	**0**	(	2	0	0	0	**2**	(	0	0	0	0	**0**	(	8
% r ikSde(d kit T-ucna	0%	0%	03P%	0%	**03P%**	(	0%	0%	0%	0%	**0%**	(	13l%	0%	0%	0%	**13l%**	(	0%	0%	0%	0%	**(**	(	13l%
) -ticu4LteB T-ucna	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0
%) -ticu4LteB T-ucna	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	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%	**0%**	(	0%	0%	0%	0%	**(**	(	0%
y icoc4ea 6k R6LB	1	0	2	0	**8**	(	0	2	0	0	**2**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	h
% y icoc4ea 6k R6LB	100%	0%	13 %	0%	**23h%**	(	0%	100%	0%	0%	**100%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**(**	(	13 %
FeBeat-iLka	(	(	(	(	(	8h	(	(	(	(	(	1. 0	(	(	(	(	(	: 8	(	(	(	(	(	187	
% FeBeat-iLka	(	(	(	(	(	100%	(	(	(	(	(	9: 3%	(	(	(	(	(	9: 3 %	(	(	(	(	(	993l%	(
y icoc4ea 6k C-6aawL4h	(	(	(	(	(	0	(	(	(	(	(	2	(	(	(	(	(	1	(	(	(	(	(	1	
% y icoc4ea 6k C-6aawL4h	(	(	(	(	(	0%	(	(	(	(	(	13 %	(	(	(	(	(	13l%	(	(	(	(	(	03h%	(

*FeBeat-iLka LkB y icoc4ea 6k C-6aawL4h3s Ds eft, RDRiSUi, TDI'U-u, d Dtl (Tu-k

GEWALT HAMILTON ASSOCIATES, INC.

F-6MBeB GoDHewL4 P Lv i46k) aa6ciLtea nkc3
72h 56-eat EBSe I -iM4, Ve-k6k P i44h, ns , 70071, d r



Main & Northville - 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. 4, Location: 4234. 1204, -8. 348100b

Provided Gy: Hewalt 5 amilton Associates Inc3
62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US

Leg	Main						Main						5 utton						5 utton						
Direction	EastGound						p estGound						WorthGound						SouthGound						
Time	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	Int
2021-10-19 7:00AM	0	0	0	0	**0**	1	.	0	19	0	**22**	0	0	1b	8	0	**2.**	1	20	4	0	0	**24**	b	**69**
7:1bAM	0	0	0	0	**0**	4	2	1	2b	0	**28**	0	0	24	12	0	**.6**	1	24	18	0	0	**42**	7	**106**
7:.0AM	0	1	0	0	**1**	0	1	0	.0	0	**.1**	0	0	28	7	0	**.b**	4	.2	12	0	0	**44**	1	**111**
7:4bAM	0	0	0	0	**0**	1	b	0	.9	0	**44**	2	0	2b	12	0	**.7**	.	.8	18	0	0	**b6**	.	**1.7**
5 ourly Total	0	1	0	0	**1**	6	11	1	11.	0	**12b**	2	0	92	.9	0	**1.1**	9	114	b2	0	0	**166**	16	**42.**
8:00AM	0	0	0	0	**0**	1	7	0	44	0	**b1**	0	0	22	12	0	**.4**	.	bb	2.	0	0	**78**	1	**16.**
8:1bAM	0	0	0	0	**0**	1	b	0	24	0	**29**	1	0	29	2.	0	**b2**	b	61	11	0	0	**72**	.	**1b.**
8:.0AM	0	0	0	0	**0**	2	b	0	4.	0	**48**	0	0	28	1b	0	**4.**	6	b4	16	1	0	**71**	b	**162**
8:4bAM	0	0	0	0	**0**	0	6	0	b6	0	**62**	0	0	.1	7	0	**.8**	.	6.	17	0	0	**80**	2	**180**
5 ourly Total	0	0	0	0	**0**	4	2.	0	167	0	**190**	1	0	110	b7	0	**167**	17	2..	67	1	0	**.01**	11	**6b8**
4:00PM	0	0	0	0	**0**	17	7	0	70	0	**77**	1	0	.8	6	0	**44**	21	67	20	0	0	**87**	11	**208**
4:1bPM	0	0	0	0	**0**	14	7	0	62	0	**69**	1	0	.2	4	0	**.6**	17	61	22	0	0	**8.**	9	**188**
4:.0PM	0	1	0	0	**1**	22	14	0	87	0	**101**	0	0	.4	6	0	**40**	10	74	22	0	0	**96**	1b	**2.8**
4:4bPM	0	0	0	0	**0**	12	1.	0	8b	0	**98**	2	0	.1	12	0	**4.**	22	61	.4	0	0	**9b**	11	**2.6**
5 ourly Total	0	1	0	0	**1**	6b	41	0	.04	0	**.4b**	4	0	1.b	28	0	**16.**	70	26.	98	0	0	**.61**	46	**870**
b:00PM	0	0	0	0	**0**	.	1.	0	74	0	**87**	2	0	42	b	0	**47**	10	b7	18	1	0	**76**	6	**210**
b:1bPM	0	0	0	0	**0**	17	6	1	80	0	**87**	b	0	.4	1	0	**.b**	12	66	22	0	0	**88**	b	**210**
b:.0PM	0	1	0	0	**1**	29	16	0	71	0	**87**	2	0	.2	10	0	**42**	21	74	.4	0	0	**108**	24	**2.8**
b:4bPM	0	0	0	0	**0**	1b	16	0	82	0	**98**	4	0	.6	9	0	**4b**	18	74	19	0	0	**9.**	1.	**2.6**
5 ourly Total	0	1	0	0	**1**	64	b1	1	.07	0	**.b9**	1.	0	144	2b	0	**169**	61	271	9.	1	0	**.6b**	48	**894**
Total	0	.	0	0	**.**	1.9	126	2	891	0	**1019**	20	0	481	149	0	**6.0**	1b7	881	.10	2	0	**119.**	121	**284b**
% ANNroach	0%	100%	0%	0%	**-**	-	1234%	032%	8734%	0%	**-**	-	0%	763 %	2.37%	0%	**-**	-	7.38%	2630%	032%	0%	**-**	-	-
% Total	0%	031%	0%	0%	**031%**	-	434%	031%	.13 %	0%	**.b38%**	-	0%	1639%	b32%	0%	**2231%**	-	.130%	1039%	031%	0%	**4139%**	-	-
Lights	0	0	0	0	**0**	-	12.	0	879	0	**1002**	-	0	478	148	0	**626**	-	872	299	0	0	**1171**	-	2799
% Lights	0%	0%	0%	0%	**0%**	-	9736%	0%	9837%	0%	**983 %**	-	0%	9934%	993 %	0%	**9934%**	-	9930%	963b%	0%	0%	**9832%**	-	9834%
Single-Unit Trucks	0	0	0	0	**0**	-	1	0	6	0	**7**	-	0	0	0	0	**0**	-	.	b	0	0	**8**	-	1b
% Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	038%	0%	037%	0%	**037%**	-	0%	0%	0%	0%	**0%**	-	03 %	136%	0%	0%	**037%**	-	03b%
Articulated Trucks	0	0	0	0	**0**	-	2	0	2	0	**4**	-	0	1	0	0	**1**	-	.	0	0	0	**.**	-	8
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	136%	0%	032%	0%	**034%**	-	0%	032%	0%	0%	**032%**	-	03 %	0%	0%	0%	**03 %**	-	03 %
Buses	0	0	0	0	**0**	-	0	0	2	0	**2**	-	0	0	0	0	**0**	-	.	1	0	0	**4**	-	6
% Buses	0%	0%	0%	0%	**0%**	-	0%	0%	032%	0%	**032%**	-	0%	0%	0%	0%	**0%**	-	03 %	03 %	0%	0%	**03 %**	-	032%
Bicycles on Road	0	.	0	0	**.**	-	0	2	2	0	**4**	-	0	2	1	0	**.**	-	0	b	2	0	**7**	-	17
% Bicycles on Road	0%	100%	0%	0%	**100%**	-	0%	100%	032%	0%	**034%**	-	0%	034%	037%	0%	**03b%**	-	0%	136%	100%	0%	**036%**	-	036%
Pedestrians	-	-	-	-	-	1.9	-	-	-	-	-	18	-	-	-	-	-	1b4	-	-	-	-	-	118	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	9030%	-	-	-	-	-	9831%	-	-	-	-	-	973b%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	.	-	-	-	-	-	.	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	1030%	-	-	-	-	-	139%	-	-	-	-	-	23b%	-

*Pedestrians and Bicycles on Crosswalk3L: Left, R: Right, T: Thru, U: U-Turn

Main & Northville - 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. 4, Location: 4234. 1204, -8. 348100b

Provided Gy: Hewalt 5 amilton Associates Inc3
62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US

Main & Northville - TMC
Tue Oct 19, 2021
Fl Leng h(Fl 79 Fl A
F MM4 M44e4 hP6) Ct4, a6s) M7i s6 TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUe4tS6ns 4, r 6ckcM4 ds BdnU, r 6ckcM4 ds - Sd44y nMgA
F MM doeRest4
w m((I9D:, Pdcnt6dsm 28 D120: , 7(D8 (100.

LSdo6UeU3kmb ey nMGnR6Mds F 44dc6nte4 wsc8
I2. HdSe4t 5U) e v S6oe, E eSsds G6MM, wP, I00I 1, i a

Pe)	l n6s						l n6s						Guttds						Guttds						
v 6ect6ds	5n4t3dus U						V e4t3dus U						p dSC3dus U						adutC3dus U						
T6Re	P	T	B	i	FWW	LeUN	P	T	B	i	FWW	LeUN	P	T	B	i	FWW	LeUN	P	T	B	i	FWW	LeUN	wst
2021710719 (m0F1	0	0	0	0	**0**	1	*	0	::	0	**.1**	0	0	22	12	0	**D:**	D	..	2D	0	0	***(**	1	**1ID**
(m1.F1	0	0	0	0	**0**	1	.	0	2:	0	**29**	1	0	29	2D	0	**.2**	.	I1	11	0	0	***2**	D	**1.D**
(mD0F1	0	0	0	0	**0**	2	.	0	:D	0	**:(**	0	0	2(	1.	0	**:D**	I	.:	1I	1	0	***1**	.	**1I2**
(m.F1	0	0	0	0	**0**	0	I	0	.I	0	**I2**	0	0	D1	*	0	**D(**	D	ID	1*	0	0	**(0**	2	**1(0**
TdtnM	0	0	0	0	**0**	:	2D	0	1I*	0	**190**	1	0	110	.*	0	**1I***	1*	2DD	I*	1	0	**D01**	11	**I.(**
% FWWdncC	0%	0%	0%	0%	**7**	7	1281%	0%	(*89%	0%	**7**	7	0%	I.89%	D81%	0%	**7**	7	**8 %	228D%	08D%	0%	**7**	7	7
% TdtnM	0%	0%	0%	0%	**0%**	7	D8 %	0%	2.8 %	0%	**2(89%**	7	0%	1I8*%	(8*%	0%	**2.8 %**	7	D8 %	1082%	082%	0%	**:.8*%**	7	7
LGH	7	7	7	7	**7**	7	08(21	7	08*:I	7	**08*II**	7	7	08((*	08I20	7	**08(0D**	7	0892.	08*2(	7	7	**089D(**	7	0891D
P6)Ct4	0	0	0	0	**0**	7	2D	0	1ID	0	**1(I**	7	0	110	.*	0	**1I***	7	22(	I2	0	0	**290**	7	I:D
% P6)Ct4	0%	0%	0%	0%	**7**	7	100%	0%	9*81%	0%	**9*89%**	7	0%	100%	100%	0%	**100%**	7	9*89%	928 %	0%	0%	**9I8D%**	7	9*8*%
a6s)M7i s6 TSucg4	0	0	0	0	**0**	7	0	0	2	0	**2**	7	0	0	0	0	**0**	7	0	:	0	0	**:**	7	I
% a6s)M7i s6 TSucg4	0%	0%	0%	0%	**7**	7	0%	0%	182%	0%	**181%**	7	0%	0%	0%	0%	**0%**	7	0%	I80%	0%	0%	**18D%**	7	089%
F St6cuMteUTSucg4	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0	0	0	0	**0**	7	2	0	0	0	**2**	7	2
% F St6cuMteUTSucg4	0%	0%	0%	0%	**7**	7	0%	0%	0%	0%	**0%**	7	0%	0%	0%	0%	**0%**	7	089%	0%	0%	0%	**08*%**	7	08D%
r u4e4	0	0	0	0	**0**	7	0	0	2	0	**2**	7	0	0	0	0	**0**	7	D	1	0	0	**:**	7	I
% r u4e4	0%	0%	0%	0%	**7**	7	0%	0%	182%	0%	**181%**	7	0%	0%	0%	0%	**0%**	7	18D%	18 %	0%	0%	**18D%**	7	089%
r 6ckcM4 ds BdnU	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0	0	1	0	**1**	7	1
% r 6ckcM4 ds BdnU	0%	0%	0%	0%	**7**	7	0%	0%	0%	0%	**0%**	7	0%	0%	0%	0%	**0%**	7	0%	0%	100%	0%	**08D%**	7	082%
LeUe4tS6ns4	7	7	7	7	7	:	7	7	7	7	7	1	7	7	7	7	7	1*	7	7	7	7	7	10	
% LeUe4tS6ns4	7	7	7	7	7	100%	7	7	7	7	7	100%	7	7	7	7	7	100%	7	7	7	7	7	9089%	7
r 6ckcM4 ds - Sd44y nMg	7	7	7	7	7	0	7	7	7	7	7	0	7	7	7	7	7	0	7	7	7	7	7	1	
% r 6ckcM4 ds - Sd44y nMg	7	7	7	7	7	0%	7	7	7	7	7	0%	7	7	7	7	7	0%	7	7	7	7	7	981%	7

NLeUe4tS6ns 4 ns Ur 6ckcM4 ds - Sd44y nMg8PmPeft, BmB6)Ct, TmTCSu, i mi 7TuSs

Main & Northville - TMC
Tue Oct 19, 2021
P M aek(4: P M 59 P M-
P)) v)krrer 4l HdAtr, CHo)e5Ls Ht Tiuc(r, P itHu)kteg Tiuc(r, h urer,
aegertiHsr, h HSc)er ns Unkg, h HSc)er ns v inrrd k)(-
P)) MnBey estr
Rwm : I9D8, l nckHsm8268D1208, 5: D8: 100.

ainBHeg 3Smb ed k)t Gky H)tns P rrncHter Rs c6
I2. Fniert Egoe wiBe, Veisns GH)r, R , I00I 1, LC

Main & Northville - TMC

Tue Oct 19, 2021
Fl FeLn gh(70 Fl AM(70 Fl - AO4ePL66FeLn) CuP
a 66s 6Liiei gSUkti, dUBr6eAy BUTRucni, a RUduGteo TRucni, Ruiei,
FeoeitRULBi, RUdwc6ei CB v CLo, RUdwc6ei CB s PCiimL6n-
a 66l C4eI eBti
D (88. 97h, SCcLtUCB(h23h7120h, A873h8100M

FPC4Ueo bw(GemL6t) LI UtCB a iiCcUtei DBc3
. 2MHCReit 5 ore : PL4e, E ePBCB) U6i, DS, . 00. 1, y d

Ser : UectUCB	l LUB 5LitbCuBo						l LUB V eitbCuBo						) uttCB p CRkbCuBo						) uttCB dCutkbCuBo						
TU e	S	T	v	y	a WW	FeoN	S	T	v	y	a WW	FeoN	S	T	v	y	a WW	FeoN	S	T	v	y	a WW	FeoN	Dt
2021A10A19 h(70Fl	0	1	0	0	**1**	22	1h	0	8*	0	**101**	0	0	7h	.	0	**h0**	10	*h	22	0	0	**9.**	1M	**278**
h(hMFl	0	0	0	0	**0**	12	17	0	8M	0	**98**	2	0	71	12	0	**h7**	22	. 1	7h	0	0	**9M**	11	**27.**
M(00Fl	0	0	0	0	**0**	7	17	0	*h	0	**8***	2	0	h2	M	0	**h***	10	M*	18	1	0	***.**	.	**210**
M(1MFl	0	0	0	0	**0**	1*	.	1	80	0	**8***	M	0	7h	1	0	**7M**	12	. .	22	0	0	**88**	M	**210**
TOtL6	0	1	0	0	**1**	Mh	h.	1	72.	0	**7*7**	9	0	1h1	2h	0	**1. M**	Mh	2M8	9.	1	0	**7MM**	7*	**89h**
% a WWCLck	0%	100%	0%	0%	**A**	A	1237%	037%	8*3h%	0%	**A**	A	0%	8M3M%	1h3M%	0%	**A**	A	*23*%	2*30%	037%	0%	**A**	A	A
% TOtL6	0%	031%	0%	0%	**031%**	A	M31%	031%	7. 3M%	0%	**h13*%**	A	0%	1M3B%	23*%	0%	**183M%**	A	2839%	103*%	031%	0%	**793*%**	A	A
F) H	A	A	A	A	**A**	A	03821	A	0397h	A	**03918**	A	A	033Mh	03M00	A	**03891**	A	033*2	03*0M	A	A	**0391h**	A	0397M
SUkti	0	0	0	0	**0**	A	hh	0	72M	0	**7. 9**	A	0	1h0	2h	0	**1. h**	A	2M	97	0	0	**7h9**	A	882
% SUkti	0%	0%	0%	0%	**0%**	A	9M3*%	0%	993*%	0%	**9833%**	A	0%	9937%	100%	0%	**9933h%**	A	9932%	9. 39%	0%	0%	**9837%**	A	983*%
dUBr6eAy BUTRucni	0	0	0	0	**0**	A	0	0	0	0	**0**	A	0	0	0	0	**0**	A	2	0	0	0	**2**	A	2
% dUBr6eAy BUTRucni	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	033%	0%	0%	0%	**03 %**	A	032%
a RUduGteo TRucni	0	0	0	0	**0**	A	2	0	0	0	**2**	A	0	0	0	0	**0**	A	0	0	0	0	**0**	A	2
% a RUduGteo TRucni	0%	0%	0%	0%	**0%**	A	h37%	0%	0%	0%	**03M%**	A	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	032%
Ruiei	0	0	0	0	**0**	A	0	0	0	0	**0**	A	0	0	0	0	**0**	A	0	0	0	0	**0**	A	0
% Ruiei	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	0%
RUdwc6ei CBvCLo	0	1	0	0	**1**	A	0	1	1	0	**2**	A	0	1	0	0	**1**	A	0	7	1	0	**h**	A	8
% RUdwc6ei CBvCLo	0%	100%	0%	0%	**100%**	A	0%	100%	037%	0%	**03M%**	A	0%	03*%	0%	0%	**03 %**	A	0%	731%	100%	0%	**131%**	A	039%
FeoeitRULBi	A	A	A	A	A	Mh	A	A	A	A	A	9	A	A	A	A	A	Mh	A	A	A	A	A	7.	
% FeoeitRULBi	A	A	A	A	A	100%	A	A	A	A	A	100%	A	A	A	A	A	100%	A	A	A	A	A	9*37%	A
RUdwc6ei CBs PCiimL6n	A	A	A	A	A	0	A	A	A	A	A	0	A	A	A	A	A	0	A	A	A	A	A	1	
% RUdwc6ei CBs PCiimL6n	A	A	A	A	A	0%	A	A	A	A	A	0%	A	A	A	A	A	0%	A	A	A	A	A	23*%	A

[N]FeoeitRULBi LBo RUdwc6ei CBs PCiimL6n3S(Seft, v (v Ukt, T(TkRu, y (y ATuPB

Main & Northville - TMC

Tue Oct 19, 2021
PM Peak (4:50 PM -) :50 PMv - Or ela HHPeak o Aul
CHHs HaLLeL (i ghStL, ngUhHe-d Ugt TluckL, CltgcuHateB TluckL, y uLeL,
PeBeLtlgaUL, y gcRcHeL AUwAaB, y gcRcHeL AUs lALLmaHkv
CHHMArel eUtL
DB : 66. 954, i AcatgAU: 4234451204, -65346100)

PlAr gBeBbR: GemaHto aI gHAUCLLAcgateLDUc3
. 2) FAleLt EBhe 8 lgr e, VelUAUo gHHL, D, . 00. 1, d n

Main & Griswold - 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. . , Location: 4234. 1. . 2, -8. 3478768

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

Leg Direction	Main Eastbound						Main p estbound						Griswold Worthbound						Griswold Southbound						
Time	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	Int
2021-10-19 7:00AM	1	11	1	0	**1.**	1	1	21	15	0	**. 7**	0	1	2.	4	0	**28**	0	16	11	11	0	**. 8**	0	**116**
7:15AM	1	19	0	0	**20**	1	0	. 1	16	0	**47**	0	2	20	.	0	**25**	0	8	18	9	0	**. 5**	0	**127**
7:. 0AM	5	27	0	0	**. 2**	0	.	28	19	0	**50**	0	4	20	1	0	**25**	1	14	18	5	0	**. 7**	2	**144**
7:45AM	1	. 1	2	0	**. 4**	0	0	4.	22	0	**65**	0	4	. 2	4	0	**40**	0	24	18	19	0	**61**	1	**200**
Hourly Total	8	88	.	0	**99**	2	4	12.	72	0	**199**	0	11	95	12	0	**118**	1	62	65	44	0	**171**	.	**587**
8:00AM	4	. 7	2	0	**4.**	1	1	52	22	0	**75**	0	2	44	0	0	**46**	0	16	. 1	18	0	**65**	0	**229**
8:15AM	7	48	1	0	**56**	0	2	. 4	29	0	**65**	0	.	40	4	0	**47**	4	15	20	14	0	**49**	2	**217**
8:. 0AM	9	44	.	0	**56**	4	.	46	22	0	**71**	2	5	5.	5	0	**6.**	2	20	28	12	0	**60**	1	**250**
8:45AM	5	4.	.	0	**51**	1	.	60	4.	0	**106**	2	6	. 1	5	0	**42**	2	14	40	20	0	**74**	0	**27.**
Hourly Total	25	172	9	0	**206**	6	9	192	116	0	**. 17**	4	16	168	14	0	**198**	8	65	119	64	0	**248**	.	**969**
4:00PM	11	46	7	0	**64**	4	4	55	41	0	**100**	1	12	45	10	0	**67**	2	. 8	. 5	21	0	**94**	0	**. 25**
4:15PM	11	52	4	0	**67**	0	4	54	. 6	0	**94**	1	6	4.	5	0	**54**	1	. 1	. 5	25	0	**91**	0	**. 06**
4:. 0PM	9	56	7	0	**72**	6	2	8.	49	0	**1. 4**	0	4	54	5	0	**6.**	2	41	40	18	0	**99**	1	**. 68**
4:45PM	8	54	1	0	**6.**	4	6	78	5.	0	**1. 7**	1	6	49	.	0	**58**	0	. 9	42	20	0	**101**	1	**. 59**
Hourly Total	. 9	208	19	0	**266**	14	16	270	179	0	**465**	.	28	191	2.	0	**242**	5	149	152	84	0	**. 85**	2	**1. 58**
5:00PM	12	47	4	0	**6.**	8	.	67	61	0	**1. 1**	1	2	68	4	0	**74**	1	46	. 8	25	0	**109**	.	**. 77**
5:15PM	7	55	.	0	**65**	.	5	69	62	0	**1. 6**	0	6	5.	7	0	**66**	4	46	5.	1.	0	**112**	0	**. 79**
5:. 0PM	15	55	5	0	**75**	.	0	71	51	0	**122**	2	.	51	.	0	**57**	2	. 6	59	22	0	**117**	.	**. 71**
5:45PM	14	58	5	0	**77**	.	2	71	68	0	**141**	2	4	56	.	0	**6.**	1	. 6	41	25	0	**102**	4	**. 8.**
Hourly Total	48	215	17	0	**280**	17	10	278	242	0	**5. 0**	5	15	228	17	0	**260**	8	164	191	85	0	**440**	10	**1510**
Total	120	68.	48	0	**851**	. 9	. 9	86.	609	0	**1511**	12	70	682	66	0	**818**	22	440	527	277	0	**1244**	18	**4424**
% ANNroach	1431%	803 %	536%	0%	**-**	-	236%	5731%	403 %	0%	**-**	-	836%	8. 34%	831%	0%	**-**	-	. 534%	4234%	223 %	0%	**-**	-	-
% Total	237%	1534%	131%	0%	**1932%**	-	039%	1935%	1. 38%	0%	**. 432%**	-	136%	1534%	135%	0%	**1835%**	-	939%	1139%	63 %	0%	**2831%**	-	-
Lights	119	672	47	0	**8. 8**	-	. 8	854	590	0	**1482**	-	70	675	66	0	**811**	-	4. 0	520	272	0	**1222**	-	4. 5.
% Lights	9932%	9834%	9739%	0%	**9835%**	-	9734%	9930%	9639%	0%	**9831%**	-	100%	9930%	100%	0%	**9931%**	-	9737%	9837%	9832%	0%	**9832%**	-	9834%
Single-Unit Trucks	0	.	0	0	**.**	-	1	4	9	0	**14**	-	0	.	0	0	**.**	-	4	4	5	0	**1.**	-	. .
% Single-Unit Trucks	0%	034%	0%	0%	**034%**	-	236%	035%	135%	0%	**039%**	-	0%	034%	0%	0%	**034%**	-	039%	038%	138%	0%	**130%**	-	037%
Articulated Trucks	0	2	0	0	**2**	-	0	2	.	0	**5**	-	0	0	0	0	**0**	-	1	0	0	0	**1**	-	8
% Articulated Trucks	0%	03 %	0%	0%	**032%**	-	0%	032%	035%	0%	**03 %**	-	0%	0%	0%	0%	**0%**	-	032%	0%	0%	0%	**031%**	-	032%
Buses	0	.	0	0	**.**	-	0	1	7	0	**8**	-	0	1	0	0	**1**	-	5	1	0	0	**6**	-	18
% Buses	0%	034%	0%	0%	**034%**	-	0%	031%	131%	0%	**035%**	-	0%	031%	0%	0%	**031%**	-	131%	032%	0%	0%	**035%**	-	034%
Bicycles on Road	1	.	1	0	**5**	-	0	2	0	0	**2**	-	0	.	0	0	**.**	-	0	2	0	0	**2**	-	12
% Bicycles on Road	038%	034%	231%	0%	**036%**	-	0%	032%	0%	0%	**031%**	-	0%	034%	0%	0%	**034%**	-	0%	034%	0%	0%	**032%**	-	03 %
Pedestrians	-	-	-	-	-	. 5	-	-	-	-	-	9	-	-	-	-	-	19	-	-	-	-	-	15	
% Pedestrians	-	-	-	-	-	8937%	-	-	-	-	-	7530%	-	-	-	-	-	8634%	-	-	-	-	-	8. 3 %	-
Bicycles on Crosswalk	-	-	-	-	-	4	-	-	-	-	-	.	-	-	-	-	-	.	-	-	-	-	-	.	
% Bicycles on Crosswalk	-	-	-	-	-	103 %	-	-	-	-	-	2530%	-	-	-	-	-	1. 36%	-	-	-	-	-	1637%	-

*Pedestrians and Bicycles on Crosswalk3L: Left, R: Right, T: Thru, U: U-Turn

Main & Griswold - 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. . , Location: 4234. 1. . 2, -8. 3478768

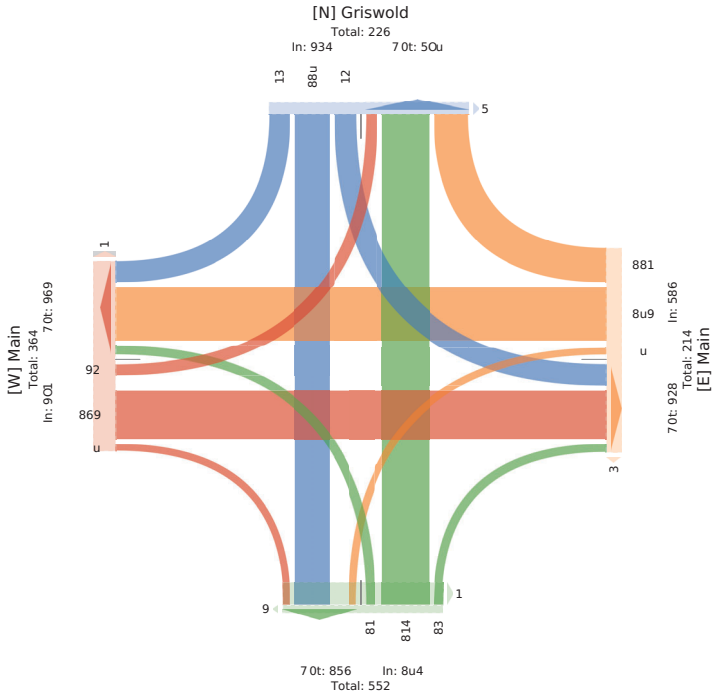
Provided by: Gewalt Hamilton Associates Inc3
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

GEWALT HAMILTON ASSOCIATES, INC.

Pe) v ðiectñls	l nñs Ens4t3dus U					l nñs p e4t3dus U					b Sðly dNñ Wdl5t3dus U					b Sðly dNñ adutt3dus U					
Tðte	P	T	B	i	F NN LeU*	P	T	B	i	F NN LeU*	P	T	B	i	F NN LeU*	P	T	B	i	F NN LeU*	wt
2021710719 (nl0F1	:	D	2	0	: D	1	1	H2	22	0	. H	0	2	: :	0	0	: I	0	1l	Dl	1(	0	1 H	0	229
(nlHF1	.	: (	1	0	Hl	0	2	D	29	0	1 H	0	D	: 0	:	0	:.	:	1H	20	1:	0	: 9	2	21.
(nlðF1	9	: :	D	0	Hl	:	D	: 1	22	0	. 1	2	H	HD	H	0	1 D	2	20	2(	12	0	1 0	1	2H0
(mlF1	H	: D	D	0	Hl	1	D	1 0	: D	0	10l	2	I	Dl	H	0	: 2	2	1:	: 0	20	0	.:	0	2. D
TdnM	2H	1. 2	9	0	20l	1	9	192	11l	0	Dl.	:	11	11(	1:	0	19(	(	1 H	119	1:	0	2: (	D	9l 9
% F NNSincC	12ð %	(Dl H%	: ð %	0%	7	7	2ð %	1 0ð %	Dl ð %	0%	7	7	(ð %	: ð %	. ð %	0%	7	7	2l ð%	: (ð%	2H %	0%	7	7	7
% TdnM	2ð %	1. ð %	0ð%	0%	2l ð%	7	0ð%	19ð %	12ð %	0%	D ð %	7	18 %	1. ð%	18 %	0%	2 0ð %	7	1ð %	12ð%	1ð %	0%	2H ð %	7	7
LG5	0ð 9:	0ð 9l	0ð Hl	7	0ð : (	7	0ð Hl	0ð 00	0ð : :	7	0ð : (	7	0ð I .	0ð 92	0ð 00	7	0ð (I	7	0ð 1D	0ð : :	0ð 00	7	0ð D(	7	0ð (.
PQ Cl4	2H	11I	9	0	200	7	9	1(9	10H	0	Dl D	7	11	11 H	1:	0	19H	7	1 0	11(	1:	0	2: 2	7	9: 0
% PQ Cl4	100% 9l	ð H%	100%	0%	9. ð l%	7	100%	9(ð %	90ð H%	0%	9H ð %	7	100%	9(ð2%	100%	0%	9(ð H%	7	92ð l%	99ð2%	100%	0%	9. ð l %	7	9. ð0%
a6) Mñ s ðTSucg4	0	1	0	0	1	7	0	2	H	0	.	7	0	2	0	0	2	7	2	1	0	0	D	7	1D
% a6) Mñ s ðTSucg4	0%	0ð %	0%	0%	0ð H%	7	0%	1ð0%	: ð%	0%	2ð2%	7	0%	1ð2%	0%	0%	1ð0%	7	Dð %	0ð %	0%	0%	1ð2%	7	1ð3%
F SðcuMteUTSucg4	0	2	0	0	2	7	0	0	D	0	D	7	0	0	0	0	0	7	0	0	0	0	0	7	H
% F SðcuMteUTSucg4	0%	1ð2%	0%	0%	1ð0%	7	0%	0%	2ð %	0%	0ð9%	7	0%	0%	0%	0%	0%	7	0%	0%	0%	0%	0%	7	0ð ð%
r u4e4	0	D	0	0	D	7	0	1	D	0	:	7	0	1	0	0	1	7	D	0	0	0	D	7	11
% r u4e4	0%	1ð %	0%	0%	1ð H%	7	0%	0ð H%	2ð %	0%	1ð3%	7	0%	0ð I%	0%	0%	0ð I%	7	: ð %	0%	0%	0%	1ð2%	7	1ð I%
r ðckcMñ ds BdnU	0	0	0	0	0	7	0	0	0	0	0	7	0	0	0	0	0	7	0	0	0	0	0	7	0
% r ðckcMñ ds BdnU	0%	0%	0%	0%	0%	7	0%	0%	0%	0%	0%	7	0%	0%	0%	0%	0%	7	0%	0%	0%	0%	0%	7	0%
LeUe4tSñs 4	7	7	7	7	7	1	7	7	7	7	:	7	7	7	7	7	(	7	7	7	7	7	D		
% LeUe4tSñs 4	7	7	7	7	7	100%	7	7	7	7	100%	7	7	7	7	7	100%	7	7	7	7	7	100%	7	
r ðckcMñ ds - Sl44y nMgA	7	7	7	7	7	0	7	7	7	7	0	7	7	7	7	7	0	7	7	7	7	7	0		
% r ðckcMñ ds - Sl44y nMgA	7	7	7	7	7	0%	7	7	7	7	0%	7	7	7	7	7	0%	7	7	7	7	7	0%	7	

*LeUe4tSñs 4 ns Ur ðckcMñ ds - Sl44y nMgBPmPeft, BmBðCl, TmTCSu, i mi 7TuSs

GEWALT HAMILTON ASSOCIATES, INC.



GEWALT HAMILTON ASSOCIATES, INC.

s eS l i-ecti6k	l Tik ElaGðukB					l Tik p eatGðukB					H-iaw64ð W6-tUGðukB					H-iaw64ð r 6utUGðukB					
Tiv e	s	T	R	d	) NN FeIP	s	T	R	d	) NN FeIP	s	T	R	d	) NN FeIP	s	T	R	d	) NN FeIP	ukt
2021(10(19 hll0F1	12	.h	.	0	78	:	8	7h	71	0	181	1	2	7:	.	0	h.	1	. 7	8:	2h	0	109	8	8bh
hDhF1	h	hh	8	0	7h	8	h	79	72	0	187	0	7	h8	h	0	77	.	. 7	h8	18	0	112	0	8h9
hll0F1	1h	hh	h	0	hh	8	0	b1	h1	0	122	2	8	h1	8	0	hh	2	87	h9	22	0	11h	8	8b1
hDhF1	1.	h:	h	0	hh	8	2	b1	7:	0	1. 1	2	.	h7	8	0	78	1	87	. 1	2h	0	102		8: 8
T6tL4	. :	21h	1h	0	2: 0	1h	10	2h:	2. 2	0	h80	h	1h	22:	1h	0	270	:	17.	191	: h	0	. . 0	10	1h10
%) NN6tLU	1h3 l%	b73 %	73ð %	0%	(	(	13%	h23ð%	. h3ð%	0%	(	(	h3 %	: h3ð%	73ð%	0%	(	(	8bð l%	. 83 %	193ð%	0%	(	(	(
% T6tL4	82ð %	1. 3ð%	13ð %	0%	1: 3ð%	(	03ð %	1: 3 %	173ð%	0%	8h3 l%	(	13ð%	1h3ð%	13ð %	0%	1h2ð%	(	10ð9%	123ð%	h3ð%	0%	293ð%	(	(
FP 5	03 00	03ð2b	03 00	(	03ð1:	(	03ð00	03ðh2	03 90	(	03ð87	(	03ð2h	03 8h	037ðb	(	03 hh	(	03 91	03 19	03 hð	(	03ð. 7	(	03ð: :
s lSUa	. :	21h	17	0	2h9	(	9	2bh	289	0	h28	(	1h	227	1h	0	2h:	(	17.	190	: h	0	. 89	(	1. 99
% s lSUa	100%	100%	9. 3%	0%	993 7%	(	90ð0%	9: 3%	9: 3 %	0%	9: 3ð%	(	100%	993 %	100%	0%	992 2%	(	100%	993ð%	100%	0%	993 %	(	993ð%
r ikS4e(d kit T-ucna	0	0	0	0	0	(	1	0	8	0	.	(	0	1	0	0	1	(	0	0	0	0	0	(	h
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y icoc4ea 6k R6LB	0	0	1	0	1	(	0	2	0	0	2	(	0	1	0	0	1	(	0	1	0	0	1	(	h
% y icoc4ea 6k R6LB	0%	0%	h3ð%	0%	03 %	(	0%	03ð%	0%	0%	03 %	(	0%	03 %	0%	0%	03 %	(	0%	03ð%	0%	0%	03ð%	(	03ð%
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y icoc4ea 6k C-6aawL4h	(	(	(	(	(	8	(	(	(	(	(	2	(	(	(	(	(	8	(	(	(	(	(	2	
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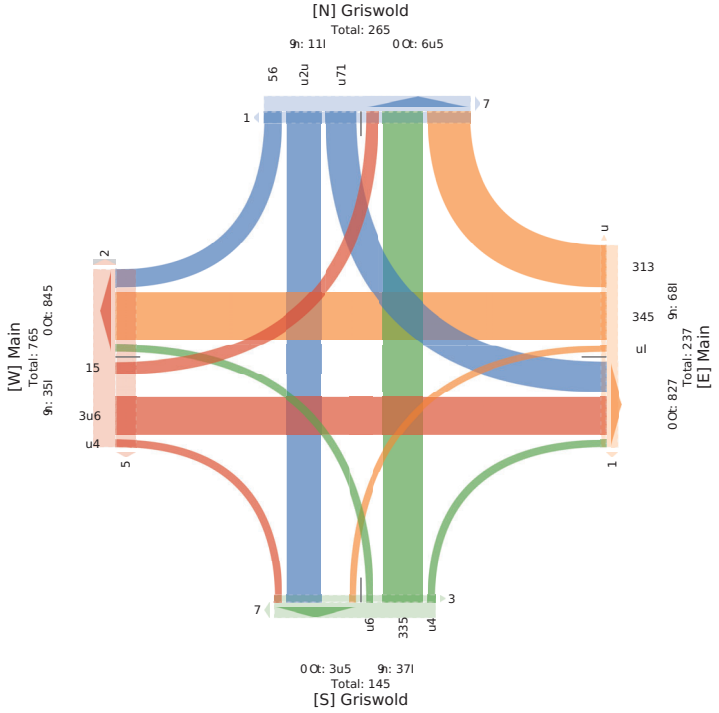
*FeBeat-iLka IkB y icoc4ea 6k C-6aawL4h3s Dɛ eft, RDRiSUl, TDfTU-u, d Dd (Tu-k

GEWALT HAMILTON ASSOCIATES, INC.



Cady & Main - 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. 0, Location: 423 4b1b96, -8b3 477276

GEWALT HAMILTON ASSOCIATES, INC.
Provided Cy: Hewalt 5 amilton Associates Inc3
62. Forest Edge Drive, Vernon 5 ills, IL, 60061, US

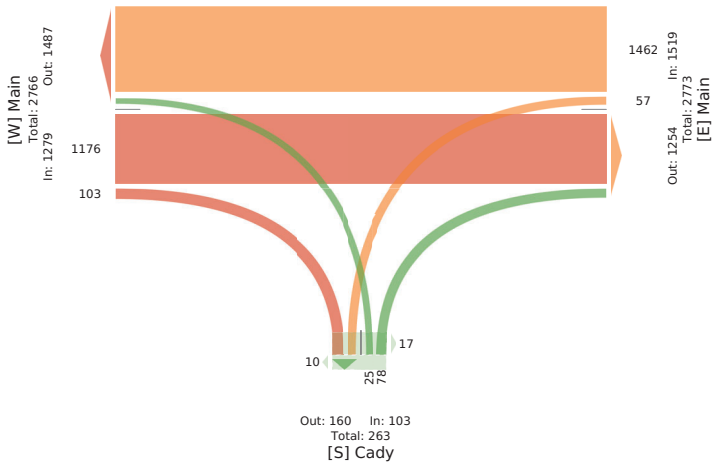
Leg Direction	Main EastGound					Main p estGound					Cady WorthGound					
Time	T	R	U	**ANN**	Ped*	L	T	U	**ANN**	Ped*	L	R	U	**ANN**	Ped*	**Int**
2021-10-19 7:00AM	b2	0	0	**b2**	0	0	b8	0	**b8**	0	0	1	0	**1**	0	**71**
7:1. AM	b0	2	0	**b2**	0	0	4.	0	**4.**	0	1	1	0	**2**	0	**79**
7:b0AM	46	0	0	**46**	0	0	48	0	**48**	0	0	1	0	**1**	0	**9.**
7:4. AM	60	1	0	**61**	0	b	68	0	**71**	0	0	b	0	**b**	1	**1b.**
5 ourly Total	168	b	0	**171**	0	b	199	0	**202**	0	1	6	0	**7**	1	**b80**
8:00AM	. 4	2	0	**. 6**	0	1	71	0	**72**	0	0	b	0	**b**	0	**1b1**
8:1. AM	61	8	0	**69**	0	2	68	0	**70**	0	0	b	0	**b**	4	**142**
8:b0AM	67	8	0	**7.**	0	4	7.	0	**79**	0	b	8	0	**11**	2	**16.**
8:4. AM	62	10	0	**72**	0	6	101	0	**107**	0	2	b	0	**.**	2	**184**
5 ourly Total	244	28	0	**272**	0	1b	b1.	0	**b28**	0	.	17	0	**22**	8	**622**
4:00PM	92	.	0	**97**	0	.	100	0	**10.**	0	0	7	0	**7**	2	**209**
4:1. PM	81	1b	0	**94**	0	7	86	0	**9b**	0	1	7	0	**8**	1	**19.**
4:b0PM	10b	6	0	**109**	0	6	1b4	0	**140**	0	.	10	0	**1.**	b	**264**
4:4. PM	98	7	0	**10.**	0	.	124	0	**129**	0	2	9	0	**11**	0	**24.**
5 ourly Total	b74	b1	0	**40.**	0	2b	444	0	**467**	0	8	bb	0	**41**	6	**91b**
. :00PM	91	1b	0	**104**	0	6	124	0	**1b0**	0	.	.	0	**10**	1	**244**
. :1. PM	10b	16	0	**119**	0	4	129	0	**1bb**	0	2	10	0	**12**	6	**264**
. :b0PM	98	.	0	**10b**	0	4	124	0	**128**	0	2	4	0	**6**	2	**2b7**
. :4. PM	98	7	0	**10.**	0	4	127	0	**1b1**	0	2	b	0	**.**	b	**241**
5 ourly Total	b90	41	0	**4b1**	0	18	. 04	0	**. 22**	0	11	22	0	**bb**	12	**986**
Total	1176	10b	0	**1279**	0	. 7	1462	0	**1. 19**	0	2.	78	0	**10b**	27	**2901**
% ANNroach	91 3%	8 3 %	0%	**-**	-	b 3%	96 2%	0%	**-**	-	24 3%	7. 7%	0%	**-**	-	-
% Total	403 %	b 6%	0%	**443 %**	-	2 0%	. 0 4%	0%	**. 2 4%**	-	0 9%	2 7%	0%	**b 6%**	-	-
Lights	11. 1	10b	0	**12. 4**	-	. 7	14b1	0	**1488**	-	2.	76	0	**101**	-	284b
% Lights	97 9%	100%	0%	**98 9%**	-	100%	97 9%	0%	**98 9%**	-	100%	97 4%	0%	**98 1%**	-	98 0%
Single-Unit Trucks	8	0	0	**8**	-	0	1.	0	**1.**	-	0	2	0	**2**	-	2.
% Single-Unit Trucks	0 7%	0%	0%	**0 6%**	-	0%	1 0%	0%	**1 0%**	-	0%	2 6%	0%	**1 9%**	-	0 9%
Articulated Trucks	6	0	0	**6**	-	0	.	0	**.**	-	0	0	0	**0**	-	11
% Articulated Trucks	0 3 %	0%	0%	**0 3 %**	-	0%	0 3%	0%	**0 3%**	-	0%	0%	0%	**0%**	-	0 4%
Buses	8	0	0	**8**	-	0	9	0	**9**	-	0	0	0	**0**	-	17
% Buses	0 7%	0%	0%	**0 5%**	-	0%	0 5%	0%	**0 5%**	-	0%	0%	0%	**0%**	-	0 6%
Bicycles on Road	b	0	0	**b**	-	0	2	0	**2**	-	0	0	0	**0**	-	.
% Bicycles on Road	0 b%	0%	0%	**0 2%**	-	0%	0 1%	0%	**0 1%**	-	0%	0%	0%	**0%**	-	0 2%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	22	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	813 %	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	.	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	183 %	-

*Pedestrians and Bicycles on Crosswalk3L: Left, R: Right, T: Thru, U: U-Turn

Cady & Main - 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. 0, Location: 423 4b1b96, -8b3 477276

GEWALT HAMILTON ASSOCIATES, INC.
Provided Cy: Hewalt 5 amilton Associates Inc3
62. Forest Edge Drive, Vernon 5 ills, IL, 60061, US



Cady & Main - TMC

Tue Oct 19, 2021
F1 Leng h(F1 79 F1 A
F Nt M 44e4 hP Q C14, a 6) M7 s 6 TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUs 4t5ns 4, r 6ckcM4 ds BdnU, r 6ckcM4 ds - Sl44y nMA
F Nt doeRest4
w m((19D0, Pdcnt6lsm 28 . 1. 9I , 7(. 8 3323I

GEWALT HAMILTON ASSOCIATES, INC.
LSlo6LeUbkmGey nMHnR 6Nds F 44dc6nte4 vsc8
I 2D5dSe4t EU) e v Sne, VeSs ds H6NM vP, I 00I 1, i a

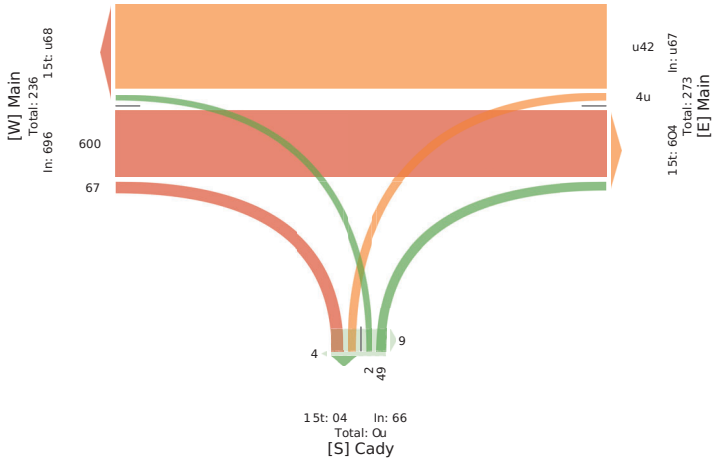
Pe) v 6ect6ls	l n6s En4bdus U					l n6s p e4bdus U					- nUk WelSUbdus U					
T6Re	T	B	i	**FNN**	LeU*	P	T	i	**FNN**	LeU*	P	B	i	**FNN**	LeU*	**wt**
2021710719 (m00F1	D	2	0	**DI**	0	1	31	0	**32**	0	0	.	0	**.**	0	**1. 1**
(nlDF1	I 1	(	0	**19**	0	2	I (	0	**30**	0	0	.	0	**.**	:	**1: 2**
(m0F1	I 3	(	0	**3D**	0	:	3D	0	**39**	0	.	(	0	**11**	2	**1I D**
(mDF1	I 2	10	0	**32**	0	I	101	0	**103**	0	2	.	0	**D**	2	**1(:**
TdmM	2: :	2(	0	**232**	0	1.	. 1D	0	**. 2(**	0	D	13	0	**22**	(	**I 22**
% F NNsincC	(98%	108 %	0%	**7**	7	: 8%	9I 8%	0%	**7**	7	228%	338 %	0%	**7**	7	7
% TdmM	. 98%	: 8%	0%	**:. 8%**	7	28%	D8I %	0%	**D28%**	7	08 %	28%	0%	**. 8%**	7	7
LH5	0810	0800	7	**0803**	7	08D 2	08(0	7	**08II**	7	08 13	08D 1	7	**08D0**	7	08(: D
P Q C14	2. .	2(	0	**2I 1**	7	1.	. 00	0	**. 1.**	7	D	13	0	**22**	7	D9I
% P Q C14	9DI 3%	100%	0%	**9I 8%**	7	100%	9D2 %	0%	**9D8 %**	7	100%	100%	0%	**100%**	7	9D(%)
a 6) M7 s 6 TSucg4	.	0	0	**.**	7	0	3	0	**3**	7	0	0	0	**0**	7	10
% a 6) M7 s 6 TSucg4	18%	0%	0%	**18%**	7	0%	28%	0%	**28%**	7	0%	0%	0%	**0%**	7	18 %
F St6cuMteUTSucg4	2	0	0	**2**	7	0	.	0	**.**	7	0	0	0	**0**	7	D
% F St6cuMteUTSucg4	08 %	0%	0%	**08%**	7	0%	18 0%	0%	**08 0%**	7	0%	0%	0%	**0%**	7	08 %
r u4e4	I	0	0	**I**	7	0	D	0	**D**	7	0	0	0	**0**	7	11
% r u4e4	28 3%	0%	0%	**28 2%**	7	0%	18 %	0%	**18 3%**	7	0%	0%	0%	**0%**	7	18 %
r 6ckcM4 ds BdnU	0	0	0	**0**	7	0	0	0	**0**	7	0	0	0	**0**	7	0
% r 6ckcM4 ds BdnU	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%
LeUs 4t5ns 4	7	7	7	7	0	7	7	7	7	0	7	7	7	7	(	
% LeUs 4t5ns 4	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%	7
r 6ckcM4 ds - Sl44y nMg	7	7	7	7	0	7	7	7	7	0	7	7	7	7	0	
% r 6ckcM4 ds - Sl44y nMg	7	7	7	7	7	7	7	7	7	7	7	7	7	7	0%	7

*LeUs 4t5ns 4 ns Ur 6ckcM4 ds - Sl44y nMg8PmPeft, BmB6) Cl, TmlTCSu, i mi 7TuSs

Cady & Main - TMC

Tue Oct 19, 2021
F1 Leng h(F1 79 F1 A
F Nt M 44e4 hP Q C14, a 6) M7 s 6 TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUs 4t5ns 4, r 6ckcM4 ds BdnU, r 6ckcM4 ds - Sl44y nMA
F Nt doeRest4
w m((19D0, Pdcnt6lsm 28 . 1. 9I , 7(. 8 3323I

GEWALT HAMILTON ASSOCIATES, INC.
LSlo6LeUbkmGey nMHnR 6Nds F 44dc6nte4 vsc8
I 2D5dSe4t EU) e v Sne, VeSs ds H6NM vP, I 00I 1, i a



Cady & Main - TMC

Tue Oct 19, 2021
Fl FeLn gh(70 Fl AM(70 Fl - AO4ePL6FeLn) CuP
a 66s 6Liiei gSUkti, dUBr6eAy BUTPucni, a PUcu6Lteo TPucni, Ruiei,
FeoeitPULBi, RUcwc6ei CB v CLo, RUcwc6ei CB s PCiimL6n-
a 66l C4eI eBti
D (88. 9M0, SCcLtUCB(h23h7179. , A873hbb2b.

FPC4Udeo Gw(HemL6t) LI U6tCB a iiCcUtei DBc3
. 2M5CPeit Eore : Pu4e, VePBCB) U6i, DS, . 00. 1, y d

Ser	1 LUB					1 LUB					s Low					
: UectUCB	ELitGCuBo					p eitGCuBo					WCPtkGCuBo					
TUe	T	v	y	a NN	Feo*	S	T	y	a NN	Feo*	S	v	y	a NN	Feo*	DBt
2021A10A19 h(70Fl	107	.	0	**109**	0	.	17h	0	**1h0**	0	M	10	0	**1M**	7	**2. h**
h(hMFl	98	b	0	**10M**	0	M	12h	0	**129**	0	2	9	0	**11**	0	**2hM**
M(00Fl	91	17	0	**10h**	0	.	12h	0	**170**	0	M	M	0	**10**	1	**2hh**
M(1MFl	107	1.	0	**119**	0	h	129	0	**177**	0	2	10	0	**12**	.	**2. h**
TGL6	79M	h2	0	**h7b**	0	21	M1	0	**M72**	0	1h	7h	0	**h8**	10	**101b**
% a NNPCLck	903h%	93 %	0%	**A**	A	739%	9. 31%	0%	**A**	A	2932%	b038%	0%	**A**	A	A
% TGL6	7838%	h31%	0%	**h730%**	A	231%	M032%	0%	**M237%**	A	13h%	737%	0%	**h3b%**	A	A
F) 5	039M	03 M	A	**0391.**	A	038bM	039M0	A	**039h.**	A	03b00	038M0	A	**03800**	A	039. h
SUkti	789	h2	0	**h71**	A	21	M0b	0	**M28**	A	1h	7h	0	**h8**	A	100b
% SUkti	983M%	100%	0%	**983 %**	A	100%	9932%	0%	**9932%**	A	100%	100%	0%	**100%**	A	9930%
dUBr6eAy BUTPucni	2	0	0	**2**	A	0	1	0	**1**	A	0	0	0	**0**	A	7
% dUBr6eAy BUTPucni	03M%	0%	0%	**03M%**	A	0%	032%	0%	**032%**	A	0%	0%	0%	**0%**	A	037%
a PUcu6Lteo TPucni	7	0	0	**7**	A	0	1	0	**1**	A	0	0	0	**0**	A	h
% a PUcu6Lteo TPucni	038%	0%	0%	**03b%**	A	0%	032%	0%	**032%**	A	0%	0%	0%	**0%**	A	03h%
Ruiei	0	0	0	**0**	A	0	0	0	**0**	A	0	0	0	**0**	A	0
% Ruiei	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%
RUcwc6ei CB v CLo	1	0	0	**1**	A	0	2	0	**2**	A	0	0	0	**0**	A	7
% RUcwc6ei CB v CLo	037%	0%	0%	**032%**	A	0%	03h%	0%	**03h%**	A	0%	0%	0%	**0%**	A	037%
FeoeitPULBi	A	A	A	A	0	A	A	A	A	0	A	A	A	A	8	
% FeoeitPULBi	A	A	A	A	A	A	A	A	A	A	A	A	A	A	8030%	A
RUcwc6ei CBs PCiimL6n	A	A	A	A	0	A	A	A	A	0	A	A	A	A	2	
% RUcwc6ei CBs PCiimL6n	A	A	A	A	A	A	A	A	A	A	A	A	A	A	2030%	A

*FeoeitPULBi LBo RUcwc6ei CBs PCiimL6n3S(Seft, v (v Ukt, T(TkPu, y (y ATuPB

Cady & Main - TMC

Tue Oct 19, 2021
Fl FeLn gh(70 Fl AM(70 Fl - AO4ePL6FeLn) CuP
a 66s 6Liiei gSUkti, dUBr6eAy BUTPucni, a PUcu6Lteo TPucni, Ruiei,
FeoeitPULBi, RUcwc6ei CB v CLo, RUcwc6ei CB s PCiimL6n-
a 66l C4eI eBti
D (88. 9M0, SCcLtUCB(h23h7179. , A873hbb2b.

FPC4Udeo Gw(HemL6t) LI U6tCB a iiCcUtei DBc3
. 2M5CPeit Eore : Pu4e, VePBCB) U6i, DS, . 00. 1, y d

Cady & Wing - 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. 9, Location: 423429981, -8. 3484b8.

Provided Gy: Hewalt 5 amilton Associates Inc3
62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US

Leg	Cady						Cady						p ing						p ing						
Direction	EastGound						p estGound						WorthGound						SouthGound						
Time	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	Int
2021-10-19 7:00AM	0	2	0	0	**2**	0	1	.	11	0	**1b**	0	2	14	1	0	**17**	1	1.	24	0	0	**.7**	1	**71**
7:1bAM	0	7	0	0	**7**	0	1	1	14	0	**16**	0	0	2b	0	0	**2b**	0	11	22	4	0	**.7**	1	**8b**
7:. 0AM	2	b	1	0	**8**	0	1	b	9	0	**1b**	0	.	2b	2	0	**.0**	2	14	28	2	0	**44**	1	**97**
7:4bAM	1	4	0	0	**b**	0	1	7	14	0	**22**	0	.	29	2	0	**.4**	1	.4	4.	1	0	**78**	0	**1. 9**
5 ourly Total	.	18	1	0	**22**	0	4	16	48	0	**68**	0	8	9.	b	0	**106**	4	72	117	7	0	**196**	.	**.92**
8:00AM	b	24	1	0	**.0**	0	2	11	9	0	**22**	0	4	20	1	0	**2b**	0	19	62	b	0	**86**	0	**16.**
8:1bAM	4	12	.	0	**19**	0	1	17	1.	0	**.1**	0	7	24	2	0	**..**	0	20	.7	2	0	**b9**	0	**142**
8:. 0AM	b	1b	2	0	**22**	4	0	16	17	0	**..**	2	b	24	2	0	**.1**	0	14	.9	.	0	**b6**	4	**142**
8:4bAM	.	10	2	0	**1b**	1	0	b	14	0	**19**	1	4	22	1	0	**27**	1	17	..	6	0	**b6**	.	**117**
5 ourly Total	17	61	8	0	**86**	b	.	49	b.	0	**10b**	.	20	90	6	0	**116**	1	70	171	16	0	**2b7**	7	**b64**
4:00PM	6	19	4	0	**29**	2	.	12	18	0	**..**	0	4	41	7	0	**b2**	2	22	44	8	0	**74**	0	**188**
4:1bPM	8	9	2	0	**19**	6	2	18	1b	0	**.b**	1	.	.2	b	0	**40**	.	17	44	7	0	**68**	0	**162**
4:. 0PM	9	11	.	0	**2.**	4	7	10	2b	0	**42**	1	2	b8	0	0	**60**	2	11	44	4	0	**b9**	.	**184**
4:4bPM	6	10	b	0	**21**	1	2	8	2.	0	**..**	2	2	bb	.	0	**60**	4	17	64	4	0	**8b**	4	**199**
5 ourly Total	29	49	14	0	**92**	1.	14	48	81	0	**14.**	4	11	186	1b	0	**212**	11	67	196	2.	0	**286**	7	**7. .**
b:00PM	4	10	.	0	**17**	2	4	12	2b	0	**41**	4	.	4.	8	0	**b4**	2	12	62	2	0	**76**	b	**188**
b:1bPM	b	11	1	0	**17**	2	1	12	22	0	**.b**	.	.	b9	6	0	**68**	4	24	b8	b	0	**87**	4	**207**
b:. 0PM	7	9	1	0	**17**	b	2	12	18	0	**.2**	7	b	40	.	0	**48**	8	17	46	2	0	**6b**	6	**162**
b:4bPM	2	7	2	0	**11**	0	4	12	1b	0	**.1**	4	1	b2	.	0	**b6**	.	24	bb	2	0	**81**	7	**179**
5 ourly Total	18	.7	7	0	**62**	9	11	48	80	0	**1. 9**	18	12	194	20	0	**226**	17	77	221	11	0	**.09**	22	**7. 6**
Total	67	16b	.0	0	**262**	27	.2	161	262	0	**4bb**	2b	b1	b6.	46	0	**660**	..	286	70b	b7	0	**1048**	.9	**242b**
% ANNroach	2b36%	6. 30%	113b%	0%	**-**	-	730%	. b34%	b736%	0%	**-**	-	737%	8b3 %	730%	0%	**-**	-	273 %	673 %	b34%	0%	**-**	-	-
% Total	238%	638%	132%	0%	**1038%**	-	13 %	636%	1038%	0%	**1838%**	-	231%	2. 32%	139%	0%	**2732%**	-	1138%	2931%	234%	0%	**4. 32%**	-	-
Lights	67	1b9	.0	0	**2b6**	-	.1	1b9	2b9	0	**449**	-	b1	b4b	4.	0	**6. 9**	-	28b	689	b6	0	**10. 0**	-	2. 74
% Lights	100%	9634%	100%	0%	**9737%**	-	9639%	9838%	9839%	0%	**9837%**	-	100%	9638%	9. 3b%	0%	**9638%**	-	9937%	9737%	9832%	0%	**983 %**	-	9739%
Single-Unit Trucks	0	.	0	0	**.**	-	0	1	1	0	**2**	-	0	6	2	0	**8**	-	0	2	0	0	**2**	-	1b
% Single-Unit Trucks	0%	138%	0%	0%	**131%**	-	0%	036%	034%	0%	**034%**	-	0%	131%	43 %	0%	**132%**	-	0%	03 %	0%	0%	**032%**	-	036%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Buses	0	1	0	0	**1**	-	1	0	1	0	**2**	-	0	7	0	0	**7**	-	0	6	0	0	**6**	-	16
% Buses	0%	036%	0%	0%	**034%**	-	. 31%	0%	034%	0%	**034%**	-	0%	132%	0%	0%	**131%**	-	0%	039%	0%	0%	**036%**	-	037%
Bicycles on Road	0	2	0	0	**2**	-	0	1	1	0	**2**	-	0	b	1	0	**6**	-	1	8	1	0	**10**	-	20
% Bicycles on Road	0%	132%	0%	0%	**038%**	-	0%	036%	034%	0%	**034%**	-	0%	039%	232%	0%	**039%**	-	03 %	131%	138%	0%	**130%**	-	038%
Pedestrians	-	-	-	-	-	26	-	-	-	-	-	2.	-	-	-	-	-	. 2	-	-	-	-	-	. 7	
% Pedestrians	-	-	-	-	-	963 %	-	-	-	-	-	9230%	-	-	-	-	-	9730%	-	-	-	-	-	9439%	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	2	
% Bicycles on Crosswalk	-	-	-	-	-	. 37%	-	-	-	-	-	830%	-	-	-	-	-	. 30%	-	-	-	-	-	b31%	-

*Pedestrians and Bicycles on Crosswalk3L: Left, R: Right, T: Thru, U: U-Turn

Cady & Wing - 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. 9, Location: 423429981, -8. 3484b8.

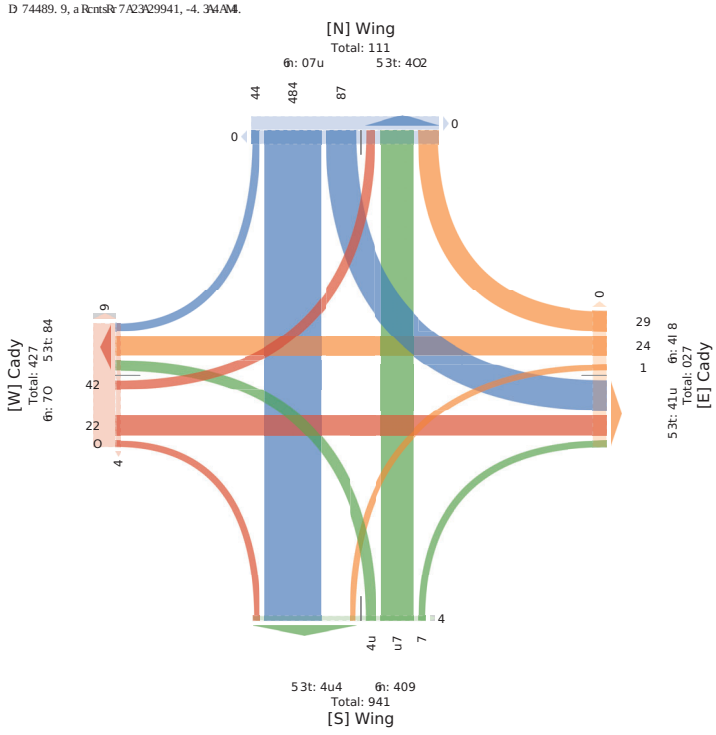
Provided Gy: Hewalt 5 amilton Associates Inc3
62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US

GEWALT HAMILTON ASSOCIATES, INC.

a ei : sdectsRr	) nBo EvtDbRurB						) nBo p eDbRurB						p sr i VRdtSbRurB						p sr i URutSbRurB						
Tsl e	a	T	w	k	F NN	LeB*	a	T	w	k	F NN	LeB*	a	T	w	k	F NN	LeB*	a	T	w	k	F NN	LeB*	D t
2021-10-19 (7AMF1	1	A	0	0	M	0	1	(	1A	0	22	0	.	29	2	0	. A	1	. A	A	1	0	(4	0	1. 9
4700F1	M	2A	1	0	. 0	0	2	11	9	0	22	0	A	20	1	0	2M	0	19	82	M	0	48	0	18.
47 1MF1	A	12	.	0	19	0	1	1(	1.	0	. 1	0	(	2A	2	0	..	0	20	. (	2	0	M	0	1A2
47 0F1	M	1M	2	0	22	A	0	18	1(	0	..	2	M	2A	2	0	. 1	0	1A	. 9	.	0	M	A	1A2
TRm6	1M	MM	8	0	(8	A	A	M	M	0	104	2	19	9(	(	0	12.	1	4(	141	11	0	2(9	A	M48
% F NNRmS	.19 1 %	(23 8%	(9%	0%	-	-	. 1 %	A(32%	A 03 %	0%	-	-	1M 8%	(4 9%	M(%	0%	-	-	. 12%	8.0 9%	. 9%	0%	-	-	-
% TRm6	23 8%	93 8%	13 0%	0%	1. 3 %	-	01 %	4 1 %	90 %	0%	14 9 %	-	. 32%	18 3 8%	12%	0%	21 3 %	-	1A 8 %	. 0 5%	13 9%	0%	A(3 8%	-	-
LH5	01(M0	0 3M.	0 3M0	-	0 3 I. .	-	0 3M0	0 1(M0	0 1(9	-	0 3 I 14	-	0 3 I(9	0 3 I. 8	0 3 I(M	-	0 3 0 A	-	0 3 I A0	0 1(. 0	0 3M0	-	0 3 I 11	-	0 3 I 99
a si StC	1M	MA	8	0	(M	-	.	M0	M2	0	10M	-	19	91	(	0	11(	-	4(	1(M	11	0	2(.	-	M(0
% a si StC	100% 94	32%	100%	0%	94	(%	(M0%	94	0%	94	3 %	0%	9(32%	-	100%	9. 3	4%	100%	0%	9M	1 %	-	100%	98	1%
Uri 6k r st TducgC	0	0	0	0	0	-	0	1	0	0	1	-	0	A	0	0	A	-	0	0	0	0	0	-	M
% Uri 6k r st TducgC	0%	0%	0%	0%	0%	-	0%	2	0%	0%	0%	0	3 %	-	0%	A	1 %	0%	0%	0%	0%	0%	0%	-	0	3%
F dscu6iteB TducgC	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% F dscu6iteB TducgC	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
y uGeC	0	1	0	0	1	-	1	0	1	0	2	-	0	2	0	0	2	-	0	8	0	0	8	-	11
% y uGeC	0%	13 8%	0%	0%	13 %	-	2M 0%	0%	13 9%	0%	13 9%	-	0%	23 1%	0%	0%	13 8%	-	0%	. 3 %	0%	0%	23 2%	-	13 9%
y scoc6eCRr wRnB	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0
% y scoc6eCRr wRnB	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%	0%	0%	0%	0%	-	0%
LeBeCdsnr C	-	-	-	-	-	A	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	A	
% LeBeCdsnr C	-	-	-	-	- 100%		-	-	-	-	- 100%		-	-	-	-	- 100%		-	-	-	-	- 100%		-
y scoc6eCRr) dRCCv nfgP	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% y scoc6eCRr) dRCCv nfgP	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*LeBeCdsnr C nr B y scoc6eCRr) dRCCv nfg 3a 7a eft, w7wsi St, T7TSdu, k 7k -Tudr

GEWALT HAMILTON ASSOCIATES, INC.



GEWALT HAMILTON ASSOCIATES, INC.

Ser : UbectdB	s Low 5 LitbCuBo						s Low V eitbCuBo						V Ubr pCMkbCuBo						V Ubr dCutkbCuBo						
TUe	S	T	v	y	a V W	FeoN	S	T	v	y	a V W	FeoN	S	T	v	y	a V W	FeoN	S	T	v	y	a V W	FeoN	Db
2021A0A9 b7 0F1	9	11	7	0	27	h	*	10	2M	0	h2	1	2	M	0	0	. 0	2	11	hh	h	0	M	7	18h
b0bMF1	.	10	M	0	21	1	2	8	27	0	77	2	2	MM	7	0	. 0	h	1*	. h	h	0	8M	h	199
M00F1	h	10	7	0	1*	2	h	12	2M	0	h1	h	7	h7	8	0	Mh	2	12	.2	2	0	*.	M	188
M0MF1	M	11	1	0	1*	2	1	12	22	0	7M	7	7	M9	.	0	. 8	h	2h	M	M	0	8*	h	20*
TCUL6	2h	h2	12	0	*8	9	1h	h2	9M	0	1M	10	10	21M	1*	0	2h2	12	. h	228	1M	0	70*	1.	**8
% a V W RCLck	70.8%	M 8%	1M 8%	0%	A	A	9 3%	2* 8%	. 2 9%	0%	A	A	h 3%	88.8%	*. 8%	0%	A	A	20.8%	*h 3%	h 9%	0%	A	A	A
% TCUL6	7 3%	M 8%	13 M%	0%	103%	A	1 8%	M 8%	12 3%	0%	193%	A	1 3%	2* 3 %	2 3%	0%	71 3 %	A	8 3%	29 3%	13 9%	0%	793 M%	A	A
F) H	8 03 . *	0 3 09	03 00	A	0 3 I 2.	A	A 0 3 M0	0 3 I* M 0	3 M0	A	0 3 I 99	A	0 3 I 77	0 3 I 9	18 0	3 M F1	A	0 3 I 9.	A	0 3 I 8M	0 3 I* M 0	3* M0	A	0 3 I 88	A	0 3 N2
S Wkti	2h	h0	12	0	*.	A	1h	h2	9M	0	1M	A	10	211	1.	0	27*	A	. 7	227	1M	0	701	A	*. M
% S Wkti	100% 9M	2%	100%	0%	9* 3%	A	100%	100%	100%	0%	100%	A	100%	98 3 %	9h 3 %	0%	9* 3 9%	A	98 3%	9* 3%	100%	0%	98 3 0%	A	98 3%
d Ubr 6e Ay Ebl T Rncni	0	0	0	0	0	A	0	0	0	0	0	A	0	0	1	0	1	A	0	1	0	0	1	A	2
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a R Wud 0 ieo T Rncni	0	0	0	0	0	A	0	0	0	0	0	A	0	0	0	0	0	A	0	0	0	0	0	A	0
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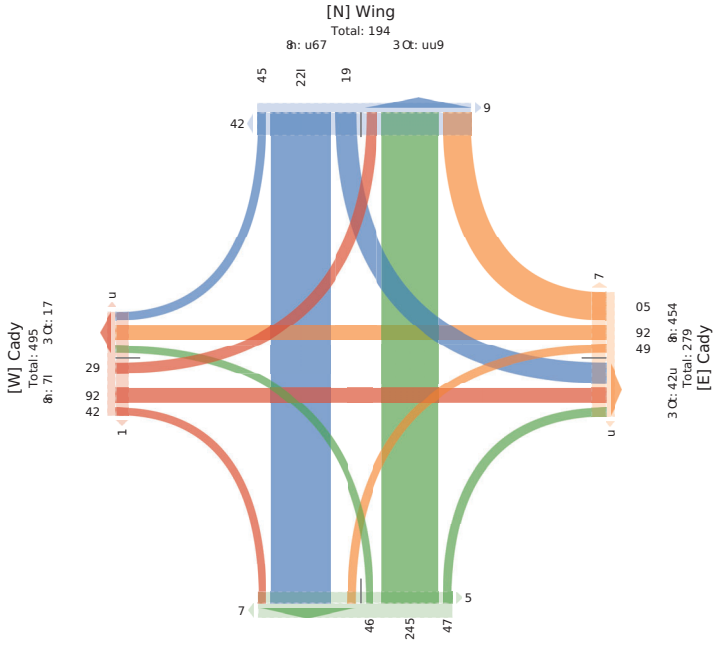
Ruiei	0	0	0	0	0	A	0	0	0	0	0	A	0	2	0	0	2	A	0	0	0	0	0	A	2
% Ruiei	0%	0%	0%	0%	0%	A	0%	0%	0%	0%	0%	A	0	2	0	0	2	A	1	h	0	0	M	A	9
R Wwc6ei CBv CLo	0	2	0	9	2	A	0	0	0	0	0	A	0%	0 3 h%	0%	0%	0 3 h%	A	1	h	0	0	M	A	9
% R Wwc6ei CBv CLo	0%	h 8%	0%	0%	2 3 %	A	0%	0%	0%	0%	0%	A	0%	0 3 h%	0%	0%	0 3 h%	A	13 %	1 3 8%	0%	0%	13 %	A	1 32%
FeoeitRUEBi	A	A	A	A	A	9	A	A	A	A	A	9	A	A	A	A	A	12	A	A	A	A	A	1	
% FeoeitRUEBi	A	A	A	A	A	A 100%	A	A	A	A	A	A 90 0%	A	A	A	A	A	A 100%	A	A	A	A	A	A 100%	A
R Wwc6ei CBs RCi mLfn	A	A	A	A	A	0	A	A	A	A	A	1	A	A	A	A	A	0	A	A	A	A	A	0	
% R Wwc6ei CBs RCi mLfn	A	A	A	A	A	0%	A	A	A	A	A	A 10 0%	A	A	A	A	A	0%	A	A	A	A	A	0%	A

NFeoeitRUEBi LBo R Wwc6ei CBs RCi mLfn 3S(S eft, v (v ldkt, T(TkRi, y (y ATuHB

GEWALT HAMILTON ASSOCIATES, INC.



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: 886927, Location: 42.430109, -83.483128

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

Leg	Cady						Cady						Center						Center						
Direction	Eastbound						p estbound						Worthbound						Southbound						
Time	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	Int
2021-10-19 7:00AM	0	6	12	0	**18**	0	22	3	0	0	**25**	0	8	11	31	0	**50**	0	4	15	1	0	**20**	1	**113**
7:15AM	0	5	10	0	**15**	1	32	4	0	0	**36**	0	13	15	39	0	**67**	0	2	6	0	0	**8**	0	**126**
7:30AM	0	5	12	0	**17**	1	32	7	1	0	**40**	0	9	20	47	0	**76**	0	0	8	0	0	**8**	0	**141**
7:45AM	0	9	32	0	**41**	0	28	8	5	0	**41**	0	13	30	61	0	**104**	0	1	18	4	0	**23**	0	**209**
Hourly Total	0	25	66	0	**91**	2	114	22	6	0	**142**	0	43	76	178	0	**297**	0	7	47	5	0	**59**	1	**589**
8:00AM	0	23	18	0	**41**	0	45	16	2	0	**63**	0	6	26	57	0	**89**	0	5	32	1	0	**38**	0	**231**
8:15AM	0	16	16	0	**32**	3	31	17	2	0	**50**	2	11	28	69	0	**108**	0	8	23	2	0	**33**	0	**223**
8:30AM	1	16	14	0	**31**	0	23	17	1	0	**41**	0	20	15	74	0	**109**	0	8	12	1	0	**21**	2	**202**
8:45AM	0	10	8	0	**18**	1	38	20	5	0	**63**	2	12	22	63	0	**97**	0	6	15	1	0	**22**	1	**200**
Hourly Total	1	65	56	0	**122**	4	137	70	10	0	**217**	4	49	91	263	0	**403**	0	27	82	5	0	**114**	3	**856**
4:00PM	0	27	22	0	**49**	2	52	16	0	0	**68**	3	13	28	60	0	**101**	2	11	17	3	0	**31**	3	**249**
4:15PM	0	18	15	0	**33**	2	44	16	1	0	**61**	2	14	37	77	0	**128**	0	8	18	4	0	**30**	8	**252**
4:30PM	0	8	16	0	**24**	1	47	20	2	0	**69**	1	18	32	62	0	**112**	2	4	17	2	0	**23**	2	**228**
4:45PM	2	10	13	0	**25**	0	56	15	3	0	**74**	2	14	35	84	0	**133**	1	10	12	2	0	**24**	6	**256**
Hourly Total	2	63	66	0	**131**	5	199	67	6	0	**272**	8	59	132	283	0	**474**	5	33	64	11	0	**108**	19	**985**
5:00PM	1	23	14	0	**38**	5	62	19	2	0	**83**	0	15	25	59	0	**99**	0	11	28	1	0	**40**	6	**260**
5:15PM	2	21	24	0	**47**	4	48	11	1	0	**60**	2	20	44	69	0	**133**	0	6	22	6	0	**34**	7	**274**
5:30PM	2	15	16	0	**33**	6	64	17	1	0	**82**	0	13	29	79	0	**121**	2	12	22	4	0	**38**	7	**274**
5:45PM	0	11	17	0	**28**	6	51	11	1	0	**63**	1	10	33	85	0	**128**	2	16	29	5	0	**50**	5	**269**
Hourly Total	5	70	71	0	**146**	21	225	58	5	0	**288**	3	58	131	292	0	**481**	4	45	101	16	0	**162**	25	**1077**
Total	8	223	259	0	**490**	32	675	217	27	0	**919**	15	209	430	1016	0	**1655**	9	112	294	37	0	**443**	48	**3507**
% ANNroach	1.6%	45.5%	52.9%	0%	-	-	73.4%	23.6%	2.9%	0%	-	-	12.6%	26.0%	61.4%	0%	-	-	25.3%	66.4%	8.4%	0%	-	-	-
% Total	0.2%	6.4%	7.4%	0%	**14.0%**	-	19.2%	6.2%	0.8%	0%	**26.2%**	-	6.0%	12.3%	29.0%	0%	**47.2%**	-	3.2%	8.4%	1.1%	0%	**12.6%**	-	-
Lights	8	218	255	0	**481**	-	665	215	27	0	**907**	-	207	422	1011	0	**1640**	-	111	281	37	0	**429**	-	3457
% Lights	100%	97.8%	98.5%	0%	**98.2%**	-	98.5%	99.1%	100%	0%	**98.7%**	-	99.0%	98.1%	99.5%	0%	**99.1%**	-	99.1%	95.6%	100%	0%	**96.8%**	-	98.6%
Single-Unit Trucks	0	3	2	0	**5**	-	7	2	0	0	**9**	-	0	2	2	0	**4**	-	1	3	0	0	**4**	-	22
% Single-Unit Trucks	0%	1.3%	0.8%	0%	**1.0%**	-	1.0%	0.9%	0%	0%	**1.0%**	-	0%	0.5%	0.2%	0%	**0.2%**	-	0.9%	1.0%	0%	0%	**0.9%**	-	0.6%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	1	0	**1**	-	0	1	0	0	**1**	-	2
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0.1%	0%	**0.1%**	-	0%	0.3%	0%	0%	**0.2%**	-	0.1%
Buses	0	0	0	0	**0**	-	1	0	0	0	**1**	-	2	3	0	0	**5**	-	0	4	0	0	**4**	-	10
% Buses	0%	0%	0%	0%	**0%**	-	0.1%	0%	0%	0%	**0.1%**	-	1.0%	0.7%	0%	0%	**0.3%**	-	0%	1.4%	0%	0%	**0.9%**	-	0.3%
Bicycles on Road	0	2	2	0	**4**	-	2	0	0	0	**2**	-	0	3	2	0	**5**	-	0	5	0	0	**5**	-	16
% Bicycles on Road	0%	0.9%	0.8%	0%	**0.8%**	-	0.3%	0%	0%	0%	**0.2%**	-	0%	0.7%	0.2%	0%	**0.3%**	-	0%	1.7%	0%	0%	**1.1%**	-	0.5%
Pedestrians	-	-	-	-	-	30	-	-	-	-	-	13	-	-	-	-	-	8	-	-	-	-	-	48	
% Pedestrians	-	-	-	-	-	93.8%	-	-	-	-	-	86.7%	-	-	-	-	-	88.9%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	2	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	6.3%	-	-	-	-	-	13.3%	-	-	-	-	-	11.1%	-	-	-	-	-	0%	-

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

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: 886927, Location: 42.430109, -83.483128

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

Cady Street & Center Street - TMC
Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 66) 6nCGeCh a si StC, Usr i 6e-k r st TducgC, F dscu6nteB TducgC, y uCeC, LeBeGdsnr C,
y scoc6eCRr wRnB, y scoc6eCRr) dRCGv n6g P
F 66l RmeI er tC
D 744892(, a RcntsRr 7 A2.A30109, -43.A43124

LdRmsBeB bo7 Gev n6 HnI s6Rr F CCRcsnteCD c.
82M5 RdeG EBi e : dsme, Vedr Rr Hs66C, Da , 80081, k U

a ei	) nBo						) nBo						) er ted						) er ted						
: sdectsRr	EnGbRur B						p eGbRur B						WRdSbRur B						URutSbRur B						
TsI e	a	T	w	k	FNN	LeB*	a	T	w	k	FNN	LeB*	a	T	w	k	FNN	LeB*	a	T	w	k	FNN	LeB*	Dt
2021-10-19 (7AMF l	0	9	32	0	**A1**	0	24	4	M	0	**A1**	0	13	30	81	0	**10A**	0	1	14	A	0	**23**	0	**209**
4700F l	0	23	14	0	**A1**	0	AM	18	2	0	**83**	0	8	28	M(	0	**49**	0	M	32	1	0	**34**	0	**231**
471MF l	0	18	18	0	**32**	3	31	1(	2	0	**M0**	2	11	24	89	0	**104**	0	4	23	2	0	**33**	0	**223**
4730F l	1	18	1A	0	**31**	0	23	1(	1	0	**A1**	0	20	1M	(A	0	**109**	0	4	12	1	0	**21**	2	**202**
TRm6	1	8A	40	0	**1AM**	3	12(	M4	10	0	**19M**	2	M0	99	281	0	**A10**	0	22	4M	4	0	**11M**	2	**48M**
% F NNdRncS	0.(%	AA1%	MM2%	0%	-	-	8M1%	29.(%	M1%	0%	-	-	12.2%	2A1%	83.(%	0%	-	-	19.1%	(3.9%	(.0%	0%	-	-	-
% TRm6	0.1%	(.A%	9.2%	0%	**18.4%**	-	1A(%	8.(%	1.2%	0%	**22.M%**	-	M4%	11.A%	30.2%	0%	**A(.A%**	-	2.M%	9.4%	0.9%	0%	**13.3%**	-	-
LH5	0.2M0	0.898	0.82M	-	**0.44A**	-	0.(08	0.4M3	0.M00	-	**0.((A**	-	0.82M	0.42M	0.442	-	**0.9A0**	-	0.844	0.8M8	0.M00	-	**0.(M0**	-	0.93M
a si StC	1	8A	40	0	**1AM**	-	123	M(	10	0	**190**	-	A4	9(	280	0	**A0M**	-	22	41	4	0	**111**	-	4M
% a si StC	100%	100%	100%	0%	**100%**	-	98.9%	94.3%	100%	0%	**9(.A%**	-	98.0%	94.0%	99.8%	0%	**94.4%**	-	100%	9M3%	100%	0%	**98.M%**	-	94.A%
Usr i 6e-k r st TducgC	0	0	0	0	**0**	-	3	1	0	0	**A**	-	0	0	1	0	**1**	-	0	1	0	0	**1**	-	8
% Usr i 6e-k r st TducgC	0%	0%	0%	0%	**0%**	-	2.A%	1.(%	0%	0%	**2.1%**	-	0%	0%	0.A%	0%	**0.2%**	-	0%	1.2%	0%	0%	**0.9%**	-	0.(%
F dscu6nteB TducgC	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% F dscu6nteB TducgC	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
y uGeC	0	0	0	0	**0**	-	1	0	0	0	**1**	-	2	2	0	0	**A**	-	0	2	0	0	**2**	-	(
% y uGeC	0%	0%	0%	0%	**0%**	-	0.4%	0%	0%	0%	**0.M%**	-	A0%	2.0%	0%	0%	**1.0%**	-	0%	2.A%	0%	0%	**1.(%**	-	0.4%
y scoc6eCRr wRnB	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	1
% y scoc6eCRr wRnB	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	1.2%	0%	0%	**0.9%**	-	0.1%
LeBeGdsnr C	-	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	2	
% LeBeGdsnr C	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-
y scoc6eCRr) dRCGv n6g	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% y scoc6eCRr) dRCGv n6g	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-

*LeBeGdsnr Cnr B y scoc6eCRr) dRCGv n6g. a 7 a eft, w7 wsi St, T7 TSdu, k 7k -Tudr

Cady Street & Center Street - TMC
Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 66) 6nCGeCh a si StC, Usr i 6e-k r st TducgC, F dscu6nteB TducgC, y uCeC,
LeBeGdsnr C, y scoc6eCRr wRnB, y scoc6eCRr) dRCGv n6g P
F 66l RmeI er tC
D 744892(, a RcntsRr 7 A2.A30109, -43.A43124

LdRmsBeB bo7 Gev n6 HnI s6Rr F CCRcsnteCD c.
82M5 RdeG EBi e : dsme, Vedr Rr Hs66C, Da , 80081, k U

Cady Street & Center Street - TMC

Tue Oct 19, 2021
Fl FeLn gh Fl (7 Fl A(OM4-L4lFeLn P 6u-
) 4lC4Laaea gs iSUta, r ikS4e(d kit T-ucna,) -ticu4LteBT-ucna, y uaea, FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4hA
) 4ll 6Mev ekta
nh D : 7928, s 6cLti6kD 23 b0109, (: b3 : b12:

GEWALT HAMILTON ASSOCIATES, INC.
F-6MBeBGoDHewL4 P Lv i46k) aa6ciLIea nkc3
72h 56-eat EBSe I -iMt, Ve-k6k P i4h, ns , 70071, d r

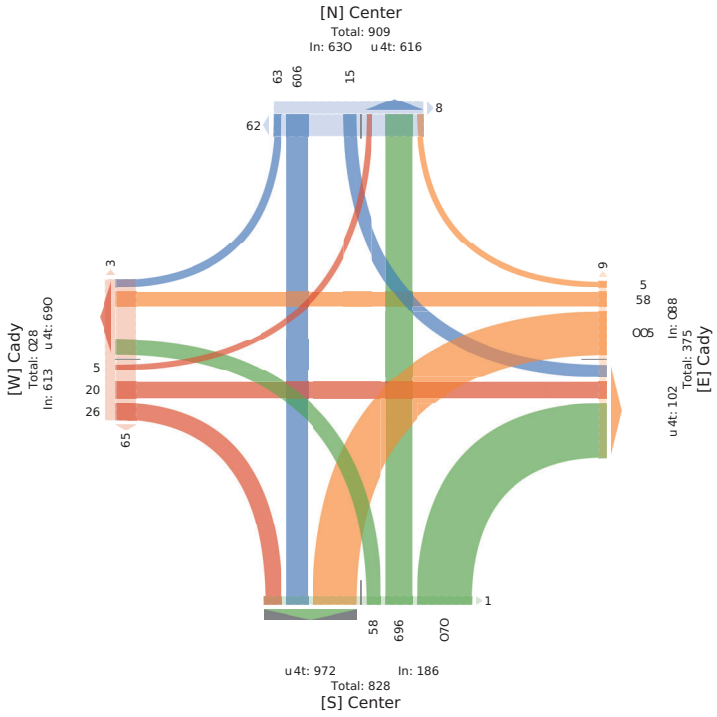
s eS t i-ecti6k	CLBo ELatG6ukB					CLBo p eatG6ukB					Cekte- W6-tUG6ukB					Cekte- r 6utUG6ukB					
Tiv e	s	T	R	d	) NN FeIP	s	T	R	d	) NN FeIP	s	T	R	d	) NN FeIP	s	T	R	d	) NN FeIP	nkt
2021(10(19 h00Fl	1	2b	1.	0	b:	h	72	19	2	0	: b	0	1h	2h	h9	0	99	0	11	2:	1	0	. 0	7	270
h0hFl	2	21	2.	0	. 8		. :	11	1	0	70	2	20	. .	79	0	1bb	0	7	22	7	0	b.	8	28.
hl0Fl	2	1h	17	0	bb	7	7.	18	1	0	: 2	0	1b	29	89	0	121	2	12	22	.	0	b:	8	28.
hDhFl	0	11	18	0	2:	7	h1	11	1	0	7b	1	10	bb	: h	0	12:	2	17	29	h	0	h0	h	279
T6tL4	h	80	81	0	**1. 7**	21	22h	h:	h	0	**2: :**	b	h:	1b1	292	0	**. : 1**		. h	101	17	0	**172**	2h	**1088**
%) NN6LtU	b3 %	. 83%	. : 3%	0%	**(**	(	8: 3%	20.3%	1%	1.8%	0%	**(**	(	123%	28.2%	70.8%	0%	**(**	(	283 %	72.b%	93%	0%	**(**	(	(
% T6tL4	03h%	73h%	73%	0%	**1b3%**	(	203%	h3 %	03h%	0%	**273%**	(	h3 %	12.2%	28.3%	0%	**. . 3%**	(	. 2%	93 %	13h%	0%	**1h3%**	(	(
FP 5	0.72h	03l: .	03l: .		**(03 89.**	(	03 8h	0.87b	0.72h		**(03 8h**	(	03l2h	03l. .	03 h7		**(03 02**	(	03l0b	03 hb	0.778		**(03 00**	(	03: 0
s iSUta	h	7:	79	0	**1. 2**	(	22b	h:	h	0	**2: 7**	(	h:	129	290	0	**. 88**	(	. h	98	17	0	**1h:**	(	107b
% s iSUta	100%	98.3%	98.2%	0%	**983%**	(	99.3%	100%	100%	0%	**993%**	(	100%	9: 3%	99.3%	0%	**99.2%**	(	100%	97.0%	100%	0%	**983%**	(	9: 3%
r ikS4e(d kit T-ucna	0	1	0	0	**1**	(	1	0	0	0	**1**	(	0	2	1	0	**b**	(	0	1	0	0	**1**	(	7
% r ikS4e(d kit T-ucna	0%	13 %	0%	0%	**03%**	(	03 %	0%	0%	0%	**03%**	(	0%	13%	03%	0%	**03%**	(	0%	13%	0%	0%	**03%**	(	03%
) -ticu4LteBT-ucna	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	1	0	0	**1**	(	1
%) -ticu4LteBT-ucna	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	13%	0%	0%	**03%**	(	03%
y uaea	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%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%
y icoc4ea 6k R6LB	0	1	2	0	**b**	(	1	0	0	0	**1**	(	0	0	1	0	**1**	(	0	2	0	0	**2**	(	8
% y icoc4ea 6k R6LB	0%	13 %	23 %	0%	**23%**	(	03 %	0%	0%	0%	**03%**	(	0%	0%	03%	0%	**02%**	(	0%	23%	0%	0%	**13%**	(	03%
FeBeat-iLka	(	(	(	(	(20		(	(	(	(	1		(	(	(	(			(	(	(	(	(	2h	
% FeBeat-iLka	(	(	(	(	(9h2%		(	(	(	(	bb3%		(	(	(	(	(100%		(	(	(	(	(100%		(
y icoc4ea 6k C-6aawL4h	(	(	(	(	(1		(	(	(	(	2		(	(	(	(	0		(	(	(	(	(0		
% y icoc4ea 6k C-6aawL4h	(	(	(	(	(. 3 %		(	(	(	(	77 3%		(	(	(	(	0%		(	(	(	(	(0%		(

*FeBeat-iLka IkB y icoc4ea 6k C-6aawL4h3s Ds eft, RDRiSU, TDTU-u, d Dtl (Tu-k

Cady Street & Center Street - TMC

Tue Oct 19, 2021
Fl FeLn gh Fl (7 Fl A(OM4-L4lFeLn P 6u-
) 4lC4Laaea gs iSUta, r ikS4e(d kit T-ucna,) -ticu4LteBT-ucna, y uaea, FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4hA
) 4ll 6Mev ekta
nh D : 7928, s 6cLti6kD 23 b0109, (: b3 : b12:

GEWALT HAMILTON ASSOCIATES, INC.
F-6MBeBGoDHewL4 P Lv i46k) aa6ciLIea nkc3
72h 56-eat EBSe I -iMt, Ve-k6k P i4h, ns , 70071, d r



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

GEWALT HAMILTON ASSOCIATES, INC.
Provided 5y: b ewalt Gamilton Associates Inc.
62HForest Edge Drive, Vernon Gills, IL, 60061, US

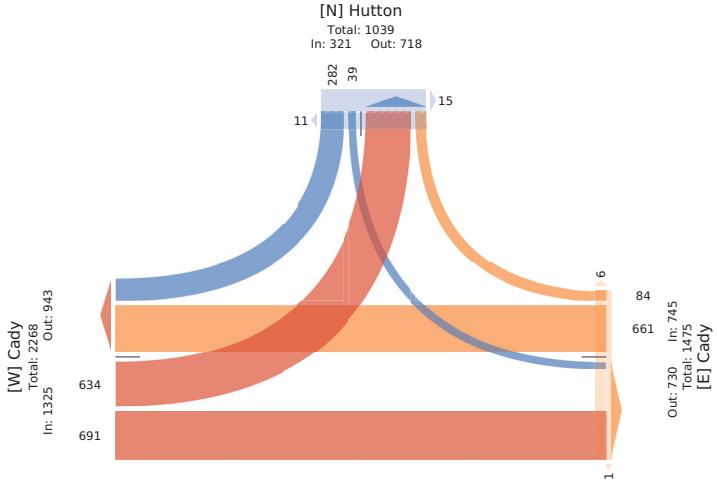
Leg Direction	Cady East5ound					Cady p est5ound					Gutton South5ound					
Time	L	T	U	**AVW**	Ped*	T	R	U	**AVW**	Ped*	L	R	U	**AVW**	Ped*	**Int**
2021-10-19 7:00AM	22	18	0	**40**	0	20	2	0	**22**	0	0	6	0	**6**	0	**68**
7:1HAM	33	14	0	**47**	0	21	H	0	**26**	0	0	17	0	**17**	0	**90**
7:30AM	30	23	0	**HB**	0	26	2	0	**28**	0	0	13	0	**13**	0	**94**
7:4HAM	37	28	0	**6H**	0	26	4	0	**30**	0	2	19	0	**21**	0	**116**
Gourly Total	122	83	0	**20H**	0	93	13	0	**106**	0	2	H1	0	**HP**	0	**368**
8:00AM	3H	43	0	**78**	0	41	1	0	**42**	0	1	22	0	**23**	3	**143**
8:1HAM	HD	39	0	**89**	0	42	4	0	**46**	2	0	11	0	**11**	0	**146**
8:30AM	42	H1	0	**93**	0	40	6	0	**46**	3	2	14	0	**16**	2	**1HH**
8:4HAM	36	3H	0	**71**	0	61	10	0	**71**	2	2	14	0	**16**	2	**1HB**
Gourly Total	163	168	0	**331**	0	184	21	0	**20H**	7	H	61	0	**66**	7	**602**
4:00PM	39	63	0	**102**	0	48	8	0	**H6**	0	3	14	0	**17**	0	**17H**
4:1HPM	41	HH	0	**96**	0	38	6	0	**44**	0	3	19	0	**22**	3	**162**
4:30PM	3H	47	0	**82**	0	43	6	0	**49**	0	3	21	0	**24**	2	**1HH**
4:4HPM	44	HD	0	**94**	0	47	8	0	**HH**	0	4	30	0	**34**	1	**183**
Gourly Total	1HD	21H	0	**374**	0	176	28	0	**204**	0	13	84	0	**97**	6	**67H**
H00PM	49	H7	0	**106**	0	H2	6	0	**HB**	0	1	17	0	**18**	4	**182**
H1HPM	39	HD	0	**98**	0	H6	4	0	**60**	0	6	14	0	**20**	6	**178**
H30PM	HI	HD	0	**101**	0	H2	H	0	**H7**	0	7	33	0	**40**	3	**198**
H4HPM	HI	HD	0	**110**	0	48	7	0	**HH**	0	H	18	0	**23**	0	**188**
Gourly Total	190	22H	0	**41H**	0	208	22	0	**230**	0	19	82	0	**101**	13	**746**
Total	634	691	0	**132H**	0	661	84	0	**74H**	7	39	282	0	**321**	26	**2391**
% AVWoach	47.8%	H2.2%	0%	**-**	-	88.7%	11.3%	0%	**-**	-	12.1%	87.9%	0%	**-**	-	-
% Total	26.H%	28.9%	0%	**HH4%**	-	27.6%	3.H%	0%	**31.2%**	-	1.6%	11.8%	0%	**13.4%**	-	-
Lights	627	686	0	**1313**	-	6HH	83	0	**737**	-	37	276	0	**313**	-	2363
% Lights	98.9%	99.3%	0%	**99.1%**	-	98.9%	98.8%	0%	**98.9%**	-	94.9%	97.9%	0%	**97.H%**	-	98.8%
Single-Unit Trucks	0	4	0	**4**	-	H	0	0	**H**	-	1	3	0	**4**	-	13
% Single-Unit Trucks	0%	0.6%	0%	**0.3%**	-	0.8%	0%	0%	**0.7%**	-	2.6%	1.1%	0%	**1.2%**	-	0.H%
Articulated Trucks	2	0	0	**2**	-	0	0	0	**0**	-	0	0	0	**0**	-	2
% Articulated Trucks	0.3%	0%	0%	**0.2%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0.1%
Buses	1	0	0	**1**	-	0	0	0	**0**	-	0	1	0	**1**	-	2
% Buses	0.2%	0%	0%	**0.1%**	-	0%	0%	0%	**0%**	-	0%	0.4%	0%	**0.3%**	-	0.1%
Bicycles on Road	4	1	0	**H**	-	2	1	0	**3**	-	1	2	0	**3**	-	11
% Bicycles on Road	0.6%	0.1%	0%	**0.4%**	-	0.3%	1.2%	0%	**0.4%**	-	2.6%	0.7%	0%	**0.9%**	-	0.H%
Pedestrians	-	-	-	-	0	-	-	-	-	7	-	-	-	-	2H	
% Pedestrians	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	96.2%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	3.8%	-

*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

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US



Hutton Street & Cady Street - TMC

Tue Oct 19, 2021

F1 Leng h(F1 79 F1 A

F Nt M44e4 hPG Ct4, a6) M7 s6 TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUe4tSns4, r 6kcM44 ds BdnU, r 6kcM44 ds - Sl44y nMA
F Nt doeR est4
w m((I92(, Pdcnt6ls mD2:D8020. , 7(8:D(09DI

GEWALT HAMILTON ASSOCIATES, INC.

LSlo6LeU3kmb ey nMCnR 6ntls F44dc6nte4 wc:
I2GH5dSe4t EU) e v Sfoe, VeSs ds b GNt, vP, I00I1, i a

Pe) v 6ect6ds	- nLk En4t3dus U				- nLk p e4t3dus U				b uttds a dutC3dus U				
T6Re	P	T	i	F Wt	LeU*	T	B	i	F Wt	LeU*	P	B	i	F Wt	LeU*	wt
2021710719 (nt0F1	8G	D8	0	. (	0	Dt	1	0	D2	0	1	22	0	28	8	1D8
(nt CF1	CD	89	0	(9	0	D2	D	0	Dt	2	0	11	0	11	0	1Dt
(nt0F1	D2	Ct	0	98	0	DD	I	0	Dt	8	2	1D	0	11	2	1CG
(nDCF1	8I	8G	0	. 1	0	11	10	0	. 1	2	2	1D	0	11	2	1C(
TdmM	118	11 (	0	881	0	1(D	21	0	20G	.	G	11	0	11	.	102
% F W6tncC	D9:2%	CD:(%	0%	7	7	(9:(%	10:2%	0%	7	7	. :1 %	92:D%	0%	7	7	7
% TdmM	2. :1%	2. :9%	0%	CC0%	7	80:1 %	8:C%	0%	8D1%	7	0:(%	10:1%	0%	11:0%	7	7
Lb H	0:(1G	0:(2D	7	0:(90	7	0:. CD	0:C2G	7	0: 22	7	0:1 2G	0:1 98	7	0: 1.	7	0:9C8
P6 C4	112	11.	0	829	7	1(8	21	0	20D	7	G	G	0	12	7	CDG
% P6 C4	99:D%	99:D%	0%	99:D%	7	99:C%	100%	0%	99:C%	7	100%	98:D%	0%	98:9%	7	9(:(%
a6) M7 s6 TSucg4	0	1	0	1	7	1	0	0	1	7	0	8	0	8	7	G
% a6) M7 s6 TSucg4	0%	0:1 %	0%	0:8%	7	0:C%	0%	0%	0:C%	7	0%	D9%	0%	DC%	7	0:(%
F St6cuMteUTSucg4	0	0	0	0	7	0	0	0	0	7	0	0	0	0	7	0
% F St6cuMteUTSucg4	0%	0%	0%	0%	7	0%	0%	0%	0%	7	0%	0%	0%	0%	7	0%
r u4e4	1	0	0	1	7	0	0	0	0	7	0	1	0	1	7	2
% r u4e4	0:1 %	0%	0%	0:8%	7	0%	0%	0%	0%	7	0%	1:1 %	0%	1:C%	7	0:8%
r 6kcM44 ds BdnU	0	0	0	0	7	0	0	0	0	7	0	0	0	0	7	0
% r 6kcM44 ds BdnU	0%	0%	0%	0%	7	0%	0%	0%	0%	7	0%	0%	0%	0%	7	0%
LeUe4tSns4	7	7	7	7	0	7	7	7	7	.	7	7	7	7	.	
% LeUe4tSns4	7	7	7	7	7	7	7	7	7	100%	7	7	7	7	100%	7
r 6kcM44 ds - Sl44y nMg	7	7	7	7	0	7	7	7	7	0	7	7	7	7	0	
% r 6kcM44 ds - Sl44y nMg	7	7	7	7	7	7	7	7	7	0%	7	7	7	7	0%	7

*LeUe4tSns4 ns Ur 6kcM44 ds - Sl44y nMg: PmPeft, BmB0 Ct, TmTCSu, i mi 7TuSs

Hutton Street & Cady Street - TMC

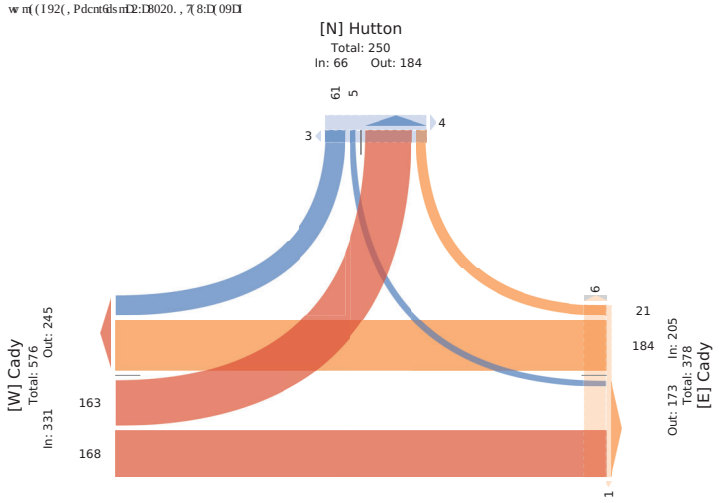
Tue Oct 19, 2021

F1 Leng h(F1 79 F1 A

F Nt M44e4 hPG Ct4, a6) M7 s6 TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUe4tSns4, r 6kcM44 ds BdnU, r 6kcM44 ds - Sl44y nMA
F Nt doeR est4
w m((I92(, Pdcnt6ls mD2:D8020. , 7(8:D(09DI

GEWALT HAMILTON ASSOCIATES, INC.

LSlo6LeU3kmb ey nMCnR 6ntls F44dc6nte4 wc:
I2H5dSe4t EU) e v Sfoe, VeSs ds G6Nt, vP, I00I1, i a



Hutton Street & Cady Street - TMC

Tue Oct 19, 2021

Fl FeLn gh Fl (7 Fl A(OM4-L44FeLn P 6u-
) 44C4Laaea gs iSUta, r ikS4e(d kit T-ucna,) -ticu4LteBT-ucna, y uaea,
FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4nA
) 41 6Mev ekta
nh D: 792: , s 6cLti6kDB2.830205, (: 3.8: 0987

GEWALT HAMILTON ASSOCIATES, INC.

F-6MBeB boDGewL4 P Lv i46k) aa6ciLtea nkc.
72h H6-eat EBSe I -iMt, Ve-k6k P i4h, ns , 70071, d r

s eS I i-ect i6k	CLBo ELatb6ukB					CLBo p eatb6ukB					P utt6k r 6urUb6ukB					
Tiv e	s	T	d	) Wt	FeB*	T	R	d	) Wt	FeB*	s	R	d	) Wt	FeB*	nkt
2021(10(19 h0 0F1	89	h5	0	107	0	h2	7	0	h:	0	1	15	0	1:	8	1: 2
h0 hF1	39	h9	0	9:	0	h7	8	0	70	0	7	18	0	20	7	15:
h0 0F1	h1	h0	0	101	0	h2	h	0	h5	0	5	33	0	80	3	19:
h0 hF1	h1	h9	0	110	0	8:	5	0	hh	0	h	1:	0	23	0	1: :
T6tL4	190	22h	0	81h	0	20:	22	0	230	0	19	: 2	0	101	13	587
%) WWLtcU	8h. : %	h8.2%	0%	(	(	90.8%	9.7%	0%	(	(	1: . : %	: 1.2%	0%	(	(	(
% T6tL4	2h.h%	30.2%	0%	hh.7%	(	25.9%	2.9%	0%	30. : %	(	2.h%	11.0%	0%	13.h%	(	(
FP H	0.922	0.9h3	(	0.939	(	0.937	0.5: 7	(	0.977	(	0.759	0.718	(	0.72h	(	0.980
s iSUa	1: 5	228	0	811	(	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 ikS4e(d kit T-ucna	0	1	0	1	(	1	0	0	1	(	1	0	0	1	(	3
% r ikS4e(d kit T-ucna	0%	0.8%	0%	0.2%	(	0.h%	0%	0%	0.8%	(	h.3%	0%	0%	1.0%	(	0.8%
) -ticu4LteBT-ucna	1	0	0	1	(	0	0	0	0	(	0	0	0	0	(	1
%) -ticu4LteBT-ucna	0.h%	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
% y uaea	0%	0%	0%	0%	(	0%	0%	0%	0%	(	0%	0%	0%	0%	(	0%
y icoc4ea 6k R6LB	2	0	0	2	(	2	0	0	2	(	0	1	0	1	(	h
% y icoc4ea 6k R6LB	1.1%	0%	0%	0.h%	(	1.0%	0%	0%	0.9%	(	0%	1.2%	0%	1.0%	(	0.5%
FeBeat-iLka	(	(	(	(	0	(	(	(	(	0	(	(	(	(	13	
% FeBeat-iLka	(	(	(	(	(	(	(	(	(	(	(	(	(	(	100%	(
y icoc4ea 6k C-6aawL4n	(	(	(	(	0	(	(	(	(	0	(	(	(	(	0	
% y icoc4ea 6k C-6aawL4n	(	(	(	(	(	(	(	(	(	(	(	(	(	(	0%	(

*FeBeat-iLka IkB y icoc4ea 6k C-6aawL4n. s Ds eft, RDRiSUi, TDfUu, d Dtl (Tu-k

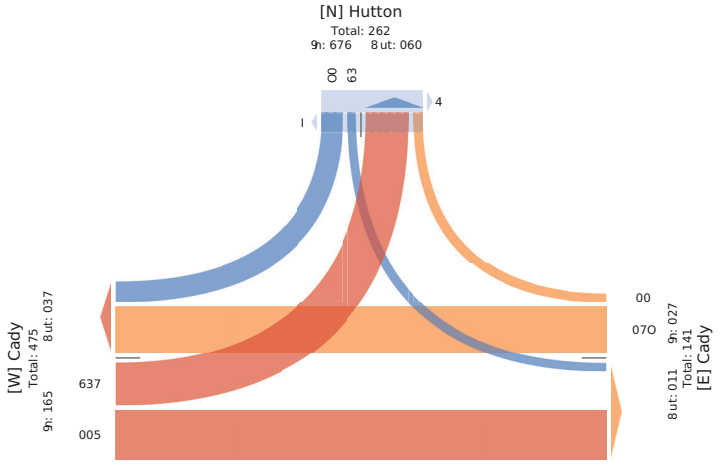
Hutton Street & Cady Street - TMC

Tue Oct 19, 2021

Fl FeLn gh Fl (7 Fl A(OM4-L44FeLn P 6u-
) 44C4Laaea gs iSUta, r ikS4e(d kit T-ucna,) -ticu4LteBT-ucna, y uaea,
FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4nA
) 41 6Mev ekta
nh D: 792: , s 6cLti6kDB2.83020b, (: 3.8: 0987

GEWALT HAMILTON ASSOCIATES, INC.

F-6MBeB CoDHewL4 P Lv i46k) aa6ciLtea nkc.
72h 56-eat EBSe I -iMt, Ve-k6k P i4h, ns , 70071, d r



Cady & Church - 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. 6, Location: 423 4. 0245, -8. 3480269

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

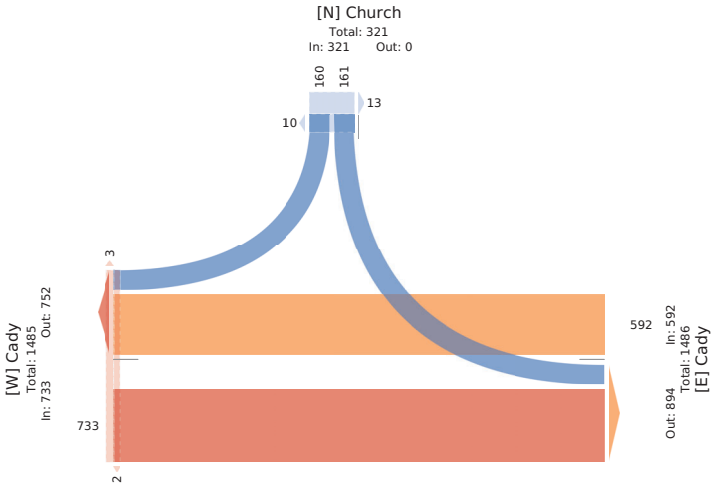
Leg Direction	Cady Eastbound					Cady p estbound					Church Southbound					
Time	L	T	U	AWW	Ped*	T	R	U	AWW	Ped*	L	R	U	AWW	Ped*	Int
2021-10-19 7:00AM	0	18	0	**18**	0	12	0	0	**12**	0	11	10	0	**21**	1	**51**
7:15AM	0	14	0	**14**	0	16	0	0	**16**	0	17	9	0	**26**	0	**56**
7:. 0AM	0	2.	0	**2.**	0	17	0	0	**17**	0	11	11	0	**22**	0	**62**
7:45AM	0	. 0	0	**. 0**	0	21	0	0	**21**	0	16	11	0	**27**	0	**78**
Hourly Total	0	85	0	**85**	0	66	0	0	**66**	0	55	41	0	**96**	1	**247**
8:00AM	0	4.	0	**4.**	1	. 0	0	0	**. 0**	0	11	12	0	**2.**	0	**96**
8:15AM	0	. 7	0	**. 7**	0	22	0	0	**22**	0	15	24	0	**. 9**	0	**98**
8:. 0AM	0	5.	0	**5.**	0	. 6	0	0	**. 6**	0	11	11	0	**22**	1	**111**
8:45AM	0	. 8	0	**. 8**	1	56	0	0	**56**	0	11	24	0	**. 5**	2	**129**
Hourly Total	0	171	0	**171**	2	144	0	0	**144**	0	48	71	0	**119**	.	**4. 4**
4:00PM	0	65	0	**65**	2	4.	0	0	**4.**	0	11	9	0	**20**	0	**128**
4:15PM	0	58	0	**58**	0	40	0	0	**40**	0	6	6	0	**12**	1	**110**
4:. 0PM	0	50	0	**50**	0	41	0	0	**41**	0	10	8	0	**18**	.	**109**
4:45PM	0	57	0	**57**	0	47	0	0	**47**	0	5	8	0	**1.**	1	**117**
Hourly Total	0	2. 0	0	**2. 0**	2	171	0	0	**171**	0	. 2	. 1	0	**6.**	5	**464**
5:00PM	0	59	0	**59**	1	48	0	0	**48**	0	7	8	0	**15**	5	**122**
5:15PM	0	66	0	**66**	0	59	0	0	**59**	0	8	1	0	**9**	5	**1. 4**
5:. 0PM	0	57	0	**57**	0	55	0	0	**55**	0	5	4	0	**9**	.	**121**
5:45PM	0	65	0	**65**	0	49	0	0	**49**	0	6	4	0	**10**	1	**124**
Hourly Total	0	247	0	**247**	1	211	0	0	**211**	0	26	17	0	**4.**	14	**501**
Total	0	7. .	0	**7. .**	5	592	0	0	**592**	0	161	160	0	**. 21**	2.	**1646**
% AWWoach	0%	100%	0%	**-**	-	100%	0%	0%	**-**	-	503 2%	493 8%	0%	**-**	-	-
% Total	0%	443 5%	0%	**443 5%**	-	. 63 0%	0%	0%	**. 63 0%**	-	9 8%	9 7%	0%	**19 3 5%**	-	-
Lights	0	726	0	**726**	-	584	0	0	**584**	-	160	160	0	**. 20**	-	16. 0
% Lights	0%	99 0 0%	0%	**99 0 0%**	-	98 3 6%	0%	0%	**98 3 6%**	-	99 3 4%	100%	0%	**99 3 7%**	-	99 0%
Single-Unit Trucks	0	4	0	**4**	-	5	0	0	**5**	-	0	0	0	**0**	-	9
% Single-Unit Trucks	0%	0 5%	0%	**0 5%**	-	0 8%	0%	0%	**0 8%**	-	0%	0%	0%	**0%**	-	0 5%
Articulated Trucks	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Buses	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Buses	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Bicycles on Road	0	.	0	**.**	-	.	0	0	**.**	-	1	0	0	**1**	-	7
% Bicycles on Road	0%	0 3%	0%	**0 3%**	-	0 5%	0%	0%	**0 5%**	-	0 6%	0%	0%	**0 3 %**	-	0 3%
Pedestrians	-	-	-	-	5	-	-	-	-	0	-	-	-	-	21	
% Pedestrians	-	-	-	-	100%	-	-	-	-		-	-	-	-	913 %	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	2	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-		-	-	-	-	83 7%	-

*Pedestrians and Bicycles on Crosswalk3L: Left, R: Right, T: Thru, U: U-Turn

Cady & Church - 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. 6, Location: 423 4. 024b, -8. 3480269

GEWALT HAMILTON ASSOCIATES, INC.
Provided Cy: Hewalt 5 amilton Associates Inc3
62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US



Cady & Church - TMC

Tue Oct 19, 2021
F1 Leng h(F1 79 F1 A
F Wi M44e4 hP Q C14, a 6) e 7 s 6 TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUe4tSins 4, r 6kkcM44 ds BdnU, r 6kkcM44 ds - Sl44y nMA
F Wi doeR est4
w m((19 D1 , Pdcnt6ls m 28 DD2: . , 7(D8 (021 9

GEWALT HAMILTON ASSOCIATES, INC.
LSloGLeU3km5 ey nMb nR GMls F44dc6nte4 wc8
I 2. GdSe4t HUJ e v Sne, E eSsds b GM(vP, I 00 I 1, i a

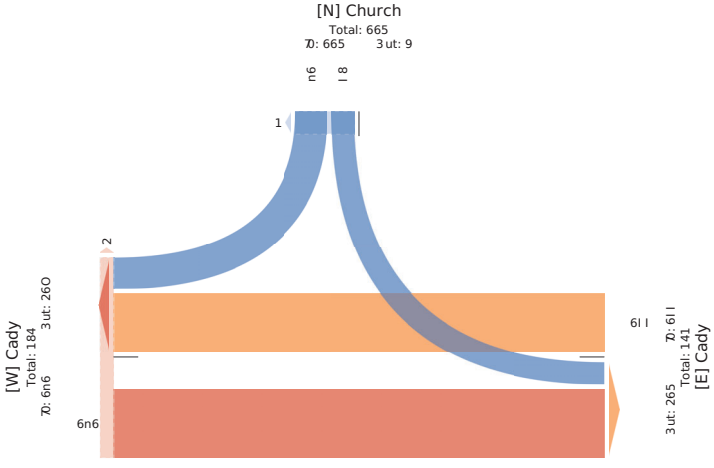
Pe) v 6ect6ls	- nUk Hn43dus U					- nUk V e43dus U					- GuSCC adutC3dus U					
T6Re	P	T	i	Fpp	LeUW	T	B	i	Fpp	LeUW	P	B	i	Fpp	LeUW	wt
2021710719 (n0F1	0	: D	0	**: D**	1	D0	0	0	**D0**	0	11	12	0	**2D**	0	**91**
(n. F1	0	D*	0	**D***	0	22	0	0	**22**	0	1.	2:	0	**D9**	0	**9(**
(n80F1	0	. D	0	**. D**	0	D1	0	0	**D1**	0	11	11	0	**22**	1	**111**
(m. F1	0	D(	0	**D(**	1	. I	0	0	**. I**	0	11	2:	0	**D1**	2	**129**
TdmM	0	1*1	0	**1*1**	2	1: :	0	0	**1: :**	0	: (	*1	0	**119**	D	**: D**
% F ppSlncC	0%	100%	0%	**7**	7	100%	0%	0%	**7**	7	: 08 3%	. 98*%	0%	**7**	7	7
% TdmM	0%	D88 %	0%	**D88 %**	7	DD2%	0%	0%	**DD2%**	7	118 1%	118 %	0%	**2*8 %**	7	7
Lb G	7	08(0*	7	**08(0***	7	08 : D	7	7	**08 : D**	7	08(00	08*: 0	7	**08*1 D**	7	08(: 1
P9 Cl4	0	1*0	0	**1*0**	7	1: D	0	0	**1: D**	7	: (	*1	0	**119**	7	: D2
% P9 Cl4	0%	998 %	0%	**998 %**	7	998 3%	0%	0%	**998 3%**	7	100%	100%	0%	**100%**	7	998 %
a6) M1 s 6 TSucg4	0	1	0	**1**	7	1	0	0	**1**	7	0	0	0	**0**	7	2
% a6) M1 s 6 TSucg4	0%	08 1 %	0%	**08 1 %**	7	08*%	0%	0%	**08*%**	7	0%	0%	0%	**0%**	7	08 %
F S6cuMteUTSucg4	0	0	0	**0**	7	0	0	0	**0**	7	0	0	0	**0**	7	0
% F S6cuMteUTSucg4	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%
r u4e4	0	0	0	**0**	7	0	0	0	**0**	7	0	0	0	**0**	7	0
% r u4e4	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%
r 6kkcM44 ds BdnU	0	0	0	**0**	7	0	0	0	**0**	7	0	0	0	**0**	7	0
% r 6kkcM44 ds BdnU	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%
LeUe4tSins 4	7	7	7	7	2	7	7	7	7	0	7	7	7	7	D	
% LeUe4tSins 4	7	7	7	7	100%	7	7	7	7	7	7	7	7	7	100%	7
r 6kkcM44 ds - Sl44y nMg	7	7	7	7	0	7	7	7	7	0	7	7	7	7	0	
% r 6kkcM44 ds - Sl44y nMg	7	7	7	7	0%	7	7	7	7	7	7	7	7	7	0%	7

W LeUe4tSins 4 ns Ur 6kkcM44 ds - Sl44y nMg8 PmPeft, BmB6) Cl, TmiTCSu, i mi 7TuSs

Cady & Church - TMC

Tue Oct 19, 2021
P M aek(4 P M 59 P M-
P)) v)krrer 4 hiAr, CHo)e5Ls hTiuc(r, P itHu)kteg Tiuc(r, hurer,
aegertiHsr, hHSc)er ns Unkg, hHSc)er ns v inrrd k)(-
P)) MnBey estr
Rwm : 19 D1 , 1 nckHlsm 8 26 BDD 28. , 5: D8: 021 9

GEWALT HAMILTON ASSOCIATES, INC.
ainBgeg 3Smb ed k)t Gky Bins P rrnckter Rc6
I 2. Fniert Egoe wiBe, Veis ns GBr, R , I 00 I 1, L C



Cady & Church - TMC
Tue Oct 19, 2021
Fl FeLn gh Fl (7 Fl A(OMe-L44 FeLn P 6u-
) 44C4Laaea gs iSUta, r ikS4e(d kit T-ucna,) -ticu4LteB T-ucna, y uaea,
FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4nA
) 44l 6Mev ekta
mI D: : 7987, s 6cLti6kD. 23 802. h, (: 83 : 0279

F-6MBeB 5oDb ewL4t P Lv i46k) aa6ciLtea mkc3
72h G6-eat HBSe I -iMe, E e-k6k P i44a, ms , 70071, d r

s eS I i-ecti6k	CLBo HLat56ukB					CLBo V eat56ukB					CUu-cU r 6utU56ukB					
Tiv e	s	T	d	) pp	FeBW	T	R	d	) pp	FeBW	s	R	d	) pp	FeBW	mkt
2021(10(19 hD0Fl	0	h9	0	**h9**	1	. :	0	0	**. :**	0	*	:	0	**1h**	h	**122**
hDhFl	0	77	0	**77**	0	h9	0	0	**h9**	0	:	1	0	**9**	h	**18.**
hB0Fl	0	h*	0	**h***	0	hh	0	0	**hh**	0	h	.	0	**9**	8	**121**
hDhFl	0	7h	0	**7h**	0	. 9	0	0	**. 9**	0	7	.	0	**10**	1	**12.**
T6tL4	0	2. *	0	**2. ***	1	211	0	0	**211**	0	27	1*	0	**. 8**	1.	**h01**
%) pp-6LcU	0%	100%	0%	**(**	(	100%	0%	0%	**(**	(	703h%	893h%	0%	**(**	(	(
% T6tL4	0%	. 93B%	0%	**. 93B%**	(	. 231%	0%	0%	**. 231%**	(	h32%	83 %	0%	**: 37%**	(	(
FP G	(	039. 7	(	**039. 7**	(	03901	(	(	**03901**	(	03 18	03h81	(	**03*1***	(	039. 8
s iSUa	0	2. h	0	**2. h**	(	20:	0	0	**20:**	(	27	1*	0	**. 8**	(	. 97
% s iSUa	0%	9932%	0%	**9932%**	(	9: 37%	0%	0%	**9: 37%**	(	100%	100%	0%	**100%**	(	9930%
r ikS4e(d kit T-ucna	0	1	0	**1**	(	1	0	0	**1**	(	0	0	0	**0**	(	2
% r ikS4e(d kit T-ucna	0%	03 %	0%	**03 %**	(	03h%	0%	0%	**03h%**	(	0%	0%	0%	**0%**	(	03 %
) -ticu4LteB T-ucna	0	0	0	**0**	(	0	0	0	**0**	(	0	0	0	**0**	(	0
%) -ticu4LteB T-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
% y uaea	0%	0%	0%	**0%**	(	0%	0%	0%	**0%**	(	0%	0%	0%	**0%**	(	0%
y icoc4ea 6k R6LB	0	1	0	**1**	(	2	0	0	**2**	(	0	0	0	**0**	(	8
% y icoc4ea 6k R6LB	0%	03 %	0%	**03 %**	(	039%	0%	0%	**039%**	(	0%	0%	0%	**0%**	(	037%
FeBeat-iLka	(	(	(	(	1	(	(	(	(	0	(	(	(	(	1.	
% FeBeat-iLka	(	(	(	(	100%	(	(	(	(	(	(	(	(	(	100%	(
y icoc4ea 6k C-6aawL4h	(	(	(	(	0	(	(	(	(	0	(	(	(	(	0	
% y icoc4ea 6k C-6aawL4h	(	(	(	(	0%	(	(	(	(	(	(	(	(	(	0%	(

W FeBeat-iLka LkB y icoc4ea 6k C-6aawL4h3s Ds eft, RDRiSU, TDTU-u, d Dd (Tu-k

Cady & Church - TMC
Tue Oct 19, 2021
PM Peak (4 PM : 5 PM- : O) evarr Peak l Hwv
o rr AraCCeC(s Li gtC, hISi re:n SIt TvuckC, o vtIcurateUTvuckC, d uCeC,
PeUeCtvIaSC, d IcBcreCHS y HaU, d IcBcreCHS AvHCCRark-
o rr MH) eweStC
mI D885965, s HcatIHSD. 23 602. 4, :863 80259

PvH) ILeUbBDGeRart l awIrtHS o CCHcIateCmSc3
524 FHveCt EUi e I vI) e, VevSHS l IrrC, ms , 50051, n h

Griswold & Cady - 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: 886929, Location: 42.430343, -83.47872

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

Leg Direction	Cady Eastbound						Cady p estbound						Griswold Worthbound						Griswold Southbound						
Time	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	Int
2021-10-19 7:00AM	25	2	2	0	**29**	2	0	0	0	0	**0**	0	2	2	1	0	**5**	0	0	1	11	0	**12**	0	**46**
7:15AM	25	2	4	0	**31**	0	0	0	0	0	**0**	0	1	1	0	0	**2**	0	0	2	17	0	**19**	0	**52**
7:30AM	22	3	7	0	**32**	0	0	0	0	0	**0**	0	0	3	0	0	**3**	0	0	2	17	0	**19**	0	**54**
7:45AM	36	3	10	0	**49**	0	0	3	0	0	**3**	0	1	5	2	0	**8**	0	1	3	17	0	**21**	0	**81**
Hourly Total	108	10	23	0	**141**	2	0	3	0	0	**3**	0	4	11	3	0	**18**	0	1	8	62	0	**71**	0	**233**
8:00AM	39	7	6	0	**52**	0	0	0	0	0	**0**	0	1	6	0	0	**7**	0	3	2	29	0	**34**	0	**93**
8:15AM	43	4	4	0	**51**	0	0	3	0	0	**3**	0	2	5	1	0	**8**	0	0	5	18	0	**23**	0	**85**
8:30AM	52	8	4	0	**64**	0	0	1	0	0	**1**	0	6	10	2	0	**18**	0	0	4	31	0	**35**	0	**118**
8:45AM	37	6	5	0	**48**	0	0	5	0	0	**5**	0	6	5	1	0	**12**	0	1	3	41	0	**45**	0	**110**
Hourly Total	171	25	19	0	**215**	0	0	9	0	0	**9**	0	15	26	4	0	**45**	0	4	14	119	0	**137**	0	**406**
4:00PM	61	9	10	0	**80**	0	0	3	0	0	**3**	2	3	4	0	0	**7**	0	0	9	39	0	**48**	1	**138**
4:15PM	48	5	8	0	**61**	1	0	3	0	0	**3**	1	3	7	0	0	**10**	0	0	13	31	0	**44**	2	**118**
4:30PM	46	9	9	0	**64**	1	0	2	0	0	**2**	0	1	13	0	0	**14**	0	2	12	38	0	**52**	3	**132**
4:45PM	43	7	9	0	**59**	3	1	0	0	0	**1**	1	6	12	1	0	**19**	0	0	8	41	0	**49**	0	**128**
Hourly Total	198	30	36	0	**264**	5	1	8	0	0	**9**	4	13	36	1	0	**50**	0	2	42	149	0	**193**	6	**516**
5:00PM	59	5	6	0	**70**	5	1	3	3	0	**7**	2	4	7	0	0	**11**	0	0	10	38	0	**48**	1	**136**
5:15PM	54	8	11	0	**73**	4	0	3	3	0	**6**	0	4	9	0	0	**13**	0	0	12	52	0	**64**	2	**156**
5:30PM	46	2	13	0	**61**	1	0	3	1	0	**4**	2	3	8	0	0	**11**	1	1	15	50	0	**66**	0	**142**
5:45PM	56	3	11	0	**70**	0	0	1	0	0	**1**	0	7	9	0	0	**16**	0	0	15	35	0	**50**	0	**137**
Hourly Total	215	18	41	0	**274**	10	1	10	7	0	**18**	4	18	33	0	0	**51**	1	1	52	175	0	**228**	3	**571**
Total	692	83	119	0	**894**	17	2	30	7	0	**39**	8	50	106	8	0	**164**	1	8	116	505	0	**629**	9	**1726**
% ANNroach	77.4%	9.3%	13.3%	0%	**-**	-	5.1%	76.9%	17.9%	0%	**-**	-	30.5%	64.6%	4.9%	0%	**-**	-	1.3%	18.4%	80.3%	0%	**-**	-	-
% Total	40.1%	4.8%	6.9%	0%	**51.8%**	-	0.1%	1.7%	0.4%	0%	**2.3%**	-	2.9%	6.1%	0.5%	0%	**9.5%**	-	0.5%	6.7%	29.3%	0%	**36.4%**	-	-
Lights	689	81	115	0	**885**	-	2	30	7	0	**39**	-	46	102	8	0	**156**	-	7	110	500	0	**617**	-	1697
% Lights	99.6%	97.6%	96.6%	0%	**99.0%**	-	100%	100%	100%	0%	**100%**	-	92.0%	96.2%	100%	0%	**95.1%**	-	87.5%	94.8%	99.0%	0%	**98.1%**	-	98.3%
Single-Unit Trucks	2	2	1	0	**5**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	5	0	**5**	-	11
% Single-Unit Trucks	0.3%	2.4%	0.8%	0%	**0.6%**	-	0%	0%	0%	0%	**0%**	-	0%	0.9%	0%	0%	**0.6%**	-	0%	0%	1.0%	0%	**0.8%**	-	0.6%
Articulated Trucks	1	0	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1
% Articulated Trucks	0.1%	0%	0%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Buses	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	1	0	0	**1**	-	2
% Buses	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.9%	0%	0%	**0.6%**	-	0%	0.9%	0%	0%	**0.2%**	-	0.1%
Bicycles on Road	0	0	3	0	**3**	-	0	0	0	0	**0**	-	4	2	0	0	**6**	-	1	5	0	0	**6**	-	15
% Bicycles on Road	0%	0%	2.5%	0%	**0.3%**	-	0%	0%	0%	0%	**0%**	-	8.0%	1.9%	0%	0%	**3.7%**	-	12.5%	4.3%	0%	0%	**1.0%**	-	0.9%
Pedestrians	-	-	-	-	-	15	-	-	-	-	-	8	-	-	-	-	-	1	-	-	-	-	-	7	
% Pedestrians	-	-	-	-	-	88.2%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	77.8%	-
Bicycles on Crosswalk	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	2	
% Bicycles on Crosswalk	-	-	-	-	-	11.8%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	22.2%	-

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

Griswold & Cady - 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: 886929, Location: 42.430343, -83.47872

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

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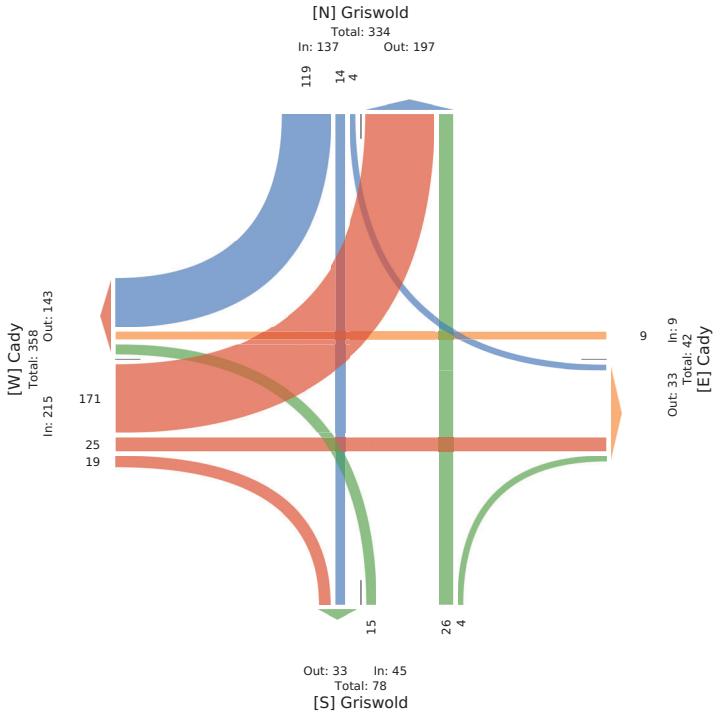
Pe) v 6ec6ls	- nUk En43dus U					- nUk p e43dus U					b S8ly dNf We9C3dus U					b S8ly dNf a dutC3dus U					
T0Re	P	T	B	i	F NN LeU*	P	T	B	i	F NN LeU*	P	T	B	i	F NN LeU*	P	T	B	i	F NN LeU*	wr
2021710719 (nt0F 1	89	.	I	0	**H2**	0	0	0	0	**0**	0	1	I	0	0	.	0	8	2	29	0	**8D**	0	**98**
(nt1F 1	D8	D	D	0	**Ht**	0	0	8	0	0	**8**	0	2	H	1	0	**(**	0	0	H	1(	0	**28**	0	**(H**
(nt0F 1	H2	(	D	0	**1D**	0	0	1	0	0	**1**	0	I	10	2	0	**1(**	0	0	D	81	0	**8H**	0	**11(**
(nt1F 1	8.	I	H	0	**D(**	0	0	H	0	0	**H**	0	I	H	1	0	**12**	0	1	8	Dt	0	**DH**	0	**110**
Tdnn M	1. 1	2H	19	0	**21H**	0	0	9	0	0	**9**	0	1H	2I	D	0	**DH**	0	D	1D	119	0	**18.**	0	**DDI**
% F NN SInc C	. 9:H%	11:I %	(:(%	0%	**7**	7	0%	100%	0%	0%	**7**	7	88:8%	H :(%	(:9%	0%	**7**	7	2:9%	10:2%	(1:9%	0%	**7**	7	7
% Tdnn M	D2:1%	I :2%	D. %	0%	**H8:0%**	7	0%	2:2%	0%	0%	**2:2%**	7	8:. %	I :D%	1:0%	0%	**11:1%**	7	1:0%	8:D%	29:8%	0%	**88:. %**	7	7
LG5	0:(22	0:. (1	0:. 92	7	**0:(D0**	7	7	0:.DH0	7	7	**0:.DH0**	7	0:I 2H	0:I H0	0:H00	7	**0:I 2H**	7	0:888	0:. 00	0:. 2I	7	**0:. 11**	7	0:(10
P0 C14	1. 0	2H	19	0	**21D**	7	0	9	0	0	**9**	7	1H	2D	D	0	**D8**	7	D	1D	11(	0	**18I**	7	DD2
% P0 C14	99:D%	100%	100%	0%	**99:H%**	7	0%	100%	0%	0%	**100%**	7	100%	92:8%	100%	0%	**9HI %**	7	100%	100%	99:2%	0%	**99:8%**	7	99:0%
a6) M1 s6i T5ucg4	1	0	0	0	**1**	7	0	0	0	0	**0**	7	0	1	0	0	**1**	7	0	0	1	0	**1**	7	8
% a6) M1 s6i T5ucg4	0:I %	0%	0%	0%	**0:H%**	7	0%	0%	0%	0%	**0%**	7	0%	8:(%	0%	0%	**2:2%**	7	0%	0%	0:(%	0%	**0:. %**	7	0:. %
F S6cuMteUT5ucg4	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0
% F S6cuMteUT5ucg4	0%	0%	0%	0%	**0%**	7	0%	0%	0%	0%	**0%**	7	0%	0%	0%	0%	**0%**	7	0%	0%	0%	0%	**0%**	7	0%
r u4e4	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0	1	0	0	**1**	7	0	0	0	0	**0**	7	1
% r u4e4	0%	0%	0%	0%	**0%**	7	0%	0%	0%	0%	**0%**	7	0%	8:(%	0%	0%	**2:2%**	7	0%	0%	0%	0%	**0%**	7	0:2%
r 6ckcM4 ds BdnU	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0
% r 6ckcM4 ds BdnU	0%	0%	0%	0%	**0%**	7	0%	0%	0%	0%	**0%**	7	0%	0%	0%	0%	**0%**	7	0%	0%	0%	0%	**0%**	7	0%
LeUe4t5ins 4	7	7	7	7	7	0	7	7	7	7	7	0	7	7	7	7	7	0	7	7	7	7	7	0	
% LeUe4t5ins 4	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
r 6ckcM4 ds - Sl44y nJgA	7	7	7	7	7	0	7	7	7	7	7	0	7	7	7	7	7	0	7	7	7	7	7	0	
% r 6ckcM4 ds - Sl44y nJgA	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7

*LeUe4t5ins 4 ns Ur 6ckcM4 ds - Sl44y nJgA PmPeft, BmB6) Ct, TmlTC5u, i mi 7TuSs

GEWALT HAMILTON ASSOCIATES, INC.



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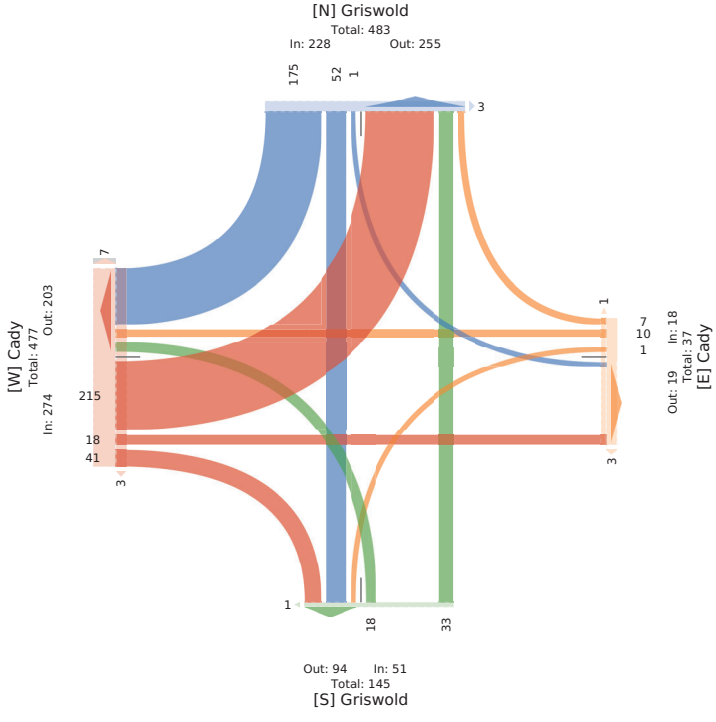
s eS t ie-ct6k	C1Bo ELatG6ukB						C1Bo p eatG6ukB						H-iaw643 W6-tUG6ukB						H-iaw643 r 6utUG6ukB						
Tiv e	s	T	R	d	) NN FeB*		s	T	R	d	) NN FeB*		s	T	R	d	) NN FeB*		s	T	R	d	) NN FeB*		nkt
2021(10(19 h10 0F1	h9	h	7	0	**h0**	h	1	3	3	0	**b**	2	8	b	0	0	**11**	0	0	10	3:	0	**8:**	1	**137**
h1Dh F1	h8	:	11	0	**h3**	8	0	3	3	0	**7**	0	8	9	0	0	**13**	0	0	12	h2	0	**78**	2	**1h7**
h10 0F1	87	2	13	0	**71**	1	0	3	1	0	**8**	2	3	:	0	0	**11**	1	1	1h	h0	0	**77**	0	**182**
h10h F1	h7	3	11	0	**h0**	0	0	1	0	0	**1**	0	b	9	0	0	**17**	0	0	1h	3h	0	**h0**	0	**13b**
T6tL4	21h	1:	81	0	**2b8**	10	1	10	b	0	**1:**	8	1:	33	0	0	**h1**	1	1	h2	1bh	0	**22:**	3	**hb1**
%) NV6LcU	b: .h%	7.7%	1h.0%	0%	**(**	(	h.7%	hh.7%	3: .9%	0%	**(**	(	3h.3%	78.b%	0%	0%	**(**	(	0.8%	22.: %	b7.: %	0%	**(**	(	(
% T6tL4	3b.b%	3.2%	b.2%	0%	**8: .0%**	(	0.2%	1.: %	1.2%	0%	**3.2%**	(	3.2%	h.: %	0%	0%	**: .9%**	(	0.2%	9.1%	30.7%	0%	**39.9%**	(	(
FP 5	0.911	0.h73	0.b79	(	**0.98:**	(	0.2h0	0.: 33	0.h: 3	(	**0.783**	(	0.77b	0.: : 9	(	(	**0.: hb**	(	0.2h0	0.: bh	0.: 81	(	**0.: b9**	(	0.917
s iSUa	218	1:	39	0	**2b1**	(	1	10	b	0	**1:**	(	17	32	0	0	**8:**	(	1	89	1b8	0	**228**	(	h71
% s iSUa	99.h%	100%	9h.1%	0%	**9: .9%**	(	100%	100%	100%	0%	**100%**	(	: : .9%	9b.0%	0%	0%	**98.1%**	(	100%	98.2%	99.8%	0%	**9: .2%**	(	9: .2%
r ikS4e(d kit T-ucna	1	0	1	0	**2**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	1	0	**1**	(	3
% r ikS4e(d kit T-ucna	0.h%	0%	2.8%	0%	**0.b%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%	0%	0.7%	0%	**0.8%**	(	0.h%
) -ticu4ueBT-ucna	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0	0	0	0	**0**	(	0
%) -ticu4ueBT-ucna	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	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%	**0%**	(	0%	0%	0%	0%	**0%**	(	0%
y icoc4ea 6k R6LB	0	0	1	0	**1**	(	0	0	0	0	**0**	(	2	1	0	0	**3**	(	0	3	0	0	**3**	(	b
% y icoc4ea 6k R6LB	0%	0%	2.8%	0%	**0.8%**	(	0%	0%	0%	0%	**0%**	(	11.1%	3.0%	0%	0%	**h.9%**	(	0%	h.: %	0%	0%	**1.3%**	(	1.2%
FeBeat-iLka	(	(	(	(	(	10	(	(	(	(	(	8	(	(	(	(	(	1	(	(	(	(	(	3	
% FeBeat-iLka	(	(	(	(	(	100%	(	(	(	(	(	100%	(	(	(	(	(	100%	(	(	(	(	(	100%	(
y icoc4ea 6k C-6aawL4h	(	(	(	(	(	0	(	(	(	(	(	0	(	(	(	(	(	0	(	(	(	(	(	0	
% y icoc4ea 6k C-6aawL4h	(	(	(	(	(	0%	(	(	(	(	(	0%	(	(	(	(	(	0%	(	(	(	(	(	0%	(

*FeBeat-iLka lkB y icoc4ea 6k C-6aawL4h. s Ds eft, RDRiSUi, TDfU-u, d Dtl (Tu-k

GEWALT HAMILTON ASSOCIATES, INC.



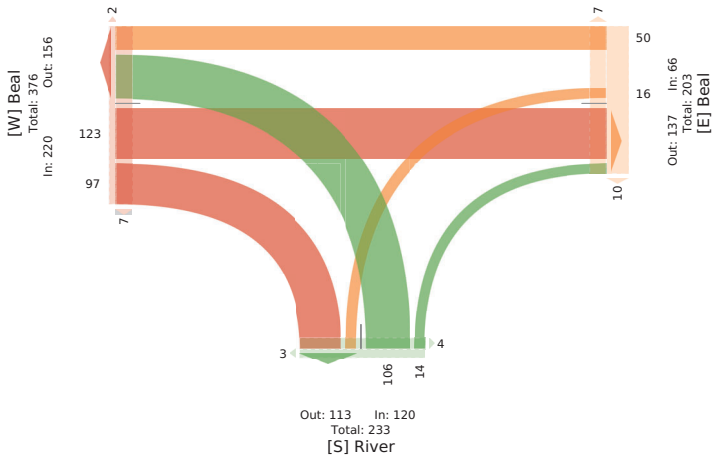
GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc3
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	Beal Eastbound					Beal p estbound					River Worthbound					
Time	T	R	U	**ANN**	Ped*	L	T	U	**ANN**	Ped*	L	R	U	**ANN**	Ped*	**Int**
2021-10-19 7:00AM	2	1	0	**.**	0	1	1	0	**2**	1	4	1	0	**5**	0	**10**
7:15AM	4	0	0	**4**	0	0	0	0	**0**	0	2	0	0	**2**	0	**6**
7:. 0AM	6	2	0	**8**	0	0	0	0	**0**	0	2	0	0	**2**	0	**10**
7:45AM	7	5	0	**12**	0	0	2	0	**2**	0	4	0	0	**4**	0	**18**
Hourly Total	19	8	0	**27**	0	1	.	0	**4**	1	12	1	0	**1.**	0	**44**
8:00AM	6	.	0	**9**	0	0	1	0	**1**	0	7	.	0	**10**	0	**20**
8:15AM	4	2	0	**6**	0	1	2	0	**.**	2	6	1	0	**7**	0	**16**
8:. 0AM	4	4	0	**8**	0	2	7	0	**9**	1	10	2	0	**12**	0	**29**
8:45AM	5	2	0	**7**	1	1	8	0	**9**	0	5	0	0	**5**	1	**21**
Hourly Total	19	11	0	**. 0**	1	4	18	0	**22**	.	28	6	0	**. 4**	1	**86**
4:00PM	16	1	0	**17**	.	1	5	0	**6**	0	2	0	0	**2**	0	**25**
4:15PM	11	10	0	**21**	0	1	2	0	**.**	1	5	0	0	**5**	0	**29**
4:. 0PM	7	1.	0	**20**	0	1	2	0	**.**	2	11	0	0	**11**	0	**. 4**
4:45PM	12	9	0	**21**	0	0	8	0	**8**	6	1.	.	0	**16**	0	**45**
Hourly Total	46	. .	0	**79**	.	.	17	0	**20**	9	. 1	.	0	**. 4**	0	**1. .**
5:00PM	10	7	0	**17**	.	2	2	0	**4**	0	6	2	0	**8**	2	**29**
5:15PM	9	12	0	**21**	0	2	4	0	**6**	2	10	1	0	**11**	1	**. 8**
5:. 0PM	10	15	0	**25**	2	1	1	0	**2**	0	7	0	0	**7**	.	**. 4**
5:45PM	10	11	0	**21**	0	.	5	0	**8**	2	12	1	0	**1.**	0	**42**
Hourly Total	. 9	45	0	**84**	5	8	12	0	**20**	4	. 5	4	0	**. 9**	6	**14.**
Total	12.	97	0	**220**	9	16	50	0	**66**	17	106	14	0	**120**	7	**406**
% ANNroach	55 3 %	44 3 %	0%	**-**	-	24 2 %	75 8 %	0%	**-**	-	88 3 %	11 7 %	0%	**-**	-	-
% Total	. 03 %	2. 3 %	0%	**54 2 %**	-	. 3 %	12 3 %	0%	**16 3 %**	-	26 1 %	. 3 %	0%	**29 6 %**	-	-
Lights	122	90	0	**212**	-	12	50	0	**62**	-	98	1.	0	**111**	-	. 85
% Lights	99 2 %	92 8 %	0%	**96 8 %**	-	75 0 %	100%	0%	**9. 3 %**	-	92 5 %	92 9 %	0%	**92 5 %**	-	94 8 %
Single-Unit Trucks	0	1	0	**1**	-	1	0	0	**1**	-	1	1	0	**2**	-	4
% Single-Unit Trucks	0%	1 0 %	0%	**0 5 %**	-	63 %	0%	0%	**1 5 %**	-	0 9 %	7 1 %	0%	**1 7 %**	-	1 0 %
Articulated Trucks	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Buses	1	0	0	**1**	-	0	0	0	**0**	-	1	0	0	**1**	-	2
% Buses	0 8 %	0%	0%	**0 5 %**	-	0%	0%	0%	**0%**	-	0 9 %	0%	0%	**0 8 %**	-	0 5 %
Bicycles on Road	0	6	0	**6**	-	.	0	0	**.**	-	6	0	0	**6**	-	15
% Bicycles on Road	0%	6 2 %	0%	**2 7 %**	-	18 8 %	0%	0%	**4 5 %**	-	5 7 %	0%	0%	**5 0 %**	-	. 3 %
Pedestrians	-	-	-	-	9	-	-	-	-	17	-	-	-	-	7	
% Pedestrians	-	-	-	-	100%	-	-	-	-	100%	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk3L: 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: 8869. 0, Location: 423 42889, -8. 3477948

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



River & Beal - TMC
Tue Oct 19, 2021
F1 Leng h(F1 79 F1 A
F Wl M44e4 hP Q C14, a 6) M7 s 6 TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUe4tSns 4, r 6ckcM4 ds BdnU, r 6ckcM4 ds - Sl44y nMgA
F Wl doeR est4
w m((19D0, Pdcnt6lsm 28 2((9, 7(D8 . . 9: (

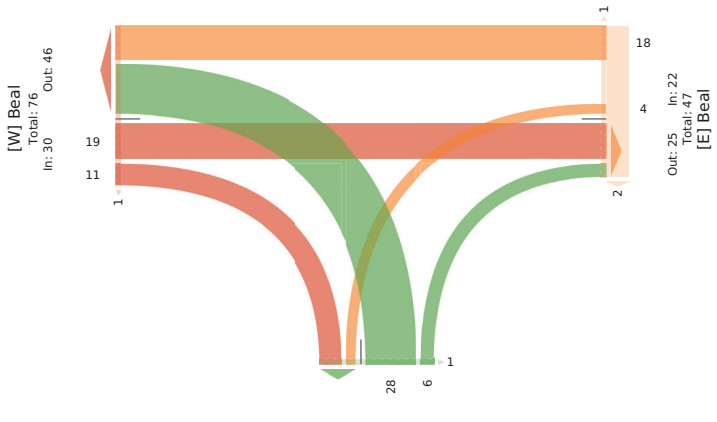
GEWALT HAMILTON ASSOCIATES, INC.
LSlo6LeU3kmb ey nMGnR6Wls F 44dc6nte4 vsc8
I 2H5 dSe4t EU) e v Sne, VeSs ds G6WMl vP, I 00I 1, i a

Pe) v 6ect6ls	r enM En43dus U					r enM p e43dus U					B6oeS WdSC3dus U					
T6Re	T	B	i	**F NN**	LeU*	P	T	i	**F NN**	LeU*	P	B	i	**F NN**	LeU*	**wt**
202171 0719 (n0 0F1	I	D	0	**9**	0	0	1	0	**1**	0	.	D	0	**10**	0	**20**
(n1HF1	:	2	0	**I**	0	1	2	0	**D**	2	I	1	0	**.**	0	**11**
(n0 0F1	:	:	0	**(**	0	2	.	0	**9**	1	10	2	0	**12**	0	**29**
(mHF1	H	2	0	**.**	1	1	(	0	**9**	0	H	0	0	**H**	1	**21**
TdmM	19	11	0	**D0**	1	:	1(	0	**22**	D	2(	I	0	**D**	1	**(I**
% F NNSincC	1 D0 %	D I 8 %	0%	**7**	7	1(82 %	(18 (%	0%	**7**	7	(28 %	1. 8 %	0%	**7**	7	7
% TdmM	228 8 %	128 (%	0%	**D. 8 9 %**	7	: 8 %	208 9 %	0%	**2H8 %**	7	D28 %	. 8 0 %	0%	**D8 8 %**	7	7
LG5	08 92	08 ((	7	**08 (DD**	7	08H00	08HD	7	**08 11**	7	08 00	08H00	7	**08 0 (**	7	08 : 1
P Q C14	19	11	0	**D0**	7	D	1(	0	**21**	7	2.	I	0	**DD**	7	(:
% P Q C14	100%	100%	0%	**100%**	7	. H0 %	100%	0%	**9H8 %**	7	91 8 %	100%	0%	**9. 8 1 %**	7	9. 8 %
a 6) M7 s 6 TSucg4	0	0	0	**0**	7	1	0	0	**1**	7	0	0	0	**0**	7	1
% a 6) M7 s 6 TSucg4	0%	0%	0%	**0%**	7	2H0 %	0%	0%	**: 8 %**	7	0%	0%	0%	**0%**	7	18 2 %
F St6cuMteUTSucg4	0	0	0	**0**	7	0	0	0	**0**	7	0	0	0	**0**	7	0
% F St6cuMteUTSucg4	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%
r u4e4	0	0	0	**0**	7	0	0	0	**0**	7	1	0	0	**1**	7	1
% r u4e4	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	D8 %	0%	0%	**28 0 %**	7	18 2 %
r 6ckcM4 ds BdnU	0	0	0	**0**	7	0	0	0	**0**	7	0	0	0	**0**	7	0
% r 6ckcM4 ds BdnU	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%
LeUe4tSns 4	7	7	7	7	1	7	7	7	7	D	7	7	7	7	1	
% LeUe4tSns 4	7	7	7	7	100%	7	7	7	7	100%	7	7	7	7	100%	7
r 6ckcM4 ds - Sl44y nMg	7	7	7	7	0	7	7	7	7	0	7	7	7	7	0	
% r 6ckcM4 ds - Sl44y nMg	7	7	7	7	0%	7	7	7	7	0%	7	7	7	7	0%	7

*LeUe4tSns 4 ns Ur 6ckcM4 ds - Sl44y nMg8PmPeft, BmB6) Cl, TmlTCSu, i mi 7TuSs

River & Beal - TMC
Tue Oct 19, 2021
F1 Leng h(F1 79 F1 A
F Wl M44e4 hP Q C14, a 6) M7 s 6 TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUe4tSns 4, r 6ckcM4 ds BdnU, r 6ckcM4 ds - Sl44y nMgA
F Wl doeR est4
w m((19D0, Pdcnt6lsm 28 2((9, 7(D8 . . 9: (

GEWALT HAMILTON ASSOCIATES, INC.
LSlo6LeU3kmb ey nMGnR6Wls F 44dc6nte4 vsc8
I 2H5 dSe4t EU) e v Sne, VeSs ds G6WMl vP, I 00I 1, i a



GHA GEWALT HAMILTON ASSOCIATES, INC.

FRC4Udeo Gv(HemLfi) LI UdCBa iiCcUIrei DBc3
. 2M5CReit Eore : Pude, VeBBCB) U6i, DS, . 00. 1, y d

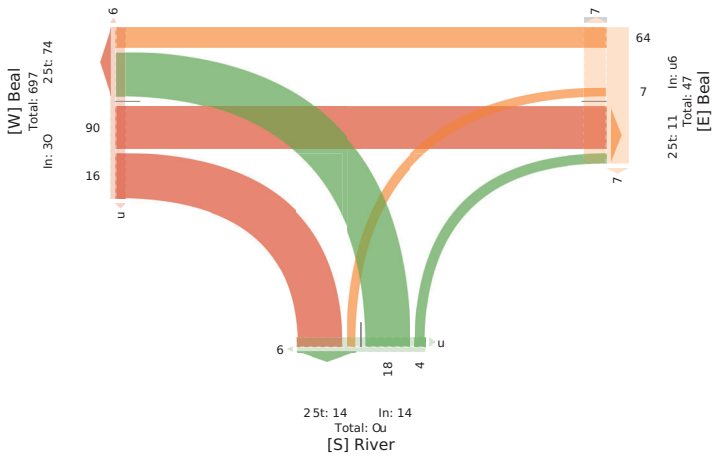
Ser . UBectUCB	ReLfi ELitCUuBo					ReLfi p eitCUuBo					v UdeP WCRkCUuBo					
TUi e	T	v	y	a NN	Feo*	S	T	y	a NN	Feo*	S	v	y	a NN	Feo*	UBt
2021A10A19 h(70Fl	b	17	0	**20**	0	1	2	0	**7**	2	11	0	0	**11**	0	**7h**
h(hMFl	12	9	0	**21**	0	0	8	0	**8**	-	17	7	0	**1.**	0	**hM**
M00Fl	10	b	0	**1b**	7	2	2	0	**h**	0	.	2	0	**8**	2	**29**
M1MFl	9	12	0	**21**	0	2	h	0	**.**	2	10	1	0	**11**	1	**78**
TCtL6	78	h1	0	**b9**	7	M	1.	0	**21**	10	h0	.	0	**h.**	7	**1h.**
% a NNCLck	h83l%	M39%	0%	**A**	A	273l%	b. 32%	0%	**A**	A	8b30%	173l%	0%	**A**	A	A
% TCtL6	2. 30%	283l%	0%	**Mb31%**	A	73l%	113l%	0%	**1h3l%**	A	2b3l%	h3l%	0%	**713M%**	A	A
F) 5	03b92	03817	A	**03911b**	A	03 2M	03M40	A	**03 M**	A	03bM0	03M40	A	**03b07**	A	03b9h
SUkti	78	78	0	**b.**	A	M	1.	0	**21**	A	79	M	0	**hh**	A	1h1
% SUkti	100%	923b%	0%	**9. 32%**	A	100%	100%	0%	**100%**	A	9b3M%	873l%	0%	**9Mb2%**	A	9. 3 %
dUBr6eAy BtiTRucni	0	1	0	**1**	A	0	0	0	**0**	A	0	1	0	**1**	A	2
% dUBr6eAy BtiTRucni	0%	23h%	0%	**137%**	A	0%	0%	0%	**0%**	A	0%	1. 3h%	0%	**232%**	A	13h%
a RUduGLieo TRucni	0	0	0	**0**	A	0	0	0	**0**	A	0	0	0	**0**	A	0
% a RUduGLieo TRucni	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%
Ruiei	0	0	0	**0**	A	0	0	0	**0**	A	0	0	0	**0**	A	0
% Ruiei	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%
RUdwc6ei CBvCLo	0	2	0	**2**	A	0	0	0	**0**	A	1	0	0	**1**	A	7
% RUdwc6ei CBvCLo	0%	h3l%	0%	**23M%**	A	0%	0%	0%	**0%**	A	23M%	0%	0%	**232%**	A	23l%
FeoeitPULEi	A	A	A	A	7	A	A	A	A	10	A	A	A	A	7	
% FeoeitPULEi	A	A	A	A	100%	A	A	A	A	100%	A	A	A	A	100%	A
RUdwc6ei CBs PCimLfn	A	A	A	A	0	A	A	A	A	0	A	A	A	A	0	
% RUdwc6ei CBs PCimLfn	A	A	A	A	0%	A	A	A	A	0%	A	A	A	A	0%	A

*FeoeitPULEi LBo RUdwc6ei CBs PCimLfn3S(Seft, v (v Ukt, T(TkRu, y (y AUuBB

River & Beal - TMC
Tue Oct 19, 2021
Fl FeLn gh(70 Fl AM70 Fl - AO4eEL66FeLn) CuP
a 6ss GLiiei gSUkti, dUBr6eAy BtiTRucni, a RUduGLieo TRucni, Ruiei,
FeoeitPULEi, RUdwc6ei CBvCLo, RUdwc6ei CBs PCimLfn-
a 6Sl C4el eBti
D (88. 970, SCcLrUCB(h23h2889, A873bbb9h8

GHA GEWALT HAMILTON ASSOCIATES, INC.

FRC4Udeo Gv(HemLfi) LI UdCBa iiCcUIrei DBc3
. 2M5CReit Eore : Pude, VeBBCB) U6i, DS, . 00. 1, y d



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

GHA GEWALT HAMILTON ASSOCIATES, INC.

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

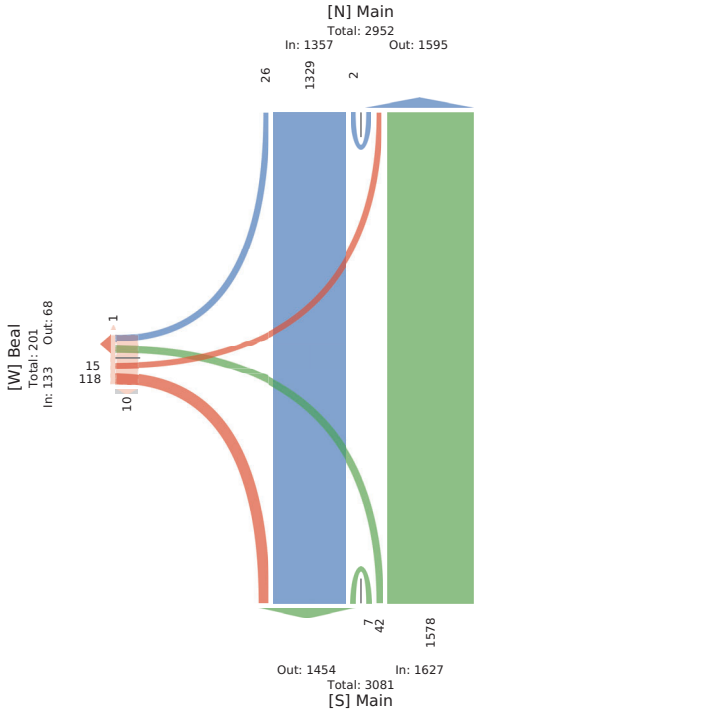
Leg Direction	Beal Eastbound					Main Northbound					Main Southbound					
Time	L	R	U	App	Ped*	L	T	U	App	Ped*	T	R	U	App	Ped*	Int
2021-10-19 7:00AM	0	1	0	**1**	0	2	38	0	**40**	0	37	0	0	**37**	0	**78**
7:15AM	1	1	0	**2**	0	0	41	1	**42**	0	34	1	0	**35**	0	**79**
7:30AM	0	8	0	**8**	0	0	52	0	**52**	0	57	0	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	**430**
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%	88.7%	0%	**-**	-	2.6%	97.0%	0.4%	**-**	-	97.9%	1.9%	0.1%	**-**	-	-
% Total	0.5%	3.8%	0%	**4.3%**	-	1.3%	50.6%	0.2%	**52.2%**	-	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%	**99.2%**	-	92.9%	98.3%	100%	**98.2%**	-	98.6%	84.6%	100%	**98.3%**	-	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%**	-	0%	1.0%	0%	**0.9%**	-	0.5%	0%	0%	**0.5%**	-	0.7%
Articulated Trucks	0	0	0	**0**	-	2	3	0	**5**	-	3	0	0	**3**	-	8
% Articulated Trucks	0%	0%	0%	**0%**	-	4.8%	0.2%	0%	**0.3%**	-	0.2%	0%	0%	**0.2%**	-	0.3%
Buses	0	1	0	**1**	-	1	7	0	**8**	-	5	1	0	**6**	-	15
% Buses	0%	0.8%	0%	**0.8%**	-	2.4%	0.4%	0%	**0.5%**	-	0.4%	3.8%	0%	**0.4%**	-	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%	0.1%	0%	**0.1%**	-	0.3%	11.5%	0%	**0.5%**	-	0.3%
Pedestrians	-	-	-	-	9	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	81.8%	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	2	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	18.2%	-	-	-	-	-	-	-	-	-	-	-

*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, -83.47b603

GHA GEWALT HAMILTON ASSOCIATES, INC.

Provided Gy: Hewalt 5 amilton Associates Inc.
62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US



GEWALT HAMILTON ASSOCIATES, INC.

LSloGLeUbkmGey nMHnR6ntls F44dc6nte4 wc8
I23 5dSe4t EU) e v Sne, VeSs ds H6NM(vP, I00I 1, i a

Pe) v 6ectGls	r enM En45dus U				I nfs Nd5C5dus U				I nfs adutC5dus U				
T6Re	P	B	i	Fpp	LeU*	P	T	i	Fpp	LeU*	T	B	i	Fpp	LeU*	wt
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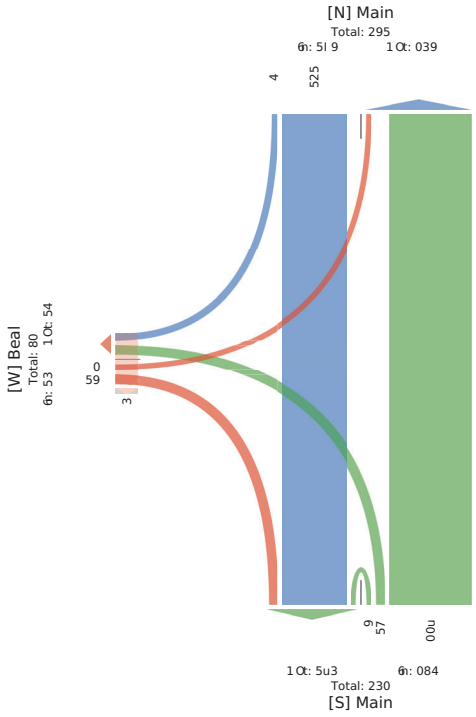
(n13F1	2	.	0	3	1	2	: I	1	: 9	0	I .	0	0	1.	0	1D
(m0F1	0	1	0	I	2	9	(.	0	92	0	: .	3	0	: (	0	1: I
(n8F1	0	1	0	I	1	(	9(	0	10I	0	: D	1	0	: 3	0	1(:
TdnM	.	21	0	2D	D	20	. . (	1	. 39	0	2I 2	9	0	2: 1	0	I3D
% FppSlncC	128%	(: 8%	0%	7	7	38 %	9D2%	08 %	7	7	9I 8 %	. 8 %	0%	7	7	7
% TdnM	08%	. 82%	0%	. 8 %	7	. 8%	318 %	082%	3D89%	7	D08 %	18D%	0%	DI8D%	7	7
LGH	08 : 3	08(: 3	7	08(3:	7	083I	08(I 2	0823 0	08(D	7	08((3	083D	7	08(I 9	7	08 : D
P6 C4	.	21	0	2D	7	1(	. 23	1	. DD	7	23.	9	0	21 2	7	I . 0
% P6 C4	100%	100%	0%	100%	7	908 0%	9I 82%	100%	938 %	7	9I 8 %	100%	0%	9I8 %	7	9I 8 %
a6) M1 s6 TSucg4	0	0	0	0	7	0	:	0	:	7	2	0	0	2	7	9
% a6) M1 s6 TSucg4	0%	0%	0%	0%	7	0%	28 %	0%	189%	7	08(%	0%	0%	08 %	7	18D%
F StGcuMteUTSucg4	0	0	0	0	7	1	2	0	.	7	2	0	0	2	7	3
% F StGcuMteUTSucg4	0%	0%	0%	0%	7	38 0%	08 %	0%	08 %	7	08 %	0%	0%	08 %	7	08 %
r u4e4	0	0	0	0	7	1	D	0	3	7	3	0	0	3	7	10
% r u4e4	0%	0%	0%	0%	7	38 0%	18 2%	0%	18D%	7	18 0%	0%	0%	18 %	7	188%
r 6ckcM4 ds BdnU	0	0	0	0	7	0	0	0	0	7	0	0	0	0	7	0
% r 6ckcM4 ds BdnU	0%	0%	0%	0%	7	0%	0%	0%	0%	7	0%	0%	0%	0%	7	0%
LeUe4tSns4	7	7	7	7	D	7	7	7	7	0	7	7	7	7	0	
% LeUe4tSns4	7	7	7	7	100%	7	7	7	7	7	7	7	7	7	7	7
r 6ckcM4 ds - Sl44y nMJ	7	7	7	7	0	7	7	7	7	0	7	7	7	7	0	
% r 6ckcM4 ds - Sl44y nMJ	7	7	7	7	0%	7	7	7	7	7	7	7	7	7	7	7

*LeUe4tSns4 nsUr 6ckcM4 ds - Sl44y nMJ83PmPeft, BmB9 C1, TmiTCSu, i mi 7TuSs

GEWALT HAMILTON ASSOCIATES, INC.

LSloGLeUbkmGey nMHnR6ntls F44dc6nte4 wc8
I23 5dSe4t EU) e v Sne, VeSs ds H6NM(vP, I00I 1, i a



GEWALT HAMILTON ASSOCIATES, INC.

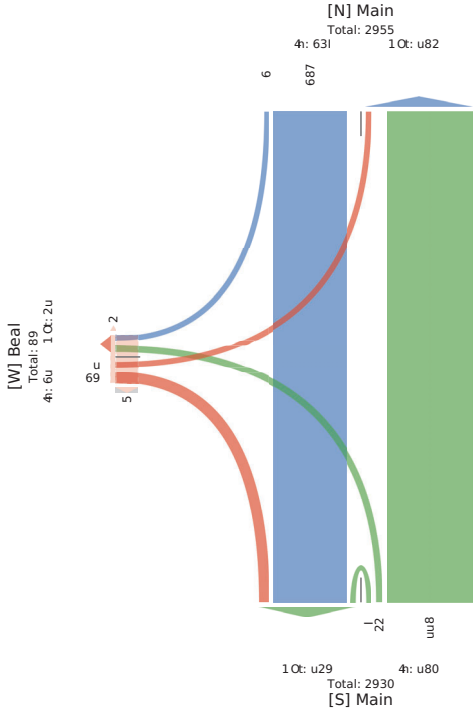
FIC4Udeo bw(GemLfi) LI U6CBa iiCcUIrei DBc5
. 2M5CPeit Eore : Pd4e, VeBCB) U6i, DS, . 00. 1, y d

Ser : Uhect0B	ReL6 ELitbCuBo					I LIB NCHtkbCuBo					I LIB dCutkbCuBo					
TUI e	S	v	y	a pp	Feo*	S	T	y	a pp	Feo*	T	v	y	a pp	Feo*	Dh
2021A10A19 h(70F1	0	8	0	8	2	0	1h.	0	1h.	0	122	0	0	122	0	23.
h(hMF1	2	11	0	17	1	.	17M	1	1h2	0	11M	0	0	11M	0	230
M00F1	1	9	0	10	1	2	120	1	127	0	11h	2	0	11.	0	2h9
M1MF1	2	12	0	1h	0	7	1MM	0	1M8	0	113	2	0	119	0	291
TCIL6	M	h0	0	hM	h	11	MM	2	M9	0	h. 8	h	0	h32	0	108.
% a ppRCLck	115%	883%	0%	A	A	15D%	935%	05h%	A	A	99I2%	03B%	0%	A	A	A
% TCIL6	05M%	75I%	0%	h5%	A	15D%	M 52%	052%	M25%	A	h75I%	05h%	0%	h75M%	A	A
F) H	05 2M	05877	A	0580h	A	05hM8	05893	05M40	05900	A	05hM8	05M40	A	059. M	A	05072
SUkti	M	h0	0	hM	A	11	MM7	2	M.	A	h. M	h	0	h. 9	A	1080
% SUkti	100%	100%	0%	100%	A	100%	993M%	100%	995M%	A	993h%	100%	0%	995h%	A	993h%
dUBr6eAy BtUTRucni	0	0	0	0	A	0	2	0	2	A	1	0	0	1	A	7
% dUBr6eAy BtUTRucni	0%	0%	0%	0%	A	0%	03h%	0%	05h%	A	052%	0%	0%	052%	A	057%
a RtUuGLteo TRucni	0	0	0	0	A	0	1	0	1	A	1	0	0	1	A	2
% a RtUuGLteo TRucni	0%	0%	0%	0%	A	0%	052%	0%	052%	A	052%	0%	0%	052%	A	052%
Ruiei	0	0	0	0	A	0	0	0	0	A	0	0	0	0	A	0
% Ruiei	0%	0%	0%	0%	A	0%	0%	0%	0%	A	0%	0%	0%	0%	A	0%
RUdwc6ei CBv CLo	0	0	0	0	A	0	0	0	0	A	1	0	0	1	A	1
% RUdwc6ei CBv CLo	0%	0%	0%	0%	A	0%	0%	0%	0%	A	052%	0%	0%	052%	A	051%
FeoeitPULBi	A	A	A	A	2	A	A	A	A	0	A	A	A	A	0	
% FeoeitPULBi	A	A	A	A	M3D%	A	A	A	A	A	A	A	A	A	A	A
RUdwc6ei CBs PCiimLfn	A	A	A	A	2	A	A	A	A	0	A	A	A	A	0	
% RUdwc6ei CBs PCiimLfn	A	A	A	A	M3D%	A	A	A	A	A	A	A	A	A	A	A

*FeoeitPULBi LBo RUdwc6ei CBs PCiimLfn5S(Seft, v (v U kt, T(TkRn, y (y AFuHB

GEWALT HAMILTON ASSOCIATES, INC.

FIC4Udeo Gv(HemLfi) LI U6CBa iiCcUIrei DBcb
. 2M5CPeit Eore : Pd4e, VeBCB) U6i, DS, . 00. 1, y d



7 Mile & First Street/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)
All Movements
ID: 886948, Location: 42.427136, -83.488241

GEWALT HAMILTON ASSOCIATES, INC.
Provided 5y: b ewalt Gamilton Associates Inc.
62HForest Edge Drive, Vernon Gills, IL, 60061, US

Leg	7 Mile						7 Mile						1st						Fair5rook						
Direction	East5ound						p est5ound						South5ound						Southwest5ound						
Time	L	BL	T	U	AWW	Ped*	T	R	GR	U	AWW	Ped*	GL	L	R	U	AWW	Ped*	GL	BR	GR	U	AWW	Ped*	Int
2021-10-19 7:00AM	0	1	74	0	**7H**	0	38	1	0	0	**39**	0	0	1	0	0	**1**	0	0	1	0	0	**1**	0	**116**
7:1HAM	0	2	HB	0	**60**	0	41	3	0	0	**44**	0	0	0	0	0	**0**	1	0	0	0	0	**0**	0	**104**
7:30AM	0	3	73	0	**76**	0	HD	0	0	0	**HD**	0	0	1	0	0	**1**	0	1	3	1	0	**H**	0	**132**
7:4HAM	3	7	7H	0	**8H**	0	44	6	0	0	**HD**	0	0	1	0	0	**1**	0	0	2	0	0	**2**	0	**138**
Gourly Total	3	13	280	0	**296**	0	173	10	0	0	**183**	0	0	3	0	0	**3**	1	1	6	1	0	**8**	0	**490**
8:00AM	2	H	107	0	**114**	0	66	2	0	0	**68**	0	0	1	1	0	**2**	1	1	2	0	0	**3**	0	**187**
8:1HAM	4	8	97	0	**109**	0	48	0	1	0	**49**	0	0	3	0	0	**3**	4	0	2	0	0	**2**	2	**163**
8:30AM	1	4	6H	0	**70**	0	HH	2	0	0	**H7**	0	0	3	1	0	**4**	2	0	1	0	0	**1**	0	**132**
8:4HAM	1	H	62	0	**68**	0	HD	3	0	0	**HB**	0	0	2	0	0	**2**	0	0	2	0	0	**2**	0	**12H**
Gourly Total	8	22	331	0	**361**	0	219	7	1	0	**227**	0	0	9	2	0	**11**	7	1	7	0	0	**8**	2	**607**
4:00PM	2	6	80	0	**88**	0	114	2	0	0	**116**	0	0	4	1	0	**H**	6	0	6	0	0	**6**	0	**21H**
4:1HPM	0	3	7H	0	**78**	0	96	3	2	0	**101**	0	0	2	0	0	**2**	0	0	2	3	0	**H**	0	**186**
4:30PM	2	H	8H	0	**92**	0	131	0	0	0	**131**	0	0	2	0	0	**2**	0	0	3	1	0	**4**	0	**229**
4:4HPM	3	H	102	0	**110**	0	113	4	0	0	**117**	0	1	0	1	0	**2**	4	0	3	1	0	**4**	1	**233**
Gourly Total	7	19	342	0	**368**	0	4H4	9	2	0	**46H**	0	1	8	2	0	**11**	10	0	14	H	0	**19**	1	**863**
H00PM	0	3	60	0	**63**	0	123	3	0	1	**127**	0	0	0	0	0	**0**	0	0	H	0	0	**H**	0	**19H**
H1HPM	1	4	81	0	**86**	0	118	7	3	0	**128**	0	0	0	0	0	**0**	2	0	2	3	0	**H**	0	**219**
H30PM	2	2	84	0	**88**	0	12H	2	0	0	**127**	0	1	0	1	0	**2**	1	0	2	4	0	**6**	0	**223**
H4HPM	1	2	86	0	**89**	0	112	H	0	0	**117**	0	1	2	0	0	**3**	2	0	4	1	0	**H**	0	**214**
Gourly Total	4	11	311	0	**326**	0	478	17	3	1	**499**	0	2	2	1	0	**H**	H	0	13	8	0	**21**	0	**8H1**
Total	22	6H	1264	0	**13H1**	0	1324	43	6	1	**1374**	0	3	22	H	0	**30**	23	2	40	14	0	**H6**	3	**2811**
% AWWoach	1.6%	4.8%	93.6%	0%	**-**	-	96.4%	3.1%	0.4%	0.1%	**-**	-	10.0%	73.3%	16.7%	0%	**-**	-	3.6%	71.4%	2H0%	0%	**-**	-	-
% Total	0.8%	2.3%	4H0%	0%	**48.1%**	-	47.1%	1.H%	0.2%	0%	**48.9%**	-	0.1%	0.8%	0.2%	0%	**1.1%**	-	0.1%	1.4%	0.H%	0%	**2.0%**	-	-
Lights	21	64	1237	0	**1322**	-	1288	43	6	1	**1338**	-	2	22	H	0	**29**	-	2	3H	12	0	**49**	-	2738
% Lights	9HH%	98.H%	97.9%	0%	**97.9%**	-	97.3%	100%	100%	100%	**97.4%**	-	66.7%	100%	100%	0%	**96.7%**	-	100%	87.H%	8H7%	0%	**87.H%**	-	97.4%
Single-Unit Trucks	1	0	13	0	**14**	-	21	0	0	0	**21**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	3H
% Single-Unit Trucks	4.H%	0%	1.0%	0%	**1.0%**	-	1.6%	0%	0%	0%	**1.H%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	1.2%
Articulated Trucks	0	0	7	0	**7**	-	11	0	0	0	**11**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	18
% Articulated Trucks	0%	0%	0.6%	0%	**0.H%**	-	0.8%	0%	0%	0%	**0.8%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.6%
Buses	0	0	3	0	**3**	-	3	0	0	0	**3**	-	0	0	0	0	**0**	-	0	3	2	0	**H**	-	11
% Buses	0%	0%	0.2%	0%	**0.2%**	-	0.2%	0%	0%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	0%	7.H%	14.3%	0%	**8.9%**	-	0.4%
Bicycles on Road	0	1	4	0	**H**	-	1	0	0	0	**1**	-	1	0	0	0	**1**	-	0	2	0	0	**2**	-	9
% Bicycles on Road	0%	1.H%	0.3%	0%	**0.4%**	-	0.1%	0%	0%	0%	**0.1%**	-	33.3%	0%	0%	0%	**3.3%**	-	0%	H0%	0%	0%	**3.6%**	-	0.3%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	22	-	-	-	-	-	3	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9H7%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.3%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, GL: Gard left, GR: Gard right, L: Left, R: Right, T: Thru, U: U-Turn

7 Mile & First Street/Fairbrook - TMC

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GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

7 Mile & First Street/Fairbrook - TMC

Tue Oct 19, 2021
F1 Leng h(7A0 F1 M-7A0 F1 4
F PP6 Pn))e) hCasi t), SaUsPeM Uat Tkucg), F ktacuPnted Tkucg), Bu)e), Lede)tkanU), BacycPe) oURond, BacycPe) oU6 ko))wnPg4
F PPl ovemeUt)
ID7- - : 98- , CocntaoU782.82(1A: , MA8- - 281

GEWALT HAMILTON ASSOCIATES, INC.
Lkovaded 3y75 ewnPt b nmaPtoUF))ocante) IUc.
: 2GHoke)t Edse Dkave, VekUoUb aPP), IC, : 00: 1, r S

Ces	(1 aPe						(1 aPe						1)t						Hnak3koog						
DakectaoU	En)t3ouUd						p e)t3ouUd						Souti 3ouUd						Souti we)t3ouUd						
Tame	C	BC	T	r	FWW	Led*	T	R	bR	r	FWW	Led*	bC	C	R	r	FWW	Led*	bC	BR	bR	r	FWW	Led*	IUt
2021M0M9 (7A0F1	0	A	(A	0	**(:**	0	G0	0	0	0	**G0**	0	0	1	0	0	**1**	0	1	A	1	0	**G**	0	**1A2**
(7BGF1	A	(	(G	0	**-G**	0	88	:	0	0	**G0**	0	0	1	0	0	**1**	0	0	2	0	0	**2**	0	**1A-**
- 700F1	2	G	10(	0	**118**	0	::	2	0	0	**:-**	0	0	1	1	0	**2**	1	1	2	0	0	**A**	0	**1-(**
- 71GF1	8	-	9(	0	**109**	0	8-	0	1	0	**89**	0	0	A	0	0	**A**	8	0	2	0	0	**2**	2	**1: A**
TotnP	9	2A	AG2	0	**A-8**	0	20-	-	1	0	**21(**	0	0	:	1	0	**(**	G	2	9	1	0	**12**	2	**: 20**
% F WWonci	2.A%	: .0%	91.(%	0%	**M**	M	9G9%	A(%	0.G%	0%	**M**	M	0%	- G(%	18.A%	0%	**M**	M	1: .(%	(G0%	- .A%	0%	**M**	M	M
% TotnP	1.G%	A(%	G.-%	0%	**: 1.9%**	M	AAG%	1.A%	0.2%	0%	**AG0%**	M	0%	1.0%	0.2%	0%	**1.1%**	M	0.A%	1.G%	0.2%	0%	**1.9%**	M	M
Lb H	0.GA	0.(19	0.-22	M	**0.-82**	M	0.(- -	0.AAA	0.2G0	M	**0.(9-**	M	M	0.G00	0.2G0	M	**0.GA**	M	0.G00	0.(G0	0.2G0	M	**0.: 00**	M	0.-29
Casi t)	9	2A	A8G	0	**A((**	M	19A	-	1	0	**202**	M	0	:	1	0	**(**	M	2	(	1	0	**10**	M	G9:
% Casi t)	100%	100%	9- .0%	0%	**9- .2%**	M	92.-%	100%	100%	0%	**9A1%**	M	0%	100%	100%	0%	**100%**	M	100%	((.-%	100%	0%	**- AA%**	M	9: .1%
SaUsPeM Uat Tkucg)	0	0	G	0	**G**	M	10	0	0	0	**10**	M	0	0	0	0	**0**	M	0	0	0	0	**0**	M	1G
% SaUsPeM Uat Tkucg)	0%	0%	1.8%	0%	**1.A%**	M	8.-%	0%	0%	0%	**8.: %**	M	0%	0%	0%	0%	**0%**	M	0%	0%	0%	0%	**0%**	M	2.8%
F ktacuPnted Tkucg)	0	0	0	0	**0**	M	8	0	0	0	**8**	M	0	0	0	0	**0**	M	0	0	0	0	**0**	M	8
% F ktacuPnted Tkucg)	0%	0%	0%	0%	**0%**	M	1.9%	0%	0%	0%	**1.-%**	M	0%	0%	0%	0%	**0%**	M	0%	0%	0%	0%	**0%**	M	0.: %
Bu)e)	0	0	2	0	**2**	M	1	0	0	0	**1**	M	0	0	0	0	**0**	M	0	2	0	0	**2**	M	G
% Bu)e)	0%	0%	0.: %	0%	**0.G%**	M	0.G%	0%	0%	0%	**0.G%**	M	0%	0%	0%	0%	**0%**	M	0%	22.2%	0%	0%	**1: .(%**	M	0.-%
BacycPe) oURond	0	0	0	0	**0**	M	0	0	0	0	**0**	M	0	0	0	0	**0**	M	0	0	0	0	**0**	M	0
% BacycPe) oURond	0%	0%	0%	0%	**0%**	M	0%	0%	0%	0%	**0%**	M	0%	0%	0%	0%	**0%**	M	0%	0%	0%	0%	**0%**	M	0%
Lede)tkanU)	M	M	M	M	M	0	M	M	M	M	M	0	M	M	M	M	M	G	M	M	M	M	M	2	
% Lede)tkanU)	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	100%	M	M	M	M	M	100%	M
BacycPe) oU6 ko))wnPg	M	M	M	M	M	0	M	M	M	M	M	0	M	M	M	M	M	0	M	M	M	M	M	0	
% BacycPe) oU6 ko))wnPg	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	0%	M	M	M	M	M	0%	M

*Lede)tkanU) nUd BacycPe) oU6 ko))wnPg. BC7Benk Peft, BR7Benk kasi t, b C7b nkd Peft, b R7b nkd kasi t, C7Ceft, R7Rasi t, T7Ti ku, r 7r M TukU

7 Mile & First Street/Fairbrook - TMC

Tue Oct 19, 2021
F1 Leng h(7A0 F1 M-7A0 F1 4
F PP6 Pn))e) hCasi t), SaUsPeM Uat Tkucg), F ktacuPnted Tkucg), Bu)e), Lede)tkanU), BacycPe) oURond, BacycPe) oU6 ko))wnPg4
F PPl ovemeUt)
ID7- - : 98- , CocntaoU782.82(1A: , MA8- - 281

GEWALT HAMILTON ASSOCIATES, INC.
Lkovaded 3y7b ewnPt GnmaPtoUF))ocante) IUc.
: 2H5oke)t Edse Dkave, VekUoUGaPP), IC, : 00: 1, r S

7 Mile & First Street/Fairbrook - TMC

Tue Oct 19, 2021
Fl FeLn gh(70 Fl AM(70 Fl - AO4ePL6FeLn) CuP
a 66s 6Liiei gSUrkti, dUBr6eAy BUrTPucni, a PUcu6teo TPucni, Ruiei, FeoeitPULBi, RUcwc6ei CBvCLo, RUcwc6ei CBs PCiimL6n-
a 66l C4eI eBti
D: (88.9h8, SCcLtUCB(h23h2517., A873h882h1

FPC4Ueo bw(GemL6) LI U6CBaiiCcUtei DBc3
.2MHCPeit Eore : PU4e, VePBCB) U6i, DS, .00. 1, y d

Ser	51 U6e						51 U6e						1it						HUPbPCCn						
: UectUCB	ELitbCuBo						peitbCuBo						dCutkbCuBo						dCutkmeitbCuBo						
TU e	S	RS	T	y	aWW	Feo*	T	v	)v	y	aWW	Feo*	)S	S	v	y	aWW	Feo*	)S	Rv	)v	y	aWW	Feo*	Int
2021A10A19 h(70Fl	2	M	8M	0	**92**	0	171	0	0	0	**171**	0	0	2	0	0	**2**	0	0	7	1	0	**h**	0	**229**
h(hMFl	7	M	102	0	**110**	0	117	h	0	0	**115**	0	1	0	1	0	**2**	h	0	7	1	0	**h**	1	**277**
M(00Fl	0	7	.0	0	**.7**	0	127	7	0	1	**125**	0	0	0	0	0	**0**	0	0	M	0	0	**M**	0	**19M**
M(1MFl	1	h	81	0	**8.**	0	118	5	7	0	**128**	0	0	0	0	0	**0**	2	0	2	7	0	**M**	0	**219**
TCtL6	.	15	728	0	**7M**	0	h8M	1h	7	1	**M07**	0	1	2	1	0	**h**	.	0	17	M	0	**18**	1	**85.**
% aWWCLck	135%	h38%	973h%	0%	**A**	A	9.3h%	238%	03%	032%	**A**	A	2M30%	M030%	2M30%	0%	**A**	A	0%	5232%	2538%	0%	**A**	A	A
% TCtL6	035%	139%	753h%	0%	**h031%**	A	MM3h%	13%	037%	031%	**M53h%**	A	031%	032%	031%	0%	**03M%**	A	0%	13M%	03%	0%	**231%**	A	A
F) H	03M00	03800	0381M	A	**03817**	A	0392.	03M00	032M0	032M0	**039.0**	A	A	032M0	032M0	A	**0375M**	A	A	03M0	03h15	A	**03900**	A	039M2
SUrkti	.	1.	719	0	**7h1**	A	h80	1h	7	1	**h98**	A	0	2	1	0	**7**	A	0	17	7	0	**1.**	A	8M8
% SUrkti	100%	9h31%	9537%	0%	**9532%**	A	9930%	100%	100%	100%	**9930%**	A	0%	100%	100%	0%	**5M30%**	A	0%	100%	.030%	0%	**8830%**	A	9539%
dUBr6eAy BUrTPucni	0	0	M	0	**M**	A	1	0	0	0	**1**	A	0	0	0	0	**0**	A	0	0	0	0	**0**	A	.
% dUBr6eAy BUrTPucni	0%	0%	13M%	0%	**13h%**	A	032%	0%	0%	0%	**032%**	A	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	035%
a PUcu6teo TPucni	0	0	2	0	**2**	A	h	0	0	0	**h**	A	0	0	0	0	**0**	A	0	0	0	0	**0**	A	.
% a PUcu6teo TPucni	0%	0%	03%	0%	**03%**	A	038%	0%	0%	0%	**038%**	A	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	035%
Ruiei	0	0	0	0	**0**	A	0	0	0	0	**0**	A	0	0	0	0	**0**	A	0	0	2	0	**2**	A	2
% Ruiei	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	0%	0%	h030%	0%	**1131%**	A	032%
RUcwc6ei CBvCLo	0	1	2	0	**7**	A	0	0	0	0	**0**	A	1	0	0	0	**1**	A	0	0	0	0	**0**	A	h
% RUcwc6ei CBvCLo	0%	M30%	03%	0%	**0330%**	A	0%	0%	0%	0%	**0%**	A	100%	0%	0%	0%	**2M30%**	A	0%	0%	0%	0%	**0%**	A	03M%
FeoeitPULBi	A	A	A	A	A	0	A	A	A	A	A	0	A	A	A	A	A	M	A	A	A	A	A	1	
% FeoeitPULBi	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	8737%	A	A	A	A	A	100%	A
RUcwc6ei CBs PCiimL6n	A	A	A	A	A	0	A	A	A	A	A	0	A	A	A	A	A	1	A	A	A	A	A	0	
% RUcwc6ei CBs PCiimL6n	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	1.35%	A	A	A	A	A	0%	A

*FeoeitPULBi LBo RUcwc6ei CBs PCiimL6n3RS(ReLP6eft, Rv(ReLPPUrkt,) S() LPo 6eft,) v() LPo PUrkt, S(Seft, v(vUrkt, T(TkPu, y(y ATuPB

7 Mile & First Street/Fairbrook - TMC

Tue Oct 19, 2021
Fl FeLn gh(70 Fl AM(70 Fl - AO4ePL6FeLn) CuP
a 66s 6Liiei gSUrkti, dUBr6eAy BUrTPucni, a PUcu6teo TPucni, Ruiei, FeoeitPULBi, RUcwc6ei CBvCLo, RUcwc6ei CBs PCiimL6n-
a 66l C4eI eBti
D: (88.9h8, SCcLtUCB(h23h2b17., A873h882h1

FPC4Ueo Gw(HemL6) LI U6CBaiiCcUtei DBc3
.2M5CPeit Eore : PU4e, VePBCB) U6i, DS, .00. 1, y d

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)
All Movements
ID: 8869. 8, Location: 4234274. 7, -8. 3484. . 9

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

Leg	Fairbrook						Fairbrook						p ing						p ing						
Direction	Eastbound						p estbound						Worthbound						Southbound						
Time	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	Int
2021-10-19 7:00AM	2	2	0	0	**4**	0	0	0	.	0	**.**	1	0	11	1	0	**12**	0	4	20	1	0	**25**	1	**44**
7:15AM	1	1	0	0	**2**	0	0	0	7	0	**7**	1	0	15	0	0	**15**	0	7	18	0	0	**25**	0	**49**
7:.0AM	1	2	1	0	**4**	0	0	0	12	0	**12**	0	1	16	1	0	**18**	0	6	25	1	0	**.2**	1	**66**
7:45AM	4	4	0	0	**8**	0	0	1	8	0	**9**	0	0	24	1	0	**25**	0	11	28	1	0	**40**	0	**82**
Hourly Total	8	9	1	0	**18**	0	0	1	.0	0	**.1**	2	1	66	.	0	**70**	0	28	91	.	0	**122**	2	**241**
8:00AM	.	.	1	0	**7**	1	0	0	4	0	**4**	0	1	12	0	0	**1.**	1	19	.4	.	0	**56**	0	**80**
8:15AM	5	5	0	0	**10**	0	0	0	8	0	**8**	0	1	18	0	0	**19**	0	9	29	0	0	**.8**	2	**75**
8:.0AM	2	2	0	0	**4**	1	0	1	2	0	**.**	0	0	21	0	0	**21**	1	8	25	0	0	**..**	1	**61**
8:45AM	4	1	1	0	**6**	0	0	0	4	0	**4**	2	1	19	0	0	**20**	0	6	26	0	0	**.2**	2	**62**
Hourly Total	14	11	2	0	**27**	2	0	1	18	0	**19**	2	.	70	0	0	**7.**	2	42	114	.	0	**159**	5	**278**
4:00PM	5	1	0	0	**6**	0	0	.	14	0	**17**	1	0	19	0	0	**19**	0	12	29	5	0	**46**	.	**88**
4:15PM	2	1	2	0	**5**	0	2	1	12	0	**15**	.	1	18	2	0	**21**	0	8	29	1	0	**.8**	2	**79**
4:.0PM	4	1	0	0	**5**	0	0	.	18	0	**21**	1	0	42	1	0	**4.**	0	1.	28	2	0	**4.**	0	**112**
4:45PM	5	2	0	0	**7**	0	0	4	20	0	**24**	2	0	26	1	0	**27**	0	1.	44	.	0	**60**	0	**118**
Hourly Total	16	5	2	0	**2.**	0	2	11	64	0	**77**	7	1	105	4	0	**110**	0	46	1.0	11	0	**187**	5	**.97**
5:00PM	1	1	1	0	**.**	0	0	2	18	0	**20**	1	1	25	0	0	**26**	0	8	49	5	0	**62**	0	**111**
5:15PM	5	1	0	0	**6**	0	0	0	2.	0	**2.**	1	0	24	1	0	**25**	0	20	.8	.	0	**61**	0	**115**
5:.0PM	2	1	1	0	**4**	1	0	.	15	0	**18**	1	0	22	0	0	**22**	0	7	.9	0	0	**46**	2	**90**
5:45PM	.	0	0	0	**.**	0	1	1	17	0	**19**	.	0	..	0	0	**..**	0	1.	44	4	0	**61**	1	**116**
Hourly Total	11	.	2	0	**16**	1	1	6	7.	0	**80**	6	1	104	1	0	**106**	0	48	170	12	0	**2.0**	.	**4.2**
Total	49	28	7	0	**84**	.	.	19	185	0	**207**	17	6	.45	8	0	**.59**	2	164	505	29	0	**698**	15	**1.48**
% ANNroach	583%	..3%	83%	0%	**-**	-	134%	932%	8934%	0%	**-**	-	137%	9631%	232%	0%	**-**	-	2.35%	723%	432%	0%	**-**	-	-
% Total	.36%	231%	035%	0%	**632%**	-	032%	134%	1.37%	0%	**1534%**	-	034%	2536%	036%	0%	**2636%**	-	1232%	.735%	232%	0%	**5138%**	-	-
Lights	48	27	7	0	**82**	-	2	16	179	0	**197**	-	5	..1	7	0	**.4.**	-	161	495	26	0	**682**	-	1.04
% Lights	9830%	9634%	100%	0%	**9736%**	-	6637%	8432%	9638%	0%	**9532%**	-	8.3%	9539%	8735%	0%	**9535%**	-	9832%	9830%	8937%	0%	**9737%**	-	9637%
Single-Unit Trucks	1	0	0	0	**1**	-	1	1	1	0	**.**	-	0	6	0	0	**6**	-	0	2	0	0	**2**	-	12
% Single-Unit Trucks	230%	0%	0%	0%	**132%**	-	..3%	53%	035%	0%	**134%**	-	0%	137%	0%	0%	**137%**	-	0%	034%	0%	0%	**03%**	-	039%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Buses	0	0	0	0	**0**	-	0	2	2	0	**4**	-	1	5	0	0	**6**	-	2	4	2	0	**8**	-	18
% Buses	0%	0%	0%	0%	**0%**	-	0%	1035%	131%	0%	**139%**	-	1637%	134%	0%	0%	**137%**	-	132%	038%	639%	0%	**131%**	-	13%
Bicycles on Road	0	1	0	0	**1**	-	0	0	.	0	**.**	-	0	.	1	0	**4**	-	1	4	1	0	**6**	-	14
% Bicycles on Road	0%	.36%	0%	0%	**132%**	-	0%	0%	136%	0%	**134%**	-	0%	039%	1235%	0%	**131%**	-	036%	038%	.34%	0%	**039%**	-	130%
Pedestrians	-	-	-	-	-	.	-	-	-	-	-	14	-	-	-	-	-	2	-	-	-	-	-	15	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	8234%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	.	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	1736%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk3L: 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)
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All Movements
ID: 8869. 8, Location: 4234274. 7, -8. 3484. . 9

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

Wing & Fairbrook - TMC

Tue Oct 19, 2021
Fl Leng h(7A0 Fl M-7A0 Fl 4
F PP6 Pn))e) hCasit), SaUsPeM Uat Tkucg), F ktacuPnted Tkucg), Bu)e), Lede)tkanU), BacycPe) oURond, BacycPe) oU6ko))wnPg4
F PPl ovemeUt)
ID7--:9A-, CocntaoU782.82(8A(, MA8-8AA9

Lkovaded 3y7b ewnPt GnmaPtoUF))ocante) IUc.
:2H5oke)t Edse Dkave, VekUoUGaPP), IC, :00:1, r S

Ces	5nak3koog						5nak3koog						p aUs						p aUs						
DakectaoU	En)t3ouUd						p e)t3ouUd						Wokti 3ouUd						Souti 3ouUd						
Tame	C	T	R	r	**F NN**	Led*	C	T	R	r	**F NN**	Led*	C	T	R	r	**F NN**	Led*	C	T	R	r	**F NN**	Led*	IUt
2021M0M9 (7A0F l	1	2	1	0	**8**	0	0	0	12	0	**12**	0	1	1:	1	0	**1-**	0	:	2H	1	0	**A2**	1	**::**
(78HF l	8	8	0	0	**-**	0	0	1	-	0	**9**	0	0	28	1	0	**2H**	0	11	2-	1	0	**80**	0	**-2**
-700F l	A	A	1	0	**(**	1	0	0	8	0	**8**	0	1	12	0	0	**1A**	1	19	A8	A	0	**H**	0	**-0**
-71HF l	H	H	0	0	**10**	0	0	0	-	0	**-**	0	1	1-	0	0	**19**	0	9	29	0	0	**A-**	2	**(H**
TotnP	1A	18	2	0	**29**	1	0	1	A2	0	**AA**	0	A	(0	2	0	**(H**	1	8H	11:	H	0	**1::**	A	**A0A**
% F NNkonci	88.-%	8-.A%	:.9%	0%	**M**	M	0%	A0%	9(.0%	0%	**M**	M	8.0%	9AA%	2.(%	0%	**M**	M	2(.1%	:9.9%	A0%	0%	**M**	M	M
% TotnP	8.A%	8.:%	0.(%	0%	**9.:%**	M	0%	0.A%	10.:%	0%	**10.9%**	M	1.0%	2A1%	0.(%	0%	**28.-%**	M	18.9%	A-.A%	1.(%	0%	**HB.-%**	M	M
LG5	0.:H0	0.(00	0.H00	M	**0.(2H**	M	M	0.2H0	0.::(	M	**0.::--**	M	0.(H0	0.(29	0.H00	M	**0.(H0**	M	0.H92	0.-HA	0.81(	M	**0.(81**	M	0.928
Casit)	1A	18	2	0	**29**	M	0	1	A2	0	**AA**	M	2	:A	2	0	**:(**	M	8H	111	8	0	**1:0**	M	2-9
% Casit)	100%	100%	100%	0%	**100%**	M	0%	100%	100%	0%	**100%**	M	::.(%	90.0%	100%	0%	**-9.A%**	M	100%	9H(%	-0.0%	0%	**9:.8%**	M	9H8%
SaUsPeM Uat Tkucg)	0	0	0	0	**0**	M	0	0	0	0	**0**	M	0	H	0	0	**H**	M	0	1	0	0	**1**	M	:
% SaUsPeM Uat Tkucg)	0%	0%	0%	0%	**0%**	M	0%	0%	0%	0%	**0%**	M	0%	(.1%	0%	0%	**:.(%**	M	0%	0.9%	0%	0%	**0.:%**	M	2.0%
F ktacuPnted Tkucg)	0	0	0	0	**0**	M	0	0	0	0	**0**	M	0	0	0	0	**0**	M	0	0	0	0	**0**	M	0
% F ktacuPnted Tkucg)	0%	0%	0%	0%	**0%**	M	0%	0%	0%	0%	**0%**	M	0%	0%	0%	0%	**0%**	M	0%	0%	0%	0%	**0%**	M	0%
Bu)e)	0	0	0	0	**0**	M	0	0	0	0	**0**	M	1	2	0	0	**A**	M	0	8	1	0	**H**	M	-
% Bu)e)	0%	0%	0%	0%	**0%**	M	0%	0%	0%	0%	**0%**	M	AAA%	2.9%	0%	0%	**8.0%**	M	0%	A8%	20.0%	0%	**A0%**	M	2.:%
BacycPe) oURond	0	0	0	0	**0**	M	0	0	0	0	**0**	M	0	0	0	0	**0**	M	0	0	0	0	**0**	M	0
% BacycPe) oURond	0%	0%	0%	0%	**0%**	M	0%	0%	0%	0%	**0%**	M	0%	0%	0%	0%	**0%**	M	0%	0%	0%	0%	**0%**	M	0%
Lede)tkanU)	M	M	M	M	M	1	M	M	M	M	M	0	M	M	M	M	M	1	M	M	M	M	M	A	
% Lede)tkanU)	M	M	M	M	M	100%	M	M	M	M	M	M	M	M	M	M	M	100%	M	M	M	M	M	100%	M
BacycPe) oU6ko))wnPg	M	M	M	M	M	0	M	M	M	M	M	0	M	M	M	M	M	0	M	M	M	M	M	0	
% BacycPe) oU6ko))wnPg	M	M	M	M	M	0%	M	M	M	M	M	M	M	M	M	M	M	0%	M	M	M	M	M	0%	M

*Lede)tkanU) nUd BacycPe) oU6ko))wnPg. C7Ceft, R7Rasit, T7Tiku, r 7r MTukU

Wing & Fairbrook - TMC

Tue Oct 19, 2021
Fl Leng h(7A0 Fl M-7A0 Fl 4
F PP6 Pn))e) hCasit), SaUsPeM Uat Tkucg), F ktacuPnted Tkucg), Bu)e), Lede)tkanU), BacycPe) oURond, BacycPe) oU6ko))wnPg4
F PPl ovemeUt)
ID7--:9A-, CocntaoU782.82(8A(, MA8-8AA9

Lkovaded 3y7b ewnPt GnmaPtoUF))ocante) IUc.
:2H5oke)t Edse Dkave, VekUoUGaPP), IC, :00:1, r S

Wing & Fairbrook - TMC

Tue Oct 19, 2021
Fl FeLn gh(70 Fl AM(70 Fl - AO4ePL6FeLn) CuP
a 66s 6Liiei gSUkti, dUBr6eAy BUTPucni, a PUdu6Lteo TPucni, Ruiei, FeoeitPULBi, RUdwc6ei CBvCLo, RUdwc6ei CBs PCiimL6n-
a 66l C4eI eBti
D (88.978, SCcLtUCB(h23h2bh7b, A873h8h779

FPC4Uoeo Gw(HemL6t) LI UGCBaiiCcUtei DBc3
.2M5CPeit Eore: PU4e, VePBCB) U66i, DS, .00.1, yd

Ser	5LUPGPCCn						5LUPGPCCn						p UBr						p UBr						
: UPectUCB	ELitGCuBo						p eitGCuBo						WCPkGCuBo						dCutkGCuBo						
TUU e	S	T	v	y	**a NN**	Feo*	S	T	v	y	**a NN**	Feo*	S	T	v	y	**a NN**	Feo*	S	T	v	y	**a NN**	Feo*	DBt
2021A10A19 h(70Fl	h	1	0	0	**M**	0	0	7	18	0	**21**	1	0	h2	1	0	**h7**	0	17	28	2	0	**h7**	0	**112**
h(hMFl	M	2	0	0	**b**	0	0	h	20	0	**2h**	2	0	2.	1	0	**2b**	0	17	hh	7	0	**.0**	0	**118**
M00Fl	1	1	1	0	**7**	0	0	2	18	0	**20**	1	1	2M	0	0	**2.**	0	8	h9	M	0	**.2**	0	**111**
M1MFl	M	1	0	0	**.**	0	0	0	27	0	**27**	1	0	2h	1	0	**2M**	0	20	78	7	0	**.1**	0	**11M**
TCtL6	1M	M	1	0	**21**	0	0	9	b9	0	**88**	M	1	11b	7	0	**121**	0	Mh	1M9	17	0	**22.**	0	**hM**
% a NNPCLck	b13h%	2738%	h38%	0%	**A**	A	0%	1032%	8938%	0%	**A**	A	038%	9.3b%	23M%	0%	**A**	A	2739%	b03h%	M38%	0%	**A**	A	A
% TCtL6	737%	131%	032%	0%	**h3%**	A	0%	230%	1b37%	0%	**1937%**	A	032%	2Mb%	03b%	0%	**2.3M%**	A	1138%	7h39%	239%	0%	**h93%**	A	A
F) 5	03bM0	13000	032M0	A	**03877**	A	A	03M7	0388.	A	**0390.**	A	032M0	0390	03M00	A	**0392**	A	03.7	03818	03M0	A	**0391h**	A	039b.
SUkti	1h	h	1	0	**19**	A	0	.	bb	0	**87**	A	1	11M	2	0	**118**	A	M7	1M	17	0	**222**	A	hh2
% SUkti	9737%	8030%	100%	0%	**903M%**	A	0%	..3b%	9b3M%	0%	**9h37%**	A	100%	9837%	..3b%	0%	**9b3M%**	A	9831%	9831%	100%	0%	**9832%**	A	9.39%
dUBr6eAy BUTPucni	1	0	0	0	**1**	A	0	1	0	0	**1**	A	0	0	0	0	**0**	A	0	1	0	0	**1**	A	7
% dUBr6eAy BUTPucni	.3b%	0%	0%	0%	**h38%**	A	0%	1131%	0%	0%	**131%**	A	0%	0%	0%	0%	**0%**	A	0%	03%	0%	0%	**03h%**	A	03b%
a PUdu6Lteo TPucni	0	0	0	0	**0**	A	0	0	0	0	**0**	A	0	0	0	0	**0**	A	0	0	0	0	**0**	A	0
% a PUdu6Lteo TPucni	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	0%
Ruiei	0	0	0	0	**0**	A	0	2	1	0	**7**	A	0	1	0	0	**1**	A	0	0	0	0	**0**	A	h
% Ruiei	0%	0%	0%	0%	**0%**	A	0%	2232%	137%	0%	**73h%**	A	0%	039%	0%	0%	**038%**	A	0%	0%	0%	0%	**0%**	A	039%
RUdwc6ei CBvCLo	0	1	0	0	**1**	A	0	0	1	0	**1**	A	0	1	1	0	**2**	A	1	2	0	0	**7**	A	b
% RUdwc6ei CBvCLo	0%	2030%	0%	0%	**h38%**	A	0%	0%	137%	0%	**131%**	A	0%	039%	7737%	0%	**13b%**	A	139%	137%	0%	0%	**137%**	A	13M%
FeoeitPULBi	A	A	A	A	A	0	A	A	A	A	A	h	A	A	A	A	A	0	A	A	A	A	A	0	
% FeoeitPULBi	A	A	A	A	A	A	A	A	A	A	A	8030%	A	A	A	A	A	A	A	A	A	A	A	A	A
RUdwc6ei CBs PCiimL6n	A	A	A	A	A	0	A	A	A	A	A	1	A	A	A	A	A	0	A	A	A	A	A	0	
% RUdwc6ei CBs PCiimL6n	A	A	A	A	A	A	A	A	A	A	A	2030%	A	A	A	A	A	A	A	A	A	A	A	A	A

*FeoeitPULBi LBo RUdwc6ei CBs PCiimL6n3S(Seft, v(vUkt, T(TkPu, y(yATuPB

Wing & Fairbrook - TMC

Tue Oct 19, 2021
Fl FeLn gh(70 Fl AM(70 Fl - AO4ePL6FeLn) CuP
a 66s 6Liiei gSUkti, dUBr6eAy BUTPucni, a PUdu6Lteo TPucni, Ruiei, FeoeitPULBi, RUdwc6ei CBvCLo, RUdwc6ei CBs PCiimL6n-
a 66l C4eI eBti
D (88.978, SCcLtUCB(h23h2bh7b, A873h8h779

FPC4Uoeo Gw(HemL6t) LI UGCBaiiCcUtei DBc3
.2M5CPeit Eore: PU4e, VePBCB) U66i, DS, .00.1, yd

Fairbrook & Center - 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: 886926, Location: 42.42736, -85.482834

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
623 Forest Edge Drive, Vernon Hills, IL, 60061, US

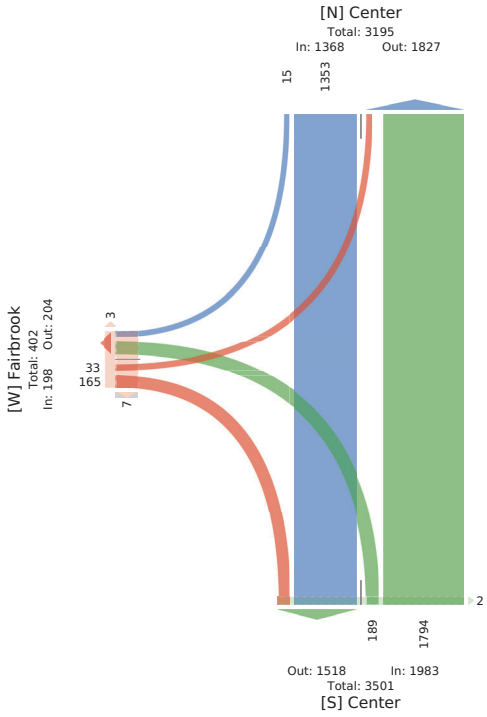
Leg Direction	Fairbrook Eastbound					Center Northbound					Center Southbound					
Time	L	R	U	App	Ped*	L	T	U	App	Ped*	T	R	U	App	Ped*	Int
2021-10-19 7:00AM	5	4	0	**7**	1	5	46	0	**49**	0	31	0	0	**31**	0	**107**
7:13AM	1	7	0	**8**	1	6	79	0	**83**	0	47	1	0	**48**	0	**141**
7:50AM	2	8	0	**10**	0	12	72	0	**84**	0	38	1	0	**39**	0	**135**
7:43AM	4	11	0	**13**	0	8	105	0	**111**	0	85	1	0	**84**	0	**210**
Hourly Total	10	50	0	**40**	2	29	500	0	**529**	0	259	5	0	**242**	0	**611**
8:00AM	1	19	0	**20**	0	4	100	0	**104**	0	108	0	0	**108**	0	**252**
8:13AM	3	11	0	**16**	0	7	108	0	**113**	0	73	0	0	**73**	0	**206**
8:50AM	5	7	0	**10**	0	2	112	0	**114**	0	67	1	0	**68**	0	**192**
8:43AM	1	6	0	**7**	0	4	102	0	**106**	0	39	0	0	**39**	0	**172**
Hourly Total	10	45	0	**35**	0	17	422	0	**459**	0	509	1	0	**510**	0	**802**
4:00PM	1	11	0	**12**	1	13	117	0	**152**	0	106	1	0	**107**	0	**231**
4:13PM	5	8	0	**11**	0	13	141	0	**136**	0	94	1	0	**93**	0	**262**
4:50PM	1	15	0	**14**	0	19	111	0	**150**	0	87	1	0	**88**	0	**252**
4:43PM	5	15	0	**16**	2	20	147	0	**167**	0	89	2	0	**91**	0	**274**
Hourly Total	8	43	0	**35**	5	69	316	0	**383**	0	576	3	0	**581**	0	**1019**
3:00PM	0	8	0	**8**	1	19	150	0	**149**	0	108	2	0	**110**	0	**267**
3:13PM	4	17	0	**21**	5	22	146	0	**168**	2	107	1	0	**108**	0	**297**
3:50PM	0	10	0	**10**	0	16	158	0	**134**	0	112	2	0	**114**	0	**278**
3:43PM	1	12	0	**15**	1	17	142	0	**139**	0	102	1	0	**105**	0	**273**
Hourly Total	3	47	0	**32**	3	74	336	0	**650**	2	429	6	0	**453**	0	**1117**
Total	55	163	0	**198**	10	189	1794	0	**1985**	2	1535	13	0	**1568**	0	**5349**
% Approach	16.7%	85.5%	0%	**-**	-	9.3%	90.3%	0%	**-**	-	98.9%	1.1%	0%	**-**	-	-
% Total	0.9%	4.6%	0%	**3.6%**	-	3.5%	30.3%	0%	**33.9%**	-	58.1%	0.4%	0%	**58.3%**	-	-
Lights	55	162	0	**193**	-	181	1773	0	**1936**	-	1523	13	0	**1540**	-	5491
% Lights	100%	98.2%	0%	**98.3%**	-	93.8%	98.9%	0%	**98.6%**	-	97.9%	100%	0%	**98.0%**	-	98.4%
Single-Unit Trucks	0	0	0	**0**	-	5	4	0	**7**	-	12	0	0	**12**	-	19
% Single-Unit Trucks	0%	0%	0%	**0%**	-	1.6%	0.2%	0%	**0.4%**	-	0.9%	0%	0%	**0.9%**	-	0.3%
Articulated Trucks	0	0	0	**0**	-	0	1	0	**1**	-	1	0	0	**1**	-	2
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0.1%	0%	**0.1%**	-	0.1%	0%	0%	**0.1%**	-	0.1%
Buses	0	2	0	**2**	-	4	3	0	**9**	-	3	0	0	**3**	-	16
% Buses	0%	1.2%	0%	**1.0%**	-	2.1%	0.5%	0%	**0.3%**	-	0.4%	0%	0%	**0.4%**	-	0.3%
Bicycles on Road	0	1	0	**1**	-	1	9	0	**10**	-	10	0	0	**10**	-	21
% Bicycles on Road	0%	0.6%	0%	**0.3%**	-	0.3%	0.3%	0%	**0.3%**	-	0.7%	0%	0%	**0.7%**	-	0.6%
Pedestrians	-	-	-	-	9	-	-	-	-	2	-	-	-	-	0	
% Pedestrians	-	-	-	-	90.0%	-	-	-	-	100%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	10.0%	-	-	-	-	0%	-	-	-	-	-	-

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

Fairbrook & Center - 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: 886926, Location: 42.42736, -8b.482834

GEWALT HAMILTON ASSOCIATES, INC.
Provided Cjy: Hewalt 5 amilton Associates Inc.
623 Forest Edge Drive, Vernon 5 ills, IL, 60061, US



Fairbrook & Center - TMC

Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 6) 6nCCeChn si StC, Usr i 6e-k r st TducgC, F dscu6nteB TducgC, y uCeC,
LeBeCdsnr C, y scoc6eCRr wRnB, y scoc6eCRr) dRCCv nég.P
F 6l Rme l er tC
D 7448928, a RcntsRr 7A2.A2(M8, -43.A424MA

GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeB5o7b ev n6 Gnl s6lRr F CCRcsnteCDc.
82MHRde-Cl EBi e : dsne, Vedr Rr GsfiC, Da , 80081, k U

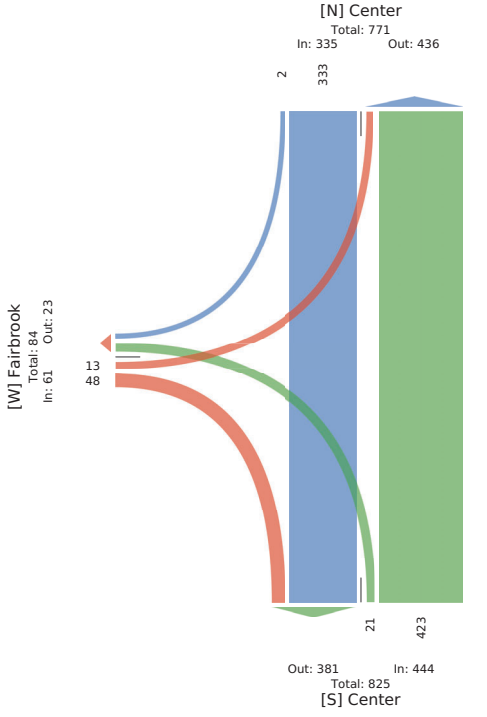
a ei : sdectsRr	HnsEs0Rg En015RurB					) er ted NRdtS5RurB					) er ted URurtS5RurB					
Tsl e	a	w	k	Fpp	LeBº	a	T	k	Fpp	LeBº	T	w	k	Fpp	LeBº	Dt
2021-10-19 (7AMF1	A	11	0	**1M**	0	4	103	0	**111**	0	43	1	0	**4A**	0	**210**
4700F1	1	19	0	**20**	0	A	100	0	**10A**	0	104	0	0	**104**	0	**232**
47LMF1	M	11	0	**18**	0	(	104	0	**11M**	0	(M	0	0	**(M**	0	**208**
4730F1	3	(	0	**10**	0	2	112	0	**11A**	0	8(	1	0	**84**	0	**192**
TRm6	13	A4	0	**81**	0	21	A23	0	**AAA**	0	333	2	0	**33M**	0	**4A0**
% FppdRncS	21.3%	(4.(%	0%	**-**	-	A(%	9M3%	0%	**-**	-	99.A%	0.8%	0%	**-**	-	-
% TRm6	1.M%	M(%	0%	**(.3%**	-	2.M%	M0.A%	0%	**M.9%**	-	39.8%	0.2%	0%	**39.9%**	-	-
LGH	0.8M0	0.832	-	**0.(83**	-	0.8M8	0.9AA	-	**0.98M**	-	0.(89	0.M00	-	**0.((3**	-	0.90A
a si StC	13	A8	0	**M0**	-	21	A19	0	**AA0**	-	32M	2	0	**32(**	-	428
% a si StC	100%	9M4%	0%	**98.(%**	-	100%	99.1%	0%	**99.1%**	-	9(.8%	100%	0%	**9(.8%**	-	94.3%
Usr i 6e-k r st TducgC	0	0	0	**0**	-	0	0	0	**0**	-	A	0	0	**A**	-	A
% Usr i 6e-k r st TducgC	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	1.2%	0%	0%	**1.2%**	-	0.M%
FdscuGnteB TducgC	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% FdscuGnteB TducgC	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
y uCeC	0	2	0	**2**	-	0	A	0	**A**	-	3	0	0	**3**	-	9
% y uCeC	0%	A.2%	0%	**3.3%**	-	0%	0.9%	0%	**0.9%**	-	0.9%	0%	0%	**0.9%**	-	1.1%
y scoc6eCRr wRnB	0	0	0	**0**	-	0	0	0	**0**	-	1	0	0	**1**	-	1
% y scoc6eCRr wRnB	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0.3%	0%	0%	**0.3%**	-	0.1%
LeBeCdsnr C	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% LeBeCdsnr C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
y scoc6eCRr) dRCCv nég.	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% y scoc6eCRr) dRCCv nég.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*LeBeCdsnr CnrB y scoc6eCRr) dRCCv nég. a 7a eft, w7wsi St, T7T Sdu, k 7k -Tudr

Fairbrook & Center - TMC

Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 6) 6nCCeChn si StC, Usr i 6e-k r st TducgC, F dscu6nteB TducgC, y uCeC,
LeBeCdsnr C, y scoc6eCRr wRnB, y scoc6eCRr) dRCCv nég.P
F 6l Rme l er tC
D 7448928, a RcntsRr 7A2.A2(M8, -43.A424MA

GEWALT HAMILTON ASSOCIATES, INC.
LdRmsBeB bo7Gev n6 Hnl s6lRr F CCRcsnteCDc.
82M5RdeCl EBi e : dsne, Vedr Rr HsfiC, Da , 80081, k U



Fairbrook & Center - TMC

Tue Oct 19, 2021
Fl FeLn gh Fl (7 Fl A(OM4-L4tFeLn P 6u-
) 4tC4Laaea gs iSUta, r ikS4e(d kit T-ucna,) -ticu4LteBT-ucna, y uaea,
FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4nA
) 4tl 6M4v ekta
mh D: 7927, s 6cLti6kDB2.823h7, (: 5.8: 2: h8

GEWALT HAMILTON ASSOCIATES, INC.
F-6MBeBboDGewL4 P Lv i46k) aa6ciLtea nkc.
72h H6-eat EBSe I -iM4, Ve-k6k P i4a, ns , 70071, d r

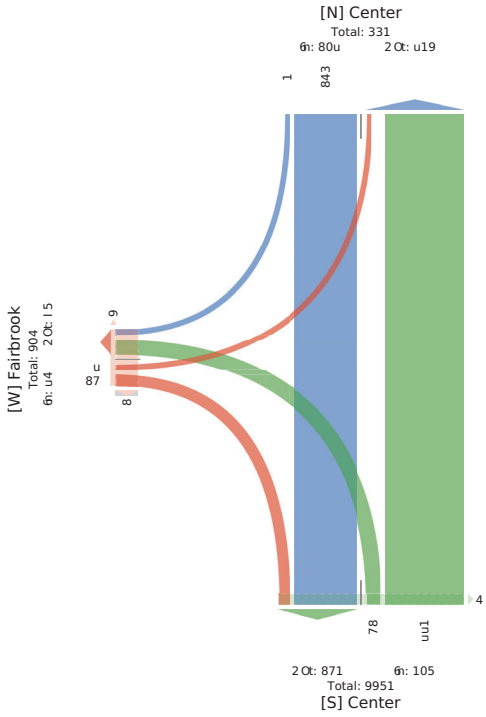
s eS l i-ect6k	HLi-b-66n ELatb6ukB				Cekte- N6-tUb6ukB				Cekte- r 6utUb6ukB				
Tiv e	s	R	d	) pp	FeB*	s	T	d	) pp	FeB*	T	R	d	) pp	FeB*	nkt
2021(10(19 hl0OFl	0	:	0	:	1	19	150	0	**189**	0	10:	2	0	**110**	0	**273**
hl1hFl	8	13	0	**21**	5	22	187	0	**17:**	2	103	1	0	**10:**	0	**293**
hl5OFl	0	10	0	**10**	0	17	15:	0	**1h8**	0	112	2	0	**118**	0	**23:**
hl8hFl	1	12	0	**15**	1	13	182	0	**1h9**	0	102	1	0	**105**	0	**23h**
T6tL4	h	83	0	**h2**	h	38	hh7	0	**750**	2	829	7	0	**85h**	0	**1113**
%) pp-6LcU	9.7%	90.8%	0%	**(**	(	11.3%	: : .5%	0%	**(**	(	9: .7%	1.8%	0%	**(**	(	(
% T6tL4	0.8%	8.2%	0%	**8.3%**	(	7.7%	89.: %	0%	**h7.8%**	(	5: .8%	0.h%	0%	**5: .9%**	(	(
FP H	0.515	0.791	(	**0.719**	(	0. : 79	0.9hh	(	**0.988**	(	0.987	0.3h0	(	**0.985**	(	0.9h5
s iSUta	h	83	0	**h2**	(	35	hh2	0	**72h**	(	821	7	0	**823**	(	1108
% s iSUta	100%	100%	0%	**100%**	(	9: .7%	99.5%	0%	**99.2%**	(	9: .1%	100%	0%	**9: .2%**	(	9: . : %
r ikS4e(d kit T-ucna	0	0	0	**0**	(	0	2	0	**2**	(	2	0	0	**2**	(	8
% r ikS4e(d kit T-ucna	0%	0%	0%	**0%**	(	0%	0.8%	0%	**0.5%**	(	0.h%	0%	0%	**0.h%**	(	0.8%
) -ticu4LteBT-ucna	0	0	0	**0**	(	0	0	0	**0**	(	1	0	0	**1**	(	1
%) -ticu4LteBT-ucna	0%	0%	0%	**0%**	(	0%	0%	0%	**0%**	(	0.2%	0%	0%	**0.2%**	(	0.1%
y uaea	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 icoc4ea 6k R6LB	0	0	0	**0**	(	1	2	0	**5**	(	h	0	0	**h**	(	:
% y icoc4ea 6k R6LB	0%	0%	0%	**0%**	(	1.8%	0.8%	0%	**0.h%**	(	1.2%	0%	0%	**1.1%**	(	0.3%
FeBeat-iLka	(	(	(	(	h	(	(	(	(	2	(	(	(	(	0	
% FeBeat-iLka	(	(	(	(	100%	(	(	(	(	100%	(	(	(	(	(	(
y icoc4ea 6k C-6aawL4n	(	(	(	(	0	(	(	(	(	0	(	(	(	(	0	
% y icoc4ea 6k C-6aawL4n	(	(	(	(	0%	(	(	(	(	0%	(	(	(	(	(	(

*FeBeat-iLka LkB y icoc4ea 6k C-6aawL4n. s Ds eft, RDRiSUt, TDTU-u, d Dtl (Tu-k

Fairbrook & Center - TMC

Tue Oct 19, 2021
Fl FeLn gh Fl (7 Fl A(OM4-L4tFeLn P 6u-
) 4tC4Laaea gs iSUta, r ikS4e(d kit T-ucna,) -ticu4LteBT-ucna, y uaea,
FeBeat-iLka, y icoc4ea 6k R6LB, y icoc4ea 6k C-6aawL4nA
) 4tl 6M4v ekta
mh D: 7927, s 6cLti6kDB2.823h7, (: b.8: 2: h8

GEWALT HAMILTON ASSOCIATES, INC.
F-6MBeBGoDHewL4 P Lv i46k) aa6ciLtea nkc.
72h 56-eat EBSe I -iM4, Ve-k6k P i4a, ns , 70071, d r



Wing St & Sheldon - 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. 7, Location: 423426297, -8. 3484. 22

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

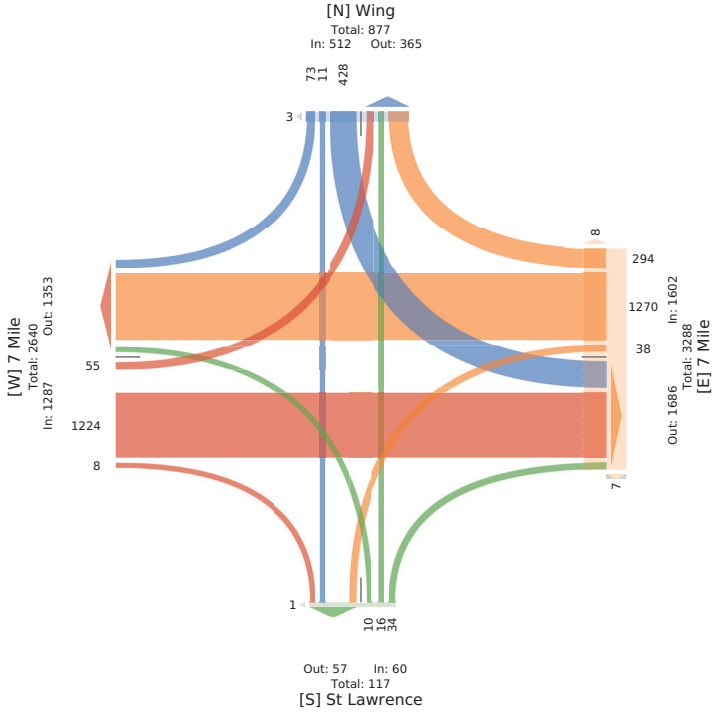
Leg Direction	7 Mile Eastbound						7 Mile p estbound						St Lawrence Worthbound						p ing Southbound						
Time	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	nt
2021-10-19 7:00AM	1	7.	0	0	**74**	0	0	.7	10	0	**47**	0	0	1	1	0	**2**	0	19	0	2	0	**21**	1	**144**
7:15AM	1	58	0	0	**59**	0	0	44	1.	0	**57**	1	0	2	2	0	**4**	0	14	0	2	0	**16**	0	**1. 6**
7:. 0AM	1	75	0	0	**76**	0	1	48	14	0	**6.**	0	0	1	2	0	**.**	0	27	0	1	0	**28**	0	**170**
7:45AM	6	70	0	0	**76**	0	1	44	18	0	**6.**	0	0	1	1	0	**2**	0	22	0	5	0	**27**	0	**168**
Hourly Total	9	276	0	0	**285**	0	2	17.	55	0	**2. 0**	1	0	5	6	0	**11**	0	82	0	10	0	**92**	1	**618**
8:00AM	.	102	0	0	**105**	0	1	59	10	0	**70**	1	1	0	4	0	**5**	0	25	1	8	0	**. 4**	0	**214**
8:15AM	.	95	2	0	**100**	0	.	44	17	0	**64**	0	1	1	1	0	**.**	0	26	0	4	0	**. 0**	2	**197**
8:. 0AM	7	6.	1	0	**71**	0	1	55	17	0	**7.**	1	0	0	5	0	**5**	0	19	0	5	0	**24**	0	**17.**
8:45AM	1	59	0	0	**60**	0	2	54	25	0	**81**	1	0	.	.	0	**6**	0	2.	2	2	0	**27**	0	**174**
Hourly Total	14	. 19	.	0	**. . 6**	0	7	212	69	0	**288**	.	2	4	1.	0	**19**	0	9.	.	19	0	**115**	2	**758**
4:00PM	.	77	1	0	**81**	0	2	109	15	0	**126**	0	2	1	.	0	**6**	0	24	1	4	0	**29**	0	**242**
4:15PM	2	74	0	0	**76**	0	4	94	17	0	**115**	4	1	1	.	0	**5**	0	26	1	6	0	**. .**	0	**229**
4:. 0PM	.	86	0	0	**89**	0	5	114	. 6	0	**155**	1	1	0	1	0	**2**	0	2.	0	4	0	**27**	0	**27.**
4:45PM	5	94	2	0	**101**	0	4	96	21	0	**121**	.	1	1	2	0	**4**	1	. 9	1	5	0	**45**	0	**271**
Hourly Total	1.	. . 1	.	0	**. 47**	0	15	41.	89	0	**517**	8	5	.	9	0	**17**	1	112	.	19	0	**1. 4**	0	**1015**
5:00PM	4	65	0	0	**69**	0	2	122	19	0	**14.**	1	1	2	0	0	**.**	0	40	2	6	0	**48**	0	**26.**
5:15PM	8	7.	1	0	**82**	0	2	120	17	0	**1. 9**	0	1	0	4	0	**5**	0	. 4	2	4	0	**40**	0	**266**
5:. 0PM	.	74	1	0	**78**	0	7	122	19	0	**148**	0	1	1	1	0	**.**	0	. 0	0	8	0	**. 8**	0	**267**
5:45PM	4	86	0	0	**90**	0	.	108	26	0	**1. 7**	2	0	1	1	0	**2**	0	. 7	1	7	0	**45**	0	**274**
Hourly Total	19	298	2	0	**. 19**	0	14	472	81	0	**567**	.	.	4	6	0	**1.**	0	141	5	25	0	**171**	0	**1070**
Total	55	1224	8	0	**1287**	0	. 8	1270	294	0	**1602**	15	10	16	. 4	0	**60**	1	428	11	7.	0	**512**	.	**461**
% ANNoach	43 %	953.%	0.6%	0%	**-**	-	2.4%	793 %	18.4%	0%	**-**	-	163%	263%	563%	0%	**-**	-	8. 3%	23.%	143 %	0%	**-**	-	-
% Total	1.6%	. 53.%	0.2%	0%	**. 72%**	-	13.%	. 63%	8.5%	0%	**463 %**	-	0.3 %	0.5%	1.0%	0%	**13%**	-	12.4%	0.3 %	2.3%	0%	**14.8%**	-	-
Lights	54	1200	8	0	**1262**	-	. 5	1242	280	0	**1557**	-	9	16	. 1	0	**56**	-	422	8	72	0	**502**	-	. . 77
% Lights	98.2%	98.0%	100%	0%	**98.1%**	-	92.1%	97.8%	95.2%	0%	**97.2%**	-	90.0%	100%	91.2%	0%	**9. 3 %**	-	98.6%	72.3%	98.6%	0%	**98.0%**	-	97.6%
Single-Unit Trucks	0	14	0	0	**14**	-	2	22	8	0	**. 2**	-	1	0	0	0	**1**	-	2	0	1	0	**.**	-	50
% Single-Unit Trucks	0%	1.1%	0%	0%	**1.1%**	-	5.3 %	1.7%	2.7%	0%	**2.0%**	-	10.0%	0%	0%	0%	**1.7%**	-	0.5%	0%	1.4%	0%	**0.6%**	-	1.4%
Articulated Trucks	0	4	0	0	**4**	-	0	.	0	0	**.**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	7
% Articulated Trucks	0%	0.3 %	0%	0%	**0.3 %**	-	0%	0.2%	0%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.2%
Buses	1	.	0	0	**4**	-	1	.	5	0	**9**	-	0	0	.	0	**.**	-	.	1	0	0	**.**	-	20
% Buses	1.8%	0.2%	0%	0%	**0.3 %**	-	2.6%	0.2%	1.7%	0%	**0.6%**	-	0%	0%	0.8%	0%	**0.5%**	-	0.7%	0.3%	0%	0%	**0.8%**	-	0.6%
Bicycles on Road	0	.	0	0	**.**	-	0	0	1	0	**1**	-	0	0	0	0	**0**	-	1	2	0	0	**.**	-	7
% Bicycles on Road	0%	0.2%	0%	0%	**0.2%**	-	0%	0%	0.3 %	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0.2%	0.1%	0.2%	0%	**0.0%**	-	0.2%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	1.	-	-	-	-	-	1	-	-	-	-	-	-	-
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	86.3%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	0	-
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	1. 3 %	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk3L: Left, R: Right, T: Thru, U: U-Turn

Wing St & Sheldon - 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. 7, Location: 423426297, -8. 3484. 22

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



Wing St & Sheldon - TMC

Tue Oct 19, 2021

F l Leng h(F l 79 F l A

F NW M44e4 HP Cl4, a 6s) M7 s 6 TS ucg4, F St6cuMteUTS ucg4, r u4e4, LeUe4tSns 4, r 6ckcM4 ds BdnU, r 6ckcM4 ds - Sl44y n MA

F NW doeR est4

w m((19 , P dcnt6ls n82.821 29: , 7(D8(8D22

GEWALT HAMILTON ASSOCIATES, INC.

LSlo6LeU3kmb ey nMGnR 6Wds F 44dc6nte4 vsc.

I 2H5 dSe4t EU) e v Sbe, VeSi ds G6NW(vP, I 00I 1, i a

Pe) v 6ectGls	: l 6M Ea43dus U					: l 6M p e43dus U					at Pny Sesce WdStC3dus U					p 6i) adutC3dus U					
T6Re	P	T	B	i	F NN LeU*	P	T	B	i	F NN LeU*	P	T	B	i	F NN LeU*	P	T	B	i	F NN LeU*	wt
2021710719 (m0F l	D 102	0	0	**10H**	0	1 H9	10	0	**: 0**	1	1 0	8	0	**H**	0	2H 1	(	0	**D8**	0	**218**
(mHF l	D 9H	2	0	**100**	0	D 88	1:	0	**1 8**	0	1 1	1	0	**D**	0	2I 0	8	0	**D0**	2	**19:**
(m0F l	: 1 D	1	0	**: 1**	0	1 HH	1:	0	**: D**	1	0 0	H	0	**H**	0	19 0	H	0	**28**	0	**1: D**
(m0F l	1 H9	0	0	**10**	0	2 H8	2H	0	**(1**	1	0 D	D	0	**I**	0	2D 2	2	0	**2:**	0	**1: 8**
TdmM	18 DI9	D	0	**DD1**	0	: 212	19	0	**2((**	D	2 8	1D	0	**19**	0	9D D	19	0	**11H**	2	**: H(**
% F NNSdncC	8.2% 98.9%	0.9%	0%	**7**	7	2.8% : D1 %	28.0%	0%	**7**	7	10.H% 21.1%	I (.8%	0%	**7**	7	(0.9% 2.1 %	1I.H%	0%	**7**	7	7
% TdmM	1.(% 82.1%	0.8%	0%	**88.I%**	7	0.9% 2(.0%	9.1%	0%	**D(.0%**	7	0.D% 0.H%	1.: %	0%	**2.H%**	7	12.D% 0.8%	2.H%	0%	**1H2%**	7	7
LG5	0.HD0 0.: : 9	0.D H	7	**0. : 9(**	7	0.H(D 0.(9(	0.190	7	**0.((9**	7	0.HD0 0.IDD	0.1 H0	7	**0. : 92**	7	0.(98 0.D H	0.1 B8	7	**0.(8I**	7	0.((8
P Q C14	18 DI0	D	0	**D2:**	7	: 20I 1:	0	**2(0**	7	1 8	12	0	**1:**	7	90 2	19	0	**111**	7	: DH
% P Q C14	100% 9: .2%	100%	0%	**9: .I%**	7	100% 9: .2%	9: .1%	0%	**9: .2%**	7	H0.0% 100%	92.I%	0%	**(9.H%**	7	9I .(% 1I .: %	100%	0%	**9I .H%**	7	9: .0%
a 6) M7 s 6 TS ucg4	0 I	0	0	**I**	7	0 I	2	0	**(**	7	1 0	0	0	**1**	7	0 0	0	0	**0**	7	1H
% a 6) M7 s 6 TS ucg4	0% 1.9%	0%	0%	**1.(%**	7	0% 2.(%	2.9%	0%	**2.(%**	7	H0.0% 0%	0%	0%	**HD0%**	7	0% 0%	0%	0%	**0%**	7	2.0%
F St6cuMteUTS ucg4	0 1	0	0	**1**	7	0 0	0	0	**0**	7	0 0	0	0	**0**	7	0 0	0	0	**0**	7	1
% F St6cuMteUTS ucg4	0% 0.I%	0%	0%	**0.I%**	7	0% 0%	0%	0%	**0%**	7	0% 0%	0%	0%	**0%**	7	0% 0%	0%	0%	**0%**	7	0.1%
r u4e4	0 1	0	0	**1**	7	0 0	0	0	**0**	7	0 0	1	0	**1**	7	D 1	0	0	**8**	7	I
% r u4e4	0% 0.I%	0%	0%	**0.I%**	7	0% 0%	0%	0%	**0%**	7	0% 0%	: .: %	0%	**HD%**	7	D2% DD.I%	0.H%	0%	**DH%**	7	0.(%
r 6ckcM4 ds BdnU	0 1	0	0	**1**	7	0 0	0	0	**0**	7	0 0	0	0	**0**	7	0 0	0	0	**0**	7	1
% r 6ckcM4 ds BdnU	0% 0.I%	0%	0%	**0.I%**	7	0% 0%	0%	0%	**0%**	7	0% 0%	0%	0%	**0%**	7	0% 0%	0%	0%	**0%**	7	0.1%
LeUe4tSns 4	7 7	7	7	7	0	7 7	7	7	7	D	7 7	7	7	7	0	7 7	7	7	7	2	
% LeUe4tSns 4	7 7	7	7	7	7	7 7	7	7	7	100%	7 7	7	7	7	7	7 7	7	7	7	100%	7
r 6ckcM4 ds - Sl44y n Mg	7 7	7	7	7	0	7 7	7	7	7	0	7 7	7	7	7	0	7 7	7	7	7	0	
% r 6ckcM4 ds - Sl44y n Mg	7 7	7	7	7	7	7 7	7	7	7	0%	7 7	7	7	7	7	7 7	7	7	7	0%	7

*LeUe4tSns 4 ns Ur 6ckcM4 ds - Sl44y n Mg. P n Peft, BnB6) Cl, Tn TCSu, i n i 7Tu Ss

Wing St & Sheldon - TMC

Tue Oct 19, 2021

F l Leng h(F l 79 F l A

F NW M44e4 HP Cl4, a 6s) M7 s 6 TS ucg4, F St6cuMteUTS ucg4, r u4e4, LeUe4tSns 4, r 6ckcM4 ds BdnU, r 6ckcM4 ds - Sl44y n MA

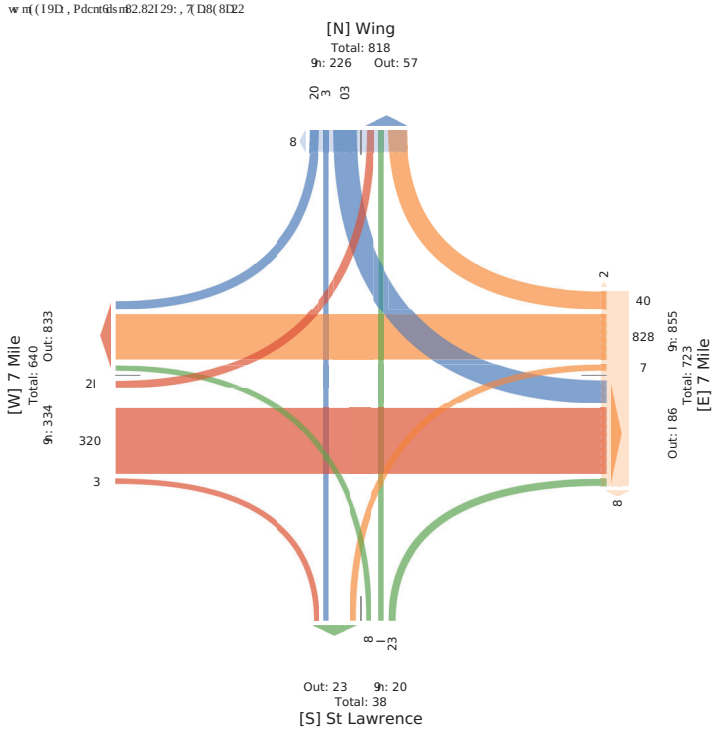
F NW doeR est4

w m((19 , P dcnt6ls n82.821 29: , 7(D8(8D22

GEWALT HAMILTON ASSOCIATES, INC.

LSlo6LeU3kmb ey nMGnR 6Wds F 44dc6nte4 vsc.

I 2H5 dSe4t EU) e v Sbe, VeSi ds G6NW(vP, I 00I 1, i a



Wing St & Sheldon - TMC

Tue Oct 19, 2021

F l Leng h(70 F l AM70 F l - AO4eP L66FeLn) CuP

a 6ss Cl i i ei gSUkti, d UBr 6eAy BU TBucni, a R ldu6Lteo TBucni, Ruiei, Feoei t PUEBi, R ldwc6ei CBs v CLo, R ldwc6ei CBs PCi imLfn-

a 6s l C4eI eBti

D (88. 973, SCcLi tCDB(h2th2. 293, A87th8h722

GEWALT HAMILTON ASSOCIATES, INC.

FRC4 ldeo Gv(HemLfi) LI 6dCB3 a i i Cc Ulrei DBcb

. 2M5 CPeit E or e : Pd4e, VeBBCB) 6Gi , I S, . 00. 1, y d

Ser : UbectdEB	3 1 6Be EL i tCCuBo					3 1 6Be p ei tCCuBo					dt S LmPBBce WCBkCCuBo					p 6Bx dCimkCCuBo					
TUe	S	T	v	y	a NN Feo*	S	T	v	y	a NN Feo*	S	T	v	y	a NN Feo*	S	T	v	y	a NN Feo*	EBt
2021A0A19 h(70F l	7 8.	0	0	**89**	0	M 11h	7.	0	**1M M**	1	1 0	1	0	**2**	0	27 0	h	0	**23**	0	**237**
h(h M F l	M 9h	2	0	**101**	0	h 9.	21	0	**121**	7	1 1	2	0	**h**	1	79 1	M	0	**hM**	0	**231**
M00F l	h . M	0	0	**. 9**	0	2 122	19	0	**1h7**	1	1 2	0	0	**7**	0	h0 2	.	0	**h8**	0	**2. 7**
M(M F l	8 37	1	0	**82**	0	2 120	13	0	**179**	0	1 0	h	0	**M**	0	7h 2	h	0	**h0**	0	**2. .**
TCUL6	20 718	7	0	**7h1**	0	17 hM	97	0	**M8**	M	h 7	3	0	**1h**	1	17. M	19	0	**1. 0**	0	**1037**
% a NNCLck	M9% 97I7%	0I9%	0%	**A**	A	2I7% 81h0%	1. I8%	0%	**A**	A	28h % 21I h%	M0h%	0%	**A**	A	8M0% 7I4%	11I%	0%	**A**	A	A
% TCUL6	1I9% 29h %	0I7%	0%	**71I8%**	A	1I2% h2I4%	8I8%	0%	**M10%**	A	0Ih% 0I5%	0I8%	0%	**1I7%**	A	12I8% 0IM%	1I8%	0%	**1hI9%**	A	A
F) 5	0h 2M 0I8M	0I F3M	A	**0I8M0**	A	0h M 0I92.	0h h.	A	**0I900**	A	1h00 0I F3M	0h 78	A	**0I800**	A	0I8h h 0I F3M	0I892	A	**0I818**	A	0I887
S Ukti	20 712	7	0	**77M**	A	17 hh.	91	0	**M0**	A	h 7	3	0	**1h**	A	17h 7	19	0	**1M**	A	10M
% S Ukti	100% 98I4%	100%	0%	**98I2%**	A	100% 98I8%	93I8%	0%	**98h %**	A	100% 100%	100%	0%	**100%**	A	98IM% . 0I0%	100%	0%	**93IM%**	A	98I7%
d UBr 6eAy BU TBucni	0 h	0	0	**h**	A	0 .	1	0	**3**	A	0 0	0	0	**0**	A	1 0	0	0	**1**	A	12
% d UBr 6eAy BU TBucni	0% 1I7%	0%	0%	**1I2%**	A	0% 1I7%	1I4%	0%	**1I7%**	A	0% 0%	0%	0%	**0%**	A	0I2% 0%	0%	0%	**0h %**	A	1I4%
a R ldu6Lteo TBucni	0 1	0	0	**1**	A	0 0	0	0	**0**	A	0 0	0	0	**0**	A	0 0	0	0	**0**	A	1
% a R ldu6Lteo TBucni	0% 0I7%	0%	0%	**0I5%**	A	0% 0%	0%	0%	**0%**	A	0% 0%	0%	0%	**0%**	A	0% 0%	0%	0%	**0%**	A	0I4%
Ruiei	0 0	0	0	**0**	A	0 0	1	0	**1**	A	0 0	0	0	**0**	A	0 0	0	0	**0**	A	1
% Ruiei	0% 0%	0%	0%	**0%**	A	0% 0%	1I4%	0%	**0I2%**	A	0% 0%	0%	0%	**0%**	A	0% 0%	0%	0%	**0%**	A	0I4%
R ldwc6ei CBs v CLo	0 1	0	0	**1**	A	0 0	0	0	**0**	A	0 0	0	0	**0**	A	1 2	0	0	**7**	A	h
% R ldwc6ei CBs v CLo	0% 0I7%	0%	0%	**0I5%**	A	0% 0%	0%	0%	**0%**	A	0% 0%	0%	0%	**0%**	A	0I2% h0I6%	0%	0%	**1I9%**	A	0I4%
Feoei t PUEBi	A A	A	A	A	A 0	A A	A	A	A	h	A A	A	A	A	1	A A	A	A	A	0	
% Feoei t PUEBi	A A	A	A	A	A A	A A	A	A	A	A80I8%	A A	A	A	A	A100%	A A	A	A	A	A	A
R ldwc6ei CBs PCi imLfn	A A	A	A	A	A 0	A A	A	A	A	1	A A	A	A	A	0	A A	A	A	A	0	
% R ldwc6ei CBs PCi imLfn	A A	A	A	A	A A	A A	A	A	A	A20I8%	A A	A	A	A	A 0%	A A	A	A	A	A	A

*Feoei t PUEBi LBo R ldwc6ei CBs PCi imLfn bS(Seft, v (v U kt, T(Tk Ru, y (y ATu BB

Wing St & Sheldon - TMC

Tue Oct 19, 2021

F l Leng h(70 F l AM70 F l - AO4eP L66FeLn) CuP

a 6ss Cl i i ei gSUkti, d UBr 6eAy BU TBucni, a R ldu6Lteo TBucni, Ruiei, Feoei t PUEBi, R ldwc6ei CBs v CLo, R ldwc6ei CBs PCi imLfn-

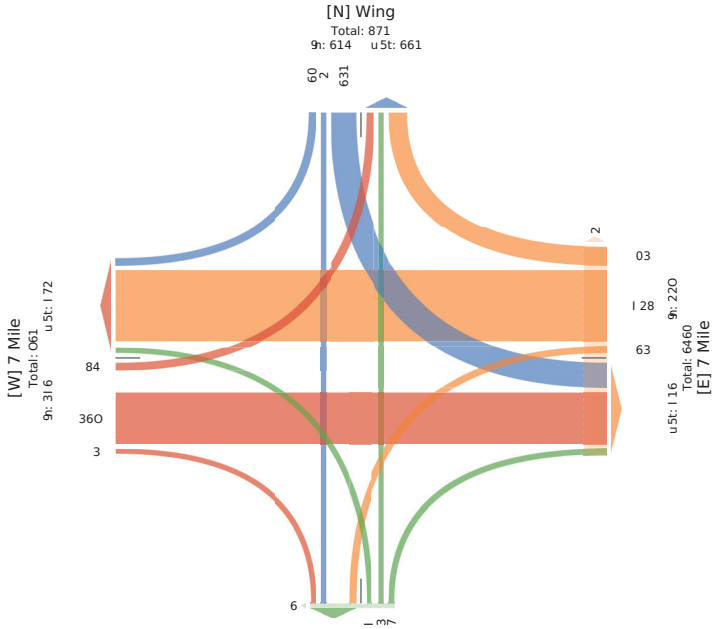
a 6s l C4eI eBti

D (88. 973, SCcLi tCDB(h2th2. 293, A87th8h722

GEWALT HAMILTON ASSOCIATES, INC.

FRC4 ldeo Gv(HemLfi) LI 6dCB3 a i i Cc Ulrei DBcb

. 2M5 CPeit E or e : Pd4e, VeBBCB) 6Gi , I S, . 00. 1, y d



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: 42342. 947, -8b3482646

Provided Gy: Hewalt 5 amilton Associates Inc3
62. Forest Edge Drive, Vernon 5 ills, IL, 60061, US

Leg	Edward 5 ines						Edward 5 ines						Sheldon						Sheldon						
Direction	EastGound						p estGound						WorthGound						SouthGound						
Time	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	L	T	R	U	ANN	Ped*	Int
2021-10-19 7:00AM	2	.6	b2	0	**90**	0	7	bb	.	0	**4.**	0	11	b4	7	0	**.2**	0	1	.4	1	0	**.6**	0	**24b**
7:1. AM	2	49	20	0	**71**	1	7	42	6	0	**..**	0	18	76	2	0	**96**	1	4	4.	0	0	**49**	0	**271**
7:b0AM	0	6.	41	0	**106**	0	6	bb	14	0	**.b**	0	2b	69	4	0	**96**	0	4	62	2	0	**68**	0	**b2b**
7:4. AM	.	.8	29	0	**92**	0	2b	b7	14	0	**74**	0	20	92	1b	0	**12.**	0	.	84	2	0	**91**	0	**b82**
5 ourly Total	9	228	122	0	**b.9**	1	4b	14.	b9	0	**227**	0	72	271	26	0	**b69**	1	14	24.	.	0	**264**	0	**1219**
8:00AM	.	6b	.9	0	**127**	0	17	4b	7	0	**67**	2	26	94	19	0	**1b9**	0	4	121	2	0	**127**	0	**460**
8:1. AM	4	71	49	0	**124**	0	22	46	11	0	**79**	1	1.	99	21	0	**1b.**	0	10	72	4	0	**86**	0	**424**
8:b0AM	4	62	26	0	**92**	0	12	b.	10	0	**.7**	0	24	100	2.	0	**149**	0	10	.1	.	0	**66**	1	**b64**
8:4. AM	4	..	2.	0	**84**	0	19	49	1.	0	**8b**	1	14	92	1b	0	**119**	0	8	.7	4	0	**69**	0	**b..**
5 ourly Total	17	2.1	1.9	0	**427**	0	70	17b	4b	0	**286**	4	79	b8.	78	0	**.42**	0	b2	b01	1.	0	**b48**	1	**160b**
4:00PM	10	68	24	0	**102**	1	22	87	27	0	**1b6**	7	29	99	22	0	**1.0**	1	8	9b	8	0	**109**	1	**497**
4:1. PM	4	69	bb	0	**106**	0	28	88	26	0	**142**	1	29	12b	2.	0	**177**	1	1b	87	.	0	**10.**	0	**.b0**
4:b0PM	4	7.	b6	0	**11.**	1	18	122	21	0	**161**	1	b2	101	b8	0	**171**	1	1b	76	8	0	**97**	1	**.44**
4:4. PM	1b	79	b7	0	**129**	2	bb	87	b0	0	**1.0**	2	b4	128	28	0	**190**	2	21	76	4	0	**101**	0	**.70**
5 ourly Total	b1	291	1b0	0	**4.2**	4	101	b84	104	0	**.89**	11	124	4.1	11b	0	**688**	.	..	bb2	2.	0	**412**	2	**2141**
.:00PM	4	62	b2	0	**98**	0	4.	109	b0	0	**184**	2	2b	107	1.	0	**14.**	1	1b	96	.	0	**114**	2	**.41**
.:1. PM	6	79	26	0	**111**	2	29	101	2b	0	**1.b**	.	b6	122	2b	0	**181**	0	19	88	b	0	**110**	0	**...**
.:b0PM	11	68	29	0	**108**	1	27	94	16	0	**1b7**	4	41	112	12	0	**16.**	b	16	100	b	0	**119**	.	**.29**
.:4. PM	10	8.	2b	0	**118**	1	b.	99	18	0	**1.2**	1	b0	11.	14	0	**1.9**	2	1b	96	.	0	**114**	0	**.4b**
5 ourly Total	b1	294	110	0	**4b.**	4	1b6	40b	87	0	**626**	12	1b0	4.6	64	0	**6.0**	6	61	b80	16	0	**4.7**	7	**2168**
Total	88	1064	.21	0	**167b**	9	b.0	110.	27b	0	**1728**	27	40.	1.6b	281	0	**2249**	12	162	12.8	61	0	**1481**	10	**71b1**
% ANNroach	.3b%	6b36%	b131%	0%	**-**	-	203b%	6b39%	1.38%	0%	**-**	-	1830%	693 %	123 %	0%	**-**	-	1039%	8439%	431%	0%	**-**	-	-
% Total	132%	1439%	73b%	0%	**2b3 %**	-	439%	1.3 %	b38%	0%	**2432%**	-	.37%	2139%	b39%	0%	**b13 %**	-	23b%	1736%	039%	0%	**2038%**	-	-
Lights	88	1047	.07	0	**1642**	-	b44	108b	26b	0	**1690**	-	b90	1.48	276	0	**2214**	-	1.b	1248	.9	0	**1460**	-	7006
% Lights	100%	9834%	973b%	0%	**9831%**	-	983b%	9830%	963b%	0%	**9738%**	-	963b%	9930%	9832%	0%	**9834%**	-	9434%	9932%	9637%	0%	**9836%**	-	9832%
Single-Unit Trucks	0	6	7	0	**1b**	-	b	9	2	0	**14**	-	10	.	2	0	**17**	-	0	6	2	0	**8**	-	.2
% Single-Unit Trucks	0%	036%	13b%	0%	**038%**	-	039%	038%	037%	0%	**038%**	-	23 %	03b%	037%	0%	**038%**	-	0%	03 %	b3b%	0%	**03 %**	-	037%
Articulated Trucks	0	.	1	0	**6**	-	1	6	0	0	**7**	-	1	0	b	0	**4**	-	1	1	0	0	**2**	-	19
% Articulated Trucks	0%	03 %	032%	0%	**034%**	-	03b%	03 %	0%	0%	**034%**	-	032%	0%	131%	0%	**032%**	-	036%	031%	0%	0%	**031%**	-	03b%
Buses	0	b	.	0	**8**	-	1	.	1	0	**7**	-	4	8	0	0	**12**	-	4	b	0	0	**7**	-	b4
% Buses	0%	03b%	130%	0%	**03 %**	-	03b%	03 %	034%	0%	**034%**	-	130%	03 %	0%	0%	**03 %**	-	23 %	032%	0%	0%	**03 %**	-	03 %
Bicycles on Road	0	b	1	0	**4**	-	1	2	7	0	**10**	-	0	2	0	0	**2**	-	4	0	0	0	**4**	-	20
% Bicycles on Road	0%	03b%	032%	0%	**032%**	-	03b%	032%	236%	0%	**036%**	-	0%	031%	0%	0%	**031%**	-	23 %	0%	0%	0%	**03b%**	-	03b%
Pedestrians	-	-	-	-	-	8	-	-	-	-	-	14	-	-	-	-	-	12	-	-	-	-	-	9	
% Pedestrians	-	-	-	-	-	8839%	-	-	-	-	-	.139%	-	-	-	-	-	100%	-	-	-	-	-	9030%	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	1b	-	-	-	-	-	0	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	1131%	-	-	-	-	-	4831%	-	-	-	-	-	0%	-	-	-	-	-	1030%	-

*Pedestrians and Bicycles on Crosswalk3L: 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)
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ID: 88692. , Location: 42342. 947, -8b3482646

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62. Forest Edge Drive, Vernon 5 ills, IL, 60061, US

Center Street/Sheldon & Seven Mile - TMC
Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 66) 6nGGeCha si StC, Usr i 6e-k r st TducgC, F dscu6nteB TducgC, y uGeC, LeBeGdsnr C, y scoc6eCRr wRnB, y scoc6eCRr) dRGGv n6gP
F 66l RmeI er tC
D 744892M, a RcntsRr 7A2.A2M9A(, -43.A428A8

LdRmsBeB bo7Gev n6 HnI s6Rr F GGRcsnteCDc.
82M5RdeGt EBi e : dsme, Vedr Rr Hs66C, Da , 80081, k U

a ei	EBv ndB Hsr eC						EBv ndB Hsr eC						USeGBRr						USeGBRr						
: sdectsRr	EnGbRur B						p eGbRur B						WRdSbRur B						URutSbRur B						
Tsl e	a	T	w	k	FNN	LeB*	a	T	w	k	FNN	LeB*	a	T	w	k	FNN	LeB*	a	T	w	k	FNN	LeB*	Dt
2021-10-19 (7AMF l	M	M4	29	0	**92**	0	23	3(	1A	0	**(A**	0	20	92	13	0	**12M**	0	M	4A	2	0	**91**	0	**342**
4700F l	M	83	M9	0	**12(**	0	1(	A3	(	0	**8(**	2	28	9A	19	0	**139**	0	A	121	2	0	**12(**	0	**A80**
471MF l	A	(1	A9	0	**12A**	0	22	A8	11	0	**(9**	1	1M	99	21	0	**13M**	0	10	(2	A	0	**48**	0	**A2A**
4730F l	A	82	28	0	**92**	0	12	3M	10	0	**M(**	0	2A	100	2M	0	**1A9**	0	10	M	M	0	**88**	1	**38A**
TRtn6	14	2MA	183	0	**A3M**	0	(A	181	A2	0	**2((**	3	4M	34M	(4	0	**MA4**	0	29	324	13	0	**3(0**	1	**1830**
% F NNdRncS	A1%	M4.A%	3(.M%	0%	**-**	-	28.(%	M4.1%	1M2%	0%	**-**	-	1MM%	(0.3%	1A2%	0%	**-**	-	(.4%	44.8%	3.M%	0%	**-**	-	-
% TRtn6	1.1%	1M8%	10.0%	0%	**28.(%**	-	AM%	9.9%	2.8%	0%	**1(.0%**	-	M2%	23.8%	A4%	0%	**33.8%**	-	1.4%	20.1%	0.4%	0%	**22.(%**	-	-
LH5	0.900	0.49A	0.891	-	**0.4M8**	-	0.40A	0.4(M	0.(M0	-	**0.4((**	-	0.41(	0.983	0.(40	-	**0.919**	-	0.(2M	0.8(4	0.8M0	-	**0.(24**	-	0.448
a si StC	14	2A(	1M9	0	**A2A**	-	(1	1M2	A1	0	**28A**	-	(9	341	(8	0	**M88**	-	28	323	12	0	**381**	-	1M4M
% a si StC	100%	9(.2%	9(.M%	0%	**9(.M%**	-	9M9%	9AA%	9(.8%	0%	**9M3%**	-	92.9%	99.0%	9(.A%	0%	**9(.4%**	-	49.(%	94.M%	92.3%	0%	**9(.8%**	-	9(.2%
Usr i 6e-k r st TducgC	0	2	2	0	**A**	-	2	M	0	0	**(**	-	M	1	1	0	**(**	-	0	3	1	0	**A**	-	22
% Usr i 6e-k r st TducgC	0%	0.4%	1.2%	0%	**0.9%**	-	2.(%	3.1%	0%	0%	**2.M%**	-	M9%	0.3%	1.3%	0%	**1.3%**	-	0%	0.9%	(.(%	0%	**1.1%**	-	1.3%
F dscu6nteB TducgC	0	2	0	0	**2**	-	1	2	0	0	**3**	-	0	0	1	0	**1**	-	0	0	0	0	**0**	-	8
% F dscu6nteB TducgC	0%	0.4%	0%	0%	**0.M%**	-	1.A%	1.2%	0%	0%	**1.1%**	-	0%	0%	1.3%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	0.A%
y uGeC	0	3	2	0	**M**	-	0	2	1	0	**3**	-	1	3	0	0	**A**	-	3	2	0	0	**M**	-	1(
% y uGeC	0%	1.2%	1.2%	0%	**1.1%**	-	0%	1.2%	2.A%	0%	**1.1%**	-	1.2%	0.4%	0%	0%	**0.(%**	-	10.3%	0.8%	0%	0%	**1.A%**	-	1.0%
y scoc6eCRr wRnB	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% y scoc6eCRr wRnB	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
LeBeGdsnr C	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	0	-	-	-	-	-	1	
% LeBeGdsnr C	-	-	-	-	-	-	-	-	-	-	-	88.(%	-	-	-	-	-	-	-	-	-	-	-	100%	-
y scoc6eCRr) dRGGv n6g	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	
% y scoc6eCRr) dRGGv n6g	-	-	-	-	-	-	-	-	-	-	-	33.3%	-	-	-	-	-	-	-	-	-	-	-	0%	-

*LeBeGdsnr Cnr B y scoc6eCRr) dRGGv n6g. a 7a eft, w7wsi St, T7TSdu, k 7k -Tudr

Center Street/Sheldon & Seven Mile - TMC
Tue Oct 19, 2021
F l Leng h(7AMF l - 47AMF l P
F 66) 6nGGeCha si StC, Usr i 6e-k r st TducgC, F dscu6nteB TducgC, y uGeC, LeBeGdsnr C, y scoc6eCRr wRnB, y scoc6eCRr) dRGGv n6gP
F 66l RmeI er tC
D 744892M, a RcntsRr 7A2.A2M9A(, -43.A428A8

LdRmsBeB bo7Gev n6 HnI s6Rr F GGRcsnteCDc.
82M5RdeGt EBi e : dsme, Vedr Rr Hs66C, Da , 80081, k U

Center Street/Sheldon & Seven Mile - TMC
Tue Oct 19, 2021
Fl FeLn gh(70 Fl AM(70 Fl - AO4ePL66FeLn) CuP
a 66s 6Liiei gSUkti, dUBr6eAy BUTPucni, a PUduGLteo TPucni, Ruiei, FeoeitPULBi,
RUdwc6ei CBvCLo, RUdwc6ei CBs PCiimLGn-
a 66l C4eI eBti
D (88. 92M, SCcLtUCB(h23h2M9hb, A873h82. h.

FPC4Ubeo Gw(HemL6i) LI U6CBaiiCcUtei DBc3
. 2M5CPeit Eore : PU4e, VePBCB) U6i, DS, . 00. 1, y d

Ser	EomLPo) Ubei						EomLPo) Ubei						dke6oCB						dke6oCB						
: UectUCB	ELitGCuBo						p eitGCuBo						WCRkGCuBo						dCutkGCuBo						
TUe	S	T	v	y	a NN	Feo*	S	T	v	y	a NN	Feo*	S	T	v	y	a NN	Feo*	S	T	v	y	a NN	Feo*	DBt
2021A10A19 h(70Fl	h	bM	7.	0	**11M**	1	18	122	21	0	**1. 1**	1	72	101	78	0	**1b1**	1	17	b.	8	0	**9b**	1	**Mhh**
h(hMFl	17	b9	7b	0	**129**	2	77	8b	70	0	**1M0**	2	7h	128	28	0	**190**	2	21	b.	h	0	**101**	0	**Mb0**
M(00Fl	h	. 2	72	0	**98**	0	hM	109	70	0	**18h**	2	27	10b	1M	0	**1hM**	1	17	9.	M	0	**11h**	2	**Mh1**
M(1MFl	.	b9	2.	0	**111**	2	29	101	27	0	**1M7**	M	7.	122	27	0	**181**	0	19	88	7	0	**110**	0	**MMM**
TOtL6	2b	29M	171	0	**hM7**	M	12M	h19	10h	0	**. h8**	10	12M	hM8	10h	0	**. 8b**	h	. .	77.	20	0	**h22**	7	**2210**
% a NNPCLck	. 30%	. M31%	2839%	0%	**A**	A	1937%	. h3b%	1. 30%	0%	**A**	A	1832%	. . 3b%	1M31%	0%	**A**	A	1M3 %	b93 %	h3b%	0%	**A**	A	A
% TOtL6	132%	1737%	M39%	0%	**203M%**	A	M3b%	1930%	h3b%	0%	**2937%**	A	M3b%	203b%	h3b%	0%	**7131%**	A	730%	1M32%	039%	0%	**1931%**	A	A
F) 5	03M9	0392h	0388M	A	**033b9**	A	03 89	033M9	033h2	A	**033bM**	A	033. 8	03891	03 8h	A	**03901**	A	03b. 2	033bM	03 2M	A	**03929**	A	039b0
SUkti	2b	289	128	0	**hhh**	A	127	h1M	100	0	**. 78**	A	12h	hM7	102	0	**. b9**	A	. 7	77.	20	0	**h19**	A	2180
% SUkti	100%	9830%	9b3b%	0%	**9830%**	A	983h%	9930%	9. 32%	0%	**983M%**	A	9932%	9839%	9831%	0%	**9838%**	A	9M3M%	100%	100%	0%	**9937%**	A	983 %
dUBr6eAy BUTPucni	0	2	2	0	**h**	A	1	1	1	0	**7**	A	0	0	0	0	**0**	A	0	0	0	0	**0**	A	b
% dUBr6eAy BUTPucni	0%	03b%	13M%	0%	**039%**	A	038%	032%	130%	0%	**03M%**	A	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	037%
a PUduGLteo TPucni	0	1	1	0	**2**	A	0	7	0	0	**7**	A	0	0	2	0	**2**	A	1	0	0	0	**1**	A	8
% a PUduGLteo TPucni	0%	037%	038%	0%	**03h%**	A	0%	03b%	0%	0%	**03M%**	A	0%	0%	139%	0%	**037%**	A	13M%	0%	0%	0%	**032%**	A	03h%
Ruiei	0	0	0	0	**0**	A	0	0	0	0	**0**	A	1	7	0	0	**h**	A	0	0	0	0	**0**	A	h
% Ruiei	0%	0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**	A	038%	03b%	0%	0%	**03 %**	A	0%	0%	0%	0%	**0%**	A	032%
RUdwc6ei CBvCLo	0	7	0	0	**7**	A	1	0	7	0	**h**	A	0	2	0	0	**2**	A	2	0	0	0	**2**	A	11
% RUdwc6ei CBvCLo	0%	130%	0%	0%	**03b%**	A	038%	0%	239%	0%	**03 %**	A	0%	03h%	0%	0%	**037%**	A	730%	0%	0%	0%	**03M%**	A	03M%
FeoeitPULBi	A	A	A	A	A	M	A	A	A	A	A	M	A	A	A	A	A	h	A	A	A	A	A	7	
% FeoeitPULBi	A	A	A	A	A	100%	A	A	A	A	A	M030%	A	A	A	A	A	100%	A	A	A	A	A	100%	A
RUdwc6ei CBs PCiimLGn	A	A	A	A	A	0	A	A	A	A	A	M	A	A	A	A	A	0	A	A	A	A	A	0	
% RUdwc6ei CBs PCiimLGn	A	A	A	A	A	0%	A	A	A	A	A	M030%	A	A	A	A	A	0%	A	A	A	A	A	0%	A

*FeoeitPULBi LBo RUdwc6ei CBs PCiimLGn3S(Seft, v (vUkt, T(TkPu, y (y ATuPB

Center Street/Sheldon & Seven Mile - TMC
Tue Oct 19, 2021
Fl FeLn gh(70 Fl AM(70 Fl - AO4ePL66FeLn) CuP
a 66s 6Liiei gSUkti, dUBr6eAy BUTPucni, a PUduGLteo TPucni, Ruiei,
FeoeitPULBi, RUdwc6ei CBvCLo, RUdwc6ei CBs PCiimLGn-
a 66l C4eI eBti
D (88. 92M, SCcLtUCB(h23h2M9hb, A873h82. h.

FPC4Ubeo Gw(HemL6i) LI U6CBaiiCcUtei DBc3
. 2M5CPeit Eore : PU4e, VePBCB) U6i, DS, . 00. 1, y d

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: 4234 2b. b8, -8. 348027.

Provided Gy: Hewalt 5 amilton Associates Inc3
62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US

Leg	7 Mile					5 ines					5 ines					
Direction	p estGound					WorthGound					SouthGound					
Time	L	R	U	ANN	Ped*	T	R	U	ANN	Ped*	L	T	U	ANN	Ped*	Int
2021-10-19 7:00AM	1	2b	0	**26**	0	19	.	0	**22**	0	. 7	24	0	**61**	0	**109**
7:1bAM	1	. b	0	**. 6**	0	24	0	0	**24**	0	. 8	1b	0	**b.**	0	**11.**
7:. 0AM	0	. 0	0	**. 0**	0	2.	2	0	**2b**	0	4b	24	0	**69**	0	**124**
7:4bAM	.	b0	0	**b.**	0	28	.	0	**. 1**	0	b.	. 1	0	**84**	0	**168**
5 ourly Total	b	140	0	**14b**	0	94	8	0	**102**	0	17.	94	0	**267**	0	**b14**
8:00AM	1	b.	0	**b4**	0	19	4	0	**2.**	0	60	2.	0	**8.**	0	**160**
8:1bAM	2	b1	0	**b.**	0	2.	b	0	**28**	0	7.	. 1	0	**104**	0	**18b**
8:. 0AM	4	. b	0	**. 9**	0	22	b	0	**27**	0	7.	24	0	**97**	0	**16.**
8:4bAM	1	b.	0	**b4**	0	. 0	4	0	**. 4**	0	b9	19	0	**78**	0	**166**
5 ourly Total	8	192	0	**200**	0	94	18	0	**112**	0	26b	97	0	**. 62**	0	**674**
4:00PM	14	91	0	**10b**	0	41	7	0	**48**	0	64	. 6	0	**100**	0	**2b.**
4:1bPM	16	96	0	**112**	0	44	b	0	**49**	0	69	40	0	**109**	0	**270**
4:. 0PM	22	110	0	**1. 2**	0	48	9	0	**b7**	0	80	b1	0	**1. 1**	0	**. 20**
4:4bPM	16	99	0	**11b**	0	b9	1.	0	**72**	0	72	b6	0	**128**	0	**. 1b**
5 ourly Total	68	. 96	0	**464**	0	192	. 4	0	**226**	0	28b	18.	0	**468**	0	**11b8**
b:00PM	12	1. 2	0	**144**	0	61	19	0	**80**	1	47	4b	0	**92**	0	**. 16**
b:1bPM	16	102	0	**118**	0	49	10	0	**b9**	0	81	49	0	**1. 0**	0	**. 07**
b:. 0PM	24	8.	0	**107**	0	b4	17	0	**71**	0	70	. 6	0	**106**	0	**284**
b:4bPM	11	92	0	**10.**	0	b9	20	0	**79**	0	79	4b	0	**124**	1	**. 06**
5 ourly Total	6.	409	0	**472**	0	22.	66	0	**289**	1	277	17b	0	**4b2**	1	**121.**
Total	144	11. 7	0	**1281**	0	60.	126	0	**729**	1	1000	b49	0	**1b49**	1	**. bb9**
% ANNroach	113 2%	8838%	0%	**-**	-	8237%	173 %	0%	**-**	-	6436%	. b34%	0%	**-**	-	-
% Total	430%	. 139%	0%	**. 630%**	-	1639%	. 3b%	0%	**203b%**	-	2831%	1b34%	0%	**4. 3b%**	-	-
Lights	1. 7	1107	0	**1244**	-	b91	12b	0	**716**	-	979	b. 0	0	**1b09**	-	. 469
% Lights	9b31%	9734%	0%	**9731%**	-	9830%	9932%	0%	**9832%**	-	9739%	963b%	0%	**9734%**	-	973b%
Single-Unit Trucks	0	17	0	**17**	-	4	0	0	**4**	-	12	0	0	**12**	-	. .
% Single-Unit Trucks	0%	13b%	0%	**13 %**	-	037%	0%	0%	**03b%**	-	132%	0%	0%	**038%**	-	039%
Articulated Trucks	0	8	0	**8**	-	0	0	0	**0**	-	9	0	0	**9**	-	17
% Articulated Trucks	0%	037%	0%	**036%**	-	0%	0%	0%	**0%**	-	039%	0%	0%	**036%**	-	03b%
Buses	0	4	0	**4**	-	1	0	0	**1**	-	0	7	0	**7**	-	12
% Buses	0%	034%	0%	**03 %**	-	032%	0%	0%	**031%**	-	0%	13 %	0%	**03b%**	-	03 %
Bicycles on Road	7	1	0	**8**	-	7	1	0	**8**	-	0	12	0	**12**	-	28
% Bicycles on Road	439%	031%	0%	**036%**	-	132%	038%	0%	**131%**	-	0%	232%	0%	**038%**	-	038%
Pedestrians	-	-	-	-	0	-	-	-	-	1	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	0%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	100%	-

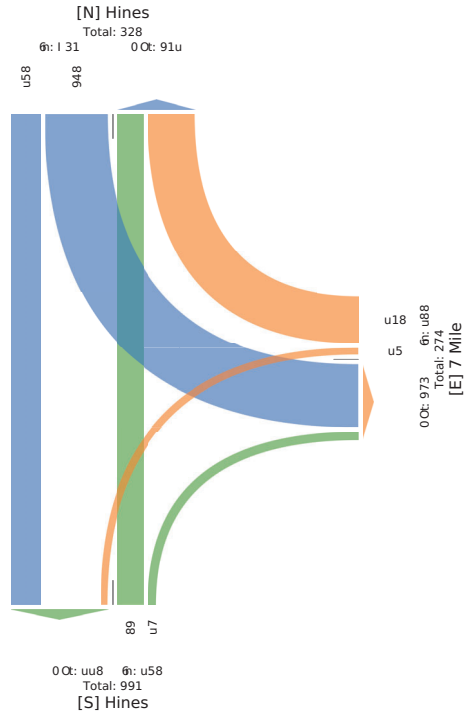
*Pedestrians and Bicycles on Crosswalk3L: Left, R: Right, T: Thru, U: U-Turn

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: 4234 2b. b8, -8. 348027.

Provided Gy: Hewalt 5 amilton Associates Inc3
62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US

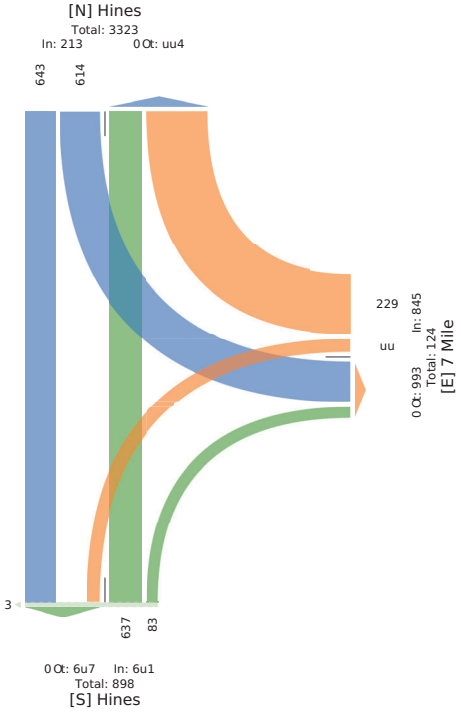
a ei : sdectsRr	(l sRe p eCbRur B				Hsr eC. WRdtSbRur B				Hsr eC URutSbRur B				
Tsl e	a	w	k	F NN LeB*	T	w	k	F NN LeB*	a	T	k	F NN LeB*	Dit
2021-10-19 (7AMF1	.	M0	0	M	24	.	0	. 1	M	. 1	0	4A	184
47h0F1	1	M	0	MA	19	A	0	2.	80	2.	0	4.	180
47LMF1	2	M	0	M	2.	M	0	24	(.	. 1	0	10A	14M
47. 0F1	A	. M	0	. 9	22	M	0	2(	(.	2A	0	9(	18.
TRn6	10	149	0	199	92	1(	0	109	2M0	109	0	. 84	8(8
% F NNRncS	M0%	9M0%	0%	-	4A9%	1M8%	0%	-	(03%	293%	0%	-	-
% TRn6	13M%	243%	0%	293%	1. 3%	23M%	0%	183 %	. 43 %	183 %	0%	M3%	-
LH5	03l2M	03l92	-	0321	03l21	03kM0	-	03(9	03l4(	03(1	-	0342	0312
a si StC	10	1(4	0	144	44	1(	0	10M	2M2	102	0	. MA	8A(
% a si StC	100%	9A2%	0%	9A3M%	9M(%	100%	0%	983 %	9(3 %	9. 3%	0%	982%	9M(%
Usri 6e-k r st TducgC	0	8	0	8	A	0	0	A	.	0	0	.	1.
% Usri 6e-k r st TducgC	0%	. 2%	0%	. 3%	A3 %	0%	0%	. 3(%	13%	0%	0%	03%	13%
F dscu6niteB TducgC	0	A	0	A	0	0	0	0	A	0	0	A	4
% F dscu6niteB TducgC	0%	23%	0%	23%	0%	0%	0%	0%	13M%	0%	0%	13%	13%
y uCeC	0	1	0	1	0	0	0	0	0	8	0	8	(
% y uCeC	0%	03M%	0%	03M%	0%	0%	0%	0%	0%	MM%	0%	13%	13%
y scoc6eCRr wRnB	0	0	0	0	0	0	0	0	0	1	0	1	1
% y scoc6eCRr wRnB	0%	0%	0%	0%	0%	0%	0%	0%	0%	03%	0%	03 %	03%
LeBeCdcnr C	-	-	-	-	-	-	-	-	-	-	-	-	0
% LeBeCdcnr C	-	-	-	-	-	-	-	-	-	-	-	-	-
y scoc6eCRr) dRCCv nfg	-	-	-	-	-	-	-	-	-	-	-	-	0
% y scoc6eCRr) dRCCv nfg	-	-	-	-	-	-	-	-	-	-	-	-	-

*LeBeCdcnr Cnr B y scoc6eCRr) dRCCv nfg3a 7a eft, w7wsi St, T7TSdu, k 7k -Tudr



Ser : URectUCB	b 1 Ue p eitCCuBo				) UBei WCPkCCuBo				) UBei dCurkCuBo				
TUl e	S	v	y	a NN Feo*	T	v	y	a NN Feo*	S	T	y	a NN Feo*	DBt
2021A10A19 h(70F1	22	110	0	172 0	h8	9	0	Mh 0	80	M	0	171 0	720
h(hMF1	1.	99	0	11M 0	M9	17	0	h2 0	h2	M	0	128 0	71M
M00F1	12	172	0	1hh 0	. 1	19	0	80 1	hh	hM	0	92 0	71.
M(LMF1	1.	102	0	118 0	h9	10	0	M9 0	81	h9	0	170 0	70h
TCUL6	. .	hh7	0	M9 0	21h	M	0	2. 8 1	280	201	0	h81 0	12M
% a NNRCLck	173%	8h3%	0%	A A	813%	193%	0%	A A	M32%	h13%	0%	A A	A
% TCUL6	M2%	7M2%	0%	h03M% A	1h32%	h3 %	0%	213% A	223%	1. 3%	0%	782% A	A
F) 5	03hM0	0387 9	A	0388M A	038bb	03 b1	A	0328 A	03l. h	03lb7	A	0391M A	0387
SUkti	. 7	h78	0	M1 A	21h	M	0	2. M A	2b7	192	0	h. M A	1271
% SUkti	9MM%	983%	0%	983% A	983 %	100%	0%	983% A	9b3M%	9MM%	0%	9. 3% A	9b3%
dUBr 6eAy BtU TRucni	0	7	0	7 A	0	0	0	0 A	h	0	0	h A	b
% dUBr 6eAy BtU TRucni	0%	03h%	0%	03 % A	0%	0%	0%	0% A	13h%	0%	0%	03% A	03 %
a PtUduGLteo TRucni	0	2	0	2 A	0	0	0	0 A	7	0	0	7 A	M
% a PtUduGLteo TRucni	0%	03M%	0%	03% A	0%	0%	0%	0% A	13 %	0%	0%	03 % A	03h%
Ruiei	0	0	0	0 A	0	0	0	0 A	0	0	0	0 A	0
% Ruiei	0%	0%	0%	0% A	0%	0%	0%	0% A	0%	0%	0%	0% A	0%
RUdwc6ei CBv CLo	7	0	0	7 A	7	0	0	7 A	0	9	0	9 A	1M
% RUdwc6ei CBv CLo	h3M%	0%	0%	03 % A	13h%	0%	0%	13% A	0%	h3M%	0%	139% A	13%
FeoeitPULPi	A	A	A	A 0	A	A	A	A 1	A	A	A	A 0	
% FeoeitPULPi	A	A	A	A A	A	A	A	A 100%	A	A	A	A A	A
RUdwc6ei CBs PCiimLfn	A	A	A	A 0	A	A	A	A 0	A	A	A	A 0	
% RUdwc6ei CBs PCiimLfn	A	A	A	A A	A	A	A	A 0%	A	A	A	A A	A

*FeoeitPULPi LBo RUdwc6ei CBs PCiimLfn3S(Seft, v (v Uki t, T(TkRu, y (y AfuPB



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

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

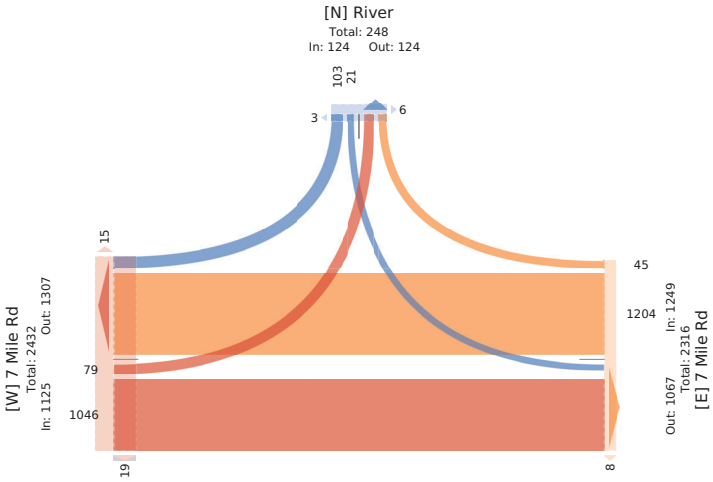
Leg Direction	7 Mile Rd Eastbound					7 Mile Rd p estbound					River Southbound					
Time	L	T	U	AWV	Ped*	T	R	U	AWV	Ped*	L	R	U	AWV	Ped*	Int
2021-10-19 7:00AM	5	. 8	0	4.	1	26	0	0	26	0	1	1	0	2	0	71
7:15AM	2	40	0	42	2	. 5	0	0	. 5	1	0	2	0	2	0	79
7:. 0AM	1	4.	0	44	1	28	4	0	. 2	0	0	6	0	6	0	82
7:45AM	4	50	0	54	0	45	1	0	46	0	1	6	0	7	0	107
Hourly Total	12	171	0	18.	4	1. 4	5	0	1. 9	1	2	15	0	17	0	. . 9
8:00AM	5	58	0	6.	0	54	1	0	55	0	0	2	0	2	0	120
8:15AM	6	72	0	78	2	48	1	0	49	0	2	4	0	6	0	1. .
8:. 0AM	5	71	0	76	1	. 6	4	0	40	0	2	2	0	4	2	120
8:45AM	2	60	0	62	0	5.	.	0	56	0	1	1	0	2	0	120
Hourly Total	18	261	0	279	.	191	9	0	200	0	5	9	0	14	2	49.
4:00PM	4	70	0	74	8	105	0	0	105	0	1	1	0	2	0	181
4:15PM	4	69	0	7.	1	109	2	0	111	0	1	9	0	10	0	194
4:. 0PM	6	81	0	87	2	116	8	0	124	0	1	12	0	1.	0	224
4:45PM	11	76	0	87	4	110	5	0	115	0	1	8	0	9	2	211
Hourly Total	25	296	0	. 21	15	440	15	0	455	0	4	. 0	0	. 4	2	810
5:00PM	7	61	0	68	4	1. 2	4	0	1. 6	4	1	11	0	12	1	216
5:15PM	5	85	0	90	2	109	5	0	114	2	.	14	0	17	1	221
5:. 0PM	6	78	0	84	2	96	4	0	100	0	4	10	0	14	1	198
5:45PM	6	94	0	100	4	102	.	0	105	1	2	14	0	16	2	221
Hourly Total	24	. 18	0	. 42	12	4. 9	16	0	455	7	10	49	0	59	5	856
Total	79	1046	0	1125	. 4	1204	45	0	1249	8	21	10.	0	124	9	2498
% AWVroach	7 0%	9. 30%	0%	-	-	963 8%	. 6%	0%	-	-	163 9%	8. 3 %	0%	-	-	-
% Total	. 2%	41 9%	0%	45 0%	-	48 2%	1 8%	0%	50 0%	-	0 8%	43 %	0%	5 0%	-	-
Lights	75	1025	0	1100	-	117.	44	0	1217	-	21	89	0	110	-	2427
% Lights	94 9%	98 0%	0%	97 8%	-	97 8%	97 8%	0%	97 8%	-	100%	86 8%	0%	88 7%	-	97 2%
Single-Unit Trucks	0	12	0	12	-	15	1	0	16	-	0	1	0	1	-	29
% Single-Unit Trucks	0%	1 1%	0%	1 1%	-	1 2%	2 2%	0%	1 3 %	-	0%	1 0%	0%	0 8%	-	1 2%
Articulated Trucks	1	8	0	9	-	8	0	0	8	-	0	.	0	.	-	20
% Articulated Trucks	1 3 %	0 8%	0%	0 8%	-	0 7%	0%	0%	0 6%	-	0%	2 9%	0%	2 8%	-	0 8%
Buses	0	0	0	0	-	4	0	0	4	-	0	0	0	0	-	4
% Buses	0%	0%	0%	0%	-	0 3 %	0%	0%	0 3 %	-	0%	0%	0%	0%	-	0 2%
Bicycles on Road	.	1	0	4	-	4	0	0	4	-	0	10	0	10	-	18
% Bicycles on Road	. 3 8%	0 1 %	0%	0 3 %	-	0 3 %	0%	0%	0 3 %	-	0%	9 7%	0%	8 1 %	-	0 7%
Pedestrians	-	-	-	-	25	-	-	-	-	8	-	-	-	-	7	
% Pedestrians	-	-	-	-	7. 5%	-	-	-	-	100%	-	-	-	-	77 8%	-
Bicycles on Crosswalk	-	-	-	-	9	-	-	-	-	0	-	-	-	-	2	
% Bicycles on Crosswalk	-	-	-	-	26 5%	-	-	-	-	0%	-	-	-	-	22 2%	-

*Pedestrians and Bicycles on Crosswalk3L: 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: 423 42b607, -8. 3476888

GEWALT HAMILTON ASSOCIATES, INC.
Provided Cy: Hewalt 5 amilton Associates Inc3
62b Forest Edge Drive, Vernon 5 ills, IL, 60061, US



River & Seven Mile - TMC

Tue Oct 19, 2021
F1 Leng h(F1 79 F1 A
F Wi M44e4 hP Q C14, a 6) M7 s 6 TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUe4tSns 4, r 6ckcM4 ds BdnU, r 6ckcM4 ds - Sl44y nMA
F Wi doeR est4
w m((19DI, Pdcnt6lsm 28 2. I 03, 7(D8 3I (((

GEWALT HAMILTON ASSOCIATES, INC.
LSlo6LeU5kmb ey nMGnR6Wls F44dc6nte4 vsc8
I 2. HdSe4t EU) e v Sne, VeSs ds GeNWi vP, I 00I 1, i a

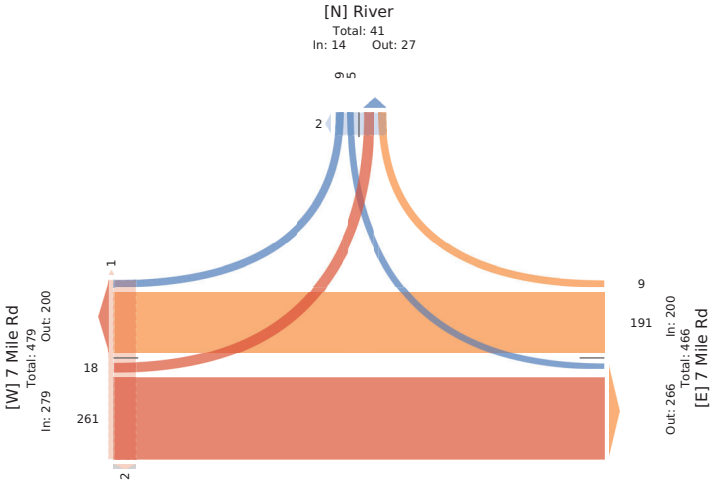
Pe) v 6ect6ls	3 1 6vBU En4 5dus U					3 1 6vBU p e4 5dus U					B6oeS a dut C5dus U					
T6Re	P	T	i	FWV	LeU*	T	B	i	FWV	LeU*	P	B	i	FWV	LeU*	et
2021710719 (n0 F1	.	. (	0	1 D	0	. :	1	0	. .	0	0	2	0	2	0	120
(n. F1	I	32	0	3(	2	: (	1	0	: 9	0	2	:	0	I	0	1DD
(n0 F1	.	31	0	3I	1	DI	:	0	: 0	0	2	2	0	:	2	120
(m. F1	2	1 0	0	1 2	0	. D	D	0	. 1	0	1	1	0	2	0	120
TdmM	1(	21 1	0	239	D	191	9	0	200	0	.	9	0	1:	2	: 9D
% F W6IncC	1 8 %	9D 8 %	0%	7	7	9. 8 %	: 8 %	0%	7	7	D 8%	1 : 8%	0%	7	7	7
% TdmM	D8%	. 28 9%	0%	. 1 8 %	7	D(8%	18(%	0%	: 08 %	7	18 9%	18(%	0%	28(%	7	7
LGH	08. 0	08901	7	08(9:	7	08((:	08 I D	7	08(9D	7	08 I 2.	08 I D	7	08 (D	7	08923
P Q C14	1(	2. 2	0	230	7	1(:	9	0	19D	7	.	(	0	1D	7	: 3I
% P Q C14	100%	91 8 %	0%	91 8 %	7	91 83%	100%	0%	91 8 %	7	100%	((8%	0%	92 8%	7	91 8 %
a 6) M7 s 6 TSucg4	0	.	0	.	7	:	0	0	:	7	0	0	0	0	7	9
% a 6) M7 s 6 TSucg4	0%	18 9%	0%	18 %	7	28 %	0%	0%	28 0%	7	0%	0%	0%	0%	7	18 %
F St6cuMteUTSucg4	0	:	0	:	7	2	0	0	2	7	0	1	0	1	7	3
% F St6cuMteUTSucg4	0%	18 %	0%	18 %	7	18 0%	0%	0%	18 0%	7	0%	118 %	0%	38 %	7	18 %
r u4e4	0	0	0	0	7	1	0	0	1	7	0	0	0	0	7	1
% r u4e4	0%	0%	0%	0%	7	08 %	0%	0%	08 %	7	0%	0%	0%	0%	7	08%
r 6ckcM4 ds BdnU	0	0	0	0	7	0	0	0	0	7	0	0	0	0	7	0
% r 6ckcM4 ds BdnU	0%	0%	0%	0%	7	0%	0%	0%	0%	7	0%	0%	0%	0%	7	0%
LeUe4tSns 4	7	7	7	7	D	7	7	7	7	0	7	7	7	7	2	
% LeUe4tSns 4	7	7	7	7	100%	7	7	7	7	7	7	7	7	7	100%	7
r 6ckcM4 ds - Sl44y nMg	7	7	7	7	0	7	7	7	7	0	7	7	7	7	0	
% r 6ckcM4 ds - Sl44y nMg	7	7	7	7	0%	7	7	7	7	7	7	7	7	7	0%	7

*LeUe4tSns 4 ns Ur 6ckcM4 ds - Sl44y nMg8PmPeft, BmB6) Cl, TmlTCSu, i mi 7TuSs

River & Seven Mile - TMC

Tue Oct 19, 2021
F1 Leng h(F1 79 F1 A
F Wi M44e4 hP Q C14, a 6) M7 s 6 TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUe4tSns 4, r 6ckcM4 ds BdnU, r 6ckcM4 ds - Sl44y nMA
F Wi doeR est4
w m((19DI, Pdcnt6lsm 28 2. I 03, 7(D8 3I (((

GEWALT HAMILTON ASSOCIATES, INC.
LSlo6LeUbkmGey nMHnR6Wls F44dc6nte4 vsc8
I 2. 5dSe4t EU) e v Sne, VeSs ds H6NWi vP, I 00I 1, i a



River & Seven Mile - TMC

Tue Oct 19, 2021
Fl FeLn gh(70 Fl AM70 Fl - AO4eEL66FeLn) CuP
a 6s 6Li i ei gSUkti, dUBr 6eAy BtU TRucni, a RUduGLeo TRucni, Ruiei,
FeoeitRULEi, RUdwc6ei CBvCLo, RUdwc6ei CBs PCimLfin-
a 6l C4el eBti
D (88. 971, SCcLnUCB(h23h2M 05, A873h5. 888

GEWALT HAMILTON ASSOCIATES, INC.
FIC4Udeo bw(GemLfi) LI UdCBa ii CcUlrei DBc3
. 2MHCPeit Eore : Pde, VeBCB) U6i, DS, . 00. 1, y d

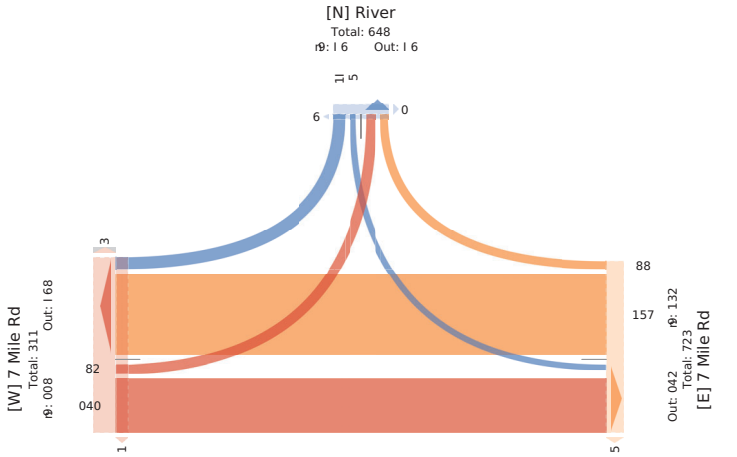
Ser . UBectUCB	5 l Ude v o ELitbCuBo					5 l Ude v o p eitbCuBo					v UdeP dCuckbCuBo					
TUe	S	T	y	a VeV	Feo*	T	v	y	a VeV	Feo*	S	v	y	a VeV	Feo*	DBt
2021A10A19 h(70Fl	.	81	0	**85**	2	11.	8	0	**12h**	0	1	12	0	**17**	0	**22h**
h(hMFl	11	5.	0	**85**	h	110	M	0	**11M**	0	1	8	0	**9**	2	**211**
M00Fl	5	. 1	0	**. 8**	h	172	h	0	**17.**	h	1	11	0	**12**	1	**21.**
M1MFl	M	8M	0	**90**	2	109	M	0	**11h**	2	7	1h	0	**15**	1	**221**
TCL6	29	707	0	**772**	12	h. 5	22	0	**h89**	.	.	hM	0	**M**	h	**852**
% a VeVLck	83%	913%	0%	**A**	A	9MM%	h3M%	0%	**A**	A	113%	883%	0%	**A**	A	A
% TCL6	73%	7h3%	0%	**783%**	A	M3 %	23M%	0%	**M3%**	A	03%	M2%	0%	**M8%**	A	A
F) H	03 7.	038 88	A	**039 15**	A	0389	03 88	A	**0390h**	A	03M0	0325	A	**03. .**	A	035.
SUkti	28	29.	0	**72h**	A	h. 2	22	0	**h8h**	A	.	h0	0	**h.**	A	8M
% SUkti	9. 3 %	953%	0%	**953 %**	A	983%	100%	0%	**993%**	A	100%	883%	0%	**902%**	A	953%
dUBr 6eAy BtU TRucni	0	h	0	**h**	A	2	0	0	**2**	A	0	1	0	**1**	A	5
% dUBr 6eAy BtU TRucni	0%	13%	0%	**132%**	A	03h%	0%	0%	**03h%**	A	0%	23%	0%	**239%**	A	038%
a RUduGLeo TRucni	0	2	0	**2**	A	2	0	0	**2**	A	0	2	0	**2**	A	.
% a RUduGLeo TRucni	0%	03%	0%	**03 %**	A	03h%	0%	0%	**03h%**	A	0%	h3h%	0%	**739%**	A	035%
Ruiei	0	0	0	**0**	A	0	0	0	**0**	A	0	0	0	**0**	A	0
% Ruiei	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%
RUdwc6ei CBvCLo	1	1	0	**2**	A	1	0	0	**1**	A	0	2	0	**2**	A	M
% RUdwc6ei CBvCLo	73h%	03 7%	0%	**03 %**	A	032%	0%	0%	**032%**	A	0%	h3h%	0%	**739%**	A	03 %
FeoeitRULEi	A	A	A	A	11	A	A	A	A	.	A	A	A	A	h	
% FeoeitRULEi	A	A	A	A	913%	A	A	A	A	100%	A	A	A	A	100%	A
RUdwc6ei CBs PCimLfin	A	A	A	A	1	A	A	A	A	0	A	A	A	A	0	
% RUdwc6ei CBs PCimLfin	A	A	A	A	83%	A	A	A	A	0%	A	A	A	A	0%	A

*FeoeitRULEi LBo RUdwc6ei CBs PCimLfin3S(Seft, v (v Ukt, T(TkRu, y (y AUuBB

River & Seven Mile - TMC

Tue Oct 19, 2021
Fl FeLn gh(70 Fl AM70 Fl - AO4eEL66FeLn) CuP
a 6s 6Li i ei gSUkti, dUBr 6eAy BtU TRucni, a RUduGLeo TRucni, Ruiei,
FeoeitRULEi, RUdwc6ei CBvCLo, RUdwc6ei CBs PCimLfin-
a 6l C4el eBti
D (88. 971, SCcLnUCB(h23h2M 0b, A873hb. 888

GEWALT HAMILTON ASSOCIATES, INC.
FIC4Udeo Gv(HemLfi) LI UdCBa ii CcUlrei DBc3
. 2M5CPeit Eore : Pde, VeBCB) U6i, DS, . 00. 1, y d



Northville & 7 Mile (north) - 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: 886946, Location: 42.423699, -85.474513

GEWALT HAMILTON ASSOCIATES, INC.
Provided by: Gewalt Hamilton Associates Inc.
623 Forest Edge Drive, Vernon Hills, IL, 60061, US

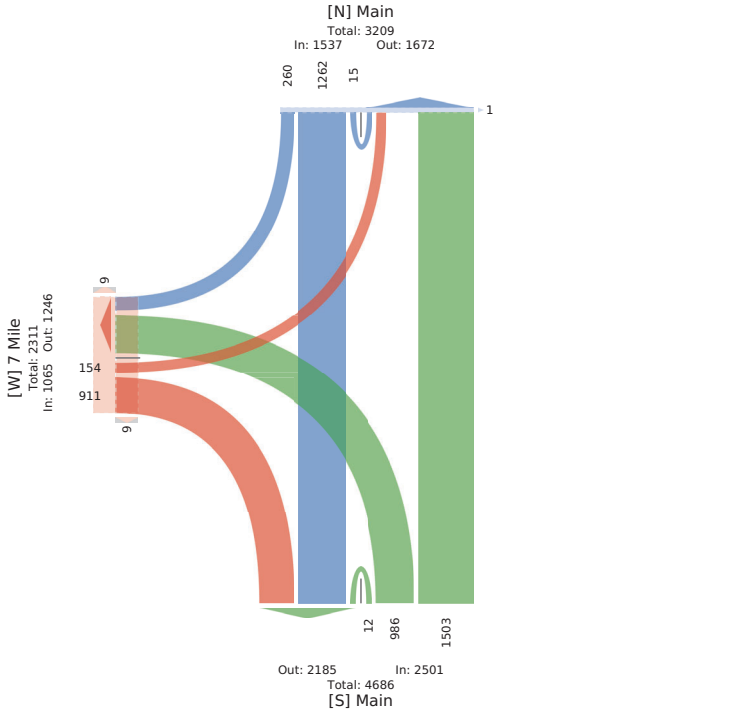
Leg Direction	7 Mile Eastbound					Main Northbound					Main Southbound					
Time	L	R	U	App	Ped*	L	T	U	App	Ped*	T	R	U	App	Ped*	Int
2021-10-19 7:00AM	2	40	0	**42**	10	20	59	1	**60**	0	51	7	1	**59**	0	**141**
7:13AM	5	59	0	**42**	6	23	57	0	**62**	0	27	8	0	**53**	0	**159**
7:50AM	5	59	0	**42**	0	18	30	0	**68**	0	61	11	0	**72**	0	**182**
7:43AM	8	40	0	**48**	0	58	71	0	**109**	0	68	9	1	**78**	0	**253**
Hourly Total	16	138	0	**174**	16	101	197	1	**299**	0	187	53	2	**224**	0	**697**
8:00AM	7	43	0	**32**	0	42	82	0	**124**	0	46	12	1	**39**	0	**253**
8:13AM	11	62	0	**75**	0	43	64	0	**109**	0	66	7	0	**75**	0	**233**
8:50AM	18	32	0	**70**	0	26	73	0	**101**	0	69	15	1	**85**	0	**234**
8:43AM	9	44	0	**35**	0	41	98	1	**140**	0	65	17	2	**82**	1	**273**
Hourly Total	43	205	0	**248**	0	134	519	1	**474**	0	244	49	4	**297**	1	**1019**
4:00PM	12	66	0	**78**	0	87	93	2	**184**	0	92	19	0	**111**	0	**575**
4:13PM	8	63	0	**75**	1	93	97	0	**192**	0	88	22	2	**112**	0	**577**
4:50PM	8	77	0	**83**	0	104	145	2	**249**	0	118	20	0	**158**	0	**472**
4:43PM	20	37	0	**77**	0	82	123	2	**209**	0	104	23	2	**151**	0	**417**
Hourly Total	48	263	0	**515**	1	568	460	6	**854**	0	402	86	4	**492**	0	**1659**
3:00PM	10	34	0	**64**	0	114	120	1	**253**	0	110	27	0	**157**	0	**456**
3:13PM	12	69	0	**81**	0	95	147	0	**240**	0	108	50	1	**159**	0	**460**
3:50PM	13	77	0	**92**	1	73	116	5	**194**	0	109	18	1	**128**	0	**414**
3:43PM	8	83	0	**95**	0	81	144	0	**223**	0	102	13	5	**120**	0	**458**
Hourly Total	43	283	0	**550**	1	565	327	4	**894**	0	429	90	3	**324**	0	**1748**
Total	134	911	0	**1063**	18	986	1305	12	**2301**	0	1262	260	13	**1357**	1	**3105**
% Approach	14.3%	83.3%	0%	**-**	-	59.4%	60.1%	0.3%	**-**	-	82.1%	16.9%	1.0%	**-**	-	-
% Total	5.0%	17.9%	0%	**20.9%**	-	19.5%	29.3%	0.2%	**49.0%**	-	24.7%	3.1%	0.5%	**50.1%**	-	-
Lights	147	897	0	**1044**	-	960	1479	11	**2430**	-	1245	234	13	**1312**	-	3006
% Lights	93.3%	98.3%	0%	**98.0%**	-	97.4%	98.4%	91.7%	**98.0%**	-	98.3%	97.7%	100%	**98.4%**	-	98.1%
Single-Unit Trucks	5	9	0	**12**	-	14	15	1	**28**	-	7	2	0	**9**	-	49
% Single-Unit Trucks	1.9%	1.0%	0%	**1.1%**	-	1.4%	0.9%	8.5%	**1.1%**	-	0.6%	0.8%	0%	**0.6%**	-	1.0%
Articulated Trucks	5	4	0	**7**	-	7	5	0	**10**	-	4	0	0	**4**	-	21
% Articulated Trucks	1.9%	0.4%	0%	**0.7%**	-	0.7%	0.2%	0%	**0.4%**	-	0.5%	0%	0%	**0.5%**	-	0.4%
Buses	0	0	0	**0**	-	3	8	0	**15**	-	8	0	0	**8**	-	21
% Buses	0%	0%	0%	**0%**	-	0.3%	0.3%	0%	**0.3%**	-	0.6%	0%	0%	**0.3%**	-	0.4%
Bicycles on Road	1	1	0	**2**	-	0	0	0	**0**	-	0	4	0	**4**	-	6
% Bicycles on Road	0.6%	0.1%	0%	**0.2%**	-	0%	0%	0%	**0%**	-	0%	1.3%	0%	**0.5%**	-	0.1%
Pedestrians	-	-	-	-	18	-	-	-	-	0	-	-	-	-	1	
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	0%	-

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

Northville & 7 Mile (north) - 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: 886946, Location: 42.423699, -8b.474b13

GEWALT HAMILTON ASSOCIATES, INC.
Provided Gy: Hewalt 5 amilton Associates Inc.
623 Forest Edge Drive, Vernon 5 ills, IL, 60061, US

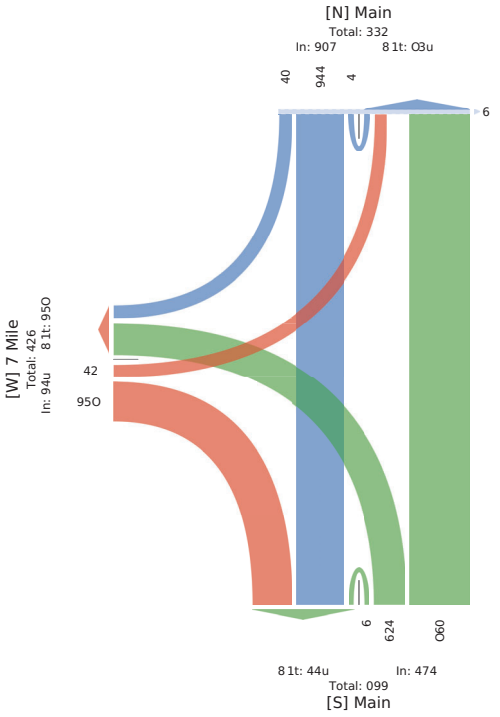


GEWALT HAMILTON ASSOCIATES, INC.

Pe) v 6ect6ls	3 1 0M En45dus U				I nfs Nds6C5dus U				I nfs adutC5dus U					
T6Re	P	B	i	F pp	LeU*	P	T	i	F pp	LeU*	T	B	i	F pp	LeU*	wt
2021710719 (m00F1	3	D8	0	**82**	0	D2	(2	0	**12D**	0	D1	12	1	**89**	0	**2. 8**
(m86F1	11	I 2	0	**3.**	0	D8	I D	0	**109**	0	I I	3	0	**3.**	0	**288**
(m0F1	1(	82	0	**30**	0	2I	38	0	**101**	0	19	1.	1	**(.**	0	**28D**
(86F1	9	DD	0	**8.**	0	DI	9(	1	**1DD**	0	1.	13	2	**(2**	1	**238**
TdmM	D8	20.	0	**2D(**	0	18D	. 19	1	**D8D**	0	2DD	D9	D	**293**	1	**1019**
% F ppSlncC	1(:1%	(1:9%	0%	**7**	7	. 2:8%	I3:. %	0:2%	**7**	7	(2:2%	1I :8%	1:. %	**7**	7	7
% TdmM	DD%	19:9%	0%	**2D. %**	7	18:1%	. 1:. %	0:1%	**D1 :8%**	7	2. :9%	D(%	0:D%	**29:1%**	7	7
LGH	0:I 28	0:(19	7	**0:(D9**	7	0:(8I	0:(1D	0:280	**0:(DI**	7	0:((D	0:321	0:800	**0:(98**	7	0:92I
P9 C4	D2	19(	0	**2DD**	7	1DB	. 0(	1	**D8I**	7	2. 8	D9	D	**2((**	7	9(D
% P9 C4	9. :. %	93:8%	0%	**9I :(%**	7	98:8%	9I :I %	100%	**9I :2%**	7	9I :. %	100%	100%	**93:0%**	7	9I :I %
a6s) M6I s8 TSucg4	2	.	0	**8**	7	8	D	0	**9**	7	2	0	0	**2**	7	11
% a6s) M6I s8 TSucg4	DD%	1:8%	0%	**2:0%**	7	. :2%	1:. %	0%	**1:9%**	7	0:(%	0%	0%	**0:3%**	7	1:I %
F 5fcuMteUTSucg4	1	2	0	.	7	1	2	0	.	7	2	0	0	**2**	7	(
% F 5fcuMteUTSucg4	2:2%	1:0%	0%	**1:2%**	7	0:I %	0:I %	0%	**0:I %**	7	0:(%	0%	0%	**0:3%**	7	0:(%
r u4e4	0	0	0	**0**	7	1	8	0	**I**	7	8	0	0	**8**	7	11
% r u4e4	0%	0%	0%	**0%**	7	0:I %	1:I %	0%	**1:. %**	7	2:0%	0%	0%	**1:3%**	7	1:I %
r 6ckcM4 ds BdnU	0	0	0	**0**	7	0	0	0	**0**	7	0	0	0	**0**	7	0
% r 6ckcM4 ds BdnU	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%	0%	0%	**0%**	7	0%
LeUe4tSns 4	7	7	7	7	0	7	7	7	7	0	7	7	7	7	1	
% LeUe4tSns 4	7	7	7	7	7	7	7	7	7	7	7	7	7	7	100%	7
r 6ckcM4 ds - Sl44y nMJ	7	7	7	7	0	7	7	7	7	0	7	7	7	7	0	
% r 6ckcM4 ds - Sl44y nMJ	7	7	7	7	7	7	7	7	7	7	7	7	7	7	0%	7

*LeUe4tSns 4 ns Ur 6ckcM4 ds - Sl44y nMJ: PmPeft, BmB9 C1, TmiTCSu, i mi 7TuSs

GEWALT HAMILTON ASSOCIATES, INC.

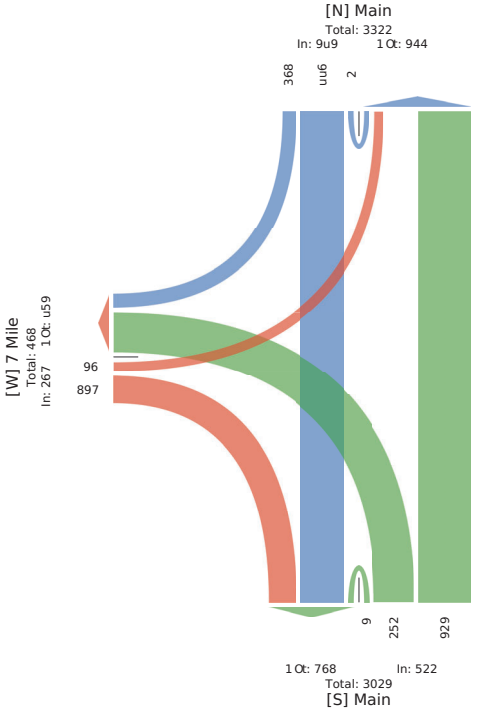


GEWALT HAMILTON ASSOCIATES, INC.

Ser : 0ectC3	5 1 6e ELi rbCuBo					I LIB NCRkbCuBo					I LIB dCurkbCuBo					
TUe	S	v	y	a pp	Feo*	S	T	y	a pp	Feo*	T	v	y	a pp	Feo*	DB
2021A0A9 h(70Fl	8	55	0	**8M**	0	10h	1h7	2	**2h9**	0	118	20	0	**178**	0	**h52**
h(hMFl	20	M5	0	**55**	0	82	12M	2	**209**	0	10h	2M	2	**171**	0	**h15**
M00Fl	10	M1	0	**. h**	0	11h	120	1	**27M**	0	110	25	0	**175**	0	**h7.**
M1MFl	12	. 9	0	**81**	0	97	1h5	0	**2h0**	0	108	70	1	**179**	0	**h. 0**
TCU6	M0	2M5	0	**705**	0	797	MTM	M	**977**	0	hh0	102	7	**M1M**	0	**158M**
% a ppRCLck	1. 3%	87:5%	0%	**A**	A	h23:%	M:3%	0:M%	**A**	A	80:5%	18:5%	03 %	**A**	A	A
% TCU6	2:8%	1h:3%	0%	**152%**	A	223:%	703:%	0:3%	**M:3%**	A	2h:3 %	M:5%	0:2%	**703M%**	A	A
F) H	03 2M	0:8h2	A	**0:911**	A	0:8. 2	0:910	03 2M	**0:975**	A	0:972	0:8h2	0:75M	**0:958**	A	0:9h.
Slrkti	h9	2M	0	**700**	A	789	MT2	M	**92.**	A	h75	101	7	**M1**	A	15. 5
% Slrkti	98:0%	95:5%	0%	**95:5%**	A	99:0%	99:h%	100%	**99:2%**	A	99:7%	99:0%	100%	**99:7%**	A	99:0%
dUBr6eAy BtfTRucni	0	h	0	**h**	A	2	7	0	**M**	A	2	0	0	**2**	A	11
% dUBr6eAy BtfTRucni	0%	13 %	0%	**1:7%**	A	0:M%	0:3 %	0%	**0:M%**	A	0:M%	0%	0%	**0:h%**	A	0:3 %
a RdudLteo TRucni	1	1	0	**2**	A	2	0	0	**2**	A	1	0	0	**1**	A	M
% a RdudLteo TRucni	2:0%	0:h%	0%	**0:5%**	A	0:M%	0%	0%	**0:2%**	A	0:2%	0%	0%	**0:2%**	A	0:7%
Ruiei	0	0	0	**0**	A	0	0	0	**0**	A	0	0	0	**0**	A	0
% Ruiei	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%	0%	0%	**0%**	A	0%
RUdwc6ei CBv CLo	0	1	0	**1**	A	0	0	0	**0**	A	0	1	0	**1**	A	2
% RUdwc6ei CBv CLo	0%	0:h%	0%	**0:7%**	A	0%	0%	0%	**0%**	A	0%	1:0%	0%	**0:2%**	A	0:1%
FeoeitPULBi	A	A	A	A	0	A	A	A	A	0	A	A	A	A	0	
% FeoeitPULBi	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A
RUdwc6ei CBs PCi imLén	A	A	A	A	0	A	A	A	A	0	A	A	A	A	0	
% RUdwc6ei CBs PCi imLén	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A	A

*FeoeitPULBi LBo RUdwc6ei CBs PCi imLén 3S(Seft, v (v U'kt, T(TkRu, y (y AFuHB

GEWALT HAMILTON ASSOCIATES, INC.



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: 423424b44, -8b347b927

Provided Gy: Hewalt 5 amilton Associates Inc3
62. Forest Edge Drive, Vernon 5 ills, IL, 60061, US

Leg	Brake and Tire Shop						7 Mile						Worthville						Worthville						
Direction	EastGound						N estGound						WorthGound						SouthGound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2021-10-19 7:00AM	0	0	0	0	0	0	27	0	2b	0	. 0	0	0	b8	27	0	6.	0	4.	b0	0	0	7.	0	190
7:1. AM	0	0	0	0	0	0	22	1	28	0	. 1	0	0	b4	b6	0	70	0	47	18	0	0	6.	0	186
7:b0AM	0	0	0	0	0	0	62	0	b4	0	96	0	0	b4	44	0	78	0	64	b8	0	0	102	0	276
7:4. AM	0	0	0	0	0	0	91	0	. .	0	146	0	0	. .	69	0	124	0	. b	. 0	b	0	106	0	b76
5 ourly Total	0	0	0	0	0	0	202	1	140	0	b4b	0	0	161	176	0	bb7	0	209	1b6	b	0	b48	0	1028
8:00AM	0	0	0	0	0	0	82	0	41	0	12b	0	1	81	68	0	1. 0	0	. 7	b2	1	0	90	0	b6b
8:1. AM	0	0	0	0	0	0	. 7	0	. 1	0	108	0	0	. 9	69	0	128	0	79	. b	0	0	1b2	0	b68
8:b0AM	0	0	0	0	0	1	71	0	49	0	120	0	0	. 2	70	0	122	0	74	42	0	0	116	0	b. 8
8:4. AM	0	0	0	0	0	0	. 6	0	. 7	0	11b	0	0	86	74	0	160	0	64	41	0	0	10.	0	b78
5 ourly Total	0	0	0	0	0	1	266	0	198	0	464	0	1	278	281	0	. 60	0	274	168	1	0	44b	0	1467
4:00PM	1	0	0	0	1	0	80	0	104	0	184	0	0	8b	82	0	16.	0	92	80	1	0	17b	0	. 2b
4:1. PM	0	0	0	0	0	1	71	0	8.	0	1. 6	0	0	10.	. b	0	1. 8	0	78	79	0	0	1. 7	0	471
4:b0PM	0	0	4	0	4	0	109	0	1b4	0	24b	0	0	11.	80	0	19.	0	90	92	0	0	182	0	624
4:4. PM	0	1	1	0	2	0	89	0	112	0	201	0	0	96	89	0	18.	0	81	87	0	0	168	0	. . 6
5 ourly Total	1	1	.	0	7	1	b49	0	4b.	0	784	0	0	b99	b04	0	70b	0	b41	bb8	1	0	680	0	2174
. :00PM	0	0	0	0	0	0	79	0	1b1	0	210	0	0	107	84	0	191	0	86	82	0	0	168	0	. 69
. :1. PM	0	0	0	0	0	0	70	0	120	0	190	0	0	117	8b	0	200	0	8b	92	0	0	17.	0	. 6.
. :b0PM	0	1	0	0	1	1	71	0	109	0	180	0	0	84	7.	0	1. 9	1	82	102	1	0	18.	0	. 2.
. :4. PM	0	0	0	0	0	0	77	0	111	0	188	0	1	117	69	0	187	0	89	101	0	0	190	0	. 6.
5 ourly Total	0	1	0	0	1	1	297	0	471	0	768	0	1	42.	b11	0	7b7	1	b40	b77	1	0	718	0	2224
Total	1	2	.	0	**8**	b	1114	1	1244	0	**2b. 9**	0	2	126b	1072	0	**2bb7**	1	1164	1019	6	0	**2189**	0	**689b**
% Approach	123 %	2. 30%	623 %	0%	-	-	4732%	0%	. 237%	0%	-	-	031%	. 430%	4. 39%	0%	-	-	. b32%	4636%	03b%	0%	-	-	-
% Total	0%	0%	031%	0%	**031%**	-	1632%	0%	1830%	0%	**b432%**	-	0%	183b%	1. 36%	0%	**bb39%**	-	1639%	1438%	031%	0%	**b138%**	-	-
Lights	0	2	.	0	7	-	1090	1	1216	0	2b07	-	2	1240	10. 4	0	2296	-	1148	100b	.	0	21. 6	-	6766
% Lights	0%	100%	100%	0%	**873 %**	-	9738%	100%	9737%	0%	**9738%**	-	100%	9832%	983b%	0%	**9832%**	-	9836%	9834%	8b3b%	0%	**983 %**	-	9832%
Single-Unit Trucks	1	0	0	0	1	-	12	0	18	0	b0	-	0	10	11	0	21	-	7	7	1	0	1.	-	67
% Single-Unit Trucks	100%	0%	0%	0%	**123 %**	-	131%	0%	134%	0%	**13b%**	-	0%	038%	130%	0%	**039%**	-	036%	037%	1637%	0%	**037%**	-	130%
Articulated Trucks	0	0	0	0	0	-	.	0	.	0	10	-	0	.	1	0	6	-	.	2	0	0	7	-	2b
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	034%	0%	034%	0%	**034%**	-	0%	034%	031%	0%	**03b%**	-	034%	032%	0%	0%	**03b%**	-	03b%
Buses	0	0	0	0	0	-	6	0	.	0	11	-	0	8	6	0	14	-	4	.	0	0	9	-	b4
% Buses	0%	0%	0%	0%	**0%**	-	03 %	0%	034%	0%	**03 %**	-	0%	036%	036%	0%	**036%**	-	03b%	03 %	0%	0%	**034%**	-	03 %
Bicycles on Road	0	0	0	0	0	-	1	0	0	0	1	-	0	0	0	0	0	-	0	2	0	0	2	-	b
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	031%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	032%	0%	0%	**031%**	-	0%
Pedestrians	-	-	-	-	-	b	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk3L: 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)
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Provided Gy: Hewalt 5 amilton Associates Inc3
62. Forest Edge Drive, Vernon 5 ills, IL, 60061, US

Northville & 7 Mile (south) - TMC

Tue Oct 19, 2021
F l Leng h(F l 79 F l A
F NM4 M44e4 hP6) Ct4, a6s) M7i s6t TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUe4tS6ns 4, r 6ckcM4 ds BdnU, r 6ckcM4 ds - Sd44y nMgA
F NMl doeRes t4
wr m((I 9D. , Pdcnt6ds mD28D2D. DD, 7(. 8D3. 923

LSdo6UeUbkmGey nMHnR6Mds F 44dc6nte4 wsc8
I 2: 5dSe4t EU) e v S6oe, VeSs ds H6MM, wP, I 00I 1, i a

Pe)	r Snge ns UT6Se a Cdp						31 6M						WdStCo6MM						WdStCo6MM						
v 6Sect6ds	En4tbdus U						N e4tbdus U						WdStCbdus U						a dutCbdus U						
T6Re	P	T	B	i	Fpp	LeU*	P	T	B	i	Fpp	LeU*	P	T	B	i	Fpp	LeU*	P	T	B	i	Fpp	LeU*	wst
202171 0719 (m0F1	0	0	0	0	0	0	(2	0	D1	0	12.	0	1	(1	I(	0	1:0	0	:3	. 2	1	0	90	0	. I.
(m1: F1	0	0	0	0	0	0	:3	0	:1	0	10(	0	0	:9	19	0	12(	0	39	:.	0	0	1. 2	0	. I(
(m0F1	0	0	0	0	0	1	31	0	D9	0	120	0	0	:2	30	0	122	0	3D	D2	0	0	11I	0	. : (
(mD: F1	0	0	0	0	0	0	:I	0	:3	0	11.	0	0	(I	3D	0	1I0	0	ID	D1	0	0	10:	0	. 3(
TdtnM	0	0	0	0	**0**	1	2II	0	19(	0	**DID**	0	1	23(	2(1	0	**:I0**	0	23D	1I(	1	0	**DD**	0	**1DI3**
% FppSdncC	0%	0%	0%	0%	**7**	7	:38 %	0%	D28 3%	0%	**7**	7	082%	D98 1%	:082%	0%	**7**	7	I 189%	. 389%	082%	0%	**7**	7	7
% TdtnM	0%	0%	0%	0%	**0%**	7	1(81%	0%	1. 8 %	0%	**. 181%**	7	081%	1980%	1982%	0%	**. (82%**	7	1(83%	118 %	081%	0%	**. 082%**	7	7
LH5	7	7	7	7	**7**	7	08(11	7	08(I(	7	**089D**	7	082:0	08(0(	089D9	7	**08(3:**	7	08(I3	08392	082:0	7	**08(. 9**	7	08930
P6) Ct4	0	0	0	0	**0**	7	2I0	0	191	0	**D1**	7	1	2I3	231	0	**:. 9**	7	2II	1I2	1	0	**D29**	7	1D19
% P6) Ct4	0%	0%	0%	0%	**7**	7	9383%	0%	9I8 %	0%	**9382%**	7	100%	9I80%	9I8D%	0%	**9I8 %**	7	9381%	9I8D%	100%	0%	**9I8(%**	7	9I83%
a6s) M7i s6t TSucg4	0	0	0	0	**0**	7	D	0	.	0	**3**	7	0	:	I	0	**11**	7	2	.	0	0	**:**	7	2.
% a6s) M7i s6t TSucg4	0%	0%	0%	0%	**7**	7	18 %	0%	18 %	0%	**18 %**	7	0%	18(%	281%	0%	**280%**	7	083%	18(%	0%	0%	**181%**	7	181%
F St6cuMteUTSucg4	0	0	0	0	**0**	7	2	0	2	0	**D**	7	0	2	1	0	**.**	7	.	1	0	0	**D**	7	11
% F St6cuMteUTSucg4	0%	0%	0%	0%	**7**	7	08(%	0%	180%	0%	**089%**	7	0%	083%	08D%	0%	**08 %**	7	181%	081%	0%	0%	**089%**	7	083%
r u4e4	0	0	0	0	**0**	7	0	0	2	0	**2**	7	0	D	.	0	**3**	7	.	2	0	0	**:**	7	1D
% r u4e4	0%	0%	0%	0%	**7**	7	0%	0%	180%	0%	**08D%**	7	0%	18D%	181%	0%	**18 %**	7	181%	182%	0%	0%	**181%**	7	180%
r 6ckcM4 ds BdnU	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0	0	0	0	**0**	7	0
% r 6ckcM4 ds BdnU	0%	0%	0%	0%	**7**	7	0%	0%	0%	0%	**0%**	7	0%	0%	0%	0%	**0%**	7	0%	0%	0%	0%	**0%**	7	0%
LeUe4tS6ns 4	7	7	7	7	7	1	7	7	7	7	7	0	7	7	7	7	7	0	7	7	7	7	7	0	
% LeUe4tS6ns 4	7	7	7	7	7	100%	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
r 6ckcM4 ds - Sd44y nMg	7	7	7	7	7	0	7	7	7	7	7	0	7	7	7	7	7	0	7	7	7	7	7	0	
% r 6ckcM4 ds - Sd44y nMg	7	7	7	7	7	0%	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7

*LeUe4tS6ns 4 ns Ur 6ckcM4 ds - Sd44y nMg8PmPeft, BmB6) Ct, TmTCSu, i mi 7TuSs

Northville & 7 Mile (south) - TMC

Tue Oct 19, 2021
F l Leng h(F l 79 F l A
F NM4 M44e4 hP6) Ct4, a6s) M7i s6t TSucg4, F St6cuMteUTSucg4, r u4e4,
LeUe4tS6ns 4, r 6ckcM4 ds BdnU, r 6ckcM4 ds - Sd44y nMgA
F NMl doeRes t4
wr m((I 9D. , Pdcnt6ds mD28D2D. DD, 7(. 8D3. 923

LSdo6UeUbkmGey nMHnR6Mds F 44dc6nte4 wsc8
I 2: 5dSe4t EU) e v S6oe, VeSs ds H6MM, wP, I 00I 1, i a

GEWALT HAMILTON ASSOCIATES, INC.

Ser	Rl[ne LBo TUe dkCp						b l l6e						WCRk4l6e						WCRk4l6e					
TU e	S	T	v	y	a pp	Feo*	S	T	v	y	a pp	Feo*	S	T	v	y	a pp	Feo*	S	T	v	y	a pp	Feo*
2021A10A19 h(70Fl	0	0	h	0	**h**	0	109	0	17h	0	**2h7**	0	0	11M	80	0	**19M**	0	90	92	0	0	**182**	0
h(hMFl	0	1	1	0	**2**	0	89	0	112	0	**201**	0	0	9.	89	0	**18M**	0	81	8b	0	0	**1. 8**	0
M00Fl	0	0	0	0	**0**	0	b9	0	171	0	**210**	0	0	10b	8h	0	**191**	0	8.	82	0	0	**1. 8**	0
M1MFl	0	0	0	0	**0**	0	b0	0	120	0	**190**	0	0	11b	87	0	**200**	0	87	92	0	0	**1bM**	0
TOl6	0	1	M	0	**.**	0	7hb	0	h9b	0	**8hh**	0	0	h7M	77.	0	**bb1**	0	7h0	7M	0	0	**. 97**	0
% appPCLck	0%	1. 3%	87	3%	0%	**A**	h13	1%	0%	M83	9%	0%	**A**	A	0%	M 3%	h73	% 0%	**A**	A	h93	1%	M83	9% 0%
% TOl6	0%	0%	02%	0%	**03%**		1M	0%	0%	213	M%	0%	**7. 3M%**		A	0%	183	8% 1h	3M%	0%	**773%**		A	1h3	0% 1M
F) 5	A	02M	0	03	717	**A03%M**	A	03b9.		A	03b2b		**A 03%. 8**		A	0329	03	9hh	**A 03%. h**		A	03hh	03M	h **A 03%M**
Sl[kti	0	1	M	0	**.**		A	7h0	0	h97	0	**877**		A	0	h71	77h	0	**b. M**		A	77b	7hb	0 0 **. 8h**
% Sl[kti	0%	100%	100%	0%	**100%**		A	983	0%	0%	992	2% 0%	**983%**		A	0%	993	1% 99	3h% 0%	**992%**		A	993	1% 983	7% 0% 0% **983%**
dUBr6rAy BtiTRucni	0	0	0	0	**0**		A	h	0	h	0	**8**		A	0	1	2	0	**7**		A	2	7	0 0 **M**
% dUBr6rAy BtiTRucni	0%		0%	0%	0%	**0%**	A	12%	0%	03	8%	0% **03%**		A	0%	02%	03	% 0%	**03%**		A	03 %	03	8% 0% 0% **03%**
a Rl[duGLieo TRucni	0		0	0	0	**0**	A	7	0	0	0	**7**		A	0	7	0	0	**7**		A	1	1	0 0 **2**
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% Rl[wc6ei CBv CLo	0%		0%	0%	0%	**0%**	A	0%	0%	0%	0%	**0%**		A	0%	0%	0%	0%	**0%**		A	0%	03%	0% 0% **03%**
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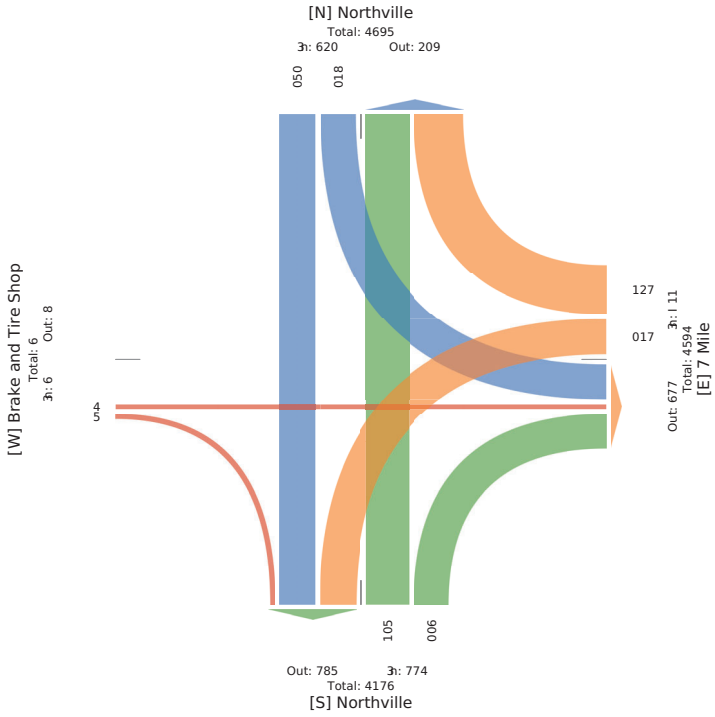
*Feoei tPUEBi LBo Rl[wc6ei CBs PGi mLfin3S(Seft, v (v l[kt, T(TkRu, y (y A[uHB

Northville & 7 Mile (south) - TMC
Tue Oct 19, 2021



WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES - TRAFFIC SECTION
SOLID STATE TIMING PERMIT

INTERVAL TIMING (SECONDS)

CYCLE LENGTH	OFFSET	DESCRIPTION	HOURS OF OPERATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	FLASH
	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	SHELDON	6AM – 1AM	G	G	G	G	Y	Y	R	R	R	R	R	R	R	R											Y
80	SEC 40	E.N. HINES DRIVE	7 DAYS	R	R	R	R	R	R	R	R	G	G	G	Y	Y	R											R
		SHELDON PED		W	W	FD	FD	FD	D	D	D	D	D	D	D	D	D											
	DIAL 2	E.N. HINES PED		D	D	D	D	D	D	D	D	W	FD	FD	FD	D	D											
	DIAL 3																											
	DIAL 4																											

SIGNAL PLAN -- CYCLE SEQUENCE CHART

REMARKS

LOCATION: E.N. HINES - SHELDON
S.I. NO.: 505 vi
ATS NO.: 00507
PREPARED BY: APK
APPROVED BY: PM
ISSUED: 08-05-14
INSTALLED: 08-18-14
FLASHER SCHEDULE: 1:00 AM - 6:00 AM 7 DAYS
RR PRE-EMPT
FIRE PRE-EMPT
INITIALIZE TIME = 10 SEC.
PROM NUMBER:

UPDATED PER 2011 MMUTCD

EPIC

WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES - TRAFFIC SECTION
SOLID STATE TIMING PERMIT

INTERVAL TIMING (SECONDS)

CYCLE LENGTH	OFFSET	DESCRIPTION	HOURS OF OPERATION	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	FLASH
	SEC		MINIMUM TIME	3.0	4.0	7.8	2.5	0.5	2.5	3.0	5.5	7.3	2.2	0.8	2.2													
	DIAL 1	SHELDON	FULL TIME	3.0	22.7	7.8	2.5	0.5	2.5	3.0	5.5	7.3	2.2	0.8	2.2													R
60	SEC 0	MAIN		R	R	R	R	R	R	R	G	G	Y	Y	R													R
		SHELDON PEDS		W	W	FD	FD	D	D	D	D	D	D	D	D													
	DIAL 2	MAIN PEDS		D	D	D	D	D	D	D	W	W	FD	FD	D													
	DIAL 3																											
	DIAL 4																											

SIGNAL PLAN -- CYCLE SEQUENCE CHART

REMARKS

LOCATION: MAIN – SHELDON (CENTER)
S.I. NO.: 109 v
ATS NO.: 05400
PREPARED BY: AA
APPROVED BY:
ISSUED: 5-5-17
INSTALLED:
FLASHER SCHEDULE: NONE
RR PRE-EMPT
FIRE PRE-EMPT
INITIALIZE TIME = 10 SEC.
PROM NUMBER:

UPDATED PER 2011 MMUTCD

EPIC

WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES - TRAFFIC SECTION
SOLID STATE TIMING PERMIT

CYCLE LENGTH	OFFSET	HOURS OF OPERATION	INTERVAL TIMING (SECONDS) 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	SEC	MINIMUM TIME	3.0	4.0	4.0	4.0	2.2	0.1	7.0	4.0	2.4	10.0	6.0	4.0	2.4											
DIAL 1	40	FULL TIME	3.0	21.6	4.0	4.0	2.2	0.1	16.3	4.0	2.4	10.0	6.0	4.0	2.4											
80																										
DIAL 2																										
DIAL 3																										
DIAL 4																										

DESCRIPTION	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	FLASH
SEVEN MILE (NEAR)	G	G	Y	R	R	R	R	R	R	G	G	G													R
SEVEN MILE (FAR) RIGHT	GR	GR	GR	Y	R	R	R	R	R	GR	GR	GR	GR												R
SEVEN MILE (FAR) LEFT	GL	GL	GL	Y	R	R	R	R	R	R	R	R													R
NORTHVILLE NB	R	R	R	R	R	G	G	Y	R	R	R	R	R												R
NORTHVILLE SB	R	R	R	R	R	G	G	G	G	G	G	Y	R												R
NORTHVILLE SB LEFT	R	R	R	R	R	R	FR	FR	FR	GL	GL	Y	R												R
NTOR F.O. CASE SIGN										ON	ON	ON	ON												

REMARKS

Pre-empt cycles (dwells) on Interval No. 6.
UPDATED PER 2011 MMUTCD

LOCATION: NORTHVILLE - SEVEN MILE
S.L. NO.: 76 v
ATS NO.: 00077
PREPARED BY: AA
APPROVED BY:
ISSUED: 5-19-17
FLASHER SCHEDULE: NONE
INSTALLED:
RR PRE-EMPT X
FIRE PRE-EMPT
INITIALIZE TIME = 10 SEC.
PROM NUMBER: EPIC

WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES - TRAFFIC SECTION
SOLID STATE TIMING PERMIT

CYCLE LENGTH	OFFSET	HOURS OF OPERATION	INTERVAL TIMING (SECONDS) 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	SEC	MINIMUM TIME	3.0	4.0	3.0	6.3	3.0	2.5	3.0	4.0	3.0	6.0	3.0	2.3												
DIAL 1	25	7AM – 1AM 7 DAYS	3.0	20.9	3.0	6.3	3.0	2.5	3.0	4.0	3.0	6.0	3.0	2.3												
60																										
DIAL 2																										
DIAL 3																										
DIAL 4																										

DESCRIPTION	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	FLASH
MAIN	G	G	G	G	Y	R	R	R	R	R	R	R													Y
HUTTON	R	R	R	R	R	R	G	G	G	G	Y	R													R
MAIN PED	W	W	FD	FD	FD	D	D	D	D	D	D	D													
HUTTON PED	D	D	D	D	D	D	W	W	FD	FD	FD	D													

REMARKS

SIGNAL PLAN 1
Normal Operation

See Signal Plan 2 for Special Flashing Operation

UPDATED PER 2011 MMUTCD

LOCATION: HUTTON - MAIN
S.L. NO.: 284 v
ATS NO.: 05558
PREPARED BY: AA
APPROVED BY: PM
ISSUED: 4-17-17
FLASHER SCHEDULE: 1AM – 7AM, 7 DAYS
INSTALLED:
RR PRE-EMPT
FIRE PRE-EMPT
INITIALIZE TIME = 10 SEC.
PROM NUMBER: EPIC

WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES - TRAFFIC SECTION
SOLID STATE TIMING PERMIT

CYCLE LENGTH	OFFSET	HOURS OF OPERATION	INTERVAL TIMING (SECONDS) 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	SEC	MINIMUM TIME	3	3	1	1	4	0	3	3	1	1	4	0												
DIAL 1	55	6:00A – 11:00P 7 DAYS	3.9	27.0	5.0	1.0	4.0	0.1	3.9	5.0	5.0	1.0	4.0	0.1												
60																										
DIAL 2																										
DIAL 3																										
DIAL 4																										

DESCRIPTION	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	FLASH
SHELDON	G	G	G	G	Y	R	R	R	R	R	R	R													Y
DUNLAP	R	R	R	R	R	R	G	G	G	G	Y	R													R
SHELDON PEDS	W	W	FD	FD	FD	D	D	D	D	D	D	D													
DUNLAP PEDS	D	D	D	D	D	D	W	W	FD	FD	FD	D													

REMARKS

*USE SIGNAL PLAN #2
DIAL 2-1-1
FOR DOWNTOWN R+R FLASH-
-24HR

LOCATION: DUNLAP - SHELDON
S.L. NO.: 600 vi
ATS NO.: 05401
PREPARED BY: JW
APPROVED BY:
ISSUED: 12-1-99
FLASHER SCHEDULE: 11:00PM – 6:00AM DAILY X NONE
INSTALLED: 2-17-00 R. H.J.
RR PRE-EMPT
FIRE PRE-EMPT
INITIALIZE TIME = 10 SEC.
PROM NUMBER: EPIC

WAYNE COUNTY DEPARTMENT OF PUBLIC SERVICES - TRAFFIC SECTION
SOLID STATE TIMING PERMIT

CYCLE LENGTH	OFFSET	HOURS OF OPERATION	INTERVAL TIMING (SECONDS) 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	SEC	MINIMUM TIME	3	4	13.7	2.6	0.4	2.6	3	4	13.8	2.8	0.8	2.2												
DIAL 1	0	7A-1A 7 DAYS	3.6	10.5	13.7	2.6	0.4	2.6	3.0	4.0	13.8	2.8	0.8	2.2												
60																										
DIAL 2																										
DIAL 3																										
DIAL 4																										

DESCRIPTION	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	FLASH
MAIN	G	G	G	Y	Y	R	R	R	R	R	R	R													Y
GRISWOLD	R	R	R	R	R	R	G	G	G	Y	Y	R													R
MAIN PED	W	W	FD	FD	D	D	D	D	D	D	D	D													
GRISWOLD PED	D	D	D	D	D	D	W	W	FD	FD	D	D													

REMARKS

UPDATED PER 2011 MMUTCD

LOCATION: GRISWOLD - MAIN
S.L. NO.: 696 ii
ATS NO.: 00179
PREPARED BY: SK
APPROVED BY: PM
ISSUED: 12-13-17
FLASHER SCHEDULE: 1 A.M. – 7 A.M. 7 DAYS
INSTALLED:
RR PRE-EMPT
FIRE PRE-EMPT
INITIALIZE TIME = 10 SEC.
PROM NUMBER: STD2V2P

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

Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	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]				0		
				267	88	179

Table 2-A: Mode Split and Vehicle Occupancy Estimates

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%

Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance)

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

Table 4-A: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	1	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	2	0	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	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

Table 6-A: Internal Trip Capture Percentages by Land Use

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

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.
[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).
[4]Enter 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 5-A, 9-A (O and D). Enter transit, non-motorized percentages that will result with proposed mixed-use project complete.
[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A.
[6]Person-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 & VandenBrink Engineering
Project Location:	Northville, Michigan	**Performed By:**	F&V
Scenario Description:		**Date:**	12/1/2021
Analysis Year:	2021	**Checked By:**	
Analysis Period:	**PM Street Peak Hour**	**Date:**	

Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate)

Land Use	Development Data (*For Information Only*)			Estimated Vehicle-Trips[3]		
	ITE LUCs[1]	Quantity	Units	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]				0		
				375	211	164

Table 2-P: Mode Split and Vehicle Occupancy Estimates

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%

Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance)

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

Table 4-P: Internal Person-Trip Origin-Destination Matrix*

Origin (From)	Destination (To)					
	Office	Retail	Restaurant	Cinema/Entertainment	Residential	Hotel
Office		0	0	0	0	0
Retail	0		0	0	16	0
Restaurant	0	0		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	6	0	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	413	232	181
Internal Capture Percentage	11%	9%	12%
External Vehicle-Trips[5]	336	191	145
External Transit-Trips[6]	0	0	0
External Non-Motorized Trips[6]	0	0	0

Table 6-P: Internal Trip Capture Percentages by Land Use

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

[1]Land Use Codes (LUCs) from *Trip Generation Manual*, published by the Institute of Transportation Engineers.
[2]Total estimate for all other land uses at mixed-use development site is not subject to internal trip capture computations in this estimator.
[3]Enter trips assuming no transit or non-motorized trips (as assumed in ITE *Trip Generation Manual*).
[4]Enter vehicle occupancy assumed in Table 1-P vehicle trips. If vehicle occupancy changes for proposed mixed-use project, manual adjustments must be
[5]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P.
[6]Person-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

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/

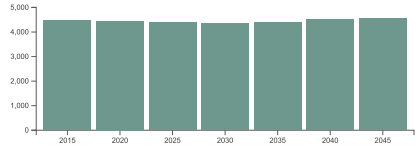
SEMCOG MEMBER

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**

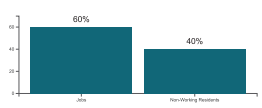
Forecasted Jobs by Industry Sector

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.

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/

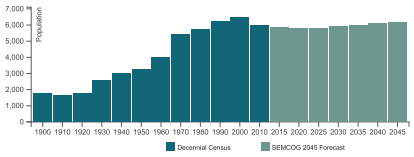
SEMCOG MEMBER

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

SCALE

100 0 50 100 200 400

(IN FEET)
Scale: 1 inch = 100 ft.

PARK OPEN SPACE

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

LEGEND

EXISTING	PROPOSED	
		PAVEMENT (ASPHALT)
		SIDE WALK (CONCRETE)
		CONCRETE CURB AND GUTTER
		STORM SEWER
		SANITARY SEWER
		WATER MAIN
		MANHOLE
		CATCH BASIN W/STREAM GUARD
		CURB INLET W/SILT SAC
		END SECTION
		GATE VALVE
		HYDRANT
		FLOOD PLAIN
1000	1000	CONTOURS
+ 1000.0	1000.00 T/C	SPOT ELEVATION
		SURFACE DRAINAGE
		OVERFLOW ROUTE
		TREE FENCE
		SILT FENCE
		PROPOSED DRIVEWAY LOCATION
		LIMIT OF DISTURBANCE

P.U.D. ELIGIBILITY SITE PLAN

SECTION 3, T1S, R8E, CITY OF NORTHVILLE
WAYNE COUNTY, MICHIGAN

REVISIONS

NO.	ITEM	DATE

UTILITY WARNING

UNDERGROUND UTILITY LOCATIONS AS SHOWN ON THE PLAN, WERE OBTAINED FROM UTILITY OWNER AND NOT FIELD LOCATED.

811 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. | CHECKED BY: R.E. | JOB NUMBER: 21-001 | DWG.: 21001LY-SP-NEW LAYOUT -11-23-21 PS.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

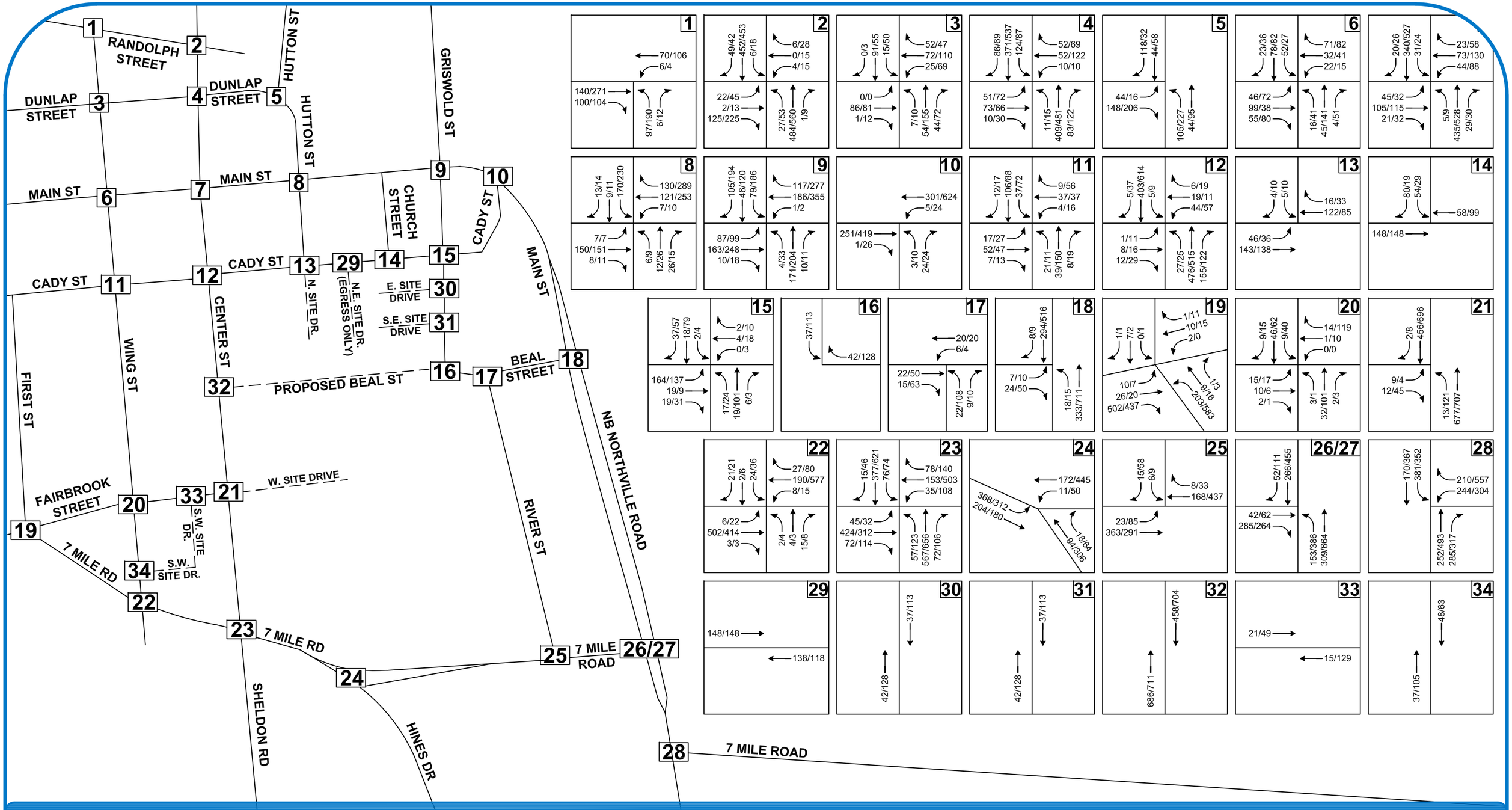


FIGURE 3.1 - SCENARIO #1
EXISTING TRAFFIC VOLUMES

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

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

NORTH

SCALE: NOT TO SCALE

F&V

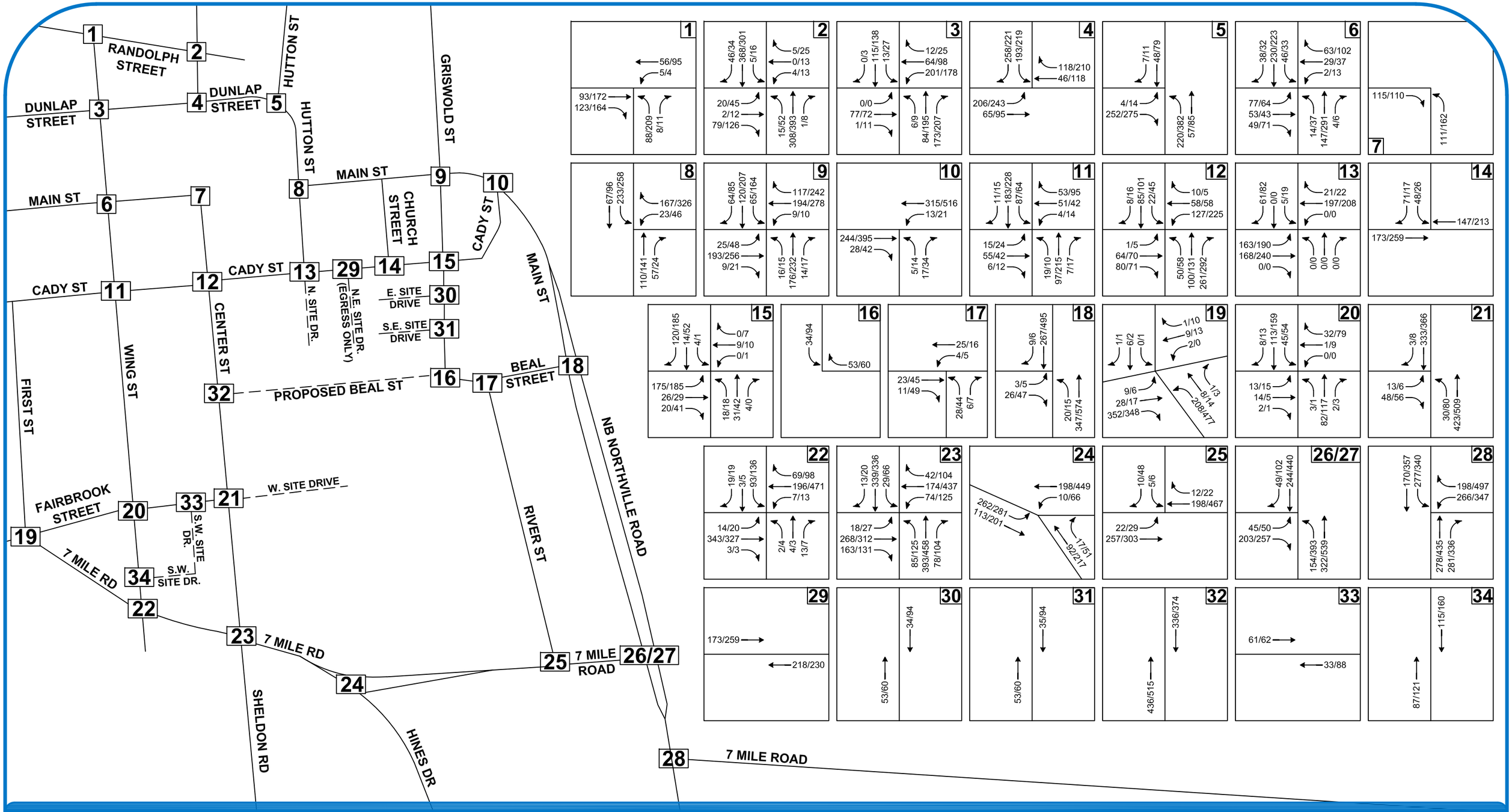


FIGURE 3.2 - SCENARIO #2
EXISTING TRAFFIC VOLUMES

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

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

NORTH

SCALE: NOT TO SCALE

F&V

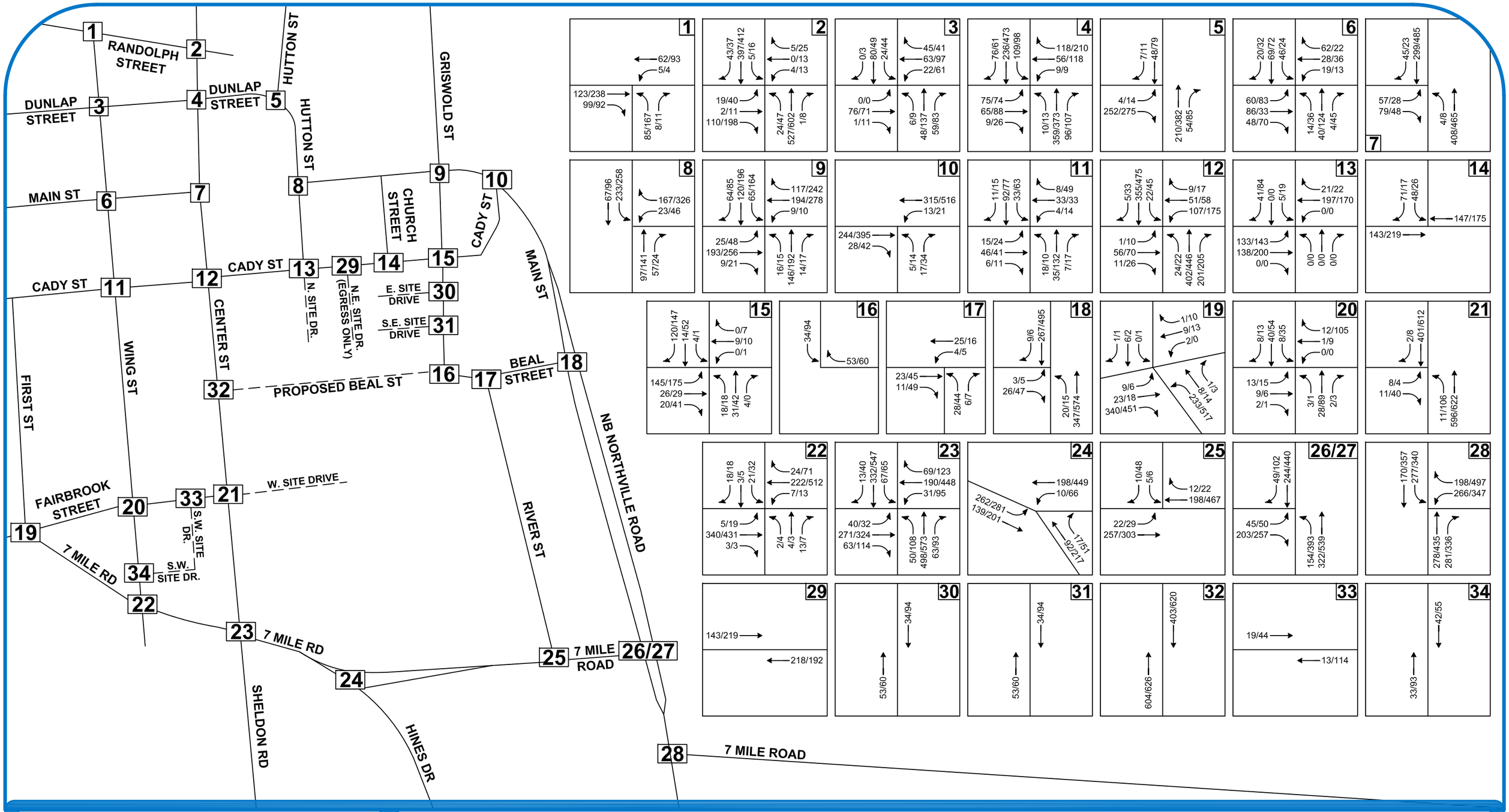


FIGURE 3.3 - SCENARIO #3
EXISTING TRAFFIC VOLUMES

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

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

NORTH

SCALE: NOT TO SCALE

F&V

Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	140	100	6	70	97	9
Future Vol, veh/h	140	100	6	70	97	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	60	60	77	77
Heavy Vehicles, %	3	3	2	2	4	4
Mvmt Flow	147	105	10	117	126	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	252	0	337	200
Stage 1	-	-	-	-	200	-
Stage 2	-	-	-	-	137	-
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	-	-	1313	-	654	836
Stage 1	-	-	-	-	829	-
Stage 2	-	-	-	-	885	-
Platoon blocked, %						
Mov Cap-1 Maneuver	-	-	1313	-	649	836
Mov Cap-2 Maneuver	-	-	-	-	649	-
Stage 1	-	-	-	-	829	-
Stage 2	-	-	-	-	878	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	662	-	-	1313	-
HCM Lane V/C Ratio	0.208	-	-	0.008	-
HCM Control Delay (s)	11.9	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0	-

Intersection	
Int Delay, s/veh	6.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	2	125	4	0	6	27	484	1	6	452	49
Future Vol, veh/h	22	2	125	4	0	6	27	484	1	6	452	49
Conflicting Peds, #/hr	0	0	0	0	0	0	5	0	4	4	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	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	189	5	0	8	30	532	1	9	655	71

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1311	1311	696	1402	1346	537	731	0	0	537	0	0
Stage 1	714	714	-	597	597	-	-	-	-	-	-	-
Stage 2	597	597	-	805	749	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	136	160	443	119	153	548	873	-	-	1031	-	-
Stage 1	424	436	-	493	495	-	-	-	-	-	-	-
Stage 2	491	493	-	379	422	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	129	152	441	64	145	546	869	-	-	1027	-	-
Mov Cap-2 Maneuver	129	152	-	64	145	-	-	-	-	-	-	-
Stage 1	407	430	-	474	476	-	-	-	-	-	-	-
Stage 2	467	474	-	213	416	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	39.5	34.3	0.5	0.1
HCM LOS	E	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	869	-	-	319	136	1027	-	-
HCM Lane V/C Ratio	0.034	-	-	0.708	0.098	0.008	-	-
HCM Control Delay (s)	9.3	-	-	39.5	34.3	8.5	-	-
HCM Lane LOS	A	-	-	E	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	5.1	0.3	0	-	-

Intersection	
Intersection 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	0	86	1	25	72	52	7	54	44	15	91	0
Future Vol, veh/h	0	86	1	25	72	52	7	54	44	15	91	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	110	1	34	99	71	8	64	52	17	103	0
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	9	8.5	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	7%	0%	17%	14%
Vol Thru, %	51%	99%	48%	86%
Vol Right, %	42%	1%	35%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	105	87	149	106
LT Vol	7	0	25	15
Through Vol	54	86	72	91
RT Vol	44	1	52	0
Lane Flow Rate	125	112	204	120
Geometry Grp	1	1	1	1
Degree of Util (X)	0.159	0.146	0.252	0.163
Departure Headway (Hd)	4.591	4.714	4.444	4.872
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	779	758	806	734
Service Time	2.636	2.758	2.482	2.917
HCM Lane V/C Ratio	0.16	0.148	0.253	0.163
HCM Control Delay	8.5	8.6	9	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.5	1	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	73	10	10	52	52	11	409	83	124	371	86
Future Volume (veh/h)	51	73	10	10	52	52	11	409	83	124	371	86
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		0.99	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	
Adj Sat Flow, veh/h/ln	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	58	83	11	12	61	61	12	445	90	159	476	110
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	364	422	56	391	223	223	488	977	198	654	951	220
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	1.00	1.00	1.00	0.62	0.62	0.62
Sat Flow, veh/h	1262	1701	225	1294	899	899	829	1588	321	868	1546	357
Grp Volume(v), veh/h	58	0	94	12	0	122	12	0	535	159	0	586
Grp Sat Flow(s),veh/h/ln	1262	0	1926	1294	0	1798	829	0	1910	868	0	1903
Q Serve(g_s), s	2.3	0.0	2.3	0.4	0.0	3.3	0.2	0.0	0.0	5.2	0.0	10.3
Cycle Q Clear(g_c), s	5.6	0.0	2.3	2.8	0.0	3.3	10.5	0.0	0.0	5.2	0.0	10.3
Prop In Lane	1.00		0.12	1.00		0.50	1.00		0.17	1.00		0.19
Lane Grp Cap(c), veh/h	364	0	478	391	0	447	488	0	1174	654	0	1170
V/C Ratio(X)	0.16	0.00	0.20	0.03	0.00	0.27	0.02	0.00	0.46	0.24	0.00	0.50
Avail Cap(c_a), veh/h	364	0	478	391	0	447	488	0	1174	654	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 Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.4	0.0	17.8	18.9	0.0	18.2	1.5	0.0	0.0	5.4	0.0	6.4
Incr Delay (d2), s/veh	0.9	0.0	0.9	0.1	0.0	1.5	0.1	0.0	1.3	0.9	0.0	1.5
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	1.1	0.1	0.0	1.5	0.0	0.0	0.4	0.9	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.4	0.0	18.7	19.1	0.0	19.7	1.6	0.0	1.3	6.3	0.0	8.0
LnGrp LOS	C	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		152			134			547			745	
Approach Delay, s/veh		19.7			19.6			1.3			7.6	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8	
Phs Duration (G+Y+Rc), s		41.0		19.0		41.0		19.0	
Change Period (Y+Rc), s		* 4.1		* 4.1		* 4.1		* 4.1	
Max Green Setting (Gmax), s		* 37		* 15		* 37		* 15	
Max Q Clear Time (g_c+I1), s		12.5		7.6		12.3		5.3	
Green Ext Time (p_c), s		4.0		0.3		5.6		0.4	

Intersection Summary	
HCM 6th Ctrl Delay	7.6
HCM 6th LOS	A

Notes

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

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	148	105	44	44	18
Future Vol, veh/h	4	148	105	44	44	18
Conflicting Peds, #/hr	0	0	0	0	5	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	84	84	74	74
Heavy Vehicles, %	3	3	2	2	0	0
Mvmt Flow	4	159	125	52	59	24

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	177	0	-	0	323	156
Stage 1	-	-	-	-	151	-
Stage 2	-	-	-	-	172	-
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
Pot Cap-1 Maneuver	1393	-	-	-	675	895
Stage 1	-	-	-	-	882	-
Stage 2	-	-	-	-	863	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1393	-	-	-	673	891
Mov Cap-2 Maneuver	-	-	-	-	673	-
Stage 1	-	-	-	-	879	-
Stage 2	-	-	-	-	863	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1393	-	-	-	724
HCM Lane V/C Ratio	0.003	-	-	-	0.116
HCM Control Delay (s)	7.6	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Intersection Delay, s/veh	9.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	99	55	22	32	71	16	45	4	52	78	23
Future Vol, veh/h	46	99	55	22	32	71	16	45	4	52	78	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	2	2	2
Mvmt Flow	57	122	68	29	42	93	17	48	4	67	100	29
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	10	8.9	8.9	9.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	23%	18%	34%
Vol Thru, %	69%	49%	26%	51%
Vol Right, %	6%	28%	57%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	65	200	125	153
LT Vol	16	46	22	52
Through Vol	45	99	32	78
RT Vol	4	55	71	23
Lane Flow Rate	70	247	164	196
Geometry Grp	1	1	1	1
Degree of Util (X)	0.101	0.321	0.21	0.27
Departure Headway (Hd)	5.215	4.679	4.598	4.952
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	681	763	775	720
Service Time	3.298	2.737	2.662	3.02
HCM Lane V/C Ratio	0.103	0.324	0.212	0.272
HCM Control Delay	8.9	10	8.9	9.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	1.4	0.8	1.1

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	105	21	44	73	23	5	435	29	31	340	20
Future Volume (veh/h)	45	105	21	44	73	23	5	435	29	31	340	20
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			0.99	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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1969	1969	1969	1953	1953	1953	1953	1953	1953
Adj Flow Rate, veh/h	52	121	24	50	83	26	6	524	35	34	378	22
Peak Hour Factor	0.87	0.87	0.87	0.88	0.88	0.88	0.83	0.83	0.83	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	2	2	2	3	3	3	3	3	3
Cap, veh/h	156	331	57	179	276	74	63	1006	67	104	938	52
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.56	0.56	0.56	1.00	1.00	1.00
Sat Flow, veh/h	304	1256	216	380	1050	280	5	1802	119	70	1680	93
Grp Volume(v), veh/h	197	0	0	159	0	0	565	0	0	434	0	0
Grp Sat Flow(s),veh/h/ln	1777	0	0	1709	0	0	1927	0	0	1844	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.0	0.0	0.0	4.0	0.0	0.0	11.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.26		0.12	0.31		0.16	0.01		0.06	0.08		0.05
Lane Grp Cap(c), veh/h	544	0	0	529	0	0	1136	0	0	1094	0	0
V/C Ratio(X)	0.36	0.00	0.00	0.30	0.00	0.00	0.50	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	544	0	0	529	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	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.1	0.0	0.0	17.8	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.0	1.5	0.0	0.0	1.6	0.0	0.0	1.1	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	2.4	0.0	0.0	1.9	0.0	0.0	4.2	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.0	0.0	0.0	19.2	0.0	0.0	9.8	0.0	0.0	1.1	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		197			159			565			434	
Approach Delay, s/veh		20.0			19.2			9.8			1.1	
Approach LOS		B			B			A			A	
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			5.5			* 5.2	
Max Green Setting (Gmax), s		33.5			* 16			33.5			* 16	
Max Q Clear Time (g_c+I1), s		13.0			7.0			2.0			6.0	
Green Ext Time (p_c), s		4.0			0.7			3.3			0.6	
Intersection Summary												
HCM 6th Ctrl Delay			9.6									
HCM 6th LOS			A									

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	150	8	7	121	130	6	12	26	170	9	13
Future Volume (veh/h)	7	150	8	7	121	130	6	12	26	170	9	13
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			0.99	0.99			0.99
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	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2000	2000	2000	1969	1969	1969	2000	2000	2000	1969	1969	1969
Adj Flow Rate, veh/h	8	176	9	8	138	148	9	17	38	200	11	15
Peak Hour Factor	0.85	0.85	0.85	0.88	0.88	0.88	0.69	0.69	0.69	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	2	2	2	0	0	0	2	2	2
Cap, veh/h	77	1081	833	85	1054	820	98	161	278	474	20	397
Arrive On Green	1.00	1.00	1.00	0.18	0.18	0.18	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	26	1953	1506	38	1905	1483	111	602	1042	1340	74	1490
Grp Volume(v), veh/h	184	0	9	146	0	148	64	0	0	211	0	15
Grp Sat Flow(s),veh/h/ln	1979	0	1506	1944	0	1483	1755	0	0	1414	0	1490
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	5.1	0.0	0.0	0.0	5.7	0.0	0.4
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.7	0.0	5.1	1.6	0.0	0.0	7.3	0.0	0.4
Prop In Lane	0.04		1.00	0.05		1.00	0.14		0.59	0.95		1.00
Lane Grp Cap(c), veh/h	1158	0	833	1139	0	820	537	0	0	494	0	397
V/C Ratio(X)	0.16	0.00	0.01	0.13	0.00	0.18	0.12	0.00	0.00	0.43	0.00	0.04
Avail Cap(c_a), veh/h	1158	0	833	1139	0	820	537	0	0	494	0	397
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	12.5	0.0	13.0	16.7	0.0	0.0	18.6	0.0	16.3
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.2	0.0	0.5	0.5	0.0	0.0	2.7	0.0	0.2
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	0.1	0.0	0.0	1.6	0.0	1.7	0.7	0.0	0.0	2.7	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.3	0.0	0.0	12.7	0.0	13.5	17.2	0.0	0.0	21.3	0.0	16.5
LnGrp LOS	A	A	A	B	A	B	B	A	A	C	A	B
Approach Vol, veh/h		193			294			64			226	
Approach Delay, s/veh		0.3			13.1			17.2			21.0	
Approach LOS		A			B			B			C	
Timer - Assigned Phs		2			4			6			8	
Phs Duration (G+Y+Rc), s		38.7			21.3			38.7			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+I1), s		2.0			9.3			7.1			3.6	
Green Ext Time (p_c), s		1.2			0.7			1.4			0.2	
Intersection Summary												
HCM 6th Ctrl Delay			12.6									
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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	163	10	1	186	117	4	171	10	79	46	105
Future Volume (veh/h)	87	163	10	1	186	117	4	171	10	79	46	105
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
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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1938	1938	1938	1984	1984	1984	1953	1953	1953
Adj Flow Rate, veh/h	106	199	12	1	224	141	5	194	11	88	51	117
Peak Hour Factor	0.82	0.82	0.82	0.83	0.83	0.83	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	4	4	4	1	1	1	3	3	3
Cap, veh/h	443	925	58	61	1004	601	66	639	36	228	147	247
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	733	1996	126	1	2167	1297	12	1843	103	424	423	713
Grp Volume(v), veh/h	147	0	170	200	0	166	210	0	0	256	0	0
Grp Sat Flow(s),veh/h/ln	1072	0	1783	1937	0	1528	1958	0	0	1560	0	0
Q Serve(g_s), s	3.6	0.0	3.4	0.0	0.0	3.9	0.0	0.0	0.0	2.2	0.0	0.0
Cycle Q Clear(g_c), s	7.6	0.0	3.4	3.7	0.0	3.9	4.7	0.0	0.0	6.9	0.0	0.0
Prop In Lane	0.72		0.07	0.01		0.85	0.02		0.05	0.34		0.46
Lane Grp Cap(c), veh/h	600	0	826	958	0	708	740	0	0	622	0	0
V/C Ratio(X)	0.25	0.00	0.21	0.21	0.00	0.23	0.28	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), veh/h	600	0	826	958	0	708	740	0	0	622	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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.0	0.0	9.6	9.6	0.0	9.7	14.3	0.0	0.0	14.9	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.6	0.5	0.0	0.8	1.0	0.0	0.0	2.0	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	1.3	0.0	1.3	1.5	0.0	1.3	2.0	0.0	0.0	2.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.0	0.0	10.1	10.1	0.0	10.5	15.3	0.0	0.0	17.0	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		317			366			210			256	
Approach Delay, s/veh		11.0			10.3			15.3			17.0	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2			4			6			8	
Phs Duration (G+Y+Rc), s		33.4			26.6			33.4			26.6	
Change Period (Y+Rc), s		5.6			* 5.8			5.6			* 5.8	
Max Green Setting (Gmax), s		27.8			* 21			27.8			* 21	
Max Q Clear Time (g_c+I1), s		9.6			8.9			5.9			6.7	
Green Ext Time (p_c), s		2.0			1.2			2.3			0.9	
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.

HCM 6th TWSC
10: Cady Street & Main Street

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

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	251	1	5	301	3	24
Future Vol, veh/h	251	1	5	301	3	24
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	87	87	79	79
Heavy Vehicles, %	1	1	3	3	5	5
Mvmt Flow	285	1	6	346	4	30

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	287	0	472	144
Stage 1	-	-	-	-	287	-
Stage 2	-	-	-	-	185	-
Critical Hdwy	-	-	4.16	-	6.9	7
Critical Hdwy Stg 1	-	-	-	-	5.9	-
Critical Hdwy Stg 2	-	-	-	-	5.9	-
Follow-up Hdwy	-	-	2.23	-	3.55	3.35
Pot Cap-1 Maneuver	-	-	1265	-	513	868
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	819	-
Platoon blocked, %	-	-				
Mov Cap-1 Maneuver	-	-	1264	-	509	867
Mov Cap-2 Maneuver	-	-	-	-	509	-
Stage 1	-	-	-	-	726	-
Stage 2	-	-	-	-	814	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	804	-	-	1264	-
HCM Lane V/C Ratio	0.043	-	-	0.005	-
HCM Control Delay (s)	9.7	-	-	7.9	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

HCM 6th AWSC
11: Wing Street & Cady Street

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

Intersection	
Intersection 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	17	52	7	4	37	9	21	39	8	37	106	12
Future Vol, veh/h	17	52	7	4	37	9	21	39	8	37	106	12
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	27	83	11	5	45	11	23	43	9	46	131	15
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	8.5	8	8.1	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	31%	22%	8%	24%
Vol Thru, %	57%	68%	74%	68%
Vol Right, %	12%	9%	18%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	68	76	50	155
LT Vol	21	17	4	37
Through Vol	39	52	37	106
RT Vol	8	7	9	12
Lane Flow Rate	76	121	61	191
Geometry Grp	1	1	1	1
Degree of Util (X)	0.097	0.154	0.078	0.237
Departure Headway (Hd)	4.621	4.597	4.622	4.452
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	776	781	775	808
Service Time	2.647	2.623	2.652	2.474
HCM Lane V/C Ratio	0.098	0.155	0.079	0.236
HCM Control Delay	8.1	8.5	8	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.5	0.3	0.9

HCM 6th TWSC
12: Center Street & Cady Street

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

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	8	12	44	19	6	27	476	155	5	403	5
Future Vol, veh/h	1	8	12	44	19	6	27	476	155	5	403	5
Conflicting Peds, #/hr	2	0	1	1	0	2	1	0	0	0	0	1
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	60	60	60	82	82	82	90	90	90	89	89	89
Heavy Vehicles, %	0	0	0	0	0	3	3	3	3	2	2	2
Mvmt Flow	2	13	20	54	23	7	30	529	172	6	453	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1161	1230	458	1161	1147	617	460	0	0	701	0	0
Stage 1	469	469	-	675	675	-	-	-	-	-	-	-
Stage 2	692	761	-	486	472	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.13	-	-	4.12	-	-
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	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	174	179	607	174	201	494	1096	-	-	896	-	-
Stage 1	579	564	-	447	456	-	-	-	-	-	-	-
Stage 2	437	417	-	566	562	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	149	169	606	151	190	493	1095	-	-	896	-	-
Mov Cap-2 Maneuver	149	169	-	151	190	-	-	-	-	-	-	-
Stage 1	552	558	-	426	435	-	-	-	-	-	-	-
Stage 2	388	398	-	529	556	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.5	44.9	0.3	0.1
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1095	-	-	284	171	896	-	-
HCM Lane V/C Ratio	0.027	-	-	0.123	0.492	0.006	-	-
HCM Control Delay (s)	8.4	0	-	19.5	44.9	9	0	-
HCM Lane LOS	A	A	-	C	E	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	2.4	0	-	-

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	46	143	0	0	122	16	0	0	0	5	0	4
Future Vol, veh/h	46	143	0	0	122	16	0	0	0	5	0	4
Conflicting Peds, #/hr	4	0	0	0	0	4	1	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	55	170	0	0	185	24	0	0	0	7	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	213	0	0	170	0	0	481	493	173	484	481	202
Stage 1	-	-	-	-	-	-	280	280	-	201	201	-
Stage 2	-	-	-	-	-	-	201	213	-	283	280	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.12	6.52	6.22	7.21	6.61	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.21	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.21	5.61	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.518	4.018	3.318	3.599	4.099	3.399
Pot Cap-1 Maneuver	1363	-	-	1413	-	-	495	477	871	479	472	816
Stage 1	-	-	-	-	-	-	727	679	-	781	718	-
Stage 2	-	-	-	-	-	-	801	726	-	705	663	-
Platoon blocked, %			-			-						
Mov Cap-1 Maneuver	1358	-	-	1413	-	-	474	454	869	459	449	812
Mov Cap-2 Maneuver	-	-	-	-	-	-	474	454	-	459	449	-
Stage 1	-	-	-	-	-	-	694	648	-	743	715	-
Stage 2	-	-	-	-	-	-	795	723	-	671	633	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0	0	11.5
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1358	-	-	1413	-	-	569
HCM Lane V/C Ratio	-	0.04	-	-	-	-	-	0.021
HCM Control Delay (s)	0	7.8	0	-	0	-	-	11.5
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↕	
Traffic Vol, veh/h	0	148	58	0	54	80
Future Vol, veh/h	0	148	58	0	54	80
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	81	81	64	64	76	76
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	0	183	91	0	71	105

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	274	91
Stage 1	-	-	-	-	91	-
Stage 2	-	-	-	-	183	-
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
Pot Cap-1 Maneuver	0	-	-	0	720	972
Stage 1	0	-	-	0	938	-
Stage 2	0	-	-	0	853	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	720	972
Mov Cap-2 Maneuver	-	-	-	-	720	-
Stage 1	-	-	-	-	938	-
Stage 2	-	-	-	-	853	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	852
HCM Lane V/C Ratio	-	-	0.207
HCM Control Delay (s)	-	-	10.3
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.8

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	164	19	19	0	4	2	17	19	6	2	18	37
Future Vol, veh/h	164	19	19	0	4	2	17	19	6	2	18	37
Conflicting Peds, #/hr	5	0	0	0	0	5	3	0	0	0	0	3
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, #	-	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	180	21	21	0	7	3	20	22	7	3	24	49

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	134	127	52	142	148	31	76	0	0	29	0	0
Stage 1	58	58	-	66	66	-	-	-	-	-	-	-
Stage 2	76	69	-	76	82	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.1	-	-	4.14	-	-
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	-	-	2.236	-	-
Pot Cap-1 Maneuver	840	765	1019	832	747	1049	1536	-	-	1571	-	-
Stage 1	956	849	-	950	844	-	-	-	-	-	-	-
Stage 2	936	839	-	938	831	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	816	751	1016	789	734	1044	1532	-	-	1571	-	-
Mov Cap-2 Maneuver	816	751	-	789	734	-	-	-	-	-	-	-
Stage 1	941	845	-	938	833	-	-	-	-	-	-	-
Stage 2	909	828	-	894	827	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11	9.5	3	0.3
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1532	-	-	825	815	1571	-	-
HCM Lane V/C Ratio	0.013	-	-	0.269	0.012	0.002	-	-
HCM Control Delay (s)	7.4	0	-	11	9.5	7.3	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.1	0	0	-	-

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)	0.9	0.3	3.8	1.8

Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↕	↕	
Traffic Vol, veh/h	22	15	6	20	22	9
Future Vol, veh/h	22	15	6	20	22	9
Conflicting Peds, #/hr	0	0	0	0	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	62	62	72	72	70	70
Heavy Vehicles, %	5	5	0	0	7	7
Mvmt Flow	35	24	8	28	31	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	59	0	92	48
Stage 1	-	-	-	-	47	-
Stage 2	-	-	-	-	45	-
Critical Hdwy	-	-	4.1	-	6.47	6.27
Critical Hdwy Stg 1	-	-	-	-	5.47	-
Critical Hdwy Stg 2	-	-	-	-	5.47	-
Follow-up Hdwy	-	-	2.2	-	3.563	3.363
Pot Cap-1 Maneuver	-	-	1558	-	896	1007
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	965	-
Platoon blocked, %	-	-			-	
Mov Cap-1 Maneuver	-	-	1558	-	891	1006
Mov Cap-2 Maneuver	-	-	-	-	891	-
Stage 1	-	-	-	-	963	-
Stage 2	-	-	-	-	959	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	922	-	-	1558	-
HCM Lane V/C Ratio	0.048	-	-	0.005	-
HCM Control Delay (s)	9.1	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↓			↕	↕	
Traffic Vol, veh/h	7	24	18	333	294	8
Future Vol, veh/h	7	24	18	333	294	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	61	61	88	88	91	91
Heavy Vehicles, %	4	4	3	3	2	2
Mvmt Flow	11	39	20	378	323	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	557	166	332	0	-	0
Stage 1	328	-	-	-	-	-
Stage 2	229	-	-	-	-	-
Critical Hdwy	6.88	6.98	4.16	-	-	-
Critical Hdwy Stg 1	5.88	-	-	-	-	-
Critical Hdwy Stg 2	5.88	-	-	-	-	-
Follow-up Hdwy	3.54	3.34	2.23	-	-	-
Pot Cap-1 Maneuver	456	843	1217	-	-	-
Stage 1	696	-	-	-	-	-
Stage 2	781	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	446	843	1217	-	-	-
Mov Cap-2 Maneuver	446	-	-	-	-	-
Stage 1	681	-	-	-	-	-
Stage 2	781	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.5	0.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1217	-	702	-	-
HCM Lane V/C Ratio	0.017	-	0.072	-	-
HCM Control Delay (s)	8	0.1	10.5	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

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	0.1
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	0.1	0.0	0.0	0.0	0.0	0.3
Total Del/Veh (s)	1.7	1.1	1.0	6.8	6.6	4.5	1.2	1.4	0.5	10.0	5.7	1.3

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	15	10	2	0	1	14	3	32	2	9	46	9
Future Vol, veh/h	15	10	2	0	1	14	3	32	2	9	46	9
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	21	14	3	0	1	20	4	43	3	12	62	12
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	7.5	6.8	7.5	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	56%	0%	14%
Vol Thru, %	86%	37%	7%	72%
Vol Right, %	5%	7%	93%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	37	27	15	64
LT Vol	3	15	0	9
Through Vol	32	10	1	46
RT Vol	2	2	14	9
Lane Flow Rate	49	37	22	86
Geometry Grp	1	1	1	1
Degree of Util (X)	0.058	0.043	0.022	0.097
Departure Headway (Hd)	4.236	4.219	3.603	4.051
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	842	840	979	882
Service Time	2.281	2.287	1.677	2.088
HCM Lane V/C Ratio	0.058	0.044	0.022	0.098
HCM Control Delay	7.5	7.5	6.8	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.1	0.3

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	0	12	0	0	0	13	677	0	0	456	2
Future Vol, veh/h	9	0	12	0	0	0	13	677	0	0	456	2
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
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
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	14	0	18	0	0	0	14	752	0	0	518	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1299	1299	519	1308	1300	752	520	0	0	752	0	0
Stage 1	519	519	-	780	780	-	-	-	-	-	-	-
Stage 2	780	780	-	528	520	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	136	159	551	136	161	410	1046	-	-	858	-	-
Stage 1	534	528	-	388	406	-	-	-	-	-	-	-
Stage 2	384	401	-	534	532	-	-	-	-	-	-	-
Platoon blocked, %											-	-
Mov Cap-1 Maneuver	134	155	551	129	157	410	1046	-	-	858	-	-
Mov Cap-2 Maneuver	134	155	-	129	157	-	-	-	-	-	-	-
Stage 1	522	528	-	379	397	-	-	-	-	-	-	-
Stage 2	375	392	-	516	532	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.6	0	0.2	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1046	-	-	236	-	858	-	-
HCM Lane V/C Ratio	0.014	-	-	0.135	-	-	-	-
HCM Control Delay (s)	8.5	0	-	22.6	0	0	-	-
HCM Lane LOS	A	A	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	-	0	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	502	3	8	190	27	2	4	15	24	3	21
Future Vol, veh/h	6	502	3	8	190	27	2	4	15	24	3	21
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	3	3	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	-
Grade, %	-	0	-	-	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	8	628	4	9	213	30	3	5	19	28	4	25

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	245	0	0	632	0	0	907	909	633	909	896	230
Stage 1	-	-	-	-	-	-	646	646	-	248	248	-
Stage 2	-	-	-	-	-	-	261	263	-	661	648	-
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
Pot Cap-1 Maneuver	1321	-	-	946	-	-	248	267	466	254	278	804
Stage 1	-	-	-	-	-	-	447	455	-	751	698	-
Stage 2	-	-	-	-	-	-	727	676	-	448	463	-
Platoon blocked, %		-	-			-	-					
Mov Cap-1 Maneuver	1318	-	-	946	-	-	235	262	465	236	273	802
Mov Cap-2 Maneuver	-	-	-	-	-	-	235	262	-	236	273	-
Stage 1	-	-	-	-	-	-	444	452	-	745	690	-
Stage 2	-	-	-	-	-	-	694	668	-	421	460	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	15.3	17.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	375	1318	-	-	946	-	-	346
HCM Lane V/C Ratio	0.071	0.006	-	-	0.01	-	-	0.163
HCM Control Delay (s)	15.3	7.7	-	-	8.8	-	-	17.4
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	424	72	35	153	78	57	567	72	76	377	15
Future Volume (veh/h)	45	424	72	35	153	78	57	567	72	76	377	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
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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	53	499	85	38	166	85	62	616	78	88	438	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	440	607	103	167	712	603	401	835	106	240	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
Sat Flow, veh/h	1137	1652	281	818	1938	1640	936	1713	217	750	1882	73
Grp Volume(v), veh/h	53	0	584	38	166	85	62	0	694	88	0	455
Grp Sat Flow(s),veh/h/ln	1137	0	1933	818	1938	1640	936	0	1930	750	0	1956
Q Serve(g_s), s	2.7	0.0	21.9	3.5	4.7	2.8	3.8	0.0	23.0	8.5	0.0	12.4
Cycle Q Clear(g_c), s	7.4	0.0	21.9	25.4	4.7	2.8	16.2	0.0	23.0	31.5	0.0	12.4
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.11	1.00		0.04
Lane Grp Cap(c), veh/h	440	0	710	167	712	603	401	0	941	240	0	953
V/C Ratio(X)	0.12	0.00	0.82	0.23	0.23	0.14	0.15	0.00	0.74	0.37	0.00	0.48
Avail Cap(c_a), veh/h	440	0	710	167	712	603	401	0	941	240	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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.1	0.0	22.9	34.5	17.5	16.9	19.1	0.0	16.4	29.0	0.0	13.7
Incr Delay (d2), s/veh	0.6	0.0	10.4	3.2	0.8	0.5	0.8	0.0	5.2	4.3	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 BackOfQ(50%),veh/ln	0.7	0.0	11.2	0.8	2.1	1.1	0.9	0.0	10.3	1.7	0.0	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.6	0.0	33.3	37.6	18.3	17.4	19.9	0.0	21.6	33.3	0.0	15.4
LnGrp LOS	C	A	C	D	B	B	B	A	C	C	A	B
Approach Vol, veh/h		637			289			756			543	
Approach Delay, s/veh		32.2			20.5			21.4			18.3	
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 (g_c+I1), s	25.0	23.9	33.5	27.4
Green Ext Time (p_c), s	4.3	1.9	1.6	0.3

Intersection Summary	
HCM 6th Ctrl Delay	23.6
HCM 6th LOS	C

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)	0.2	0.0	0.0	0.1	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.4	0.1	0.3	0.2	1.1
Total Del/Veh (s)	13.1	0.3	0.5	17.0	9.3	3.4	4.7	4.7

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

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

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	23	363	168	8	6	15
Future Vol, veh/h	23	363	168	8	6	15
Conflicting Peds, #/hr	3	0	0	3	2	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	83	83	71	71
Heavy Vehicles, %	2	2	5	5	6	6
Mvmt Flow	25	399	202	10	8	21

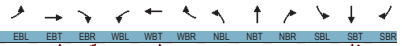
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	215	0	-	0	661	213
Stage 1	-	-	-	-	210	-
Stage 2	-	-	-	-	451	-
Critical Hdwy	4.12	-	-	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.218	-	-	-	3.554	3.354
Pot Cap-1 Maneuver	1355	-	-	-	421	817
Stage 1	-	-	-	-	816	-
Stage 2	-	-	-	-	633	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1351	-	-	-	408	812
Mov Cap-2 Maneuver	-	-	-	-	408	-
Stage 1	-	-	-	-	794	-
Stage 2	-	-	-	-	631	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1351	-	-	-	633
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 %tile Q(veh)	0.1	-	-	-	0.1

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	42	285	0	153	0	0	0	0	0	266	52
Future Volume (Veh/h)	0	42	285	0	153	0	0	0	0	0	266	52
Sign Control		Stop			Yield			Free			Free	
Grade		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
Hourly flow rate (vph)	0	52	352	0	174	0	0	0	0	0	280	55
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	394	308	168	518	335	0	335			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	394	308	168	518	335	0	335			0		
tC, single (s)	7.5	6.5	6.9	7.6	6.6	7.0	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	91	58	100	70	100	100			100		
cM capacity (veh/h)	414	605	847	237	577	1075	1221			1629		

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	52	352	174	187	148
Volume Left	0	0	0	0	0
Volume Right	0	352	0	0	55
cSH	605	847	577	1700	1700
Volume to Capacity	0.09	0.42	0.30	0.11	0.09
Queue Length 95th (ft)	7	52	32	0	0
Control Delay (s)	11.5	12.2	13.9	0.0	0.0
Lane LOS	B	B	B		
Approach Delay (s)	12.1		13.9	0.0	
Approach LOS	B		B		

Intersection Summary					
Average Delay		8.0			
Intersection Capacity Utilization		46.3%	ICU Level of Service		A
Analysis Period (min)		15			

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

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

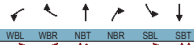
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	42	0	153	309	0	0
Future Volume (Veh/h)	42	0	153	309	0	0
Sign Control	Yield			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.81	0.81	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	52	0	174	351	0	0
Pedestrians						
Lane Width (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						
vC, conflicting volume	524	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	524	0	0			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	88	100	89			
cM capacity (veh/h)	431	1084	1600			

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	52	291	234
Volume Left	52	174	0
Volume Right	0	0	0
cSH	431	1600	1700
Volume to Capacity	0.12	0.11	0.14
Queue Length 95th (ft)	10	9	0
Control Delay (s)	14.5	4.9	0.0
Lane LOS	B	A	
Approach Delay (s)	14.5	2.7	
Approach LOS	B		

Intersection Summary				
Average Delay		3.8		
Intersection Capacity Utilization		47.7%	ICU Level of Service	A
Analysis Period (min)		15		

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

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



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	244	210	252	285	381	170
Future Volume (veh/h)	244	210	252	285	381	170
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1953	1953	1938	1938	1984	1984
Adj Flow Rate, veh/h	284	244	265	300	438	195
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	470	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	284	244	265	300	438	195
Grp Sat Flow(s),veh/h/ln	1860	1655	1841	1642	1890	1885
Q Serve(g_s), s	9.3	0.0	10.7	14.2	14.2	2.2
Cycle Q Clear(g_c), s	9.3	0.0	10.7	14.2	14.2	2.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	665	923	377	337	470	1829
V/C Ratio(X)	0.43	0.26	0.70	0.89	0.93	0.11
Avail Cap(c_a), veh/h	665	923	377	337	470	1829
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	9.2	29.5	30.9	29.8	11.2
Incr Delay (d2), s/veh	2.0	0.7	10.4	27.9	27.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	2.1	5.5	7.9	10.7	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.5	9.9	40.0	58.8	57.4	11.3
LnGrp LOS	C	A	D	E	E	B
Approach Vol, veh/h	528		565			633
Approach Delay, s/veh	16.1		50.0			43.2
Approach LOS	B		D			D

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 (g_c+I1), s	16.2	16.2				4.2	11.3
Green Ext Time (p_c), s	0.0	0.1				1.2	1.6

Intersection Summary			
HCM 6th Ctrl Delay			37.1
HCM 6th LOS			D

HCM 6th TWSC
1: Wing Street & Randolph Street

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

Intersection	
Int Delay, s/veh	6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	271	104	4	106	190	12
Future Vol, veh/h	271	104	4	106	190	12
Conflicting Peds, #/hr	0	11	11	0	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	81	81	78	78
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	311	120	5	131	244	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	442	0	523	386
Stage 1	-	-	-	-	382	-
Stage 2	-	-	-	-	141	-
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
Pot Cap-1 Maneuver	-	-	1129	-	516	664
Stage 1	-	-	-	-	692	-
Stage 2	-	-	-	-	888	-
Platoon blocked, %	-	-			-	
Mov Cap-1 Maneuver	-	-	1117	-	508	655
Mov Cap-2 Maneuver	-	-	-	-	508	-
Stage 1	-	-	-	-	685	-
Stage 2	-	-	-	-	884	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	18.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	515	-	-	1117	-
HCM Lane V/C Ratio	0.503	-	-	0.004	-
HCM Control Delay (s)	18.9	-	-	8.2	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.8	-	-	0	-

HCM 6th TWSC
2: Center Street & Randolph Street/Private Drive

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

Intersection	
Int Delay, s/veh	55

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	13	225	15	15	28	53	560	9	18	453	42
Future Vol, veh/h	45	13	225	15	15	28	53	560	9	18	453	42
Conflicting Peds, #/hr	2	0	5	5	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
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	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	54	15	268	16	16	31	61	644	10	25	621	58

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1512	1503	670	1630	1527	663	694	0	0	666	0	0
Stage 1	715	715	-	783	783	-	-	-	-	-	-	-
Stage 2	797	788	-	847	744	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	100	123	460	82	119	465	911	-	-	928	-	-
Stage 1	425	438	-	390	407	-	-	-	-	-	-	-
Stage 2	383	405	-	359	424	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	75	109	451	27	105	459	898	-	-	917	-	-
Mov Cap-2 Maneuver	75	109	-	27	105	-	-	-	-	-	-	-
Stage 1	391	420	-	359	375	-	-	-	-	-	-	-
Stage 2	318	373	-	136	407	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	265.4	154.6	0.8	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	898	-	-	232	76	917	-	-
HCM Lane V/C Ratio	0.068	-	-	1.452	0.839	0.027	-	-
HCM Control Delay (s)	9.3	-	-	265.4	154.6	9	-	-
HCM Lane LOS	A	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	19.6	4.2	0.1	-	-

HCM 6th AWSC
3: Wing Street & Dunlap Street

Existing 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	0	81	12	69	110	47	10	155	72	50	55	3
Future Vol, veh/h	0	81	12	69	110	47	10	155	72	50	55	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	105	16	92	147	63	11	178	83	68	75	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	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	9.7	12.1	11.4	10.3
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	0%	31%	46%
Vol Thru, %	65%	87%	49%	51%
Vol Right, %	30%	13%	21%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	237	93	226	108
LT Vol	10	0	69	50
Through Vol	155	81	110	55
RT Vol	72	12	47	3
Lane Flow Rate	272	121	301	148
Geometry Grp	1	1	1	1
Degree of Util (X)	0.387	0.182	0.432	0.229
Departure Headway (Hd)	5.11	5.439	5.165	5.561
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	706	658	696	645
Service Time	3.142	3.48	3.198	3.599
HCM Lane V/C Ratio	0.385	0.184	0.432	0.229
HCM Control Delay	11.4	9.7	12.1	10.3
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	1.8	0.7	2.2	0.9

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

Existing 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)	72	66	30	10	122	69	15	481	122	87	537	69
Future Volume (veh/h)	72	66	30	10	122	69	15	481	122	87	537	69
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.93	0.95		0.93	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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	1969	1969	1969	2000	2000	2000
Adj Flow Rate, veh/h	82	75	34	11	133	75	16	523	133	112	688	88
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	301	315	143	368	289	163	371	927	236	602	1066	136
Arrive On Green	0.25	0.25	0.25	0.33	0.33	0.33	1.00	1.00	1.00	0.62	0.62	0.62
Sat Flow, veh/h	1148	1267	575	1235	1163	656	695	1508	383	784	1734	222
Grp Volume(v), veh/h	82	0	109	11	0	208	16	0	656	112	0	776
Grp Sat Flow(s),veh/h/ln	1148	0	1842	1235	0	1820	695	0	1892	784	0	1955
Q Serve(g_s), s	3.9	0.0	2.8	0.4	0.0	5.4	0.6	0.0	0.0	3.9	0.0	15.2
Cycle Q Clear(g_c), s	9.3	0.0	2.8	3.2	0.0	5.4	15.8	0.0	0.0	3.9	0.0	15.2
Prop In Lane	1.00		0.31	1.00		0.36	1.00		0.20	1.00		0.11
Lane Grp Cap(c), veh/h	301	0	457	368	0	452	371	0	1163	602	0	1203
V/C Ratio(X)	0.27	0.00	0.24	0.03	0.00	0.46	0.04	0.00	0.56	0.19	0.00	0.65
Avail Cap(c_a), veh/h	301	0	457	368	0	452	371	0	1163	602	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 Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.9	0.0	18.0	17.2	0.0	16.9	3.3	0.0	0.0	5.2	0.0	7.4
Incr Delay (d2), s/veh	2.2	0.0	1.2	0.2	0.0	3.4	0.2	0.0	2.0	0.7	0.0	2.7
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 BackOfQ(50%),veh/ln	1.2	0.0	1.3	0.1	0.0	2.5	0.1	0.0	0.6	0.6	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.1	0.0	19.2	17.4	0.0	20.3	3.5	0.0	2.0	5.9	0.0	10.1
LnGrp LOS	C	A	B	B	A	C	A	A	A	A	A	B
Approach Vol, veh/h		191			219			672			888	
Approach Delay, s/veh		21.8			20.1			2.0			9.5	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	41.0	19.0	41.0	19.0
Change Period (Y+Rc), s	* 4.1	* 4.1	* 4.1	* 4.1
Max Green Setting (Gmax), s	* 37	* 15	* 37	* 15
Max Q Clear Time (g_c+I1), s	17.8	11.3	17.2	7.4
Green Ext Time (p_c), s	4.9	0.3	6.9	0.7

Intersection Summary	
HCM 6th Ctrl Delay	9.3
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

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

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	206	227	95	58	32
Future Vol, veh/h	16	206	227	95	58	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	-	-	-	-	0	-
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	224	247	103	65	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	369	0	-	0	586	338
Stage 1	-	-	-	-	318	-
Stage 2	-	-	-	-	268	-
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
Pot Cap-1 Maneuver	1201	-	-	-	474	706
Stage 1	-	-	-	-	740	-
Stage 2	-	-	-	-	779	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1179	-	-	-	450	680
Mov Cap-2 Maneuver	-	-	-	-	450	-
Stage 1	-	-	-	-	715	-
Stage 2	-	-	-	-	765	-

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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1179	-	-	-	512
HCM Lane V/C Ratio	0.015	-	-	-	0.198
HCM Control Delay (s)	8.1	0	-	-	13.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.7

HCM 6th AWSC
6: Wing Street & Main Street

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

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	38	80	15	41	82	41	141	51	27	82	36
Future Vol, veh/h	72	38	80	15	41	82	41	141	51	27	82	36
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	0	0	2
Mvmt Flow	88	46	98	19	51	103	45	155	56	36	108	47
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	10.9	9.9	11.3	10.3
HCM LOS	B	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	38%	11%	19%
Vol Thru, %	61%	20%	30%	57%
Vol Right, %	22%	42%	59%	25%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	233	190	138	145
LT Vol	41	72	15	27
Through Vol	141	38	41	82
RT Vol	51	80	82	36
Lane Flow Rate	256	232	172	191
Geometry Grp	1	1	1	1
Degree of Util (X)	0.369	0.335	0.246	0.279
Departure Headway (Hd)	5.191	5.198	5.142	5.26
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	691	690	697	683
Service Time	3.227	3.236	3.183	3.299
HCM Lane V/C Ratio	0.37	0.336	0.247	0.28
HCM Control Delay	11.3	10.9	9.9	10.3
HCM Lane LOS	B	B	A	B
HCM 95th-tile Q	1.7	1.5	1	1.1

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

Existing 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)	32	115	32	88	130	58	9	528	30	24	527	26
Future Volume (veh/h)	32	115	32	88	130	58	9	528	30	24	527	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.94	0.96		0.94	0.99		0.98	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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	2000	2000	2000	2000	2000	2000	1984	1984	1984
Adj Flow Rate, veh/h	36	129	36	101	149	67	9	556	32	25	555	27
Peak Hour Factor	0.89	0.89	0.89	0.87	0.87	0.87	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	0	0	0	1	1	1
Cap, veh/h	119	342	85	193	237	94	66	1034	59	82	1005	48
Arrive On Green	0.26	0.26	0.26	0.44	0.44	0.44	0.56	0.56	0.56	1.00	1.00	1.00
Sat Flow, veh/h	184	1297	323	431	900	357	8	1853	105	35	1799	85
Grp Volume(v), veh/h	201	0	0	317	0	0	597	0	0	607	0	0
Grp Sat Flow(s),veh/h/ln	1805	0	0	1687	0	0	1967	0	0	1919	0	0
Q Serve(g_s), s	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.2	0.0	0.0	8.5	0.0	0.0	11.5	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.18		0.18	0.32		0.21	0.02		0.05	0.04		0.04
Lane Grp Cap(c), veh/h	546	0	0	523	0	0	1159	0	0	1134	0	0
V/C Ratio(X)	0.37	0.00	0.00	0.61	0.00	0.00	0.52	0.00	0.00	0.54	0.00	0.00
Avail Cap(c_a), veh/h	546	0	0	523	0	0	1159	0	0	1134	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	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	18.2	0.0	0.0	14.6	0.0	0.0	8.4	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.0	5.1	0.0	0.0	1.6	0.0	0.0	1.8	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	2.5	0.0	0.0	3.4	0.0	0.0	4.6	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.1	0.0	0.0	19.7	0.0	0.0	10.0	0.0	0.0	1.8	0.0	0.0
LnGrp LOS	C	A	A	B	A	A	B	A	A	A	A	A
Approach Vol, veh/h		201			317			597			607	
Approach Delay, s/veh		20.1			19.7			10.0			1.8	
Approach LOS		C			B			B			A	

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	5.5	* 5.2
Max Green Setting (Gmax), s	33.5	* 16	33.5	* 16
Max Q Clear Time (g_c+I1), s	13.5	7.2	2.0	10.5
Green Ext Time (p_c), s	4.3	0.7	5.0	0.9

Intersection Summary	
HCM 6th Ctrl Delay	10.1
HCM 6th LOS	B

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)
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	151	11	10	253	289	9	26	15	239	11	14
Future Volume (veh/h)	7	151	11	10	253	289	9	26	15	239	11	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.98		0.98	0.98		0.95	0.98		0.95
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	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Adj Flow Rate, veh/h	8	178	13	11	291	332	12	33	19	263	12	15
Peak Hour Factor	0.85	0.85	0.85	0.87	0.87	0.87	0.78	0.78	0.78	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	76	1073	827	74	1088	827	71	154	65	278	7	388
Arrive On Green	1.00	1.00	1.00	0.55	0.55	0.55	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	25	1939	1494	21	1965	1494	0	577	243	601	27	1457
Grp Volume(v), veh/h	186	0	13	302	0	332	64	0	0	275	0	15
Grp Sat Flow(s),veh/h/ln	1964	0	1494	1986	0	1494	820	0	0	628	0	1457
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	7.7	0.0	0.0	0.0	0.0	0.0	0.5
Cycle Q Clear(g_c), s	0.0	0.0	0.0	4.8	0.0	7.7	16.0	0.0	0.0	16.0	0.0	0.5
Prop In Lane	0.04		1.00	0.04		1.00	0.19		0.30	0.96		1.00
Lane Grp Cap(c), veh/h	1149	0	827	1161	0	827	290	0	0	285	0	388
V/C Ratio(X)	0.16	0.00	0.02	0.26	0.00	0.40	0.22	0.00	0.00	0.97	0.00	0.04
Avail Cap(c_a), veh/h	1149	0	827	1161	0	827	290	0	0	285	0	388
HCM Platoon Ratio	2.00	2.00	2.00	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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	7.0	0.0	7.7	17.4	0.0	0.0	25.1	0.0	16.3
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.5	0.0	1.5	1.7	0.0	0.0	45.1	0.0	0.2
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	0.1	0.0	0.0	1.9	0.0	2.4	0.8	0.0	0.0	7.4	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.3	0.0	0.0	7.6	0.0	9.2	19.1	0.0	0.0	70.2	0.0	16.5
LnGrp LOS	A	A	A	A	A	A	B	A	A	E	A	B
Approach Vol, veh/h		199			634			64			290	
Approach Delay, s/veh		0.3			8.4			19.1			67.5	
Approach LOS		A			A			B			E	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	38.7	21.3	38.7	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+I1), s	2.0	18.0	9.7	18.0
Green Ext Time (p_c), s	1.2	0.0	3.2	0.0

Intersection Summary	
HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C

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)
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	248	18	2	355	277	33	204	11	186	120	194
Future Volume (veh/h)	99	248	18	2	355	277	33	204	11	186	120	194
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	116	292	21	2	374	292	36	222	12	198	128	206
Peak Hour Factor	0.85	0.85	0.85	0.95	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	315	902	69	61	919	703	113	566	28	270	147	211
Arrive On Green	0.15	0.15	0.15	0.46	0.46	0.46	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	466	1947	148	2	1983	1518	130	1632	82	540	423	609
Grp Volume(v), veh/h	176	0	253	376	0	292	270	0	0	532	0	0
Grp Sat Flow(s),veh/h/ln	783	0	1778	1983	0	1519	1844	0	0	1572	0	0
Q Serve(g_s), s	8.0	0.0	7.6	0.0	0.0	7.7	0.0	0.0	0.0	13.7	0.0	0.0
Cycle Q Clear(g_c), s	15.6	0.0	7.6	7.5	0.0	7.7	6.2	0.0	0.0	20.0	0.0	0.0
Prop In Lane	0.66		0.08	0.01		1.00	0.13		0.04	0.37		0.39
Lane Grp Cap(c), veh/h	462	0	824	979	0	704	707	0	0	627	0	0
V/C Ratio(X)	0.38	0.00	0.31	0.38	0.00	0.42	0.38	0.00	0.00	0.85	0.00	0.00
Avail Cap(c_a), veh/h	462	0	824	979	0	704	707	0	0	627	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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	21.7	0.0	16.8	10.7	0.0	10.7	14.8	0.0	0.0	18.9	0.0	0.0
Incr Delay (d2), s/veh	2.4	0.0	1.0	1.1	0.0	1.8	1.6	0.0	0.0	13.4	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	2.9	0.0	3.4	3.2	0.0	2.6	2.7	0.0	0.0	8.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.1	0.0	17.8	11.8	0.0	12.5	16.4	0.0	0.0	32.3	0.0	0.0
LnGrp LOS	C	A	B	B	A	B	B	A	A	C	A	A
Approach Vol, veh/h		429			668			270			532	
Approach Delay, s/veh		20.4			12.1			16.4			32.3	
Approach LOS		C			B			B			C	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		33.4		26.6		33.4		26.6				
Change Period (Y+Rc), s		5.6		* 5.8		5.6		* 5.8				
Max Green Setting (Gmax), s		27.8		* 21		27.8		* 21				
Max Q Clear Time (g_c+I1), s		17.6		22.0		9.7		8.2				
Green Ext Time (p_c), s		2.2		0.0		4.4		1.2				

Intersection Summary	
HCM 6th Ctrl Delay	20.2
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

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

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	419	26	24	624	10	24
Future Vol, veh/h	419	26	24	624	10	24
Conflicting Peds, #/hr	0	2	2	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	95	95	75	75
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	517	32	25	657	13	32

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	551	0	914	277
Stage 1	-	-	-	-	535	-
Stage 2	-	-	-	-	379	-
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
Pot Cap-1 Maneuver	-	-	1022	-	276	726
Stage 1	-	-	-	-	557	-
Stage 2	-	-	-	-	668	-
Platoon blocked, %		-		-		
Mov Cap-1 Maneuver	-	-	1020	-	265	725
Mov Cap-2 Maneuver	-	-	-	-	265	-
Stage 1	-	-	-	-	556	-
Stage 2	-	-	-	-	642	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	13.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	480	-	-	1020	-
HCM Lane V/C Ratio	0.094	-	-	0.025	-
HCM Control Delay (s)	13.3	-	-	8.6	0.2
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

HCM 6th AWSC
11: Wing Street & Cady Street

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

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	27	47	13	16	37	56	11	150	19	72	88	17
Future Vol, veh/h	27	47	13	16	37	56	11	150	19	72	88	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	0	0	2
Mvmt Flow	33	57	16	18	41	62	12	167	21	81	99	19
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	8.9	8.6	9.3	9.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	31%	15%	41%
Vol Thru, %	83%	54%	34%	50%
Vol Right, %	11%	15%	51%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	180	87	109	177
LT Vol	11	27	16	72
Through Vol	150	47	37	88
RT Vol	19	13	56	17
Lane Flow Rate	200	105	121	199
Geometry Grp	1	1	1	1
Degree of Util (X)	0.258	0.144	0.158	0.26
Departure Headway (Hd)	4.649	4.958	4.691	4.706
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	770	719	759	760
Service Time	2.698	3.019	2.749	2.755
HCM Lane V/C Ratio	0.26	0.146	0.159	0.262
HCM Control Delay	9.3	8.9	8.6	9.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.5	0.6	1

HCM 6th TWSC
12: Center Street & Cady Street

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

Intersection	
Int Delay, s/veh	11.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	16	29	57	11	19	25	515	122	9	614	37
Future Vol, veh/h	11	16	29	57	11	19	25	515	122	9	614	37
Conflicting Peds, #/hr	23	0	2	2	0	23	13	0	1	1	0	13
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	95	95	95	95	95	95
Heavy Vehicles, %	4	4	4	0	0	0	1	1	1	0	0	0
Mvmt Flow	14	21	37	73	14	24	26	542	128	9	646	39

Major/Minor	Major2			Minor1			Major1			Major2		
Conflicting Flow All	1397	1420	681	1374	1375	630	698	0	0	671	0	0
Stage 1	697	697	-	659	659	-	-	-	-	-	-	-
Stage 2	700	723	-	715	716	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	117	135	447	124	147	485	903	-	-	929	-	-
Stage 1	428	440	-	456	464	-	-	-	-	-	-	-
Stage 2	427	428	-	425	437	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	94	125	441	94	136	474	892	-	-	928	-	-
Mov Cap-2 Maneuver	94	125	-	94	136	-	-	-	-	-	-	-
Stage 1	402	428	-	434	441	-	-	-	-	-	-	-
Stage 2	365	407	-	364	425	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	37.7	132.3	0.3	0.1
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	892	-	-	180	120	928	-	-
HCM Lane V/C Ratio	0.03	-	-	0.399	0.929	0.01	-	-
HCM Control Delay (s)	9.2	0	-	37.7	132.3	8.9	0	-
HCM Lane LOS	A	A	-	E	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.8	6	0	-	-

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

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

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	138	0	0	85	33	0	0	0	10	0	10
Future Vol, veh/h	36	138	0	0	85	33	0	0	0	10	0	10
Conflicting Peds, #/hr	3	0	0	0	0	3	2	0	0	0	0	2
Sign Control	Free	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	89	89	89	84	84	84	92	92	92	71	71	71
Heavy Vehicles, %	1	1	1	0	0	0	2	2	2	0	0	0
Mvmt Flow	40	155	0	0	101	39	0	0	0	14	0	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	143	0	0	155	0	0	365	378	155	359	359	126
Stage 1	-	-	-	-	-	-	235	235	-	124	124	-
Stage 2	-	-	-	-	-	-	130	143	-	235	235	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.12	6.52	6.22	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.518	4.018	3.318	3.5	4	3.3
Pot Cap-1 Maneuver	1446	-	-	1438	-	-	591	554	891	600	571	930
Stage 1	-	-	-	-	-	-	768	710	-	885	797	-
Stage 2	-	-	-	-	-	-	874	779	-	773	714	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1442	-	-	1438	-	-	567	536	891	584	552	926
Mov Cap-2 Maneuver	-	-	-	-	-	-	567	536	-	584	552	-
Stage 1	-	-	-	-	-	-	745	689	-	856	795	-
Stage 2	-	-	-	-	-	-	859	777	-	750	693	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	0	0	10.2
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1442	-	-	1438	-	-	716
HCM Lane V/C Ratio	-	0.028	-	-	-	-	-	0.039
HCM Control Delay (s)	0	7.6	0	-	0	-	-	10.2
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-	-	0.1

HCM 6th TWSC
14: Cady Street & Chruch Street

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

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	148	99	0	29	19
Future Vol, veh/h	0	148	99	0	29	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	90	90	72	72
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	0	156	110	0	40	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	266	110
Stage 1	-	-	-	-	110	-
Stage 2	-	-	-	-	156	-
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
Pot Cap-1 Maneuver	0	-	0	-	727	949
Stage 1	0	-	0	-	920	-
Stage 2	0	-	0	-	877	-
Platoon blocked, %		-		-		
Mov Cap-1 Maneuver	-	-	-	-	727	949
Mov Cap-2 Maneuver	-	-	-	-	727	-
Stage 1	-	-	-	-	920	-
Stage 2	-	-	-	-	877	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	801
HCM Lane V/C Ratio	-	-	0.083
HCM Control Delay (s)	-	-	9.9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.3

15: Griswold Street & Cady Street

Intersection												
Int Delay, s/veh	6.5											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	137	9	31	3	18	10	24	101	3	4	79	57
Future Vol, veh/h	137	9	31	3	18	10	24	101	3	4	79	57
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	0	0	0	3
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	68	68	68	88	88	88	83	83	83
Heavy Vehicles, %	1	1	1	0	0	0	0	0	0	0	0	0
Mvmt Flow	165	11	37	4	26	15	27	115	3	5	95	69

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	334	315	133	335	348	117	167	0	0	118	0	0
Stage 1	143	143	-	171	171	-	-	-	-	-	-	-
Stage 2	191	172	-	164	177	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	621	602	919	622	579	941	1423	-	-	1483	-	-
Stage 1	862	780	-	836	761	-	-	-	-	-	-	-
Stage 2	813	758	-	843	756	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	577	586	916	577	563	941	1419	-	-	1483	-	-
Mov Cap-2 Maneuver	577	586	-	577	563	-	-	-	-	-	-	-
Stage 1	842	775	-	819	746	-	-	-	-	-	-	-
Stage 2	756	743	-	794	751	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.9	11	1.4	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1419	-	-	618	649	1483	-	-
HCM Lane V/C Ratio	0.019	-	-	0.345	0.07	0.003	-	-
HCM Control Delay (s)	7.6	0	-	13.9	11	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.5	0.2	0	-	-

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)	0.7	0.6	3.9	2.1

17: River Street & Beal Street

Intersection						
Int Delay, s/veh	4.7					

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	50	63	4	20	108	10
Future Vol, veh/h	50	63	4	20	108	10
Conflicting Peds, #/hr	0	1	1	0	0	6
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	79	79	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	54	68	5	25	121	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	123	0	124	95
Stage 1	-	-	-	-	89	-
Stage 2	-	-	-	-	35	-
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
Pot Cap-1 Maneuver	-	-	1477	-	876	967
Stage 1	-	-	-	-	940	-
Stage 2	-	-	-	-	993	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1476	-	872	961
Mov Cap-2 Maneuver	-	-	-	-	872	-
Stage 1	-	-	-	-	939	-
Stage 2	-	-	-	-	990	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	9.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	879	-	-	1476	-
HCM Lane V/C Ratio	0.151	-	-	0.003	-
HCM Control Delay (s)	9.8	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0	-

18: Main Street/Northville Road & Beal Street

Intersection						
Int Delay, s/veh	0.8					

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	50	15	711	516	9
Future Vol, veh/h	10	50	15	711	516	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	-	-	-	-	-
Veh 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	60	16	773	543	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	970	279	555	0	-	0
Stage 1	551	-	-	-	-	-
Stage 2	419	-	-	-	-	-
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	-	-	-
Pot Cap-1 Maneuver	254	724	1018	-	-	-
Stage 1	547	-	-	-	-	-
Stage 2	638	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	245	722	1015	-	-	-
Mov Cap-2 Maneuver	245	-	-	-	-	-
Stage 1	530	-	-	-	-	-
Stage 2	636	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.6	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1015	-	545	-	-
HCM Lane V/C Ratio	0.016	-	0.133	-	-
HCM Control Delay (s)	8.6	0.1	12.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.5	-	-

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	0.4	0.3	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	0.1	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.8
Total Del/Veh (s)	6.7	2.3	1.1	12.1	6.0	3.3	3.1	3.3	3.2	27.9	13.2	2.6

20: Wing Street & Fairbrook Street

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	6	1	0	10	119	1	101	3	40	62	15
Future Vol, veh/h	17	6	1	0	10	119	1	101	3	40	62	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	0	0	0
Mvmt Flow	20	7	1	0	11	131	1	146	4	44	68	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	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	7.9	8.5	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	71%	0%	34%
Vol Thru, %	96%	25%	8%	53%
Vol Right, %	3%	4%	92%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	105	24	129	117
LT Vol	1	17	0	40
Through Vol	101	6	10	62
RT Vol	3	1	119	15
Lane Flow Rate	152	29	142	129
Geometry Grp	1	1	1	1
Degree of Util (X)	0.187	0.039	0.162	0.158
Departure Headway (Hd)	4.418	4.898	4.106	4.433
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	814	732	875	810
Service Time	2.438	2.923	2.124	2.454
HCM Lane V/C Ratio	0.187	0.04	0.162	0.159
HCM Control Delay	8.5	8.1	7.9	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.1	0.6	0.6

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	45	0	0	0	121	707	0	0	696	8
Future Vol, veh/h	4	0	45	0	0	0	121	707	0	0	696	8
Conflicting Peds, #/hr	1	0	0	0	0	1	4	0	0	0	0	4
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	92	92	92	94	94	94	91	91	91
Heavy Vehicles, %	0	0	0	2	2	2	1	1	1	0	0	0
Mvmt Flow	5	0	55	0	0	0	129	752	0	0	765	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1785	1784	774	1807	1788	753	778	0	0	752	0	0
Stage 1	774	774	-	1010	1010	-	-	-	-	-	-	-
Stage 2	1011	1010	-	797	778	-	-	-	-	-	-	-
Critical Hdwy	7.1	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	-	-
Pot Cap-1 Maneuver	64	83	402	61	81	410	843	-	-	867	-	-
Stage 1	394	411	-	289	317	-	-	-	-	-	-	-
Stage 2	291	320	-	380	407	-	-	-	-	-	-	-
Platoon blocked, %											-	-
Mov Cap-1 Maneuver	51	61	400	42	59	410	840	-	-	867	-	-
Mov Cap-2 Maneuver	51	61	-	42	59	-	-	-	-	-	-	-
Stage 1	289	409	-	213	233	-	-	-	-	-	-	-
Stage 2	214	236	-	328	405	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.2	0	1.5	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	840	-	-	257	-	867	-	-
HCM Lane V/C Ratio	0.153	-	-	0.233	-	-	-	-
HCM Control Delay (s)	10.1	0	-	23.2	0	0	-	-
HCM Lane LOS	B	A	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	0.9	-	0	-	-

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	414	3	15	577	80	4	3	8	36	6	21
Future Vol, veh/h	22	414	3	15	577	80	4	3	8	36	6	21
Conflicting Peds, #/hr	0	0	1	1	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
Storage Length	100	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	90	90	90	70	70	70	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	0	0	0	1	1	1
Mvmt Flow	26	487	4	17	641	89	6	4	11	44	7	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	730	0	0	492	0	0	1278	1306	495	1274	1264	686
Stage 1	-	-	-	-	-	-	542	542	-	720	720	-
Stage 2	-	-	-	-	-	-	736	764	-	554	544	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.1	6.5	6.2	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.5	4	3.3	3.509	4.009	3.309
Pot Cap-1 Maneuver	874	-	-	1071	-	-	144	161	579	145	170	449
Stage 1	-	-	-	-	-	-	528	523	-	421	434	-
Stage 2	-	-	-	-	-	-	414	416	-	519	521	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	874	-	-	1070	-	-	126	154	576	134	162	449
Mov Cap-2 Maneuver	-	-	-	-	-	-	126	154	-	134	162	-
Stage 1	-	-	-	-	-	-	512	507	-	408	427	-
Stage 2	-	-	-	-	-	-	378	409	-	487	505	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	22.3	39.4
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	230	874	-	-	1070	-	-	179
HCM Lane V/C Ratio	0.093	0.03	-	-	0.016	-	-	0.429
HCM Control Delay (s)	22.3	9.2	-	-	8.4	-	-	39.4
HCM Lane LOS	C	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	312	114	108	503	140	123	656	106	74	621	46
Future Volume (veh/h)	32	312	114	108	503	140	123	656	106	74	621	46
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
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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	2000	2000	2000	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	36	347	127	114	529	147	129	691	112	79	661	49
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	198	509	186	236	735	622	236	812	132	175	889	66
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	769	1385	507	934	2000	1693	745	1665	270	683	1824	135
Grp Volume(v), veh/h	36	0	474	114	529	147	129	0	803	79	0	710
Grp Sat Flow(s),veh/h/ln	769	0	1892	934	2000	1693	745	0	1935	683	0	1960
Q Serve(g_s), s	3.4	0.0	16.9	9.4	18.2	4.8	13.5	0.0	29.1	9.2	0.0	23.3
Cycle Q Clear(g_c), s	21.6	0.0	16.9	26.3	18.2	4.8	36.8	0.0	29.1	38.3	0.0	23.3
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.14	1.00		0.07
Lane Grp Cap(c), veh/h	198	0	695	236	735	622	236	0	943	175	0	955
V/C Ratio(X)	0.18	0.00	0.68	0.48	0.72	0.24	0.55	0.00	0.85	0.45	0.00	0.74
Avail Cap(c_a), veh/h	198	0	695	236	735	622	236	0	943	175	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(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	31.0	0.0	21.4	32.4	21.8	17.5	31.2	0.0	18.0	34.7	0.0	16.5
Incr Delay (d2), s/veh	2.0	0.0	5.3	6.9	6.0	0.9	8.8	0.0	9.6	8.2	0.0	5.2
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	7.9	2.5	9.1	1.9	2.9	0.0	13.9	1.9	0.0	10.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.1	0.0	26.7	39.4	27.8	18.4	40.0	0.0	27.5	43.0	0.0	21.7
LnGrp LOS	C	A	C	D	C	B	D	A	C	D	A	C
Approach Vol, veh/h		510			790			932			789	
Approach Delay, s/veh		27.1			27.7			29.3			23.8	
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+I1), s		38.8		23.6		40.3		28.3				
Green Ext Time (p_c), s		0.2		1.6		0.0		0.5				

Intersection Summary	
HCM 6th Ctrl Delay	27.1
HCM 6th LOS	C

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	0.2	0.2	0.0	0.0	0.1
Total Delay (hr)	0.3	0.0	0.1	2.6	0.4	0.2	0.2	3.9
Total Del/Veh (s)	22.4	0.2	1.2	31.1	25.2	2.9	4.0	10.5

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	85	291	437	33	9	58
Future Vol, veh/h	85	291	437	33	9	58
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	93	93	88	88
Heavy Vehicles, %	2	2	1	1	0	0
Mvmt Flow	93	320	470	35	10	66

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	505	0	-	0	994	489			
Stage 1	-	-	-	-	488	-			
Stage 2	-	-	-	-	506	-			
Critical Hdwy	4.12	-	-	-	6.4	6.2			
Critical Hdwy Stg 1	-	-	-	-	5.4	-			
Critical Hdwy Stg 2	-	-	-	-	5.4	-			
Follow-up Hdwy	2.218	-	-	-	3.5	3.3			
Pot Cap-1 Maneuver	1060	-	-	-	274	583			
Stage 1	-	-	-	-	621	-			
Stage 2	-	-	-	-	610	-			
Platoon blocked, %		-	-	-					
Mov Cap-1 Maneuver	1060	-	-	-	245	582			
Mov Cap-2 Maneuver	-	-	-	-	245	-			
Stage 1	-	-	-	-	555	-			
Stage 2	-	-	-	-	610	-			

Approach	EB	WB	SB
HCM Control Delay, s	2	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1060	-	-	-	491
HCM Lane V/C Ratio	0.088	-	-	-	0.155
HCM Control Delay (s)	8.7	0	-	-	13.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.5

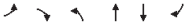
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	62	264	0	386	0	0	0	0	0	455	111
Future Volume (Veh/h)	0	62	264	0	386	0	0	0	0	0	455	111
Sign Control		Stop			Yield			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92	0.95	0.95	0.95
Hourly flow rate (vph)	0	67	287	0	406	0	0	0	0	0	479	117
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	740	538	298	560	596	0	596			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	740	538	298	560	596	0	596			0		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	85	59	100	3	100	100			100		
cM capacity (veh/h)	33	449	698	215	417	1088	976			1629		

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	67	287	406	319	277
Volume Left	0	0	0	0	0
Volume Right	0	287	0	0	117
cSH	449	698	417	1700	1700
Volume to Capacity	0.15	0.41	0.97	0.19	0.16
Queue Length 95th (ft)	13	50	291	0	0
Control Delay (s)	14.4	13.7	69.2	0.0	0.0
Lane LOS	B	B	F		
Approach Delay (s)	13.8		69.2	0.0	
Approach LOS	B		F		

Intersection Summary					
Average Delay	24.3				
Intersection Capacity Utilization	67.6%	ICU Level of Service		C	
Analysis Period (min)	15				

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

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



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	62	0	386	664	0	0
Future Volume (Veh/h)	62	0	386	664	0	0
Sign Control	Yield			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	68	0	406	699	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	1162	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	829	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	66	100	75			
cM capacity (veh/h)	199	1091	1629			

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	68	639	466
Volume Left	68	406	0
Volume Right	0	0	0
cSH	199	1629	1700
Volume to Capacity	0.34	0.25	0.27
Queue Length 95th (ft)	36	25	0
Control Delay (s)	32.2	5.9	0.0
Lane LOS	D	A	
Approach Delay (s)	32.2	3.4	
Approach LOS	D		

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	68.9%	ICU Level of Service	C
Analysis Period (min)	15		

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

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

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	304	557	493	317	352	367
Future Volume (veh/h)	304	557	493	317	352	367
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1969	1969
Adj Flow Rate, veh/h	323	593	524	337	383	399
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	451	290	465	1814
Arrive On Green	0.36	0.36	0.20	0.20	0.20	0.49
Sat Flow, veh/h	1890	1682	2301	1414	1875	3839
Grp Volume(v), veh/h	323	593	449	412	383	399
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1730	1875	1870
Q Serve(g_s), s	10.6	3.3	16.4	16.4	11.6	4.9
Cycle Q Clear(g_c), s	10.6	3.3	16.4	16.4	11.6	4.9
Prop In Lane	1.00	1.00		0.82	1.00	
Lane Grp Cap(c), veh/h	676	938	386	355	465	1814
V/C Ratio(X)	0.48	0.63	1.16	1.16	0.82	0.22
Avail Cap(c_a), veh/h	676	938	386	355	465	1814
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	19.9	12.1	31.8	31.8	28.9	11.9
Incr Delay (d2), s/veh	2.4	3.2	97.4	99.9	15.2	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	4.8	7.0	17.4	16.2	8.0	1.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.3	15.3	129.2	131.7	44.1	12.2
LnGrp LOS	C	B	F	F	D	B
Approach Vol, veh/h	916		861			782
Approach Delay, s/veh	17.8		130.4			27.8
Approach LOS	B		F			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 (g_c+I1), s	13.6	18.4			6.9	12.6
Green Ext Time (p_c), s	0.3	0.0			2.7	3.1

Intersection Summary	
HCM 6th Ctrl Delay	58.7
HCM 6th LOS	E

HCM 6th TWSC
1: Wing Street & Randolph Street

Existing Conditions #2 (Both Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	93	123	5	56	88	8
Future Vol, veh/h	93	123	5	56	88	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	-
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	98	129	8	93	114	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	227	0	272	163
Stage 1	-	-	-	-	163	-
Stage 2	-	-	-	-	109	-
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	-	-	1341	-	713	877
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	911	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1341	-	709	877
Mov Cap-2 Maneuver	-	-	-	-	709	-
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	906	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	721	-	-	1341	-
HCM Lane V/C Ratio	0.173	-	-	0.006	-
HCM Control Delay (s)	11	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

HCM 6th TWSC
2: Center Street & Randolph Street/Private Drive

Existing Conditions #2 (Both Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	2	79	4	0	5	15	308	1	5	368	46
Future Vol, veh/h	20	2	79	4	0	5	15	308	1	5	368	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	4	4	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	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	30	3	120	5	0	7	16	338	1	7	533	67

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	960	961	572	1017	994	343	605	0	0	343	0	0
Stage 1	586	586	-	375	375	-	-	-	-	-	-	-
Stage 2	374	375	-	642	619	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	237	257	522	218	247	704	973	-	-	1216	-	-
Stage 1	498	499	-	650	621	-	-	-	-	-	-	-
Stage 2	649	619	-	466	483	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	230	249	520	163	239	701	968	-	-	1211	-	-
Mov Cap-2 Maneuver	230	249	-	163	239	-	-	-	-	-	-	-
Stage 1	488	494	-	637	608	-	-	-	-	-	-	-
Stage 2	632	606	-	354	478	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19	18.2	0.4	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	968	-	-	409	284	1211	-	-
HCM Lane V/C Ratio	0.017	-	-	0.374	0.042	0.006	-	-
HCM Control Delay (s)	8.8	-	-	19	18.2	8	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.7	0.1	0	-	-

HCM 6th AWSC
3: Wing Street & Dunlap Street

Existing Conditions #2 (Both Closed)
AM Peak Hour

Intersection	
Intersection Delay, s/veh	13.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	77	1	201	64	12	6	84	173	13	115	0
Future Vol, veh/h	0	77	1	201	64	12	6	84	173	13	115	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	99	1	275	88	16	7	100	206	15	131	0
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	10	15.7	12.4	10.8
HCM LOS	A	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	73%	10%
Vol Thru, %	32%	99%	23%	90%
Vol Right, %	66%	1%	4%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	263	78	277	128
LT Vol	6	0	201	13
Through Vol	84	77	64	115
RT Vol	173	1	12	0
Lane Flow Rate	313	100	379	145
Geometry Grp	1	1	1	1
Degree of Util (X)	0.45	0.162	0.575	0.237
Departure Headway (Hd)	5.179	5.814	5.451	5.869
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	692	614	660	609
Service Time	3.231	3.875	3.494	3.93
HCM Lane V/C Ratio	0.452	0.163	0.574	0.238
HCM Control Delay	12.4	10	15.7	10.8
HCM Lane LOS	B	A	C	B
HCM 95th-tile Q	2.3	0.6	3.7	0.9

HCM 6th AWSC
4: Dunlap Street & Center Street

Existing Conditions #2 (Both Closed)
AM Peak Hour

Intersection	
Intersection Delay, s/veh	13.4
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	206	65	46	118	193	258
Future Vol, veh/h	206	65	46	118	193	258
Peak Hour Factor	0.88	0.88	0.85	0.85	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	234	74	54	139	247	331
Number of Lanes	1	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	13.9	11.6	13.7
HCM LOS	B	B	B

Lane	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	28%	0%	0%
Vol Right, %	0%	0%	72%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	206	65	164	193	258
LT Vol	206	0	0	193	0
Through Vol	0	65	46	0	0
RT Vol	0	0	118	0	258
Lane Flow Rate	234	74	193	247	331
Geometry Grp	7	7	4	7	7
Degree of Util (X)	0.448	0.131	0.315	0.45	0.491
Departure Headway (Hd)	6.886	6.378	5.875	6.552	5.339
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	524	562	612	549	675
Service Time	4.627	4.119	3.914	4.289	3.076
HCM Lane V/C Ratio	0.447	0.132	0.315	0.45	0.49
HCM Control Delay	15.1	10.1	11.6	14.6	13.1
HCM Lane LOS	C	B	B	B	B
HCM 95th-tile Q	2.3	0.4	1.3	2.3	2.7

HCM 6th TWSC
5: Dunlap Street & Hutton Street

Existing Conditions #2 (Both Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	252	220	57	48	7
Future Vol, veh/h	4	252	220	57	48	7
Conflicting Peds, #/hr	0	0	0	0	5	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	84	84	74	74
Heavy Vehicles, %	3	3	2	2	0	0
Mvmt Flow	4	271	262	68	65	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	330	0	-	0	580	301
Stage 1	-	-	-	-	296	-
Stage 2	-	-	-	-	284	-
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
Pot Cap-1 Maneuver	1224	-	-	-	480	743
Stage 1	-	-	-	-	759	-
Stage 2	-	-	-	-	769	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1224	-	-	-	478	739
Mov Cap-2 Maneuver	-	-	-	-	478	-
Stage 1	-	-	-	-	756	-
Stage 2	-	-	-	-	769	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	13.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1224	-	-	-	500
HCM Lane V/C Ratio	0.004	-	-	-	0.149
HCM Control Delay (s)	8	0	-	-	13.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5

HCM 6th AWSC
6: Wing Street & Main Street

Existing Conditions #2 (Both Closed)
AM Peak Hour

Intersection	
Intersection Delay, s/veh	12.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	77	53	49	2	29	63	14	147	4	46	230	38
Future Vol, veh/h	77	53	49	2	29	63	14	147	4	46	230	38
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	95	65	60	3	38	83	15	158	4	59	295	49
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	11.6	9.8	10.7	15.1
HCM LOS	B	A	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	43%	2%	15%
Vol Thru, %	89%	30%	31%	73%
Vol Right, %	2%	27%	67%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	165	179	94	314
LT Vol	14	77	2	46
Through Vol	147	53	29	230
RT Vol	4	49	63	38
Lane Flow Rate	177	221	124	403
Geometry Grp	1	1	1	1
Degree of Util (X)	0.275	0.345	0.189	0.577
Departure Headway (Hd)	5.576	5.623	5.502	5.164
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	642	639	649	696
Service Time	3.624	3.672	3.558	3.202
HCM Lane V/C Ratio	0.276	0.346	0.191	0.579
HCM Control Delay	10.7	11.6	9.8	15.1
HCM Lane LOS	B	B	A	C
HCM 95th-tile Q	1.1	1.5	0.7	3.7

HCM 6th AWSC
7: Center Street & Main Street

Existing Conditions #2 (Both Closed)
AM Peak Hour

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	115	0	0	0	111	0	0	0	0	0
Future Vol, veh/h	0	0	115	0	0	0	111	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	139	0	0	0	144	0	0	0	0	0
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		7.3	0	8.3	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	111	115	0	0
LT Vol	111	0	0	0
Through Vol	0	0	0	0
RT Vol	0	115	0	0
Lane Flow Rate	144	139	0	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0.175	0.138	0	0
Departure Headway (Hd)	4.376	3.584	4.404	4.29
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	819	981	0	0
Service Time	2.406	1.676	2.404	2.362
HCM Lane V/C Ratio	0.176	0.142	0	0
HCM Control Delay	8.3	7.3	7.4	7.4
HCM Lane LOS	A	A	N	N
HCM 95th-tile Q	0.6	0.5	0	0

HCM 6th AWSC
8: Hutton Street & Main Street

Existing Conditions #2 (Both Closed)
AM Peak Hour

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	167	110	57	233	67
Future Vol, veh/h	23	167	110	57	233	67
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	217	138	71	248	71
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	10.2	10.5	11.8
HCM LOS	B	B	B

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	66%	0%	0%	0%	100%
Vol Right, %	34%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	167	23	167	233	67
LT Vol	0	23	0	233	0
Through Vol	110	0	0	0	67
RT Vol	57	0	167	0	0
Lane Flow Rate	209	30	217	248	71
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.299	0.053	0.312	0.406	0.107
Departure Headway (Hd)	5.152	6.387	5.175	5.899	5.395
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	691	557	688	605	658
Service Time	3.241	4.165	2.953	3.687	3.183
HCM Lane V/C Ratio	0.302	0.054	0.315	0.41	0.108
HCM Control Delay	10.5	9.5	10.3	12.7	8.8
HCM Lane LOS	B	A	B	B	A
HCM 95th-tile Q	1.3	0.2	1.3	2	0.4

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

Existing Conditions #2 (Both Closed)
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	193	9	9	194	117	16	176	14	65	120	64
Future Volume (veh/h)	25	193	9	9	194	117	16	176	14	65	120	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	1953	1953	1953	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	27	210	10	12	259	156	20	223	18	77	143	76
Peak Hour Factor	0.92	0.92	0.92	0.75	0.75	0.75	0.79	0.79	0.79	0.84	0.84	0.84
Percent Heavy Veh, %	3	3	3	4	4	4	2	2	2	2	2	2
Cap, veh/h	190	1409	67	77	1010	572	86	591	45	182	325	149
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	254	3041	145	30	2181	1234	63	1706	131	308	938	430
Grp Volume(v), veh/h	127	0	120	234	0	193	261	0	0	296	0	0
Grp Sat Flow(s),veh/h/ln	1690	0	1750	1916	0	1528	1900	0	0	1676	0	0
Q Serve(g_s), s	0.0	0.0	2.4	0.0	0.0	4.7	0.0	0.0	0.0	1.5	0.0	0.0
Cycle Q Clear(g_c), s	2.2	0.0	2.4	4.4	0.0	4.7	6.1	0.0	0.0	7.6	0.0	0.0
Prop In Lane	0.21		0.08	0.05		0.81	0.08		0.07	0.26		0.26
Lane Grp Cap(c), veh/h	856	0	811	951	0	708	723	0	0	657	0	0
V/C Ratio(X)	0.15	0.00	0.15	0.25	0.00	0.27	0.36	0.00	0.00	0.45	0.00	0.00
Avail Cap(c_a), veh/h	856	0	811	951	0	708	723	0	0	657	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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.2	0.0	9.3	9.8	0.0	9.9	14.8	0.0	0.0	15.2	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.4	0.6	0.0	1.0	1.4	0.0	0.0	2.2	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	0.9	0.0	0.9	1.8	0.0	1.6	2.6	0.0	0.0	3.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.6	0.0	9.7	10.4	0.0	10.8	16.2	0.0	0.0	17.4	0.0	0.0
LnGrp LOS	A	A	A	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		247			427			261			296	
Approach Delay, s/veh		9.6			10.6			16.2			17.4	
Approach LOS		A			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		33.4		26.6		33.4		26.6				
Change Period (Y+Rc), s		5.6		* 5.8		5.6		* 5.8				
Max Green Setting (Gmax), s		27.8		* 21		27.8		* 21				
Max Q Clear Time (g_c+I1), s		4.4		9.6		6.7		8.1				
Green Ext Time (p_c), s		1.5		1.3		2.7		1.1				

Intersection Summary	
HCM 6th Ctrl Delay	13.2
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

Existing Conditions #2 (Both Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	244	28	13	315	5	17
Future Vol, veh/h	244	28	13	315	5	17
Conflicting Peds, #/hr	0	8	8	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	0	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	77	77	60	60
Heavy Vehicles, %	4	4	5	5	0	0
Mvmt Flow	268	31	17	409	8	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	307	0	531	158
Stage 1	-	-	-	-	292	-
Stage 2	-	-	-	-	239	-
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
Pot Cap-1 Maneuver	-	-	1229	-	483	866
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	784	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1220	-	470	859
Mov Cap-2 Maneuver	-	-	-	-	470	-
Stage 1	-	-	-	-	732	-
Stage 2	-	-	-	-	770	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	723	-	-	1220	-
HCM Lane V/C Ratio	0.051	-	-	0.014	-
HCM Control Delay (s)	10.2	-	-	8	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Intersection Delay, s/veh	10.5
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	55	6	4	51	53	19	97	7	87	183	11
Future Vol, veh/h	15	55	6	4	51	53	19	97	7	87	183	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	87	10	5	62	65	21	108	8	107	226	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	9.5	9.2	9.3	11.9
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	20%	4%	31%
Vol Thru, %	79%	72%	47%	65%
Vol Right, %	6%	8%	49%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	123	76	108	281
LT Vol	19	15	4	87
Through Vol	97	55	51	183
RT Vol	7	6	53	11
Lane Flow Rate	137	121	132	347
Geometry Grp	1	1	1	1
Degree of Util (X)	0.192	0.176	0.183	0.461
Departure Headway (Hd)	5.047	5.256	5.001	4.78
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	704	676	709	746
Service Time	3.134	3.348	3.091	2.85
HCM Lane V/C Ratio	0.195	0.179	0.186	0.465
HCM Control Delay	9.3	9.5	9.2	11.9
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	0.7	0.6	0.7	2.4

Intersection	
Int Delay, s/veh	14.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	1	64	80	127	58	10	50	100	261	22	85	8
Future Vol, veh/h	1	64	80	127	58	10	50	100	261	22	85	8
Conflicting Peds, #/hr	2	0	0	0	0	2	3	0	0	2	0	3
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	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	73	91	165	75	13	53	106	278	29	113	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	577	672	122	612	538	249	127	0	0	386	0	0
Stage 1	180	180	-	353	353	-	-	-	-	-	-	-
Stage 2	397	492	-	259	185	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	431	380	935	404	448	787	1465	-	-	1167	-	-
Stage 1	826	754	-	662	629	-	-	-	-	-	-	-
Stage 2	633	551	-	744	745	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	343	350	932	289	413	784	1461	-	-	1165	-	-
Mov Cap-2 Maneuver	343	350	-	289	413	-	-	-	-	-	-	-
Stage 1	784	731	-	629	598	-	-	-	-	-	-	-
Stage 2	517	523	-	588	723	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.7	44.6	0.9	1.6
HCM LOS	B	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1461	-	-	534	329	1165	-	-
HCM Lane V/C Ratio	0.036	-	-	0.309	0.77	0.025	-	-
HCM Control Delay (s)	7.6	0	-	14.7	44.6	8.2	0	-
HCM Lane LOS	A	A	-	B	E	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.3	6.1	0.1	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	163	168	0	0	197	21	0	0	0	5	0	61
Future Vol, veh/h	163	168	0	0	197	21	0	0	0	5	0	61
Conflicting Peds, #/hr	7	0	0	0	0	7	0	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
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	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	2	2	2	2	6	6	6
Mvmt Flow	183	189	0	0	274	29	0	0	0	7	0	85

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	310	0	0	189	0	0	886	865	196	858	851	296
Stage 1	-	-	-	-	-	-	555	555	-	296	296	-
Stage 2	-	-	-	-	-	-	331	310	-	562	555	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.12	6.52	6.22	7.16	6.56	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.16	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.16	5.56	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.518	4.018	3.318	3.554	4.054	3.354
Pot Cap-1 Maneuver	1256	-	-	1391	-	-	265	292	845	273	293	734
Stage 1	-	-	-	-	-	-	516	513	-	704	661	-
Stage 2	-	-	-	-	-	-	682	659	-	505	507	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1248	-	-	1391	-	-	205	242	839	235	243	729
Mov Cap-2 Maneuver	-	-	-	-	-	-	205	242	-	235	243	-
Stage 1	-	-	-	-	-	-	431	429	-	584	656	-
Stage 2	-	-	-	-	-	-	603	654	-	419	424	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.1	0	0	11.7
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1248	-	-	1391	-	-	629
HCM Lane V/C Ratio	-	0.147	-	-	-	-	-	0.146
HCM Control Delay (s)	0	8.4	0	-	0	-	-	11.7
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.5	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	
Traffic Vol, veh/h	0	173	147	0	48	71
Future Vol, veh/h	0	173	147	0	48	71
Conflicting Peds, #/hr	3	0	0	3	0	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	81	81	64	64	76	76
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	0	214	230	0	63	93

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	444	232
Stage 1	-	-	-	-	230	-
Stage 2	-	-	-	-	214	-
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
Pot Cap-1 Maneuver	0	-	-	0	575	812
Stage 1	0	-	-	0	813	-
Stage 2	0	-	-	0	826	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	575	810
Mov Cap-2 Maneuver	-	-	-	-	575	-
Stage 1	-	-	-	-	813	-
Stage 2	-	-	-	-	826	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.7
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	695
HCM Lane V/C Ratio	-	-	0.225
HCM Control Delay (s)	-	-	11.7
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.9

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	175	26	20	0	9	0	18	31	4	4	14	120
Future Vol, veh/h	175	26	20	0	9	0	18	31	4	4	14	120
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
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	208	31	24	0	15	0	29	49	6	5	18	158

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	225	220	97	245	296	52	176	0	0	55	0	0
Stage 1	107	107	-	110	110	-	-	-	-	-	-	-
Stage 2	118	113	-	135	186	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	733	680	962	713	619	1021	1388	-	-	1556	-	-
Stage 1	901	809	-	900	808	-	-	-	-	-	-	-
Stage 2	889	804	-	873	750	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	705	662	962	657	603	1021	1388	-	-	1556	-	-
Mov Cap-2 Maneuver	705	662	-	657	603	-	-	-	-	-	-	-
Stage 1	881	806	-	880	790	-	-	-	-	-	-	-
Stage 2	853	786	-	815	747	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.9	11.1	2.6	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1388	-	-	717	603	1556	-	-
HCM Lane V/C Ratio	0.021	-	-	0.367	0.025	0.003	-	-
HCM Control Delay (s)	7.6	0	-	12.9	11.1	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.7	0.1	0	-	-

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)	0.1	0.4	3.7	1.8

Intersection	
Int Delay, s/veh	3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	23	11	4	25	28	6
Future Vol, veh/h	23	11	4	25	28	6
Conflicting Peds, #/hr	0	1	1	0	1	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	61	61	71	71
Heavy Vehicles, %	0	0	5	5	3	3
Mvmt Flow	28	13	7	41	39	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	42	0	92	39
Stage 1	-	-	-	-	36	-
Stage 2	-	-	-	-	56	-
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
Pot Cap-1 Maneuver	-	-	1548	-	906	1030
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	964	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1547	-	900	1026
Mov Cap-2 Maneuver	-	-	-	-	900	-
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	958	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	920	-	-	1547	-
HCM Lane V/C Ratio	0.052	-	-	0.004	-
HCM Control Delay (s)	9.1	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	26	20	347	267	9
Future Vol, veh/h	3	26	20	347	267	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	30	24	408	307	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	568	163	321	0	-	0
Stage 1	316	-	-	-	-	-
Stage 2	252	-	-	-	-	-
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	-	-	-
Pot Cap-1 Maneuver	458	859	1221	-	-	-
Stage 1	718	-	-	-	-	-
Stage 2	773	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	442	856	1216	-	-	-
Mov Cap-2 Maneuver	442	-	-	-	-	-
Stage 1	696	-	-	-	-	-
Stage 2	770	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1216	-	780	-	-
HCM Lane V/C Ratio	0.019	-	0.043	-	-
HCM Control Delay (s)	8	0.1	9.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

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		0.1	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)	1.8	1.5	0.8	6.5	5.5	4.5	1.3	0.9		9.6	4.2	1.2

Intersection	
Intersection 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	82	2	45	113	8
Future Vol, veh/h	13	14	2	0	1	32	3	82	2	45	113	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	109	3	61	153	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	8	7.4	8.3	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	45%	0%	27%
Vol Thru, %	94%	48%	3%	68%
Vol Right, %	2%	7%	97%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	87	29	33	166
LT Vol	3	13	0	45
Through Vol	82	14	1	113
RT Vol	2	2	32	8
Lane Flow Rate	116	40	48	224
Geometry Grp	1	1	1	1
Degree of Util (X)	0.145	0.053	0.055	0.264
Departure Headway (Hd)	4.511	4.773	4.136	4.235
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	798	754	869	834
Service Time	2.523	2.781	2.145	2.331
HCM Lane V/C Ratio	0.145	0.053	0.055	0.269
HCM Control Delay	8.3	8	7.4	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.2	0.2	1.1

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	0	48	0	0	0	30	423	0	0	333	3
Future Vol, veh/h	13	0	48	0	0	0	30	423	0	0	333	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
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	92	92	92	95	95	95	77	77	77
Heavy Vehicles, %	3	3	3	2	2	2	1	1	1	2	2	2
Mvmt Flow	17	0	63	0	0	0	32	445	0	0	432	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	943	943	434	975	945	445	436	0	0	445	0	0
Stage 1	434	434	-	509	509	-	-	-	-	-	-	-
Stage 2	509	509	-	466	436	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.12	6.52	6.22	4.11	-	-	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	2.209	-	-	2.218	-	-
Pot Cap-1 Maneuver	242	262	620	231	262	613	1129	-	-	1115	-	-
Stage 1	598	579	-	547	538	-	-	-	-	-	-	-
Stage 2	545	536	-	577	580	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	235	252	620	201	252	613	1129	-	-	1115	-	-
Mov Cap-2 Maneuver	235	252	-	201	252	-	-	-	-	-	-	-
Stage 1	575	579	-	526	518	-	-	-	-	-	-	-
Stage 2	524	516	-	518	580	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.5	0	0.5	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1129	-	-	460	-	1115	-	-
HCM Lane V/C Ratio	0.028	-	-	0.174	-	-	-	-
HCM Control Delay (s)	8.3	0	-	14.5	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	-	0	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	343	3	7	196	69	2	4	13	93	3	19
Future Vol, veh/h	14	343	3	7	196	69	2	4	13	93	3	19
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	3	3	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	-
Grade, %	-	0	-	-	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	18	429	4	8	220	78	3	5	16	109	4	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	300	0	0	433	0	0	755	783	434	758	746	261
Stage 1	-	-	-	-	-	-	467	467	-	277	277	-
Stage 2	-	-	-	-	-	-	288	316	-	481	469	-
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
Pot Cap-1 Maneuver	1261	-	-	1121	-	-	315	316	605	321	339	773
Stage 1	-	-	-	-	-	-	561	549	-	725	678	-
Stage 2	-	-	-	-	-	-	703	641	-	562	557	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1259	-	-	1121	-	-	298	309	603	302	331	772
Mov Cap-2 Maneuver	-	-	-	-	-	-	298	309	-	302	331	-
Stage 1	-	-	-	-	-	-	553	541	-	713	672	-
Stage 2	-	-	-	-	-	-	674	635	-	532	549	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.2	13.2	22.7
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	461	1259	-	-	1121	-	-	337
HCM Lane V/C Ratio	0.052	0.014	-	-	0.007	-	-	0.401
HCM Control Delay (s)	13.2	7.9	-	-	8.2	-	-	22.7
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	1.9

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

Existing Conditions #2 (Both Closed)
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	268	163	74	174	42	85	393	78	29	339	13
Future Volume (veh/h)	18	268	163	74	174	42	85	393	78	29	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
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	
Adj Sat Flow, veh/h/ln	1953	1953	1953	1922	1922	1922	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	21	312	190	84	198	48	92	427	85	40	464	18
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88	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	421	417	254	202	706	598	382	777	155	356	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
Sat Flow, veh/h	1124	1136	692	875	1922	1627	912	1593	317	888	1882	73
Grp Volume(v), veh/h	21	0	502	84	198	48	92	0	512	40	0	482
Grp Sat Flow(s),veh/h/ln	1124	0	1828	875	1922	1627	912	0	1911	888	0	1955
Q Serve(g_s), s	1.1	0.0	19.2	7.4	5.8	1.5	6.1	0.0	15.0	2.6	0.0	13.4
Cycle Q Clear(g_c), s	6.9	0.0	19.2	26.6	5.8	1.5	19.5	0.0	15.0	17.7	0.0	13.4
Prop In Lane	1.00		0.38	1.00		1.00	1.00		0.17	1.00		0.04
Lane Grp Cap(c), veh/h	421	0	672	202	706	598	382	0	931	356	0	953
V/C Ratio(X)	0.05	0.00	0.75	0.42	0.28	0.08	0.24	0.00	0.55	0.11	0.00	0.51
Avail Cap(c_a), veh/h	421	0	672	202	706	598	382	0	931	356	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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.3	0.0	22.1	33.6	17.8	16.5	20.6	0.0	14.4	20.5	0.0	13.9
Incr Delay (d2), s/veh	0.2	0.0	7.4	6.2	1.0	0.3	1.5	0.0	2.3	0.6	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
%ile BackOfQ(50%),veh/ln	0.3	0.0	9.0	1.9	2.6	0.6	1.4	0.0	6.4	0.6	0.0	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	0.0	29.5	39.9	18.8	16.8	22.1	0.0	16.7	21.2	0.0	15.9
LnGrp LOS	C	A	C	D	B	B	C	A	B	C	A	B
Approach Vol, veh/h		523			330			604			522	
Approach Delay, s/veh		29.1			23.9			17.5			16.3	
Approach LOS		C			C			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+I1), s		21.5		21.2		19.7		28.6				
Green Ext Time (p_c), s		3.5		2.1		3.1		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			21.3									
HCM 6th LOS			C									

SimTraffic Performance Report

Existing Conditions #2 (Both Closed)
AM 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 (s)	0.1	0.0	0.0	0.2	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)	11.2	0.2	0.6	14.3	8.9	2.7	3.9	4.1

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

Existing Conditions #2 (Both Closed)
AM Peak Hour

Intersection						
Int Delay, s/veh	0.8					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	257	198	12	5	10
Future Vol, veh/h	22	257	198	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
Storage Length	-	-	-	-	0	-
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	289	222	13	8	17

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	237	0	-	0	570	234
Stage 1	-	-	-	-	231	-
Stage 2	-	-	-	-	339	-
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
Pot Cap-1 Maneuver	1324	-	-	-	475	793
Stage 1	-	-	-	-	796	-
Stage 2	-	-	-	-	711	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1321	-	-	-	462	789
Mov Cap-2 Maneuver	-	-	-	-	462	-
Stage 1	-	-	-	-	776	-
Stage 2	-	-	-	-	710	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1321	-	-	-	638
HCM Lane V/C Ratio	0.019	-	-	-	0.039
HCM Control Delay (s)	7.8	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

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

Existing Conditions #2 (Both Closed)
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	45	203	0	154	0	0	0	0	0	244	49
Future Volume (Veh/h)	0	45	203	0	154	0	0	0	0	0	244	49
Sign Control		Stop			Yield			Free			Free	
Grade		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	53	239	0	181	0	0	0	0	0	271	54
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	388	298	162	401	325	0	325				0	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	388	298	162	401	325	0	325				0	
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.1				4.2	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	100	91	72	100	69	100	100				100	
cM capacity (veh/h)	413	610	850	355	587	1078	1231				1614	

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	53	239	181	181	144
Volume Left	0	0	0	0	0
Volume Right	0	239	0	0	54
cSH	610	850	587	1700	1700
Volume to Capacity	0.09	0.28	0.31	0.11	0.08
Queue Length 95th (ft)	7	29	33	0	0
Control Delay (s)	11.5	10.9	13.8	0.0	0.0
Lane LOS	B	B	B		
Approach Delay (s)	11.0		13.8	0.0	
Approach LOS	B		B		

Intersection Summary												
Average Delay			7.2									
Intersection Capacity Utilization			41.2%		ICU Level of Service				A			
Analysis Period (min)			15									

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

Existing Conditions #2 (Both Closed)
AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	45	0	154	322	0	0
Future Volume (Veh/h)	45	0	154	322	0	0
Sign Control	Yield			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.92	0.92
Hourly flow rate (vph)	53	0	181	379	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						
vC, conflicting volume	552	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	552	0	0			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	87	100	89			
cM capacity (veh/h)	410	1081	1607			

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	53	307	253
Volume Left	53	181	0
Volume Right	0	0	0
cSH	410	1607	1700
Volume to Capacity	0.13	0.11	0.15
Queue Length 95th (ft)	11	9	0
Control Delay (s)	15.1	4.8	0.0
Lane LOS	C	A	
Approach Delay (s)	15.1	2.6	
Approach LOS	C		

Intersection Summary						
Average Delay			3.7			
Intersection Capacity Utilization			42.5%	ICU Level of Service		A
Analysis Period (min)			15			

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

Existing Conditions #2 (Both Closed)
AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	266	198	278	281	277	170
Future Volume (veh/h)	266	198	278	281	277	170
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1953	1953	1938	1938	1953	1953
Adj Flow Rate, veh/h	283	211	316	319	330	202
Peak Hour Factor	0.94	0.94	0.88	0.88	0.84	0.84
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	1642	1860	3809
Grp Volume(v), veh/h	283	211	316	319	330	202
Grp Sat Flow(s),veh/h/ln	1860	1655	1841	1642	1860	1856
Q Serve(g_s), s	9.2	0.0	13.2	15.3	9.1	2.4
Cycle Q Clear(g_c), s	9.2	0.0	13.2	15.3	9.1	2.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	665	923	377	337	462	1800
V/C Ratio(X)	0.43	0.23	0.84	0.95	0.71	0.11
Avail Cap(c_a), 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	30.5	31.4	28.0	11.2
Incr Delay (d2), s/veh	2.0	0.6	19.4	37.4	9.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	1.8	7.5	9.2	6.2	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.5	9.6	49.9	68.8	37.1	11.3
LnGrp LOS	C	A	D	E	D	B
Approach Vol, veh/h	494		635			532
Approach Delay, s/veh	16.4		59.4			27.3
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 (g_c+I1), s	11.1	17.3			4.4	11.2
Green Ext Time (p_c), s	0.5	0.0			1.3	1.4

Intersection Summary												
HCM 6th Ctrl Delay				36.3								
HCM 6th LOS				D								

Intersection	
Int Delay, s/veh	6.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	172	164	4	95	209	11
Future Vol, veh/h	172	164	4	95	209	11
Conflicting Peds, #/hr	0	11	11	0	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	81	81	78	78
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	198	189	5	117	268	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	398	0	431	308
Stage 1	-	-	-	-	304	-
Stage 2	-	-	-	-	127	-
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
Pot Cap-1 Maneuver	-	-	1172	-	583	734
Stage 1	-	-	-	-	751	-
Stage 2	-	-	-	-	901	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1160	-	574	724
Mov Cap-2 Maneuver	-	-	-	-	574	-
Stage 1	-	-	-	-	743	-
Stage 2	-	-	-	-	896	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	16.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	580	-	-	1160	-
HCM Lane V/C Ratio	0.486	-	-	0.004	-
HCM Control Delay (s)	16.9	-	-	8.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.7	-	-	0	-

Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	12	126	13	13	25	52	393	8	16	301	34
Future Vol, veh/h	45	12	126	13	13	25	52	393	8	16	301	34
Conflicting Peds, #/hr	2	0	5	5	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
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	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	54	14	150	14	14	27	60	452	9	22	412	47

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1094	1088	456	1156	1107	471	474	0	0	473	0	0
Stage 1	495	495	-	589	589	-	-	-	-	-	-	-
Stage 2	599	593	-	567	518	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	193	218	609	175	212	597	1099	-	-	1094	-	-
Stage 1	560	549	-	498	499	-	-	-	-	-	-	-
Stage 2	492	497	-	512	536	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	161	197	597	115	191	589	1083	-	-	1081	-	-
Mov Cap-2 Maneuver	161	197	-	115	191	-	-	-	-	-	-	-
Stage 1	521	530	-	465	467	-	-	-	-	-	-	-
Stage 2	429	465	-	364	518	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	34.3	25.9	1	0.4
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1083	-	-	332	228	1081	-	-
HCM Lane V/C Ratio	0.055	-	-	0.656	0.246	0.02	-	-
HCM Control Delay (s)	8.5	-	-	34.3	25.9	8.4	-	-
HCM Lane LOS	A	-	-	D	D	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	4.4	0.9	0.1	-	-

Intersection	
Intersection Delay, s/veh	21.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	72	11	178	98	25	9	195	207	27	138	3
Future Vol, veh/h	0	72	11	178	98	25	9	195	207	27	138	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	94	14	237	131	33	10	224	238	37	189	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	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	12	23.5	25.3	14.5
HCM LOS	B	C	D	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	59%	16%
Vol Thru, %	47%	87%	33%	82%
Vol Right, %	50%	13%	8%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	411	83	301	168
LT Vol	9	0	178	27
Through Vol	195	72	98	138
RT Vol	207	11	25	3
Lane Flow Rate	472	108	401	230
Geometry Grp	1	1	1	1
Degree of Util (X)	0.764	0.21	0.709	0.423
Departure Headway (Hd)	5.822	7.015	6.364	6.62
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	619	509	566	541
Service Time	3.877	5.099	4.422	4.69
HCM Lane V/C Ratio	0.763	0.212	0.708	0.425
HCM Control Delay	25.3	12	23.5	14.5
HCM Lane LOS	D	B	C	B
HCM 95th-tile Q	7	0.8	5.7	2.1

Intersection	
Intersection Delay, s/veh	16.9
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	243	95	118	210	219	221
Future Vol, veh/h	243	95	118	210	219	221
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	276	108	128	228	281	283
Number of Lanes	1	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	16.6	18.2	16.3
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	243	95	328	219	221
LT Vol	243	0	0	219	0
Through Vol	0	95	118	0	0
RT Vol	0	0	210	0	221
Lane Flow Rate	276	108	357	281	283
Geometry Grp	7	7	4	7	7
Degree of Util (X)	0.554	0.201	0.605	0.559	0.468
Departure Headway (Hd)	7.228	6.717	6.111	7.166	5.945
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	497	532	588	503	603
Service Time	4.999	4.488	4.173	4.929	3.708
HCM Lane V/C Ratio	0.555	0.203	0.607	0.559	0.469
HCM Control Delay	18.7	11.2	18.2	18.7	13.9
HCM Lane LOS	C	B	C	C	B
HCM 95th-tile Q	3.3	0.7	4	3.4	2.5

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	275	382	85	79	11
Future Vol, veh/h	14	275	382	85	79	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	-	-	-	-	0	-
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	15	299	415	92	89	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	526	0	-	0	819	500
Stage 1	-	-	-	-	480	-
Stage 2	-	-	-	-	339	-
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
Pot Cap-1 Maneuver	1051	-	-	-	346	573
Stage 1	-	-	-	-	624	-
Stage 2	-	-	-	-	724	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1032	-	-	-	328	552
Mov Cap-2 Maneuver	-	-	-	-	328	-
Stage 1	-	-	-	-	602	-
Stage 2	-	-	-	-	711	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	19.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1032	-	-	-	345
HCM Lane V/C Ratio	0.015	-	-	-	0.293
HCM Control Delay (s)	8.5	0	-	-	19.7
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	1.2

Intersection	
Intersection Delay, s/veh	16.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	64	43	71	13	37	102	37	291	6	33	223	32
Future Vol, veh/h	64	43	71	13	37	102	37	291	6	33	223	32
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	0	0	0
Mvmt Flow	78	52	87	16	46	128	41	320	7	43	293	42
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	13.5	12.5	18	18.2
HCM LOS	B	B	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	36%	9%	11%
Vol Thru, %	87%	24%	24%	77%
Vol Right, %	2%	40%	67%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	334	178	152	288
LT Vol	37	64	13	33
Through Vol	291	43	37	223
RT Vol	6	71	102	32
Lane Flow Rate	367	217	190	379
Geometry Grp	1	1	1	1
Degree of Util (X)	0.61	0.387	0.332	0.621
Departure Headway (Hd)	5.988	6.416	6.286	5.902
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	602	560	570	610
Service Time	4.038	4.472	4.344	3.95
HCM Lane V/C Ratio	0.61	0.388	0.333	0.621
HCM Control Delay	18	13.5	12.5	18.2
HCM Lane LOS	C	B	B	C
HCM 95th-tile Q	4.1	1.8	1.4	4.3

HCM 6th AWSC
7: Center Street & Main Street

Existing Conditions #2 (Both Closed)
PM Peak Hour

Intersection	
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	0	0	110	0	0	0	162	0	0	0	0	0
Future Vol, veh/h	0	0	110	0	0	0	162	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.90	0.92	0.92	0.92	0.78	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	122	0	0	0	208	0	0	0	0	0
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	0	8.8	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	162	110	0	0
LT Vol	162	0	0	0
Through Vol	0	0	0	0
RT Vol	0	110	0	0
Lane Flow Rate	208	122	0	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0.25	0.13	0	0
Departure Headway (Hd)	4.332	3.823	4.545	4.413
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	827	944	0	0
Service Time	2.373	1.823	2.549	2.413
HCM Lane V/C Ratio	0.252	0.129	0	0
HCM Control Delay	8.8	7.4	7.5	7.4
HCM Lane LOS	A	A	N	N
HCM 95th-tile Q	1	0.4	0	0

HCM 6th AWSC
8: Hutton Street & Main Street

Existing Conditions #2 (Both Closed)
PM Peak Hour

Intersection	
Intersection Delay, s/veh	13.5
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	46	326	141	24	258	96
Future Vol, veh/h	46	326	141	24	258	96
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	50	354	158	27	284	105
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	13.9	11.6	14.1
HCM LOS	B	B	B

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	85%	0%	0%	0%	100%
Vol Right, %	15%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	165	46	326	258	96
LT Vol	0	46	0	258	0
Through Vol	141	0	0	0	96
RT Vol	24	0	326	0	0
Lane Flow Rate	185	50	354	284	105
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.307	0.093	0.537	0.508	0.174
Departure Headway (Hd)	5.962	6.668	5.454	6.453	5.947
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	603	538	663	559	603
Service Time	4.002	4.405	3.191	4.189	3.682
HCM Lane V/C Ratio	0.307	0.093	0.534	0.508	0.174
HCM Control Delay	11.6	10.1	14.4	15.7	9.9
HCM Lane LOS	B	B	B	C	A
HCM 95th-tile Q	1.3	0.3	3.2	2.9	0.6

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

Existing 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)	48	256	21	10	278	242	15	232	17	164	207	85
Future Volume (veh/h)	48	256	21	10	278	242	15	232	17	164	207	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	1984	1984	1984	2000	2000	2000	2000	2000	2000
Adj Flow Rate, veh/h	52	278	23	11	296	257	17	264	19	173	218	89
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	232	1222	104	72	902	701	79	620	43	260	274	103
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	332	2638	224	21	1946	1514	46	1788	124	514	791	297
Grp Volume(v), veh/h	171	0	182	307	0	257	300	0	0	480	0	0
Grp Sat Flow(s),veh/h/ln	1418	0	1777	1967	0	1514	1958	0	0	1601	0	0
Q Serve(g_s), s	0.3	0.0	3.7	0.0	0.0	6.6	0.0	0.0	0.0	9.4	0.0	0.0
Cycle Q Clear(g_c), s	6.9	0.0	3.7	5.9	0.0	6.6	7.0	0.0	0.0	16.4	0.0	0.0
Prop In Lane	0.30		0.13	0.04		1.00	0.06		0.06	0.36		0.19
Lane Grp Cap(c), veh/h	735	0	823	974	0	701	742	0	0	637	0	0
V/C Ratio(X)	0.23	0.00	0.22	0.32	0.00	0.37	0.40	0.00	0.00	0.75	0.00	0.00
Avail Cap(c_a), veh/h	735	0	823	974	0	701	742	0	0	637	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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.5	0.0	9.6	10.2	0.0	10.4	15.1	0.0	0.0	17.8	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.6	0.8	0.0	1.5	1.6	0.0	0.0	8.1	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	1.3	0.0	1.4	2.5	0.0	2.2	3.1	0.0	0.0	6.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.2	0.0	10.2	11.1	0.0	11.9	16.7	0.0	0.0	25.9	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	C	A	A
Approach Vol, veh/h		353			564			300			480	
Approach Delay, s/veh		10.2			11.4			16.7			25.9	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	33.4	26.6	33.4	26.6
Change Period (Y+Rc), s	5.6	* 5.8	5.6	* 5.8
Max Green Setting (Gmax), s	27.8	* 21	27.8	* 21
Max Q Clear Time (g_c+I1), s	8.9	18.4	8.6	9.0
Green Ext Time (p_c), s	2.2	0.8	3.7	1.3

Intersection Summary	
HCM 6th Ctrl Delay	16.2
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

Existing Conditions #2 (Both Closed)
PM Peak Hour

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	395	42	21	516	14	34
Future Vol, veh/h	395	42	21	516	14	34
Conflicting Peds, #/hr	0	10	10	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	95	95	80	80
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	429	46	22	543	18	43

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	485	0	778	248
Stage 1	-	-	-	-	462	-
Stage 2	-	-	-	-	316	-
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
Pot Cap-1 Maneuver	-	-	1088	-	337	758
Stage 1	-	-	-	-	607	-
Stage 2	-	-	-	-	718	-
Platoon blocked, %	-	-				
Mov Cap-1 Maneuver	-	-	1078	-	324	751
Mov Cap-2 Maneuver	-	-	-	-	324	-
Stage 1	-	-	-	-	601	-
Stage 2	-	-	-	-	697	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	542	-	-	1078	-
HCM Lane V/C Ratio	0.111	-	-	0.021	-
HCM Control Delay (s)	12.5	-	-	8.4	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

HCM 6th AWSC
11: Wing Street & Cady Street

Existing Conditions #2 (Both Closed)
PM Peak Hour

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	42	12	14	42	95	10	215	17	64	228	15
Future Vol, veh/h	24	42	12	14	42	95	10	215	17	64	228	15
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	0	0	0
Mvmt Flow	29	51	14	16	47	106	11	239	19	72	256	17
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	9.8	10	11.3	12.7
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	31%	9%	21%
Vol Thru, %	89%	54%	28%	74%
Vol Right, %	7%	15%	63%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	242	78	151	307
LT Vol	10	24	14	64
Through Vol	215	42	42	228
RT Vol	17	12	95	15
Lane Flow Rate	269	94	168	345
Geometry Grp	1	1	1	1
Degree of Util (X)	0.381	0.15	0.246	0.482
Departure Headway (Hd)	5.104	5.732	5.27	5.031
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	704	625	681	717
Service Time	3.135	3.774	3.308	3.06
HCM Lane V/C Ratio	0.382	0.15	0.247	0.481
HCM Control Delay	11.3	9.8	10	12.7
HCM Lane LOS	B	A	A	B
HCM 95th-tile Q	1.8	0.5	1	2.6

HCM 6th TWSC
12: Center Street & Cady Street

Existing Conditions #2 (Both Closed)
PM Peak Hour

Intersection	
Int Delay, s/veh	91.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	70	71	225	58	5	58	131	292	45	101	16
Future Vol, veh/h	5	70	71	225	58	5	58	131	292	45	101	16
Conflicting Peds, #/hr	25	0	4	4	0	25	21	0	3	3	0	21
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	88	88	88	90	90	90	80	80	80
Heavy Vehicles, %	1	1	1	0	0	1	1	1	1	1	1	1
Mvmt Flow	6	89	90	256	66	6	64	146	324	56	126	20

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	766	870	161	781	718	336	167	0	0	473	0	0
Stage 1	269	269	-	439	439	-	-	-	-	-	-	-
Stage 2	497	601	-	342	279	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.11	-	-	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	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	321	291	887	315	357	711	1417	-	-	1094	-	-
Stage 1	739	688	-	601	582	-	-	-	-	-	-	-
Stage 2	557	491	-	677	683	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	232	251	866	~ 186	307	692	1389	-	-	1091	-	-
Mov Cap-2 Maneuver	232	251	-	~ 186	307	-	-	-	-	-	-	-
Stage 1	676	636	-	560	542	-	-	-	-	-	-	-
Stage 2	442	457	-	491	632	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.9	$ 331.8	0.9	2.4
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1389	-	-	382	205	1091	-	-
HCM Lane V/C Ratio	0.046	-	-	0.484	1.596	0.052	-	-
HCM Control Delay (s)	7.7	0	-	22.9	$ 331.8	8.5	0	-
HCM Lane LOS	A	A	-	C	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.5	21.1	0.2	-	-

Notes
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

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	190	240	0	0	208	22	0	0	0	19	0	82
Future Vol, veh/h	190	240	0	0	208	22	0	0	0	19	0	82
Conflicting Peds, #/hr	13	0	0	0	0	13	0	0	0	0	0	3
Sign Control	Free	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	95	92	92	92	63	63	63
Heavy Vehicles, %	1	1	1	0	0	0	2	2	2	1	1	1
Mvmt Flow	202	255	0	0	219	23	0	0	0	30	0	130

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	255	0	0	255	0	0	958	914	255	903	903	247
Stage 1	-	-	-	-	-	-	659	659	-	244	244	-
Stage 2	-	-	-	-	-	-	299	255	-	659	659	-
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
Pot Cap-1 Maneuver	1316	-	-	1322	-	-	237	273	784	259	278	794
Stage 1	-	-	-	-	-	-	453	461	-	762	706	-
Stage 2	-	-	-	-	-	-	710	696	-	454	462	-
Platoon blocked, %			-	-		-						
Mov Cap-1 Maneuver	1300	-	-	1322	-	-	170	221	784	220	225	782
Mov Cap-2 Maneuver	-	-	-	-	-	-	170	221	-	220	225	-
Stage 1	-	-	-	-	-	-	371	378	-	616	698	-
Stage 2	-	-	-	-	-	-	590	688	-	372	378	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.7	0	0	14.8
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1300	-	-	1322	-	-	528
HCM Lane V/C Ratio	-	0.155	-	-	-	-	-	0.304
HCM Control Delay (s)	0	8.3	0	-	0	-	-	14.8
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.6	-	-	0	-	-	1.3

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↕	
Traffic Vol, veh/h	0	259	213	0	26	17
Future Vol, veh/h	0	259	213	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	-	-	-	-	0	-
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	1	0	0
Mvmt Flow	0	273	237	0	36	24

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	510	238
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	273	-
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
Pot Cap-1 Maneuver	0	-	-	0	527	806
Stage 1	0	-	-	0	807	-
Stage 2	0	-	-	0	778	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	527	805
Mov Cap-2 Maneuver	-	-	-	-	527	-
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	778	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	610
HCM Lane V/C Ratio	-	-	0.098
HCM Control Delay (s)	-	-	11.5
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.3

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	215	29	41	1	10	7	18	42	0	1	52	185
Future Vol, veh/h	215	29	41	1	10	7	18	42	0	1	52	185
Conflicting Peds, #/hr	3	0	1	1	0	3	10	0	4	4	0	10
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	64	64	64	86	86	86	88	88	88
Heavy Vehicles, %	1	1	1	0	0	0	0	0	0	0	0	0
Mvmt Flow	226	31	43	2	16	11	21	49	0	1	59	210

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	284	271	175	299	376	56	279	0	0	53	0	0
Stage 1	176	176	-	95	95	-	-	-	-	-	-	-
Stage 2	108	95	-	204	281	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	670	637	871	657	558	1016	1295	-	-	1566	-	-
Stage 1	828	755	-	917	820	-	-	-	-	-	-	-
Stage 2	900	818	-	803	682	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	631	617	862	589	540	1009	1283	-	-	1560	-	-
Mov Cap-2 Maneuver	631	617	-	589	540	-	-	-	-	-	-	-
Stage 1	806	747	-	898	803	-	-	-	-	-	-	-
Stage 2	856	801	-	730	674	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.1	10.7	2.4	0
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1283	-	-	655	663	1560	-	-
HCM Lane V/C Ratio	0.016	-	-	0.458	0.042	0.001	-	-
HCM Control Delay (s)	7.9	0	-	15.1	10.7	7.3	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.4	0.1	0	-	-

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)	0.7	0.4	3.9	2.6

Intersection	
Int Delay, s/veh	3.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↱			↰	↕	
Traffic Vol, veh/h	45	49	5	16	44	7
Future Vol, veh/h	45	49	5	16	44	7
Conflicting Peds, #/hr	0	3	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	-	-	0	0	-
Peak Hour Factor	92	92	66	66	70	70
Heavy Vehicles, %	1	1	0	0	2	2
Mvmt Flow	49	53	8	24	63	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	105	0	122	89
Stage 1	-	-	-	-	79	-
Stage 2	-	-	-	-	43	-
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
Pot Cap-1 Maneuver	-	-	1499	-	873	969
Stage 1	-	-	-	-	944	-
Stage 2	-	-	-	-	979	-
Platoon blocked, %	-	-			-	
Mov Cap-1 Maneuver	-	-	1495	-	863	957
Mov Cap-2 Maneuver	-	-	-	-	863	-
Stage 1	-	-	-	-	941	-
Stage 2	-	-	-	-	971	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	875	-	-	1495	-
HCM Lane V/C Ratio	0.083	-	-	0.005	-
HCM Control Delay (s)	9.5	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↰			↑↑	↑↱	
Traffic Vol, veh/h	5	47	15	574	495	6
Future Vol, veh/h	5	47	15	574	495	6
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	80	80	90	90	95	95
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	6	59	17	638	521	6

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	881	268	531	0	-	0
Stage 1	528	-	-	-	-	-
Stage 2	353	-	-	-	-	-
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	-	-	-
Pot Cap-1 Maneuver	290	736	1040	-	-	-
Stage 1	562	-	-	-	-	-
Stage 2	688	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	280	733	1036	-	-	-
Mov Cap-2 Maneuver	280	-	-	-	-	-
Stage 1	546	-	-	-	-	-
Stage 2	685	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1036	-	634	-	-
HCM Lane V/C Ratio	0.016	-	0.103	-	-
HCM Control Delay (s)	8.5	0.1	11.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

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)	0.2	0.3	0.3	0.0	0.0	0.0	0.0	0.0		0.1	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)	3.5	1.0	0.7	9.6	4.7	1.6	1.3	1.2		12.5	3.9	1.4

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	5	1	0	9	79	1	117	3	54	159	13
Future Vol, veh/h	15	5	1	0	9	79	1	117	3	54	159	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	5	1	1	1	0	0	0
Mvmt Flow	18	6	1	0	10	87	1	170	4	59	175	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	8.4	8.1	8.7	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	71%	0%	24%
Vol Thru, %	97%	24%	10%	70%
Vol Right, %	2%	5%	90%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	121	21	88	226
LT Vol	1	15	0	54
Through Vol	117	5	9	159
RT Vol	3	1	79	13
Lane Flow Rate	175	25	97	248
Geometry Grp	1	1	1	1
Degree of Util (X)	0.217	0.036	0.119	0.303
Departure Headway (Hd)	4.452	5.171	4.425	4.386
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	807	691	809	820
Service Time	2.479	3.209	2.456	2.41
HCM Lane V/C Ratio	0.217	0.036	0.12	0.302
HCM Control Delay	8.7	8.4	8.1	9.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.1	0.4	1.3

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	0	56	0	0	0	80	509	0	0	366	8
Future Vol, veh/h	6	0	56	0	0	0	80	509	0	0	366	8
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	62	62	62	92	92	92	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	2	2	2	0	0	0	1	1	1
Mvmt Flow	10	0	90	0	0	0	85	541	0	0	389	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1110	1110	401	1152	1114	541	403	0	0	541	0	0
Stage 1	399	399	-	711	711	-	-	-	-	-	-	-
Stage 2	711	711	-	441	403	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.1	-	-	4.11	-	-
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	2.2	-	-	2.209	-	-
Pot Cap-1 Maneuver	188	211	653	175	208	541	1167	-	-	1033	-	-
Stage 1	631	606	-	424	436	-	-	-	-	-	-	-
Stage 2	427	439	-	595	600	-	-	-	-	-	-	-
Platoon blocked, %									-	-	-	-
Mov Cap-1 Maneuver	172	188	649	138	185	541	1161	-	-	1033	-	-
Mov Cap-2 Maneuver	172	188	-	138	185	-	-	-	-	-	-	-
Stage 1	562	603	-	379	390	-	-	-	-	-	-	-
Stage 2	382	393	-	511	597	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.7	0	1.1	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1161	-	-	512	-	1033	-	-
HCM Lane V/C Ratio	0.073	-	-	0.195	-	-	-	-
HCM Control Delay (s)	8.3	0	-	13.7	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.7	-	0	-	-

Intersection	
Int Delay, s/veh	15.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	327	3	13	471	98	4	3	7	136	5	19
Future Vol, veh/h	20	327	3	13	471	98	4	3	7	136	5	19
Conflicting Peds, #/hr	0	0	1	1	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
Storage Length	100	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	90	90	90	70	70	70	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	0	0	0	1	1	1
Mvmt Flow	24	385	4	14	523	109	6	4	10	166	6	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	632	0	0	390	0	0	1056	1096	393	1053	1044	578
Stage 1	-	-	-	-	-	-	436	436	-	606	606	-
Stage 2	-	-	-	-	-	-	620	660	-	447	438	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.1	6.5	6.2	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.5	4	3.3	3.509	4.009	3.309
Pot Cap-1 Maneuver	951	-	-	1169	-	-	205	215	660	205	230	517
Stage 1	-	-	-	-	-	-	603	583	-	486	488	-
Stage 2	-	-	-	-	-	-	479	463	-	593	580	-
Platoon blocked, %			-			-						
Mov Cap-1 Maneuver	951	-	-	1168	-	-	186	207	656	192	221	517
Mov Cap-2 Maneuver	-	-	-	-	-	-	186	207	-	192	221	-
Stage 1	-	-	-	-	-	-	587	568	-	474	482	-
Stage 2	-	-	-	-	-	-	446	457	-	562	565	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	17.9	95
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	300	951	-	-	1168	-	-	208
HCM Lane V/C Ratio	0.067	0.025	-	-	0.012	-	-	0.938
HCM Control Delay (s)	17.9	8.9	-	-	8.1	-	-	95
HCM Lane LOS	C	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	312	131	125	437	104	125	458	104	66	336	20
Future Volume (veh/h)	27	312	131	125	437	104	125	458	104	66	336	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	2000	1984	1984	1984	2000	2000	2000
Adj Flow Rate, veh/h	31	355	149	142	497	118	139	509	116	71	361	22
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	217	487	204	212	729	619	456	761	173	284	909	55
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	813	1325	556	900	1984	1686	1004	1560	356	812	1865	114
Grp Volume(v), veh/h	31	0	504	142	497	118	139	0	625	71	0	383
Grp Sat Flow(s),veh/h/ln	813	0	1881	900	1984	1686	1004	0	1916	812	0	1978
Q Serve(g_s), s	2.7	0.0	18.5	10.9	16.9	3.8	8.2	0.0	19.8	5.8	0.0	9.8
Cycle Q Clear(g_c), s	19.6	0.0	18.5	29.4	16.9	3.8	18.0	0.0	19.8	25.7	0.0	9.8
Prop In Lane	1.00		0.30	1.00		1.00	1.00		0.19	1.00		0.06
Lane Grp Cap(c), veh/h	217	0	691	212	729	619	456	0	934	284	0	964
V/C Ratio(X)	0.14	0.00	0.73	0.67	0.68	0.19	0.30	0.00	0.67	0.25	0.00	0.40
Avail Cap(c_a), veh/h	217	0	691	212	729	619	456	0	934	284	0	964
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	29.6	0.0	21.9	35.3	21.3	17.2	18.8	0.0	15.6	25.4	0.0	13.0
Incr Delay (d2), s/veh	1.4	0.0	6.6	15.5	5.1	0.7	1.7	0.0	3.8	2.1	0.0	1.2
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	0.6	0.0	8.8	3.6	8.3	1.5	2.0	0.0	8.7	1.2	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.0	0.0	28.5	50.8	26.4	17.9	20.5	0.0	19.4	27.5	0.0	14.3
LnGrp LOS	C	A	C	D	C	B	C	A	B	C	A	B
Approach Vol, veh/h		535			757			764			454	
Approach Delay, s/veh		28.7			29.7			19.6			16.3	
Approach LOS		C			C			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+I1), s	21.8	21.6	27.7	31.4
Green Ext Time (p_c), s	4.6	2.1	2.1	0.0

Intersection Summary	
HCM 6th Ctrl Delay	24.0
HCM 6th LOS	C

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	0.2	0.2	0.0	0.0	0.1
Total Delay (hr)	0.3	0.0	0.2	1.6	0.2	0.2	0.2	2.7
Total Del/Veh (s)	17.6	1.7	1.3	25.1	21.3	2.8	3.8	7.8

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

Existing Conditions #2 (Both Closed)
PM Peak Hour

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	29	303	467	22	6	48
Future Vol, veh/h	29	303	467	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
Storage Length	-	-	-	-	0	-
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	32	329	519	24	8	62

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	547	0	-	0	934	547
Stage 1	-	-	-	-	535	-
Stage 2	-	-	-	-	399	-
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
Pot Cap-1 Maneuver	1022	-	-	-	290	529
Stage 1	-	-	-	-	579	-
Stage 2	-	-	-	-	669	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1018	-	-	-	277	521
Mov Cap-2 Maneuver	-	-	-	-	277	-
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	666	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	13.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1018	-	-	-	475
HCM Lane V/C Ratio	0.031	-	-	-	0.148
HCM Control Delay (s)	8.6	0	-	-	13.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

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

Existing 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)	0	50	257	0	393	0	0	0	0	0	440	102
Future Volume (Veh/h)	0	50	257	0	393	0	0	0	0	0	440	102
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	55	282	0	418	0	0	0	0	0	463	107
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	726	516	285	541	570	0	570				0	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	726	516	285	541	570	0	570				0	
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	100	88	60	100	3	100	100				100	
cM capacity (veh/h)	37	461	712	234	432	1088	999				1629	

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	55	282	418	309	261
Volume Left	0	0	0	0	0
Volume Right	0	282	0	0	107
cSH	461	712	432	1700	1700
Volume to Capacity	0.12	0.40	0.97	0.18	0.15
Queue Length 95th (ft)	10	48	292	0	0
Control Delay (s)	13.9	13.3	66.8	0.0	0.0
Lane LOS	B	B	F		
Approach Delay (s)	13.4		66.8	0.0	
Approach LOS	B		F		

Intersection Summary				
Average Delay		24.5		
Intersection Capacity Utilization		63.4%	ICU Level of Service	B
Analysis Period (min)		15		

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

Existing Conditions #2 (Both Closed)
PM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	0	393	539	0	0
Future Volume (Veh/h)	50	0	393	539	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)	55	0	418	573	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	0.89					
vC, conflicting volume	1122	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	886	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	71	100	74			
cM capacity (veh/h)	188	1084	1629			

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	55	609	382
Volume Left	55	418	0
Volume Right	0	0	0
cSH	188	1629	1700
Volume to Capacity	0.29	0.26	0.22
Queue Length 95th (ft)	29	26	0
Control Delay (s)	32.0	6.2	0.0
Lane LOS	D	A	
Approach Delay (s)	32.0	3.8	
Approach LOS	D		

Intersection Summary				
Average Delay		5.3		
Intersection Capacity Utilization		64.8%	ICU Level of Service	C
Analysis Period (min)		15		

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

Existing Conditions #2 (Both Closed)
PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	347	497	435	336	340	357
Future Volume (veh/h)	347	497	435	336	340	357
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	399	571	458	354	358	376
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	416	320	468	1829
Arrive On Green	0.36	0.36	0.20	0.20	0.20	0.49
Sat Flow, veh/h	1890	1682	2126	1561	1890	3870
Grp Volume(v), veh/h	399	571	426	386	358	376
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1703	1890	1885
Q Serve(g_s), s	13.8	2.2	16.4	16.4	10.3	4.6
Cycle Q Clear(g_c), s	13.8	2.2	16.4	16.4	10.3	4.6
Prop In Lane	1.00	1.00		0.92	1.00	
Lane Grp Cap(c), veh/h	676	938	386	349	468	1829
V/C Ratio(X)	0.59	0.61	1.10	1.11	0.76	0.21
Avail Cap(c_a), veh/h	676	938	386	349	468	1829
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	20.9	11.9	31.8	31.8	28.4	11.8
Incr Delay (d2), s/veh	3.8	2.9	76.1	79.8	11.3	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	6.3	6.6	15.1	14.0	7.0	1.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.7	14.8	107.9	111.6	39.7	12.0
LnGrp LOS	C	B	F	F	D	B
Approach Vol, veh/h	970		812			734
Approach Delay, s/veh	18.9		109.7			25.5
Approach LOS	B		F			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 (g_c+I1), s	12.3	18.4				6.6	15.8
Green Ext Time (p_c), s	0.4	0.0				2.5	3.0

Intersection Summary		
HCM 6th Ctrl Delay		50.1
HCM 6th LOS		D

HCM 6th TWSC
1: Wing Street & Randolph Street

Existing Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	123	99	5	62	85	8
Future Vol, veh/h	123	99	5	62	85	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	-
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	129	104	8	103	110	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	233	0	300	181
Stage 1	-	-	-	-	181	-
Stage 2	-	-	-	-	119	-
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	-	-	1335	-	687	857
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	901	-
Platoon blocked, %	-	-			-	
Mov Cap-1 Maneuver	-	-	1335	-	683	857
Mov Cap-2 Maneuver	-	-	-	-	683	-
Stage 1	-	-	-	-	845	-
Stage 2	-	-	-	-	896	-

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)	695	-	-	1335	-
HCM Lane V/C Ratio	0.174	-	-	0.006	-
HCM Control Delay (s)	11.3	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

HCM 6th TWSC
2: Center Street & Randolph Street/Private Drive

Existing Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	2	110	4	0	5	24	527	1	5	397	43
Future Vol, veh/h	19	2	110	4	0	5	24	527	1	5	397	43
Conflicting Peds, #/hr	0	0	0	0	0	0	5	0	4	4	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	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	29	3	167	5	0	7	26	579	1	7	575	62

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1260	1261	611	1341	1292	584	642	0	0	584	0	0
Stage 1	625	625	-	636	636	-	-	-	-	-	-	-
Stage 2	635	636	-	705	656	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	148	171	496	131	165	515	943	-	-	991	-	-
Stage 1	474	479	-	469	475	-	-	-	-	-	-	-
Stage 2	468	473	-	430	465	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	141	164	494	83	158	513	939	-	-	987	-	-
Mov Cap-2 Maneuver	141	164	-	83	158	-	-	-	-	-	-	-
Stage 1	459	473	-	454	460	-	-	-	-	-	-	-
Stage 2	449	458	-	281	459	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	27.4	30.2	0.4	0.1
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	939	-	-	354	155	987	-	-
HCM Lane V/C Ratio	0.028	-	-	0.561	0.077	0.007	-	-
HCM Control Delay (s)	8.9	-	-	27.4	30.2	8.7	-	-
HCM Lane LOS	A	-	-	D	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	3.3	0.2	0	-	-

HCM 6th AWSC
3: Wing Street & Dunlap Street

Existing Conditions #3 (Main Closed)
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	76	1	22	63	45	6	48	59	24	80	0
Future Vol, veh/h	0	76	1	22	63	45	6	48	59	24	80	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	97	1	30	86	62	7	57	70	27	91	0
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	8.4	8.7	8.4	8.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	0%	17%	23%
Vol Thru, %	42%	99%	48%	77%
Vol Right, %	52%	1%	35%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	113	77	130	104
LT Vol	6	0	22	24
Through Vol	48	76	63	80
RT Vol	59	1	45	0
Lane Flow Rate	135	99	178	118
Geometry Grp	1	1	1	1
Degree of Util (X)	0.166	0.129	0.219	0.158
Departure Headway (Hd)	4.433	4.689	4.436	4.808
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	807	763	808	745
Service Time	2.469	2.728	2.471	2.846
HCM Lane V/C Ratio	0.167	0.13	0.22	0.158
HCM Control Delay	8.4	8.4	8.7	8.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.4	0.8	0.6

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

Existing 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)	75	65	9	9	56	118	10	359	96	109	326	76
Future Volume (veh/h)	75	65	9	9	56	118	10	359	96	109	326	76
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	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	
Adj Sat Flow, veh/h/ln	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	85	74	10	11	66	139	11	390	104	140	418	97
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	294	421	57	399	139	294	538	920	245	674	950	220
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	1.00	1.00	1.00	0.62	0.62	0.62
Sat Flow, veh/h	1173	1696	229	1306	562	1183	885	1496	399	902	1544	358
Grp Volume(v), veh/h	85	0	84	11	0	205	11	0	494	140	0	515
Grp Sat Flow(s),veh/h/ln	1173	0	1925	1306	0	1745	885	0	1895	902	0	1903
Q Serve(g_s), s	4.0	0.0	2.1	0.4	0.0	6.0	0.2	0.0	0.0	4.2	0.0	8.6
Cycle Q Clear(g_c), s	10.0	0.0	2.1	2.5	0.0	6.0	8.7	0.0	0.0	4.2	0.0	8.6
Prop In Lane	1.00		0.12	1.00		0.68	1.00		0.21	1.00		0.19
Lane Grp Cap(c), veh/h	294	0	478	399	0	433	538	0	1166	674	0	1170
V/C Ratio(X)	0.29	0.00	0.18	0.03	0.00	0.47	0.02	0.00	0.42	0.21	0.00	0.44
Avail Cap(c_a), veh/h	294	0	478	399	0	433	538	0	1166	674	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 Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.5	0.0	17.7	18.7	0.0	19.2	1.0	0.0	0.0	5.3	0.0	6.1
Incr Delay (d2), s/veh	2.5	0.0	0.8	0.1	0.0	3.7	0.1	0.0	1.1	0.7	0.0	1.2
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	1.3	0.0	1.0	0.1	0.0	2.7	0.0	0.0	0.4	0.8	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	0.0	18.5	18.8	0.0	22.9	1.1	0.0	1.1	6.0	0.0	7.3
LnGrp LOS	C	A	B	B	A	C	A	A	A	A	A	A
Approach Vol, veh/h		169			216			505			655	
Approach Delay, s/veh		22.3			22.7			1.1			7.0	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	41.0	19.0	41.0	19.0
Change Period (Y+Rc), s	* 4.1	* 4.1	* 4.1	* 4.1
Max Green Setting (Gmax), s	* 37	* 15	* 37	* 15
Max Q Clear Time (g_c+I1), s	10.7	12.0	10.6	8.0
Green Ext Time (p_c), s	3.7	0.2	4.8	0.7

Intersection Summary	
HCM 6th Ctrl Delay	8.9
HCM 6th LOS	A

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

HCM 6th TWSC
5: Dunlap Street & Hutton Street

Existing Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	252	210	54	48	7
Future Vol, veh/h	4	252	210	54	48	7
Conflicting Peds, #/hr	0	0	0	0	5	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	84	84	74	74
Heavy Vehicles, %	3	3	2	2	0	0
Mvmt Flow	4	271	250	64	65	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	314	0	-	0	566	287
Stage 1	-	-	-	-	282	-
Stage 2	-	-	-	-	284	-
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
Pot Cap-1 Maneuver	1241	-	-	-	489	757
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	769	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1241	-	-	-	487	753
Mov Cap-2 Maneuver	-	-	-	-	487	-
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	769	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	13.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1241	-	-	-	510
HCM Lane V/C Ratio	0.003	-	-	-	0.146
HCM Control Delay (s)	7.9	0	-	-	13.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.5

HCM 6th AWSC
6: Wing Street & Main Street

Existing Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	60	86	48	19	28	62	14	40	4	46	69	20
Future Vol, veh/h	60	86	48	19	28	62	14	40	4	46	69	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	74	106	59	25	37	82	15	43	4	59	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	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	9.7	8.5	8.6	9.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	24%	31%	17%	34%
Vol Thru, %	69%	44%	26%	51%
Vol Right, %	7%	25%	57%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	58	194	109	135
LT Vol	14	80	19	46
Through Vol	40	86	28	69
RT Vol	4	48	62	20
Lane Flow Rate	62	240	143	173
Geometry Grp	1	1	1	1
Degree of Util (X)	0.088	0.306	0.179	0.234
Departure Headway (Hd)	5.081	4.597	4.497	4.869
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	700	778	795	734
Service Time	3.145	2.642	2.546	2.923
HCM Lane V/C Ratio	0.089	0.308	0.18	0.236
HCM Control Delay	8.6	9.7	8.5	9.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	1.3	0.6	0.9

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

Existing Conditions #3 (Main Closed)
AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	57	79	4	408	299	45
Future Volume (veh/h)	57	79	4	408	299	45
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99	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	
Adj Sat Flow, veh/h/ln	1984	1984	1953	1953	1953	1953
Adj Flow Rate, veh/h	66	91	5	492	332	50
Peak Hour Factor	0.87	0.87	0.83	0.83	0.90	0.90
Percent Heavy Veh, %	1	1	3	3	3	3
Cap, veh/h	193	266	63	1086	926	139
Arrive On Green	0.26	0.26	0.56	0.56	1.00	1.00
Sat Flow, veh/h	732	1009	4	1945	1658	250
Grp Volume(v), veh/h	158	0	497	0	0	382
Grp Sat Flow(s),veh/h/ln	1752	0	1949	0	0	1908
Q Serve(g_s), s	4.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.4	0.0	9.0	0.0	0.0	0.0
Prop In Lane	0.42	0.58	0.01			0.13
Lane Grp Cap(c), veh/h	461	0	1149	0	0	1065
V/C Ratio(X)	0.34	0.00	0.43	0.00	0.00	0.36
Avail Cap(c_a), veh/h	461	0	1149	0	0	1065
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	17.9	0.0	7.8	0.0	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.0	1.2	0.0	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	3.5	0.0	0.0	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.9	0.0	9.0	0.0	0.0	0.9
LnGrp LOS	B	A	A	A	A	A
Approach Vol, veh/h	158			497	382	
Approach Delay, s/veh	19.9			9.0	0.9	
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+I1), s	11.0	6.4	2.0
Green Ext Time (p_c), s	3.5	0.3	2.7

Intersection Summary	
HCM 6th Ctrl Delay	7.7
HCM 6th LOS	A

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

HCM 6th AWSC
8: Hutton Street & Main Street

Existing Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	167	97	57	233	67
Future Vol, veh/h	23	167	97	57	233	67
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	217	121	71	248	71
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	10.1	10.2	11.8
HCM LOS	B	B	B

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	63%	0%	0%	0%	100%
Vol Right, %	37%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	154	23	167	233	67
LT Vol	0	23	0	233	0
Through Vol	97	0	0	0	67
RT Vol	57	0	167	0	0
Lane Flow Rate	192	30	217	248	71
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.274	0.053	0.31	0.405	0.106
Departure Headway (Hd)	5.132	6.349	5.138	5.88	5.376
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	693	561	694	607	661
Service Time	3.218	4.121	2.91	3.663	3.159
HCM Lane V/C Ratio	0.277	0.053	0.313	0.409	0.107
HCM Control Delay	10.2	9.5	10.2	12.7	8.8
HCM Lane LOS	B	A	B	B	A
HCM 95th-tile Q	1.1	0.2	1.3	2	0.4

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

Existing 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	193	9	9	194	117	16	146	14	65	120	64
Future Volume (veh/h)	25	193	9	9	194	117	16	146	14	65	120	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	1953	1953	1953	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	27	210	10	12	259	156	20	185	18	77	143	76
Peak Hour Factor	0.92	0.92	0.92	0.75	0.75	0.75	0.79	0.79	0.79	0.84	0.84	0.84
Percent Heavy Veh, %	3	3	3	4	4	4	2	2	2	2	2	2
Cap, veh/h	190	1409	67	77	1010	572	91	577	53	183	326	150
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	254	3041	145	30	2181	1234	73	1664	152	309	939	431
Grp Volume(v), veh/h	127	0	120	234	0	193	223	0	0	296	0	0
Grp Sat Flow(s),veh/h/ln	1690	0	1750	1916	0	1528	1889	0	0	1680	0	0
Q Serve(g_s), s	0.0	0.0	2.4	0.0	0.0	4.7	0.0	0.0	0.0	2.3	0.0	0.0
Cycle Q Clear(g_c), s	2.2	0.0	2.4	4.4	0.0	4.7	5.1	0.0	0.0	7.7	0.0	0.0
Prop In Lane	0.21		0.08	0.05		0.81	0.09		0.08	0.26		0.26
Lane Grp Cap(c), veh/h	856	0	811	951	0	708	720	0	0	658	0	0
V/C Ratio(X)	0.15	0.00	0.15	0.25	0.00	0.27	0.31	0.00	0.00	0.45	0.00	0.00
Avail Cap(c_a), veh/h	856	0	811	951	0	708	720	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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.2	0.0	9.3	9.8	0.0	9.9	14.5	0.0	0.0	15.2	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.4	0.6	0.0	1.0	1.1	0.0	0.0	2.2	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	0.9	0.0	0.9	1.8	0.0	1.6	2.2	0.0	0.0	3.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.6	0.0	9.7	10.4	0.0	10.8	15.6	0.0	0.0	17.5	0.0	0.0
LnGrp LOS	A	A	A	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		247			427			223			296	
Approach Delay, s/veh		9.6			10.6			15.6			17.5	
Approach LOS		A			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		33.4		26.6		33.4		26.6				
Change Period (Y+Rc), s		5.6		* 5.8		5.6		* 5.8				
Max Green Setting (Gmax), s		27.8		* 21		27.8		* 21				
Max Q Clear Time (g_c+I1), s		4.4		9.7		6.7		7.1				
Green Ext Time (p_c), s		1.5		1.3		2.7		1.0				

Intersection Summary	
HCM 6th Ctrl Delay	13.0
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

Existing Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	244	28	13	315	5	17
Future Vol, veh/h	244	28	13	315	5	17
Conflicting Peds, #/hr	0	8	8	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	77	77	60	60
Heavy Vehicles, %	4	4	5	5	0	0
Mvmt Flow	268	31	17	409	8	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	307	0	531	158
Stage 1	-	-	-	-	292	-
Stage 2	-	-	-	-	239	-
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
Pot Cap-1 Maneuver	-	-	1229	-	483	866
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	784	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1220	-	470	859
Mov Cap-2 Maneuver	-	-	-	-	470	-
Stage 1	-	-	-	-	732	-
Stage 2	-	-	-	-	770	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	723	-	-	1220	-
HCM Lane V/C Ratio	0.051	-	-	0.014	-
HCM Control Delay (s)	10.2	-	-	8	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

HCM 6th AWSC
11: Wing Street & Cady Street

Existing Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
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	46	6	4	33	8	18	35	7	33	92	11
Future Vol, veh/h	15	46	6	4	33	8	18	35	7	33	92	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	73	10	5	40	10	20	39	8	41	114	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	8.2	7.9	8	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	22%	9%	24%
Vol Thru, %	58%	69%	73%	68%
Vol Right, %	12%	9%	18%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	67	45	136
LT Vol	18	15	4	33
Through Vol	35	46	33	92
RT Vol	7	6	8	11
Lane Flow Rate	67	106	55	168
Geometry Grp	1	1	1	1
Degree of Util (X)	0.084	0.133	0.069	0.205
Departure Headway (Hd)	4.536	4.51	4.525	4.395
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	791	797	793	821
Service Time	2.556	2.53	2.546	2.402
HCM Lane V/C Ratio	0.085	0.133	0.069	0.205
HCM Control Delay	8	8.2	7.9	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.5	0.2	0.8

HCM 6th TWSC
12: Center Street & Cady Street

Existing Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	38.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	56	11	107	51	9	24	402	201	22	355	5
Future Vol, veh/h	1	56	11	107	51	9	24	402	201	22	355	5
Conflicting Peds, #/hr	2	0	0	0	0	2	3	0	2	2	0	3
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	82	82	82	90	90	90	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	2	2	2
Mvmt Flow	1	64	13	130	62	11	27	447	223	25	399	6

Major/Minor	Major2			Minor1			Major1			Major2		
Conflicting Flow All	1106	1181	405	1106	1073	563	408	0	0	672	0	0
Stage 1	455	455	-	615	615	-	-	-	-	-	-	-
Stage 2	651	726	-	491	458	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.13	-	-	4.12	-	-
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	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	190	192	650	190	222	530	1145	-	-	919	-	-
Stage 1	589	572	-	482	485	-	-	-	-	-	-	-
Stage 2	461	433	-	563	570	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	134	177	648	127	205	528	1142	-	-	917	-	-
Mov Cap-2 Maneuver	134	177	-	127	205	-	-	-	-	-	-	-
Stage 1	564	550	-	462	465	-	-	-	-	-	-	-
Stage 2	375	415	-	471	548	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	33.9	250.9	0.3	0.5
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1142	-	-	200	151	917	-	-
HCM Lane V/C Ratio	0.023	-	-	0.386	1.349	0.027	-	-
HCM Control Delay (s)	8.2	0	-	33.9	250.9	9	0	-
HCM Lane LOS	A	A	-	D	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.7	12.6	0.1	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

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

Existing Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	133	138	0	0	197	21	0	0	0	5	0	41
Future Vol, veh/h	133	138	0	0	197	21	0	0	0	5	0	41
Conflicting Peds, #/hr	7	0	0	0	0	7	0	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
Storage Length	-	-	-	-	-	-	-	-	-	-	0	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	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	6	6	6
Mvmt Flow	149	155	0	0	274	29	0	0	0	7	0	57

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	310	0	0	155	0	0	770	763	162	756	749	296
Stage 1	-	-	-	-	-	-	453	453	-	296	296	-
Stage 2	-	-	-	-	-	-	317	310	-	460	453	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.12	6.52	6.22	7.16	6.56	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.16	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.16	5.56	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.518	4.018	3.318	3.554	4.054	3.354
Pot Cap-1 Maneuver	1256	-	-	1431	-	-	318	334	883	320	336	734
Stage 1	-	-	-	-	-	-	586	570	-	704	661	-
Stage 2	-	-	-	-	-	-	694	659	-	574	563	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1248	-	-	1431	-	-	264	288	877	284	290	729
Mov Cap-2 Maneuver	-	-	-	-	-	-	264	288	-	284	290	-
Stage 1	-	-	-	-	-	-	509	495	-	608	656	-
Stage 2	-	-	-	-	-	-	640	654	-	495	489	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.1	0	0	11.4
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1248	-	-	1431	-	-	623
HCM Lane V/C Ratio	-	0.12	-	-	-	-	-	0.103
HCM Control Delay (s)	0	8.3	0	-	0	-	-	11.4
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.4	-	-	0	-	-	0.3

HCM 6th TWSC
14: Cady Street & Chruch Street

Existing Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	143	147	0	48	71
Future Vol, veh/h	0	143	147	0	48	71
Conflicting Peds, #/hr	3	0	0	3	0	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	81	81	64	64	76	76
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	0	177	230	0	63	93

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	407	232
Stage 1	-	-	-	-	230	-
Stage 2	-	-	-	-	177	-
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
Pot Cap-1 Maneuver	0	-	0	0	604	812
Stage 1	0	-	0	0	813	-
Stage 2	0	-	0	0	859	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	604	810
Mov Cap-2 Maneuver	-	-	-	-	604	-
Stage 1	-	-	-	-	813	-
Stage 2	-	-	-	-	859	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.5
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	712
HCM Lane V/C Ratio	-	-	0.22
HCM Control Delay (s)	-	-	11.5
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.8

15: Griswold Street & Cady Street

Intersection	
Int Delay, s/veh	6.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	145	26	20	0	9	0	18	31	4	4	14	120
Future Vol, veh/h	145	26	20	0	9	0	18	31	4	4	14	120
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
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	173	31	24	0	15	0	29	49	6	5	18	158

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	225	220	97	245	296	52	176	0	0	55	0	0
Stage 1	107	107	-	110	110	-	-	-	-	-	-	-
Stage 2	118	113	-	135	186	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	733	680	962	713	619	1021	1388	-	-	1556	-	-
Stage 1	901	809	-	900	808	-	-	-	-	-	-	-
Stage 2	889	804	-	873	750	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	705	662	962	657	603	1021	1388	-	-	1556	-	-
Mov Cap-2 Maneuver	705	662	-	657	603	-	-	-	-	-	-	-
Stage 1	881	806	-	880	790	-	-	-	-	-	-	-
Stage 2	853	786	-	815	747	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.3	11.1	2.6	0.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1388	-	-	719	603	1556	-	-
HCM Lane V/C Ratio	0.021	-	-	0.316	0.025	0.003	-	-
HCM Control Delay (s)	7.6	0	-	12.3	11.1	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.4	0.1	0	-	-

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

Movement	WBR	SBL	All
Denied Delay (hr)	0.0	0.0	0.0
Denied Del/Veh (s)	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0
Total Del/Veh (s)	0.3	3.7	1.6

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	23	11	4	25	28	6
Future Vol, veh/h	23	11	4	25	28	6
Conflicting Peds, #/hr	0	1	1	0	1	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	83	83	61	61	71	71
Heavy Vehicles, %	0	0	5	5	3	3
Mvmt Flow	28	13	7	41	39	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	42	0	92	39
Stage 1	-	-	-	-	36	-
Stage 2	-	-	-	-	56	-
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
Pot Cap-1 Maneuver	-	-	1548	-	906	1030
Stage 1	-	-	-	-	984	-
Stage 2	-	-	-	-	964	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1547	-	900	1026
Mov Cap-2 Maneuver	-	-	-	-	900	-
Stage 1	-	-	-	-	983	-
Stage 2	-	-	-	-	958	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	920	-	-	1547	-
HCM Lane V/C Ratio	0.052	-	-	0.004	-
HCM Control Delay (s)	9.1	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

18: Main Street/Northville Road & Beal Street

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	3	26	20	347	267	9
Future Vol, veh/h	3	26	20	347	267	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	30	24	408	307	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	568	163	321	0	-	0
Stage 1	316	-	-	-	-	-
Stage 2	252	-	-	-	-	-
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	-	-	-
Pot Cap-1 Maneuver	458	859	1221	-	-	-
Stage 1	718	-	-	-	-	-
Stage 2	773	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	442	856	1216	-	-	-
Mov Cap-2 Maneuver	442	-	-	-	-	-
Stage 1	696	-	-	-	-	-
Stage 2	770	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.8	0.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1216	-	780	-	-
HCM Lane V/C Ratio	0.019	-	0.043	-	-
HCM Control Delay (s)	8	0.1	9.8	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

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)	0.4	0.2	0.3	0.0	0.0	0.0	0.1	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	0.1	0.0	0.0	0.0	0.0	0.3
Total Del/Veh (s)	5.0	1.2	0.9	5.0	7.1	5.2	1.6	1.7	1.9	9.3	3.5	1.5

20: Wing Street & Fairbrook Street

Intersection	
Intersection Delay, s/veh	7.3
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	40	8
Future Vol, veh/h	13	9	2	0	1	12	3	28	2	8	40	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	12	3	0	1	17	4	37	3	11	54	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	7.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	54%	0%	14%
Vol Thru, %	85%	38%	8%	71%
Vol Right, %	6%	8%	92%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	33	24	13	56
LT Vol	3	13	0	8
Through Vol	28	9	1	40
RT Vol	2	2	12	8
Lane Flow Rate	44	33	19	76
Geometry Grp	1	1	1	1
Degree of Util (X)	0.052	0.038	0.019	0.085
Departure Headway (Hd)	4.216	4.179	3.576	4.034
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	847	849	988	886
Service Time	2.253	2.241	1.644	2.067
HCM Lane V/C Ratio	0.052	0.039	0.019	0.086
HCM Control Delay	7.5	7.4	6.7	7.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.1	0.3

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	0	11	0	0	0	11	596	0	0	401	2
Future Vol, veh/h	8	0	11	0	0	0	11	596	0	0	401	2
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
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
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	11	0	14	0	0	0	12	662	0	0	456	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1143	1143	457	1150	1144	662	458	0	0	662	0	0
Stage 1	457	457	-	686	686	-	-	-	-	-	-	-
Stage 2	686	686	-	464	458	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	176	199	602	175	200	462	1103	-	-	927	-	-
Stage 1	581	566	-	438	448	-	-	-	-	-	-	-
Stage 2	436	446	-	578	567	-	-	-	-	-	-	-
Platoon blocked, %											-	-
Mov Cap-1 Maneuver	174	196	602	169	197	462	1103	-	-	927	-	-
Mov Cap-2 Maneuver	174	196	-	169	197	-	-	-	-	-	-	-
Stage 1	571	566	-	431	440	-	-	-	-	-	-	-
Stage 2	429	438	-	564	567	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.3	0	0.2	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1103	-	-	296	-	927	-	-
HCM Lane V/C Ratio	0.011	-	-	0.084	-	-	-	-
HCM Control Delay (s)	8.3	0	-	18.3	0	0	-	-
HCM Lane LOS	A	A	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	-	0	-	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	340	3	7	222	24	2	4	13	21	3	18
Future Vol, veh/h	5	340	3	7	222	24	2	4	13	21	3	18
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	3	3	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	-
Grade, %	-	0	-	-	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	425	4	8	249	27	3	5	16	25	4	21

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	278	0	0	429	0	0	730	733	430	734	722	265
Stage 1	-	-	-	-	-	-	439	439	-	281	281	-
Stage 2	-	-	-	-	-	-	291	294	-	453	441	-
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
Pot Cap-1 Maneuver	1285	-	-	1125	-	-	328	338	609	333	351	769
Stage 1	-	-	-	-	-	-	581	565	-	721	675	-
Stage 2	-	-	-	-	-	-	700	655	-	582	574	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1283	-	-	1125	-	-	314	333	606	316	346	768
Mov Cap-2 Maneuver	-	-	-	-	-	-	314	333	-	316	346	-
Stage 1	-	-	-	-	-	-	578	562	-	716	669	-
Stage 2	-	-	-	-	-	-	672	649	-	557	571	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	12.9	14.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	477	1283	-	-	1125	-	-	426
HCM Lane V/C Ratio	0.05	0.005	-	-	0.007	-	-	0.116
HCM Control Delay (s)	12.9	7.8	-	-	8.2	-	-	14.6
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	271	63	31	190	69	50	498	63	67	332	13
Future Volume (veh/h)	40	271	63	31	190	69	50	498	63	67	332	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
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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	47	319	74	34	207	75	54	541	68	78	386	15
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	412	572	133	289	712	603	439	835	105	294	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
Sat Flow, veh/h	1105	1557	361	975	1938	1640	983	1714	215	812	1882	73
Grp Volume(v), veh/h	47	0	393	34	207	75	54	0	609	78	0	401
Grp Sat Flow(s),veh/h/ln	1105	0	1919	975	1938	1640	983	0	1929	812	0	1955
Q Serve(g_s), s	2.5	0.0	13.0	2.3	6.1	2.4	3.0	0.0	18.9	6.4	0.0	10.6
Cycle Q Clear(g_c), s	8.6	0.0	13.0	15.3	6.1	2.4	13.6	0.0	18.9	25.3	0.0	10.6
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.11	1.00		0.04
Lane Grp Cap(c), veh/h	412	0	705	289	712	603	439	0	941	294	0	953
V/C Ratio(X)	0.11	0.00	0.56	0.12	0.29	0.12	0.12	0.00	0.65	0.27	0.00	0.42
Avail Cap(c_a), veh/h	412	0	705	289	712	603	439	0	941	294	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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.0	0.0	20.1	26.2	17.9	16.8	17.6	0.0	15.4	24.8	0.0	13.2
Incr Delay (d2), s/veh	0.6	0.0	3.2	0.8	1.0	0.4	0.6	0.0	3.4	2.2	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 BackOfQ(50%),veh/ln	0.7	0.0	6.0	0.6	2.7	0.9	0.7	0.0	8.3	1.3	0.0	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.5	0.0	23.3	27.0	18.9	17.2	18.2	0.0	18.8	27.0	0.0	14.6
LnGrp LOS	C	A	C	C	B	B	B	A	B	C	A	B
Approach Vol, veh/h		440			316			663			479	
Approach Delay, s/veh		23.1			19.4			18.7			16.6	
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+I1), s		20.9		15.0		27.3		17.3				
Green Ext Time (p_c), s		4.1		2.2		2.2		1.2				

Intersection Summary	
HCM 6th Ctrl Delay	19.3
HCM 6th LOS	B

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	0.1	0.0
Total Delay (hr)	0.0	0.0	0.0	0.3	0.0	0.2	0.1	0.7
Total Del/Veh (s)	4.3	0.7	0.6	12.6	6.1	2.8	3.6	3.4

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	257	198	12	5	10
Future Vol, veh/h	22	257	198	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
Storage Length	-	-	-	-	0	-
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	289	222	13	8	17

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	237	0	-	0	570	234			
Stage 1	-	-	-	-	231	-			
Stage 2	-	-	-	-	339	-			
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			
Pot Cap-1 Maneuver	1324	-	-	-	475	793			
Stage 1	-	-	-	-	796	-			
Stage 2	-	-	-	-	711	-			
Platoon blocked, %		-	-	-					
Mov Cap-1 Maneuver	1321	-	-	-	462	789			
Mov Cap-2 Maneuver	-	-	-	-	462	-			
Stage 1	-	-	-	-	776	-			
Stage 2	-	-	-	-	710	-			

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1321	-	-	-	638
HCM Lane V/C Ratio	0.019	-	-	-	0.039
HCM Control Delay (s)	7.8	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	45	203	0	154	0	0	0	0	0	244	49
Future Volume (Veh/h)	0	45	203	0	154	0	0	0	0	0	244	49
Sign Control		Stop			Yield			Free			Free	
Grade		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	53	239	0	181	0	0	0	0	0	271	54
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	388	298	162	401	325	0	325			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	388	298	162	401	325	0	325			0		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	91	72	100	69	100	100			100		
cM capacity (veh/h)	413	610	850	355	587	1078	1231			1614		

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	53	239	181	181	144
Volume Left	0	0	0	0	0
Volume Right	0	239	0	54	
cSH	610	850	587	1700	1700
Volume to Capacity	0.09	0.28	0.31	0.11	0.08
Queue Length 95th (ft)	7	29	33	0	0
Control Delay (s)	11.5	10.9	13.8	0.0	0.0
Lane LOS	B	B	B		
Approach Delay (s)	11.0		13.8	0.0	
Approach LOS	B		B		

Intersection Summary					
Average Delay	7.2				
Intersection Capacity Utilization	41.2%	ICU Level of Service		A	
Analysis Period (min)	15				

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

Existing Conditions #3 (Main Closed)
AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	45	0	154	322	0	0
Future Volume (Veh/h)	45	0	154	322	0	0
Sign Control	Yield			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.92	0.92
Hourly flow rate (vph)	53	0	181	379	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						
vC, conflicting volume	552	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	552	0	0			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	87	100	89			
cM capacity (veh/h)	410	1081	1607			

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	53	307	253
Volume Left	53	181	0
Volume Right	0	0	0
cSH	410	1607	1700
Volume to Capacity	0.13	0.11	0.15
Queue Length 95th (ft)	11	9	0
Control Delay (s)	15.1	4.8	0.0
Lane LOS	C	A	
Approach Delay (s)	15.1	2.6	
Approach LOS	C		

Intersection Summary					
Average Delay	3.7				
Intersection Capacity Utilization	42.5%	ICU Level of Service		A	
Analysis Period (min)	15				

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

Existing Conditions #3 (Main Closed)
AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	266	198	278	281	277	170
Future Volume (veh/h)	266	198	278	281	277	170
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1953	1953	1938	1938	1953	1953
Adj Flow Rate, veh/h	283	211	316	319	330	202
Peak Hour Factor	0.94	0.94	0.88	0.88	0.84	0.84
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	1642	1860	3809
Grp Volume(v), veh/h	283	211	316	319	330	202
Grp Sat Flow(s),veh/h/ln	1860	1655	1841	1642	1860	1856
Q Serve(g_s), s	9.2	0.0	13.2	15.3	9.1	2.4
Cycle Q Clear(g_c), s	9.2	0.0	13.2	15.3	9.1	2.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	665	923	377	337	462	1800
V/C Ratio(X)	0.43	0.23	0.84	0.95	0.71	0.11
Avail Cap(c_a), 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	30.5	31.4	28.0	11.2
Incr Delay (d2), s/veh	2.0	0.6	19.4	37.4	9.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	1.8	7.5	9.2	6.2	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.5	9.6	49.9	68.8	37.1	11.3
LnGrp LOS	C	A	D	E	D	B
Approach Vol, veh/h	494		635		532	
Approach Delay, s/veh	16.4		59.4		27.3	
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 (g_c+I1), s	11.1	17.3			4.4	11.2
Green Ext Time (p_c), s	0.5	0.0			1.3	1.4

Intersection Summary		
HCM 6th Ctrl Delay	36.3	
HCM 6th LOS	D	

HCM 6th TWSC
1: Wing Street & Randolph Street

Existing Conditions #3 (Main Closed)
PM Peak Hour

Intersection	
Int Delay, s/veh	5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	238	92	4	93	167	11
Future Vol, veh/h	238	92	4	93	167	11
Conflicting Peds, #/hr	0	11	11	0	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	81	81	78	78
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	274	106	5	115	214	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	391	0	463	342
Stage 1	-	-	-	-	338	-
Stage 2	-	-	-	-	125	-
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
Pot Cap-1 Maneuver	-	-	1179	-	559	703
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	903	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1167	-	551	693
Mov Cap-2 Maneuver	-	-	-	-	551	-
Stage 1	-	-	-	-	718	-
Stage 2	-	-	-	-	898	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	15.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	558	-	-	1167	-
HCM Lane V/C Ratio	0.409	-	-	0.004	-
HCM Control Delay (s)	15.8	-	-	8.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2	-	-	0	-

HCM 6th TWSC
2: Center Street & Randolph Street/Private Drive

Existing Conditions #3 (Main Closed)
PM Peak Hour

Intersection	
Int Delay, s/veh	29.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	11	198	13	13	25	47	602	8	16	412	37
Future Vol, veh/h	40	11	198	13	13	25	47	602	8	16	412	37
Conflicting Peds, #/hr	2	0	5	5	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
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	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	48	13	236	14	14	27	54	692	9	22	564	51

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1476	1470	610	1580	1491	711	630	0	0	713	0	0
Stage 1	649	649	-	817	817	-	-	-	-	-	-	-
Stage 2	827	821	-	763	674	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	105	129	498	89	125	436	962	-	-	892	-	-
Stage 1	462	469	-	373	393	-	-	-	-	-	-	-
Stage 2	369	391	-	400	457	-	-	-	-	-	-	-
Platoon blocked, %											-	-
Mov Cap-1 Maneuver	82	116	489	39	112	430	948	-	-	882	-	-
Mov Cap-2 Maneuver	82	116	-	39	112	-	-	-	-	-	-	-
Stage 1	430	451	-	348	367	-	-	-	-	-	-	-
Stage 2	312	365	-	195	439	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	154.5	79.4	0.6	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	948	-	-	252	100	882	-	-
HCM Lane V/C Ratio	0.057	-	-	1.176	0.56	0.025	-	-
HCM Control Delay (s)	9	-	-	154.5	79.4	9.2	-	-
HCM Lane LOS	A	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	13.7	2.6	0.1	-	-

HCM 6th AWSC
3: Wing Street & Dunlap Street

Existing Conditions #3 (Main Closed)
PM Peak Hour

Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	71	11	61	97	41	9	137	83	44	49	3
Future Vol, veh/h	0	71	11	61	97	41	9	137	83	44	49	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	92	14	81	129	55	10	157	95	60	67	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	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	9.2	10.9	10.5	9.7
HCM LOS	A	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	0%	31%	46%
Vol Thru, %	60%	87%	49%	51%
Vol Right, %	36%	13%	21%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	229	82	199	96
LT Vol	9	0	61	44
Through Vol	137	71	97	49
RT Vol	83	11	41	3
Lane Flow Rate	263	106	265	132
Geometry Grp	1	1	1	1
Degree of Util (X)	0.35	0.155	0.364	0.196
Departure Headway (Hd)	4.787	5.247	4.936	5.353
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	740	687	719	673
Service Time	2.885	3.255	3.036	3.359
HCM Lane V/C Ratio	0.355	0.154	0.369	0.196
HCM Control Delay	10.5	9.2	10.9	9.7
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	1.6	0.5	1.7	0.7

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

Existing 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)	74	88	26	9	118	210	13	373	107	89	473	61
Future Volume (veh/h)	74	88	26	9	118	210	13	373	107	89	473	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	0.95		0.93	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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Adj Flow Rate, veh/h	84	100	30	10	128	228	14	405	116	114	606	78
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	0	0	0	0	0	0
Cap, veh/h	171	359	108	354	152	270	434	915	262	666	1065	137
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	1.00	1.00	1.00	0.62	0.62	0.62
Sat Flow, veh/h	1041	1447	434	1216	611	1089	769	1488	426	887	1732	223
Grp Volume(v), veh/h	84	0	130	10	0	356	14	0	521	114	0	684
Grp Sat Flow(s),veh/h/ln	1041	0	1881	1216	0	1701	769	0	1914	887	0	1955
Q Serve(g_s), s	3.0	0.0	3.3	0.4	0.0	11.9	0.4	0.0	0.0	3.4	0.0	12.4
Cycle Q Clear(g_c), s	14.9	0.0	3.3	3.8	0.0	11.9	12.8	0.0	0.0	3.4	0.0	12.4
Prop In Lane	1.00		0.23	1.00		0.64	1.00		0.22	1.00		0.11
Lane Grp Cap(c), veh/h	171	0	467	354	0	422	434	0	1177	666	0	1202
V/C Ratio(X)	0.49	0.00	0.28	0.03	0.00	0.84	0.03	0.00	0.44	0.17	0.00	0.57
Avail Cap(c_a), veh/h	171	0	467	354	0	422	434	0	1177	666	0	1202
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 Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.1	0.0	18.2	19.7	0.0	21.4	2.2	0.0	0.0	5.1	0.0	6.8
Incr Delay (d2), s/veh	9.7	0.0	1.5	0.1	0.0	18.2	0.1	0.0	1.2	0.6	0.0	2.0
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	1.6	0.0	1.6	0.1	0.0	6.6	0.0	0.0	0.4	0.6	0.0	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.8	0.0	19.7	19.9	0.0	39.6	2.3	0.0	1.2	5.7	0.0	8.8
LnGrp LOS	D	A	B	B	A	D	A	A	A	A	A	A
Approach Vol, veh/h		214			366			535			798	
Approach Delay, s/veh		27.2			39.1			1.2			8.3	
Approach LOS		C			D			A			A	

Timer - Assigned Phs		2		4		6		8	
Phs Duration (G+Y+Rc), s		41.0		19.0		41.0		19.0	
Change Period (Y+Rc), s		* 4.1		* 4.1		* 4.1		* 4.1	
Max Green Setting (Gmax), s		* 37		* 15		* 37		* 15	
Max Q Clear Time (g_c+I1), s		14.8		16.9		14.4		13.9	
Green Ext Time (p_c), s		3.8		0.0		6.1		0.2	

Intersection Summary		
HCM 6th Ctrl Delay	14.3	
HCM 6th LOS	B	

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.

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	275	382	85	79	11
Future Vol, veh/h	14	275	382	85	79	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	-	-	-	-	0	-
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	15	299	415	92	89	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	526	0	-	0	819	500
Stage 1	-	-	-	-	480	-
Stage 2	-	-	-	-	339	-
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
Pot Cap-1 Maneuver	1051	-	-	-	346	573
Stage 1	-	-	-	-	624	-
Stage 2	-	-	-	-	724	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1032	-	-	-	328	552
Mov Cap-2 Maneuver	-	-	-	-	328	-
Stage 1	-	-	-	-	602	-
Stage 2	-	-	-	-	711	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	19.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1032	-	-	-	345
HCM Lane V/C Ratio	0.015	-	-	-	0.293
HCM Control Delay (s)	8.5	0	-	-	19.7
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	1.2

Intersection	
Intersection Delay, s/veh	9.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	83	33	70	13	36	22	36	124	45	24	72	32
Future Vol, veh/h	83	33	70	13	36	22	36	124	45	24	72	32
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	0	0	0
Mvmt Flow	101	40	85	16	45	28	40	136	49	32	95	42
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	10	8.8	9.9	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	45%	18%	19%
Vol Thru, %	60%	18%	51%	56%
Vol Right, %	22%	38%	31%	25%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	205	186	71	128
LT Vol	36	83	13	24
Through Vol	124	33	36	72
RT Vol	45	70	22	32
Lane Flow Rate	225	227	89	168
Geometry Grp	1	1	1	1
Degree of Util (X)	0.3	0.304	0.123	0.226
Departure Headway (Hd)	4.799	4.832	5.008	4.839
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	743	737	708	734
Service Time	2.869	2.902	3.093	2.914
HCM Lane V/C Ratio	0.303	0.308	0.126	0.229
HCM Control Delay	9.9	10	8.8	9.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.3	1.3	0.4	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	28	48	8	465	485	23
Future Volume (veh/h)	28	48	8	465	485	23
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.94	0.99			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1984	1984	2000	2000	1984	1984
Adj Flow Rate, veh/h	31	54	8	489	511	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	159	278	66	1106	1049	49
Arrive On Green	0.26	0.26	0.56	0.56	1.00	1.00
Sat Flow, veh/h	605	1054	9	1980	1878	88
Grp Volume(v), veh/h	86	0	497	0	0	535
Grp Sat Flow(s),veh/h/ln	1679	0	1989	0	0	1966
Q Serve(g_s), s	2.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.4	0.0	8.8	0.0	0.0	0.0
Prop In Lane	0.36	0.63	0.02			0.04
Lane Grp Cap(c), veh/h	442	0	1171	0	0	1098
V/C Ratio(X)	0.19	0.00	0.42	0.00	0.00	0.49
Avail Cap(c_a), veh/h	442	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	1.1	0.0	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	3.5	0.0	0.0	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.1	0.0	8.9	0.0	0.0	1.5
LnGrp LOS	B	A	A	A	A	A
Approach Vol, veh/h	86			497	535	
Approach Delay, s/veh	18.1			8.9	1.5	
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+I1), s	10.8		4.4		2.0
Green Ext Time (p_c), s	3.5		0.1		4.1

Intersection Summary		
HCM 6th Ctrl Delay		6.1
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.

Intersection	
Intersection Delay, s/veh	13.5
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	46	326	141	24	258	96
Future Vol, veh/h	46	326	141	24	258	96
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	50	354	158	27	284	105
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	13.9	11.6	14.1
HCM LOS	B	B	B

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	85%	0%	0%	0%	100%
Vol Right, %	15%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	165	46	326	258	96
LT Vol	0	46	0	258	0
Through Vol	141	0	0	0	96
RT Vol	24	0	326	0	0
Lane Flow Rate	185	50	354	284	105
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.307	0.093	0.537	0.508	0.174
Departure Headway (Hd)	5.962	6.668	5.454	6.453	5.947
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	603	538	663	559	603
Service Time	4.002	4.405	3.191	4.189	3.682
HCM Lane V/C Ratio	0.307	0.093	0.534	0.508	0.174
HCM Control Delay	11.6	10.1	14.4	15.7	9.9
HCM Lane LOS	B	B	B	C	A
HCM 95th-tile Q	1.3	0.3	3.2	2.9	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	256	21	10	278	242	15	192	17	164	169	85
Future Volume (veh/h)	48	256	21	10	278	242	15	192	17	164	169	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	1984	1984	1984	2000	2000	2000	2000	2000	2000
Adj Flow Rate, veh/h	52	278	23	11	296	257	17	218	19	173	178	89
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	232	1222	104	72	902	701	82	604	50	281	251	114
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	332	2638	224	21	1946	1514	53	1742	145	569	725	328
Grp Volume(v), veh/h	171	0	182	307	0	257	254	0	0	440	0	0
Grp Sat Flow(s),veh/h/ln	1418	0	1777	1967	0	1514	1941	0	0	1622	0	0
Q Serve(g_s), s	0.3	0.0	3.7	0.0	0.0	6.6	0.0	0.0	0.0	8.1	0.0	0.0
Cycle Q Clear(g_c), s	6.9	0.0	3.7	5.9	0.0	6.6	5.8	0.0	0.0	13.9	0.0	0.0
Prop In Lane	0.30		0.13	0.04		1.00	0.07		0.07	0.39		0.20
Lane Grp Cap(c), veh/h	735	0	823	974	0	701	737	0	0	646	0	0
V/C Ratio(X)	0.23	0.00	0.22	0.32	0.00	0.37	0.34	0.00	0.00	0.68	0.00	0.00
Avail Cap(c_a), veh/h	735	0	823	974	0	701	737	0	0	646	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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.5	0.0	9.6	10.2	0.0	10.4	14.7	0.0	0.0	17.0	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.6	0.8	0.0	1.5	1.3	0.0	0.0	5.7	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 BackOfQ(50%),veh/ln	1.3	0.0	1.4	2.5	0.0	2.2	2.5	0.0	0.0	5.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.2	0.0	10.2	11.1	0.0	11.9	16.0	0.0	0.0	22.7	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	C	A	A
Approach Vol, veh/h		353			564			254			440	
Approach Delay, s/veh		10.2			11.4			16.0			22.7	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	2		4		6		8	
Phs Duration (G+Y+Rc), s	33.4		26.6		33.4		26.6	
Change Period (Y+Rc), s	5.6		* 5.8		5.6		* 5.8	
Max Green Setting (Gmax), s	27.8		* 21		27.8		* 21	
Max Q Clear Time (g_c+I1), s	8.9		15.9		8.6		7.8	
Green Ext Time (p_c), s	2.2		1.2		3.7		1.1	

Intersection Summary		
HCM 6th Ctrl Delay		15.0
HCM 6th LOS		B

Notes

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

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	395	42	21	516	14	34
Future Vol, veh/h	395	42	21	516	14	34
Conflicting Peds, #/hr	0	10	10	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	95	95	80	80
Heavy Vehicles, %	1	1	0	0	0	0
Mvmt Flow	429	46	22	543	18	43

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	485	0	778	248
Stage 1	-	-	-	-	462	-
Stage 2	-	-	-	-	316	-
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
Pot Cap-1 Maneuver	-	-	1088	-	337	758
Stage 1	-	-	-	-	607	-
Stage 2	-	-	-	-	718	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1078	-	324	751
Mov Cap-2 Maneuver	-	-	-	-	324	-
Stage 1	-	-	-	-	601	-
Stage 2	-	-	-	-	697	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	12.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	542	-	-	1078	-
HCM Lane V/C Ratio	0.111	-	-	0.021	-
HCM Control Delay (s)	12.5	-	-	8.4	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

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												
Traffic Vol, veh/h	24	41	11	14	33	49	10	132	17	63	77	15
Future Vol, veh/h	24	41	11	14	33	49	10	132	17	63	77	15
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	0	0	0
Mvmt Flow	29	49	13	16	37	54	11	147	19	71	87	17
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	8.5	8.3	8.9	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	32%	15%	41%
Vol Thru, %	83%	54%	34%	50%
Vol Right, %	11%	14%	51%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	159	76	96	155
LT Vol	10	24	14	63
Through Vol	132	41	33	77
RT Vol	17	11	49	15
Lane Flow Rate	177	92	107	174
Geometry Grp	1	1	1	1
Degree of Util (X)	0.223	0.122	0.135	0.222
Departure Headway (Hd)	4.534	4.815	4.547	4.592
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	790	743	786	780
Service Time	2.571	2.859	2.59	2.63
HCM Lane V/C Ratio	0.224	0.124	0.136	0.223
HCM Control Delay	8.9	8.5	8.3	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.9	0.4	0.5	0.8

Intersection	
Int Delay, s/veh	267.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	70	26	175	58	17	22	446	205	45	475	33
Future Vol, veh/h	10	70	26	175	58	17	22	446	205	45	475	33
Conflicting Peds, #/hr	25	0	4	4	0	25	21	0	3	3	0	21
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	88	88	88	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	0	0	0	1	1	1	1	1	1
Mvmt Flow	13	89	33	199	66	19	23	469	216	47	500	35

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1324	1367	543	1303	1276	605	556	0	0	688	0	0
Stage 1	633	633	-	626	626	-	-	-	-	-	-	-
Stage 2	691	734	-	677	650	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.11	-	-	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	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	134	148	542	~ 139	168	501	1020	-	-	911	-	-
Stage 1	470	475	-	475	480	-	-	-	-	-	-	-
Stage 2	436	427	-	446	468	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	73	129	529	~ 54	146	488	1000	-	-	908	-	-
Mov Cap-2 Maneuver	73	129	-	~ 54	146	-	-	-	-	-	-	-
Stage 1	443	431	-	455	480	-	-	-	-	-	-	-
Stage 2	337	409	-	307	424	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	116.1	$ 1554.5	0.3	0.7
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1000	-	-	145	68	908	-	-
HCM Lane V/C Ratio	0.023	-	-	0.925	4.178	0.052	-	-
HCM Control Delay (s)	8.7	0	-	116.1	1554.5	9.2	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	6.4	30.5	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	143	200	0	0	170	22	0	0	0	19	0	84
Future Vol, veh/h	143	200	0	0	170	22	0	0	0	19	0	84
Conflicting Peds, #/hr	13	0	0	0	0	13	0	0	0	0	0	3
Sign Control	Free	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	95	92	92	92	63	63	63
Heavy Vehicles, %	1	1	1	0	0	0	2	2	2	1	1	1
Mvmt Flow	152	213	0	0	179	23	0	0	0	30	0	133

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	215	0	0	213	0	0	777	732	213	721	721	207
Stage 1	-	-	-	-	-	-	517	517	-	204	204	-
Stage 2	-	-	-	-	-	-	260	215	-	517	517	-
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
Pot Cap-1 Maneuver	1361	-	-	1369	-	-	314	348	827	344	355	836
Stage 1	-	-	-	-	-	-	541	534	-	800	735	-
Stage 2	-	-	-	-	-	-	745	725	-	543	535	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1344	-	-	1369	-	-	237	300	827	307	306	823
Mov Cap-2 Maneuver	-	-	-	-	-	-	237	300	-	307	306	-
Stage 1	-	-	-	-	-	-	472	466	-	689	726	-
Stage 2	-	-	-	-	-	-	623	716	-	473	467	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.3	0	0	12.7
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1344	-	-	1369	-	-	628
HCM Lane V/C Ratio	-	0.113	-	-	-	-	-	0.26
HCM Control Delay (s)	0	8	0	-	0	-	-	12.7
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.4	-	-	0	-	-	1

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	219	175	0	26	17
Future Vol, veh/h	0	219	175	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	-	-	-	-	0	-
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	1	0	0
Mvmt Flow	0	231	194	0	36	24

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	425	195
Stage 1	-	-	-	-	194	-
Stage 2	-	-	-	-	231	-
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
Pot Cap-1 Maneuver	0	-	-	0	590	851
Stage 1	0	-	-	0	844	-
Stage 2	0	-	-	0	812	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	590	850
Mov Cap-2 Maneuver	-	-	-	-	590	-
Stage 1	-	-	-	-	844	-
Stage 2	-	-	-	-	812	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	671
HCM Lane V/C Ratio	-	-	0.089
HCM Control Delay (s)	-	-	10.9
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.3

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	175	29	41	1	10	7	18	42	0	1	52	147
Future Vol, veh/h	175	29	41	1	10	7	18	42	0	1	52	147
Conflicting Peds, #/hr	3	0	1	1	0	3	10	0	4	4	0	10
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	64	64	64	86	86	86	88	88	88
Heavy Vehicles, %	1	1	1	0	0	0	0	0	0	0	0	0
Mvmt Flow	184	31	43	2	16	11	21	49	0	1	59	167

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	263	250	154	278	333	56	236	0	0	53	0	0
Stage 1	155	155	-	95	95	-	-	-	-	-	-	-
Stage 2	108	95	-	183	238	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	692	655	895	678	590	1016	1343	-	-	1566	-	-
Stage 1	850	771	-	917	820	-	-	-	-	-	-	-
Stage 2	900	818	-	823	712	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	653	635	886	610	572	1009	1330	-	-	1560	-	-
Mov Cap-2 Maneuver	653	635	-	610	572	-	-	-	-	-	-	-
Stage 1	829	763	-	899	804	-	-	-	-	-	-	-
Stage 2	857	802	-	750	704	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.5	10.4	2.3	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1330	-	-	681	691	1560	-	-
HCM Lane V/C Ratio	0.016	-	-	0.379	0.041	0.001	-	-
HCM Control Delay (s)	7.8	0	-	13.5	10.4	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.8	0.1	0	-	-

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)	0.4	0.4	3.9	2.5

Intersection	
Int Delay, s/veh	3.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	45	49	5	16	44	7
Future Vol, veh/h	45	49	5	16	44	7
Conflicting Peds, #/hr	0	3	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	-	-	0	0	-
Peak Hour Factor	92	92	66	66	70	70
Heavy Vehicles, %	1	1	0	0	2	2
Mvmt Flow	49	53	8	24	63	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	105	0	122	89
Stage 1	-	-	-	-	79	-
Stage 2	-	-	-	-	43	-
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
Pot Cap-1 Maneuver	-	-	1499	-	873	969
Stage 1	-	-	-	-	944	-
Stage 2	-	-	-	-	979	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1495	-	863	957
Mov Cap-2 Maneuver	-	-	-	-	863	-
Stage 1	-	-	-	-	941	-
Stage 2	-	-	-	-	971	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	9.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	675	-	-	1495	-
HCM Lane V/C Ratio	0.083	-	-	0.005	-
HCM Control Delay (s)	9.5	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	47	15	574	495	6
Future Vol, veh/h	5	47	15	574	495	6
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	80	80	90	90	95	95
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	6	59	17	638	521	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	881	268	531	0	-	0
Stage 1	528	-	-	-	-	-
Stage 2	353	-	-	-	-	-
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	-	-	-
Pot Cap-1 Maneuver	290	736	1040	-	-	-
Stage 1	562	-	-	-	-	-
Stage 2	688	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	280	733	1036	-	-	-
Mov Cap-2 Maneuver	280	-	-	-	-	-
Stage 1	546	-	-	-	-	-
Stage 2	685	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.3	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1036	-	634	-	-
HCM Lane V/C Ratio	0.016	-	0.103	-	-
HCM Control Delay (s)	8.5	0.1	11.3	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

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)	0.1	0.4	0.4	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2
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)	2.1	1.2	0.9	8.5	4.6	1.7	1.3	1.5	4.6	16.6	14.1	1.5

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	6	1	0	9	105	1	89	3	35	54	13
Future Vol, veh/h	15	6	1	0	9	105	1	89	3	35	54	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	5	1	1	1	0	0	0
Mvmt Flow	18	7	1	0	10	115	1	129	4	38	59	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	7.7	8.2	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	68%	0%	34%
Vol Thru, %	96%	27%	8%	53%
Vol Right, %	3%	5%	92%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	93	22	114	102
LT Vol	1	15	0	35
Through Vol	89	6	9	54
RT Vol	3	1	105	13
Lane Flow Rate	135	27	125	112
Geometry Grp	1	1	1	1
Degree of Util (X)	0.163	0.035	0.14	0.136
Departure Headway (Hd)	4.364	4.785	4.021	4.365
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	828	750	894	824
Service Time	2.364	2.804	2.035	2.381
HCM Lane V/C Ratio	0.163	0.036	0.14	0.136
HCM Control Delay	8.2	8	7.7	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.1	0.5	0.5

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	40	0	0	0	106	622	0	0	612	8
Future Vol, veh/h	4	0	40	0	0	0	106	622	0	0	612	8
Conflicting Peds, #/hr	1	0	0	0	0	1	4	0	0	0	0	4
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	92	92	92	94	94	94	91	91	91
Heavy Vehicles, %	0	0	0	2	2	2	1	1	1	0	0	0
Mvmt Flow	5	0	49	0	0	0	113	662	0	0	673	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1571	1570	682	1590	1574	663	686	0	0	662	0	0
Stage 1	682	682	-	888	888	-	-	-	-	-	-	-
Stage 2	889	888	-	702	686	-	-	-	-	-	-	-
Critical Hdwy	7.1	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	-	-
Pot Cap-1 Maneuver	91	112	453	87	110	461	912	-	-	936	-	-
Stage 1	443	463	-	338	362	-	-	-	-	-	-	-
Stage 2	341	365	-	429	448	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	77	90	451	66	88	461	909	-	-	936	-	-
Mov Cap-2 Maneuver	77	90	-	66	88	-	-	-	-	-	-	-
Stage 1	354	451	-	271	291	-	-	-	-	-	-	-
Stage 2	274	293	-	383	446	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.9	0	1.4	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	909	-	-	313	-	936	-	-
HCM Lane V/C Ratio	0.124	-	-	0.171	-	-	-	-
HCM Control Delay (s)	9.5	0	-	18.9	0	0	-	-
HCM Lane LOS	A	A	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.6	-	0	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	431	3	13	512	71	4	3	7	32	5	18
Future Vol, veh/h	19	431	3	13	512	71	4	3	7	32	5	18
Conflicting Peds, #/hr	0	0	1	1	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
Storage Length	100	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	90	90	90	70	70	70	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	0	0	0	1	1	1
Mvmt Flow	22	507	4	14	569	79	6	4	10	39	6	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	648	0	0	512	0	0	1205	1230	515	1202	1193	609
Stage 1	-	-	-	-	-	-	554	554	-	637	637	-
Stage 2	-	-	-	-	-	-	651	676	-	565	556	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.1	6.5	6.2	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.5	4	3.3	3.509	4.009	3.309
Pot Cap-1 Maneuver	938	-	-	1053	-	-	162	179	564	162	188	497
Stage 1	-	-	-	-	-	-	520	517	-	467	473	-
Stage 2	-	-	-	-	-	-	461	456	-	511	514	-
Platoon blocked, %			-			-						
Mov Cap-1 Maneuver	938	-	-	1052	-	-	147	172	561	151	181	497
Mov Cap-2 Maneuver	-	-	-	-	-	-	147	172	-	151	181	-
Stage 1	-	-	-	-	-	-	508	505	-	456	467	-
Stage 2	-	-	-	-	-	-	429	450	-	484	502	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.2	21	32
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	245	938	-	-	1052	-	-	199
HCM Lane V/C Ratio	0.082	0.024	-	-	0.014	-	-	0.337
HCM Control Delay (s)	21	8.9	-	-	8.5	-	-	32
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	1.4

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

Existing 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	324	114	95	448	123	108	573	93	65	547	40
Future Volume (veh/h)	32	324	114	95	448	123	108	573	93	65	547	40
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
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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	2000	2000	2000	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	36	360	127	100	472	129	114	603	98	69	582	43
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	232	515	182	227	735	622	290	811	132	237	890	66
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	824	1401	494	923	2000	1693	806	1664	270	751	1825	135
Grp Volume(v), veh/h	36	0	487	100	472	129	114	0	701	69	0	625
Grp Sat Flow(s),veh/h/ln	824	0	1895	923	2000	1693	806	0	1935	751	0	1960
Q Serve(g_s), s	3.0	0.0	17.5	8.3	15.6	4.2	9.9	0.0	23.3	6.5	0.0	19.2
Cycle Q Clear(g_c), s	18.7	0.0	17.5	25.8	15.6	4.2	29.1	0.0	23.3	29.8	0.0	19.2
Prop In Lane	1.00		0.26	1.00		1.00	1.00		0.14	1.00		0.07
Lane Grp Cap(c), veh/h	232	0	696	227	735	622	290	0	943	237	0	955
V/C Ratio(X)	0.16	0.00	0.70	0.44	0.64	0.21	0.39	0.00	0.74	0.29	0.00	0.65
Avail Cap(c_a), veh/h	232	0	696	227	735	622	290	0	943	237	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(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	28.7	0.0	21.5	32.5	20.9	17.3	26.4	0.0	16.5	28.5	0.0	15.4
Incr Delay (d2), s/veh	1.4	0.0	5.8	6.1	4.3	0.8	4.0	0.0	5.3	3.1	0.0	3.5
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	8.3	2.2	7.6	1.7	2.1	0.0	10.5	1.3	0.0	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.1	0.0	27.3	38.6	25.2	18.1	30.4	0.0	21.8	31.5	0.0	18.9
LnGrp LOS	C	A	C	D	C	B	C	A	C	C	A	B
Approach Vol, veh/h		523			701			815			694	
Approach Delay, s/veh		27.5			25.8			23.0			20.2	
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+I1), s		31.1		20.7		31.8		27.8				
Green Ext Time (p_c), s		3.3		2.2		2.6		0.7				
Intersection Summary												
HCM 6th Ctrl Delay			23.9									
HCM 6th LOS			C									

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

Existing Conditions #3 (Main Closed)
PM 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 (s)	0.0	0.0	0.0	0.2	0.2	0.0	0.0	0.0
Total Delay (hr)	0.4	0.0	0.1	1.6	0.3	0.2	0.2	2.9
Total Del/Veh (s)	21.8	1.3	1.2	25.5	21.3	3.0	4.3	8.2

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

Existing Conditions #3 (Main Closed)
PM Peak Hour

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	29	303	467	22	6	48
Future Vol, veh/h	29	303	467	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
Storage Length	-	-	-	-	0	-
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	6	6	
Mvmt Flow	32	329	519	24	8	62

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	547	0	-	0	934	547
Stage 1	-	-	-	-	535	-
Stage 2	-	-	-	-	399	-
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
Pot Cap-1 Maneuver	1022	-	-	-	290	529
Stage 1	-	-	-	-	579	-
Stage 2	-	-	-	-	669	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1018	-	-	-	277	521
Mov Cap-2 Maneuver	-	-	-	-	277	-
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	666	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	13.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1018	-	-	-	475
HCM Lane V/C Ratio	0.031	-	-	-	0.148
HCM Control Delay (s)	8.6	0	-	-	13.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

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

Existing 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)	0	50	257	0	393	0	0	0	0	0	440	102
Future Volume (Veh/h)	0	50	257	0	393	0	0	0	0	0	440	102
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	55	282	0	418	0	0	0	0	0	463	107
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	726	516	285	541	570	0	570			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	726	516	285	541	570	0	570			0		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	88	60	100	3	100	100			100		
cM capacity (veh/h)	37	461	712	234	432	1088	999			1629		
Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2							
Volume Total	55	282	418	309	261							
Volume Left	0	0	0	0	0							
Volume Right	0	282	0	0	107							
cSH	461	712	432	1700	1700							
Volume to Capacity	0.12	0.40	0.97	0.18	0.15							
Queue Length 95th (ft)	10	48	292	0	0							
Control Delay (s)	13.9	13.3	66.8	0.0	0.0							
Lane LOS	B	B	F									
Approach Delay (s)	13.4		66.8	0.0								
Approach LOS	B		F									
Intersection Summary												
Average Delay			24.5									
Intersection Capacity Utilization			63.4%	ICU Level of Service						B		
Analysis Period (min)			15									

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

Existing Conditions #3 (Main Closed)
PM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	0	393	539	0	0
Future Volume (Veh/h)	50	0	393	539	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)	55	0	418	573	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	0.89					
vC, conflicting volume	1122	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	886	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	71	100	74			
cM capacity (veh/h)	188	1084	1629			
Direction, Lane #	EB 1	NB 1	NB 2			
Volume Total	55	609	382			
Volume Left	55	418	0			
Volume Right	0	0	0			
cSH	188	1629	1700			
Volume to Capacity	0.29	0.26	0.22			
Queue Length 95th (ft)	29	26	0			
Control Delay (s)	32.0	6.2	0.0			
Lane LOS	D	A				
Approach Delay (s)	32.0	3.8				
Approach LOS	D					
Intersection Summary						
Average Delay			5.3			
Intersection Capacity Utilization			64.8%	ICU Level of Service		C
Analysis Period (min)			15			

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

Existing Conditions #3 (Main Closed)
PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations							
Traffic Volume (veh/h)	347	497	435	336	340	357	
Future Volume (veh/h)	347	497	435	336	340	357	
Initial Q (Qb), veh	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	1984	
Adj Flow Rate, veh/h	399	571	458	354	358	376	
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	416	320	468	1829	
Arrive On Green	0.36	0.36	0.20	0.20	0.20	0.49	
Sat Flow, veh/h	1890	1682	2126	1561	1890	3870	
Grp Volume(v), veh/h	399	571	426	386	358	376	
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1703	1890	1885	
Q Serve(g_s), s	13.8	2.2	16.4	16.4	10.3	4.6	
Cycle Q Clear(g_c), s	13.8	2.2	16.4	16.4	10.3	4.6	
Prop In Lane	1.00	1.00		0.92	1.00		
Lane Grp Cap(c), veh/h	676	938	386	349	468	1829	
V/C Ratio(X)	0.59	0.61	1.10	1.11	0.76	0.21	
Avail Cap(c_a), veh/h	676	938	386	349	468	1829	
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	20.9	11.9	31.8	31.8	28.4	11.8	
Incr Delay (d2), s/veh	3.8	2.9	76.1	79.8	11.3	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	6.3	6.6	15.1	14.0	7.0	1.8	
Unsig. Movement Delay, s/veh							
LnGrp Delay(d),s/veh	24.7	14.8	107.9	111.6	39.7	12.0	
LnGrp LOS	C	B	F	F	D	B	
Approach Vol, veh/h	970		812			734	
Approach Delay, s/veh	18.9		109.7			25.5	
Approach LOS	B		F			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 (g_c+I1), s	12.3	18.4				6.6	15.8
Green Ext Time (p_c), s	0.4	0.0				2.5	3.0
Intersection Summary							
HCM 6th Ctrl Delay			50.1				
HCM 6th LOS			D				

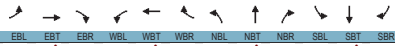
HCM 6th Signalized Intersection Summary — Existing Conditions #1 (Pre-COVID) w/ IMP
2: Center Street & Randolph Street/Private Drive — AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	2	125	4	0	6	27	484	1	6	452	49
Future Volume (veh/h)	22	2	125	4	0	6	27	484	1	6	452	49
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
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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	2000	2000	2000	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	33	3	189	5	0	8	30	532	1	9	655	71
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	0	2	2	2	2	2	2
Cap, veh/h	95	19	236	161	34	178	444	1283	2	688	1140	124
Arrive On Green	0.17	0.17	0.17	0.17	0.00	0.17	1.00	1.00	1.00	0.65	0.65	0.65
Sat Flow, veh/h	155	112	1403	461	201	1058	728	1964	4	870	1745	189
Grp Volume(v), veh/h	225	0	0	13	0	0	30	0	533	9	0	726
Grp Sat Flow(s),veh/h/ln	1670	0	0	1719	0	0	728	0	1968	870	0	1934
Q Serve(g_s), s	4.1	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.2	0.0	12.5
Cycle Q Clear(g_c), s	7.7	0.0	0.0	0.4	0.0	0.0	13.3	0.0	0.0	0.2	0.0	12.5
Prop In Lane	0.15		0.84	0.38		0.62	1.00		0.00	1.00		0.10
Lane Grp Cap(c), veh/h	350	0	0	372	0	0	444	0	1286	688	0	1263
V/C Ratio(X)	0.64	0.00	0.00	0.03	0.00	0.00	0.07	0.00	0.41	0.01	0.00	0.57
Avail Cap(c_a), veh/h	478	0	0	488	0	0	444	0	1286	688	0	1263
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 Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.91	0.00	0.91	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	0.0	20.9	0.0	0.0	2.1	0.0	0.0	3.6	0.0	5.8
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.9	0.0	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
%ile BackOfQ(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	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	0.0	0.0	20.9	0.0	0.0	2.4	0.0	0.9	3.7	0.0	7.7
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		225			13			563			735	
Approach Delay, s/veh		25.9			20.9			1.0			7.6	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		44.7		15.3		44.7		15.3				
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+I1), s		15.3		9.7		14.5		2.4				
Green Ext Time (p_c), s		3.8		0.6		5.6		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			8.0									
HCM 6th LOS			A									

Notes

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

HCM 6th Signalized Intersection Summary — Existing Conditions #1 (Pre-COVID) 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												
Traffic Volume (veh/h)	1	8	12	44	19	6	27	476	155	5	403	5
Future Volume (veh/h)	1	8	12	44	19	6	27	476	155	5	403	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		0.99	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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	1953	1953	1953	1969	1969	1969
Adj Flow Rate, veh/h	2	13	20	54	23	7	30	529	172	6	453	6
Peak Hour Factor	0.60	0.60	0.60	0.82	0.82	0.82	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	76	107	190	64	14	87	981	310	65	1378	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	42	724	1021	869	605	134	35	1369	432	6	1924	25
Grp Volume(v), veh/h	35	0	0	84	0	0	731	0	0	465	0	0
Grp Sat Flow(s),veh/h/ln	1788	0	0	1609	0	0	1836	0	0	1955	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.1	0.0	0.0	2.8	0.0	0.0	10.9	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.06		0.57	0.64		0.08	0.04		0.24	0.01		0.01
Lane Grp Cap(c), veh/h	252	0	0	268	0	0	1378	0	0	1461	0	0
V/C Ratio(X)	0.14	0.00	0.00	0.31	0.00	0.00	0.53	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	501	0	0	485	0	0	1378	0	0	1461	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	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	0.0
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	0.5	0.0	0.0	1.1	0.0	0.0	3.0	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.7	0.0	0.0	25.9	0.0	0.0	5.4	0.0	0.0	0.6	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		35			84			731			465	
Approach Delay, s/veh		24.7			25.9			5.4			0.6	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		48.5		11.5		48.5		11.5				
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+I1), s		12.9		3.1		2.0		4.8				
Green Ext Time (p_c), s		6.0		0.1		3.5		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			5.5									
HCM 6th LOS			A									

Notes

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

HCM 6th Signalized Intersection Summary — Existing Conditions #1 (Pre-COVID) 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												
Traffic Volume (veh/h)	45	424	72	35	153	78	57	567	72	76	377	15
Future Volume (veh/h)	45	424	72	35	153	78	57	567	72	76	377	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
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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	53	499	85	38	166	85	62	616	78	88	438	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	440	607	103	167	712	603	401	960	813	281	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
Sat Flow, veh/h	1137	1652	281	818	1938	1640	936	1969	1667	750	1882	73
Grp Volume(v), veh/h	53	0	584	38	166	85	62	616	78	88	0	455
Grp Sat Flow(s),veh/h/ln	1137	0	1933	818	1938	1640	936	1969	1667	750	0	1956
Q Serve(g_s), s	2.7	0.0	21.9	3.5	4.7	2.8	3.8	18.7	2.0	7.9	0.0	12.4
Cycle Q Clear(g_c), s	7.4	0.0	21.9	25.4	4.7	2.8	16.2	18.7	2.0	26.6	0.0	12.4
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	440	0	710	167	712	603	401	960	813	281	0	953
V/C Ratio(X)	0.12	0.00	0.82	0.23	0.23	0.14	0.15	0.64	0.10	0.31	0.00	0.48
Avail Cap(c_a), veh/h	440	0	710	167	712	603	401	960	813	281	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	0.00	0.00	1.00
Uniform Delay (d), s/veh	20.1	0.0	22.9	34.5	17.5	16.9	19.1	15.3	11.0	25.2	0.0	13.7
Incr Delay (d2), s/veh	0.6	0.0	10.4	3.2	0.8	0.5	0.8	3.3	0.2	2.9	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 BackOfQ(50%),veh/ln	0.7	0.0	11.2	0.8	2.1	1.1	0.9	8.3	0.7	1.6	0.0	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.6	0.0	33.3	37.6	18.3	17.4	19.9	18.6	11.3	28.1	0.0	15.4
LnGrp LOS	C	A	C	D	B	B	B	B	B	C	A	B
Approach Vol, veh/h		637			289			756			543	
Approach Delay, s/veh		32.2			20.5			17.9			17.5	
Approach LOS		C			C			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+I1), s		20.7		23.9		28.6		27.4				
Green Ext Time (p_c), s		4.4		1.9		2.5		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			22.3									
HCM 6th LOS			C									

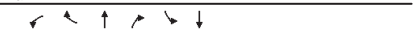
HCM 6th Signalized Intersection Summary — Existing Conditions #1 (Pre-COVID) w/ IMP
26: SB Northville Road & N. Seven Mile Road — AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	42	285	153	309	266	52
Future Volume (veh/h)	42	285	153	309	266	52
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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	
Adj Sat Flow, veh/h/ln	1969	1969	1922	1922	1984	1984
Adj Flow Rate, veh/h	52	352	174	351	280	55
Peak Hour Factor	0.81	0.81	0.88	0.88	0.95	0.95
Percent Heavy Veh, %	2	2	5	5	1	1
Cap, veh/h	441	801	754	2218	890	172
Arrive On Green	0.23	0.23	0.49	1.00	0.28	0.28
Sat Flow, veh/h	1875	1668	1830	3748	3249	610
Grp Volume(v), veh/h	52	352	174	351	166	169
Grp Sat Flow(s),veh/h/ln	1875	1668	1830	1826	1885	1875
Q Serve(g_s), s	1.7	11.1	2.8	0.0	5.5	5.7
Cycle Q Clear(g_c), s	1.7	11.1	2.8	0.0	5.5	5.7
Prop In Lane	1.00	1.00	1.00			0.33
Lane Grp Cap(c), veh/h	441	801	754	2218	533	530
V/C Ratio(X)	0.12	0.44	0.23	0.16	0.31	0.32
Avail Cap(c_a), veh/h	441	801	754	2218	533	530
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	24.1	13.7	6.1	0.0	22.6	22.6
Incr Delay (d2), s/veh	0.5	1.8	0.7	0.2	1.5	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	12.3	1.0	0.0	2.6	2.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.6	15.5	6.8	0.2	24.1	24.2
LnGrp LOS	C	B	A	A	C	C
Approach Vol, veh/h	404			525	335	
Approach Delay, s/veh	16.6			2.4	24.2	
Approach LOS	B			A	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		55.0		25.0	26.0	29.0
Change Period (Y+Rc), s		6.4		* 6.2	6.4	6.4
Max Green Setting (Gmax), s		48.6		* 19	19.6	22.6
Max Q Clear Time (g_c+I1), s		2.0		13.1	4.8	7.7
Green Ext Time (p_c), s		2.4		0.7	0.4	1.6
Intersection Summary						
HCM 6th Ctrl Delay			12.7			
HCM 6th LOS			B			

Notes

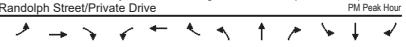
* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

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



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	244	210	252	285	381	170
Future Volume (veh/h)	244	210	252	285	381	170
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00		No
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1953	1953	1938	1938	1984	1984
Adj Flow Rate, veh/h	284	244	265	300	438	195
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	437	815	497	443	646	2290
Arrive On Green	0.23	0.23	0.27	0.27	0.08	0.20
Sat Flow, veh/h	1860	1655	1938	1642	1890	3870
Grp Volume(v), veh/h	284	244	265	300	438	195
Grp Sat Flow(s),veh/h/ln	1860	1655	1841	1642	1890	1885
Q Serve(g_s), s	11.0	0.0	9.8	13.1	11.0	3.4
Cycle Q Clear(g_c), s	11.0	0.0	9.8	13.1	11.0	3.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	437	815	497	443	646	2290
V/C Ratio(X)	0.65	0.30	0.53	0.68	0.68	0.09
Avail Cap(c_a), veh/h	437	815	497	443	646	2290
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	12.1	24.9	26.1	29.7	13.9
Incr Delay (d2), s/veh	7.3	0.9	4.1	8.1	5.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	2.5	4.5	5.7	8.9	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.9	13.0	29.0	34.1	35.3	14.0
LnGrp LOS	C	B	C	C	D	B
Approach Vol, veh/h	528		565		633	
Approach Delay, s/veh	24.8		31.7		28.7	
Approach LOS	C		C		C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	27.0	28.0			55.0	25.0
Change Period (Y+Rc), s	6.4	6.4			6.4	6.2
Max Green Setting (Gmax), s	20.6	21.6			48.6	18.8
Max Q Clear Time (g_c+I1), s	13.0	15.1			5.4	13.0
Green Ext Time (p_c), s	0.9	1.8			1.3	0.9
Intersection Summary						
HCM 6th Ctrl Delay			28.5			
HCM 6th LOS			C			

HCM 6th Signalized Intersection Summary — Existing Conditions #1 (Pre-COVID) w/ IMP
2: Center Street & Randolph Street/Private Drive — PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	13	225	15	15	28	53	560	9	18	453	42
Future Volume (veh/h)	45	13	225	15	15	28	53	560	9	18	453	42
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	1.00		0.99	1.00		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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	2000	2000	2000	1984	1984	1984
Adj Flow Rate, veh/h	54	15	268	16	16	31	61	644	10	25	621	58
Peak Hour Factor	0.84	0.84	0.84	0.91	0.91	0.91	0.87	0.87	0.87	0.73	0.73	0.73
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	1	1	1
Cap, veh/h	112	37	306	137	141	196	406	1158	18	581	1053	98
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	1.00	1.00	1.00	0.59	0.59	0.59
Sat Flow, veh/h	182	158	1321	266	607	845	772	1964	30	781	1785	167
Grp Volume(v), veh/h	337	0	0	63	0	0	61	0	654	25	0	679
Grp Sat Flow(s),veh/h/ln	1661	0	0	1718	0	0	772	0	1994	781	0	1952
Q Serve(g_s), s	7.5	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.8	0.0	13.1
Cycle Q Clear(g_c), s	11.7	0.0	0.0	1.6	0.0	0.0	15.2	0.0	0.0	0.8	0.0	13.1
Prop In Lane	0.16		0.80	0.25		0.49	1.00		0.02	1.00		0.09
Lane Grp Cap(c), veh/h	455	0	0	474	0	0	406	0	1176	581	0	1151
V/C Ratio(X)	0.74	0.00	0.00	0.13	0.00	0.00	0.15	0.00	0.56	0.04	0.00	0.59
Avail Cap(c_a), veh/h	479	0	0	496	0	0	406	0	1176	581	0	1151
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 Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.83	0.00	0.83	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.1	0.0	0.0	18.3	0.0	0.0	2.8	0.0	0.0	5.2	0.0	7.7
Incr Delay (d2), s/veh	5.8	0.0	0.0	0.1	0.0	0.0	0.6	0.0	1.6	0.1	0.0	2.2
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	5.0	0.0	0.0	0.7	0.0	0.0	0.2	0.0	0.5	0.1	0.0	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.9	0.0	0.0	18.5	0.0	0.0	3.5	0.0	1.6	5.4	0.0	10.0
LnGrp LOS	C	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		337			63			715			704	
Approach Delay, s/veh		27.9			18.5			1.7			9.8	
Approach LOS		C			B			A			A	
Timer - Assigned Phs		2		4		6		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		34.5		* 15		34.5		* 15				
Max Q Clear Time (g_c+I1), s		17.2		13.7		15.1		3.6				
Green Ext Time (p_c), s		4.9		0.3		5.2		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			10.3									
HCM 6th LOS			B									

Notes

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

HCM 6th Signalized Intersection Summary — Existing Conditions #1 (Pre-COVID) w/ IMP
8: Hutton Street & Main Street — PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	151	11	10	253	289	9	26	15	239	11	14
Future Volume (veh/h)	7	151	11	10	253	289	9	26	15	239	11	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.98		0.97	0.99		0.97	0.98		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	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Adj Flow Rate, veh/h	8	178	13	11	291	332	12	33	19	263	12	15
Peak Hour Factor	0.85	0.85	0.85	0.87	0.87	0.87	0.78	0.78	0.78	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	70	664	504	70	670	504	183	489	253	747	32	711
Arrive On Green	0.11	0.11	0.11	0.34	0.34	0.34	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	23	1943	1474	23	1961	1474	234	1022	530	1317	66	1487
Grp Volume(v), veh/h	186	0	13	302	0	332	64	0	0	275	0	15
Grp Sat Flow(s),veh/h/ln	1966	0	1474	1984	0	1474	1785	0	0	1383	0	1487
Q Serve(g_s), s	0.0	0.0	0.5	0.0	0.0	11.5	0.0	0.0	0.0	6.3	0.0	0.3
Cycle Q Clear(g_c), s	5.1	0.0	0.5	7.0	0.0	11.5	1.1	0.0	0.0	7.4	0.0	0.3
Prop In Lane	0.04		1.00	0.04		1.00	0.19		0.30	0.96		1.00
Lane Grp Cap(c), veh/h	734	0	504	740	0	504	925	0	0	779	0	711
V/C Ratio(X)	0.25	0.00	0.03	0.41	0.00	0.66	0.07	0.00	0.00	0.35	0.00	0.02
Avail Cap(c_a), veh/h	734	0	504	740	0	504	925	0	0	779	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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	19.8	0.0	17.7	15.3	0.0	16.8	8.5	0.0	0.0	10.0	0.0	8.2
Incr Delay (d2), s/veh	0.8	0.0	0.1	1.7	0.0	6.6	0.1	0.0	0.0	1.3	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/ln	2.5	0.0	0.2	3.3	0.0	4.5	0.4	0.0	0.0	2.3	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.6	0.0	17.8	17.0	0.0	23.4	8.6	0.0	0.0	11.2	0.0	8.3
LnGrp LOS	C	A	B	B	A	C	A	A	A	B	A	A
Approach Vol, veh/h		199			634			64			290	
Approach Delay, s/veh		20.4			20.3			8.6			11.1	
Approach LOS		C			C			A			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.0		34.0		26.0		34.0				
Change Period (Y+Rc), s		5.5		* 5.3		5.5		* 5.3				
Max Green Setting (Gmax), s		20.5		* 29		20.5		* 29				
Max Q Clear Time (g_c+I1), s		7.1		9.4		13.5		3.1				
Green Ext Time (p_c), s		0.9		1.7		1.9		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			17.5									
HCM 6th LOS			B									

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

HCM 6th Signalized Intersection Summary — Existing Conditions #1 (Pre-COVID) 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												
Traffic Volume (veh/h)	99	248	18	2	355	277	33	204	11	186	120	194
Future Volume (veh/h)	99	248	18	2	355	277	33	204	11	186	120	194
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	116	292	21	2	374	292	36	222	12	198	128	206
Peak Hour Factor	0.85	0.85	0.85	0.95	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	230	684	53	61	707	540	133	747	38	318	198	274
Arrive On Green	0.12	0.12	0.12	0.36	0.36	0.36	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	366	1917	148	2	1981	1515	142	1649	83	521	436	605
Grp Volume(v), veh/h	176	0	253	376	0	292	270	0	0	532	0	0
Grp Sat Flow(s),veh/h/ln	654	0	1777	1983	0	1515	1875	0	0	1562	0	0
Q Serve(g_s), s	8.5	0.0	7.9	0.0	0.0	9.2	0.0	0.0	0.0	10.9	0.0	0.0
Cycle Q Clear(g_c), s	17.7	0.0	7.9	9.0	0.0	9.2	5.2	0.0	0.0	16.1	0.0	0.0
Prop In Lane	0.66		0.08	0.01		1.00	0.13		0.04	0.37		0.39
Lane Grp Cap(c), veh/h	333	0	634	768	0	540	918	0	0	790	0	0
V/C Ratio(X)	0.53	0.00	0.40	0.49	0.00	0.54	0.29	0.00	0.00	0.67	0.00	0.00
Avail Cap(c_a), veh/h	333	0	634	768	0	540	918	0	0	790	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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	26.8	0.0	20.5	15.3	0.0	15.4	10.4	0.0	0.0	13.0	0.0	0.0
Incr Delay (d2), s/veh	5.9	0.0	1.9	2.2	0.0	3.8	0.8	0.0	0.0	4.5	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	3.3	0.0	3.8	4.2	0.0	3.5	2.1	0.0	0.0	5.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.8	0.0	22.4	17.5	0.0	19.2	11.2	0.0	0.0	17.5	0.0	0.0
LnGrp LOS	C	A	C	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		429			668			270			532	
Approach Delay, s/veh		26.7			18.3			11.2			17.5	
Approach LOS		C			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		33.0		27.0		33.0				
Change Period (Y+Rc), s		5.6		* 5.8		5.6		* 5.8				
Max Green Setting (Gmax), s		21.4		* 27		21.4		* 27				
Max Q Clear Time (g_c+I1), s		19.7		18.1		11.2		7.2				
Green Ext Time (p_c), s		0.5		2.5		3.2		1.5				
Intersection Summary												
HCM 6th Ctrl Delay			19.0									
HCM 6th LOS			B									

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

HCM 6th Signalized Intersection Summary — Existing Conditions #1 (Pre-COVID) 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												
Traffic Volume (veh/h)	11	16	29	57	11	19	25	515	122	9	614	37
Future Volume (veh/h)	11	16	29	57	11	19	25	515	122	9	614	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.92	0.94		0.92	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	1938	1938	1938	2000	2000	2000	1984	1984	1984	2000	2000	2000
Adj Flow Rate, veh/h	14	21	37	73	14	24	26	542	128	9	646	39
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	0	0	0	1	1	1	0	0	0
Cap, veh/h	95	97	127	230	51	50	83	1001	230	65	1238	74
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.67	0.67	0.67	1.00	1.00	1.00
Sat Flow, veh/h	154	636	835	857	332	328	30	1495	344	7	1850	111
Grp Volume(v), veh/h	72	0	0	111	0	0	696	0	0	694	0	0
Grp Sat Flow(s),veh/h/ln	1626	0	0	1517	0	0	1870	0	0	1968	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.3	0.0	0.0	3.6	0.0	0.0	11.3	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.19		0.51	0.66		0.22	0.04		0.18	0.01		0.06
Lane Grp Cap(c), veh/h	319	0	0	330	0	0	1314	0	0	1378	0	0
V/C Ratio(X)	0.23	0.00	0.00	0.34	0.00	0.00	0.53	0.00	0.00	0.50	0.00	0.00
Avail Cap(c_a), veh/h	466	0	0	463	0	0	1314	0	0	1378	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	22.5	0.0	0.0	23.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.6	0.0	0.0	1.5	0.0	0.0	1.3	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	0.9	0.0	0.0	1.4	0.0	0.0	3.7	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	0.0	0.0	23.6	0.0	0.0	6.7	0.0	0.0	1.3	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		72			111			696			694	
Approach Delay, s/veh		22.9			23.6			6.7			1.3	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.7		14.3		45.7		14.3				
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+I1), s		13.3		4.3		2.0		5.6				
Green Ext Time (p_c), s		5.6		0.2		6.0		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			6.2									
HCM 6th LOS			A									

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

HCM 6th Signalized Intersection Summary — Existing Conditions #1 (Pre-COVID) 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												
Traffic Volume (veh/h)	32	312	114	108	503	140	123	656	106	74	621	46
Future Volume (veh/h)	32	312	114	108	503	140	123	656	106	74	621	46
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
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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	2000	2000	2000	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	36	347	127	114	529	147	129	691	112	79	661	49
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	198	509	186	236	735	622	236	967	817	236	889	66
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	769	1385	507	934	2000	1693	745	1984	1677	683	1824	135
Grp Volume(v), veh/h	36	0	474	114	529	147	129	691	112	79	0	710
Grp Sat Flow(s),veh/h/ln	769	0	1892	934	2000	1693	745	1984	1677	683	0	1960
Q Serve(g_s), s	3.4	0.0	16.9	9.4	18.2	4.8	13.5	21.9	2.9	8.2	0.0	23.3
Cycle Q Clear(g_c), s	21.6	0.0	16.9	26.3	18.2	4.8	36.8	21.9	2.9	30.1	0.0	23.3
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	198	0	695	236	735	622	236	967	817	236	0	955
V/C Ratio(X)	0.18	0.00	0.68	0.48	0.72	0.24	0.55	0.71	0.14	0.33	0.00	0.74
Avail Cap(c_a), veh/h	198	0	695	236	735	622	236	967	817	236	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(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	31.0	0.0	21.4	32.4	21.8	17.5	31.2	16.1	11.3	28.0	0.0	16.5
Incr Delay (d2), s/veh	2.0	0.0	5.3	6.9	6.0	0.9	8.8	4.5	0.3	3.8	0.0	5.2
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	7.9	2.5	9.1	1.9	2.9	10.0	1.1	1.5	0.0	10.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.1	0.0	26.7	39.4	27.8	18.4	40.0	20.6	11.6	31.8	0.0	21.7
LnGrp LOS	C	A	C	D	C	B	D	C	B	C	A	C
Approach Vol, veh/h		510			790			932			789	
Approach Delay, s/veh		27.1			27.7			22.2			22.7	
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+I1), s		38.8		23.6		32.1		28.3				
Green Ext Time (p_c), s		0.1		1.6		3.0		0.5				
Intersection Summary												
HCM 6th Ctrl Delay			24.6									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary — Existing Conditions #1 (Pre-COVID) w/ IMP
26: SB Northville Road & N. Seven Mile Road — PM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	62	264	386	664	455	111
Future Volume (veh/h)	62	264	386	664	455	111
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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	
Adj Sat Flow, veh/h/ln	1969	1969	1984	1984	1984	1984
Adj Flow Rate, veh/h	67	287	406	699	479	117
Peak Hour Factor	0.92	0.92	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	1	1	1	1
Cap, veh/h	206	738	876	2762	963	234
Arrive On Green	0.11	0.11	0.67	1.00	0.32	0.32
Sat Flow, veh/h	1875	1668	1890	3870	3107	730
Grp Volume(v), veh/h	67	287	406	699	299	297
Grp Sat Flow(s),veh/h/ln	1875	1668	1890	1885	1885	1853
Q Serve(g_s), s	2.6	8.8	4.9	0.0	10.3	10.4
Cycle Q Clear(g_c), s	2.6	8.8	4.9	0.0	10.3	10.4
Prop In Lane	1.00	1.00	1.00			0.39
Lane Grp Cap(c), veh/h	206	738	876	2762	603	593
V/C Ratio(X)	0.32	0.39	0.46	0.25	0.50	0.50
Avail Cap(c_a), veh/h	206	738	876	2762	603	593
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	32.9	15.0	3.1	0.0	22.0	22.0
Incr Delay (d2), s/veh	4.1	1.5	1.8	0.2	2.9	3.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	10.2	1.3	0.1	4.7	4.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.0	16.6	4.9	0.2	24.9	25.0
LnGrp LOS	D	B	A	A	C	C
Approach Vol, veh/h	354			1105	596	
Approach Delay, s/veh	20.4			1.9	25.0	
Approach LOS	C			A	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		65.0		15.0	33.0	32.0
Change Period (Y+Rc), s		6.4		* 6.2	6.4	6.4
Max Green Setting (Gmax), s		58.6		* 8.8	26.6	25.6
Max Q Clear Time (g_c+I1), s		2.0		10.8	6.9	12.4
Green Ext Time (p_c), s		5.5		0.0	1.2	2.9
Intersection Summary						
HCM 6th Ctrl Delay			11.8			
HCM 6th LOS			B			

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

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

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	304	557	493	317	352	367
Future Volume (veh/h)	304	557	493	317	352	367
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1969	1969
Adj Flow Rate, veh/h	323	593	524	337	383	399
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	491	807	622	399	524	2179
Arrive On Green	0.26	0.26	0.28	0.28	0.29	0.77
Sat Flow, veh/h	1890	1682	2301	1414	1875	3839
Grp Volume(v), veh/h	323	593	449	412	383	399
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1730	1875	1870
Q Serve(g_s), s	12.2	5.1	17.9	18.0	9.4	2.2
Cycle Q Clear(g_c), s	12.2	5.1	17.9	18.0	9.4	2.2
Prop In Lane	1.00	1.00		0.82	1.00	
Lane Grp Cap(c), veh/h	491	807	533	489	524	2179
V/C Ratio(X)	0.66	0.73	0.84	0.84	0.73	0.18
Avail Cap(c_a), veh/h	491	807	533	489	524	2179
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	16.7	27.0	27.0	24.0	4.0
Incr Delay (d2), s/veh	6.7	5.9	14.9	16.2	8.7	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	9.0	9.6	9.0	6.3	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.2	22.6	41.9	43.2	32.7	4.2
LnGrp LOS	C	C	D	D	C	A
Approach Vol, veh/h	916		861			782
Approach Delay, s/veh	26.3		42.6			18.1
Approach LOS	C		D			B
Timer - Assigned Phs	1	2				6 8
Phs Duration (G+Y+Rc), s	24.0	29.0				53.0 27.0
Change Period (Y+Rc), s	6.4	6.4				6.4 6.2
Max Green Setting (Gmax), s	17.6	22.6				46.6 20.8
Max Q Clear Time (g_c+I1), s	11.4	20.0				4.2 14.2
Green Ext Time (p_c), s	0.7	1.3				2.8 2.0
Intersection Summary						
HCM 6th Ctrl Delay			29.3			
HCM 6th LOS			C			

HCM 6th AWSC
12: Center Street & Cady Street

Existing Conditions #2 (Both Closed) w/ IMP
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												
Traffic Vol, veh/h	1	64	80	127	58	10	50	100	261	22	85	8
Future Vol, veh/h	1	64	80	127	58	10	50	100	261	22	85	8
Peak Hour Factor	0.88	0.88	0.88	0.77	0.77	0.77	0.94	0.94	0.94	0.75	0.75	0.75
Heavy Vehicles, %	0	0	0	3	3	3	1	1	1	3	3	3
Mvmt Flow	1	73	91	165	75	13	53	106	278	29	113	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	10.7	13.2	15.9	10.9
HCM LOS	B	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	1%	65%	19%
Vol Thru, %	24%	44%	30%	74%
Vol Right, %	64%	55%	5%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	411	145	195	115
LT Vol	50	1	127	22
Through Vol	100	64	58	85
RT Vol	261	80	10	8
Lane Flow Rate	437	165	253	153
Geometry Grp	1	1	1	1
Degree of Util (X)	0.614	0.258	0.417	0.25
Departure Headway (Hd)	5.055	5.642	5.924	5.877
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	713	633	605	607
Service Time	3.112	3.717	3.991	3.953
HCM Lane V/C Ratio	0.613	0.261	0.418	0.252
HCM Control Delay	15.9	10.7	13.2	10.9
HCM Lane LOS	C	B	B	B
HCM 95th-tile Q	4.2	1	2	1

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

Existing Conditions #2 (Both Closed) w/ IMP
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	268	163	74	174	42	85	393	78	29	339	13
Future Volume (veh/h)	18	268	163	74	174	42	85	393	78	29	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
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	
Adj Sat Flow, veh/h/ln	1953	1953	1953	1922	1922	1922	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	21	312	190	84	198	48	92	427	85	40	464	18
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88	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	421	417	254	202	706	598	382	960	811	397	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
Sat Flow, veh/h	1124	1136	692	875	1922	1627	912	1969	1663	887	1882	73
Grp Volume(v), veh/h	21	0	502	84	198	48	92	427	85	40	0	482
Grp Sat Flow(s),veh/h/ln	1124	0	1828	875	1922	1627	912	1969	1663	887	0	1955
Q Serve(g_s), s	1.1	0.0	19.2	7.4	5.8	1.5	6.1	11.4	2.2	2.5	0.0	13.4
Cycle Q Clear(g_c), s	6.9	0.0	19.2	26.6	5.8	1.5	19.5	11.4	2.2	13.8	0.0	13.4
Prop In Lane	1.00		0.38	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	421	0	672	202	706	598	382	960	811	397	0	953
V/C Ratio(X)	0.05	0.00	0.75	0.42	0.28	0.08	0.24	0.44	0.10	0.10	0.00	0.51
Avail Cap(c_a), veh/h	421	0	672	202	706	598	382	960	811	397	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	20.3	0.0	22.1	33.6	17.8	16.5	20.6	13.4	11.1	17.9	0.0	13.9
Incr Delay (d2), s/veh	0.2	0.0	7.4	6.2	1.0	0.3	1.5	1.5	0.3	0.5	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
%ile BackOfQ(50%),veh/ln	0.3	0.0	9.0	1.9	2.6	0.6	1.4	4.9	0.8	0.5	0.0	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	0.0	29.5	39.9	18.8	16.8	22.1	14.9	11.3	18.4	0.0	15.9
LnGrp LOS	C	A	C	D	B	B	C	B	B	B	A	B
Approach Vol, veh/h		523			330			604			522	
Approach Delay, s/veh		29.1			23.9			15.5			16.1	
Approach LOS		C			C			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+I1), s	21.5	21.2	15.8	28.6
Green Ext Time (p_c), s	3.1	2.1	3.3	0.1

Intersection Summary	
HCM 6th Ctrl Delay	20.6
HCM 6th LOS	C

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

Existing Conditions #2 (Both Closed) w/ IMP
AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	45	203	154	322	244	49
Future Volume (veh/h)	45	203	154	322	244	49
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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	
Adj Sat Flow, veh/h/ln	1953	1953	1938	1938	1953	1953
Adj Flow Rate, veh/h	53	239	181	379	271	54
Peak Hour Factor	0.85	0.85	0.85	0.85	0.90	0.90
Percent Heavy Veh, %	3	3	4	4	3	3
Cap, veh/h	437	795	763	2236	874	171
Arrive On Green	0.23	0.23	0.49	1.00	0.28	0.28
Sat Flow, veh/h	1860	1655	1845	3778	3190	607
Grp Volume(v), veh/h	53	239	181	379	161	164
Grp Sat Flow(s),veh/h/ln	1860	1655	1845	1841	1856	1844
Q Serve(g_s), s	1.8	7.0	3.0	0.0	5.5	5.6
Cycle Q Clear(g_c), s	1.8	7.0	3.0	0.0	5.5	5.6
Prop In Lane	1.00	1.00	1.00			0.33
Lane Grp Cap(c), veh/h	437	795	763	2236	524	521
V/C Ratio(X)	0.12	0.30	0.24	0.17	0.31	0.31
Avail Cap(c_a), veh/h	437	795	763	2236	524	521
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	24.1	12.6	6.1	0.0	22.5	22.6
Incr Delay (d2), s/veh	0.6	1.0	0.7	0.2	1.5	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	8.3	1.0	0.1	2.5	2.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.7	13.6	6.9	0.2	24.1	24.2
LnGrp LOS	C	B	A	A	C	C
Approach Vol, veh/h	292		560	325		
Approach Delay, s/veh	15.6		2.3	24.1		
Approach LOS	B		A	C		

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	55.0	25.0	26.0	29.0
Change Period (Y+Rc), s	6.4	* 6.2	6.4	6.4
Max Green Setting (Gmax), s	48.6	* 19	19.6	22.6
Max Q Clear Time (g_c+I1), s	2.0	9.0	5.0	7.6
Green Ext Time (p_c), s	2.7	0.7	0.4	1.5

Intersection Summary	
HCM 6th Ctrl Delay	11.6
HCM 6th LOS	B

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

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

Existing Conditions #2 (Both Closed) w/ IMP
AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	266	198	278	281	277	170
Future Volume (veh/h)	266	198	278	281	277	170
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1953	1953	1938	1938	1953	1953
Adj Flow Rate, veh/h	283	211	316	319	330	202
Peak Hour Factor	0.94	0.94	0.88	0.88	0.84	0.84
Percent Heavy Veh, %	3	3	4	4	3	3
Cap, veh/h	437	815	497	443	623	2254
Arrive On Green	0.23	0.23	0.27	0.27	0.08	0.20
Sat Flow, veh/h	1860	1655	1938	1642	1860	3809
Grp Volume(v), veh/h	283	211	316	319	330	202
Grp Sat Flow(s),veh/h/ln	1860	1655	1841	1642	1860	1856
Q Serve(g_s), s	11.0	0.0	12.1	14.1	7.2	3.5
Cycle Q Clear(g_c), s	11.0	0.0	12.1	14.1	7.2	3.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	437	815	497	443	623	2254
V/C Ratio(X)	0.65	0.26	0.64	0.72	0.53	0.09
Avail Cap(c_a), veh/h	437	815	497	443	623	2254
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	11.8	25.7	26.5	28.4	14.0
Incr Delay (d2), s/veh	7.2	0.8	6.1	9.7	3.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	2.1	5.7	6.3	6.1	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.8	12.6	31.8	36.1	31.6	14.0
LnGrp LOS	C	B	C	D	C	B
Approach Vol, veh/h	494		635			532
Approach Delay, s/veh	25.3		34.0			25.0
Approach LOS	C		C			C

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	27.0	28.0				55.0		25.0
Change Period (Y+Rc), s	6.4	6.4				6.4		6.2
Max Green Setting (Gmax), s	20.6	21.6				48.6		18.8
Max Q Clear Time (g_c+I1), s	9.2	16.1				5.5		13.0
Green Ext Time (p_c), s	0.8	1.8				1.3		0.9

Intersection Summary	
HCM 6th Ctrl Delay	28.5
HCM 6th LOS	C

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

Existing Conditions #2 (Both Closed) w/ IMP
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	256	21	10	278	242	15	232	17	164	207	85
Future Volume (veh/h)	48	256	21	10	278	242	15	232	17	164	207	85
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		0.99	1.00		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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	1984	1984	1984	2000	2000	2000	2000	2000	2000
Adj Flow Rate, veh/h	52	278	23	11	296	257	17	264	19	173	218	89
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	177	923	79	70	693	538	83	805	56	307	366	135
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	276	2589	222	22	1943	1509	42	1775	123	498	807	297
Grp Volume(v), veh/h	169	0	184	307	0	257	300	0	0	480	0	0
Grp Sat Flow(s),veh/h/ln	1311	0	1776	1966	0	1509	1941	0	0	1602	0	0
Q Serve(g_s), s	0.5	0.0	4.5	0.0	0.0	7.9	0.0	0.0	0.0	7.0	0.0	0.0
Cycle Q Clear(g_c), s	8.4	0.0	4.5	7.1	0.0	7.9	5.9	0.0	0.0	12.8	0.0	0.0
Prop In Lane	0.31		0.13	0.04		1.00	0.06		0.06	0.36		0.19
Lane Grp Cap(c), veh/h	546	0	634	763	0	538	943	0	0	808	0	0
V/C Ratio(X)	0.31	0.00	0.29	0.40	0.00	0.48	0.32	0.00	0.00	0.59	0.00	0.00
Avail Cap(c_a), veh/h	546	0	634	763	0	538	943	0	0	808	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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.7	0.0	13.8	14.7	0.0	15.0	10.6	0.0	0.0	12.2	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	1.2	1.6	0.0	3.0	0.9	0.0	0.0	3.2	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	1.7	0.0	1.9	3.3	0.0	2.9	2.3	0.0	0.0	4.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.2	0.0	15.0	16.3	0.0	18.0	11.5	0.0	0.0	15.4	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		353			564			300			480	
Approach Delay, s/veh		15.1			17.0			11.5			15.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	27.0	33.0	27.0	33.0
Change Period (Y+Rc), s	5.6	* 5.8	5.6	* 5.8
Max Green Setting (Gmax), s	21.4	* 27	21.4	* 27
Max Q Clear Time (g_c+I1), s	10.4	14.8	9.9	7.9
Green Ext Time (p_c), s	1.7	2.6	2.9	1.6

Intersection Summary	
HCM 6th Ctrl Delay	15.2
HCM 6th LOS	B

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

HCM 6th AWSC
12: Center Street & Cady Street

Existing Conditions #2 (Both Closed) w/ IMP
PM Peak Hour

Intersection	
Intersection Delay, s/veh	24.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	70	71	225	58	5	58	131	292	45	101	16
Future Vol, veh/h	5	70	71	225	58	5	58	131	292	45	101	16
Peak Hour Factor	0.79	0.79	0.79	0.88	0.88	0.88	0.90	0.90	0.90	0.80	0.80	0.80
Heavy Vehicles, %	1	1	1	0	0	0	1	1	1	1	1	1
Mvmt Flow	6	89	90	256	66	6	64	146	324	56	126	20
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

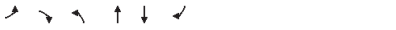
Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.5	20.2	34.6	14.2
HCM LOS	B	C	D	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	3%	78%	28%
Vol Thru, %	27%	48%	20%	62%
Vol Right, %	61%	49%	2%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	481	146	288	162
LT Vol	58	5	225	45
Through Vol	131	70	58	101
RT Vol	292	71	5	16
Lane Flow Rate	534	185	327	202
Geometry Grp	1	1	1	1
Degree of Util (X)	0.861	0.348	0.616	0.384
Departure Headway (Hd)	5.803	6.781	6.771	6.819
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	620	527	530	524
Service Time	3.872	4.879	4.851	4.911
HCM Lane V/C Ratio	0.861	0.351	0.617	0.385
HCM Control Delay	34.6	13.5	20.2	14.2
HCM Lane LOS	D	B	C	B
HCM 95th-tile Q	9.7	1.5	4.1	1.8

HCM 6th Signalized Intersection Summary — Existing 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												
Traffic Volume (veh/h)	27	312	131	125	437	104	125	458	104	66	336	20
Future Volume (veh/h)	27	312	131	125	437	104	125	458	104	66	336	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	2000	1984	1984	1984	2000	2000	2000
Adj Flow Rate, veh/h	31	355	149	142	497	118	139	509	116	71	361	22
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	217	487	204	212	729	619	456	967	811	342	909	55
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	813	1325	556	900	1984	1686	1004	1984	1664	811	1865	114
Grp Volume(v), veh/h	31	0	504	142	497	118	139	509	116	71	0	383
Grp Sat Flow(s),veh/h/ln	813	0	1881	900	1984	1686	1004	1984	1664	811	0	1978
Q Serve(g_s), s	2.7	0.0	18.5	10.9	16.9	3.8	8.2	14.1	3.1	5.3	0.0	9.8
Cycle Q Clear(g_c), s	19.6	0.0	18.5	29.4	16.9	3.8	18.0	14.1	3.1	19.4	0.0	9.8
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	217	0	691	212	729	619	456	967	811	342	0	964
V/C Ratio(X)	0.14	0.00	0.73	0.67	0.68	0.19	0.30	0.53	0.14	0.21	0.00	0.40
Avail Cap(c_a), veh/h	217	0	691	212	729	619	456	967	811	342	0	964
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	29.6	0.0	21.9	35.3	21.3	17.2	18.8	14.1	11.3	20.8	0.0	13.0
Incr Delay (d2), s/veh	1.4	0.0	6.6	15.5	5.1	0.7	1.7	2.0	0.4	1.4	0.0	1.2
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	0.6	0.0	8.8	3.6	8.3	1.5	2.0	6.2	1.1	1.1	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.0	0.0	28.5	50.8	26.4	17.9	20.5	16.2	11.7	22.2	0.0	14.3
LnGrp LOS	C	A	C	D	C	B	C	B	B	C	A	B
Approach Vol, veh/h		535			757			764			454	
Approach Delay, s/veh		28.7			29.7			16.3			15.5	
Approach LOS		C			C			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+I1), s		20.0		21.6		21.4		31.4				
Green Ext Time (p_c), s		4.1		2.1		2.5		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			22.8									
HCM 6th LOS			C									

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



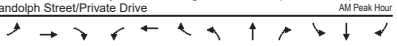
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	257	393	539	440	102
Future Volume (veh/h)	50	257	393	539	440	102
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1969	1969	1984	1984	1984	1984
Adj Flow Rate, veh/h	55	282	418	573	463	107
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	886	2762	974	224
Arrive On Green	0.11	0.11	0.67	1.00	0.32	0.32
Sat Flow, veh/h	1875	1668	1890	3870	3144	699
Grp Volume(v), veh/h	55	282	418	573	285	285
Grp Sat Flow(s),veh/h/ln	1875	1668	1890	1885	1885	1859
Q Serve(g_s), s	2.2	8.8	5.1	0.0	9.7	9.8
Cycle Q Clear(g_c), s	2.2	8.8	5.1	0.0	9.7	9.8
Prop In Lane	1.00	1.00	1.00			0.38
Lane Grp Cap(c), veh/h	206	738	886	2762	603	595
V/C Ratio(X)	0.27	0.38	0.47	0.21	0.47	0.48
Avail Cap(c_a), veh/h	206	738	886	2762	603	595
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	32.6	15.0	3.1	0.0	21.8	21.8
Incr Delay (d2), s/veh	3.1	1.5	1.8	0.2	2.7	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	10.1	1.4	0.1	4.5	4.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.8	16.5	4.9	0.2	24.4	24.6
LnGrp LOS	D	B	A	A	C	C
Approach Vol, veh/h	337			991	570	
Approach Delay, s/veh	19.6			2.2	24.5	
Approach LOS	B			A	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		65.0		15.0	33.0	32.0
Change Period (Y+Rc), s		6.4		* 6.2	6.4	6.4
Max Green Setting (Gmax), s		58.6		* 8.8	26.6	25.6
Max Q Clear Time (g_c+I1), s		2.0		10.8	7.1	11.8
Green Ext Time (p_c), s		4.3		0.0	1.2	2.8
Intersection Summary						
HCM 6th Ctrl Delay			12.0			
HCM 6th LOS			B			

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

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

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	347	497	435	336	340	357
Future Volume (veh/h)	347	497	435	336	340	357
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	399	571	458	354	358	376
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	491	807	573	441	538	2196
Arrive On Green	0.26	0.26	0.28	0.28	0.29	0.77
Sat Flow, veh/h	1890	1682	2126	1561	1890	3870
Grp Volume(v), veh/h	399	571	426	386	358	376
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1703	1890	1885
Q Serve(g_s), s	15.8	3.8	16.7	16.8	7.4	2.1
Cycle Q Clear(g_c), s	15.8	3.8	16.7	16.8	7.4	2.1
Prop In Lane	1.00	1.00		0.92	1.00	
Lane Grp Cap(c), veh/h	491	807	533	481	538	2196
V/C Ratio(X)	0.81	0.71	0.80	0.80	0.67	0.17
Avail Cap(c_a), veh/h	491	807	533	481	538	2196
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	16.4	26.6	26.6	23.3	4.0
Incr Delay (d2), s/veh	13.6	5.2	11.9	13.2	6.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	8.5	8.7	8.1	5.6	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.4	21.6	38.5	39.9	29.7	4.2
LnGrp LOS	D	C	D	D	C	A
Approach Vol, veh/h	970		812			734
Approach Delay, s/veh	29.7		39.2			16.6
Approach LOS	C		D			B
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	24.0	29.0			53.0	27.0
Change Period (Y+Rc), s	6.4	6.4			6.4	6.2
Max Green Setting (Gmax), s	17.6	22.6			46.6	20.8
Max Q Clear Time (g_c+I1), s	9.4	18.8			4.1	17.8
Green Ext Time (p_c), s	0.7	1.7			2.6	1.2
Intersection Summary						
HCM 6th Ctrl Delay		28.9				
HCM 6th LOS		C				

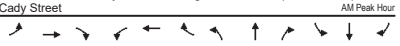
HCM 6th Signalized Intersection Summary — Existing Conditions #3 (Main Closed) w/ IMP
2: Center Street & Randolph Street/Private Drive — AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	2	110	4	0	5	24	527	1	5	397	43
Future Volume (veh/h)	19	2	110	4	0	5	24	527	1	5	397	43
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
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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	2000	2000	2000	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	29	3	167	5	0	7	26	579	1	7	575	62
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	0	2	2	2	2	2	2
Cap, veh/h	92	18	213	164	32	155	521	1316	2	678	1169	126
Arrive On Green	0.15	0.15	0.15	0.15	0.00	0.15	1.00	1.00	1.00	0.67	0.67	0.67
Sat Flow, veh/h	153	116	1402	518	212	1022	791	1965	3	833	1746	188
Grp Volume(v), veh/h	199	0	0	12	0	0	26	0	580	7	0	637
Grp Sat Flow(s),veh/h/ln	1671	0	0	1751	0	0	791	0	1968	833	0	1934
Q Serve(g_s), s	3.5	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.2	0.0	9.7
Cycle Q Clear(g_c), s	6.8	0.0	0.0	0.3	0.0	0.0	10.2	0.0	0.0	0.2	0.0	9.7
Prop In Lane	0.15		0.84	0.42		0.58	1.00		0.00	1.00		0.10
Lane Grp Cap(c), veh/h	322	0	0	351	0	0	521	0	1318	678	0	1296
V/C Ratio(X)	0.62	0.00	0.00	0.03	0.00	0.00	0.05	0.00	0.44	0.01	0.00	0.49
Avail Cap(c_a), veh/h	478	0	0	490	0	0	521	0	1318	678	0	1296
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 Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.92	0.00	0.92	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.4	0.0	0.0	21.7	0.0	0.0	1.2	0.0	0.0	3.3	0.0	4.9
Incr Delay (d2), s/veh	1.9	0.0	0.0	0.0	0.0	0.0	0.2	0.0	1.0	0.0	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 BackOfQ(50%),veh/ln	2.8	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.4	0.0	0.0	3.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.4	0.0	0.0	21.8	0.0	0.0	1.4	0.0	1.0	3.3	0.0	6.2
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		199			12			606			644	
Approach Delay, s/veh		26.4			21.8			1.0			6.2	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.7		14.3		45.7		14.3				
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+I1), s		12.2		8.8		11.7		2.3				
Green Ext Time (p_c), s		4.4		0.6		4.9		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			6.9									
HCM 6th LOS			A									

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
12: Center Street & Cady Street — AM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	56	11	107	51	9	24	402	201	22	355	5
Future Volume (veh/h)	1	56	11	107	51	9	24	402	201	22	355	5
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00			0.99	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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	1953	1953	1953	1969	1969	1969
Adj Flow Rate, veh/h	1	64	12	130	62	11	27	447	223	25	399	6
Peak Hour Factor	0.88	0.88	0.88	0.82	0.82	0.82	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	62	264	49	256	88	14	83	793	383	94	1200	17
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.66	0.66	0.66	1.00	1.00	1.00
Sat Flow, veh/h	7	1631	302	972	541	87	31	1203	581	46	1819	26
Grp Volume(v), veh/h	77	0	0	203	0	0	697	0	0	430	0	0
Grp Sat Flow(s),veh/h/ln	1940	0	0	1599	0	0	1815	0	0	1892	0	0
Q Serve(g_s), s	0.0	0.0	0.0	5.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.1	0.0	0.0	7.1	0.0	0.0	12.4	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.01		0.16	0.64		0.05	0.04		0.32	0.06		0.01
Lane Grp Cap(c), veh/h	375	0	0	358	0	0	1260	0	0	1311	0	0
V/C Ratio(X)	0.21	0.00	0.00	0.57	0.00	0.00	0.55	0.00	0.00	0.33	0.00	0.00
Avail Cap(c_a), veh/h	539	0	0	485	0	0	1260	0	0	1311	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	21.9	0.0	0.0	23.9	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	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 BackOfQ(50%),veh/ln	0.9	0.0	0.0	2.8	0.0	0.0	4.0	0.0	0.0	0.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.2	0.0	0.0	25.3	0.0	0.0	7.3	0.0	0.0	0.7	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		77			203			697			430	
Approach Delay, s/veh		22.2			25.3			7.3			0.7	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.1		14.9		45.1		14.9				
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+I1), s		14.4		4.1		2.0		9.1				
Green Ext Time (p_c), s		5.5		0.2		3.3		0.5				
Intersection Summary												
HCM 6th Ctrl Delay			8.7									
HCM 6th LOS			A									

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	271	63	31	190	69	50	498	63	67	332	13
Future Volume (veh/h)	40	271	63	31	190	69	50	498	63	67	332	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
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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	47	319	74	34	207	75	54	541	68	78	386	15
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	412	572	133	289	712	603	439	960	811	328	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
Sat Flow, veh/h	1105	1557	361	975	1938	1640	983	1969	1663	812	1882	73
Grp Volume(v), veh/h	47	0	393	34	207	75	54	541	68	78	0	401
Grp Sat Flow(s),veh/h/ln	1105	0	1919	975	1938	1640	983	1969	1663	812	0	1955
Q Serve(g_s), s	2.5	0.0	13.0	2.3	6.1	2.4	3.0	15.5	1.7	6.0	0.0	10.6
Cycle Q Clear(g_c), s	8.6	0.0	13.0	15.3	6.1	2.4	13.6	15.5	1.7	21.5	0.0	10.6
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	412	0	705	289	712	603	439	960	811	328	0	953
V/C Ratio(X)	0.11	0.00	0.56	0.12	0.29	0.12	0.12	0.56	0.08	0.24	0.00	0.42
Avail Cap(c_a), veh/h	412	0	705	289	712	603	439	960	811	328	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	0.00	1.00	1.00
Uniform Delay (d), s/veh	21.0	0.0	20.1	26.2	17.9	16.8	17.6	14.5	11.0	22.1	0.0	13.2
Incr Delay (d2), s/veh	0.6	0.0	3.2	0.8	1.0	0.4	0.6	2.4	0.2	1.7	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 BackOfQ(50%),veh/ln	0.7	0.0	6.0	0.6	2.7	0.9	0.7	6.8	0.6	1.2	0.0	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.5	0.0	23.3	27.0	18.9	17.2	18.2	16.9	11.2	23.8	0.0	14.6
LnGrp LOS	C	A	C	C	B	B	B	B	B	C	A	B
Approach Vol, veh/h		440			316			663			479	
Approach Delay, s/veh		23.1			19.4			16.4			16.1	
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+I1), s		17.5		15.0		23.5		17.3				
Green Ext Time (p_c), s		3.9		2.2		2.6		1.2				
Intersection Summary												
HCM 6th Ctrl Delay			18.4									
HCM 6th LOS			B									

HCM 6th Signalized Intersection Summary — Existing 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						
Traffic Volume (veh/h)	45	203	154	322	244	49
Future Volume (veh/h)	45	203	154	322	244	49
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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	
Adj Sat Flow, veh/h/ln	1953	1953	1938	1938	1953	1953
Adj Flow Rate, veh/h	53	239	181	379	271	54
Peak Hour Factor	0.85	0.85	0.85	0.85	0.90	0.90
Percent Heavy Veh, %	3	3	4	4	3	3
Cap, veh/h	437	795	763	2236	874	171
Arrive On Green	0.23	0.23	0.49	1.00	0.28	0.28
Sat Flow, veh/h	1860	1655	1845	3778	3190	607
Grp Volume(v), veh/h	53	239	181	379	161	164
Grp Sat Flow(s),veh/h/ln	1860	1655	1845	1841	1856	1844
Q Serve(g_s), s	1.8	7.0	3.0	0.0	5.5	5.6
Cycle Q Clear(g_c), s	1.8	7.0	3.0	0.0	5.5	5.6
Prop In Lane	1.00	1.00	1.00			0.33
Lane Grp Cap(c), veh/h	437	795	763	2236	524	521
V/C Ratio(X)	0.12	0.30	0.24	0.17	0.31	0.31
Avail Cap(c_a), veh/h	437	795	763	2236	524	521
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	24.1	12.6	6.1	0.0	22.5	22.6
Incr Delay (d2), s/veh	0.6	1.0	0.7	0.2	1.5	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	8.3	1.0	0.1	2.5	2.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.7	13.6	6.9	0.2	24.1	24.2
LnGrp LOS	C	B	A	A	C	C
Approach Vol, veh/h	292			560	325	
Approach Delay, s/veh	15.6			2.3	24.1	
Approach LOS	B			A	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		55.0		25.0	26.0	29.0
Change Period (Y+Rc), s		6.4		* 6.2	6.4	6.4
Max Green Setting (Gmax), s		48.6		* 19	19.6	22.6
Max Q Clear Time (g_c+I1), s		2.0		9.0	5.0	7.6
Green Ext Time (p_c), s		2.7		0.7	0.4	1.5

Intersection Summary	
HCM 6th Ctrl Delay	11.6
HCM 6th LOS	B

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
28: Northville Road & S. Seven Mile Road — AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	266	198	278	281	277	170
Future Volume (veh/h)	266	198	278	281	277	170
Initial Q (Qb), veh	3	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1953	1953	1938	1938	1953	1953
Adj Flow Rate, veh/h	283	211	316	319	330	202
Peak Hour Factor	0.94	0.94	0.88	0.88	0.84	0.84
Percent Heavy Veh, %	3	3	4	4	3	3
Cap, veh/h	437	815	497	443	623	2254
Arrive On Green	0.23	0.23	0.27	0.27	0.08	0.20
Sat Flow, veh/h	1860	1655	1938	1642	1860	3809
Grp Volume(v), veh/h	283	211	316	319	330	202
Grp Sat Flow(s),veh/h/ln	1860	1655	1841	1642	1860	1856
Q Serve(g_s), s	11.0	0.0	12.1	14.1	7.2	3.5
Cycle Q Clear(g_c), s	11.0	0.0	12.1	14.1	7.2	3.5
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	437	815	497	443	623	2254
V/C Ratio(X)	0.65	0.26	0.64	0.72	0.53	0.09
Avail Cap(c_a), veh/h	437	815	497	443	623	2254
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.33	0.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.6	11.8	25.7	26.5	28.4	14.0
Incr Delay (d2), s/veh	7.2	0.8	6.1	9.7	3.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	2.1	5.7	6.3	6.1	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.8	12.6	31.8	36.1	31.6	14.0
LnGrp LOS	C	B	C	D	C	B
Approach Vol, veh/h	494		635		532	
Approach Delay, s/veh	25.3		34.0		25.0	
Approach LOS	C		C		C	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	27.0	28.0			55.0	25.0
Change Period (Y+Rc), s	6.4	6.4			6.4	6.2
Max Green Setting (Gmax), s	20.6	21.6			48.6	18.8
Max Q Clear Time (g_c+I1), s	9.2	16.1			5.5	13.0
Green Ext Time (p_c), s	0.8	1.8			1.3	0.9

Intersection Summary	
HCM 6th Ctrl Delay	28.5
HCM 6th LOS	C

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	11	198	13	13	25	47	602	8	16	412	37
Future Volume (veh/h)	40	11	198	13	13	25	47	602	8	16	412	37
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	1.00			0.99	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	2000	2000	2000	1984	1984	1984
Adj Flow Rate, veh/h	48	13	236	14	14	27	54	692	9	22	564	51
Peak Hour Factor	0.84	0.84	0.84	0.91	0.91	0.91	0.87	0.87	0.87	0.73	0.73	0.73
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	1	1	1
Cap, veh/h	108	34	279	132	133	183	473	1202	16	577	1093	99
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	1.00	1.00	1.00	0.61	0.61	0.61
Sat Flow, veh/h	180	161	1320	268	631	867	819	1969	26	748	1791	162
Grp Volume(v), veh/h	297	0	0	55	0	0	54	0	701	22	0	615
Grp Sat Flow(s),veh/h/ln	1661	0	0	1766	0	0	819	0	1995	748	0	1953
Q Serve(g_s), s	6.2	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.7	0.0	10.7
Cycle Q Clear(g_c), s	10.2	0.0	0.0	1.5	0.0	0.0	12.0	0.0	0.0	0.7	0.0	10.7
Prop In Lane	0.16		0.79	0.25		0.49	1.00		0.01	1.00		0.08
Lane Grp Cap(c), veh/h	421	0	0	448	0	0	473	0	1218	577	0	1192
V/C Ratio(X)	0.71	0.00	0.00	0.12	0.00	0.00	0.11	0.00	0.58	0.04	0.00	0.52
Avail Cap(c_a), veh/h	478	0	0	503	0	0	473	0	1218	577	0	1192
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 Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.89	0.00	0.89	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.6	0.0	0.0	19.2	0.0	0.0	1.8	0.0	0.0	4.7	0.0	6.6
Incr Delay (d2), s/veh	4.0	0.0	0.0	0.1	0.0	0.0	0.4	0.0	1.8	0.1	0.0	1.6
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	4.3	0.0	0.0	0.6	0.0	0.0	0.1	0.0	0.6	0.1	0.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.7	0.0	0.0	19.4	0.0	0.0	2.2	0.0	1.8	4.8	0.0	8.2
LnGrp LOS	C	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		297			55			755			637	
Approach Delay, s/veh		26.7			19.4			1.8			8.1	
Approach LOS		C			B			A			A	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		42.1		17.9		42.1		17.9
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+I1), s		14.0		12.2		12.7		3.5
Green Ext Time (p_c), s		5.6		0.5		4.7		0.1

Intersection Summary	
HCM 6th Ctrl Delay	8.9
HCM 6th LOS	A

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
9: Griswold Street & Main Street — PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	256	21	10	278	242	15	192	17	164	169	85
Future Volume (veh/h)	48	256	21	10	278	242	15	192	17	164	169	85
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		0.99	1.00		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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	1984	1984	1984	2000	2000	2000	2000	2000	2000
Adj Flow Rate, veh/h	52	278	23	11	296	257	17	218	19	173	178	89
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	177	923	79	70	693	538	87	788	66	327	329	145
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	276	2589	222	22	1943	1509	50	1739	145	537	726	320
Grp Volume(v), veh/h	169	0	184	307	0	257	254	0	0	440	0	0
Grp Sat Flow(s),veh/h/ln	1311	0	1776	1966	0	1509	1933	0	0	1583	0	0
Q Serve(g_s), s	0.5	0.0	4.5	0.0	0.0	7.9	0.0	0.0	0.0	6.7	0.0	0.0
Cycle Q Clear(g_c), s	8.4	0.0	4.5	7.1	0.0	7.9	4.9	0.0	0.0	11.6	0.0	0.0
Prop In Lane	0.31		0.13	0.04		1.00	0.07		0.07	0.39		0.20
Lane Grp Cap(c), veh/h	546	0	634	763	0	538	940	0	0	801	0	0
V/C Ratio(X)	0.31	0.00	0.29	0.40	0.00	0.48	0.27	0.00	0.00	0.55	0.00	0.00
Avail Cap(c_a), veh/h	546	0	634	763	0	538	940	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(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.7	0.0	13.8	14.7	0.0	15.0	10.3	0.0	0.0	11.9	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	1.2	1.6	0.0	3.0	0.7	0.0	0.0	2.7	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 BackOfQ(50%),veh/ln	1.7	0.0	1.9	3.3	0.0	2.9	1.9	0.0	0.0	4.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.2	0.0	15.0	16.3	0.0	18.0	11.0	0.0	0.0	14.6	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		353			564			254			440	
Approach Delay, s/veh		15.1			17.0			11.0			14.6	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		27.0		33.0		27.0		33.0
Change Period (Y+Rc), s		5.6		* 5.8		5.6		* 5.8
Max Green Setting (Gmax), s		21.4		* 27		21.4		* 27
Max Q Clear Time (g_c+I1), s		10.4		13.6		9.9		6.9
Green Ext Time (p_c), s		1.7		2.4		2.9		1.3

Intersection Summary	
HCM 6th Ctrl Delay	15.0
HCM 6th LOS	B

Notes

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

HCM 6th Signalized Intersection Summary — Existing 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												
Traffic Volume (veh/h)	10	70	26	175	58	17	22	446	205	45	475	33
Future Volume (veh/h)	10	70	26	175	58	17	22	446	205	45	475	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.94	0.96		0.94	0.99		0.98	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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	2000	2000	2000	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	13	89	33	199	66	19	23	469	216	47	500	35
Peak Hour Factor	0.79	0.79	0.79	0.88	0.88	0.88	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	83	297	102	335	82	23	77	751	336	113	984	68
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.60	0.60	0.60	1.00	1.00	1.00
Sat Flow, veh/h	78	1337	458	1047	367	101	25	1253	561	81	1641	110
Grp Volume(v), veh/h	135	0	0	284	0	0	708	0	0	582	0	0
Grp Sat Flow(s),veh/h/ln	1872	0	0	1516	0	0	1839	0	0	1832	0	0
Q Serve(g_s), s	0.0	0.0	0.0	6.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.6	0.0	0.0	10.4	0.0	0.0	14.7	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.10		0.24	0.70		0.07	0.03		0.31	0.08		0.06
Lane Grp Cap(c), veh/h	482	0	0	439	0	0	1164	0	0	1163	0	0
V/C Ratio(X)	0.28	0.00	0.00	0.65	0.00	0.00	0.61	0.00	0.00	0.50	0.00	0.00
Avail Cap(c_a), veh/h	525	0	0	473	0	0	1164	0	0	1163	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	19.6	0.0	0.0	21.8	0.0	0.0	7.8	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	2.8	0.0	0.0	2.4	0.0	0.0	1.5	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	1.5	0.0	0.0	3.9	0.0	0.0	5.3	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.9	0.0	0.0	24.6	0.0	0.0	10.1	0.0	0.0	1.5	0.0	0.0
LnGrp LOS	B	A	A	C	A	A	B	A	A	A	A	A
Approach Vol, veh/h		135			284			708			582	
Approach Delay, s/veh		19.9			24.6			10.1			1.5	
Approach LOS		B			C			B			A	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		41.5		18.5		41.5		18.5
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+I1), s		16.7		5.6		2.0		12.4
Green Ext Time (p_c), s		5.3		0.4		5.0		0.4

Intersection Summary	
HCM 6th Ctrl Delay	10.4
HCM 6th LOS	B

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 — PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	324	114	95	448	123	108	573	93	65	547	40
Future Volume (veh/h)	32	324	114	95	448	123	108	573	93	65	547	40
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
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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	2000	2000	2000	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	36	360	127	100	472	129	114	603	98	69	582	43
Peak Hour Factor	0.90	0.90	0.90	0.95	0.95	0.95	0.95	0.95	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	232	515	182	227	735	622	290	967	817	288	890	66
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	824	1401	494	923	2000	1693	806	1984	1677	751	1825	135
Grp Volume(v), veh/h	36	0	487	100	472	129	114	603	98	69	0	625
Grp Sat Flow(s),veh/h/ln	824	0	1895	923	2000	1693	806	1984	1677	751	0	1960
Q Serve(g_s), s	3.0	0.0	17.5	8.3	15.6	4.2	9.9	17.9	2.5	6.0	0.0	19.2
Cycle Q Clear(g_c), s	18.7	0.0	17.5	25.8	15.6	4.2	29.1	17.9	2.5	23.9	0.0	19.2
Prop In Lane	1.00		0.26	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	232	0	696	227	735	622	290	967	817	288	0	955
V/C Ratio(X)	0.16	0.00	0.70	0.44	0.64	0.21	0.39	0.62	0.12	0.24	0.00	0.65
Avail Cap(c_a), veh/h	232	0	696	227	735	622	290	967	817	288	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(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	0.0	21.5	32.5	20.9	17.3	26.4	15.1	11.2	23.9	0.0	15.4
Incr Delay (d2), s/veh	1.4	0.0	5.8	6.1	4.3	0.8	4.0	3.0	0.3	2.0	0.0	3.5
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	8.3	2.2	7.6	1.7	2.1	8.0	0.9	1.2	0.0	8.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.1	0.0	27.3	38.6	25.2	18.1	30.4	18.1	11.5	25.8	0.0	18.9
LnGrp LOS	C	A	C	D	C	B	C	B	B	C	A	B
Approach Vol, veh/h		523			701			815			694	
Approach Delay, s/veh		27.5			25.8			19.0			19.6	
Approach LOS		C			C			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+I1), s		31.1		20.7		25.9		27.8
Green Ext Time (p_c), s		3.0		2.2		3.8		0.7

Intersection Summary	
HCM 6th Ctrl Delay	22.5
HCM 6th LOS	C

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

Existing Conditions #3 (Main Closed) w/ IMP
PM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	50	257	393	539	440	102
Future Volume (veh/h)	50	257	393	539	440	102
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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	
Adj Sat Flow, veh/h/ln	1969	1969	1984	1984	1984	1984
Adj Flow Rate, veh/h	55	282	418	573	463	107
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	886	2762	974	224
Arrive On Green	0.11	0.11	0.67	1.00	0.32	0.32
Sat Flow, veh/h	1875	1668	1890	3870	3144	699
Grp Volume(v), veh/h	55	282	418	573	285	285
Grp Sat Flow(s),veh/h/ln	1875	1668	1890	1885	1885	1859
Q Serve(g_s), s	2.2	8.8	5.1	0.0	9.7	9.8
Cycle Q Clear(g_c), s	2.2	8.8	5.1	0.0	9.7	9.8
Prop In Lane	1.00	1.00	1.00			0.38
Lane Grp Cap(c), veh/h	206	738	886	2762	603	595
V/C Ratio(X)	0.27	0.38	0.47	0.21	0.47	0.48
Avail Cap(c_a), veh/h	206	738	886	2762	603	595
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	32.6	15.0	3.1	0.0	21.8	21.8
Incr Delay (d2), s/veh	3.1	1.5	1.8	0.2	2.7	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	10.1	1.4	0.1	4.5	4.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.8	16.5	4.9	0.2	24.4	24.6
LnGrp LOS	D	B	A	A	C	C
Approach Vol, veh/h	337			991	570	
Approach Delay, s/veh	19.6			2.2	24.5	
Approach LOS	B			A	C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		65.0		15.0	33.0	32.0
Change Period (Y+Rc), s		6.4		* 6.2	6.4	6.4
Max Green Setting (Gmax), s		58.6		* 8.8	26.6	25.6
Max Q Clear Time (g_c+I1), s		2.0		10.8	7.1	11.8
Green Ext Time (p_c), s		4.3		0.0	1.2	2.8

Intersection Summary		
HCM 6th Ctrl Delay		12.0
HCM 6th LOS		B

Notes

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

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

Existing Conditions #3 (Main Closed) w/ IMP
PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	347	497	435	336	340	357
Future Volume (veh/h)	347	497	435	336	340	357
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	399	571	458	354	358	376
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	491	807	573	441	538	2196
Arrive On Green	0.26	0.26	0.28	0.28	0.29	0.77
Sat Flow, veh/h	1890	1682	2126	1561	1890	3870
Grp Volume(v), veh/h	399	571	426	386	358	376
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1703	1890	1885
Q Serve(g_s), s	15.8	3.8	16.7	16.8	7.4	2.1
Cycle Q Clear(g_c), s	15.8	3.8	16.7	16.8	7.4	2.1
Prop In Lane	1.00	1.00		0.92	1.00	
Lane Grp Cap(c), veh/h	491	807	533	481	538	2196
V/C Ratio(X)	0.81	0.71	0.80	0.80	0.67	0.17
Avail Cap(c_a), veh/h	491	807	533	481	538	2196
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.8	16.4	26.6	26.6	23.3	4.0
Incr Delay (d2), s/veh	13.6	5.2	11.9	13.2	6.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	8.5	8.7	8.1	5.6	0.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	41.4	21.6	38.5	39.9	29.7	4.2
LnGrp LOS	D	C	D	D	C	A
Approach Vol, veh/h	970		812			734
Approach Delay, s/veh	29.7		39.2			16.6
Approach LOS	C		D			B

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	24.0	29.0			53.0	27.0
Change Period (Y+Rc), s	6.4	6.4			6.4	6.2
Max Green Setting (Gmax), s	17.6	22.6			46.6	20.8
Max Q Clear Time (g_c+I1), s	9.4	18.8			4.1	17.8
Green Ext Time (p_c), s	0.7	1.7			2.6	1.2

Intersection Summary		
HCM 6th Ctrl Delay		28.9
HCM 6th LOS		C

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

Intersection: 1: Wing Street & Randolph Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	29	67
Average Queue (ft)	2	33
95th Queue (ft)	16	53
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)	113	35	44	29	41
Average Queue (ft)	44	8	9	1	3
95th Queue (ft)	85	30	34	11	28
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)	62	66	63	72
Average Queue (ft)	32	39	35	37
95th Queue (ft)	55	59	51	58
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
Existing Conditions #1 (Pre-COVID)
AM Peak Hour

Intersection: 4: Center Street & Dunlap Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	95	114	40	99	38	164	127	175
Average Queue (ft)	32	36	8	39	6	77	50	91
95th Queue (ft)	71	82	29	78	26	144	94	160
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	1		2	2	21	0	1
Queuing Penalty (veh)	0	0		0	11	2	0	1

Intersection: 5: Dunlap Street & Hutton Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	18	18	57
Average Queue (ft)	1	1	29
95th Queue (ft)	11	8	50
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)	89	78	69	75
Average Queue (ft)	47	41	32	38
95th Queue (ft)	74	67	55	59
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
Existing 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	106	182	213
Average Queue (ft)	67	38	129	68
95th Queue (ft)	114	84	191	146
Link Distance (ft)	115	521	143	326
Upstream Blk Time (%)	1		4	
Queuing Penalty (veh)	2		20	
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)	110	34	138	97	39	173	28
Average Queue (ft)	44	3	44	38	13	82	5
95th Queue (ft)	90	17	95	76	35	144	22
Link Distance (ft)	521		381		114		328
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		25		75		175	
Storage Blk Time (%)	21	0	1	0		0	
Queuing Penalty (veh)	2	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)	111	91	94	116	129	195
Average Queue (ft)	59	37	43	55	60	80
95th Queue (ft)	96	81	79	96	110	151
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)	1	0			0	
Queuing Penalty (veh)	1	0			0	
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

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

Intersection: 10: Cady Street & Main Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	12	47
Average Queue (ft)	1	18
95th Queue (ft)	8	42
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)	58	45	64	64
Average Queue (ft)	31	26	31	35
95th Queue (ft)	52	47	51	51
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	94	103	81
Average Queue (ft)	15	36	11	5
95th Queue (ft)	42	70	54	35
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 13: N. Site Drive/Hutton Street & Cady Street

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	48	6	43
Average Queue (ft)	8	0	8
95th Queue (ft)	34	4	32
Link Distance (ft)	250	85	123
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: Cady Street & Chruch Street

Movement	SB
Directions Served	LR
Maximum Queue (ft)	60
Average Queue (ft)	36
95th Queue (ft)	55
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
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	77	36	25
Average Queue (ft)	44	6	1
95th Queue (ft)	68	27	10
Link Distance (ft)	354	204	96
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	SB
Directions Served	LR
Maximum Queue (ft)	36
Average Queue (ft)	20
95th Queue (ft)	42
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)	12	61
Average Queue (ft)	0	23
95th Queue (ft)	6	52
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)	51	54
Average Queue (ft)	20	6
95th Queue (ft)	46	30
Link Distance (ft)	604	75
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 19: Seven Mile Road & Fairbrook Street & First Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	58	49	47	24
Average Queue (ft)	2	9	5	4
95th Queue (ft)	24	31	25	15
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	40	69	51
Average Queue (ft)	17	12	25	28
95th Queue (ft)	41	38	53	48
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	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	65	117	3
Average Queue (ft)	19	10	0
95th Queue (ft)	50	68	2
Link Distance (ft)	96	531	423
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

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

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	LTR	LTR			
Maximum Queue (ft)	17	29	26	4	59	49			
Average Queue (ft)	1	1	4	0	16	26			
95th Queue (ft)	7	15	18	3	45	50			
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	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	82	306	64	118	59	61	573	145	247
Average Queue (ft)	25	163	20	47	13	27	257	57	113
95th Queue (ft)	60	266	51	94	40	63	451	121	202
Link Distance (ft)		386		578	578		21448		531
Upstream Blk Time (%)		0							
Queuing Penalty (veh)		2							
Storage Bay Dist (ft)	500		150			50		150	
Storage Blk Time (%)		0				1	36	0	3
Queuing Penalty (veh)		0				6	20	2	2

Intersection: 24: Hines Drive & Seven Mile Road

Movement	NB	SB
Directions Served	TR	LT
Maximum Queue (ft)	114	4
Average Queue (ft)	45	0
95th Queue (ft)	84	3
Link Distance (ft)	3643	578
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 25: Seven Mile Road & River Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	43	48
Average Queue (ft)	3	15
95th Queue (ft)	19	41
Link Distance (ft)	821	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	EB	WB
Directions Served	T	R	T
Maximum Queue (ft)	50	105	50
Average Queue (ft)	18	52	24
95th Queue (ft)	40	90	52
Link Distance (ft)	180	180	16
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	LT
Maximum Queue (ft)	26	58
Average Queue (ft)	9	9
95th Queue (ft)	29	37
Link Distance (ft)	16	233
Upstream Blk Time (%)	2	
Queuing Penalty (veh)	1	
Storage Bay Dist (ft)		
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)	97	29	195	223	199	242	97
Average Queue (ft)	73	5	100	112	141	45	33
95th Queue (ft)	106	20	163	190	206	167	73
Link Distance (ft)	82	82	219	219		222	222
Upstream Blk Time (%)	2		0	0		1	
Queuing Penalty (veh)	5		0	1		2	
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					18	0	
Queuing Penalty (veh)					16	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)

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)

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: 109

Intersection: 1: Wing Street & Randolph Street

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	57	16	130
Average Queue (ft)	4	1	51
95th Queue (ft)	47	12	121
Link Distance (ft)	835	394	263
Upstream Blk Time (%)			2
Queuing Penalty (veh)			3
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)	297	62	47	51	29	69
Average Queue (ft)	115	30	16	3	9	6
95th Queue (ft)	268	56	43	25	31	38
Link Distance (ft)	394	193		153		1449
Upstream Blk Time (%)	3					
Queuing Penalty (veh)	8					
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	111	108	69
Average Queue (ft)	33	59	45	37
95th Queue (ft)	56	92	80	58
Link Distance (ft)	740	122	165	263
Upstream Blk Time (%)		0	0	
Queuing Penalty (veh)		0	1	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Center Street & Dunlap Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	88	90	34	154	49	221	132	175
Average Queue (ft)	44	40	9	74	12	91	48	115
95th Queue (ft)	82	76	30	129	40	176	103	179
Link Distance (ft)		192		135		326		153
Upstream Blk Time (%)				1			0	1
Queuing Penalty (veh)				3			0	12
Storage Bay Dist (ft)	100		75		30		500	
Storage Blk Time (%)	0	0		15	5	22	0	1
Queuing Penalty (veh)	0	0		2	28	3	0	1

Intersection: 5: Dunlap Street & Hutton Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	59	54	66
Average Queue (ft)	8	4	36
95th Queue (ft)	37	25	59
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)	118	77	80	71
Average Queue (ft)	50	45	42	39
95th Queue (ft)	83	69	66	59
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)	137	215	181	277
Average Queue (ft)	72	85	124	102
95th Queue (ft)	122	168	184	218
Link Distance (ft)	115	521	143	326
Upstream Blk Time (%)	4		5	0
Queuing Penalty (veh)	8		28	1
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 8: Hutton Street & Main Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	LT	R	LT	R	LTR	LT	R	
Maximum Queue (ft)	108	34	182	100	64	188	28	
Average Queue (ft)	41	3	71	61	19	103	9	
95th Queue (ft)	90	19	141	107	51	166	27	
Link Distance (ft)	521		381		114		328	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)		25		75		175		
Storage Blk Time (%)	21	1	3	1		1		
Queuing Penalty (veh)	2	1	10	2		0		

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR	
Maximum Queue (ft)	139	123	129	177	140	695	
Average Queue (ft)	75	59	72	97	75	421	
95th Queue (ft)	122	108	110	154	127	912	
Link Distance (ft)	103	103	336	336	125	1018	
Upstream Blk Time (%)	3	1			1	1	
Queuing Penalty (veh)	6	2			2	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)	49	45
Average Queue (ft)	8	19
95th Queue (ft)	35	42
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)	60	65	79	67
Average Queue (ft)	34	34	38	37
95th Queue (ft)	55	53	61	56
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)	74	111	177	132
Average Queue (ft)	32	47	29	25
95th Queue (ft)	65	87	104	92
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)			0	1
Queuing Penalty (veh)			1	4
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 13: N. Site Drive/Hutton Street & Cady Street

Movement	EB	SB
Directions Served	LTR	LTR
Maximum Queue (ft)	30	31
Average Queue (ft)	4	14
95th Queue (ft)	20	39
Link Distance (ft)	250	123
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 14: Cady Street & Chruch Street

Movement	SB
Directions Served	LR
Maximum Queue (ft)	38
Average Queue (ft)	24
95th Queue (ft)	47
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
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	81	58	31
Average Queue (ft)	41	19	3
95th Queue (ft)	66	47	18
Link Distance (ft)	354	204	96
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	SB
Directions Served	LR
Maximum Queue (ft)	53
Average Queue (ft)	29
95th Queue (ft)	42
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)	8	22	63
Average Queue (ft)	0	1	35
95th Queue (ft)	5	9	56
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)	57	52
Average Queue (ft)	27	9
95th Queue (ft)	51	36
Link Distance (ft)	604	75
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 19: Seven Mile Road & Fairbrook Street & First Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	132	62	92	15
Average Queue (ft)	9	12	14	2
95th Queue (ft)	54	37	57	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)	50	74	68	54
Average Queue (ft)	15	36	35	34
95th Queue (ft)	42	61	56	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)	68	257
Average Queue (ft)	27	80
95th Queue (ft)	56	189
Link Distance (ft)	96	531
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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

Movement	EB	EB	WB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR		
Maximum Queue (ft)	44	23	26	48	33	81		
Average Queue (ft)	11	0	3	2	10	37		
95th Queue (ft)	36	0	17	17	33	67		
Link Distance (ft)		1045		386	426	110		
Upstream Blk Time (%)						0		
Queuing Penalty (veh)						0		
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	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	97	304	227	338	258	60	5295	200	381
Average Queue (ft)	26	150	83	186	65	50	2844	77	223
95th Queue (ft)	68	243	188	292	174	75	5931	184	354
Link Distance (ft)		386		578	578		21448		531
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	500		150			50		150	
Storage Blk Time (%)			1	17		21	49	2	19
Queuing Penalty (veh)			5	18		162	60	15	14

Intersection: 24: Hines Drive & Seven Mile Road

Movement	WB	NB	SB
Directions Served	L	TR	LT
Maximum Queue (ft)	27	276	6
Average Queue (ft)	1	131	0
95th Queue (ft)	12	233	4
Link Distance (ft)		3643	578
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	225		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 25: Seven Mile Road & River Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	68	68
Average Queue (ft)	23	30
95th Queue (ft)	58	54
Link Distance (ft)	821	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	EB	WB
Directions Served	T	R	T
Maximum Queue (ft)	76	114	68
Average Queue (ft)	23	49	44
95th Queue (ft)	50	85	62
Link Distance (ft)	180	180	16
Upstream Blk Time (%)			15
Queuing Penalty (veh)			60
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	LT
Maximum Queue (ft)	26	122
Average Queue (ft)	16	41
95th Queue (ft)	36	85
Link Distance (ft)	16	233
Upstream Blk Time (%)	6	
Queuing Penalty (veh)	4	
Storage Bay Dist (ft)		
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)	98	52	254	256	199	246	134
Average Queue (ft)	78	17	192	201	147	77	59
95th Queue (ft)	106	46	263	283	218	205	106
Link Distance (ft)	82	82	219	219		222	222
Upstream Blk Time (%)	3		11	15		2	
Queuing Penalty (veh)	12		46	60		7	
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					23	0	
Queuing Penalty (veh)					43	1	

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)

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)

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: 634

Intersection: 1: Wing Street & Randolph Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	29	74
Average Queue (ft)	2	31
95th Queue (ft)	16	52
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
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	69	34	30	11
Average Queue (ft)	33	8	5	1
95th Queue (ft)	58	29	24	7
Link Distance (ft)	394	193		
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)	71	93	82	82
Average Queue (ft)	32	44	44	41
95th Queue (ft)	54	70	67	66
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: Dunlap Street & Center Street

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	74	57	78	96	110
Average Queue (ft)	42	29	42	46	52
95th Queue (ft)	65	52	66	76	85
Link Distance (ft)		195	134		154
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	100			500	
Storage Blk Time (%)	0				
Queuing Penalty (veh)	0				

Intersection: 5: Dunlap Street & Hutton Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	39	14	62
Average Queue (ft)	3	1	27
95th Queue (ft)	18	11	51
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)	100	71	76	101
Average Queue (ft)	49	34	41	48
95th Queue (ft)	80	55	64	83
Link Distance (ft)	767	174	307	132
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Center Street & Main Street

Movement	EB	NB
Directions Served	LTR	LTR
Maximum Queue (ft)	59	69
Average Queue (ft)	33	38
95th Queue (ft)	48	62
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)	60	87	80	85	60
Average Queue (ft)	17	48	43	49	29
95th Queue (ft)	47	76	68	77	53
Link Distance (ft)	375		124		333
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		75		175	
Storage Blk Time (%)		1			
Queuing Penalty (veh)		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)	95	85	116	120	143	178
Average Queue (ft)	45	36	49	59	72	88
95th Queue (ft)	77	74	94	101	130	150
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)	0	0			1	
Queuing Penalty (veh)	0	0			3	
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)	35	32
Average Queue (ft)	3	16
95th Queue (ft)	20	39
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)	60	64	77	83
Average Queue (ft)	31	34	38	44
95th Queue (ft)	53	52	61	69
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)	101	119	52	48
Average Queue (ft)	42	53	5	6
95th Queue (ft)	74	92	26	28
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 13: N. Site Drive/Hutton Street & Cady Street

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	92	4	99
Average Queue (ft)	31	0	29
95th Queue (ft)	73	3	54
Link Distance (ft)	250	85	123
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: Cady Street & Chruch Street

Movement	WB	SB
Directions Served	T	LR
Maximum Queue (ft)	6	65
Average Queue (ft)	0	38
95th Queue (ft)	4	56
Link Distance (ft)	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
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	94	31	30
Average Queue (ft)	48	7	2
95th Queue (ft)	76	27	16
Link Distance (ft)	354	204	96
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	SB
Directions Served	LR
Maximum Queue (ft)	34
Average Queue (ft)	21
95th Queue (ft)	42
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	NB
Directions Served	LR
Maximum Queue (ft)	47
Average Queue (ft)	21
95th Queue (ft)	45
Link Distance (ft)	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)	43	42
Average Queue (ft)	20	3
95th Queue (ft)	45	22
Link Distance (ft)	604	75
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 19: Seven Mile Road & Fairbrook Street & First Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	59	40	44	19
Average Queue (ft)	3	6	5	3
95th Queue (ft)	22	24	26	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)	47	44	88	85
Average Queue (ft)	18	20	38	41
95th Queue (ft)	43	46	67	66
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	82
Average Queue (ft)	29	13
95th Queue (ft)	54	49
Link Distance (ft)	96	531
Upstream Blk Time (%)	0	
Queuing Penalty (veh)	0	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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

Movement	EB	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	LTR	LTR			
Maximum Queue (ft)	33	6	19	13	43	97			
Average Queue (ft)	4	0	1	1	14	43			
95th Queue (ft)	22	4	7	8	38	75			
Link Distance (ft)		1045		386	426	110			
Upstream Blk Time (%)						0			
Queuing Penalty (veh)						0			
Storage Bay Dist (ft)	100		500						
Storage Blk Time (%)									
Queuing Penalty (veh)									

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)	48	295	152	230	36	60	383	88	217
Average Queue (ft)	10	150	51	60	7	36	199	18	109
95th Queue (ft)	33	244	122	152	23	72	358	58	180
Link Distance (ft)		386		578	578		21448		531
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	500		150			50		150	
Storage Blk Time (%)			1	2		5	30		2
Queuing Penalty (veh)			2	1		22	25		1

Intersection: 24: Hines Drive & Seven Mile Road

Movement	WB	NB	SB
Directions Served	L	TR	LT
Maximum Queue (ft)	2	105	10
Average Queue (ft)	0	46	0
95th Queue (ft)	1	84	5
Link Distance (ft)		3643	578
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	225		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 25: Seven Mile Road & River Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	47	48
Average Queue (ft)	4	11
95th Queue (ft)	23	38
Link Distance (ft)	821	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	EB	WB
Directions Served	T	R	T
Maximum Queue (ft)	51	80	62
Average Queue (ft)	19	39	20
95th Queue (ft)	41	66	48
Link Distance (ft)	180	180	16
Upstream Blk Time (%)			3
Queuing Penalty (veh)			4
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	LT
Maximum Queue (ft)	33	45
Average Queue (ft)	10	6
95th Queue (ft)	31	30
Link Distance (ft)	16	233
Upstream Blk Time (%)	3	
Queuing Penalty (veh)	1	
Storage Bay Dist (ft)		
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)	98	25	179	227	194	194	81
Average Queue (ft)	76	2	104	114	111	27	31
95th Queue (ft)	101	12	157	197	185	104	65
Link Distance (ft)	82	82	219	219		222	222
Upstream Blk Time (%)	2			0		0	
Queuing Penalty (veh)	6			1		1	
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					8	0	
Queuing Penalty (veh)					7	0	

Intersection: 29: N.E. Site Drive (Egress Only) & Cady Street

Movement	EB	WB
Directions Served	T	T
Maximum Queue (ft)	8	11
Average Queue (ft)	0	0
95th Queue (ft)	5	8
Link Distance (ft)	85	52
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
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)

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)	

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

Movement	SB
Directions Served	LT
Maximum Queue (ft)	6
Average Queue (ft)	0
95th Queue (ft)	4
Link Distance (ft)	163
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 76

Intersection: 1: Wing Street & Randolph Street

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	6	29	81
Average Queue (ft)	0	2	44
95th Queue (ft)	5	14	71
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)	107	58	35	26	29	32
Average Queue (ft)	48	28	13	2	6	2
95th Queue (ft)	85	52	38	15	25	17
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: 3: Wing Street & Dunlap Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	59	113	134	80
Average Queue (ft)	34	54	63	44
95th Queue (ft)	57	92	104	69
Link Distance (ft)	740	122	165	263
Upstream Blk Time (%)		1	0	
Queuing Penalty (veh)		4	0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Dunlap Street & Center Street

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	113	58	153	129	123
Average Queue (ft)	56	33	76	56	50
95th Queue (ft)	91	51	128	95	86
Link Distance (ft)		195	134		154
Upstream Blk Time (%)			2	0	0
Queuing Penalty (veh)			5	0	0
Storage Bay Dist (ft)	100			500	
Storage Blk Time (%)	1			0	0
Queuing Penalty (veh)	1			0	0

Intersection: 5: Dunlap Street & Hutton Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	72	64	102
Average Queue (ft)	16	8	42
95th Queue (ft)	51	36	78
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)	103	93	128	116
Average Queue (ft)	52	44	64	54
95th Queue (ft)	82	73	103	95
Link Distance (ft)	767	174	307	132
Upstream Blk Time (%)				1
Queuing Penalty (veh)				2
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Center Street & Main Street

Movement	EB	NB
Directions Served	LTR	LTR
Maximum Queue (ft)	66	103
Average Queue (ft)	33	49
95th Queue (ft)	52	81
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)	172	100	93	102	72
Average Queue (ft)	45	76	49	55	37
95th Queue (ft)	118	111	80	89	58
Link Distance (ft)	375		124		333
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)		75		175	
Storage Blk Time (%)	0	10			
Queuing Penalty (veh)	0	5			

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	98	96	139	146	159	796
Average Queue (ft)	54	51	77	73	93	395
95th Queue (ft)	84	88	122	124	150	842
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)	0	0			3	5
Queuing Penalty (veh)	0	0			7	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)	58	49
Average Queue (ft)	9	22
95th Queue (ft)	38	44
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)	59	76	93	96
Average Queue (ft)	33	41	48	49
95th Queue (ft)	55	65	75	80
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)	146	235	62	64
Average Queue (ft)	59	94	8	16
95th Queue (ft)	115	178	32	46
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)	2	0		
Queuing Penalty (veh)	4	2		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 13: N. Site Drive/Hutton Street & Cady Street

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	111	16	81
Average Queue (ft)	34	1	38
95th Queue (ft)	78	8	63
Link Distance (ft)	250	85	123
Upstream Blk Time (%)			
Queuing Penalty (veh)			
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	6	48
Average Queue (ft)	0	0	23
95th Queue (ft)	4	4	47
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)	122	40	34	32
Average Queue (ft)	63	14	4	2
95th Queue (ft)	99	39	21	14
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	SB
Directions Served	LR
Maximum Queue (ft)	55
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)	19	49
Average Queue (ft)	1	25
95th Queue (ft)	9	47
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)	52	43
Average Queue (ft)	26	6
95th Queue (ft)	52	28
Link Distance (ft)	604	75
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 19: Seven Mile Road & Fairbrook Street & First Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	49	50	36	15
Average Queue (ft)	3	11	3	2
95th Queue (ft)	27	34	18	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)	45	75	74	72
Average Queue (ft)	16	33	38	38
95th Queue (ft)	42	56	59	58
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)	58	103
Average Queue (ft)	30	30
95th Queue (ft)	50	77
Link Distance (ft)	96	531
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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

Movement	EB	WB	WB	NB	SB
Directions Served	L	L	TR	LTR	LTR
Maximum Queue (ft)	37	25	26	34	136
Average Queue (ft)	6	2	1	8	65
95th Queue (ft)	26	14	14	29	118
Link Distance (ft)			386	426	110
Upstream Blk Time (%)					5
Queuing Penalty (veh)					8
Storage Bay Dist (ft)	100	500			
Storage Blk Time (%)					
Queuing Penalty (veh)					

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

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR	
Maximum Queue (ft)	61	265	249	377	292	60	531	140	197	
Average Queue (ft)	17	143	103	188	63	45	283	47	112	
95th Queue (ft)	46	234	220	359	262	74	482	100	174	
Link Distance (ft)		386		578	578		21448		531	
Upstream Blk Time (%)				1	1					
Queuing Penalty (veh)				3	3					
Storage Bay Dist (ft)	500		150			50		150		
Storage Blk Time (%)			9	15		7	37	0	1	
Queuing Penalty (veh)			41	19		38	47	1	1	

Intersection: 24: Hines Drive & Seven Mile Road

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	28	12	229	4
Average Queue (ft)	1	1	98	0
95th Queue (ft)	8	12	186	3
Link Distance (ft)		821	3643	578
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	225			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 25: Seven Mile Road & River Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	74	43	68
Average Queue (ft)	13	3	29
95th Queue (ft)	48	19	55
Link Distance (ft)	821	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	EB	WB	SB
Directions Served	T	R	T	TR
Maximum Queue (ft)	46	104	61	4
Average Queue (ft)	20	47	42	0
95th Queue (ft)	40	82	61	3
Link Distance (ft)	180	180	16	364
Upstream Blk Time (%)			15	
Queuing Penalty (veh)			60	
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	LT	T
Maximum Queue (ft)	33	106	14
Average Queue (ft)	15	40	0
95th Queue (ft)	36	84	10
Link Distance (ft)	16	233	233
Upstream Blk Time (%)	6		
Queuing Penalty (veh)	3		
Storage Bay Dist (ft)			
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)	98	54	248	255	197	230	121
Average Queue (ft)	82	16	168	175	146	71	61
95th Queue (ft)	102	43	243	264	207	178	108
Link Distance (ft)	82	82	219	219		222	222
Upstream Blk Time (%)	3		2	6		1	
Queuing Penalty (veh)	13		8	22		2	
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					19	0	
Queuing Penalty (veh)					34	0	

Intersection: 29: N.E. Site Drive (Egress Only) & Cady Street

Movement	WB
Directions Served	T
Maximum Queue (ft)	6
Average Queue (ft)	0
95th Queue (ft)	0
Link Distance (ft)	52
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)

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)	

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

Movement	SB
Directions Served	LT
Maximum Queue (ft)	35
Average Queue (ft)	2
95th Queue (ft)	18
Link Distance (ft)	163
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 331

Intersection: 1: Wing Street & Randolph Street

Movement	NB
Directions Served	LR
Maximum Queue (ft)	76
Average Queue (ft)	32
95th Queue (ft)	50
Link Distance (ft)	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)	67	30	31	29	54
Average Queue (ft)	36	8	6	4	2
95th Queue (ft)	56	30	26	20	18
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	56	67	78
Average Queue (ft)	32	40	34	40
95th Queue (ft)	47	58	56	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	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	103	115	29	115	30	116	95	177
Average Queue (ft)	39	43	5	51	3	63	44	88
95th Queue (ft)	80	90	23	95	18	103	80	153
Link Distance (ft)		192		135		323		153
Upstream Blk Time (%)				0				0
Queuing Penalty (veh)				0				2
Storage Bay Dist (ft)	100		75		30		500	
Storage Blk Time (%)	0	1		5	0	20		0
Queuing Penalty (veh)	0	0		0	1	2		0

Intersection: 5: Dunlap Street & Hutton Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	69	29	54
Average Queue (ft)	7	2	26
95th Queue (ft)	35	12	48
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)	117	81	56	55
Average Queue (ft)	56	38	27	37
95th Queue (ft)	91	62	53	53
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	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	143	180	130
Average Queue (ft)	51	114	53
95th Queue (ft)	97	189	102
Link Distance (ft)	114	149	323
Upstream Blk Time (%)	1	3	
Queuing Penalty (veh)	1	13	
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)	30	81	77	82	32
Average Queue (ft)	16	44	40	49	26
95th Queue (ft)	41	68	64	74	45
Link Distance (ft)	375		124		333
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		75		175	
Storage Blk Time (%)		0			
Queuing Penalty (veh)		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)	95	57	94	109	118	190
Average Queue (ft)	52	31	41	50	55	72
95th Queue (ft)	76	56	78	91	97	139
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)	0				0	
Queuing Penalty (veh)	0				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)	53	28
Average Queue (ft)	4	16
95th Queue (ft)	24	38
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)	54	31	55	68
Average Queue (ft)	27	23	28	36
95th Queue (ft)	50	45	45	54
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)	137	140	160	151
Average Queue (ft)	46	69	11	14
95th Queue (ft)	93	115	66	64
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)	0			0
Queuing Penalty (veh)	0			1
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 13: N. Site Drive/Hutton Street & Cady Street

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	150	21	92
Average Queue (ft)	28	1	24
95th Queue (ft)	81	7	47
Link Distance (ft)	250	85	123
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: Cady Street & Chruch Street

Movement	SB
Directions Served	LR
Maximum Queue (ft)	73
Average Queue (ft)	37
95th Queue (ft)	60
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
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	70	31	30
Average Queue (ft)	42	7	1
95th Queue (ft)	62	27	10
Link Distance (ft)	354	204	96
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	SB
Directions Served	LR
Maximum Queue (ft)	29
Average Queue (ft)	17
95th Queue (ft)	40
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	NB
Directions Served	LR
Maximum Queue (ft)	66
Average Queue (ft)	21
95th Queue (ft)	49
Link Distance (ft)	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)	30	31
Average Queue (ft)	18	5
95th Queue (ft)	42	25
Link Distance (ft)	604	75
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 19: Seven Mile Road & Fairbrook Street & First Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	77	54	50	15
Average Queue (ft)	4	7	4	5
95th Queue (ft)	28	28	23	17
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)	53	31	55	55
Average Queue (ft)	18	12	24	27
95th Queue (ft)	44	37	48	52
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)	31	53
Average Queue (ft)	17	10
95th Queue (ft)	41	40
Link Distance (ft)	96	531
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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

Movement	EB	WB	WB	NB	SB
Directions Served	TR	L	TR	LTR	LTR
Maximum Queue (ft)	17	25	21	51	69
Average Queue (ft)	1	1	0	14	28
95th Queue (ft)	6	8	0	42	54
Link Distance (ft)	1045		386	426	110
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		500			
Storage Blk Time (%)					
Queuing Penalty (veh)					

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

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR	
Maximum Queue (ft)	62	235	61	163	53	60	556	114	194	
Average Queue (ft)	23	125	20	67	12	20	200	39	118	
95th Queue (ft)	49	214	48	119	33	57	380	84	182	
Link Distance (ft)		386		578	578		21448		531	
Upstream Blk Time (%)										
Queuing Penalty (veh)										
Storage Bay Dist (ft)	500		150			50		150		
Storage Blk Time (%)				1		0	27		2	
Queuing Penalty (veh)				0		1	14		1	

Intersection: 24: Hines Drive & Seven Mile Road

Movement	NB
Directions Served	TR
Maximum Queue (ft)	93
Average Queue (ft)	44
95th Queue (ft)	77
Link Distance (ft)	3643
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 25: Seven Mile Road & River Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	31	49
Average Queue (ft)	3	13
95th Queue (ft)	18	40
Link Distance (ft)	821	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	EB	WB
Directions Served	T	R	T
Maximum Queue (ft)	47	137	50
Average Queue (ft)	22	50	25
95th Queue (ft)	46	89	52
Link Distance (ft)	180	180	16
Upstream Blk Time (%)			3
Queuing Penalty (veh)			5
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	LT
Maximum Queue (ft)	26	31
Average Queue (ft)	9	8
95th Queue (ft)	30	31
Link Distance (ft)	16	233
Upstream Blk Time (%)	3	
Queuing Penalty (veh)	1	
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 28: Northville Road & S. Seven Mile Road

Movement	WB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	L	T	T
Maximum Queue (ft)	98	205	176	197	239	117
Average Queue (ft)	78	115	111	127	38	40
95th Queue (ft)	100	187	162	200	127	80
Link Distance (ft)	82	219	219		222	222
Upstream Blk Time (%)	3	0			0	
Queuing Penalty (veh)	6	0			0	
Storage Bay Dist (ft)				120		
Storage Blk Time (%)				13		
Queuing Penalty (veh)				12		

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)

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)

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: 63

Intersection: 1: Wing Street & Randolph Street

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	21	23	91
Average Queue (ft)	1	1	44
95th Queue (ft)	9	12	75
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)	265	69	48	31	38	80
Average Queue (ft)	90	30	15	2	8	7
95th Queue (ft)	194	57	42	15	30	39
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: 3: Wing Street & Dunlap Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	64	102	78	70
Average Queue (ft)	33	53	41	36
95th Queue (ft)	54	84	63	57
Link Distance (ft)	740	122	165	263
Upstream Blk Time (%)		0		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Center Street & Dunlap Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	86	116	72	163	38	174	121	180
Average Queue (ft)	42	52	9	105	9	87	41	104
95th Queue (ft)	81	100	43	167	32	152	87	172
Link Distance (ft)		192		135		323		153
Upstream Blk Time (%)			0	7			0	1
Queuing Penalty (veh)			0	24			0	9
Storage Bay Dist (ft)	100		75		30		500	
Storage Blk Time (%)	0	1		26	3	24	0	1
Queuing Penalty (veh)	0	1		2	14	3	0	1

Intersection: 5: Dunlap Street & Hutton Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	59	48	80
Average Queue (ft)	14	6	41
95th Queue (ft)	46	29	69
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)	94	49	68	62
Average Queue (ft)	47	26	38	34
95th Queue (ft)	79	46	58	52
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	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	61	184	155
Average Queue (ft)	31	122	74
95th Queue (ft)	60	188	127
Link Distance (ft)	114	149	323
Upstream Blk Time (%)		4	
Queuing Penalty (veh)		17	
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)	216	100	76	139	96
Average Queue (ft)	51	73	44	60	36
95th Queue (ft)	152	107	67	99	71
Link Distance (ft)	375		124		333
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	2				
Storage Bay Dist (ft)		75		175	
Storage Blk Time (%)	2	8		0	0
Queuing Penalty (veh)	6	4		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)	108	111	138	145	146	392
Average Queue (ft)	55	49	72	66	71	194
95th Queue (ft)	89	90	116	112	120	332
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)	0	0			1	
Queuing Penalty (veh)	1	0			1	
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)	40	45
Average Queue (ft)	6	21
95th Queue (ft)	28	42
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)	59	55	72	69
Average Queue (ft)	33	32	38	35
95th Queue (ft)	54	46	59	55
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)	159	293	190	156
Average Queue (ft)	70	229	29	49
95th Queue (ft)	137	356	104	125
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)	3	50		1
Queuing Penalty (veh)	3	125		8
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 13: N. Site Drive/Hutton Street & Cady Street

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	84	64	139
Average Queue (ft)	23	10	50
95th Queue (ft)	62	53	113
Link Distance (ft)	250	85	123
Upstream Blk Time (%)		3	8
Queuing Penalty (veh)		5	9
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: Cady Street & Chruch Street

Movement	WB	SB
Directions Served	T	LR
Maximum Queue (ft)	20	49
Average Queue (ft)	1	24
95th Queue (ft)	14	48
Link Distance (ft)	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)	95	36	35	29
Average Queue (ft)	50	12	4	2
95th Queue (ft)	75	37	22	14
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	SB
Directions Served	LR
Maximum Queue (ft)	52
Average Queue (ft)	28
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)	13	43
Average Queue (ft)	1	24
95th Queue (ft)	8	45
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)	54	49
Average Queue (ft)	25	6
95th Queue (ft)	46	30
Link Distance (ft)	604	75
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 19: Seven Mile Road & Fairbrook Street & First Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	33	45	37	19
Average Queue (ft)	1	11	3	2
95th Queue (ft)	15	33	20	11
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)	57	70	55	54
Average Queue (ft)	14	36	33	33
95th Queue (ft)	43	60	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	NB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	47	227	3
Average Queue (ft)	26	69	0
95th Queue (ft)	48	161	2
Link Distance (ft)	96	531	423
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

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

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR	
Maximum Queue (ft)	29	16	34	21	45	78	
Average Queue (ft)	8	1	5	2	11	30	
95th Queue (ft)	28	13	22	16	34	63	
Link Distance (ft)		1045		386	426	110	
Upstream Blk Time (%)						0	
Queuing Penalty (veh)						0	
Storage Bay Dist (ft)	100		500				
Storage Blk Time (%)							
Queuing Penalty (veh)							

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)	73	314	247	325	208	60	1058	200	312
Average Queue (ft)	21	156	67	164	50	47	493	66	184
95th Queue (ft)	54	259	157	271	150	73	1009	169	282
Link Distance (ft)		386		578	578		21448		531
Upstream Blk Time (%)		0							
Queuing Penalty (veh)		0							
Storage Bay Dist (ft)	500		150			50		150	
Storage Blk Time (%)		0	0	11		13	44	1	12
Queuing Penalty (veh)		0	2	10		85	47	8	8

Intersection: 24: Hines Drive & Seven Mile Road

Movement	WB	NB	SB
Directions Served	L	TR	LT
Maximum Queue (ft)	41	264	15
Average Queue (ft)	3	95	1
95th Queue (ft)	19	181	7
Link Distance (ft)		3643	578
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	225		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 25: Seven Mile Road & River Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	82	39	63
Average Queue (ft)	14	3	29
95th Queue (ft)	51	20	56
Link Distance (ft)	821	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	EB	WB	SB
Directions Served	T	R	T	TR
Maximum Queue (ft)	53	114	59	5
Average Queue (ft)	21	50	43	0
95th Queue (ft)	42	87	61	3
Link Distance (ft)	180	180	16	364
Upstream Blk Time (%)			15	
Queuing Penalty (veh)			60	
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	LT	T
Maximum Queue (ft)	38	108	10
Average Queue (ft)	16	42	0
95th Queue (ft)	37	87	7
Link Distance (ft)	16	233	233
Upstream Blk Time (%)	5		
Queuing Penalty (veh)	3		
Storage Bay Dist (ft)			
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)	98	47	253	252	199	240	146
Average Queue (ft)	81	12	170	177	151	72	59
95th Queue (ft)	104	37	250	267	213	190	111
Link Distance (ft)	82	82	219	219		222	222
Upstream Blk Time (%)	3		3	5		1	0
Queuing Penalty (veh)	15		12	20		5	0
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					24	0	
Queuing Penalty (veh)					43	0	

Intersection: 29: N.E. Site Drive (Egress Only) & Cady Street

Movement	EB	WB
Directions Served	T	T
Maximum Queue (ft)	7	22
Average Queue (ft)	0	2
95th Queue (ft)	0	16
Link Distance (ft)	85	52
Upstream Blk Time (%)		1
Queuing Penalty (veh)		2
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)

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)

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: 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	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 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 + or -	XWalk 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	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						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			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	Turning Flows					Flow Modifiers		
		U-Turn	Exit-3	Exit-2	Exit-1	Bypass	Trucks %	Flow Factor	Peak Hour Factor
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 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	453	15	245	245	690	1123	994	0.4036	0.0151
2	7 Mile EB	None	541		488		225	970		0.5575	
3	Sheldon NB	Exclusive	624	72	545	545	484	920	774	0.6785	0.0931
4	7 Mile WB	None	266		669		572	1294		0.2055	

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	5.15	3.63	5.10	2.20	0.05	A	A	A
2	7 Mile EB	None	8.40		8.40	5.09		A		A
3	Sheldon NB	Exclusive	11.54	5.08	10.87	7.40	0.32	B	A	B
4	7 Mile WB	None	4.67		4.67	1.07		A		A

Global Results

Performance and Accidents

2021 AM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	1884	87	1971
Capacity	veh/hr	4307	1768	6075
Average Delay	sec/veh	8.13	4.83	7.99
L.O.S. (Signal)	A – F	A	A	A
L.O.S. (Unsig)	A – F	A	A	A
Total Delay	veh.hrs	4.26	0.12	4.37

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	Queuing 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 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 + or -	XWalk 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	46	12	1	12	1	12	1
3	Sheldon NB	Exclusive	106	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	66.00080 468	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00080 468	30	4	7 Mile WB	1	2

Traffic Flow Data (veh/hr)

2021 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	74	621	0	46	1.0	1.00	0.940
2	7 Mile EB	0	32	312	114	0	1.0	1.00	0.900
3	Sheldon NB	0	123	656	0	106	1.0	1.00	0.950
4	7 Mile WB	0	108	503	140	0	0.0	1.00	0.950

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	
			Entry	Bypass	Entry	Bypass		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)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
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

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 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 + or -	XWalk 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						Leg	Leg Names	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)			95% Queue (veh)		Level of Service		
			Entry	Bypass	Leg	Entry	Bypass	Entry	Bypass	Leg
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
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

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

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
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 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 + or -	XWalk 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	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						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			nex	Nmx
1	Central SB	12	1	0	100	66.00082 157	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00082 157	30	4	7 Mile WB	1	2

Traffic Flow Data (veh/hr)

2021 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	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

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	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	Central SB	Exclusive	402	20	687	687	589	987	848	0.4074	0.0236
2	7 Mile EB	None	470		527		582	954		0.4927	
3	Sheldon NB	Exclusive	583	104	405	405	592	1021	884	0.5713	0.1176
4	7 Mile WB	None	666		610		482	1440		0.4625	

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	6.09	4.31	6.01	2.13	0.07	A	A	A
2	7 Mile EB	None	7.25		7.25	3.30		A		A
3	Sheldon NB	Exclusive	7.99	4.56	7.47	4.46	0.41	A	A	A
4	7 Mile WB	None	5.62		5.62	3.70		A		A

Global Results

Performance and Accidents

2021 PM Peak Global Performance

Parameter	Units	Entries	Bypasses	Total
Arrive Flows	veh/hr	2121	124	2245
Capacity	veh/hr	4401	1732	6133
Average Delay	sec/veh	6.72	4.52	6.60
L.O.S. (Signal)	A – F	A	A	A
L.O.S. (Unsig)	A – F	A	A	A
Total Delay	veh.hrs	3.96	0.16	4.12

Scheme Summary

Control Data

Control Data and Model Parameters

Northville Downs - RDBT @ Central/Sheldon & 7 Mile	2021 PHF Flow Profile (veh)
Existing Conditions - Scenario #3 (Main 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 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	63	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	66.00080 468	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00080 468	30	4	7 Mile WB	1	2

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	399	13	271	271	607	1112	984	0.3589	0.0132
2	7 Mile EB	None	374		430		253	1003		0.3728	
3	Sheldon NB	Exclusive	548	63	378	378	426	1015	889	0.5401	0.0709
4	7 Mile WB	None	290		588		401	1374		0.2111	

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	4.84	3.66	4.81	1.80	0.04	A	A	A
2	7 Mile EB	None	5.61		5.61	2.10		A		A
3	Sheldon NB	Exclusive	7.33	4.32	7.02	3.67	0.23	A	A	A
4	7 Mile WB	None	4.11		4.11	1.02		A		A

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	2021 PHF Flow Profile (veh)
Existing Conditions - Scenario #3 (Main Closed)	7.5 min Time Slice
Rodel-Win1	Queuing 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 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	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	66.00079834	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00079834	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	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	Central SB	Exclusive	612	40	651	651	728	984	855	0.6219	0.0468
2	7 Mile EB	None	470		707		596	851		0.5521	
3	Sheldon NB	Exclusive	681	93	421	421	756	1010	866	0.6744	0.1074
4	7 Mile WB	None	666		713		482	1360		0.4897	

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	9.27	4.38	8.97	4.79	0.14	A	A	A
2	7 Mile EB	None	9.15		9.15	4.08		A		A
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

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

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)	395	75	34	2644	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	

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)	379	560	647	14324	75	300	534
Average Queue (ft)	192	518	599	5631	34	297	519
95th Queue (ft)	454	637	785	12659	95	301	531
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

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)	156	132	49	319	75	158	28
Average Queue (ft)	73	44	5	155	53	65	1
95th Queue (ft)	128	78	26	287	108	130	9
Link Distance (ft)	344	541	541	21410		490	490
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					50		
Storage Blk Time (%)				34	0		
Queuing Penalty (veh)				27	1		

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)	261	365	274	1924	75	291	28
Average Queue (ft)	80	176	88	992	69	105	1
95th Queue (ft)	174	336	224	1378	101	209	9
Link Distance (ft)	344	541	541	21410		490	490
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					50		
Storage Blk Time (%)				87	0		
Queuing Penalty (veh)				91	1		

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	

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)	376	551	645	13222	75	300	532
Average Queue (ft)	193	344	348	5522	34	297	519
95th Queue (ft)	425	664	787	11813	95	301	533
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 — AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	424	72	35	153	78	57	567	72	76	377	15
Future Volume (veh/h)	45	424	72	35	153	78	57	567	72	76	377	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
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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	53	499	85	38	166	85	62	616	78	88	438	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	431	544	93	156	628	602	328	657	83	175	731	28
Arrive On Green	0.04	0.33	0.33	0.03	0.32	0.32	0.04	0.38	0.38	0.04	0.39	0.39
Sat Flow, veh/h	1890	1652	281	1845	1938	1640	1875	1713	217	1875	1882	73
Grp Volume(v), veh/h	53	0	584	38	166	85	62	0	694	88	0	455
Grp Sat Flow(s),veh/h/ln	1890	0	1933	1845	1938	1640	1875	0	1929	1875	0	1956
Q Serve(g_s), s	2.0	0.0	31.7	1.5	6.9	3.8	2.2	0.0	37.8	3.1	0.0	20.3
Cycle Q Clear(g_c), s	2.0	0.0	31.7	1.5	6.9	3.8	2.2	0.0	37.8	3.1	0.0	20.3
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.11	1.00		0.04
Lane Grp Cap(c), veh/h	431	0	637	156	628	602	328	0	740	175	0	759
V/C Ratio(X)	0.12	0.00	0.92	0.24	0.26	0.14	0.19	0.00	0.94	0.50	0.00	0.60
Avail Cap(c_a), veh/h	456	0	733	189	734	692	341	0	795	180	0	806
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	23.2	0.0	35.2	27.8	27.3	23.1	20.8	0.0	32.4	26.2	0.0	26.7
Incr Delay (d2), s/veh	0.1	0.0	15.2	0.8	0.2	0.1	0.3	0.0	17.9	2.2	0.0	1.1
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	0.9	0.0	17.1	0.7	3.2	1.5	0.9	0.0	20.6	1.4	0.0	9.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.3	0.0	50.4	28.6	27.5	23.2	21.0	0.0	50.3	28.4	0.0	27.8
LnGrp LOS	C	A	D	C	C	C	C	A	D	C	A	C
Approach Vol, veh/h		637			289			756			543	
Approach Delay, s/veh		48.1			26.4			47.9			27.9	
Approach LOS		D			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	47.9	9.0	41.6	10.2	48.4	9.6	41.0
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+I1), s	5.1	39.8	3.5	33.7	4.2	22.3	4.0	8.9
Green Ext Time (p_c), s	0.0	2.1	0.0	2.3	0.0	2.8	0.0	1.2

Intersection Summary			
HCM 6th Ctrl Delay			40.3
HCM 6th LOS			D

HCM 6th Signalized Intersection Summary Existing 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	312	114	108	503	140	123	656	106	74	621	46
Future Volume (veh/h)	32	312	114	108	503	140	123	656	106	74	621	46
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
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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	2000	2000	2000	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	36	347	127	114	529	147	129	691	112	79	661	49
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	151	382	140	187	588	566	222	715	116	157	777	58
Arrive On Green	0.03	0.28	0.28	0.05	0.29	0.29	0.04	0.43	0.43	0.04	0.43	0.43
Sat Flow, veh/h	1890	1385	507	1905	2000	1692	1890	1665	270	1890	1824	135
Grp Volume(v), veh/h	36	0	474	114	529	147	129	0	803	79	0	710
Grp Sat Flow(s),veh/h/ln	1890	0	1892	1905	2000	1692	1890	0	1935	1890	0	1959
Q Serve(g_s), s	1.5	0.0	27.3	4.8	28.6	7.1	4.4	0.0	45.6	2.6	0.0	36.8
Cycle Q Clear(g_c), s	1.5	0.0	27.3	4.8	28.6	7.1	4.4	0.0	45.6	2.6	0.0	36.8
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.14	1.00		0.07
Lane Grp Cap(c), veh/h	151	0	522	187	588	566	222	0	831	157	0	834
V/C Ratio(X)	0.24	0.00	0.91	0.61	0.90	0.26	0.58	0.00	0.97	0.50	0.00	0.85
Avail Cap(c_a), veh/h	185	0	628	187	664	631	222	0	841	165	0	852
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	30.9	0.0	39.4	31.1	38.2	27.3	24.2	0.0	31.4	26.7	0.0	29.1
Incr Delay (d2), s/veh	0.8	0.0	15.2	5.6	14.2	0.2	3.8	0.0	23.0	2.5	0.0	8.1
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	0.7	0.0	14.6	2.5	16.0	2.9	2.1	0.0	25.5	1.2	0.0	18.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.7	0.0	54.6	36.8	52.4	27.5	28.0	0.0	54.4	29.1	0.0	37.3
LnGrp LOS	C	A	D	D	D	C	C	A	D	C	A	D
Approach Vol, veh/h		510			790			932			789	
Approach Delay, s/veh		53.0			45.5			50.7			36.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	54.4	11.0	36.7	11.0	54.0	9.0	38.7
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	49.0	5.4	37.4	5.0	49.0	5.4	37.4
Max Q Clear Time (g_c+I1), s	4.6	47.6	6.8	29.3	6.4	38.8	3.5	30.6
Green Ext Time (p_c), s	0.0	0.8	0.0	1.8	0.0	3.5	0.0	2.1

Intersection Summary			
HCM 6th Ctrl Delay			46.0
HCM 6th LOS			D

HCM 6th Signalized Intersection Summary Existing 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												
Traffic Volume (veh/h)	18	268	163	74	174	42	85	393	78	29	339	13
Future Volume (veh/h)	18	268	163	74	174	42	85	393	78	29	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		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	
Adj Sat Flow, veh/h/ln	1953	1953	1953	1922	1922	1922	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	21	312	190	84	198	48	92	427	85	40	464	18
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88	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	436	362	221	234	668	624	248	501	100	211	560	22
Arrive On Green	0.02	0.32	0.32	0.05	0.35	0.35	0.05	0.31	0.31	0.04	0.30	0.30
Sat Flow, veh/h	1860	1136	692	1830	1922	1626	1875	1593	317	1875	1882	73
Grp Volume(v), veh/h	21	0	502	84	198	48	92	0	512	40	0	482
Grp Sat Flow(s),veh/h/ln	1860	0	1827	1830	1922	1626	1875	0	1910	1875	0	1955
Q Serve(g_s), s	0.6	0.0	21.5	2.5	6.2	1.6	2.8	0.0	20.9	1.2	0.0	19.1
Cycle Q Clear(g_c), s	0.6	0.0	21.5	2.5	6.2	1.6	2.8	0.0	20.9	1.2	0.0	19.1
Prop In Lane	1.00		0.38	1.00		1.00	1.00		0.17	1.00		0.04
Lane Grp Cap(c), veh/h	436	0	583	234	668	624	248	0	601	211	0	582
V/C Ratio(X)	0.05	0.00	0.86	0.36	0.30	0.08	0.37	0.00	0.85	0.19	0.00	0.83
Avail Cap(c_a), veh/h	513	0	909	259	956	868	261	0	1033	255	0	1057
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	18.3	0.0	26.6	20.3	19.8	16.3	20.9	0.0	26.7	21.3	0.0	27.2
Incr Delay (d2), s/veh	0.0	0.0	5.2	0.9	0.2	0.1	0.9	0.0	3.6	0.4	0.0	3.1
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	0.3	0.0	9.6	1.1	2.7	0.6	1.2	0.0	9.5	0.5	0.0	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.3	0.0	31.8	21.3	20.0	16.3	21.8	0.0	30.3	21.7	0.0	30.3
LnGrp LOS	B	A	C	C	B	B	C	A	C	C	A	C
Approach Vol, veh/h		523			330			604			522	
Approach Delay, s/veh		31.3			19.8			29.0			29.7	
Approach LOS		C			B			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	32.2	9.9	32.2	10.4	30.8	7.5	34.5
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+I1), s	3.2	22.9	4.5	23.5	4.8	21.1	2.6	8.2
Green Ext Time (p_c), s	0.0	3.3	0.0	3.1	0.0	3.0	0.0	1.3

Intersection Summary			
HCM 6th Ctrl Delay			28.2
HCM 6th LOS			C

HCM 6th Signalized Intersection Summary Existing 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												
Traffic Volume (veh/h)	27	312	131	125	437	104	125	458	104	66	336	20
Future Volume (veh/h)	27	312	131	125	437	104	125	458	104	66	336	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	2000	1984	1984	1984	2000	2000	2000
Adj Flow Rate, veh/h	31	355	149	142	497	118	139	509	116	71	361	22
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	211	400	168	218	650	625	373	569	130	202	667	41
Arrive On Green	0.03	0.30	0.30	0.05	0.33	0.33	0.05	0.36	0.36	0.04	0.36	0.36
Sat Flow, veh/h	1890	1324	556	1890	1984	1685	1890	1559	355	1905	1864	114
Grp Volume(v), veh/h	31	0	504	142	497	118	139	0	625	71	0	383
Grp Sat Flow(s),veh/h/ln	1890	0	1880	1890	1984	1685	1890	0	1915	1905	0	1978
Q Serve(g_s), s	1.1	0.0	25.2	5.2	22.2	4.7	4.6	0.0	30.4	2.3	0.0	15.2
Cycle Q Clear(g_c), s	1.1	0.0	25.2	5.2	22.2	4.7	4.6	0.0	30.4	2.3	0.0	15.2
Prop In Lane	1.00		0.30	1.00		1.00	1.00		0.19	1.00		0.06
Lane Grp Cap(c), veh/h	211	0	567	218	650	625	373	0	699	202	0	707
V/C Ratio(X)	0.15	0.00	0.89	0.65	0.76	0.19	0.37	0.00	0.89	0.35	0.00	0.54
Avail Cap(c_a), veh/h	260	0	751	218	792	746	373	0	912	216	0	942
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	24.5	0.0	32.9	25.9	29.8	21.0	20.0	0.0	29.5	23.3	0.0	25.2
Incr Delay (d2), s/veh	0.3	0.0	10.2	6.7	3.6	0.1	0.6	0.0	9.3	1.0	0.0	0.6
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	12.6	2.6	10.8	1.8	2.0	0.0	15.1	1.0	0.0	7.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.8	0.0	43.0	32.6	33.4	21.1	20.6	0.0	38.8	24.3	0.0	25.9
LnGrp LOS	C	A	D	C	C	C	C	A	D	C	A	C
Approach Vol, veh/h		535			757			764			454	
Approach Delay, s/veh		42.0			31.3			35.5			25.6	
Approach LOS		D			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.3	42.0	11.0	35.4	11.0	41.3	8.5	37.9
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	47.0	5.4	39.4	5.0	47.0	5.4	39.4
Max Q Clear Time (g_c+I1), s	4.3	32.4	7.2	27.2	6.6	17.2	3.1	24.2
Green Ext Time (p_c), s	0.0	3.6	0.0	2.5	0.0	2.4	0.0	3.1

Intersection Summary			
HCM 6th Ctrl Delay			33.8
HCM 6th LOS			C

HCM 6th Signalized Intersection Summary Existing 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												
Traffic Volume (veh/h)	40	271	63	31	190	69	50	498	63	67	332	13
Future Volume (veh/h)	40	271	63	31	190	69	50	498	63	67	332	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
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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1938	1938	1938	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	47	319	74	34	207	75	54	541	68	78	386	15
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	338	392	91	210	473	485	385	630	79	251	707	27
Arrive On Green	0.04	0.25	0.25	0.03	0.24	0.24	0.04	0.37	0.37	0.05	0.38	0.38
Sat Flow, veh/h	1890	1557	361	1845	1938	1639	1875	1714	215	1875	1882	73
Grp Volume(v), veh/h	47	0	393	34	207	75	54	0	609	78	0	401
Grp Sat Flow(s),veh/h/ln	1890	0	1919	1845	1938	1639	1875	0	1929	1875	0	1955
Q Serve(g_s), s	1.4	0.0	15.1	1.1	7.1	2.7	1.4	0.0	22.9	2.0	0.0	12.6
Cycle Q Clear(g_c), s	1.4	0.0	15.1	1.1	7.1	2.7	1.4	0.0	22.9	2.0	0.0	12.6
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.11	1.00		0.04
Lane Grp Cap(c), veh/h	338	0	482	210	473	485	385	0	709	251	0	734
V/C Ratio(X)	0.14	0.00	0.81	0.16	0.44	0.15	0.14	0.00	0.86	0.31	0.00	0.55
Avail Cap(c_a), veh/h	391	0	1012	276	1022	950	422	0	1106	273	0	1121
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	20.9	0.0	27.7	22.3	25.1	20.4	15.0	0.0	22.9	17.5	0.0	19.3
Incr Delay (d2), s/veh	0.2	0.0	3.4	0.4	0.6	0.1	0.2	0.0	4.3	0.7	0.0	0.6
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	0.6	0.0	7.0	0.5	3.2	1.0	0.6	0.0	10.3	0.8	0.0	5.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.1	0.0	31.1	22.6	25.8	20.5	15.1	0.0	27.2	18.2	0.0	19.9
LnGrp LOS	C	A	C	C	C	C	B	A	C	B	A	B
Approach Vol, veh/h		440			316			663			479	
Approach Delay, s/veh		30.0			24.2			26.2			19.6	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	34.9	8.2	25.3	9.5	35.5	8.8	24.8
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+I1), s	4.0	24.9	3.1	17.1	3.4	14.6	3.4	9.1
Green Ext Time (p_c), s	0.0	4.0	0.0	2.4	0.0	2.5	0.0	1.4

Intersection Summary			
HCM 6th Ctrl Delay			25.1
HCM 6th LOS			C

HCM 6th Signalized Intersection Summary Existing Conditions #3 (Main 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												
Traffic Volume (veh/h)	32	324	114	95	448	123	108	573	93	65	547	40
Future Volume (veh/h)	32	324	114	95	448	123	108	573	93	65	547	40
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
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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	2000	2000	2000	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	36	360	127	100	472	129	114	603	98	69	582	43
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	207	404	143	207	619	594	242	656	107	186	708	52
Arrive On Green	0.03	0.29	0.29	0.05	0.31	0.31	0.05	0.39	0.39	0.04	0.39	0.39
Sat Flow, veh/h	1890	1400	494	1905	2000	1692	1890	1664	270	1890	1825	135
Grp Volume(v), veh/h	36	0	487	100	472	129	114	0	701	69	0	625
Grp Sat Flow(s),veh/h/ln	1890	0	1894	1905	2000	1692	1890	0	1935	1890	0	1960
Q Serve(g_s), s	1.4	0.0	25.6	3.8	22.1	5.6	3.8	0.0	35.7	2.2	0.0	29.8
Cycle Q Clear(g_c), s	1.4	0.0	25.6	3.8	22.1	5.6	3.8	0.0	35.7	2.2	0.0	29.8
Prop In Lane	1.00		0.26	1.00		1.00	1.00		0.14	1.00		0.07
Lane Grp Cap(c), veh/h	207	0	547	207	619	594	242	0	763	186	0	760
V/C Ratio(X)	0.17	0.00	0.89	0.48	0.76	0.22	0.47	0.00	0.92	0.37	0.00	0.82
Avail Cap(c_a), veh/h	247	0	719	207	759	713	242	0	876	198	0	849
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	26.5	0.0	35.4	27.4	32.4	23.7	22.5	0.0	29.9	24.1	0.0	28.6
Incr Delay (d2), s/veh	0.4	0.0	10.9	1.7	3.7	0.2	1.4	0.0	13.4	1.2	0.0	6.0
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	0.6	0.0	13.1	1.8	11.0	2.2	1.7	0.0	18.6	1.0	0.0	14.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.9	0.0	46.3	29.1	36.1	23.9	24.0	0.0	43.3	25.3	0.0	34.5
LnGrp LOS	C	A	D	C	D	C	C	A	D	C	A	C
Approach Vol, veh/h		523			701			815			694	
Approach Delay, s/veh		44.9			32.8			40.6			33.6	
Approach LOS		D			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.3	47.0	11.0	35.6	11.0	46.3	8.8	37.7
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	47.0	5.4	39.4	5.0	45.0	5.4	39.4
Max Q Clear Time (g_c+I1), s	4.2	37.7	5.8	27.6	5.8	31.8	3.4	24.1
Green Ext Time (p_c), s	0.0	3.2	0.0	2.4	0.0	3.4	0.0	2.9

Intersection Summary			
HCM 6th Ctrl Delay			37.7
HCM 6th LOS			D

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				1	46		1
Queuing Penalty (veh)	0	1				4	26		1

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		20
Queuing Penalty (veh)		0	1	31		85	67		15

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	59	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

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	53		0
Queuing Penalty (veh)	0	1	2	25		27	66		0

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 (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	500		150			50		250	
Storage Blk Time (%)				0		1	35		
Queuing Penalty (veh)				0		4	18		

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		16
Queuing Penalty (veh)	0	0		19		90	57		11

Appendix C

BACKGROUND TRAFFIC CONDITIONS

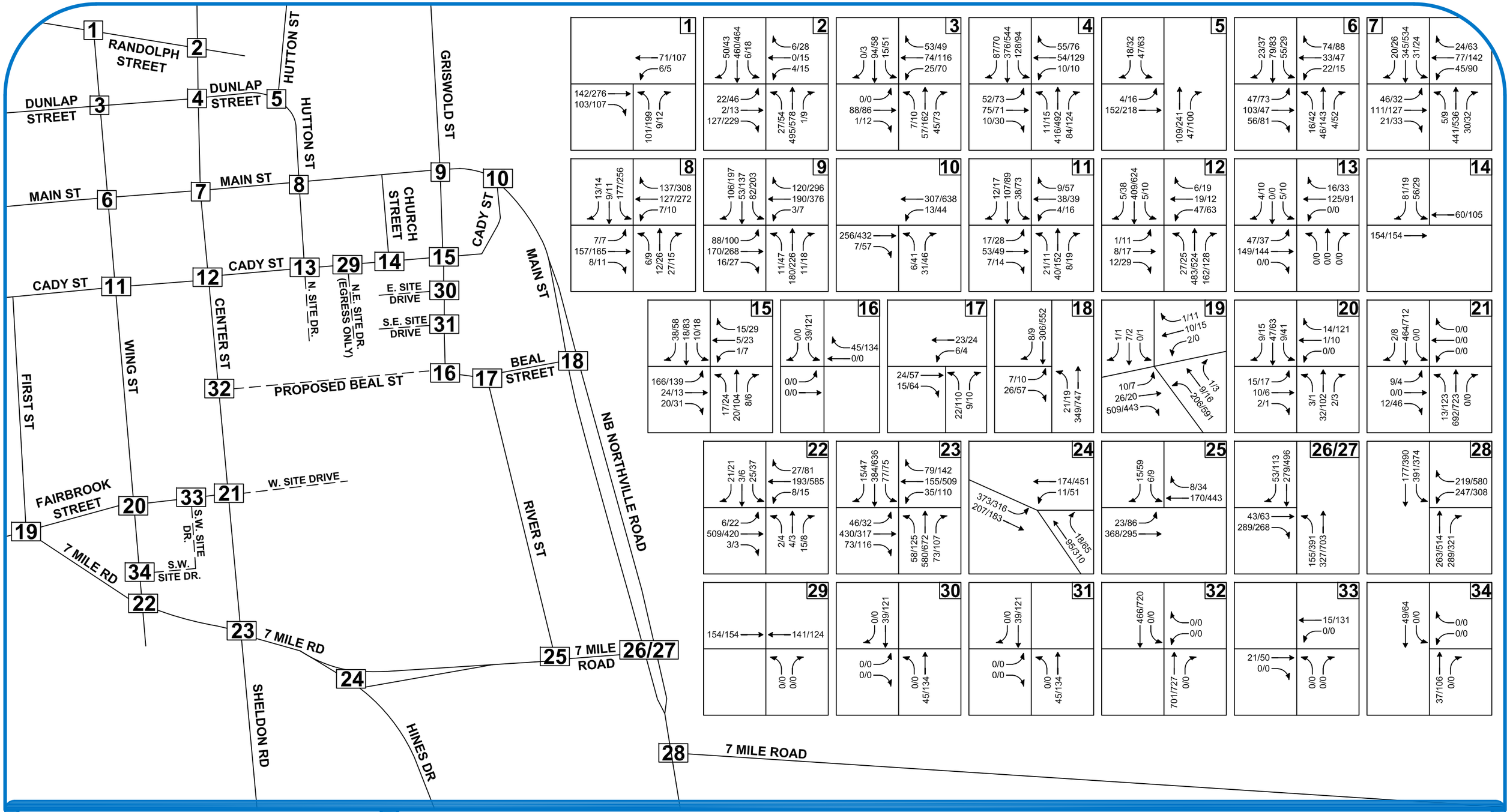


FIGURE 4.1 - SCENARIO #1 BACKGROUND TRAFFIC VOLUMES

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

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

NORTH

SCALE: NOT TO SCALE

F&V

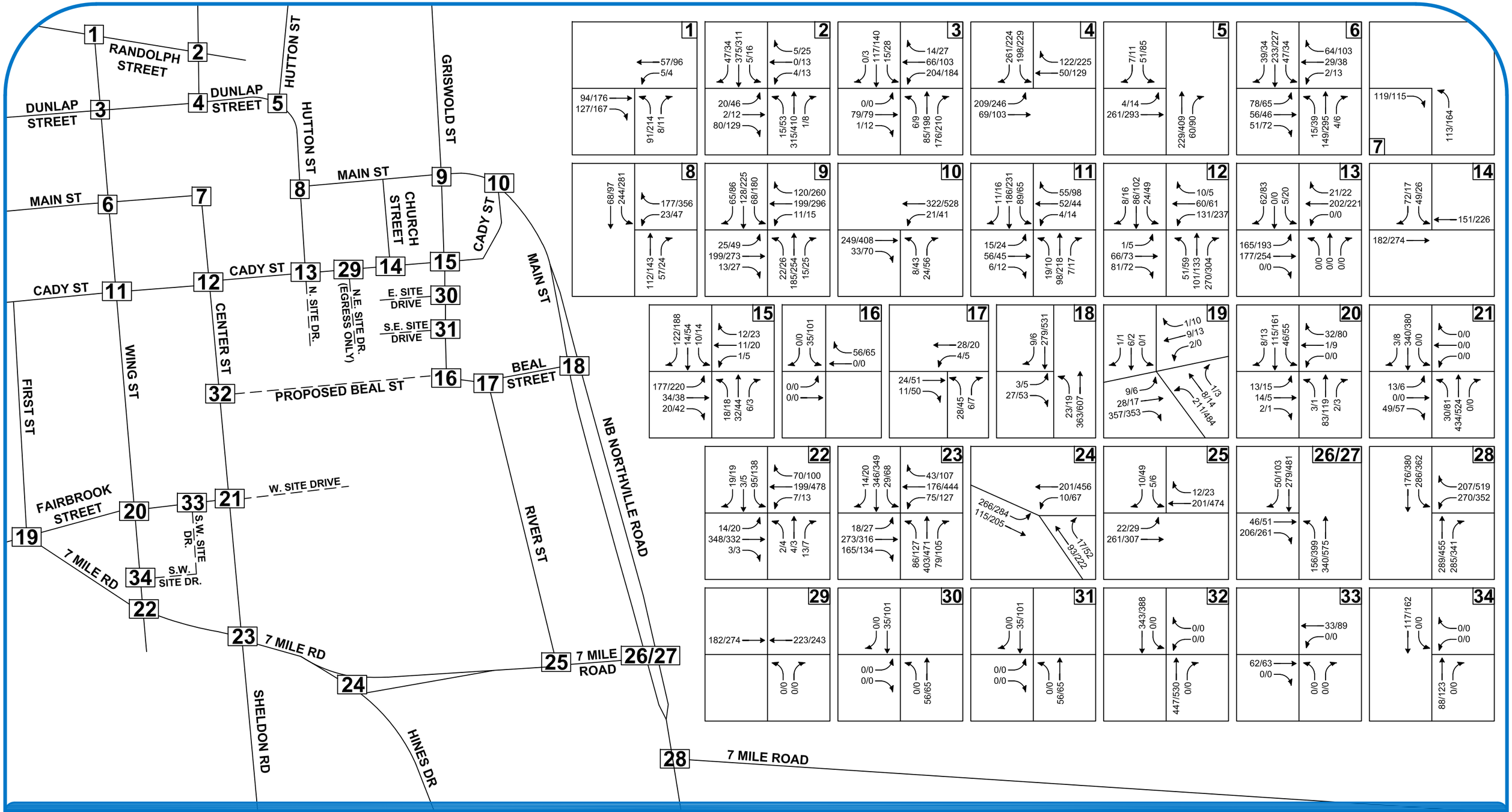


FIGURE 4.2 - SCENARIO #2 BACKGROUND TRAFFIC VOLUMES

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

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

NORTH

SCALE: NOT TO SCALE

F&V

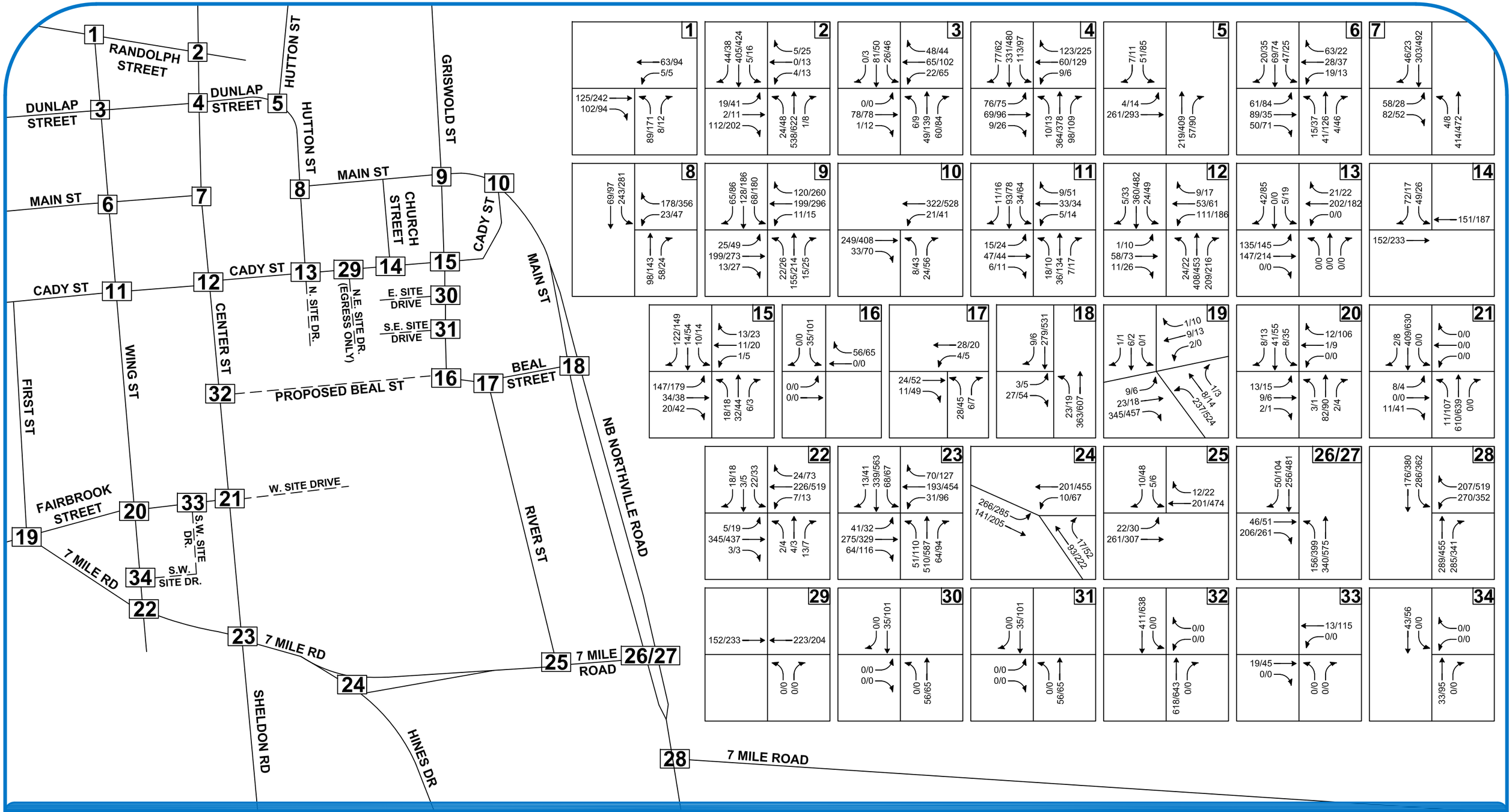


FIGURE 4.3 - SCENARIO #3
BACKGROUND TRAFFIC VOLUMES

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

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

NORTH

SCALE: NOT TO SCALE

F&V

HCM 6th TWSC
1: Wing Street & Randolph Street

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

Intersection	
Int Delay, s/veh	3.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	142	103	6	71	101	9
Future Vol, veh/h	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
Storage Length	-	-	-	-	0	-
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	149	108	10	118	131	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	257	0	341	203
Stage 1	-	-	-	-	203	-
Stage 2	-	-	-	-	138	-
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	-	-	1308	-	651	833
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	884	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1308	-	646	833
Mov Cap-2 Maneuver	-	-	-	-	646	-
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	877	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	12
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	658	-	-	1308	-
HCM Lane V/C Ratio	0.217	-	-	0.008	-
HCM Control Delay (s)	12	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.8	-	-	0	-

HCM 6th TWSC
2: Center Street & Randolph Street/Private Drive

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

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	2	127	4	0	6	27	495	1	6	460	50
Future Vol, veh/h	22	2	127	4	0	6	27	495	1	6	460	50
Conflicting Peds, #/hr	0	0	0	0	0	0	5	0	4	4	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized		-	None		-	None		-	None		-	None
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	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

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1335	1335	708	1428	1371	549	744	0	0	549	0	0
Stage 1	726	726	-	609	609	-	-	-	-	-	-	-
Stage 2	609	609	-	819	762	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	131	154	436	114	147	539	864	-	-	1021	-	-
Stage 1	417	431	-	486	488	-	-	-	-	-	-	-
Stage 2	484	487	-	372	416	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	124	146	434	60	139	537	860	-	-	1017	-	-
Mov Cap-2 Maneuver	124	146	-	60	139	-	-	-	-	-	-	-
Stage 1	401	425	-	467	469	-	-	-	-	-	-	-
Stage 2	460	468	-	204	410	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	42.6	36.4	0.5	0.1
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	860	-	-	312	128	1017	-	-
HCM Lane V/C Ratio	0.035	-	-	0.733	0.104	0.009	-	-
HCM Control Delay (s)	9.3	-	-	42.6	36.4	8.6	-	-
HCM Lane LOS	A	-	-	E	E	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	5.4	0.3	0	-	-

HCM 6th AWSC
3: Wing Street & Dunlap Street

Background Conditions #1 (Pre-COVID)
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
Lane Configurations												
Traffic Vol, veh/h	0	88	1	25	74	53	7	57	45	15	94	0
Future Vol, veh/h	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	3	3	3	4	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

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	9.1	8.6	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	0%	16%	14%
Vol Thru, %	52%	99%	49%	86%
Vol Right, %	41%	1%	35%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	109	89	152	109
LT Vol	7	0	25	15
Through Vol	57	88	74	94
RT Vol	45	1	53	0
Lane Flow Rate	130	114	208	124
Geometry Grp	1	1	1	1
Degree of Util (X)	0.166	0.15	0.259	0.169
Departure Headway (Hd)	4.819	4.744	4.471	4.898
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	773	753	802	730
Service Time	2.666	2.791	2.51	2.945
HCM Lane V/C Ratio	0.168	0.151	0.259	0.17
HCM Control Delay	8.6	8.6	9.1	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.5	1	0.6

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	75	10	10	54	55	11	416	84	128	376	87
Future Volume (veh/h)	52	75	10	10	54	55	11	416	84	128	376	87
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		0.99	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	
Adj Sat Flow, veh/h/ln	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	59	85	11	12	64	65	12	452	91	164	482	112
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	359	424	55	390	221	225	482	978	197	650	950	221
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	1.00	1.00	1.00	0.62	0.62	0.62
Sat Flow, veh/h	1255	1706	221	1292	892	906	823	1590	320	862	1544	359
Grp Volume(v), veh/h	59	0	96	12	0	129	12	0	543	164	0	594
Grp Sat Flow(s),veh/h/ln	1255	0	1927	1292	0	1797	823	0	1910	862	0	1903
Q Serve(g_s), s	2.4	0.0	2.4	0.4	0.0	3.5	0.3	0.0	0.0	5.4	0.0	10.5
Cycle Q Clear(g_c), s	5.9	0.0	2.4	2.8	0.0	3.5	10.7	0.0	0.0	5.4	0.0	10.5
Prop In Lane	1.00		0.11	1.00		0.50	1.00		0.17	1.00		0.19
Lane Grp Cap(c), veh/h	359	0	479	390	0	446	482	0	1175	650	0	1170
V/C Ratio(X)	0.16	0.00	0.20	0.03	0.00	0.29	0.02	0.00	0.46	0.25	0.00	0.51
Avail Cap(c_a), veh/h	359	0	479	390	0	446	482	0	1175	650	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 Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.6	0.0	17.8	19.0	0.0	18.3	1.5	0.0	0.0	5.5	0.0	6.5
Incr Delay (d2), s/veh	1.0	0.0	0.9	0.1	0.0	1.6	0.1	0.0	1.3	0.9	0.0	1.6
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	0.8	0.0	1.1	0.1	0.0	1.6	0.0	0.0	0.4	0.9	0.0	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	0.0	18.8	19.1	0.0	19.9	1.6	0.0	1.3	6.4	0.0	8.0
LnGrp LOS	C	A	B	B	A	B	A	A	A	A	A	A
Approach Vol, veh/h		155			141			555			758	
Approach Delay, s/veh		19.9			19.8			1.3			7.7	
Approach LOS		B			B			A			A	

Timer - Assigned Phs		2		4		6		8	
Phs Duration (G+Y+Rc), s		41.0		19.0		41.0		19.0	
Change Period (Y+Rc), s		* 4.1		* 4.1		* 4.1		* 4.1	
Max Green Setting (Gmax), s		* 37		* 15		* 37		* 15	
Max Q Clear Time (g_c+I1), s		12.7		7.9		12.5		5.5	
Green Ext Time (p_c), s		4.1		0.3		5.7		0.4	

Intersection Summary	
HCM 6th Ctrl Delay	7.7
HCM 6th LOS	A

Notes

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

HCM 6th TWSC
5: Dunlap Street & Hutton Street

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

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	4	152	109	47	47	18
Future Vol, veh/h	4	152	109	47	47	18
Conflicting Peds, #/hr	0	0	0	0	5	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized		None		None		None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	84	84	74	74
Heavy Vehicles, %	3	3	2	2	0	0
Mvmt Flow	4	163	130	56	64	24

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	186	0	-	0	334	163
Stage 1	-	-	-	-	158	-
Stage 2	-	-	-	-	176	-
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
Pot Cap-1 Maneuver	1382	-	-	-	665	887
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	859	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1382	-	-	-	663	883
Mov Cap-2 Maneuver	-	-	-	-	663	-
Stage 1	-	-	-	-	872	-
Stage 2	-	-	-	-	859	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1382	-	-	-	712
HCM Lane V/C Ratio	0.003	-	-	-	0.123
HCM Control Delay (s)	7.6	0	-	-	10.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

HCM 6th AWSC
6: Wing Street & Main Street

Background Conditions #1 (Pre-COVID)
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
Lane Configurations												
Traffic Vol, veh/h	47	103	56	22	33	74	16	46	4	55	79	23
Future Vol, veh/h	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	2	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

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	10.1	9	9	10
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	24%	23%	17%	35%
Vol Thru, %	70%	50%	26%	50%
Vol Right, %	6%	27%	57%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	66	206	129	157
LT Vol	16	47	22	55
Through Vol	46	103	33	79
RT Vol	4	56	74	23
Lane Flow Rate	71	254	170	201
Geometry Grp	1	1	1	1
Degree of Util (X)	0.104	0.333	0.218	0.279
Departure Headway (Hd)	5.26	4.71	4.627	4.992
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	674	758	769	715
Service Time	3.347	2.77	2.694	3.065
HCM Lane V/C Ratio	0.105	0.335	0.221	0.281
HCM Control Delay	9	10.1	9	10
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.3	1.5	0.8	1.1

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	111	21	45	77	24	5	441	30	31	345	20
Future Volume (veh/h)	46	111	21	45	77	24	5	441	30	31	345	20
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			0.99	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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1969	1969	1969	1953	1953	1953	1953	1953	1953
Adj Flow Rate, veh/h	53	128	24	51	88	27	6	531	36	34	383	22
Peak Hour Factor	0.87	0.87	0.87	0.88	0.88	0.88	0.83	0.83	0.83	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	2	2	2	3	3	3	3	3	3
Cap, veh/h	154	336	55	176	281	73	63	1005	68	104	939	52
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.56	0.56	0.56	1.00	1.00	1.00
Sat Flow, veh/h	297	1274	208	369	1067	279	5	1800	121	70	1682	92
Grp Volume(v), veh/h	205	0	0	166	0	0	573	0	0	439	0	0
Grp Sat Flow(s),veh/h/ln	1780	0	0	1715	0	0	1926	0	0	1844	0	0
Q Serve(g_s), s	0.1	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	5.2	0.0	0.0	4.2	0.0	0.0	11.2	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.26		0.12	0.31		0.16	0.01		0.06	0.08		0.05
Lane Grp Cap(c), veh/h	544	0	0	530	0	0	1136	0	0	1094	0	0
V/C Ratio(X)	0.38	0.00	0.00	0.31	0.00	0.00	0.50	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	544	0	0	530	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	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.2	0.0	0.0	17.8	0.0	0.0	8.3	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	2.0	0.0	0.0	1.5	0.0	0.0	1.6	0.0	0.0	1.1	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	2.5	0.0	0.0	2.0	0.0	0.0	4.3	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.2	0.0	0.0	19.4	0.0	0.0	9.9	0.0	0.0	1.1	0.0	0.0
LnGrp LOS	C	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		205			166			573			439	
Approach Delay, s/veh		20.2			19.4			9.9			1.1	
Approach LOS		C			B			A			A	
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		5.5		* 5.2			
Max Green Setting (Gmax), s		33.5			* 16		33.5		* 16			
Max Q Clear Time (g_c+I1), s		13.2			7.2		2.0		6.2			
Green Ext Time (p_c), s		4.1			0.7		3.4		0.6			
Intersection Summary												
HCM 6th Ctrl Delay			9.8									
HCM 6th LOS			A									

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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	157	8	7	127	137	6	12	27	177	9	13
Future Volume (veh/h)	7	157	8	7	127	137	6	12	27	177	9	13
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		0.99	0.99		0.99	0.99		0.99
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	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2000	2000	2000	1969	1969	1969	2000	2000	2000	1969	1969	1969
Adj Flow Rate, veh/h	8	185	9	8	144	156	9	17	39	208	11	15
Peak Hour Factor	0.85	0.85	0.85	0.88	0.88	0.88	0.69	0.69	0.69	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	2	2	2	0	0	0	2	2	2
Cap, veh/h	76	1083	833	83	1056	820	97	158	281	475	19	397
Arrive On Green	1.00	1.00	1.00	0.18	0.18	0.18	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	24	1956	1506	36	1909	1483	108	594	1053	1342	71	1490
Grp Volume(v), veh/h	193	0	9	152	0	156	65	0	0	219	0	15
Grp Sat Flow(s),veh/h/ln	1980	0	1506	1945	0	1483	1755	0	0	1413	0	1490
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	0.0	6.1	0.0	0.4
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.9	0.0	5.3	1.7	0.0	0.0	7.7	0.0	0.4
Prop In Lane	0.04		1.00	0.05		1.00	0.14		0.60	0.95		1.00
Lane Grp Cap(c), veh/h	1158	0	833	1139	0	820	536	0	0	494	0	397
V/C Ratio(X)	0.17	0.00	0.01	0.13	0.00	0.19	0.12	0.00	0.00	0.44	0.00	0.04
Avail Cap(c_a), veh/h	1158	0	833	1139	0	820	536	0	0	494	0	397
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	12.5	0.0	13.1	16.7	0.0	0.0	18.8	0.0	16.3
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.2	0.0	0.5	0.5	0.0	0.0	2.9	0.0	0.2
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	0.1	0.0	0.0	1.6	0.0	1.8	0.7	0.0	0.0	2.8	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.3	0.0	0.0	12.8	0.0	13.7	17.2	0.0	0.0	21.6	0.0	16.5
LnGrp LOS	A	A	A	B	A	B	B	A	A	C	A	B
Approach Vol, veh/h		202			308			65			234	
Approach Delay, s/veh		0.3			13.2			17.2			21.3	
Approach LOS		A			B			B			C	
Timer - Assigned Phs		2			4		6		8			
Phs Duration (G+Y+Rc), s		38.7			21.3		38.7		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+I1), s		2.0			9.7		7.3		3.7			
Green Ext Time (p_c), s		1.2			0.7		1.4		0.2			
Intersection Summary												
HCM 6th Ctrl Delay			12.7									
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

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	170	16	3	190	120	11	180	11	82	53	106
Future Volume (veh/h)	88	170	16	3	190	120	11	180	11	82	53	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
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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1938	1938	1938	1984	1984	1984	1953	1953	1953
Adj Flow Rate, veh/h	107	207	20	4	229	145	12	205	12	91	59	118
Peak Hour Factor	0.82	0.82	0.82	0.83	0.83	0.83	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	4	4	4	1	1	1	3	3	3
Cap, veh/h	429	904	91	64	1002	599	76	626	35	226	159	240
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	706	1951	197	7	2162	1293	36	1804	102	420	459	692
Grp Volume(v), veh/h	155	0	179	206	0	172	229	0	0	268	0	0
Grp Sat Flow(s),veh/h/ln	1085	0	1770	1933	0	1529	1943	0	0	1571	0	0
Q Serve(g_s), s	3.7	0.0	3.6	0.0	0.0	4.1	0.0	0.0	0.0	2.0	0.0	0.0
Cycle Q Clear(g_c), s	7.8	0.0	3.6	3.8	0.0	4.1	5.2	0.0	0.0	7.1	0.0	0.0
Prop In Lane	0.69		0.11	0.02		0.85	0.05		0.05	0.34		0.44
Lane Grp Cap(c), veh/h	604	0	820	957	0	708	737	0	0	625	0	0
V/C Ratio(X)	0.26	0.00	0.22	0.22	0.00	0.24	0.31	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	604	0	820	957	0	708	737	0	0	625	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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.0	0.0	9.6	9.7	0.0	9.7	14.5	0.0	0.0	15.0	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.6	0.5	0.0	0.8	1.1	0.0	0.0	2.1	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	1.4	0.0	1.4	1.6	0.0	1.4	2.2	0.0	0.0	2.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.1	0.0	10.2	10.2	0.0	10.5	15.6	0.0	0.0	17.2	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		334			378			229			268	
Approach Delay, s/veh		11.1			10.3			15.6			17.2	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2			4		6		8			
Phs Duration (G+Y+Rc), s		33.4			26.6		33.4		26.6			
Change Period (Y+Rc), s		5.6			* 5.8		5.6		* 5.8			
Max Green Setting (Gmax), s		27.8			* 21		27.8		* 21			
Max Q Clear Time (g_c+I1), s		9.8			9.1		6.1		7.2			
Green Ext Time (p_c), s		2.1			1.2		2.4		1.0			
Intersection Summary												
HCM 6th Ctrl Delay			13.1									
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 #1 (Pre-COVID)
AM Peak Hour

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	256	7	13	307	6	31
Future Vol, veh/h	256	7	13	307	6	31
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	87	87	79	79
Heavy Vehicles, %	1	1	3	3	5	5
Mvmt Flow	291	8	15	353	8	39

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	300	0	503	151
Stage 1	-	-	-	-	296	-
Stage 2	-	-	-	-	207	-
Critical Hdwy	-	-	4.16	-	6.9	7
Critical Hdwy Stg 1	-	-	-	-	5.9	-
Critical Hdwy Stg 2	-	-	-	-	5.9	-
Follow-up Hdwy	-	-	2.23	-	3.55	3.35
Pot Cap-1 Maneuver	-	-	1251	-	491	859
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	799	-
Platoon blocked, %	-	-				
Mov Cap-1 Maneuver	-	-	1250	-	483	858
Mov Cap-2 Maneuver	-	-	-	-	483	-
Stage 1	-	-	-	-	719	-
Stage 2	-	-	-	-	787	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	762	-	-	1250	-
HCM Lane V/C Ratio	0.061	-	-	0.012	-
HCM Control Delay (s)	10	-	-	7.9	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

HCM 6th AWSC
11: Wing Street & Cady Street

Background Conditions #1 (Pre-COVID)
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	17	53	7	4	38	9	21	40	8	38	107	12
Future Vol, veh/h	17	53	7	4	38	9	21	40	8	38	107	12
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	27	84	11	5	46	11	23	44	9	47	132	15
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	8.5	8.1	8.2	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	22%	8%	24%
Vol Thru, %	58%	69%	75%	68%
Vol Right, %	12%	9%	18%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	69	77	51	157
LT Vol	21	17	4	38
Through Vol	40	53	38	107
RT Vol	8	7	9	12
Lane Flow Rate	77	122	62	194
Geometry Grp	1	1	1	1
Degree of Util (X)	0.099	0.156	0.08	0.24
Departure Headway (Hd)	4.63	4.608	4.636	4.461
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	774	779	772	806
Service Time	2.658	2.635	2.665	2.484
HCM Lane V/C Ratio	0.099	0.157	0.08	0.241
HCM Control Delay	8.2	8.5	8.1	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.6	0.3	0.9

HCM 6th TWSC
12: Center Street & Cady Street

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

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	8	12	47	19	6	27	483	162	5	409	5
Future Vol, veh/h	1	8	12	47	19	6	27	483	162	5	409	5
Conflicting Peds, #/hr	2	0	1	1	0	2	1	0	0	0	0	1
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	60	60	60	82	82	82	90	90	90	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	2	2	2
Mvmt Flow	2	13	20	57	23	7	30	537	180	6	460	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1180	1253	465	1180	1166	629	467	0	0	717	0	0
Stage 1	476	476	-	687	687	-	-	-	-	-	-	-
Stage 2	704	777	-	493	479	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.13	-	-	4.12	-	-
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	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	169	174	602	169	196	486	1089	-	-	884	-	-
Stage 1	574	560	-	440	450	-	-	-	-	-	-	-
Stage 2	431	410	-	562	558	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	144	164	601	147	185	485	1088	-	-	884	-	-
Mov Cap-2 Maneuver	144	164	-	147	185	-	-	-	-	-	-	-
Stage 1	546	554	-	419	429	-	-	-	-	-	-	-
Stage 2	382	391	-	525	552	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.9	48.7	0.3	0.1
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1088	-	-	277	166	884	-	-
HCM Lane V/C Ratio	0.028	-	-	0.126	0.529	0.006	-	-
HCM Control Delay (s)	8.4	0	-	19.9	48.7	9.1	0	-
HCM Lane LOS	A	A	-	C	E	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	2.6	0	-	-

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	0	5	0	4
Future Vol, veh/h	47	149	0	0	125	16	0	0	0	5	0	4
Conflicting Peds, #/hr	4	0	0	0	0	4	1	0	3	3	0	1
Sign Control	Free	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	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	0	7	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	217	0	0	177	0	0	494	506	180	497	494	206
Stage 1	-	-	-	-	-	-	289	289	-	205	205	-
Stage 2	-	-	-	-	-	-	205	217	-	292	289	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.12	6.52	6.22	7.21	6.61	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.21	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.21	5.61	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.518	4.018	3.318	3.599	4.099	3.399
Pot Cap-1 Maneuver	1359	-	-	1405	-	-	486	469	863	469	464	812
Stage 1	-	-	-	-	-	-	719	673	-	777	715	-
Stage 2	-	-	-	-	-	-	797	723	-	697	657	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1354	-	-	1405	-	-	466	446	861	449	441	808
Mov Cap-2 Maneuver	-	-	-	-	-	-	466	446	-	449	441	-
Stage 1	-	-	-	-	-	-	686	642	-	738	712	-
Stage 2	-	-	-	-	-	-	791	720	-	663	627	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.9	0	0	11.6
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1354	-	-	1405	-	-	559
HCM Lane V/C Ratio	-	0.041	-	-	-	-	-	0.021
HCM Control Delay (s)	0	7.8	0	-	0	-	-	11.6
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↕	
Traffic Vol, veh/h	0	154	60	0	56	81
Future Vol, veh/h	0	154	60	0	56	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	81	81	64	64	76	76
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	0	190	94	0	74	107

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	284	94
Stage 1	-	-	-	-	94	-
Stage 2	-	-	-	-	190	-
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
Pot Cap-1 Maneuver	0	-	-	0	710	968
Stage 1	0	-	-	0	935	-
Stage 2	0	-	-	0	847	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	710	968
Mov Cap-2 Maneuver	-	-	-	-	710	-
Stage 1	-	-	-	-	935	-
Stage 2	-	-	-	-	847	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	843
HCM Lane V/C Ratio	-	-	0.214
HCM Control Delay (s)	-	-	10.4
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.8

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	Stop	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	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	168	151	52	168	172	34	77	0	0	33	0	0
Stage 1	78	78	-	69	69	-	-	-	-	-	-	-
Stage 2	90	73	-	99	103	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.1	-	-	4.14	-	-
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	-	-	2.236	-	-
Pot Cap-1 Maneuver	798	742	1019	800	725	1045	1535	-	-	1566	-	-
Stage 1	933	832	-	946	841	-	-	-	-	-	-	-
Stage 2	920	836	-	912	814	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	753	723	1016	748	707	1040	1531	-	-	1566	-	-
Mov Cap-2 Maneuver	753	723	-	748	707	-	-	-	-	-	-	-
Stage 1	918	822	-	934	830	-	-	-	-	-	-	-
Stage 2	873	825	-	856	804	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.7	9.1	2.8	1.1
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1531	-	-	768	920	1566	-	-
HCM Lane V/C Ratio	0.013	-	-	0.3	0.038	0.008	-	-
HCM Control Delay (s)	7.4	0	-	11.7	9.1	7.3	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.3	0.1	0	-	-

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)	1.0	0.3	3.8	2.0

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	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	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	Major1			Major2			Minor1		
Conflicting Flow All	0	0	63	0	100	52			
Stage 1	-	-	-	-	51	-			
Stage 2	-	-	-	-	49	-			
Critical Hdwy	-	-	4.1	-	6.47	6.27			
Critical Hdwy Stg 1	-	-	-	-	5.47	-			
Critical Hdwy Stg 2	-	-	-	-	5.47	-			
Follow-up Hdwy	-	-	2.2	-	3.563	3.363			
Pot Cap-1 Maneuver	-	-	1553	-	867	1002			
Stage 1	-	-	-	-	959	-			
Stage 2	-	-	-	-	961	-			
Platoon blocked, %	-	-		-					
Mov Cap-1 Maneuver	-	-	1553	-	882	1001			
Mov Cap-2 Maneuver	-	-	-	-	882	-			
Stage 1	-	-	-	-	959	-			
Stage 2	-	-	-	-	955	-			

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	914	-	-	1553	-
HCM Lane V/C Ratio	0.048	-	-	0.005	-
HCM Control Delay (s)	9.1	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↙			↕	↕	
Traffic Vol, veh/h	7	26	21	349	306	8
Future Vol, veh/h	7	26	21	349	306	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	61	61	88	88	91	91
Heavy Vehicles, %	4	4	3	3	2	2
Mvmt Flow	11	43	24	397	336	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	588	173	345	0	-	0
Stage 1	341	-	-	-	-	-
Stage 2	247	-	-	-	-	-
Critical Hdwy	6.88	6.98	4.16	-	-	-
Critical Hdwy Stg 1	5.88	-	-	-	-	-
Critical Hdwy Stg 2	5.88	-	-	-	-	-
Follow-up Hdwy	3.54	3.34	2.23	-	-	-
Pot Cap-1 Maneuver	435	834	1203	-	-	-
Stage 1	686	-	-	-	-	-
Stage 2	765	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	424	834	1203	-	-	-
Mov Cap-2 Maneuver	424	-	-	-	-	-
Stage 1	668	-	-	-	-	-
Stage 2	765	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.6	0.6	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1203	-	692	-	-
HCM Lane V/C Ratio	0.02	-	0.078	-	-
HCM Control Delay (s)	8.1	0.1	10.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

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	0.1	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	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.3
Total Del/Veh (s)	1.5	1.1	1.1	10.2	6.1	3.7	1.3	1.1	1.0	12.7	4.2	1.3

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	15	10	2	0	1	14	3	32	2	9	47	9
Future Vol, veh/h	15	10	2	0	1	14	3	32	2	9	47	9
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	21	14	3	0	1	20	4	43	3	12	64	12
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	7.5	6.8	7.5	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	56%	0%	14%
Vol Thru, %	86%	37%	7%	72%
Vol Right, %	5%	7%	93%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	37	27	15	65
LT Vol	3	15	0	9
Through Vol	32	10	1	47
RT Vol	2	2	14	9
Lane Flow Rate	49	37	22	88
Geometry Grp	1	1	1	1
Degree of Util (X)	0.058	0.043	0.022	0.099
Departure Headway (Hd)	4.239	4.22	3.605	4.052
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	841	840	978	882
Service Time	2.283	2.291	1.681	2.089
HCM Lane V/C Ratio	0.058	0.044	0.022	0.1
HCM Control Delay	7.5	7.5	6.8	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.1	0.3

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	9	0	12	0	0	0	13	692	0	0	464	2
Future Vol, veh/h	9	0	12	0	0	0	13	692	0	0	464	2
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
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
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	14	0	18	0	0	0	14	769	0	0	527	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1325	1325	528	1334	1326	769	529	0	0	769	0	0
Stage 1	528	528	-	797	797	-	-	-	-	-	-	-
Stage 2	797	797	-	537	529	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	131	154	544	131	156	401	1038	-	-	845	-	-
Stage 1	528	523	-	380	399	-	-	-	-	-	-	-
Stage 2	376	394	-	528	527	-	-	-	-	-	-	-
Platoon blocked, %											-	-
Mov Cap-1 Maneuver	129	150	544	124	152	401	1038	-	-	845	-	-
Mov Cap-2 Maneuver	129	150	-	124	152	-	-	-	-	-	-	-
Stage 1	515	523	-	371	389	-	-	-	-	-	-	-
Stage 2	367	385	-	510	527	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	23.2	0	0.2	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1038	-	-	229	-	845	-	-
HCM Lane V/C Ratio	0.014	-	-	0.139	-	-	-	-
HCM Control Delay (s)	8.5	0	-	23.2	0	0	-	-
HCM Lane LOS	A	A	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	-	0	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	509	3	8	193	27	2	4	15	25	3	21
Future Vol, veh/h	6	509	3	8	193	27	2	4	15	25	3	21
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	3	3	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	-
Grade, %	-	0	-	-	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	8	636	4	9	217	30	3	5	19	29	4	25

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	249	0	0	640	0	0	919	921	641	921	908	234
Stage 1	-	-	-	-	-	-	654	654	-	252	252	-
Stage 2	-	-	-	-	-	-	265	267	-	669	656	-
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
Pot Cap-1 Maneuver	1317	-	-	939	-	-	244	262	461	249	273	800
Stage 1	-	-	-	-	-	-	443	451	-	748	695	-
Stage 2	-	-	-	-	-	-	723	674	-	444	459	-
Platoon blocked, %			-	-		-	-					
Mov Cap-1 Maneuver	1314	-	-	939	-	-	231	257	460	231	268	798
Mov Cap-2 Maneuver	-	-	-	-	-	-	231	257	-	231	268	-
Stage 1	-	-	-	-	-	-	440	448	-	742	687	-
Stage 2	-	-	-	-	-	-	690	666	-	417	456	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	15.5	17.9
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	370	1314	-	-	939	-	-	336
HCM Lane V/C Ratio	0.072	0.006	-	-	0.01	-	-	0.172
HCM Control Delay (s)	15.5	7.8	-	-	8.9	-	-	17.9
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.6

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
Ped-Bike Adj(A_pbT)	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	
Adj Sat Flow, veh/h/ln	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	836	105	230	919	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	1134	1653	281	812	1938	1640	928	1715	215	740	1884	72
Grp Volume(v), veh/h	54	0	592	38	168	86	63	0	709	90	0	464
Grp Sat Flow(s),veh/h/ln	1134	0	1933	812	1938	1640	928	0	1930	740	0	1956
Q Serve(g_s), s	2.8	0.0	22.3	3.6	4.8	2.8	3.9	0.0	23.8	9.0	0.0	12.8
Cycle Q Clear(g_c), s	7.6	0.0	22.3	25.9	4.8	2.8	16.7	0.0	23.8	32.8	0.0	12.8
Prop In Lane	1.00		0.15	1.00		1.00	1.00		0.11	1.00		0.04
Lane Grp Cap(c), veh/h	439	0	711	162	712	603	395	0	941	230	0	953
V/C Ratio(X)	0.12	0.00	0.83	0.23	0.24	0.14	0.16	0.00	0.75	0.39	0.00	0.49
Avail Cap(c_a), veh/h	439	0	711	162	712	603	395	0	941	230	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	0.00	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	19.4	0.0	16.6	29.9	0.0	13.8
Incr Delay (d2), s/veh	0.6	0.0	11.0	3.4	0.8	0.5	0.9	0.0	5.6	4.8	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 BackOfQ(50%),veh/ln	0.8	0.0	11.5	0.8	2.2	1.1	0.9	0.0	10.7	1.8	0.0	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.7	0.0	34.1	38.3	18.3	17.4	20.2	0.0	22.2	34.8	0.0	15.6
LnGrp LOS	C	A	C	D	B	B	C	A	C	C	A	B
Approach Vol, veh/h		646			292			772			554	
Approach Delay, s/veh		33.0			20.6			22.0			18.7	
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 (g_c+I1), s	25.8	24.3	34.8	27.9
Green Ext Time (p_c), s	4.3	1.8	1.3	0.2

Intersection Summary	
HCM 6th Ctrl Delay	24.2
HCM 6th LOS	C

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)	0.1	0.0	0.0	0.2	0.2	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.5	0.1	0.4	0.3	1.3
Total Del/Veh (s)	14.7	0.6	0.6	17.2	12.3	3.6	4.9	5.1

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

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

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
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	3	2	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	83	83	71	71
Heavy Vehicles, %	2	2	5	5	6	6
Mvmt Flow	25	404	205	10	8	21

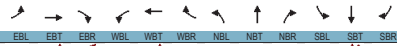
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	218	0	-	0	669	216
Stage 1	-	-	-	-	213	-
Stage 2	-	-	-	-	456	-
Critical Hdwy	4.12	-	-	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.218	-	-	-	3.554	3.354
Pot Cap-1 Maneuver	1352	-	-	-	417	814
Stage 1	-	-	-	-	813	-
Stage 2	-	-	-	-	630	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1348	-	-	-	404	809
Mov 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	SBLn1
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 %tile Q(veh)	0.1	-	-	-	0.1

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	43	289	0	155	0	0	0	0	0	279	53
Future Volume (Veh/h)	0	43	289	0	155	0	0	0	0	0	279	53
Sign Control		Stop			Yield			Free			Free	
Grade		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
Hourly flow rate (vph)	0	53	357	0	176	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)												
pX, platoon unblocked												
vC, conflicting volume	410	322	175	530	350	0	350			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	410	322	175	530	350	0	350			0		
tC, single (s)	7.5	6.5	6.9	7.6	6.6	7.0	4.1			4.1		
tC, 2 stage (s)												
tF (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		
cM capacity (veh/h)	399	594	838	227	566	1075	1206			1629		

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	53	357	176	196	154
Volume Left	0	0	0	0	0
Volume Right	0	357	0	0	56
cSH	594	838	566	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
27: NB Northville Road & N. Seven Mile Road

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

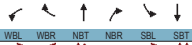
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	43	0	155	327	0	0
Future Volume (Veh/h)	43	0	155	327	0	0
Sign Control	Yield			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.81	0.81	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	53	0	176	372	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None	None		
Median storage veh)						
Upstream signal (ft)			511			
pX, platoon unblocked						
vC, conflicting volume	538	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	538	0	0			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	87	100	89			
cM capacity (veh/h)	421	1084	1600			

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	53	300	248
Volume Left	53	176	0
Volume Right	0	0	0
cSH	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	2.6	
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
28: Northville Road & S. Seven Mile Road

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



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
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
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	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/h/ln	1860	1655	1841	1642	1890	1885
Q Serve(g_s), s	9.4	0.0	11.3	14.4	14.9	2.3
Cycle Q Clear(g_c), s	9.4	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(X)	0.43	0.28	0.73	0.90	0.96	0.11
Avail Cap(c_a), veh/h	665	923	377	337	468	1829
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	9.3	29.8	31.0	30.1	11.2
Incr 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 BackOfQ(50%),veh/ln	4.2	2.2	5.9	8.1	11.6	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),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	B		D			D

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 (g_c+I1), s	16.9	16.4				4.3	11.4
Green Ext Time (p_c), s	0.0	0.0				1.3	1.6

Intersection Summary		
HCM 6th Ctrl Delay		39.0
HCM 6th LOS		D

HCM 6th TWSC
1: Wing Street & Randolph Street

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

Intersection	
Int Delay, s/veh	6.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
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	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	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		Major2		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
Pot Cap-1 Maneuver	-	-	1120	-	509	657
Stage 1	-	-	-	-	686	-
Stage 2	-	-	-	-	886	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1108	-	501	648
Mov 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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	508	-	-	1108	-
HCM Lane V/C Ratio	0.533	-	-	0.006	-
HCM Control Delay (s)	19.9	-	-	8.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	3.1	-	-	0	-

HCM 6th TWSC
2: Center Street & Randolph Street/Private Drive

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

Intersection	
Int Delay, s/veh	63.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	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	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	-	-
Pot Cap-1 Maneuver	94	116	451	77	113	453	899	-	-	912	-	-
Stage 1	416	430	-	379	398	-	-	-	-	-	-	-
Stage 2	372	396	-	351	417	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	70	102	442	24	100	447	886	-	-	902	-	-
Mov 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	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	886	-	-	221	69	902	-	-
HCM Lane V/C Ratio	0.07	-	-	1.551	0.924	0.027	-	-
HCM Control Delay (s)	9.4	-	-	$ 308.9	188.3	9.1	-	-
HCM Lane LOS	A	-	-	F	F	A	-	-
HCM 95th %tile 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

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	86	12	70	116	49	10	162	73	51	58	3
Future Vol, veh/h	0	86	12	70	116	49	10	162	73	51	58	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	112	16	93	155	65	11	186	84	70	79	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	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	12.6	11.8	10.5
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	0%	30%	46%
Vol Thru, %	66%	88%	49%	52%
Vol Right, %	30%	12%	21%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	245	98	235	112
LT Vol	10	0	70	51
Through Vol	162	86	116	58
RT Vol	73	12	49	3
Lane Flow Rate	282	127	313	153
Geometry Grp	1	1	1	1
Degree of Util (X)	0.406	0.195	0.455	0.241
Departure Headway (Hd)	5.19	5.527	5.232	5.649
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	693	648	689	635
Service Time	3.229	3.576	3.27	3.694
HCM Lane V/C Ratio	0.407	0.196	0.454	0.241
HCM Control Delay	11.8	9.9	12.6	10.5
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	2	0.7	2.4	0.9

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

Background 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	71	30	10	129	76	15	492	124	94	544	70
Future Volume (veh/h)	73	71	30	10	129	76	15	492	124	94	544	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.93	0.95		0.93	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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	1969	1969	1969	2000	2000	2000
Adj Flow Rate, veh/h	83	81	34	11	140	83	16	535	135	121	697	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	290	324	136	364	283	168	365	929	234	596	1065	137
Arrive On Green	0.25	0.25	0.25	0.33	0.33	0.33	1.00	1.00	1.00	0.62	0.62	0.62
Sat Flow, veh/h	1135	1303	547	1230	1139	675	688	1511	381	774	1731	224
Grp Volume(v), veh/h	83	0	115	11	0	223	16	0	670	121	0	787
Grp Sat Flow(s),veh/h/ln	1135	0	1850	1230	0	1814	688	0	1892	774	0	1955
Q Serve(g_s), s	4.0	0.0	3.0	0.4	0.0	5.9	0.6	0.0	0.0	4.3	0.0	15.6
Cycle Q Clear(g_c), s	9.9	0.0	3.0	3.4	0.0	5.9	16.2	0.0	0.0	4.3	0.0	15.6
Prop In Lane	1.00		0.30	1.00		0.37	1.00		0.20	1.00		0.11
Lane Grp Cap(c), veh/h	290	0	459	364	0	451	365	0	1164	596	0	1202
V/C Ratio(X)	0.29	0.00	0.25	0.03	0.00	0.49	0.04	0.00	0.58	0.20	0.00	0.65
Avail Cap(c_a), veh/h	290	0	459	364	0	451	365	0	1164	596	0	1202
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 Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.4	0.0	18.1	17.4	0.0	17.1	3.4	0.0	0.0	5.3	0.0	7.4
Incr Delay (d2), s/veh	2.5	0.0	1.3	0.2	0.0	3.8	0.2	0.0	2.1	0.8	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 BackOfQ(50%),veh/ln	1.2	0.0	1.4	0.1	0.0	2.7	0.1	0.0	0.7	0.7	0.0	5.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.9	0.0	19.4	17.5	0.0	20.9	3.6	0.0	2.1	6.0	0.0	10.2
LnGrp LOS	C	A	B	B	A	C	A	A	A	A	A	B
Approach Vol, veh/h		198			234			686			908	
Approach Delay, s/veh		22.1			20.8			2.1			9.7	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	41.0	19.0	41.0	19.0
Change Period (Y+Rc), s	* 4.1	* 4.1	* 4.1	* 4.1
Max Green Setting (Gmax), s	* 37	* 15	* 37	* 15
Max Q Clear Time (g_c+I1), s	18.2	11.9	17.6	7.9
Green Ext Time (p_c), s	5.0	0.2	7.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	9.6
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

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

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	218	241	100	63	32
Future Vol, veh/h	16	218	241	100	63	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	-	-	-	-	0	-
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	237	262	109	71	36

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	390	0	-	0	617	356
Stage 1	-	-	-	-	336	-
Stage 2	-	-	-	-	281	-
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
Pot Cap-1 Maneuver	1180	-	-	-	455	690
Stage 1	-	-	-	-	726	-
Stage 2	-	-	-	-	769	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1159	-	-	-	431	665
Mov Cap-2 Maneuver	-	-	-	-	431	-
Stage 1	-	-	-	-	701	-
Stage 2	-	-	-	-	755	-

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	14.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1159	-	-	-	489
HCM Lane V/C Ratio	0.015	-	-	-	0.218
HCM Control Delay (s)	8.2	0	-	-	14.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.8

HCM 6th AWSC
6: Wing Street & Main Street

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

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	73	47	81	15	47	88	42	143	52	29	83	37
Future Vol, veh/h	73	47	81	15	47	88	42	143	52	29	83	37
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	0	0	2
Mvmt Flow	89	57	99	19	59	110	46	157	57	38	109	49
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	11.3	10.2	11.6	10.7
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	36%	10%	19%
Vol Thru, %	60%	23%	31%	56%
Vol Right, %	22%	40%	59%	25%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	237	201	150	149
LT Vol	42	73	15	29
Through Vol	143	47	47	83
RT Vol	52	81	88	37
Lane Flow Rate	260	245	188	196
Geometry Grp	1	1	1	1
Degree of Util (X)	0.383	0.36	0.272	0.293
Departure Headway (Hd)	5.297	5.283	5.222	5.372
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	677	679	686	667
Service Time	3.343	3.329	3.272	3.42
HCM Lane V/C Ratio	0.384	0.361	0.274	0.294
HCM Control Delay	11.6	11.3	10.2	10.7
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.8	1.6	1.1	1.2

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

Background 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)	32	127	33	90	142	63	9	536	32	24	534	26
Future Volume (veh/h)	32	127	33	90	142	63	9	536	32	24	534	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.94	0.96		0.94	0.99		0.98	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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	2000	2000	2000	2000	2000	2000	1984	1984	1984
Adj Flow Rate, veh/h	36	143	37	103	163	72	9	564	34	25	562	27
Peak Hour Factor	0.89	0.89	0.89	0.87	0.87	0.87	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	0	0	0	1	1	1
Cap, veh/h	116	352	82	189	242	95	66	1031	61	82	1005	47
Arrive On Green	0.26	0.26	0.26	0.44	0.44	0.44	0.56	0.56	0.56	1.00	1.00	1.00
Sat Flow, veh/h	175	1338	313	419	919	362	8	1847	110	34	1801	84
Grp Volume(v), veh/h	216	0	0	338	0	0	607	0	0	614	0	0
Grp Sat Flow(s),veh/h/ln	1825	0	0	1700	0	0	1966	0	0	1919	0	0
Q Serve(g_s), s	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.7	0.0	0.0	9.3	0.0	0.0	11.7	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.17		0.17	0.30		0.21	0.01		0.06	0.04		0.04
Lane Grp Cap(c), veh/h	551	0	0	526	0	0	1158	0	0	1134	0	0
V/C Ratio(X)	0.39	0.00	0.00	0.64	0.00	0.00	0.52	0.00	0.00	0.54	0.00	0.00
Avail Cap(c_a), veh/h	551	0	0	526	0	0	1158	0	0	1134	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	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	18.4	0.0	0.0	14.8	0.0	0.0	8.4	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.0	0.0	5.9	0.0	0.0	1.7	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 BackOfQ(50%),veh/ln	2.7	0.0	0.0	3.7	0.0	0.0	4.7	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	0.0	0.0	20.8	0.0	0.0	10.1	0.0	0.0	1.9	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B	A	A	A	A	A
Approach Vol, veh/h		216			338			607			614	
Approach Delay, s/veh		20.5			20.8			10.1			1.9	
Approach LOS		C			C			B			A	

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	5.5	* 5.2
Max Green Setting (Gmax), s	33.5	* 16	33.5	* 16
Max Q Clear Time (g_c+I1), s	13.7	7.7	2.0	11.3
Green Ext Time (p_c), s	4.3	0.8	5.1	0.9

Intersection Summary	
HCM 6th Ctrl Delay	10.6
HCM 6th LOS	B

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

Background 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)	7	165	11	10	272	308	9	26	15	256	11	14
Future Volume (veh/h)	7	165	11	10	272	308	9	26	15	256	11	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.98		0.98	1.00		0.95	0.98		0.95
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	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Adj Flow Rate, veh/h	8	194	13	11	313	354	12	33	19	281	12	15
Peak Hour Factor	0.85	0.85	0.85	0.87	0.87	0.87	0.78	0.78	0.78	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	74	1076	827	73	1089	827	71	154	65	278	7	388
Arrive On Green	1.00	1.00	1.00	0.74	0.74	0.74	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	21	1945	1494	19	1967	1494	0	577	243	601	26	1457
Grp Volume(v), veh/h	202	0	13	324	0	354	64	0	0	293	0	15
Grp Sat Flow(s),veh/h/ln	1966	0	1494	1986	0	1494	820	0	0	627	0	1457
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.5
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.3	0.0	5.5	16.0	0.0	0.0	16.0	0.0	0.5
Prop In Lane	0.04		1.00	0.03		1.00	0.19		0.30	0.96		1.00
Lane Grp Cap(c), veh/h	1150	0	827	1161	0	827	290	0	0	285	0	388
V/C Ratio(X)	0.18	0.00	0.02	0.28	0.00	0.43	0.22	0.00	0.00	1.03	0.00	0.04
Avail Cap(c_a), veh/h	1150	0	827	1161	0	827	290	0	0	285	0	388
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	4.0	0.0	4.3	17.4	0.0	0.0	25.3	0.0	16.3
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.6	0.0	1.6	1.7	0.0	0.0	61.0	0.0	0.2
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	0.1	0.0	0.0	1.2	0.0	1.5	0.8	0.0	0.0	8.8	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.3	0.0	0.0	4.6	0.0	5.9	19.1	0.0	0.0	86.3	0.0	16.5
LnGrp LOS	A	A	A	A	A	A	B	A	A	F	A	B
Approach Vol, veh/h		215			678			64			308	
Approach Delay, s/veh		0.3			5.3			19.1			82.9	
Approach LOS		A			A			B			F	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	38.7	21.3	38.7	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+I1), s	2.0	18.0	7.5	18.0
Green Ext Time (p_c), s	1.3	0.0	3.5	0.0

Intersection Summary	
HCM 6th Ctrl Delay	24.0
HCM 6th LOS	C

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

Background 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)	100	268	27	7	376	296	47	226	18	203	137	197
Future Volume (veh/h)	100	268	27	7	376	296	47	226	18	203	137	197
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	118	315	32	7	396	312	51	246	20	216	146	210
Peak Hour Factor	0.85	0.85	0.85	0.95	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	294	883	95	65	913	703	129	517	39	269	146	193
Arrive On Green	0.15	0.15	0.15	0.46	0.46	0.46	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	425	1905	205	8	1971	1517	171	1491	112	537	421	556
Grp Volume(v), veh/h	189	0	276	403	0	312	317	0	0	572	0	0
Grp Sat Flow(s),veh/h/ln	768	0	1767	1977	0	1519	1774	0	0	1514	0	0
Q Serve(g_s), s	8.5	0.0	8.4	0.0	0.0	8.3	0.0	0.0	0.0	13.2	0.0	0.0
Cycle Q Clear(g_c), s	16.8	0.0	8.4	8.2	0.0	8.3	7.6	0.0	0.0	20.8	0.0	0.0
Prop In Lane	0.62		0.12	0.02		1.00	0.16		0.06	0.38		0.37
Lane Grp Cap(c), veh/h	453	0	819	977	0	704	685	0	0	607	0	0
V/C Ratio(X)	0.42	0.00	0.34	0.41	0.00	0.44	0.46	0.00	0.00	0.94	0.00	0.00
Avail Cap(c_a), veh/h	453	0	819	977	0	704	685	0	0	607	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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.2	0.0	17.2	10.8	0.0	10.9	15.3	0.0	0.0	20.2	0.0	0.0
Incr Delay (d2), s/veh	2.8	0.0	1.1	1.3	0.0	2.0	2.2	0.0	0.0	24.7	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 BackOfQ(50%),veh/ln	3.1	0.0	3.9	3.5	0.0	2.9	3.4	0.0	0.0	11.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	25.0	0.0	18.3	12.1	0.0	12.9	17.5	0.0	0.0	44.9	0.0	0.0
LnGrp LOS	C	A	B	B	A	B	B	A	A	D	A	A
Approach Vol, veh/h		465			715			317			572	
Approach Delay, s/veh		21.0			12.5			17.5			44.9	
Approach LOS		C			B			B			D	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		33.4		26.6		33.4		26.6				
Change Period (Y+Rc), s		5.6		* 5.8		5.6		* 5.8				
Max Green Setting (Gmax), s		27.8		* 21		27.8		* 21				
Max Q Clear Time (g_c+I1), s		18.8		22.8		10.3		9.6				
Green Ext Time (p_c), s		2.3		0.0		4.6		1.4				

Intersection Summary	
HCM 6th Ctrl Delay	24.1
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

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

Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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	2	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
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	Major1		Major2		Minor1	
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
Pot Cap-1 Maneuver	-	-	976	-	244	698
Stage 1	-	-	-	-	535	-
Stage 2	-	-	-	-	631	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	974	-	225	697
Mov Cap-2 Maneuver	-	-	-	-	225	-
Stage 1	-	-	-	-	534	-
Stage 2	-	-	-	-	584	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	20.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	350	-	-	974	-
HCM Lane V/C Ratio	0.331	-	-	0.048	-
HCM Control Delay (s)	20.3	-	-	8.9	0.3
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.4	-	-	0.1	-

HCM 6th AWSC
11: Wing Street & Cady Street

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

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	49	14	16	39	57	11	152	19	73	89	17
Future Vol, veh/h	28	49	14	16	39	57	11	152	19	73	89	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	0	0	2
Mvmt Flow	34	59	17	18	43	63	12	169	21	82	100	19
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	8.9	8.7	9.4	9.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	31%	14%	41%
Vol Thru, %	84%	54%	35%	50%
Vol Right, %	10%	15%	51%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	182	91	112	179
LT Vol	11	28	16	73
Through Vol	152	49	39	89
RT Vol	19	14	57	17
Lane Flow Rate	202	110	124	201
Geometry Grp	1	1	1	1
Degree of Util (X)	0.263	0.152	0.163	0.264
Departure Headway (Hd)	4.674	4.975	4.715	4.731
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	764	716	755	754
Service Time	2.729	3.038	2.777	2.786
HCM Lane V/C Ratio	0.264	0.154	0.164	0.267
HCM Control Delay	9.4	8.9	8.7	9.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1.1	0.5	0.6	1.1

HCM 6th TWSC
12: Center Street & Cady Street

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

Intersection	
Int Delay, s/veh	15.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	17	29	63	12	19	25	524	128	10	624	38
Future Vol, veh/h	11	17	29	63	12	19	25	524	128	10	624	38
Conflicting Peds, #/hr	23	0	2	2	0	23	13	0	1	1	0	13
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	95	95	95	95	95	95
Heavy Vehicles, %	4	4	4	0	0	0	1	1	1	0	0	0
Mvmt Flow	14	22	37	81	15	24	26	552	135	11	657	40

Major/Minor	Major2			Minor1			Major1			Major2		
Conflicting Flow All	1426	1452	692	1404	1405	644	710	0	0	688	0	0
Stage 1	712	712	-	673	673	-	-	-	-	-	-	-
Stage 2	714	740	-	731	732	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	112	129	441	118	141	476	894	-	-	916	-	-
Stage 1	420	433	-	448	457	-	-	-	-	-	-	-
Stage 2	419	420	-	416	430	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	88	119	435	88	130	465	883	-	-	915	-	-
Mov Cap-2 Maneuver	88	119	-	88	130	-	-	-	-	-	-	-
Stage 1	394	419	-	426	434	-	-	-	-	-	-	-
Stage 2	356	399	-	353	416	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	41.3	184.1	0.3	0.1
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	883	-	-	170	111	915	-	-
HCM Lane V/C Ratio	0.03	-	-	0.43	1.086	0.012	-	-
HCM Control Delay (s)	9.2	0	-	41.3	184.1	9	0	-
HCM Lane LOS	A	A	-	E	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.9	7.3	0	-	-

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

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

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	37	144	0	0	91	33	0	0	0	10	0	10
Future Vol, veh/h	37	144	0	0	91	33	0	0	0	10	0	10
Conflicting Peds, #/hr	3	0	0	0	0	3	2	0	0	0	0	2
Sign Control	Free	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	89	89	89	84	84	84	92	92	92	71	71	71
Heavy Vehicles, %	1	1	1	0	0	0	2	2	2	0	0	0
Mvmt Flow	42	162	0	0	108	39	0	0	0	14	0	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	150	0	0	162	0	0	383	396	162	377	377	133
Stage 1	-	-	-	-	-	-	246	246	-	131	131	-
Stage 2	-	-	-	-	-	-	137	150	-	246	246	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.12	6.52	6.22	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.518	4.018	3.318	3.5	4	3.3
Pot Cap-1 Maneuver	1437	-	-	1429	-	-	575	541	883	584	558	922
Stage 1	-	-	-	-	-	-	758	703	-	877	792	-
Stage 2	-	-	-	-	-	-	866	773	-	762	706	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1433	-	-	1429	-	-	551	522	883	568	538	918
Mov Cap-2 Maneuver	-	-	-	-	-	-	551	522	-	568	538	-
Stage 1	-	-	-	-	-	-	734	681	-	846	790	-
Stage 2	-	-	-	-	-	-	851	771	-	738	683	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	0	0	10.3
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1433	-	-	1429	-	-	702
HCM Lane V/C Ratio	-	0.029	-	-	-	-	-	0.04
HCM Control Delay (s)	0	7.6	0	-	0	-	-	10.3
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.1	-	-	0	-	-	0.1

HCM 6th TWSC
14: Cady Street & Chruch Street

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

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	154	105	0	29	19
Future Vol, veh/h	0	154	105	0	29	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	90	90	72	72
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	0	162	117	0	40	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	279	117
Stage 1	-	-	-	-	117	-
Stage 2	-	-	-	-	162	-
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
Pot Cap-1 Maneuver	0	-	0	0	715	941
Stage 1	0	-	0	0	913	-
Stage 2	0	-	0	0	872	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	715	941
Mov Cap-2 Maneuver	-	-	-	-	715	-
Stage 1	-	-	-	-	913	-
Stage 2	-	-	-	-	872	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	790
HCM Lane V/C Ratio	-	-	0.084
HCM Control Delay (s)	-	-	10
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.3

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	139	13	31	7	23	29	24	104	6	18	83	58
Future Vol, veh/h	139	13	31	7	23	29	24	104	6	18	83	58
Conflicting Peds, #/hr	0	0	0	0	0	0	3	0	0	0	0	3
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	83	83	83	68	68	68	88	88	88	83	83	83
Heavy Vehicles, %	1	1	1	0	0	0	0	0	0	0	0	0
Mvmt Flow	167	16	37	10	34	43	27	118	7	22	100	70

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	396	361	138	382	393	122	173	0	0	125	0	0
Stage 1	182	182	-	176	176	-	-	-	-	-	-	-
Stage 2	214	179	-	206	217	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	566	568	913	580	546	935	1416	-	-	1474	-	-
Stage 1	822	751	-	831	757	-	-	-	-	-	-	-
Stage 2	790	753	-	801	727	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	498	545	910	528	524	935	1412	-	-	1474	-	-
Mov Cap-2 Maneuver	498	545	-	528	524	-	-	-	-	-	-	-
Stage 1	802	736	-	814	741	-	-	-	-	-	-	-
Stage 2	704	737	-	739	712	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.1	11.2	1.4	0.8
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1412	-	-	543	669	1474	-	-
HCM Lane V/C Ratio	0.019	-	-	0.406	0.13	0.015	-	-
HCM Control Delay (s)	7.6	0	-	16.1	11.2	7.5	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2	0.4	0	-	-

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	0.5	3.9	2.1

Intersection	
Int Delay, s/veh	4.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↑	↑	
Traffic Vol, veh/h	57	64	4	24	110	10
Future Vol, veh/h	57	64	4	24	110	10
Conflicting Peds, #/hr	0	1	1	0	0	6
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	93	93	79	79	89	89
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	61	69	5	30	124	11

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	131	0	137	103
Stage 1	-	-	-	-	97	-
Stage 2	-	-	-	-	40	-
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
Pot Cap-1 Maneuver	-	-	1467	-	861	957
Stage 1	-	-	-	-	932	-
Stage 2	-	-	-	-	988	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1466	-	858	951
Mov Cap-2 Maneuver	-	-	-	-	858	-
Stage 1	-	-	-	-	931	-
Stage 2	-	-	-	-	985	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	865	-	-	1466	-
HCM Lane V/C Ratio	0.156	-	-	0.003	-
HCM Control Delay (s)	9.9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↑			↑↑	↑↑	
Traffic Vol, veh/h	10	57	19	747	552	9
Future Vol, veh/h	10	57	19	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	-	-	-	-	-
Veh 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	69	21	812	581	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1037	298	593	0	-	0
Stage 1	589	-	-	-	-	-
Stage 2	448	-	-	-	-	-
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	-	-	-
Pot Cap-1 Maneuver	230	704	986	-	-	-
Stage 1	523	-	-	-	-	-
Stage 2	616	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	220	702	983	-	-	-
Mov Cap-2 Maneuver	220	-	-	-	-	-
Stage 1	501	-	-	-	-	-
Stage 2	614	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	983	-	529	-	-
HCM Lane V/C Ratio	0.021	-	0.153	-	-
HCM Control Delay (s)	8.7	0.2	13	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

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	0.2	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2
Total Delay (hr)	0.0	0.0	0.2	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.8
Total Del/Veh (s)	11.2	2.2	1.4	13.2	5.5	3.2	3.3	2.6	3.4	29.4	9.7	2.7

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	17	6	1	0	10	121	1	102	3	41	63	15
Future Vol, veh/h	17	6	1	0	10	121	1	102	3	41	63	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	0	0	0
Mvmt Flow	20	7	1	0	11	133	1	148	4	45	69	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	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	7.9	8.5	8.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	71%	0%	34%
Vol Thru, %	96%	25%	8%	53%
Vol Right, %	3%	4%	92%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	106	24	131	119
LT Vol	1	17	0	41
Through Vol	102	6	10	63
RT Vol	3	1	121	15
Lane Flow Rate	154	29	144	131
Geometry Grp	1	1	1	1
Degree of Util (X)	0.189	0.039	0.165	0.161
Departure Headway (Hd)	4.425	4.91	4.115	4.441
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	811	730	874	808
Service Time	2.447	2.936	2.132	2.464
HCM Lane V/C Ratio	0.19	0.04	0.165	0.162
HCM Control Delay	8.5	8.1	7.9	8.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.1	0.6	0.6

HCM 6th TWSC
21: Center Street & Fairbrook Street/W. Site Drive

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

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	46	0	0	0	123	723	0	0	712	8
Future Vol, veh/h	4	0	46	0	0	0	123	723	0	0	712	8
Conflicting Peds, #/hr	1	0	0	0	0	1	4	0	0	0	0	4
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	92	92	92	94	94	94	91	91	91
Heavy Vehicles, %	0	0	0	2	2	2	1	1	1	0	0	0
Mvmt Flow	5	0	56	0	0	0	131	769	0	0	782	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1823	1822	791	1846	1826	770	795	0	0	769	0	0
Stage 1	791	791	-	1031	1031	-	-	-	-	-	-	-
Stage 2	1032	1031	-	815	795	-	-	-	-	-	-	-
Critical Hdwy	7.1	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	-	-
Pot Cap-1 Maneuver	60	78	393	57	77	401	831	-	-	854	-	-
Stage 1	386	404	-	281	310	-	-	-	-	-	-	-
Stage 2	284	313	-	371	399	-	-	-	-	-	-	-
Platoon blocked, %											-	-
Mov Cap-1 Maneuver	47	56	392	38	56	401	828	-	-	854	-	-
Mov Cap-2 Maneuver	47	56	-	38	56	-	-	-	-	-	-	-
Stage 1	278	402	-	203	224	-	-	-	-	-	-	-
Stage 2	205	227	-	318	397	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.3	0	1.5	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	828	-	-	247	-	854	-	-
HCM Lane V/C Ratio	0.158	-	-	0.247	-	-	-	-
HCM Control Delay (s)	10.2	0	-	24.3	0	0	-	-
HCM Lane LOS	B	A	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0.6	-	-	0.9	-	0	-	-

HCM 6th TWSC
22: St. Lawrence Blvd/Wing Street & Seven Mile Road

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

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	420	3	15	585	81	4	3	8	37	6	21
Future Vol, veh/h	22	420	3	15	585	81	4	3	8	37	6	21
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	0	5	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	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	90	90	90	70	70	70	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	0	0	0	1	1	1
Mvmt Flow	26	494	4	17	650	90	6	4	11	45	7	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	740	0	0	499	0	0	1295	1323	502	1290	1280	695
Stage 1	-	-	-	-	-	-	549	549	-	729	729	-
Stage 2	-	-	-	-	-	-	746	774	-	561	551	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.1	6.5	6.2	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.5	4	3.3	3.509	4.009	3.309
Pot Cap-1 Maneuver	867	-	-	1065	-	-	141	158	573	141	166	444
Stage 1	-	-	-	-	-	-	524	520	-	416	430	-
Stage 2	-	-	-	-	-	-	409	411	-	514	517	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	867	-	-	1064	-	-	124	151	570	130	158	444
Mov Cap-2 Maneuver	-	-	-	-	-	-	124	151	-	130	158	-
Stage 1	-	-	-	-	-	-	508	504	-	404	423	-
Stage 2	-	-	-	-	-	-	373	404	-	482	501	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	22.5	41.9
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	227	867	-	-	1064	-	-	173
HCM Lane V/C Ratio	0.094	0.03	-	-	0.016	-	-	0.451
HCM Control Delay (s)	22.5	9.3	-	-	8.4	-	-	41.9
HCM Lane LOS	C	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	2.1

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

Background 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)	32	317	116	110	509	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
Ped-Bike Adj(A_pbT)	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	
Adj Sat Flow, veh/h/ln	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	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	194	509	186	231	735	622	226	813	130	164	890	66
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	762	1385	507	928	2000	1693	733	1669	267	672	1825	135
Grp Volume(v), veh/h	36	0	481	116	536	149	132	0	820	80	0	727
Grp Sat Flow(s),veh/h/ln	762	0	1892	928	2000	1693	733	0	1935	672	0	1960
Q Serve(g_s), s	3.4	0.0	17.2	9.7	18.5	4.9	14.3	0.0	30.1	8.9	0.0	24.2
Cycle Q Clear(g_c), s	22.0	0.0	17.2	26.9	18.5	4.9	38.5	0.0	30.1	39.0	0.0	24.2
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.14	1.00		0.07
Lane Grp Cap(c), veh/h	194	0	695	231	735	622	226	0	944	164	0	955
V/C Ratio(X)	0.19	0.00	0.69	0.50	0.73	0.24	0.58	0.00	0.87	0.49	0.00	0.76
Avail Cap(c_a), veh/h	194	0	695	231	735	622	226	0	944	164	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(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	31.3	0.0	21.5	32.9	21.9	17.5	32.4	0.0	18.2	35.9	0.0	16.7
Incr Delay (d2), s/veh	2.1	0.0	5.6	7.6	6.3	0.9	10.6	0.0	10.7	9.9	0.0	5.7
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 BackOfQ(50%),veh/ln	0.7	0.0	8.1	2.6	9.3	1.9	3.1	0.0	14.6	2.0	0.0	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.5	0.0	27.0	40.5	28.1	18.5	43.0	0.0	28.9	45.8	0.0	22.4
LnGrp LOS	C	A	C	D	C	B	D	A	C	D	A	C
Approach Vol, veh/h		517			801			952			807	
Approach Delay, s/veh		27.5			28.1			30.9			24.7	
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+I1), s		40.5		24.0		41.0		28.9				
Green Ext Time (p_c), s		0.0		1.5		0.0		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	28.0
HCM 6th LOS	C

SimTraffic Performance Report

Background Conditions #1 (Pre-COVID)
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 (s)	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.1
Total Delay (hr)	0.3	0.0	0.1	2.9	0.5	0.2	0.2	4.3
Total Del/Veh (s)	22.0	0.4	1.2	33.3	27.7	3.0	4.0	11.5

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

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

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	86	295	443	34	9	59
Future Vol, veh/h	86	295	443	34	9	59
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	93	93	88	88
Heavy Vehicles, %	2	2	1	1	0	0
Mvmt Flow	95	324	476	37	10	67

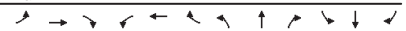
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	513	0	-	0	1009	496
Stage 1	-	-	-	-	495	-
Stage 2	-	-	-	-	514	-
Critical Hdwy	4.12	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.218	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1052	-	-	-	269	578
Stage 1	-	-	-	-	617	-
Stage 2	-	-	-	-	605	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1052	-	-	-	239	577
Mov Cap-2 Maneuver	-	-	-	-	239	-
Stage 1	-	-	-	-	549	-
Stage 2	-	-	-	-	605	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	13.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1052	-	-	-	486
HCM Lane V/C Ratio	0.09	-	-	-	0.159
HCM Control Delay (s)	8.8	0	-	-	13.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.6

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

Background 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)	0	63	268	0	391	0	0	0	0	0	496	113
Future Volume (Veh/h)	0	63	268	0	391	0	0	0	0	0	496	113
Sign Control		Stop			Yield			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92	0.95	0.95	0.95
Hourly flow rate (vph)	0	68	291	0	412	0	0	0	0	0	522	119
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	788	582	320	586	641	0	641			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	788	582	320	586	641	0	641			0		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	84	57	100	0	100	100			100		
cM capacity (veh/h)	0	423	675	197	393	1088	939			1629		

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	68	291	412	348	293
Volume Left	0	0	0	0	0
Volume Right	0	291	0	0	119
cSH	423	675	393	1700	1700
Volume to Capacity	0.16	0.43	1.05	0.20	0.17
Queue Length 95th (ft)	14	54	341	0	0
Control Delay (s)	15.1	14.3	91.3	0.0	0.0
Lane LOS	C	B	F		
Approach Delay (s)	14.5		91.3	0.0	
Approach LOS	B		F		

Intersection Summary					
Average Delay		30.3			
Intersection Capacity Utilization		70.1%	ICU Level of Service		C
Analysis Period (min)		15			

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

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

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	63	0	391	703	0	0
Future Volume (Veh/h)	63	0	391	703	0	0
Sign Control	Yield			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.95	0.95	0.92	0.92
Hourly flow rate (vph)	69	0	412	740	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	0.84					
vC, conflicting volume	1194	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	840	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	64	100	75			
cM capacity (veh/h)	192	1091	1629			

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	69	659	493
Volume Left	69	412	0
Volume Right	0	0	0
cSH	192	1629	1700
Volume to Capacity	0.36	0.25	0.29
Queue Length 95th (ft)	38	25	0
Control Delay (s)	33.8	5.9	0.0
Lane LOS	D	A	
Approach Delay (s)	33.8	3.3	
Approach LOS	D		

Intersection Summary			
Average Delay	5.1		
Intersection Capacity Utilization	71.5%	ICU Level of Service	C
Analysis Period (min)	15		

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

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

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	308	580	514	321	374	390
Future Volume (veh/h)	308	580	514	321	374	390
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1969	1969
Adj Flow Rate, veh/h	328	617	547	341	407	424
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	457	285	465	1814
Arrive On Green	0.36	0.36	0.20	0.20	0.20	0.49
Sat Flow, veh/h	1890	1682	2330	1389	1875	3839
Grp Volume(v), veh/h	328	617	462	426	407	424
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1734	1875	1870
Q Serve(g_s), s	10.8	4.5	16.4	16.4	12.8	5.3
Cycle Q Clear(g_c), s	10.8	4.5	16.4	16.4	12.8	5.3
Prop In Lane	1.00	1.00		0.80	1.00	
Lane Grp Cap(c), veh/h	676	938	386	356	465	1814
V/C Ratio(X)	0.49	0.66	1.20	1.20	0.88	0.23
Avail Cap(c_a), veh/h	676	938	386	356	465	1814
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	20.0	12.4	31.8	31.8	29.3	12.0
Incr Delay (d2), s/veh	2.5	3.6	110.9	113.0	20.0	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	4.9	7.5	18.9	17.6	9.1	2.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.5	16.0	142.7	144.8	49.3	12.3
LnGrp LOS	C	B	F	F	D	B
Approach Vol, veh/h	945		888			831
Approach Delay, s/veh	18.2		143.7			30.4
Approach LOS	B		F			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 (g_c+I1), s	14.8	18.4			7.3	12.8
Green Ext Time (p_c), s	0.2	0.0			2.9	3.2

Intersection Summary		
HCM 6th Ctrl Delay	63.9	
HCM 6th LOS	E	

HCM 6th TWSC
29: N.E. Site Drive (Egress Only) & Cady Street

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

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	154	0	0	124	0	0
Future Vol, veh/h	154	0	0	124	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	84	84	92	92
Heavy Vehicles, %	1	1	0	0	2	2
Mvmt Flow	162	0	0	148	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	310	162
Stage 1	-	-	-	-	162	-
Stage 2	-	-	-	-	148	-
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
Pot Cap-1 Maneuver	-	0	0	-	682	883
Stage 1	-	0	0	-	867	-
Stage 2	-	0	0	-	880	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	682	883
Mov Cap-2 Maneuver	-	-	-	-	682	-
Stage 1	-	-	-	-	867	-
Stage 2	-	-	-	-	880	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	-	-	-
HCM Lane V/C Ratio	-	-	-
HCM Control Delay (s)	0	-	-
HCM Lane LOS	A	-	-
HCM 95th %tile Q(veh)	-	-	-

HCM 6th TWSC
30: Griswold Street & E. Site Drive

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	134	121	0
Future Vol, veh/h	0	0	0	134	121	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	88	88	88	88
Heavy Vehicles, %	2	2	0	0	0	0
Mvmt Flow	0	0	0	152	138	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	290	138	138	0	-	0
Stage 1	138	-	-	-	-	-
Stage 2	152	-	-	-	-	-
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	701	910	1458	-	-	-
Stage 1	889	-	-	-	-	-
Stage 2	876	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	701	910	1458	-	-	-
Mov Cap-2 Maneuver	701	-	-	-	-	-
Stage 1	889	-	-	-	-	-
Stage 2	876	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1458	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC
31: Griswold Street & S.E. Site Drive

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

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	134	121	0
Future Vol, veh/h	0	0	0	134	121	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	88	88	88	88
Heavy Vehicles, %	2	2	0	0	0	0
Mvmt Flow	0	0	0	152	138	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	290	138	138	0	-	0
Stage 1	138	-	-	-	-	-
Stage 2	152	-	-	-	-	-
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	701	910	1458	-	-	-
Stage 1	889	-	-	-	-	-
Stage 2	876	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	701	910	1458	-	-	-
Mov Cap-2 Maneuver	701	-	-	-	-	-
Stage 1	889	-	-	-	-	-
Stage 2	876	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1458	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

HCM 6th TWSC
32: Center Street & Proposed Beal Street

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

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	727	0	0	720
Future Vol, veh/h	0	0	727	0	0	720
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	95	95	91	91
Heavy Vehicles, %	2	2	1	1	0	0
Mvmt Flow	0	0	765	0	0	791

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1556	765	0	0	765	0
Stage 1	765	-	-	-	-	-
Stage 2	791	-	-	-	-	-
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	124	403	-	-	857	-
Stage 1	459	-	-	-	-	-
Stage 2	447	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	124	403	-	-	857	-
Mov Cap-2 Maneuver	124	-	-	-	-	-
Stage 1	459	-	-	-	-	-
Stage 2	447	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	857	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	50	0	0	131	0	0
Future Vol, veh/h	50	0	0	131	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	82	82	91	91	92	92
Heavy Vehicles, %	0	0	5	5	2	2
Mvmt Flow	61	0	0	144	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	61	0	205	61
Stage 1	-	-	-	-	61	-
Stage 2	-	-	-	-	144	-
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	-	-	1523	-	783	1004
Stage 1	-	-	-	-	962	-
Stage 2	-	-	-	-	883	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1523	-	783	1004
Mov Cap-2 Maneuver	-	-	-	-	783	-
Stage 1	-	-	-	-	962	-
Stage 2	-	-	-	-	883	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1523	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	106	0	0	64
Future Vol, veh/h	0	0	106	0	0	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	69	69	82	82
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	0	0	154	0	0	78

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	232	154	0	0	154	0
Stage 1	154	-	-	-	-	-
Stage 2	78	-	-	-	-	-
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	756	892	-	-	1433	-
Stage 1	874	-	-	-	-	-
Stage 2	945	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	756	892	-	-	1433	-
Mov Cap-2 Maneuver	756	-	-	-	-	-
Stage 1	874	-	-	-	-	-
Stage 2	945	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	1433	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

Intersection	
Int Delay, s/veh	3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	94	127	5	57	91	8
Future Vol, veh/h	94	127	5	57	91	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	-
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	99	134	8	95	118	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	233	0	277	166
Stage 1	-	-	-	-	166	-
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
Pot Cap-1 Maneuver	-	-	1335	-	708	873
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	909	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1335	-	704	873
Mov Cap-2 Maneuver	-	-	-	-	704	-
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	904	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	715	-	-	1335	-
HCM Lane V/C Ratio	0.18	-	-	0.006	-
HCM Control Delay (s)	11.1	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0	-

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	2	80	4	0	5	15	315	1	5	375	47
Future Vol, veh/h	20	2	80	4	0	5	15	315	1	5	375	47
Conflicting Peds, #/hr	0	0	0	0	0	0	5	0	4	4	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	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	30	3	121	5	0	7	16	346	1	7	543	68

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	978	979	582	1036	1013	351	616	0	0	351	0	0
Stage 1	596	596	-	383	383	-	-	-	-	-	-	-
Stage 2	382	383	-	653	630	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	231	251	515	212	241	697	964	-	-	1208	-	-
Stage 1	492	493	-	644	616	-	-	-	-	-	-	-
Stage 2	643	614	-	460	478	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	224	243	513	157	233	694	959	-	-	1203	-	-
Mov Cap-2 Maneuver	224	243	-	157	233	-	-	-	-	-	-	-
Stage 1	482	488	-	631	603	-	-	-	-	-	-	-
Stage 2	626	601	-	347	473	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.4	18.7	0.4	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	959	-	-	402	275	1203	-	-
HCM Lane V/C Ratio	0.017	-	-	0.384	0.044	0.006	-	-
HCM Control Delay (s)	8.8	-	-	19.4	18.7	8	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.8	0.1	0	-	-

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												
Traffic Vol, veh/h	0	79	1	204	66	14	6	85	176	15	117	0
Future Vol, veh/h	0	79	1	204	66	14	6	85	176	15	117	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	279	90	19	7	101	210	17	133	0
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	10.1	16.3	12.7	11
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	72%	11%
Vol Thru, %	32%	99%	23%	89%
Vol Right, %	66%	1%	5%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	267	80	284	132
LT Vol	6	0	204	15
Through Vol	85	79	66	117
RT Vol	176	1	14	0
Lane Flow Rate	318	103	389	150
Geometry Grp	1	1	1	1
Degree of Util (X)	0.462	0.167	0.593	0.247
Departure Headway (Hd)	5.232	5.879	5.489	5.931
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	687	607	657	603
Service Time	3.287	3.945	3.536	3.996
HCM Lane V/C Ratio	0.463	0.17	0.592	0.249
HCM Control Delay	12.7	10.1	16.3	11
HCM Lane LOS	B	B	C	B
HCM 95th-tile Q	2.4	0.6	3.9	1

Intersection	
Intersection Delay, s/veh	13.7
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	209	69	50	122	198	261
Future Vol, veh/h	209	69	50	122	198	261
Peak Hour Factor	0.88	0.88	0.85	0.85	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	238	78	59	144	254	335
Number of Lanes	1	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	14.1	11.9	14.1
HCM LOS	B	B	B

Lane	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	29%	0%	0%
Vol Right, %	0%	0%	71%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	209	69	172	198	261
LT Vol	209	0	0	198	0
Through Vol	0	69	50	0	0
RT Vol	0	0	122	0	261
Lane Flow Rate	238	78	202	254	335
Geometry Grp	7	7	4	7	7
Degree of Util (X)	0.458	0.14	0.333	0.466	0.501
Departure Headway (Hd)	6.94	6.432	5.925	6.606	5.393
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	520	557	607	546	669
Service Time	4.682	4.173	3.966	4.344	3.13
HCM Lane V/C Ratio	0.458	0.14	0.333	0.465	0.501
HCM Control Delay	15.4	10.2	11.9	15	13.5
HCM Lane LOS	C	B	B	B	B
HCM 95th-tile Q	2.4	0.5	1.5	2.5	2.8

HCM 6th TWSC
5: Dunlap Street & Hutton Street

Background Conditions #2 (Both Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑↑	
Traffic Vol, veh/h	4	261	229	60	51	7
Future Vol, veh/h	4	261	229	60	51	7
Conflicting Peds, #/hr	0	0	0	0	5	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	84	84	74	74
Heavy Vehicles, %	3	3	2	2	0	0
Mvmt Flow	4	281	273	71	69	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	344	0	-	0	603	314
Stage 1	-	-	-	-	309	-
Stage 2	-	-	-	-	294	-
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
Pot Cap-1 Maneuver	1209	-	-	-	465	731
Stage 1	-	-	-	-	749	-
Stage 2	-	-	-	-	761	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1209	-	-	-	463	728
Mov Cap-2 Maneuver	-	-	-	-	463	-
Stage 1	-	-	-	-	746	-
Stage 2	-	-	-	-	761	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	13.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1209	-	-	-	484
HCM Lane V/C Ratio	0.004	-	-	-	0.162
HCM Control Delay (s)	8	0	-	-	13.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

HCM 6th AWSC
6: Wing Street & Main Street

Background Conditions #2 (Both Closed)
AM Peak Hour

Intersection	
Intersection Delay, s/veh	13
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑			↑↑			↑↑	
Traffic Vol, veh/h	78	56	51	2	29	64	15	149	4	47	233	39
Future Vol, veh/h	78	56	51	2	29	64	15	149	4	47	233	39
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	96	69	63	3	38	84	16	160	4	60	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	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	11.9	10	10.9	15.5
HCM LOS	B	A	B	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	42%	2%	15%
Vol Thru, %	89%	30%	31%	73%
Vol Right, %	2%	28%	67%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	168	185	95	319
LT Vol	15	78	2	47
Through Vol	149	56	29	233
RT Vol	4	51	64	39
Lane Flow Rate	181	228	125	409
Geometry Grp	1	1	1	1
Degree of Util (X)	0.282	0.359	0.193	0.591
Departure Headway (Hd)	5.626	5.661	5.557	5.203
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	636	633	643	691
Service Time	3.681	3.713	3.616	3.246
HCM Lane V/C Ratio	0.285	0.36	0.194	0.592
HCM Control Delay	10.9	11.9	10	15.5
HCM Lane LOS	B	B	A	C
HCM 95th-tile Q	1.2	1.6	0.7	3.9

HCM 6th AWSC
7: Center Street & Main Street

Background Conditions #2 (Both Closed)
AM Peak Hour

Intersection	
Intersection Delay, s/veh	7.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑			↑↑			↑↑	
Traffic Vol, veh/h	0	0	119	0	0	0	113	0	0	0	0	0
Future Vol, veh/h	0	0	119	0	0	0	113	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	143	0	0	0	147	0	0	0	0	0
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	7.3	0	8.4	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	113	119	0	0
LT Vol	113	0	0	0
Through Vol	0	0	0	0
RT Vol	0	119	0	0
Lane Flow Rate	147	143	0	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0.179	0.143	0	0
Departure Headway (Hd)	4.384	3.588	4.417	4.3
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	817	979	0	0
Service Time	2.416	1.684	2.417	2.376
HCM Lane V/C Ratio	0.18	0.146	0	0
HCM Control Delay	8.4	7.3	7.4	7.4
HCM Lane LOS	A	A	N	N
HCM 95th-tile Q	0.6	0.5	0	0

HCM 6th AWSC
8: Hutton Street & Main Street

Background Conditions #2 (Both Closed)
AM Peak Hour

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↑↑			↑↑
Traffic Vol, veh/h	23	177	112	57	244	68
Future Vol, veh/h	23	177	112	57	244	68
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	230	140	71	260	72
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	10.5	10.6	12.3
HCM LOS	B	B	B

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	66%	0%	0%	0%	100%
Vol Right, %	34%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	169	23	177	244	68
LT Vol	0	23	0	244	0
Through Vol	112	0	0	0	68
RT Vol	57	0	177	0	0
Lane Flow Rate	211	30	230	260	72
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.306	0.053	0.333	0.429	0.109
Departure Headway (Hd)	5.212	6.432	5.22	5.944	5.44
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	680	553	683	600	652
Service Time	3.309	4.216	3.004	3.737	3.233
HCM Lane V/C Ratio	0.31	0.054	0.337	0.433	0.11
HCM Control Delay	10.6	9.6	10.6	13.2	8.9
HCM Lane LOS	B	A	B	B	A
HCM 95th-tile Q	1.3	0.2	1.5	2.1	0.4

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

Background Conditions #2 (Both 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	185	15	68	128	65
Future Volume (veh/h)	25	199	13	11	199	120	22	185	15	68	128	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	1.00		0.99	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	
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	234	19	81	152	77
Peak Hour Factor	0.92	0.92	0.92	0.75	0.75	0.75	0.79	0.79	0.79	0.84	0.84	0.84
Percent Heavy Veh, %	3	3	3	4	4	4	2	2	2	2	2	2
Cap, veh/h	184	1392	90	83	1004	569	98	575	44	184	330	145
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	241	3004	195	42	2167	1228	92	1660	127	313	952	418
Grp Volume(v), veh/h	132	0	125	241	0	199	281	0	0	310	0	0
Grp Sat Flow(s),veh/h/ln	1700	0	1740	1908	0	1529	1879	0	0	1682	0	0
Q Serve(g_s), s	0.0	0.0	2.5	0.0	0.0	4.8	0.0	0.0	0.0	1.3	0.0	0.0
Cycle Q Clear(g_c), s	2.3	0.0	2.5	4.6	0.0	4.8	6.6	0.0	0.0	7.9	0.0	0.0
Prop In Lane	0.20		0.11	0.06		0.80	0.10		0.07	0.26		0.25
Lane Grp Cap(c), veh/h	860	0	806	948	0	709	717	0	0	659	0	0
V/C Ratio(X)	0.15	0.00	0.16	0.25	0.00	0.28	0.39	0.00	0.00	0.47	0.00	0.00
Avail Cap(c_a), veh/h	860	0	806	948	0	709	717	0	0	659	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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.3	0.0	9.3	9.9	0.0	9.9	15.0	0.0	0.0	15.3	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.4	0.5	0.0	1.0	1.6	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	1.9	0.0	1.6	2.9	0.0	0.0	3.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.6	0.0	9.7	10.5	0.0	10.9	16.6	0.0	0.0	17.7	0.0	0.0
LnGrp LOS	A	A	A	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		257			440			281			310	
Approach Delay, s/veh		9.7			10.7			16.6			17.7	
Approach LOS		A			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		33.4		26.6		33.4		26.6				
Change Period (Y+Rc), s		5.6		* 5.8		5.6		* 5.8				
Max Green Setting (Gmax), s		27.8		* 21		27.8		* 21				
Max Q Clear Time (g_c+I1), s		4.5		9.9		6.8		8.6				
Green Ext Time (p_c), 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

Background Conditions #2 (Both Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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	8	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	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	0	318	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
Pot Cap-1 Maneuver	-	-	1217	-	461	859
Stage 1	-	-	-	-	746	-
Stage 2	-	-	-	-	763	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1208	-	444	852
Mov Cap-2 Maneuver	-	-	-	-	444	-
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	741	-

Approach	EB	WB	NB
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	-	-	1208	-
HCM Lane V/C Ratio	0.077	-	-	0.023	-
HCM Control Delay (s)	10.6	-	-	8	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	56	6	4	52	55	19	98	7	89	186	11
Future Vol, veh/h	15	56	6	4	52	55	19	98	7	89	186	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	89	10	5	63	67	21	109	8	110	230	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	9.5	9.3	9.4	12.1
HCM LOS	A	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	15%	19%	4%	31%
Vol Thru, %	79%	73%	47%	65%
Vol Right, %	6%	8%	50%	4%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	124	77	111	286
LT Vol	19	15	4	89
Through Vol	98	56	52	186
RT Vol	7	6	55	11
Lane Flow Rate	138	122	135	353
Geometry Grp	1	1	1	1
Degree of Util (X)	0.194	0.179	0.189	0.471
Departure Headway (Hd)	5.073	5.283	5.023	4.799
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	699	671	705	745
Service Time	3.164	3.378	3.115	2.871
HCM Lane V/C Ratio	0.197	0.182	0.191	0.474
HCM Control Delay	9.4	9.5	9.3	12.1
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	0.7	0.6	0.7	2.5

Intersection	
Int Delay, s/veh	16.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	66	81	131	60	10	51	101	270	24	86	8
Future Vol, veh/h	1	66	81	131	60	10	51	101	270	24	86	8
Conflicting Peds, #/hr	2	0	0	0	0	2	3	0	2	2	0	3
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	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	75	92	170	78	13	54	107	287	32	115	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	594	692	124	629	554	255	129	0	0	396	0	0
Stage 1	188	188	-	361	361	-	-	-	-	-	-	-
Stage 2	406	504	-	268	193	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	420	370	932	393	439	781	1463	-	-	1157	-	-
Stage 1	818	748	-	655	624	-	-	-	-	-	-	-
Stage 2	626	544	-	735	739	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	330	340	929	277	403	778	1459	-	-	1155	-	-
Mov Cap-2 Maneuver	330	340	-	277	403	-	-	-	-	-	-	-
Stage 1	775	723	-	622	592	-	-	-	-	-	-	-
Stage 2	507	516	-	576	715	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.2	52.7	0.9	1.7
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1459	-	-	521	317	1155	-	-
HCM Lane V/C Ratio	0.037	-	-	0.323	0.823	0.028	-	-
HCM Control Delay (s)	7.6	0	-	15.2	52.7	8.2	0	-
HCM Lane LOS	A	A	-	C	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.4	7	0.1	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	165	177	0	0	202	21	0	0	0	5	0	62
Future Vol, veh/h	165	177	0	0	202	21	0	0	0	5	0	62
Conflicting Peds, #/hr	7	0	0	0	0	7	0	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
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	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	2	2	2	2	6	6	6
Mvmt Flow	185	199	0	0	281	29	0	0	0	7	0	86

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	317	0	0	199	0	0	908	886	206	879	872	303
Stage 1	-	-	-	-	-	-	569	569	-	303	303	-
Stage 2	-	-	-	-	-	-	339	317	-	576	569	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.12	6.52	6.22	7.16	6.56	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.16	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.16	5.56	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.518	4.018	3.318	3.554	4.054	3.354
Pot Cap-1 Maneuver	1249	-	-	1379	-	-	256	284	835	264	285	727
Stage 1	-	-	-	-	-	-	507	506	-	698	656	-
Stage 2	-	-	-	-	-	-	676	654	-	496	499	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1241	-	-	1379	-	-	196	235	829	227	235	722
Mov Cap-2 Maneuver	-	-	-	-	-	-	196	235	-	227	235	-
Stage 1	-	-	-	-	-	-	422	421	-	577	651	-
Stage 2	-	-	-	-	-	-	595	649	-	410	415	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.1	0	0	11.8
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1241	-	-	1379	-	-	621
HCM Lane V/C Ratio	-	0.149	-	-	-	-	-	0.15
HCM Control Delay (s)	0	8.4	0	-	0	-	-	11.8
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.5	-	-	0	-	-	0.5

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	182	151	0	49	72
Future Vol, veh/h	0	182	151	0	49	72
Conflicting Peds, #/hr	3	0	0	3	0	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	81	81	64	64	76	76
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	0	225	236	0	64	95

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	461	238
Stage 1	-	-	-	-	236	-
Stage 2	-	-	-	-	225	-
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
Pot Cap-1 Maneuver	0	-	-	0	562	806
Stage 1	0	-	-	0	808	-
Stage 2	0	-	-	0	817	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	562	804
Mov Cap-2 Maneuver	-	-	-	-	562	-
Stage 1	-	-	-	-	808	-
Stage 2	-	-	-	-	817	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	685
HCM Lane V/C Ratio	-	-	0.232
HCM Control Delay (s)	-	-	11.8
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.9

Intersection	
Int Delay, s/veh	7.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	177	34	20	1	11	12	18	32	6	10	14	122
Future Vol, veh/h	177	34	20	1	11	12	18	32	6	10	14	122
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
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	211	40	24	2	18	20	29	51	10	13	18	161

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	258	244	99	271	319	56	179	0	0	61	0	0
Stage 1	125	125	-	114	114	-	-	-	-	-	-	-
Stage 2	133	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	-	-
Pot Cap-1 Maneuver	697	660	960	686	601	1016	1385	-	-	1549	-	-
Stage 1	881	794	-	896	805	-	-	-	-	-	-	-
Stage 2	873	799	-	850	736	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	651	639	960	622	582	1016	1385	-	-	1549	-	-
Mov Cap-2 Maneuver	651	639	-	622	582	-	-	-	-	-	-	-
Stage 1	862	786	-	876	787	-	-	-	-	-	-	-
Stage 2	817	781	-	778	729	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.1	10.1	2.5	0.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1385	-	-	668	743	1549	-	-
HCM Lane V/C Ratio	0.021	-	-	0.412	0.054	0.008	-	-
HCM Control Delay (s)	7.7	0	-	14.1	10.1	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2	0.2	0	-	-

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
Total Delay (hr)	0.0	0.0	0.0	0.0
Total Del/Veh (s)		0.3	3.8	1.6

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
Storage Length	-	-	-	-	0	-
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	29	13	7	46	39	8

Major/Minor	Major1		Major2		Minor1	
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
Pot Cap-1 Maneuver	-	-	1547	-	899	1028
Stage 1	-	-	-	-	983	-
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
HCM Control Delay, s	0	0.9	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	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 %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	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
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	31	27	427	321	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	598	170	335	0	-	0
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	-	-	-
Pot 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	NB	SB
HCM Control Delay, s	9.9	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1202	-	770	-	-
HCM Lane V/C Ratio	0.023	-	0.045	-	-
HCM Control Delay (s)	8.1	0.1	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

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	0.1	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	1.2

Intersection	
Intersection 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	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	8.1	7.4	8.3	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	45%	0%	27%
Vol Thru, %	94%	48%	3%	68%
Vol Right, %	2%	7%	97%	5%
Sign Control	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)	4.518	4.786	4.15	4.236
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	797	751	867	834
Service Time	2.528	2.795	2.158	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-tile Q	0.5	0.2	0.2	1.1

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	13	0	49	0	0	0	30	434	0	0	340	3
Future Vol, veh/h	13	0	49	0	0	0	30	434	0	0	340	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
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	92	92	92	95	95	95	77	77	77
Heavy Vehicles, %	3	3	3	2	2	2	1	1	1	2	2	2
Mvmt Flow	17	0	64	0	0	0	32	457	0	0	442	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	965	965	444	997	967	457	446	0	0	457	0	0
Stage 1	444	444	-	521	521	-	-	-	-	-	-	-
Stage 2	521	521	-	476	446	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.12	6.52	6.22	4.11	-	-	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	2.209	-	-	2.218	-	-
Pot Cap-1 Maneuver	233	254	612	223	254	604	1120	-	-	1104	-	-
Stage 1	591	573	-	539	532	-	-	-	-	-	-	-
Stage 2	537	530	-	570	574	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	226	244	612	194	244	604	1120	-	-	1104	-	-
Mov Cap-2 Maneuver	226	244	-	194	244	-	-	-	-	-	-	-
Stage 1	569	573	-	519	512	-	-	-	-	-	-	-
Stage 2	517	510	-	510	574	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.7	0	0.5	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1120	-	-	451	-	1104	-	-
HCM Lane V/C Ratio	0.028	-	-	0.181	-	-	-	-
HCM Control Delay (s)	8.3	0	-	14.7	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.7	-	0	-	-

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	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	0	2	0	0	3	3	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	-
Grade, %	-	0	-	-	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	18	435	4	8	224	79	3	5	16	112	4	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	305	0	0	439	0	0	766	794	440	769	757	266
Stage 1	-	-	-	-	-	-	473	473	-	282	282	-
Stage 2	-	-	-	-	-	-	293	321	-	487	475	-
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
Pot Cap-1 Maneuver	1256	-	-	1116	-	-	310	312	601	316	335	768
Stage 1	-	-	-	-	-	-	557	545	-	721	674	-
Stage 2	-	-	-	-	-	-	698	638	-	558	554	-
Platoon blocked, %												
Mov Cap-1 Maneuver	1254	-	-	1116	-	-	294	305	599	297	327	767
Mov Cap-2 Maneuver	-	-	-	-	-	-	294	305	-	297	327	-
Stage 1	-	-	-	-	-	-	549	537	-	709	668	-
Stage 2	-	-	-	-	-	-	669	632	-	528	546	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.2	13.3	23.4
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	457	1254	-	-	1116	-	-	331
HCM Lane V/C Ratio	0.053	0.014	-	-	0.007	-	-	0.416
HCM Control Delay (s)	13.3	7.9	-	-	8.2	-	-	23.4
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	2

HCM 6th Signalized Intersection Summary — Background 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												
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
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	
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	474	19
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88	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	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	0.37	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	1121	1138	690	869	1922	1627	903	1598	314	878	1880	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	1121	0	1828	869	1922	1627	903	0	1911	878	0	1955
Q Serve(g_s), s	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		0.16	1.00		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_a), veh/h	420	0	672	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(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	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	0.2	0.0	7.8	6.7	1.0	0.3	1.6	0.0	2.5	0.7	0.0	2.0
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	9.2	1.9	2.6	0.6	1.4	0.0	6.6	0.6	0.0	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),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
LnGrp 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			C			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+I1), s		22.1		21.5		20.2		29.1				
Green Ext Time (p_c), s		3.6		2.1		3.1		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			21.6									
HCM 6th LOS			C									

SimTraffic Performance Report — Background Conditions #2 (Both Closed)
AM 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 (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

HCM 6th TWSC — Background Conditions #2 (Both Closed)
25: Seven Mile Road & River Street — AM Peak Hour

Intersection						
Int 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
Storage Length	-	-	-	-	0	-
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/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
Pot Cap-1 Maneuver	1320	-	-	-	470	789
Stage 1	-	-	-	-	792	-
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 Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1317	-	-	-	633
HCM Lane V/C Ratio	0.019	-	-	-	0.039
HCM Control Delay (s)	7.8	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

HCM Unsignalized Intersection Capacity Analysis — Background 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												
Traffic Volume (veh/h)	0	46	206	0	156	0	0	0	0	0	256	50
Future Volume (Veh/h)	0	46	206	0	156	0	0	0	0	0	256	50
Sign Control		Stop			Yield			Free			Free	
Grade		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	284	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)												
pX, platoon unblocked												
vC, conflicting volume	404	312	170	411	340	0	340				0	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	404	312	170	411	340	0	340				0	
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.1				4.2	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	100	91	71	100	68	100	100				100	
cM capacity (veh/h)	398	599	841	345	576	1078	1216				1614	

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	54	242	184	189	151
Volume Left	0	0	0	0	0
Volume Right	0	242	0	0	56
cSH	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%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis — Background Conditions #2 (Both Closed)
27: NB Northville Road & N. Seven Mile Road — AM Peak Hour

Movement	EBL	EBR	NBL	NBT	NBR	SBL	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			Free	Free		
Grade	0%			0%	0%		
Peak Hour Factor	0.85	0.85	0.85	0.85	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			
pX, platoon unblocked							
vC, conflicting volume	568	0	0				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	568	0	0				
tC, single (s)	6.9	7.0	4.2				
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2				
p0 queue free %	86	100	89				
cM capacity (veh/h)	399	1081	1607				

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	54	317	267
Volume Left	54	184	0
Volume Right	0	0	0
cSH	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	
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 #2 (Both Closed)
28: Northville Road & S. Seven Mile Road — AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
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	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	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	0.88	0.88	0.84	0.84
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	1642	1860	3809
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 Serve(g_s), s	9.4	0.0	13.8	15.6	9.6	2.5
Cycle Q Clear(g_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	
Lane Grp Cap(c), veh/h	665	923	377	337	462	1800
V/C Ratio(X)	0.43	0.24	0.87	0.96	0.74	0.12
Avail Cap(c_a), 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
%ile 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 (g_c+I1), s	11.6	17.6				4.5	11.4
Green Ext Time (p_c), s	0.4	0.0				1.3	1.5

Intersection Summary												
HCM 6th Ctrl Delay					37.8							
HCM 6th LOS					D							

HCM 6th TWSC
1: Wing Street & Randolph Street

Background Conditions #2 (Both Closed)
PM Peak Hour

Intersection	
Int Delay, s/veh	6.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	81	81	78	78
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	202	192	5	119	274	14

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	405	0	438	313
Stage 1	-	-	-	-	309	-
Stage 2	-	-	-	-	129	-
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
Pot Cap-1 Maneuver	-	-	1165	-	578	730
Stage 1	-	-	-	-	747	-
Stage 2	-	-	-	-	899	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1153	-	569	720
Mov Cap-2 Maneuver	-	-	-	-	569	-
Stage 1	-	-	-	-	740	-
Stage 2	-	-	-	-	895	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	17.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	575	-	-	1153	-
HCM Lane V/C Ratio	0.502	-	-	0.004	-
HCM Control Delay (s)	17.4	-	-	8.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.8	-	-	0	-

HCM 6th TWSC
2: Center Street & Randolph Street/Private Drive

Background Conditions #2 (Both Closed)
PM Peak Hour

Intersection	
Int Delay, s/veh	8.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	12	129	13	13	25	53	410	8	16	311	34
Future Vol, veh/h	46	12	129	13	13	25	53	410	8	16	311	34
Conflicting Peds, #/hr	2	0	5	5	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
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	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	55	14	154	14	14	27	61	471	9	22	426	47

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1129	1123	470	1193	1142	490	488	0	0	492	0	0
Stage 1	509	509	-	610	610	-	-	-	-	-	-	-
Stage 2	620	614	-	583	532	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	183	207	598	165	202	582	1086	-	-	1077	-	-
Stage 1	550	541	-	485	488	-	-	-	-	-	-	-
Stage 2	479	486	-	502	529	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	152	186	587	106	182	574	1070	-	-	1065	-	-
Mov Cap-2 Maneuver	152	186	-	106	182	-	-	-	-	-	-	-
Stage 1	512	522	-	452	455	-	-	-	-	-	-	-
Stage 2	416	453	-	351	510	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	38.7	27.5	1	0.4
HCM LOS	E	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1070	-	-	319	215	1065	-	-
HCM Lane V/C Ratio	0.057	-	-	0.698	0.261	0.021	-	-
HCM Control Delay (s)	8.6	-	-	38.7	27.5	8.5	-	-
HCM Lane LOS	A	-	-	E	D	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	4.9	1	0.1	-	-

HCM 6th AWSC
3: Wing Street & Dunlap Street

Background Conditions #2 (Both Closed)
PM Peak Hour

Intersection	
Intersection Delay, s/veh	24.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	79	12	184	103	27	9	198	210	28	140	3
Future Vol, veh/h	0	79	12	184	103	27	9	198	210	28	140	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	103	16	245	137	36	10	228	241	38	192	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	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	12.6	27	28.7	15.3
HCM LOS	B	D	D	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	2%	0%	59%	16%
Vol Thru, %	47%	87%	33%	82%
Vol Right, %	50%	13%	9%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	417	91	314	171
LT Vol	9	0	184	28
Through Vol	198	79	103	140
RT Vol	210	12	27	3
Lane Flow Rate	479	118	419	234
Geometry Grp	1	1	1	1
Degree of Util (X)	0.797	0.24	0.755	0.444
Departure Headway (Hd)	5.983	7.3	6.489	6.818
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	599	495	553	525
Service Time	4.06	5.3	4.566	4.914
HCM Lane V/C Ratio	0.8	0.238	0.758	0.446
HCM Control Delay	28.7	12.6	27	15.3
HCM Lane LOS	D	B	D	C
HCM 95th-tile Q	7.8	0.9	6.6	2.3

HCM 6th AWSC
4: Dunlap Street & Center Street

Background Conditions #2 (Both Closed)
PM Peak Hour

Intersection	
Intersection Delay, s/veh	18.2
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
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	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	17.2	20.7	17.3
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	246	103	354	229	224
LT Vol	246	0	0	229	0
Through Vol	0	103	129	0	0
RT Vol	0	0	225	0	224
Lane Flow Rate	280	117	385	294	287
Geometry Grp	7	7	4	7	7
Degree of Util (X)	0.571	0.222	0.662	0.594	0.483
Departure Headway (Hd)	7.349	6.837	6.192	7.282	6.061
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	489	522	581	493	592
Service Time	5.126	4.614	4.258	5.054	3.831
HCM Lane V/C Ratio	0.573	0.224	0.663	0.596	0.485
HCM Control Delay	19.5	11.6	20.7	20.2	14.4
HCM Lane LOS	C	B	C	C	B
HCM 95th-tile Q	3.5	0.8	4.9	3.8	2.6

HCM 6th TWSC
5: Dunlap Street & Hutton Street

Background Conditions #2 (Both Closed)
PM Peak Hour

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
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
Storage Length	-	-	-	-	0	-
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	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	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
Pot Cap-1 Maneuver	1019	-	-	-	323	549
Stage 1	-	-	-	-	603	-
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
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
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 %tile Q(veh)	0	-	-	-	1.4

HCM 6th AWSC
6: Wing Street & Main Street

Background Conditions #2 (Both Closed)
PM Peak Hour

Intersection	
Intersection Delay, s/veh	17.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	46	72	13	38	103	39	295	6	34	227	34
Future Vol, veh/h	65	46	72	13	38	103	39	295	6	34	227	34
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	0	0	0
Mvmt Flow	79	56	88	16	48	129	43	324	7	45	299	45
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	13.9	12.8	19	19.3
HCM LOS	B	B	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	36%	8%	12%
Vol Thru, %	87%	25%	25%	77%
Vol Right, %	2%	39%	67%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	340	183	154	295
LT Vol	39	65	13	34
Through Vol	295	46	38	227
RT Vol	6	72	103	34
Lane Flow Rate	374	223	192	388
Geometry Grp	1	1	1	1
Degree of Util (X)	0.63	0.403	0.342	0.644
Departure Headway (Hd)	6.069	6.508	6.39	5.974
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	594	551	560	602
Service Time	4.126	4.573	4.456	4.031
HCM Lane V/C Ratio	0.63	0.405	0.343	0.645
HCM Control Delay	19	13.9	12.8	19.3
HCM Lane LOS	C	B	B	C
HCM 95th-tile Q	4.4	1.9	1.5	4.6

HCM 6th AWSC
7: Center Street & Main Street

Background Conditions #2 (Both Closed)
PM Peak Hour

Intersection	
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	0	0	115	0	0	0	164	0	0	0	0	0
Future Vol, veh/h	0	0	115	0	0	0	164	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.90	0.92	0.92	0.92	0.78	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	128	0	0	0	210	0	0	0	0	0
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	0	8.9	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	164	115	0	0
LT Vol	164	0	0	0
Through Vol	0	0	0	0
RT Vol	0	115	0	0
Lane Flow Rate	210	128	0	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0.254	0.136	0	0
Departure Headway (Hd)	4.342	3.831	4.558	4.429
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	824	942	0	0
Service Time	2.385	1.831	2.563	2.429
HCM Lane V/C Ratio	0.255	0.136	0	0
HCM Control Delay	8.9	7.4	7.6	7.4
HCM Lane LOS	A	A	N	N
HCM 95th-tile Q	1	0.5	0	0

HCM 6th AWSC
8: Hutton Street & Main Street

Background Conditions #2 (Both Closed)
PM Peak Hour

Intersection	
Intersection Delay, s/veh	15
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
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	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	15.6	12.1	15.7
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	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	6.588	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-tile Q	1.4	0.3	4	3.5	0.7

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

Background 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)	49	273	27	15	296	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		0.99	0.99		0.99	1.00		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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	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	0.92	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	219	1207	121	78	890	701	94	578	53	258	261	93
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	306	2606	261	33	1922	1514	83	1666	154	507	754	269
Grp Volume(v), veh/h	183	0	196	331	0	277	347	0	0	517	0	0
Grp Sat Flow(s),veh/h/ln	1403	0	1770	1955	0	1514	1903	0	0	1530	0	0
Q Serve(g_s), s	0.3	0.0	4.0	0.0	0.0	7.2	0.0	0.0	0.0	11.6	0.0	0.0
Cycle Q Clear(g_c), s	7.6	0.0	4.0	6.4	0.0	7.2	8.4	0.0	0.0	20.0	0.0	0.0
Prop In Lane	0.29		0.15	0.05		1.00	0.09		0.08	0.37		0.18
Lane Grp Cap(c), veh/h	728	0	820	969	0	701	725	0	0	612	0	0
V/C Ratio(X)	0.25	0.00	0.24	0.34	0.00	0.39	0.48	0.00	0.00	0.84	0.00	0.00
Avail Cap(c_a), veh/h	728	0	820	969	0	701	725	0	0	612	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	0.00	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	15.5	0.0	0.0	19.1	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.7	1.0	0.0	1.7	2.3	0.0	0.0	13.4	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	1.4	0.0	1.5	2.8	0.0	2.4	3.7	0.0	0.0	8.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.4	0.0	10.4	11.3	0.0	12.2	17.8	0.0	0.0	32.5	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	C	A	A
Approach Vol, veh/h		379			608			347			517	
Approach Delay, s/veh		10.4			11.7			17.8			32.5	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	33.4	26.6	33.4	26.6
Change Period (Y+Rc), s	5.6	* 5.8	5.6	* 5.8
Max Green Setting (Gmax), s	27.8	* 21	27.8	* 21
Max Q Clear Time (g_c+I1), s	9.6	22.0	9.2	10.4
Green Ext Time (p_c), s	2.4	0.0	4.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	18.4
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 #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	10	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	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
Pot Cap-1 Maneuver	-	-	1048	-	301	734
Stage 1	-	-	-	-	586	-
Stage 2	-	-	-	-	679	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1038	-	280	727
Mov Cap-2 Maneuver	-	-	-	-	280	-
Stage 1	-	-	-	-	580	-
Stage 2	-	-	-	-	638	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	16.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	429	-	-	1038	-
HCM Lane V/C Ratio	0.288	-	-	0.042	-
HCM Control Delay (s)	16.8	-	-	8.6	0.2
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.2	-	-	0.1	-

HCM 6th AWSC
11: Wing Street & Cady Street

Background Conditions #2 (Both Closed)
PM Peak Hour

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	45	12	14	44	98	10	218	17	65	231	16
Future Vol, veh/h	24	45	12	14	44	98	10	218	17	65	231	16
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	0	0	0
Mvmt Flow	29	54	14	16	49	109	11	242	19	73	260	18
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	9.9	10.2	11.4	13
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	30%	9%	21%
Vol Thru, %	89%	56%	28%	74%
Vol Right, %	7%	15%	63%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	245	81	156	312
LT Vol	10	24	14	65
Through Vol	218	45	44	231
RT Vol	17	12	98	16
Lane Flow Rate	272	98	173	351
Geometry Grp	1	1	1	1
Degree of Util (X)	0.389	0.157	0.256	0.494
Departure Headway (Hd)	5.149	5.78	5.312	5.07
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	700	620	674	712
Service Time	3.184	3.827	3.353	3.102
HCM Lane V/C Ratio	0.389	0.158	0.257	0.493
HCM Control Delay	11.4	9.9	10.2	13
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	1.8	0.6	1	2.8

HCM 6th TWSC
12: Center Street & Cady Street

Background Conditions #2 (Both Closed)
PM Peak Hour

Intersection	
Int Delay, s/veh	120.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	73	72	237	61	5	59	133	304	49	102	16
Future Vol, veh/h	5	73	72	237	61	5	59	133	304	49	102	16
Conflicting Peds, #/hr	25	0	4	4	0	25	21	0	3	3	0	21
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	88	88	88	90	90	90	80	80	80
Heavy Vehicles, %	1	1	1	0	0	1	1	1	1	1	1	1
Mvmt Flow	6	92	91	269	69	6	66	148	338	61	128	20

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	793	902	163	808	743	345	169	0	0	489	0	0
Stage 1	281	281	-	452	452	-	-	-	-	-	-	-
Stage 2	512	621	-	356	291	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.11	-	-	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	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	308	279	884	302	346	702	1415	-	-	1079	-	-
Stage 1	728	680	-	591	574	-	-	-	-	-	-	-
Stage 2	547	481	-	666	675	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	217	238	863	~ 170	295	683	1387	-	-	1076	-	-
Mov Cap-2 Maneuver	217	238	-	~ 170	295	-	-	-	-	-	-	-
Stage 1	664	625	-	548	533	-	-	-	-	-	-	-
Stage 2	429	446	-	474	620	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.3	$ 436.6	0.9	2.5
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1387	-	-	363	188	1076	-	-
HCM Lane V/C Ratio	0.047	-	-	0.523	1.831	0.057	-	-
HCM Control Delay (s)	7.7	0	-	25.3$	436.6	8.5	0	-
HCM Lane LOS	A	A	-	D	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.9	24.8	0.2	-	-

Notes
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

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	0	83
Future Vol, veh/h	193	254	0	0	221	22	0	0	20	0	0	83
Conflicting Peds, #/hr	13	0	0	0	0	13	0	0	0	0	0	3
Sign Control	Free	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	95	92	92	92	63	63	63
Heavy Vehicles, %	1	1	1	0	0	0	2	2	2	1	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	270	0	0	994	949	270	938	938	261
Stage 1	-	-	-	-	-	-	680	680	-	258	258	-
Stage 2	-	-	-	-	-	-	314	269	-	680	680	-
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
Pot Cap-1 Maneuver	1300	-	-	1305	-	-	224	260	769	246	265	780
Stage 1	-	-	-	-	-	-	441	451	-	749	696	-
Stage 2	-	-	-	-	-	-	697	687	-	442	452	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1284	-	-	1305	-	-	158	209	769	208	213	768
Mov Cap-2 Maneuver	-	-	-	-	-	-	158	209	-	208	213	-
Stage 1	-	-	-	-	-	-	358	366	-	601	688	-
Stage 2	-	-	-	-	-	-	576	679	-	359	367	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.6	0	0	15.5
HCM LOS			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 %tile Q(veh)	-	0.6	-	-	0	-	-	1.4

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	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	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	90	90	72	72
Heavy Vehicles, %	0	0	1	1	0	0
Mvmt Flow	0	288	251	0	36	24

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	539	252
Stage 1	-	-	-	-	251	-
Stage 2	-	-	-	-	288	-
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
Pot Cap-1 Maneuver	0	-	-	0	507	792
Stage 1	0	-	-	0	795	-
Stage 2	0	-	-	0	766	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	507	791
Mov Cap-2 Maneuver	-	-	-	-	507	-
Stage 1	-	-	-	-	795	-
Stage 2	-	-	-	-	766	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.8
HCM LOS			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 %tile Q(veh)	-	-	0.3

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	1	1	0	3	10	0	4	4	0	10
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	64	64	64	86	86	86	88	88	88
Heavy Vehicles, %	1	1	1	0	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			Minor1			Major1			Major2		
Conflicting Flow All	341	310	179	342	416	60	285	0	0	58	0	0
Stage 1	210	210	-	99	99	-	-	-	-	-	-	-
Stage 2	131	100	-	243	317	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	615	606	866	616	530	1011	1289	-	-	1559	-	-
Stage 1	794	730	-	912	817	-	-	-	-	-	-	-
Stage 2	875	814	-	765	658	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	546	580	857	538	507	1004	1277	-	-	1553	-	-
Mov Cap-2 Maneuver	546	580	-	538	507	-	-	-	-	-	-	-
Stage 1	773	713	-	893	800	-	-	-	-	-	-	-
Stage 2	795	797	-	675	643	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.4	11	2.2	0.4
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1277	-	-	580	670	1553	-	-
HCM Lane V/C Ratio	0.016	-	-	0.544	0.112	0.01	-	-
HCM Control Delay (s)	7.9	0	-	18.4	11	7.3	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	3.3	0.4	0	-	-

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

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	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	-	-	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	0	134	95
Stage 1	-	-	-	-	85	-
Stage 2	-	-	-	-	49	-
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
Pot Cap-1 Maneuver	-	-	1490	-	860	962
Stage 1	-	-	-	-	938	-
Stage 2	-	-	-	-	973	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1486	-	851	950
Mov Cap-2 Maneuver	-	-	-	-	851	-
Stage 1	-	-	-	-	935	-
Stage 2	-	-	-	-	965	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	863	-	-	1486	-
HCM Lane V/C Ratio	0.086	-	-	0.005	-
HCM Control Delay (s)	9.6	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	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	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	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	0	-	0
Stage 1	566	-	-	-	-	-
Stage 2	379	-	-	-	-	-
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	-	-	-
Pot Cap-1 Maneuver	264	716	1006	-	-	-
Stage 1	537	-	-	-	-	-
Stage 2	668	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	253	713	1002	-	-	-
Mov Cap-2 Maneuver	253	-	-	-	-	-
Stage 1	517	-	-	-	-	-
Stage 2	665	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.6	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1002	-	616	-	-
HCM Lane V/C Ratio	0.021	-	0.118	-	-
HCM Control Delay (s)	8.7	0.1	11.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

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	0.1	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)	3.3	1.1	0.7	6.2	4.6	1.6	1.2	1.4	5.5	14.4	4.4	1.4

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	5	1	0	9	80	1	119	3	55	161	13
Future Vol, veh/h	15	5	1	0	9	80	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	5	1	1	1	0	0	0
Mvmt Flow	18	6	1	0	10	88	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	8.4	8.1	8.8	9.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	71%	0%	24%
Vol Thru, %	97%	24%	10%	70%
Vol Right, %	2%	5%	90%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	123	21	89	229
LT Vol	1	15	0	55
Through Vol	119	5	9	161
RT Vol	3	1	80	13
Lane Flow Rate	178	25	98	252
Geometry Grp	1	1	1	1
Degree of Util (X)	0.221	0.036	0.121	0.307
Departure Headway (Hd)	4.462	5.188	4.44	4.396
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	806	689	807	818
Service Time	2.487	3.226	2.47	2.419
HCM Lane V/C Ratio	0.221	0.036	0.121	0.308
HCM Control Delay	8.8	8.4	8.1	9.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.8	0.1	0.4	1.3

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	0	57	0	0	0	81	524	0	0	380	8
Future Vol, veh/h	6	0	57	0	0	0	81	524	0	0	380	8
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	62	62	62	92	92	92	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	2	2	2	0	0	0	1	1	1
Mvmt Flow	10	0	92	0	0	0	86	557	0	0	404	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1143	1143	416	1186	1147	557	418	0	0	557	0	0
Stage 1	414	414	-	729	729	-	-	-	-	-	-	-
Stage 2	729	729	-	457	418	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.1	-	-	4.11	-	-
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	2.2	-	-	2.209	-	-
Pot Cap-1 Maneuver	179	202	641	186	199	530	1152	-	-	1019	-	-
Stage 1	620	597	-	414	428	-	-	-	-	-	-	-
Stage 2	417	431	-	583	591	-	-	-	-	-	-	-
Platoon blocked, %										-	-	-
Mov Cap-1 Maneuver	163	179	637	130	177	530	1147	-	-	1019	-	-
Mov Cap-2 Maneuver	163	179	-	130	177	-	-	-	-	-	-	-
Stage 1	550	594	-	369	381	-	-	-	-	-	-	-
Stage 2	372	384	-	498	588	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.1	0	1.1	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1147	-	-	499	-	1019	-	-
HCM Lane V/C Ratio	0.075	-	-	0.204	-	-	-	-
HCM Control Delay (s)	8.4	0	-	14.1	0	0	-	-
HCM Lane LOS	A	A	-	B	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.8	-	0	-	-

Intersection	
Int Delay, s/veh	16.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	332	3	13	478	100	4	3	7	138	5	19
Future Vol, veh/h	20	332	3	13	478	100	4	3	7	138	5	19
Conflicting Peds, #/hr	0	0	1	1	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
Storage Length	100	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	90	90	90	70	70	70	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	0	0	0	1	1	1
Mvmt Flow	24	391	4	14	531	111	6	4	10	168	6	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	642	0	0	396	0	0	1071	1112	399	1068	1059	587
Stage 1	-	-	-	-	-	-	442	442	-	615	615	-
Stage 2	-	-	-	-	-	-	629	670	-	453	444	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.1	6.5	6.2	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.5	4	3.3	3.509	4.009	3.309
Pot Cap-1 Maneuver	943	-	-	1163	-	-	200	211	655	200	225	511
Stage 1	-	-	-	-	-	-	598	580	-	480	484	-
Stage 2	-	-	-	-	-	-	474	459	-	588	577	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	943	-	-	1162	-	-	181	203	651	187	216	511
Mov Cap-2 Maneuver	-	-	-	-	-	-	181	203	-	187	216	-
Stage 1	-	-	-	-	-	-	582	565	-	468	478	-
Stage 2	-	-	-	-	-	-	441	453	-	557	562	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	18.1	105
HCM LOS			C	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	294	943	-	-	1162	-	-	203
HCM Lane V/C Ratio	0.068	0.025	-	-	0.012	-	-	0.973
HCM Control Delay (s)	18.1	8.9	-	-	8.1	-	-	105
HCM Lane LOS	C	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	8.3

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		0.99	1.00		0.99	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	2000	1984	1984	1984	2000	2000	2000
Adj Flow Rate, veh/h	31	359	152	144	505	122	141	523	117	73	375	22
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.90	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	212	485	206	208	729	619	446	764	171	275	911	53
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	804	1321	559	895	1984	1686	992	1567	350	801	1869	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	804	0	1880	895	1984	1686	992	0	1917	801	0	1979
Q Serve(g_s), s	2.7	0.0	18.9	10.5	17.3	3.9	8.5	0.0	20.5	6.2	0.0	10.3
Cycle Q Clear(g_c), s	20.0	0.0	18.9	29.4	17.3	3.9	18.8	0.0	20.5	26.7	0.0	10.3
Prop In Lane	1.00		0.30	1.00		1.00	1.00		0.18	1.00		0.06
Lane Grp Cap(c), veh/h	212	0	691	208	729	619	446	0	935	275	0	965
V/C Ratio(X)	0.15	0.00	0.74	0.69	0.69	0.20	0.32	0.00	0.68	0.27	0.00	0.41
Avail Cap(c_a), veh/h	212	0	691	208	729	619	446	0	935	275	0	965
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	29.9	0.0	22.0	35.7	21.5	17.3	19.2	0.0	15.8	26.1	0.0	13.1
Incr Delay (d2), s/veh	1.5	0.0	7.0	17.4	5.4	0.7	1.9	0.0	4.1	2.4	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 BackOfQ(50%),veh/ln	0.6	0.0	9.0	3.8	8.5	1.6	2.1	0.0	9.0	1.3	0.0	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.4	0.0	29.0	53.1	26.8	18.0	21.0	0.0	19.8	28.4	0.0	14.4
LnGrp LOS	C	A	C	D	C	B	C	A	B	C	A	B
Approach Vol, veh/h		542			771			781			470	
Approach Delay, s/veh		29.1			30.3			20.1			16.6	
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 (g_c+I1), s	22.5	22.0	28.7	31.4
Green Ext Time (p_c), s	4.6	2.0	2.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C

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	0.2	0.2	0.0	0.0	0.1
Total Delay (hr)	0.4	0.0	0.2	2.3	0.4	0.2	0.2	3.7
Total Del/Veh (s)	19.8	1.8	1.7	35.5	25.2	2.9	3.8	10.4

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

Background Conditions #2 (Both Closed)
PM Peak Hour

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	29	307	474	23	6	49
Future Vol, veh/h	29	307	474	23	6	49
Conflicting Peds, #/hr	4	0	0	4	6	12
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	90	90	77	77
Heavy Vehicles, %	2	2	1	1	6	6
Mvmt Flow	32	334	527	26	8	64

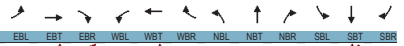
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	557	0	-	0	948	556
Stage 1	-	-	-	-	544	-
Stage 2	-	-	-	-	404	-
Critical Hdwy	4.12	-	-	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.218	-	-	-	3.554	3.354
Pot Cap-1 Maneuver	1014	-	-	-	285	523
Stage 1	-	-	-	-	574	-
Stage 2	-	-	-	-	666	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1010	-	-	-	272	515
Mov 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

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1010	-	-	-	469
HCM Lane V/C Ratio	0.031	-	-	-	0.152
HCM Control Delay (s)	8.7	0	-	-	14.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

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

Background 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)	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			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	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	772	560	307	568	614	0	614				0	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	772	560	307	568	614	0	614				0	
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1				4.1	
tC, 2 stage (s)												
tF (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	
cM capacity (veh/h)	0	436	689	214	408	1088	961				1629	

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	56	287	424	337	277
Volume Left	0	0	0	0	0
Volume Right	0	287	0	0	108
cSH	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
27: NB Northville Road & N. Seven Mile Road

Background Conditions #2 (Both Closed)
PM Peak Hour

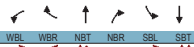
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	51	0	399	575	0	0
Future Volume (Veh/h)	51	0	399	575	0	0
Sign Control	Yield			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.94	0.94	0.92	0.92
Hourly flow rate (vph)	56	0	424	612	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
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			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	70	100	74			
cM capacity (veh/h)	185	1084	1629			

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	56	628	408
Volume Left	56	424	0
Volume Right	0	0	0
cSH	185	1629	1700
Volume to Capacity	0.30	0.26	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
28: Northville Road & S. Seven Mile Road

Background Conditions #2 (Both Closed)
PM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	352	519	455	341	362	380
Future Volume (veh/h)	352	519	455	341	362	380
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	405	597	479	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	1682	2155	1537	1890	3870
Grp Volume(v), veh/h	405	597	439	399	381	400
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1708	1890	1885
Q Serve(g_s), s	14.0	3.5	16.4	16.4	11.4	4.9
Cycle Q Clear(g_c), 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(X)	0.60	0.64	1.14	1.14	0.81	0.22
Avail Cap(c_a), veh/h	676	938	386	350	468	1829
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	21.0	12.1	31.8	31.8	28.8	11.9
Incr Delay (d2), 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						
LnGrp Delay(d),s/veh	24.9	15.4	120.1	123.3	43.2	12.1
LnGrp 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	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 (g_c+I1), s	13.4	18.4			6.9	16.0
Green Ext Time (p_c), s	0.3	0.0			2.7	3.1

Intersection Summary	
HCM 6th Ctrl Delay	54.4
HCM 6th LOS	D

HCM 6th TWSC
1: Wing Street & Randolph Street

Background Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	125	102	5	63	89	8
Future Vol, veh/h	125	102	5	63	89	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	-
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	132	107	8	105	116	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	239	0	307	186
Stage 1	-	-	-	-	186	-
Stage 2	-	-	-	-	121	-
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	-	-	1328	-	681	851
Stage 1	-	-	-	-	841	-
Stage 2	-	-	-	-	899	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1328	-	677	851
Mov Cap-2 Maneuver	-	-	-	-	677	-
Stage 1	-	-	-	-	841	-
Stage 2	-	-	-	-	894	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	11.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	689	-	-	1328	-
HCM Lane V/C Ratio	0.183	-	-	0.006	-
HCM Control Delay (s)	11.4	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0	-

HCM 6th TWSC
2: Center Street & Randolph Street/Private Drive

Background Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	4.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	2	112	4	0	5	24	538	1	5	405	44
Future Vol, veh/h	19	2	112	4	0	5	24	538	1	5	405	44
Conflicting Peds, #/hr	0	0	0	0	0	0	5	0	4	4	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	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	29	3	170	5	0	7	26	591	1	7	587	64

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1285	1286	624	1368	1318	596	656	0	0	596	0	0
Stage 1	638	638	-	648	648	-	-	-	-	-	-	-
Stage 2	647	648	-	720	670	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	142	165	487	125	159	507	931	-	-	980	-	-
Stage 1	467	472	-	462	469	-	-	-	-	-	-	-
Stage 2	461	468	-	422	459	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	136	158	485	78	152	505	927	-	-	976	-	-
Mov Cap-2 Maneuver	136	158	-	78	152	-	-	-	-	-	-	-
Stage 1	452	466	-	447	454	-	-	-	-	-	-	-
Stage 2	442	453	-	271	453	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	28.8	31.7	0.4	0.1
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	927	-	-	347	147	976	-	-
HCM Lane V/C Ratio	0.028	-	-	0.581	0.082	0.007	-	-
HCM Control Delay (s)	9	-	-	28.8	31.7	8.7	-	-
HCM Lane LOS	A	-	-	D	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	3.5	0.3	0	-	-

HCM 6th AWSC
3: Wing Street & Dunlap Street

Background Conditions #3 (Main Closed)
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	1	22	65	48	6	49	60	26	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	100	1	30	89	66	7	58	71	30	92	0
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	8.5	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 Util (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	0.23	0.165
HCM Control Delay	8.4	8.5	8.8	8.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.5	0.9	0.6

HCM 6th Signalized Intersection Summary
4: Center Street & Dunlap 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)	76	69	9	9	60	123	10	364	98	113	331	77
Future Volume (veh/h)	76	69	9	9	60	123	10	364	98	113	331	77
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	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	
Adj Sat Flow, veh/h/ln	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	0.85	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	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	1.00	1.00	1.00	0.62	0.62	0.62
Sat Flow, veh/h	1161	1708	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/h/ln	1161	0	1927	1301	0	1747	879	0	1895	894	0	1903
Q Serve(g_s), 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 Clear(g_c), 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		0.67	1.00		0.21	1.00		0.19
Lane Grp Cap(c), veh/h	285	0	479	396	0	434	532	0	1165	670	0	1170
V/C Ratio(X)	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_a), 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 Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
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	0.1	0.0	4.0	0.1	0.0	1.2	0.7	0.0	1.2
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	1.3	0.0	1.0	0.1	0.0	2.9	0.0	0.0	0.4	0.8	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.5	0.0	18.6	18.9	0.0	23.4	1.1	0.0	1.2	6.0	0.0	7.4
LnGrp LOS	C	A	B	B	A	C	A	A	A	A	A	A
Approach Vol, veh/h		174			227			514			668	
Approach Delay, s/veh		22.5			23.2			1.2			7.1	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	41.0	19.0	41.0	19.0
Change Period (Y+Rc), s	* 4.1	* 4.1	* 4.1	* 4.1
Max Green Setting (Gmax), s	* 37	* 15	* 37	* 15
Max Q Clear Time (g_c+I1), s	10.9	12.5	10.8	8.4
Green Ext Time (p_c), s	3.8	0.2	4.9	0.7

Intersection Summary		
HCM 6th Ctrl Delay	9.2	
HCM 6th LOS	A	

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

HCM 6th TWSC
5: Dunlap Street & Hutton Street

Background Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	1.6

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
Conflicting Peds, #/hr	0	0	0	0	5	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	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	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
Pot Cap-1 Maneuver	1225	-	-	-	474	744
Stage 1	-	-	-	-	760	-
Stage 2	-	-	-	-	761	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1225	-	-	-	472	740
Mov Cap-2 Maneuver	-	-	-	-	472	-
Stage 1	-	-	-	-	757	-
Stage 2	-	-	-	-	761	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1225	-	-	-	494
HCM Lane V/C Ratio	0.004	-	-	-	0.159
HCM Control Delay (s)	7.9	0	-	-	13.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

HCM 6th AWSC
6: Wing Street & Main Street

Background Conditions #3 (Main Closed)
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	69	20
Future Vol, veh/h	61	89	50	19	28	63	15	41	4	47	69	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	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	9.8	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 Util (X)	0.092	0.316	0.181	0.237
Departure Headway (Hd)	5.108	4.607	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	9.8	8.6	9.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	1.4	0.7	0.9

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

Background Conditions #3 (Main Closed)
AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	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 (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99	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	
Adj Sat Flow, veh/h/ln	1984	1984	1953	1953	1953	1953
Adj Flow Rate, veh/h	67	94	5	499	337	51
Peak Hour Factor	0.87	0.87	0.83	0.83	0.90	0.90
Percent Heavy Veh, %	1	1	3	3	3	3
Cap, veh/h	191	268	63	1086	925	140
Arrive On Green	0.26	0.26	0.56	0.56	1.00	1.00
Sat Flow, veh/h	724	1016	4	1945	1657	251
Grp Volume(v), veh/h	162	0	504	0	0	388
Grp Sat Flow(s),veh/h/ln	1751	0	1949	0	0	1908
Q Serve(g_s), s	4.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.5	0.0	9.2	0.0	0.0	0.0
Prop In Lane	0.41	0.58	0.01			0.13
Lane Grp Cap(c), veh/h	461	0	1149	0	0	1065
V/C Ratio(X)	0.35	0.00	0.44	0.00	0.00	0.36
Avail Cap(c_a), veh/h	461	0	1149	0	0	1065
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	17.9	0.0	7.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	2.1	0.0	1.2	0.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	3.6	0.0	0.0	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.0	0.0	9.1	0.0	0.0	1.0
LnGrp LOS	C	A	A	A	A	A
Approach Vol, veh/h	162			504	388	
Approach Delay, s/veh	20.0			9.1	1.0	
Approach LOS	C			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+I1), s	11.2	6.5	2.0
Green Ext Time (p_c), s	3.5	0.3	2.8

Intersection Summary		
HCM 6th Ctrl Delay	7.8	
HCM 6th LOS	A	

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

HCM 6th AWSC
8: Hutton Street & Main Street

Background Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Intersection Delay, s/veh	11.2
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	178	98	58	243	69
Future Vol, veh/h	23	178	98	58	243	69
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	231	123	73	259	73
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	10.5	10.3	12.2
HCM LOS	B	B	B

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	63%	0%	0%	0%	100%
Vol Right, %	37%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	156	23	178	243	69
LT Vol	0	23	0	243	0
Through Vol	98	0	0	0	69
RT Vol	58	0	178	0	0
Lane Flow Rate	195	30	231	259	73
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.281	0.053	0.333	0.426	0.111
Departure Headway (Hd)	5.19	6.393	5.181	5.926	5.422
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	684	556	687	602	654
Service Time	3.286	4.174	2.962	3.717	3.212
HCM Lane V/C Ratio	0.285	0.054	0.336	0.43	0.112
HCM Control Delay	10.3	9.5	10.6	13.1	8.9
HCM Lane LOS	B	A	B	B	A
HCM 95th-tile Q	1.2	0.2	1.5	2.1	0.4

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	128	65
Future Volume (veh/h)	25	199	13	11	199	120	22	155	15	68	128	65
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	1.00		0.99	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	
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	0.92	0.75	0.75	0.75	0.79	0.79	0.79	0.84	0.84	0.84
Percent Heavy Veh, %	3	3	3	4	4	4	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	0.46	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	241	3004	195	42	2167	1228	105	1615	146	312	950	417
Grp Volume(v), veh/h	132	0	125	241	0	199	243	0	0	310	0	0
Grp Sat Flow(s),veh/h/ln	1700	0	1740	1908	0	1529	1866	0	0	1680	0	0
Q Serve(g_s), s	0.0	0.0	2.5	0.0	0.0	4.8	0.0	0.0	0.0	2.6	0.0	0.0
Cycle Q Clear(g_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		0.80	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_a), veh/h	860	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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.3	0.0	9.3	9.9	0.0	9.9	14.6	0.0	0.0	15.4	0.0	0.0
Incr 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	1.9	0.0	1.6	2.4	0.0	0.0	3.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),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
LnGrp 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		2		4		6		8	
Phs Duration (G+Y+Rc), s		33.4		26.6		33.4		26.6	
Change Period (Y+Rc), s		5.6		* 5.8		5.6		* 5.8	
Max Green Setting (Gmax), s		27.8		* 21		27.8		* 21	
Max Q Clear Time (g_c+I1), 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 Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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	8	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	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	0	318	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
Pot Cap-1 Maneuver	-	-	1217	-	461	859
Stage 1	-	-	-	-	731	-
Stage 2	-	-	-	-	763	-
Platoon blocked, %		-		-		
Mov Cap-1 Maneuver	-	-	1208	-	444	852
Mov Cap-2 Maneuver	-	-	-	-	444	-
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	741	-

Approach	EB	WB	NB
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	-	-	1208	-
HCM Lane V/C Ratio	0.077	-	-	0.023	-
HCM Control Delay (s)	10.6	-	-	8	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

HCM 6th AWSC
11: Wing Street & Cady Street

Background Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
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	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, %	30%	22%	11%	25%
Vol Thru, %	59%	69%	70%	67%
Vol Right, %	11%	9%	19%	8%
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 Util (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-tile 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 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	0	2	3	0	2	2	0	3
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	82	82	82	90	90	90	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	2	2	2
Mvmt Flow	1	66	13	135	65	11	27	453	232	27	404	6

Major/Minor	Major2			Minor1			Major1			Major2		
Conflicting Flow All	1127	1205	410	1126	1092	573	413	0	0	687	0	0
Stage 1	464	464	-	625	625	-	-	-	-	-	-	-
Stage 2	663	741	-	501	467	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.13	-	-	4.12	-	-
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	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	183	185	646	184	216	523	1141	-	-	907	-	-
Stage 1	582	567	-	476	480	-	-	-	-	-	-	-
Stage 2	454	426	-	556	565	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	126	170	644	- 119	198	521	1138	-	-	905	-	-
Mov Cap-2 Maneuver	126	170	-	- 119	198	-	-	-	-	-	-	-
Stage 1	557	543	-	456	460	-	-	-	-	-	-	-
Stage 2	366	408	-	460	541	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	36.7	$ 309.6	0.3	0.6
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1138	-	-	191	142	905	-	-
HCM Lane V/C Ratio	0.023	-	-	0.416	1.486	0.03	-	-
HCM Control Delay (s)	8.2	0	-	36.7$	309.6	9.1	0	-
HCM Lane LOS	A	A	-	E	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.9	14.2	0.1	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

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

Background Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	135	147	0	0	202	21	0	0	0	5	0	42
Future Vol, veh/h	135	147	0	0	202	21	0	0	0	5	0	42
Conflicting Peds, #/hr	7	0	0	0	0	7	0	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
Storage Length	-	-	-	-	-	-	-	-	-	-	0	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	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	6	6	6
Mvmt Flow	152	165	0	0	281	29	0	0	0	7	0	58

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	317	0	0	165	0	0	794	786	172	779	772	303
Stage 1	-	-	-	-	-	-	469	469	-	303	303	-
Stage 2	-	-	-	-	-	-	325	317	-	476	469	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.12	6.52	6.22	7.16	6.56	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.16	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.16	5.56	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.518	4.018	3.318	3.554	4.054	3.354
Pot Cap-1 Maneuver	1249	-	-	1419	-	-	306	324	872	308	326	727
Stage 1	-	-	-	-	-	-	575	561	-	698	656	-
Stage 2	-	-	-	-	-	-	687	654	-	562	554	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1241	-	-	1419	-	-	252	278	866	273	280	722
Mov Cap-2 Maneuver	-	-	-	-	-	-	252	278	-	273	280	-
Stage 1	-	-	-	-	-	-	497	485	-	600	651	-
Stage 2	-	-	-	-	-	-	631	649	-	483	479	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4	0	0	11.6
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1241	-	-	1419	-	-	614
HCM Lane V/C Ratio	-	0.122	-	-	-	-	-	0.106
HCM Control Delay (s)	0	8.3	0	-	0	-	-	11.6
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.4	-	-	0	-	-	0.4

HCM 6th TWSC
14: Cady Street & Chruch Street

Background Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	152	151	0	49	72
Future Vol, veh/h	0	152	151	0	49	72
Conflicting Peds, #/hr	3	0	0	3	0	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	81	81	64	64	76	76
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	0	188	236	0	64	95

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	424	238
Stage 1	-	-	-	-	236	-
Stage 2	-	-	-	-	188	-
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
Pot Cap-1 Maneuver	0	-	0	0	591	806
Stage 1	0	-	0	0	808	-
Stage 2	0	-	0	0	849	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	591	804
Mov Cap-2 Maneuver	-	-	-	-	591	-
Stage 1	-	-	-	-	808	-
Stage 2	-	-	-	-	849	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.6
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	702
HCM Lane V/C Ratio	-	-	0.227
HCM Control Delay (s)	-	-	11.6
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.9

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	147	34	20	1	11	13	18	32	6	10	14	122
Future Vol, veh/h	147	34	20	1	11	13	18	32	6	10	14	122
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
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	175	40	24	2	18	22	29	51	10	13	18	161

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	259	244	99	271	319	56	179	0	0	61	0	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	-	-
Pot Cap-1 Maneuver	696	660	960	686	601	1016	1385	-	-	1549	-	-
Stage 1	881	794	-	896	805	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-
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		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	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	-	13.3	10.1	7.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.6	0.2	0	-	-

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

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
Storage Length	-	-	-	-	0	-
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	29	13	7	46	39	8

Major/Minor	Major1		Major2		Minor1	
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
Pot Cap-1 Maneuver	-	-	1547	-	899	1028
Stage 1	-	-	-	-	983	-
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
HCM Control Delay, s	0	0.9	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	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 %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	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
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	31	27	427	321	10

Major/Minor	Minor2			Major1			Major2		
Conflicting Flow All	598	170	335	0	-	0			
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	-	-	-			
Pot 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	NB	SB
HCM Control Delay, s	9.9	0.6	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1202	-	770	-	-
HCM Lane V/C Ratio	0.023	-	0.045	-	-
HCM Control Delay (s)	8.1	0.1	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

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	0.0	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

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	0.75	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	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	54%	0%	14%
Vol Thru, %	85%	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	0.039	0.019	0.087
HCM Control Delay	7.5	7.4	6.7	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.1	0.1	0.3

HCM 6th TWSC
21: Center Street & Fairbrook Street/W. Site Drive

Background Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	0	11	0	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	Stop	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	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	11	0	14	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	3.316	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	170	193	595	168	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
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1094	-	-	287	-	914	-	-
HCM Lane V/C Ratio	0.011	-	-	0.087	-	-	-	-
HCM Control Delay (s)	8.3	0	-	18.7	0	0	-	-
HCM Lane LOS	A	A	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	-	0	-	-

HCM 6th TWSC
22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Background Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	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	2	0	0	3	3	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	-
Grade, %	-	0	-	-	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	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
Pot Cap-1 Maneuver	1279	-	-	1119	-	-	322	333	604	328	345	764
Stage 1	-	-	-	-	-	-	577	561	-	717	671	-
Stage 2	-	-	-	-	-	-	696	652	-	578	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	567	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	13	14.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	472	1277	-	-	1119	-	-	417
HCM Lane V/C Ratio	0.051	0.005	-	-	0.007	-	-	0.121
HCM Control Delay (s)	13	7.8	-	-	8.2	-	-	14.8
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.4

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

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)	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
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	
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	0.86	0.86	0.86
Percent Heavy Veh, %	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	1713	216	801	1884	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	1956
Q Serve(g_s), s	2.6	0.0	13.3	2.3	6.2	2.5	3.1	0.0	19.6	6.6	0.0	10.8
Cycle Q Clear(g_c), s	8.7	0.0	13.3	15.6	6.2	2.5	13.9	0.0	19.6	26.2	0.0	10.8
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.11	1.00		0.04
Lane Grp Cap(c), veh/h	410	0	705	285	712	603	433	0	940	284	0	953
V/C Ratio(X)	0.12	0.00	0.57	0.12	0.29	0.13	0.13	0.00	0.66	0.28	0.00	0.43
Avail Cap(c_a), veh/h	410	0	705	285	712	603	433	0	940	284	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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.0	0.0	20.2	26.4	17.9	16.8	17.8	0.0	15.5	25.5	0.0	13.3
Incr Delay (d2), s/veh	0.6	0.0	3.3	0.9	1.1	0.4	0.6	0.0	3.7	2.4	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 BackOfQ(50%),veh/ln	0.7	0.0	6.1	0.6	2.8	0.9	0.7	0.0	8.6	1.4	0.0	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	0.0	23.5	27.3	19.0	17.2	18.4	0.0	19.2	27.9	0.0	14.7
LnGrp LOS	C	A	C	C	B	B	B	A	B	C	A	B
Approach Vol, veh/h		447			320			679			488	
Approach Delay, s/veh		23.3			19.5			19.1			16.8	
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+I1), s		21.6		15.3		28.2		17.6				
Green Ext Time (p_c), s		4.1		2.2		2.2		1.2				

Intersection Summary	
HCM 6th Ctrl Delay	19.6
HCM 6th LOS	B

SimTraffic Performance Report

Background Conditions #3 (Main Closed)
AM 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 (s)	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
Total Delay (hr)	0.0	0.0	0.0	0.3	0.1	0.2	0.2	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
25: Seven Mile Road & River Street

Background Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int 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
Storage Length	-	-	-	-	0	-
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/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
Pot Cap-1 Maneuver	1320	-	-	-	470	789
Stage 1	-	-	-	-	792	-
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 Mvmt	EBL	EBT	WBR	SBLn1
Capacity (veh/h)	1317	-	-	633
HCM Lane V/C Ratio	0.019	-	-	0.039
HCM Control Delay (s)	7.8	0	-	10.9
HCM Lane LOS	A	A	-	B
HCM 95th %tile Q(veh)	0.1	-	-	0.1

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

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)	0	46	206	0	156	0	0	0	0	0	256	50
Future Volume (Veh/h)	0	46	206	0	156	0	0	0	0	0	256	50
Sign Control		Stop			Yield			Free			Free	
Grade		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	284	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)												
pX, platoon unblocked												
vC, conflicting volume	404	312	170	411	340	0	340			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	404	312	170	411	340	0	340			0		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	91	71	100	68	100	100			100		
cM capacity (veh/h)	398	599	841	345	576	1078	1216			1614		

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	54	242	184	189	151
Volume Left	0	0	0	0	0
Volume Right	0	242	0	0	56
cSH	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%	ICU Level of Service		A	
Analysis Period (min)	15				

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

Background Conditions #3 (Main Closed)
AM Peak Hour

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			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	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		
pX, platoon unblocked						
vC, conflicting volume	568	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	568	0	0			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	86	100	89			
cM capacity (veh/h)	399	1081	1607			

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	54	317	267
Volume Left	54	184	0
Volume Right	0	0	0
cSH	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	
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
28: Northville Road & S. Seven Mile Road

Background Conditions #3 (Main Closed)
AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
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	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	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	0.88	0.88	0.84	0.84
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	1642	1860	3809
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 Serve(g_s), s	9.4	0.0	13.8	15.6	9.6	2.5
Cycle Q Clear(g_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	
Lane Grp Cap(c), veh/h	665	923	377	337	462	1800
V/C Ratio(X)	0.43	0.24	0.87	0.96	0.74	0.12
Avail Cap(c_a), 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
%ile 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 (g_c+I1), s	11.6	17.6				4.5	11.4
Green Ext Time (p_c), s	0.4	0.0				1.3	1.5

Intersection Summary		
HCM 6th Ctrl Delay	37.8	
HCM 6th LOS	D	

HCM 6th TWSC
1: Wing Street & Randolph Street

Background Conditions #3 (Main Closed)
PM Peak Hour

Intersection	
Int Delay, s/veh	5.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
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
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	81	81	78	78
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	278	108	6	116	219	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	397	0	471	347
Stage 1	-	-	-	-	343	-
Stage 2	-	-	-	-	128	-
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
Pot Cap-1 Maneuver	-	-	1173	-	553	698
Stage 1	-	-	-	-	721	-
Stage 2	-	-	-	-	900	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1161	-	544	688
Mov Cap-2 Maneuver	-	-	-	-	544	-
Stage 1	-	-	-	-	714	-
Stage 2	-	-	-	-	895	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	16.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	552	-	-	1161	-
HCM Lane V/C Ratio	0.425	-	-	0.005	-
HCM Control Delay (s)	16.3	-	-	8.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.1	-	-	0	-

HCM 6th TWSC
2: Center Street & Randolph Street/Private Drive

Background Conditions #3 (Main Closed)
PM Peak Hour

Intersection	
Int Delay, s/veh	34.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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	5	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
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	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	240	14	14	27	55	715	9	22	581	52

Major/Minor	Minor2			Minor1			Major1			Major2		
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	-	-
Pot Cap-1 Maneuver	99	121	487	83	118	423	947	-	-	874	-	-
Stage 1	452	460	-	362	383	-	-	-	-	-	-	-
Stage 2	357	381	-	390	448	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 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	187.7	92.1	0.6	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	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	-	-	187.7	92.1	9.3	-	-
HCM Lane LOS	A	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	15.2	2.9	0.1	-	-

HCM 6th AWSC
3: Wing Street & Dunlap Street

Background Conditions #3 (Main Closed)
PM Peak Hour

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	78	12	65	102	44	9	139	84	46	50	3
Future Vol, veh/h	0	78	12	65	102	44	9	139	84	46	50	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	101	16	87	136	59	10	160	97	63	68	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	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	9.5	11.4	10.9	9.9
HCM LOS	A	B	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	0%	31%	46%
Vol Thru, %	60%	87%	48%	51%
Vol Right, %	36%	13%	21%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	232	90	211	99
LT Vol	9	0	65	46
Through Vol	139	78	102	50
RT Vol	84	12	44	3
Lane Flow Rate	267	117	281	136
Geometry Grp	1	1	1	1
Degree of Util (X)	0.369	0.173	0.398	0.205
Departure Headway (Hd)	4.977	5.315	5.091	5.451
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	725	674	709	658
Service Time	2.995	3.352	3.108	3.488
HCM Lane V/C Ratio	0.368	0.174	0.396	0.207
HCM Control Delay	10.9	9.5	11.4	9.9
HCM Lane LOS	B	A	B	A
HCM 95th-tile Q	1.7	0.6	1.9	0.8

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

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)	75	96	26	9	129	225	13	378	109	97	480	62
Future Volume (veh/h)	75	96	26	9	129	225	13	378	109	97	480	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	0.95		0.93	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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Adj Flow Rate, veh/h	85	109	30	10	140	245	14	411	118	124	615	79
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	0	0	0	0	0	0
Cap, veh/h	149	368	101	348	154	269	427	915	263	662	1066	137
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	1.00	1.00	1.00	0.62	0.62	0.62
Sat Flow, veh/h	1014	1480	407	1208	619	1083	762	1487	427	881	1733	223
Grp Volume(v), veh/h	85	0	139	10	0	385	14	0	529	124	0	694
Grp Sat Flow(s),veh/h/ln	1014	0	1888	1208	0	1702	762	0	1914	881	0	1955
Q Serve(g_s), s	1.7	0.0	3.6	0.4	0.0	13.2	0.4	0.0	0.0	3.8	0.0	12.7
Cycle Q Clear(g_c), s	14.9	0.0	3.6	4.0	0.0	13.2	13.1	0.0	0.0	3.8	0.0	12.7
Prop In Lane	1.00		0.22	1.00		0.64	1.00		0.22	1.00		0.11
Lane Grp Cap(c), veh/h	149	0	469	348	0	423	427	0	1177	662	0	1202
V/C Ratio(X)	0.57	0.00	0.30	0.03	0.00	0.91	0.03	0.00	0.45	0.19	0.00	0.58
Avail Cap(c_a), veh/h	149	0	469	348	0	423	427	0	1177	662	0	1202
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 Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.7	0.0	18.3	19.9	0.0	21.9	2.3	0.0	0.0	5.2	0.0	6.9
Incr Delay (d2), s/veh	14.9	0.0	1.6	0.2	0.0	26.3	0.1	0.0	1.2	0.6	0.0	2.0
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	1.8	0.0	1.7	0.1	0.0	8.0	0.0	0.0	0.4	0.7	0.0	4.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	44.6	0.0	19.9	20.1	0.0	48.2	2.4	0.0	1.2	5.8	0.0	8.9
LnGrp LOS	D	A	B	C	A	D	A	A	A	A	A	A
Approach Vol, veh/h		224			395			543			818	
Approach Delay, s/veh		29.3			47.5			1.3			8.4	
Approach LOS		C			D			A			A	

Timer - Assigned Phs		2		4		6		8	
Phs Duration (G+Y+Rc), s		41.0		19.0		41.0		19.0	
Change Period (Y+Rc), s		* 4.1		* 4.1		* 4.1		* 4.1	
Max Green Setting (Gmax), s		* 37		* 15		* 37		* 15	
Max Q Clear Time (g_c+I1), s		15.1		16.9		14.7		15.2	
Green Ext Time (p_c), s		3.9		0.0		6.2		0.0	

Intersection Summary		
HCM 6th Ctrl Delay	16.6	
HCM 6th LOS	B	

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

Background Conditions #3 (Main Closed)
PM Peak Hour

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
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
Storage Length	-	-	-	-	0	-
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	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	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
Pot Cap-1 Maneuver	1019	-	-	-	323	549
Stage 1	-	-	-	-	603	-
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
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
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 %tile Q(veh)	0	-	-	-	1.4

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												
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	0.91	0.91	0.91	0.76	0.76	0.76
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	0	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	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	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	2.906	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-tile Q	1.3	1.3	0.4	0.9

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						
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			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	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	576	1079	9	1980	1879	87
Grp Volume(v), veh/h	90	0	505	0	0	542
Grp Sat Flow(s),veh/h/ln	1674	0	1989	0	0	1967
Q Serve(g_s), s	2.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.5	0.0	9.0	0.0	0.0	0.0
Prop In Lane	0.34	0.64	0.02			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_a), 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/ln	1.0	0.0	3.5	0.0	0.0	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),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+I1), s		11.0		4.5		2.0
Green Ext Time (p_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.

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						
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	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	15.6	12.1	15.7
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	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	6.588	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-tile Q	1.4	0.3	4	3.5	0.7

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												
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		0.99	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	
Adj Sat Flow, veh/h/ln	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	196	91
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	219	1207	121	78	890	701	100	568	62	279	243	103
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	306	2606	261	33	1922	1514	97	1637	178	563	700	298
Grp Volume(v), veh/h	183	0	196	331	0	277	301	0	0	476	0	0
Grp Sat Flow(s),veh/h/ln	1403	0	1770	1955	0	1514	1912	0	0	1561	0	0
Q Serve(g_s), s	0.3	0.0	4.0	0.0	0.0	7.2	0.0	0.0	0.0	9.8	0.0	0.0
Cycle Q Clear(g_c), s	7.6	0.0	4.0	6.4	0.0	7.2	7.1	0.0	0.0	16.9	0.0	0.0
Prop In Lane	0.29		0.15	0.05		1.00	0.10		0.09	0.40		0.19
Lane Grp Cap(c), veh/h	728	0	820	969	0	701	729	0	0	625	0	0
V/C Ratio(X)	0.25	0.00	0.24	0.34	0.00	0.39	0.41	0.00	0.00	0.76	0.00	0.00
Avail Cap(c_a), veh/h	728	0	820	969	0	701	729	0	0	625	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	0.00	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	15.1	0.0	0.0	18.0	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.7	1.0	0.0	1.7	1.7	0.0	0.0	8.5	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	1.4	0.0	1.5	2.8	0.0	2.4	3.1	0.0	0.0	6.7	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.4	0.0	10.4	11.3	0.0	12.2	16.8	0.0	0.0	26.5	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	C	A	A
Approach Vol, veh/h		379			608			301			476	
Approach Delay, s/veh		10.4			11.7			16.8			26.5	
Approach LOS		B			B			B			C	

Timer - Assigned Phs		2		4		6		8
Phs Duration (G+Y+Rc), s		33.4		26.6		33.4		26.6
Change Period (Y+Rc), s		5.6		* 5.8		5.6		* 5.8
Max Green Setting (Gmax), s		27.8		* 21		27.8		* 21
Max Q Clear Time (g_c+I1), s		9.6		18.9		9.2		9.1
Green Ext Time (p_c), s		2.4		0.6		4.0		1.3

Intersection Summary	
HCM 6th Ctrl Delay	16.3
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)
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	10	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	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
Pot Cap-1 Maneuver	-	-	1048	-	301	734
Stage 1	-	-	-	-	586	-
Stage 2	-	-	-	-	679	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1038	-	280	727
Mov Cap-2 Maneuver	-	-	-	-	280	-
Stage 1	-	-	-	-	580	-
Stage 2	-	-	-	-	638	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	16.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	429	-	-	1038	-
HCM Lane V/C Ratio	0.288	-	-	0.042	-
HCM Control Delay (s)	16.8	-	-	8.6	0.2
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.2	-	-	0.1	-

Intersection	
Intersection 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	0.90	0.89	0.89	0.89
Heavy Vehicles, %	0	0	0	0	0	0	1	1	1	0	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	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	8.4	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
Traffic Vol by Lane	161	79	99	158
LT Vol	10	24	14	64
Through Vol	134	44	34	78
RT Vol	17	11	51	16
Lane Flow Rate	179	95	110	178
Geometry Grp	1	1	1	1
Degree of Util (X)	0.227	0.128	0.14	0.227
Departure Headway (Hd)	4.56	4.836	4.566	4.613
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	785	739	783	776
Service Time	2.598	2.882	2.609	2.653
HCM Lane V/C Ratio	0.228	0.129	0.14	0.229
HCM Control Delay	8.9	8.6	8.4	9
HCM Lane LOS	A	A	A	A
HCM 95th-tile 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	4	0	25	21	0	3	3	0	21
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	88	88	88	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	0	0	0	1	1	1	1	1	1
Mvmt Flow	13	92	33	211	69	19	23	477	227	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 Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.11	-	-	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	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	127	140	537	~ 132	161	492	1013	-	-	896	-	-
Stage 1	460	467	-	467	473	-	-	-	-	-	-	-
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	$ 2200	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	$ 2200	9.3	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile 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	0	19	0	85
Future Vol, veh/h	145	214	0	0	182	22	0	0	0	19	0	85
Conflicting Peds, #/hr	13	0	0	0	0	13	0	0	0	0	0	3
Sign Control	Free	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	95	92	92	92	63	63	63
Heavy Vehicles, %	1	1	1	0	0	0	2	2	2	1	1	1
Mvmt Flow	154	228	0	0	192	23	0	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	536	-
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
Pot Cap-1 Maneuver	1346	-	-	1352	-	-	298	334	811	327	340	822
Stage 1	-	-	-	-	-	-	529	523	-	788	725	-
Stage 2	-	-	-	-	-	-	732	715	-	530	525	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1329	-	-	1352	-	-	222	286	811	290	291	810
Mov Cap-2 Maneuver	-	-	-	-	-	-	222	286	-	290	291	-
Stage 1	-	-	-	-	-	-	459	453	-	675	716	-
Stage 2	-	-	-	-	-	-	608	706	-	460	455	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.3	0	0	13.1
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1329	-	-	1352	-	-	610
HCM Lane V/C Ratio	-	0.116	-	-	-	-	-	0.271
HCM Control Delay (s)	0	8.1	0	-	0	-	-	13.1
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	-	0.4	-	-	0	-	-	1.1

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	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	-
Storage Length	-	-	-	-	0	-
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	1	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 Hdwy	-	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	-	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	0	-	-	0	568	836
Stage 1	0	-	-	0	832	-
Stage 2	0	-	-	0	800	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	568	835
Mov Cap-2 Maneuver	-	-	-	-	568	-
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	800	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	650
HCM Lane V/C Ratio	-	-	0.092
HCM Control Delay (s)	-	-	11.1
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.3

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	179	38	42	5	20	23	18	44	3	14	54	149
Future Vol, veh/h	179	38	42	5	20	23	18	44	3	14	54	149
Conflicting Peds, #/hr	3	0	1	1	0	3	10	0	4	4	0	10
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	64	64	64	86	86	86	88	88	88
Heavy Vehicles, %	1	1	1	0	0	0	0	0	0	0	0	0
Mvmt Flow	188	40	44	8	31	36	21	51	3	16	61	169

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	319	288	157	320	371	60	240	0	0	58	0	0
Stage 1	188	188	-	99	99	-	-	-	-	-	-	-
Stage 2	131	100	-	221	272	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	636	624	891	637	552	1011	1339	-	-	1559	-	-
Stage 1	816	746	-	912	817	-	-	-	-	-	-	-
Stage 2	875	814	-	786	688	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	567	598	882	559	539	1004	1326	-	-	1553	-	-
Mov Cap-2 Maneuver	567	598	-	559	539	-	-	-	-	-	-	-
Stage 1	796	730	-	894	801	-	-	-	-	-	-	-
Stage 2	796	798	-	697	673	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.7	10.8	2.1	0.5
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1326	-	-	607	696	1553	-	-
HCM Lane V/C Ratio	0.016	-	-	0.449	0.108	0.01	-	-
HCM Control Delay (s)	7.8	0	-	15.7	10.8	7.3	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	2.3	0.4	0	-	-

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	3.9	2.3

Intersection	
Int Delay, s/veh	3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	52	49	5	20	45	7
Future Vol, veh/h	52	49	5	20	45	7
Conflicting Peds, #/hr	0	3	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	-	-	0	0	-
Peak Hour Factor	92	92	66	66	70	70
Heavy Vehicles, %	1	1	0	0	2	2
Mvmt Flow	57	53	8	30	64	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	113	0	136	97
Stage 1	-	-	-	-	87	-
Stage 2	-	-	-	-	49	-
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
Pot Cap-1 Maneuver	-	-	1489	-	857	959
Stage 1	-	-	-	-	936	-
Stage 2	-	-	-	-	973	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1485	-	848	947
Mov Cap-2 Maneuver	-	-	-	-	848	-
Stage 1	-	-	-	-	933	-
Stage 2	-	-	-	-	965	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.5	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	860	-	-	1485	-
HCM Lane V/C Ratio	0.086	-	-	0.005	-
HCM Control Delay (s)	9.6	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	5	54	19	607	531	6
Future Vol, veh/h	5	54	19	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
Storage Length	0	-	-	-	-	-
Veh 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	68	21	674	559	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	945	287	569	0	-	0
Stage 1	566	-	-	-	-	-
Stage 2	379	-	-	-	-	-
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	-	-	-
Pot Cap-1 Maneuver	264	716	1006	-	-	-
Stage 1	537	-	-	-	-	-
Stage 2	668	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	253	713	1002	-	-	-
Mov Cap-2 Maneuver	253	-	-	-	-	-
Stage 1	517	-	-	-	-	-
Stage 2	665	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.6	0.4	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1002	-	618	-	-
HCM Lane V/C Ratio	0.021	-	0.119	-	-
HCM Control Delay (s)	8.7	0.1	11.6	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

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)	0.5	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2
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)	2.5	1.3	1.0	8.2	4.9	1.7	1.4	2.2	3.8	11.3	3.9	1.5

Intersection	
Intersection Delay, s/veh	8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	6	1	0	9	106	1	90	4	35	55	13
Future Vol, veh/h	15	6	1	0	9	106	1	90	4	35	55	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	5	1	1	1	0	0	0
Mvmt Flow	18	7	1	0	10	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
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	7.7	8.2	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	68%	0%	34%
Vol Thru, %	95%	27%	8%	53%
Vol Right, %	4%	5%	92%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	95	22	115	103
LT Vol	1	15	0	35
Through Vol	90	6	9	55
RT Vol	4	1	106	13
Lane Flow Rate	138	27	126	113
Geometry Grp	1	1	1	1
Degree of Util (X)	0.167	0.035	0.141	0.137
Departure Headway (Hd)	4.361	4.796	4.03	4.371
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	827	748	892	823
Service Time	2.361	2.815	2.044	2.386
HCM Lane V/C Ratio	0.167	0.036	0.141	0.137
HCM Control Delay	8.2	8	7.7	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.1	0.5	0.5

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	0	41	0	0	0	107	639	0	0	630	8
Future Vol, veh/h	4	0	41	0	0	0	107	639	0	0	630	8
Conflicting Peds, #/hr	1	0	0	0	0	1	4	0	0	0	0	4
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	92	92	92	94	94	94	91	91	91
Heavy Vehicles, %	0	0	0	2	2	2	1	1	1	0	0	0
Mvmt Flow	5	0	50	0	0	0	114	680	0	0	692	9

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1610	1609	701	1630	1613	681	705	0	0	680	0	0
Stage 1	701	701	-	908	908	-	-	-	-	-	-	-
Stage 2	909	908	-	722	705	-	-	-	-	-	-	-
Critical Hdwy	7.1	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	-	-
Pot Cap-1 Maneuver	85	106	442	81	104	450	898	-	-	922	-	-
Stage 1	433	444	-	330	354	-	-	-	-	-	-	-
Stage 2	332	357	-	418	439	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	71	84	440	61	82	450	895	-	-	922	-	-
Mov Cap-2 Maneuver	71	84	-	61	82	-	-	-	-	-	-	-
Stage 1	343	442	-	262	281	-	-	-	-	-	-	-
Stage 2	264	284	-	371	437	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.6	0	1.4	0
HCM LOS	C	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	895	-	-	301	-	922	-	-
HCM Lane V/C Ratio	0.127	-	-	0.182	-	-	-	-
HCM Control Delay (s)	9.6	0	-	19.6	0	0	-	-
HCM Lane LOS	A	A	-	C	A	A	-	-
HCM 95th %tile Q(veh)	0.4	-	-	0.7	-	0	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	437	3	13	519	73	4	3	7	33	5	18
Future Vol, veh/h	19	437	3	13	519	73	4	3	7	33	5	18
Conflicting Peds, #/hr	0	0	1	1	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
Storage Length	100	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	90	90	90	70	70	70	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	0	0	0	1	1	1
Mvmt Flow	22	514	4	14	577	81	6	4	10	40	6	22

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	658	0	0	519	0	0	1221	1247	522	1218	1209	618
Stage 1	-	-	-	-	-	-	561	561	-	646	646	-
Stage 2	-	-	-	-	-	-	660	686	-	572	563	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.1	6.5	6.2	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.5	4	3.3	3.509	4.009	3.309
Pot Cap-1 Maneuver	930	-	-	1047	-	-	158	175	559	158	184	491
Stage 1	-	-	-	-	-	-	516	513	-	462	469	-
Stage 2	-	-	-	-	-	-	455	451	-	507	511	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	930	-	-	1046	-	-	143	168	556	147	177	491
Mov Cap-2 Maneuver	-	-	-	-	-	-	143	168	-	147	177	-
Stage 1	-	-	-	-	-	-	503	500	-	451	463	-
Stage 2	-	-	-	-	-	-	423	445	-	480	498	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.2	21.4	33.3
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	240	930	-	-	1046	-	-	194
HCM Lane V/C Ratio	0.083	0.024	-	-	0.014	-	-	0.352
HCM Control Delay (s)	21.4	9	-	-	8.5	-	-	33.3
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	1.5

HCM 6th Signalized Intersection Summary — Background Conditions #3 (Main Closed)
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	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
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	
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	0.90	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	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	0.37	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	816	1401	494	916	2000	1693	793	1668	267	740	1826	134
Grp Volume(v), veh/h	36	0	495	101	478	134	116	0	717	71	0	643
Grp Sat Flow(s),veh/h/ln	816	0	1895	916	2000	1693	793	0	1935	740	0	1960
Q Serve(g_s), 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		0.14	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	0.00	0.71	0.46	0.65	0.22	0.42	0.00	0.76	0.31	0.00	0.67
Avail Cap(c_a), 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(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	28.9	0.0	21.7	33.0	21.0	17.4	27.3	0.0	16.7	29.3	0.0	15.6
Incr Delay (d2), s/veh	1.5	0.0	6.1	6.6	4.4	0.8	4.6	0.0	5.7	3.5	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												
LnGrp 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
LnGrp 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		27.9			26.1			23.7			20.8	
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+I1), s		32.5		21.0		33.0		28.4				
Green Ext Time (p_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)
24: Hines Drive & Seven Mile Road Performance by movement — PM 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 (s)	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)
25: Seven Mile Road & River Street — PM Peak Hour

Intersection						
Int Delay, s/veh	1.3					

Movement	EBL	EBT	WBT	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
Storage Length	-	-	-	-	0	-
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	-	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
Pot Cap-1 Maneuver	1015	-	-	-	284	524
Stage 1	-	-	-	-	574	-
Stage 2	-	-	-	-	664	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1011	-	-	-	270	516
Mov Cap-2 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	WBT	WBR	SBLn1
Capacity (veh/h)	1011	-	-	-	469
HCM Lane V/C Ratio	0.032	-	-	-	0.15
HCM Control Delay (s)	8.7	0	-	-	14
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile 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)												
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	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		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (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		
cM capacity (veh/h)	0	435	688	214	407	1088	961			1629		

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	56	287	424	337	278
Volume Left	0	0	0	0	0
Volume Right	0	287	0	0	109
cSH	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		
Approach Delay (s)	14.0		88.2	0.0	
Approach LOS	B		F		

Intersection Summary							
Average Delay			30.5				
Intersection Capacity Utilization			65.9%	ICU Level of Service		C	
Analysis Period (min)			15				

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)	51	0	399	575	0	0
Future Volume (Veh/h)	51	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)	56	0	424	612	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	0.87					
vC, conflicting volume	1154	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	878	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	70	100	74			
cM capacity (veh/h)	185	1084	1629			

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	56	628	408
Volume Left	56	424	0
Volume Right	0	0	0
cSH	185	1629	1700
Volume to Capacity	0.30	0.26	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 #3 (Main 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	519	455	341	362	380
Future Volume (veh/h)	352	519	455	341	362	380
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	405	597	479	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	1682	2155	1537	1890	3870
Grp Volume(v), veh/h	405	597	439	399	381	400
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1708	1890	1885
Q Serve(g_s), s	14.0	3.5	16.4	16.4	11.4	4.9
Cycle Q Clear(g_c), 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(X)	0.60	0.64	1.14	1.14	0.81	0.22
Avail Cap(c_a), veh/h	676	938	386	350	468	1829
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	21.0	12.1	31.8	31.8	28.8	11.9
Incr Delay (d2), 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						
LnGrp Delay(d),s/veh	24.9	15.4	120.1	123.3	43.2	12.1
LnGrp 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	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 (g_c+I1), s	13.4	18.4			6.9	16.0
Green Ext Time (p_c), s	0.3	0.0			2.7	3.1

Intersection Summary							
HCM 6th Ctrl Delay			54.4				
HCM 6th LOS			D				

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 (%)		
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)	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 (%)					
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)	54	76	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 (%)		0		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Center Street & Dunlap Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	73	82	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		135		326		153
Upstream Blk Time (%)				0			0	1
Queuing Penalty (veh)				0			0	6
Storage Bay Dist (ft)	100		75		30		500	
Storage Blk Time (%)	0	0		2	4	21	0	1
Queuing 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 (%)		
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)	98	77	76	76
Average Queue (ft)	47	40	32	38
95th Queue (ft)	75	65	59	59
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)	135	123	187	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	
Queuing Penalty (veh)	3		21	
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	34	107	87	52	163	23
Average Queue (ft)	47	4	43	36	17	84	6
95th Queue (ft)	100	22	84	71	39	137	22
Link Distance (ft)	521		381		114		328
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		25		75		175	
Storage Blk Time (%)	21	1	1	0		0	
Queuing Penalty (veh)	2	1	1	0		0	

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	NB	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			0		
Queuing Penalty (veh)	1	0			1		
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)	25	33
Average Queue (ft)	2	18
95th Queue (ft)	15	41
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)	55	40	69	67
Average Queue (ft)	32	26	32	37
95th Queue (ft)	50	46	56	55
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)	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 (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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 (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: Cady Street & Chruch 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 (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 15: Griswold Street & Cady Street

Movement	EB	WB	NB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	90	31	29
Average Queue (ft)	44	16	1
95th Queue (ft)	71	41	12
Link Distance (ft)	354	204	96
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	SB
Directions Served	LR
Maximum Queue (ft)	49
Average Queue (ft)	22
95th Queue (ft)	45
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	64
Average Queue (ft)	0	19
95th Queue (ft)	4	51
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)	39	43
Average Queue (ft)	20	4
95th Queue (ft)	45	24
Link Distance (ft)	604	75
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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	67
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)		

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

Movement	EB	EB	WB	NB	SB
Directions Served	L	TR	L	LTR	LTR
Maximum Queue (ft)	11	22	26	53	61
Average Queue (ft)	0	1	3	15	25
95th Queue (ft)	4	21	17	43	51
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	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	145	359	66	134	64	59	575	166	245
Average Queue (ft)	23	184	23	49	15	27	282	62	127
95th Queue (ft)	59	301	57	108	42	62	505	135	212
Link Distance (ft)		386		578	578		21448		531
Upstream Blk Time (%)	0	0							
Queuing Penalty (veh)	0	1							
Storage Bay Dist (ft)	500		150			50		150	
Storage Blk Time (%)	0	0		0		1	37	1	4
Queuing Penalty (veh)	0	0		0		7	21	4	3

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)	93	3
Link Distance (ft)	3643	578
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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)	821	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	EB	WB
Directions Served	T	R	T
Maximum Queue (ft)	44	103	53
Average Queue (ft)	20	50	24
95th Queue (ft)	39	84	52
Link Distance (ft)	180	180	16
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	NB
Directions Served	L	LT	T
Maximum Queue (ft)	30	44	10
Average Queue (ft)	12	7	0
95th Queue (ft)	33	30	8
Link Distance (ft)	16	233	233
Upstream Blk Time (%)	3		
Queuing Penalty (veh)	1		
Storage Bay Dist (ft)			
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)	97	47	191	222	199	249	88
Average Queue (ft)	76	7	103	115	140	44	33
95th Queue (ft)	99	27	166	194	205	163	73
Link Distance (ft)	82	82	219	219		222	222
Upstream Blk Time (%)	2		0	1		1	
Queuing Penalty (veh)	6		0	2		4	
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					18	0	
Queuing Penalty (veh)					16	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)

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)

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	79
Average Queue (ft)	0	2	43
95th Queue (ft)	5	15	72
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)	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		
Queuing Penalty (veh)	0			0		
Storage Bay Dist (ft)			500		500	
Storage Blk Time (%)				0		
Queuing Penalty (veh)				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 (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Center Street & Dunlap Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	102	104	34	147	44	181	132	177
Average Queue (ft)	39	41	6	74	12	82	46	118
95th Queue (ft)	83	84	25	122	40	154	101	180
Link Distance (ft)		192		135		326		153
Upstream Blk Time (%)				1			0	1
Queuing Penalty (veh)				2			0	12
Storage Bay Dist (ft)	100		75		30		500	
Storage Blk Time (%)	1	1		13	4	23	0	1
Queuing Penalty (veh)	1	0		1	28	3	0	2

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 (%)			
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)	82	92	106	66
Average Queue (ft)	46	45	46	36
95th Queue (ft)	72	74	78	56
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)	137	264	181	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
Queuing Penalty (veh)	10		32	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)	124	35	213	100	59	168	28
Average Queue (ft)	43	6	83	67	18	100	7
95th Queue (ft)	94	26	162	115	47	156	23
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	5	1		0	
Queuing Penalty (veh)	2	1	15	2		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)	124	103	164	194	161	1055
Average Queue (ft)	72	60	80	100	92	783
95th Queue (ft)	110	97	134	160	150	1326
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)	1	0			2	53
Queuing Penalty (veh)	3	1			7	0
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing 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	748	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)	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 (%)				
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)	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
Queuing Penalty (veh)	0			1
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing 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 (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: Cady Street & Chruch 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 (%)	
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)	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 (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing 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 (%)	
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)	23	54
Average Queue (ft)	1	33
95th Queue (ft)	9	51
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	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	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

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	76	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	268
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)		

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

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	40	7	25	31	27	78
Average Queue (ft)	10	0	5	1	10	32
95th Queue (ft)	32	6	21	14	31	60
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	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	91	258	195	337	221	60	5564	199	358
Average Queue (ft)	21	151	77	180	64	51	3384	81	222
95th Queue (ft)	61	245	175	296	180	73	6126	187	346
Link Distance (ft)		386		578	578		21448		531
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	500		150			50		150	
Storage Blk Time (%)			4	15		25	48	0	19
Queuing Penalty (veh)			19	16		193	60	2	14

Intersection: 24: Hines Drive & Seven Mile Road

Movement	WB	NB	SB
Directions Served	L	TR	LT
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)			

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)	821	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	EB	WB	SB
Directions Served	T	R	T	TR
Maximum Queue (ft)	55	110	61	5
Average Queue (ft)	24	49	45	0
95th Queue (ft)	43	87	63	3
Link Distance (ft)	180	180	16	364
Upstream Blk Time (%)			17	
Queuing Penalty (veh)			66	
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	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 (%)	7		
Queuing Penalty (veh)	5		
Storage Bay Dist (ft)			
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)	98	60	253	261	200	254	162
Average Queue (ft)	80	18	193	199	157	88	67
95th Queue (ft)	103	48	263	274	216	221	123
Link Distance (ft)	82	82	219	219		222	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	0	
Queuing Penalty (veh)					53	1	

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)

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)

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

Intersection: 1: Wing Street & Randolph Street

Movement	WB	NB
Directions Served	LT	LR
Maximum Queue (ft)	25	63
Average Queue (ft)	1	30
95th Queue (ft)	11	49
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)	90	30	30	17	19
Average Queue (ft)	34	8	6	1	1
95th Queue (ft)	66	30	25	7	10
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)	54	110	95	83
Average Queue (ft)	32	47	49	42
95th Queue (ft)	53	82	80	68
Link Distance (ft)	740	122	165	263
Upstream Blk Time (%)		1		
Queuing Penalty (veh)		2		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Dunlap Street & Center Street

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	87	64	98	98	102
Average Queue (ft)	44	30	46	52	50
95th Queue (ft)	70	53	73	86	81
Link Distance (ft)		195	134		154
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)	100			500	
Storage Blk Time (%)	0				
Queuing Penalty (veh)	0				

Intersection: 5: Dunlap Street & Hutton Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	39	27	70
Average Queue (ft)	3	2	29
95th Queue (ft)	17	15	56
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)	90	66	101	111
Average Queue (ft)	49	32	45	51
95th Queue (ft)	76	53	75	85
Link Distance (ft)	767	174	307	132
Upstream Blk Time (%)				0
Queuing Penalty (veh)				1
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Center Street & Main Street

Movement	EB	NB
Directions Served	LTR	LTR
Maximum Queue (ft)	58	86
Average Queue (ft)	33	40
95th Queue (ft)	46	66
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)	92	95	81	99	72
Average Queue (ft)	19	50	45	50	32
95th Queue (ft)	56	79	70	79	59
Link Distance (ft)	375		124		333
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		75		175	
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)	108	89	121	132	145	209
Average Queue (ft)	50	35	51	56	70	96
95th Queue (ft)	82	68	98	103	129	172
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)	0	0			1	
Queuing Penalty (veh)	0	0			3	
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)	44	32
Average Queue (ft)	5	17
95th Queue (ft)	27	39
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)	55	70	76	77
Average Queue (ft)	32	35	39	44
95th Queue (ft)	50	57	62	67
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)	96	109	51	44
Average Queue (ft)	41	52	7	6
95th Queue (ft)	71	90	29	26
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 13: N. Site Drive/Hutton Street & Cady Street

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	79	22	71
Average Queue (ft)	28	2	29
95th Queue (ft)	68	13	57
Link Distance (ft)	250	85	123
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: Cady Street & Chruch Street

Movement	WB	SB
Directions Served	T	LR
Maximum Queue (ft)	6	67
Average Queue (ft)	0	37
95th Queue (ft)	0	59
Link Distance (ft)	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)	79	31	31	16
Average Queue (ft)	47	15	4	1
95th Queue (ft)	70	40	20	11
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	SB
Directions Served	LR
Maximum Queue (ft)	29
Average Queue (ft)	20
95th Queue (ft)	41
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	43
Average Queue (ft)	0	19
95th Queue (ft)	4	44
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	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	38	47	4
Average Queue (ft)	19	6	0
95th Queue (ft)	43	29	3
Link Distance (ft)	604	75	154
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 19: Seven Mile Road & Fairbrook Street & First Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	27	36	50	15
Average Queue (ft)	1	6	7	3
95th Queue (ft)	17	25	34	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)	38	49	82	72
Average Queue (ft)	20	20	37	39
95th Queue (ft)	43	46	68	59
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)	57	78
Average Queue (ft)	29	10
95th Queue (ft)	51	45
Link Distance (ft)	96	531
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	33	20	25	9	61	97
Average Queue (ft)	3	1	2	0	17	42
95th Queue (ft)	18	11	12	6	47	80
Link Distance (ft)		1045		386	426	110
Upstream Blk Time (%)						1
Queuing Penalty (veh)						1
Storage Bay Dist (ft)	100		500			
Storage Blk Time (%)						
Queuing Penalty (veh)						

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	286	99	128	42	60	472	84	226
Average Queue (ft)	12	149	44	58	6	40	201	19	105
95th Queue (ft)	36	249	88	109	23	73	376	65	188
Link Distance (ft)		386		578	578		21448		531
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	500		150			50		150	
Storage Blk Time (%)				0		6	30		2
Queuing Penalty (veh)				0		29	26		1

Intersection: 24: Hines Drive & Seven Mile Road

Movement	NB	SB
Directions Served	TR	LT
Maximum Queue (ft)	108	4
Average Queue (ft)	44	0
95th Queue (ft)	81	3
Link Distance (ft)	3643	578
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 25: Seven Mile Road & River Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	44	6	48
Average Queue (ft)	4	0	11
95th Queue (ft)	22	4	37
Link Distance (ft)	821	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	EB	WB	SB
Directions Served	T	R	T	T
Maximum Queue (ft)	51	85	56	3
Average Queue (ft)	20	40	23	0
95th Queue (ft)	40	67	49	2
Link Distance (ft)	180	180	16	364
Upstream Blk Time (%)			3	
Queuing Penalty (veh)			5	
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	LT
Maximum Queue (ft)	26	50
Average Queue (ft)	9	7
95th Queue (ft)	30	31
Link Distance (ft)	16	233
Upstream Blk Time (%)	3	
Queuing Penalty (veh)	1	
Storage Bay Dist (ft)		
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)	98	41	195	242	195	163	85
Average Queue (ft)	75	7	113	118	113	25	30
95th Queue (ft)	103	27	179	205	179	98	69
Link Distance (ft)	82	82	219	219		222	222
Upstream Blk Time (%)	2		0	1		0	
Queuing Penalty (veh)	6		0	2		1	
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					9	0	
Queuing Penalty (veh)					8	0	

Intersection: 29: N.E. Site Drive (Egress Only) & Cady Street

Movement	WB
Directions Served	T
Maximum Queue (ft)	9
Average Queue (ft)	0
95th Queue (ft)	7
Link Distance (ft)	52
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
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)

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)

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

Movement	SB
Directions Served	LT
Maximum Queue (ft)	6
Average Queue (ft)	0
95th Queue (ft)	4
Link Distance (ft)	163
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 85

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	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	148	66	52	35	29	32
Average Queue (ft)	56	28	15	2	6	2
95th Queue (ft)	107	55	43	17	25	18
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: 3: Wing Street & Dunlap Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	67	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 (%)		2	1	
Queuing Penalty (veh)		8	4	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Dunlap Street & Center Street

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	135	54	157	106	103
Average Queue (ft)	59	33	77	58	51
95th Queue (ft)	101	48	132	92	84
Link Distance (ft)		195	134		154
Upstream Blk Time (%)			3		
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 (%)				0
Queuing Penalty (veh)				1
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Center Street & Main Street

Movement	EB	NB
Directions Served	LTR	LTR
Maximum Queue (ft)	66	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)			0		
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 (%)	0	0			4	25
Queuing Penalty (veh)	1	0			13	0
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

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	748	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)	59	73	93	80
Average Queue (ft)	34	38	47	46
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
Queuing Penalty (veh)		0		0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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)				

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)		

Intersection: 19: Seven Mile Road & Fairbrook Street & First Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	33	41	45	15
Average Queue (ft)	2	11	4	3
95th Queue (ft)	15	30	23	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)	50	73	66	59
Average Queue (ft)	14	35	36	40
95th Queue (ft)	40	59	56	58
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	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	62	97	5
Average Queue (ft)	30	24	0
95th Queue (ft)	53	66	4
Link Distance (ft)	96	531	423
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

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

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	38	25	25	25	32	133
Average Queue (ft)	8	1	3	1	11	67
95th Queue (ft)	30	12	15	10	32	127
Link Distance (ft)		1045		386	426	110
Upstream Blk Time (%)						7
Queuing Penalty (veh)						12
Storage Bay Dist (ft)	100		500			
Storage Blk Time (%)						
Queuing Penalty (veh)						

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	329	249	451	433	62	583	118	195
Average Queue (ft)	17	163	115	210	96	45	282	39	114
95th Queue (ft)	44	269	247	439	379	76	497	88	189
Link Distance (ft)		386		578	578		21448		531
Upstream Blk Time (%)		0		2	2				
Queuing Penalty (veh)		1		7	6				
Storage Bay Dist (ft)	500		150			50		150	
Storage Blk Time (%)		0	15	20		7	40		3
Queuing Penalty (veh)		0	67	25		41	52		2

Intersection: 24: Hines Drive & Seven Mile Road

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	30	48	278	21
Average Queue (ft)	2	4	113	1
95th Queue (ft)	13	42	253	9
Link Distance (ft)		821	3643	578
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	225			
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Intersection: 25: Seven Mile Road & River Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	57	32	72
Average Queue (ft)	10	1	27
95th Queue (ft)	38	13	55
Link Distance (ft)	821	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	EB	WB	SB
Directions Served	T	R	T	TR
Maximum Queue (ft)	50	114	53	5
Average Queue (ft)	22	54	44	0
95th Queue (ft)	42	95	61	3
Link Distance (ft)	180	180	16	364
Upstream Blk Time (%)			17	
Queuing Penalty (veh)			66	
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	LT
Maximum Queue (ft)	26	104
Average Queue (ft)	15	40
95th Queue (ft)	35	82
Link Distance (ft)	16	233
Upstream Blk Time (%)	5	
Queuing Penalty (veh)	3	
Storage Bay Dist (ft)		
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)	98	57	245	256	200	250	143
Average Queue (ft)	81	14	178	184	149	83	64
95th Queue (ft)	101	42	257	280	211	212	110
Link Distance (ft)	82	82	219	219		222	222
Upstream Blk Time (%)	3	0	7	11		3	
Queuing Penalty (veh)	14	0	28	44		10	
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					24	0	
Queuing Penalty (veh)					45	1	

Intersection: 29: N.E. Site Drive (Egress Only) & Cady Street

Movement	EB	WB
Directions Served	T	T
Maximum Queue (ft)	8	5
Average Queue (ft)	0	0
95th Queue (ft)	6	4
Link Distance (ft)	85	52
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)

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)

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

Movement	SB
Directions Served	LT
Maximum Queue (ft)	50
Average Queue (ft)	5
95th Queue (ft)	29
Link Distance (ft)	163
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 469

Intersection: 1: Wing Street & Randolph Street

Movement	NB
Directions Served	LR
Maximum Queue (ft)	76
Average Queue (ft)	34
95th Queue (ft)	55
Link Distance (ft)	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
Directions Served	LTR	LTR	L	L
Maximum Queue (ft)	131	30	30	29
Average Queue (ft)	44	7	9	2
95th Queue (ft)	90	28	31	14
Link Distance (ft)	394	193		
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)	55	55	56	71
Average Queue (ft)	33	32	36	38
95th Queue (ft)	50	47	52	60
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	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	95	76	48	135	30	174	112	135
Average Queue (ft)	43	39	11	51	4	79	49	67
95th Queue (ft)	87	74	35	92	21	141	91	117
Link Distance (ft)		192		135		323		153
Upstream Blk Time (%)				0				0
Queuing Penalty (veh)				0				0
Storage Bay Dist (ft)	100		75		30		500	
Storage Blk Time (%)	1			4	0	23		0
Queuing Penalty (veh)	1			0	2	2		0

Intersection: 5: Dunlap Street & Hutton Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	30	53	75
Average Queue (ft)	2	4	30
95th Queue (ft)	15	25	65
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)	91	67	54	79
Average Queue (ft)	51	36	34	34
95th Queue (ft)	80	58	51	52
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	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	96	180	134
Average Queue (ft)	46	115	66
95th Queue (ft)	89	184	120
Link Distance (ft)	114	149	323
Upstream Blk Time (%)	0	3	
Queuing Penalty (veh)	0	11	
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)	104	99	96	77	68
Average Queue (ft)	19	54	38	51	32
95th Queue (ft)	61	86	66	73	54
Link Distance (ft)	375		124		333
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		75		175	
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)	61	97	90	115	96	175
Average Queue (ft)	37	40	52	60	60	84
95th Queue (ft)	63	80	85	105	95	146
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)		0				
Queuing Penalty (veh)		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)	30	67
Average Queue (ft)	1	20
95th Queue (ft)	10	45
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)	55	52	71	55
Average Queue (ft)	31	22	34	34
95th Queue (ft)	54	47	61	47
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)	74	160	84	88
Average Queue (ft)	38	72	8	18
95th Queue (ft)	71	128	39	59
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 13: N. Site Drive/Hutton Street & Cady Street

Movement	EB	WB	SB
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	75	48	68
Average Queue (ft)	24	3	29
95th Queue (ft)	58	19	56
Link Distance (ft)	250	85	123
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 14: Cady Street & Chruch Street

Movement	SB
Directions Served	LR
Maximum Queue (ft)	56
Average Queue (ft)	34
95th Queue (ft)	53
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
Directions Served	LTR	LTR	LTR
Maximum Queue (ft)	93	31	31
Average Queue (ft)	43	13	4
95th Queue (ft)	67	37	22
Link Distance (ft)	354	204	96
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	SB
Directions Served	LR
Maximum Queue (ft)	29
Average Queue (ft)	21
95th Queue (ft)	42
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	NB
Directions Served	LR
Maximum Queue (ft)	29
Average Queue (ft)	18
95th Queue (ft)	40
Link Distance (ft)	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)	52	56
Average Queue (ft)	22	7
95th Queue (ft)	47	31
Link Distance (ft)	604	75
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 19: Seven Mile Road & Fairbrook Street & First Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	30	37	41	15
Average Queue (ft)	3	9	4	3
95th Queue (ft)	17	27	22	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)	29	31	55	53
Average Queue (ft)	15	5	21	27
95th Queue (ft)	38	24	55	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)	32	75
Average Queue (ft)	14	4
95th Queue (ft)	39	28
Link Distance (ft)	96	531
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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

Movement	EB	WB	NB	SB
Directions Served	L	L	LTR	LTR
Maximum Queue (ft)	29	24	46	49
Average Queue (ft)	1	2	14	25
95th Queue (ft)	10	12	41	50
Link Distance (ft)			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	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	64	247	63	168	31	59	446	199	224
Average Queue (ft)	16	112	17	67	10	19	224	40	114
95th Queue (ft)	47	196	45	124	24	47	418	99	197
Link Distance (ft)		386		578	578		21448		531
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	500		150			50		150	
Storage Blk Time (%)				0		0	29		3
Queuing Penalty (veh)				0		2	15		2

Intersection: 24: Hines Drive & Seven Mile Road

Movement	NB	SB
Directions Served	TR	LT
Maximum Queue (ft)	78	22
Average Queue (ft)	47	1
95th Queue (ft)	75	7
Link Distance (ft)	3643	578
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 25: Seven Mile Road & River Street

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	53	49
Average Queue (ft)	4	10
95th Queue (ft)	23	34
Link Distance (ft)	821	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	EB	WB
Directions Served	T	R	T
Maximum Queue (ft)	47	85	51
Average Queue (ft)	18	33	31
95th Queue (ft)	43	61	58
Link Distance (ft)	180	180	16
Upstream Blk Time (%)			4
Queuing Penalty (veh)			7
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	LT
Maximum Queue (ft)	44	56
Average Queue (ft)	11	10
95th Queue (ft)	34	39
Link Distance (ft)	16	233
Upstream Blk Time (%)	3	
Queuing Penalty (veh)	2	
Storage Bay Dist (ft)		
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)	97	60	200	246	170	195	100
Average Queue (ft)	79	10	118	128	109	22	32
95th Queue (ft)	103	38	188	218	178	84	71
Link Distance (ft)	82	82	219	219		222	222
Upstream Blk Time (%)	3		0	1			
Queuing Penalty (veh)	7		0	4			
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					11		
Queuing Penalty (veh)					11		

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)

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)

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: 66

Intersection: 1: Wing Street & Randolph Street

Movement	EB	WB	NB
Directions Served	TR	LT	LR
Maximum Queue (ft)	464	25	81
Average Queue (ft)	172	1	34
95th Queue (ft)	714	10	70
Link Distance (ft)	835	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	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	370	138	51	40	34	910
Average Queue (ft)	192	63	13	2	5	327
95th Queue (ft)	438	160	41	20	24	1267
Link Distance (ft)	394	193		153		1449
Upstream Blk Time (%)	23	12				16
Queuing Penalty (veh)	55	0				0
Storage Bay Dist (ft)			500		500	
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	115	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)				

Intersection: 4: Center Street & Dunlap Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	116	181	85	165	45	260	145	185
Average Queue (ft)	37	94	5	88	6	155	73	131
95th Queue (ft)	94	214	40	186	28	343	144	197
Link Distance (ft)		192		135		323		153
Upstream Blk Time (%)		23	0	8		27	0	27
Queuing Penalty (veh)		43	0	28		134	0	159
Storage Bay Dist (ft)	100		75		30		500	
Storage Blk Time (%)	2	27		23	3	46	0	27
Queuing Penalty (veh)	2	20		2	13	6	0	24

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)				

Intersection: 7: Center Street & Main Street

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	95	180	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	59	174
95th Queue (ft)	463	125	69	165	408
Link Distance (ft)	375		124		333
Upstream Blk Time (%)	33				36
Queuing Penalty (veh)	129				134
Storage Bay Dist (ft)		75		175	
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	284	297	162	965
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	13	24	25	23
Queuing Penalty (veh)	7	17	37	69	65	0
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

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	163	95
95th Queue (ft)	643	651	305
Link Distance (ft)	748	748	406
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)				

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	69	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)				

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)			

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)	24	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	399
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)		

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

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	41	284	25	52	37	70
Average Queue (ft)	5	19	3	4	9	24
95th Queue (ft)	25	207	16	29	31	55
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	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	146	340	216	498	426	60	4906	199	326
Average Queue (ft)	50	157	58	226	123	40	1674	46	155
95th Queue (ft)	166	290	157	488	437	80	5082	136	313
Link Distance (ft)		386		578	578		21448		531
Upstream Blk Time (%)		3		11	6				
Queuing Penalty (veh)		14		37	19				
Storage Bay Dist (ft)	500		150			50		150	
Storage Blk Time (%)		3	1	23		13	59		11
Queuing Penalty (veh)		1	5	22		88	64		8

Intersection: 24: Hines Drive & Seven Mile Road

Movement	WB	WB	NB	NB	SB
Directions Served	L	R	TR	LT	
Maximum Queue (ft)	13	277	773	6	
Average Queue (ft)	1	51	176	0	
95th Queue (ft)	7	346	666	4	
Link Distance (ft)		821	3643	578	
Upstream Blk Time (%)		4			
Queuing Penalty (veh)		19			
Storage Bay Dist (ft)	225				
Storage Blk Time (%)		5			
Queuing Penalty (veh)		3			

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)	821	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	EB	WB	SB	SB
Directions Served	T	R	T	T	TR
Maximum Queue (ft)	48	130	53	79	83
Average Queue (ft)	21	50	37	11	10
95th Queue (ft)	45	107	65	115	107
Link Distance (ft)	180	180	16	364	364
Upstream Blk Time (%)		2	16	2	2
Queuing Penalty (veh)		4	62	6	5
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	LT	T
Maximum Queue (ft)	33	212	126
Average Queue (ft)	15	61	22
95th Queue (ft)	37	165	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)			

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)	98	78	250	253	198	214	116
Average Queue (ft)	78	22	180	187	118	49	46
95th Queue (ft)	110	66	262	273	208	142	100
Link Distance (ft)	82	82	219	219		222	222
Upstream Blk Time (%)	3	8	12	15		0	
Queuing Penalty (veh)	13	32	49	58		1	
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					15	0	
Queuing Penalty (veh)					28	0	

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 (%)	5
Queuing Penalty (veh)	3
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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
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

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: 3470

HCM 6th Signalized Intersection Summary
2: Center Street & Randolph Street/Private Drive

Background Conditions #1 (Pre-COVID) w/ IMP
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	2	127	4	0	6	27	495	1	6	460	50
Future Volume (veh/h)	22	2	127	4	0	6	27	495	1	6	460	50
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
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	
Adj Sat Flow, veh/h/ln	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	667	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	0	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	0.17	0.00	0.17	1.00	1.00	1.00	0.65	0.65	0.65
Sat Flow, veh/h	152	111	1407	460	199	1054	719	1965	4	860	1746	188
Grp Volume(v), veh/h	228	0	0	13	0	0	30	0	545	9	0	739
Grp Sat Flow(s),veh/h/ln	1670	0	0	1712	0	0	719	0	1968	860	0	1934
Q Serve(g_s), s	4.2	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.2	0.0	12.9
Cycle Q Clear(g_c), s	7.8	0.0	0.0	0.4	0.0	0.0	13.8	0.0	0.0	0.2	0.0	12.9
Prop In Lane	0.14		0.84	0.38		0.62	1.00		0.00	1.00		0.10
Lane Grp Cap(c), veh/h	353	0	0	374	0	0	434	0	1282	680	0	1260
V/C Ratio(X)	0.65	0.00	0.00	0.03	0.00	0.00	0.07	0.00	0.43	0.01	0.00	0.59
Avail Cap(c_a), veh/h	478	0	0	487	0	0	434	0	1282	680	0	1260
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 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	0.9	0.0	0.0	2.0
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	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												
LnGrp Delay(d),s/veh	25.8	0.0	0.0	20.8	0.0	0.0	2.6	0.0	0.9	3.7	0.0	7.9
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		228			13			575			748	
Approach Delay, s/veh		25.8			20.8			1.0			7.9	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		44.6		15.4		44.6		15.4				
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+I1), s		15.8		9.8		14.9		2.4				
Green Ext Time (p_c), s		3.9		0.6		5.7		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			8.1									
HCM 6th LOS			A									

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

Background Conditions #1 (Pre-COVID) w/ IMP
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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			0.99	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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	1953	1953	1953	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	0.82	0.82	0.82	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	725	1021	895	579	129	34	1359	442	6	1924	25
Grp Volume(v), veh/h	35	0	0	87	0	0	747	0	0	472	0	0
Grp Sat Flow(s),veh/h/ln	1788	0	0	1603	0	0	1835	0	0	1955	0	0
Q Serve(g_s), 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(g_c), s	1.1	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
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
Avail Cap(c_a), veh/h	501	0	0	485	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	0.00	1.00	0.00	0.00
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	0.0
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	0.5	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												
LnGrp Delay(d),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 LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		35			87			747			472	
Approach Delay, s/veh		24.7			25.9			5.6			0.6	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		48.4		11.6		48.4		11.6				
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+I1), s		13.3		3.1		2.0		4.9				
Green Ext Time (p_c), s		6.1		0.1		3.5		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			5.6									
HCM 6th LOS			A									

Notes

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

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

Background Conditions #1 (Pre-COVID) w/ IMP
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
Ped-Bike Adj(A_pbT)	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	
Adj Sat Flow, veh/h/ln	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	0.37	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	1134	1653	281	812	1938	1640	928	1969	1667	740	1884	72
Grp Volume(v), veh/h	54	0	592	38	168	86	63	630	79	90	0	464
Grp Sat Flow(s),veh/h/ln	1134	0	1933	812	1938	1640	928	1969	1667	740	0	1956
Q Serve(g_s), 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(g_c), s	7.6	0.0	22.3	25.9	4.8	2.8	16.7	19.3	2.0	27.6	0.0	12.8
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		0.04
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
Avail Cap(c_a), 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	0.00	0.00	1.00
Uniform Delay (d), s/veh	20.1	0.0	23.1	34.9	17.5	16.9	19.4	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	0.5	0.9	3.5	0.2	3.2	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 BackOfQ(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												
LnGrp Delay(d),s/veh	20.7	0.0	34.1	38.3	18.3	17.4	20.2	19.0	11.3	29.1	0.0	15.6
LnGrp LOS	C	A	C	D	B	B	C	B	B	C	A	B
Approach Vol, veh/h		646			292			772			554	
Approach Delay, s/veh		33.0			20.6			18.3			17.8	
Approach LOS		C			C			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+I1), s		21.3		24.3		29.6		27.9				
Green Ext Time (p_c), s		4.5		1.8		2.4		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			22.6									
HCM 6th LOS			C									

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

Background Conditions #1 (Pre-COVID) w/ IMP
AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	43	289	155	327	279	53
Future Volume (veh/h)	43	289	155	327	279	53
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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	
Adj Sat Flow, veh/h/ln	1969	1969	1922	1922	1984	1984
Adj Flow Rate, veh/h	53	357	176	372	294	56
Peak Hour Factor	0.81	0.81	0.88	0.88	0.95	0.95
Percent Heavy Veh, %	2	2	5	5	1	1
Cap, veh/h	277	822	917	2538	855	161
Arrive On Green	0.15	0.15	0.69	1.00	0.27	0.27
Sat Flow, veh/h	1875	1668	1830	3748	3266	595
Grp Volume(v), veh/h	53	357	176	372	173	177
Grp Sat Flow(s),veh/h/ln	1875	1668	1830	1826	1885	1877
Q Serve(g_s), s	2.0	11.1	1.6	0.0	5.9	6.1
Cycle Q Clear(g_c), s	2.0	11.1	1.6	0.0	5.9	6.1
Prop In Lane	1.00	1.00	1.00			0.32
Lane Grp Cap(c), veh/h	277	822	917	2538	509	507
V/C Ratio(X)	0.19	0.43	0.19	0.15	0.34	0.35
Avail Cap(c_a), veh/h	277	822	917	2538	509	507
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	13.1	2.8	0.0	23.5	23.5
Incr Delay (d2), s/veh	1.5	1.7	0.5	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 BackOfQ(50%),veh/ln	1.0	12.3	0.5	0.0	2.8	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.5	14.8	3.3	0.1	25.3	25.4
LnGrp LOS	C	B	A	A	C	C
Approach Vol, veh/h	410			548	350	
Approach Delay, s/veh	16.9			1.1	25.4	
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+I1), s		2.0		13.1	3.6	8.1
Green Ext Time (p_c), s		2.6		0.0	0.5	1.6
Intersection Summary						
HCM 6th Ctrl Delay			12.6			
HCM 6th LOS			B			

Notes

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

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

Background Conditions #1 (Pre-COVID) w/ IMP
AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
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
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	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	437	815	497	443	643	2290
Arrive On Green	0.23	0.23	0.27	0.27	0.17	0.41
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/h/ln	1860	1655	1841	1642	1890	1885
Q Serve(g_s), s	11.2	0.0	10.3	13.3	10.8	2.6
Cycle Q Clear(g_c), s	11.2	0.0	10.3	13.3	10.8	2.6
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	437	815	497	443	643	2290
V/C Ratio(X)	0.66	0.31	0.56	0.69	0.70	0.09
Avail Cap(c_a), veh/h	437	815	497	443	643	2290
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	12.2	25.1	26.2	26.7	10.1
Incr Delay (d2), s/veh	7.5	1.0	4.5	8.4	6.2	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	2.7	4.8	5.8	8.2	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.2	13.2	29.6	34.5	32.9	10.2
LnGrp LOS	D	B	C	C	C	B
Approach Vol, veh/h	542		581		652	
Approach Delay, s/veh	24.8		32.2		25.8	
Approach LOS	C		C		C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	27.0	28.0			55.0	25.0
Change Period (Y+Rc), s	6.4	6.4			6.4	6.2
Max Green Setting (Gmax), s	20.6	21.6			48.6	18.8
Max Q Clear Time (g_c+I1), s	12.8	15.3			4.6	13.2
Green Ext Time (p_c), s	0.9	1.8			1.3	1.0
Intersection Summary						
HCM 6th Ctrl Delay			27.6			
HCM 6th LOS			C			

HCM 6th Signalized Intersection Summary
2: Center Street & Randolph Street/Private Drive

Background 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)	46	13	229	15	15	28	54	578	9	18	464	43
Future Volume (veh/h)	46	13	229	15	15	28	54	578	9	18	464	43
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	1.00		1.00	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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	2000	2000	2000	1984	1984	1984
Adj Flow Rate, veh/h	55	15	273	16	16	31	62	664	10	25	636	59
Peak Hour Factor	0.84	0.84	0.84	0.91	0.91	0.91	0.87	0.87	0.87	0.73	0.73	0.73
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	1	1	1
Cap, veh/h	113	37	310	138	142	198	393	1153	17	570	1048	97
Arrive On Green	0.23	0.23	0.23	0.23	0.23	0.23	1.00	1.00	1.00	0.59	0.59	0.59
Sat Flow, veh/h	183	156	1322	266	603	842	761	1965	30	767	1786	166
Grp Volume(v), veh/h	343	0	0	63	0	0	62	0	674	25	0	695
Grp Sat Flow(s),veh/h/ln	1661	0	0	1711	0	0	761	0	1994	767	0	1952
Q Serve(g_s), s	7.7	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.8	0.0	13.7
Cycle Q Clear(g_c), s	11.9	0.0	0.0	1.6	0.0	0.0	15.9	0.0	0.0	0.8	0.0	13.7
Prop In Lane	0.16		0.80	0.25		0.49	1.00		0.01	1.00		0.08
Lane Grp Cap(c), veh/h	460	0	0	477	0	0	393	0	1170	570	0	1145
V/C Ratio(X)	0.75	0.00	0.00	0.13	0.00	0.00	0.16	0.00	0.58	0.04	0.00	0.61
Avail Cap(c_a), veh/h	479	0	0	495	0	0	393	0	1170	570	0	1145
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 Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.82	0.00	0.82	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.0	0.0	0.0	18.2	0.0	0.0	3.1	0.0	0.0	5.3	0.0	8.0
Incr Delay (d2), s/veh	6.1	0.0	0.0	0.1	0.0	0.0	0.7	0.0	1.7	0.1	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	5.1	0.0	0.0	0.7	0.0	0.0	0.2	0.0	0.6	0.1	0.0	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.1	0.0	0.0	18.3	0.0	0.0	3.8	0.0	1.7	5.4	0.0	10.3
LnGrp LOS	C	A	A	B	A	A	A	A	A	A	A	B
Approach Vol, veh/h		343			63			736			720	
Approach Delay, s/veh		28.1			18.3			1.9			10.2	
Approach LOS		C			B			A			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		40.7		19.3		40.7		19.3				
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+I1), s		17.9		13.9		15.7		3.6				
Green Ext Time (p_c), s		5.0		0.2		5.3		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			10.5									
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 #1 (Pre-COVID) w/ IMP
8: Hutton Street & Main Street — PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	165	11	10	272	308	9	26	15	256	11	14
Future Volume (veh/h)	7	165	11	10	272	308	9	26	15	256	11	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.98		0.97	0.99		0.97	0.98		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	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Adj Flow Rate, veh/h	8	194	13	11	313	354	12	33	19	281	12	15
Peak Hour Factor	0.85	0.85	0.85	0.87	0.87	0.87	0.78	0.78	0.78	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	70	665	504	69	671	504	183	489	254	751	27	711
Arrive On Green	0.11	0.11	0.11	0.34	0.34	0.34	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, veh/h	21	1945	1474	22	1963	1474	234	1022	530	1325	57	1487
Grp Volume(v), veh/h	202	0	13	324	0	354	64	0	0	293	0	15
Grp Sat Flow(s),veh/h/ln	1966	0	1474	1985	0	1474	1785	0	0	1382	0	1487
Q Serve(g_s), s	0.0	0.0	0.5	0.0	0.0	12.5	0.0	0.0	0.0	7.0	0.0	0.3
Cycle Q Clear(g_c), s	5.6	0.0	0.5	7.6	0.0	12.5	1.1	0.0	0.0	8.1	0.0	0.3
Prop In Lane	0.04		1.00	0.03		1.00	0.19		0.30	0.96		1.00
Lane Grp Cap(c), veh/h	734	0	504	740	0	504	925	0	0	778	0	711
V/C Ratio(X)	0.28	0.00	0.03	0.44	0.00	0.70	0.07	0.00	0.00	0.38	0.00	0.02
Avail Cap(c_a), veh/h	734	0	504	740	0	504	925	0	0	778	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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	20.0	0.0	17.7	15.5	0.0	17.1	8.5	0.0	0.0	10.2	0.0	8.2
Incr Delay (d2), s/veh	0.9	0.0	0.1	1.9	0.0	8.0	0.1	0.0	0.0	1.4	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/ln	2.8	0.0	0.2	3.6	0.0	5.0	0.4	0.0	0.0	2.5	0.0	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.9	0.0	17.8	17.4	0.0	25.1	8.6	0.0	0.0	11.5	0.0	8.3
LnGrp LOS	C	A	B	B	A	C	A	A	A	B	A	A
Approach Vol, veh/h		215			678			64			308	
Approach Delay, s/veh		20.7			21.4			8.6			11.4	
Approach LOS		C			C			A			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.0		34.0		26.0		34.0				
Change Period (Y+Rc), s		5.5		* 5.3		5.5		* 5.3				
Max Green Setting (Gmax), s		20.5		* 29		20.5		* 29				
Max Q Clear Time (g_c+I1), s		7.6		10.1		14.5		3.1				
Green Ext Time (p_c), s		1.0		1.8		1.8		0.3				
Intersection Summary												
HCM 6th Ctrl Delay			18.2									
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 #1 (Pre-COVID) 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												
Traffic Volume (veh/h)	100	268	27	7	376	296	47	226	18	203	137	197
Future Volume (veh/h)	100	268	27	7	376	296	47	226	18	203	137	197
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		0.99	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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	118	315	32	7	396	312	51	246	20	216	146	210
Peak Hour Factor	0.85	0.85	0.85	0.95	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	667	73	64	702	540	152	687	52	325	203	258
Arrive On Green	0.12	0.12	0.12	0.36	0.36	0.36	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	323	1869	205	9	1967	1515	182	1516	114	535	447	570
Grp Volume(v), veh/h	190	0	275	403	0	312	317	0	0	572	0	0
Grp Sat Flow(s),veh/h/ln	631	0	1766	1976	0	1515	1812	0	0	1551	0	0
Q Serve(g_s), s	9.1	0.0	8.7	0.0	0.0	10.0	0.0	0.0	0.0	12.0	0.0	0.0
Cycle Q Clear(g_c), s	19.1	0.0	8.7	9.8	0.0	10.0	6.3	0.0	0.0	18.3	0.0	0.0
Prop In Lane	0.62		0.12	0.02		1.00	0.16		0.06	0.38		0.37
Lane Grp Cap(c), veh/h	322	0	630	766	0	540	891	0	0	786	0	0
V/C Ratio(X)	0.59	0.00	0.44	0.53	0.00	0.58	0.36	0.00	0.00	0.73	0.00	0.00
Avail Cap(c_a), veh/h	322	0	630	766	0	540	891	0	0	786	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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	27.4	0.0	20.9	15.6	0.0	15.6	10.7	0.0	0.0	13.5	0.0	0.0
Incr Delay (d2), s/veh	7.6	0.0	2.2	2.6	0.0	4.4	1.1	0.0	0.0	5.8	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	3.6	0.0	4.2	4.6	0.0	3.8	2.5	0.0	0.0	6.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.1	0.0	23.1	18.2	0.0	20.1	11.8	0.0	0.0	19.4	0.0	0.0
LnGrp LOS	D	A	C	B	A	C	B	A	A	B	A	A
Approach Vol, veh/h		465			715			317			572	
Approach Delay, s/veh		28.0			19.0			11.8			19.4	
Approach LOS		C			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		33.0		27.0		33.0				
Change Period (Y+Rc), s		5.6		* 5.8		5.6		* 5.8				
Max Green Setting (Gmax), s		21.4		* 27		21.4		* 27				
Max Q Clear Time (g_c+I1), s		21.1		20.3		12.0		8.3				
Green Ext Time (p_c), s		0.1		2.3		3.3		1.8				
Intersection Summary												
HCM 6th Ctrl Delay			20.0									
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 #1 (Pre-COVID) 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												
Traffic Volume (veh/h)	11	17	29	63	12	19	25	524	128	10	624	38
Future Volume (veh/h)	11	17	29	63	12	19	25	524	128	10	624	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.92	0.94		0.92	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	1938	1938	1938	2000	2000	2000	1984	1984	1984	2000	2000	2000
Adj Flow Rate, veh/h	14	22	37	81	15	24	26	552	135	11	657	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	0	0	0	1	1	1	0	0	0
Cap, veh/h	95	100	126	236	49	46	82	993	237	67	1233	74
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.67	0.67	0.67	1.00	1.00	1.00
Sat Flow, veh/h	153	651	826	888	323	303	30	1485	354	9	1844	111
Grp Volume(v), veh/h	73	0	0	120	0	0	713	0	0	708	0	0
Grp Sat Flow(s),veh/h/ln	1630	0	0	1514	0	0	1868	0	0	1964	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.3	0.0	0.0	3.9	0.0	0.0	11.8	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.19		0.51	0.67		0.20	0.04		0.19	0.02		0.06
Lane Grp Cap(c), veh/h	321	0	0	332	0	0	1312	0	0	1374	0	0
V/C Ratio(X)	0.23	0.00	0.00	0.36	0.00	0.00	0.54	0.00	0.00	0.52	0.00	0.00
Avail Cap(c_a), veh/h	467	0	0	463	0	0	1312	0	0	1374	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	22.5	0.0	0.0	23.1	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.7	0.0	0.0	1.6	0.0	0.0	1.4	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	0.9	0.0	0.0	1.5	0.0	0.0	3.8	0.0	0.0	0.5	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	0.0	0.0	23.7	0.0	0.0	6.9	0.0	0.0	1.4	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		73			120			713			708	
Approach Delay, s/veh		22.9			23.7			6.9			1.4	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.6		14.4		45.6		14.4				
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+I1), s		13.8		4.3		2.0		5.9				
Green Ext Time (p_c), s		5.7		0.2		6.2		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			6.4									
HCM 6th LOS			A									

Notes

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

HCM 6th Signalized Intersection Summary — Background Conditions #1 (Pre-COVID) 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												
Traffic Volume (veh/h)	32	317	116	110	509	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
Ped-Bike Adj(A_pbT)	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	
Adj Sat Flow, veh/h/ln	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	0.94	0.94	0.94
Percent Heavy Veh, %	1	1	1	0	0	0	1	1	1	1	1	1
Cap, veh/h	194	509	186	231	735	622	226	967	817	227	890	66
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	762	1385	507	928	2000	1693	733	1984	1677	672	1825	135
Grp Volume(v), veh/h	36	0	481	116	536	149	132	707	113	80	0	727
Grp Sat Flow(s),veh/h/ln	762	0	1892	928	2000	1693	733	1984	1677	672	0	1960
Q Serve(g_s), s	3.4	0.0	17.2	9.7	18.5	4.9	14.3	22.7	3.0	8.6	0.0	24.2
Cycle Q Clear(g_c), s	22.0	0.0	17.2	26.9	18.5	4.9	38.5	22.7	3.0	31.3	0.0	24.2
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	194	0	695	231	735	622	226	967	817	227	0	955
V/C Ratio(X)	0.19	0.00	0.69	0.50	0.73	0.24	0.58	0.73	0.14	0.35	0.00	0.76
Avail Cap(c_a), veh/h	194	0	695	231	735	622	226	967	817	227	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(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	31.3	0.0	21.5	32.9	21.9	17.5	32.4	16.3	11.3	28.8	0.0	16.7
Incr Delay (d2), s/veh	2.1	0.0	5.6	7.6	6.3	0.9	10.6	4.9	0.4	4.3	0.0	5.7
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 BackOfQ(50%),veh/ln	0.7	0.0	8.1	2.6	9.3	1.9	3.1	10.4	1.1	1.6	0.0	11.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.5	0.0	27.0	40.5	28.1	18.5	43.0	21.2	11.6	33.0	0.0	22.4
LnGrp LOS	C	A	C	D	C	B	D	C	B	C	A	C
Approach Vol, veh/h		517			801			952			807	
Approach Delay, s/veh		27.5			28.1			23.1			23.5	
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+I1), s		40.5		24.0		33.3		28.9				
Green Ext Time (p_c), s		0.0		1.5		2.6		0.2				
Intersection Summary												
HCM 6th Ctrl Delay			25.2									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary — Background Conditions #1 (Pre-COVID) w/ IMP
26: SB Northville Road & N. Seven Mile Road — PM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	63	268	391	703	496	113
Future Volume (veh/h)	63	268	391	703	496	113
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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	
Adj Sat Flow, veh/h/ln	1969	1969	1984	1984	1984	1984
Adj Flow Rate, veh/h	68	291	412	740	522	119
Peak Hour Factor	0.92	0.92	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	1	1	1	1
Cap, veh/h	394	822	718	2385	824	187
Arrive On Green	0.21	0.21	0.56	1.00	0.27	0.27
Sat Flow, veh/h	1875	1668	1890	3870	3151	693
Grp Volume(v), veh/h	68	291	412	740	322	319
Grp Sat Flow(s),veh/h/ln	1875	1668	1890	1885	1885	1860
Q Serve(g_s), s	2.4	8.6	7.9	0.0	12.0	12.1
Cycle Q Clear(g_c), s	2.4	8.6	7.9	0.0	12.0	12.1
Prop In Lane	1.00	1.00	1.00			0.37
Lane Grp Cap(c), veh/h	394	822	718	2385	509	502
V/C Ratio(X)	0.17	0.35	0.57	0.31	0.63	0.64
Avail Cap(c_a), veh/h	394	822	718	2385	509	502
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	25.9	12.5	6.4	0.0	25.7	25.7
Incr Delay (d2), s/veh	1.0	1.2	3.3	0.3	5.9	6.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	10.0	2.5	0.1	5.9	5.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	26.9	13.7	9.8	0.3	31.6	31.8
LnGrp LOS	C	B	A	A	C	C
Approach Vol, veh/h	359			1152	641	
Approach Delay, s/veh	16.2			3.7	31.7	
Approach LOS	B			A	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		57.0		23.0	29.0	28.0
Change Period (Y+Rc), s		6.4		* 6.2	6.4	6.4
Max Green Setting (Gmax), s		50.6		* 17	22.6	21.6
Max Q Clear Time (g_c+I1), s		2.0		10.6	9.9	14.1
Green Ext Time (p_c), s		5.9		0.6	1.1	2.3
Intersection Summary						
HCM 6th Ctrl Delay			14.1			
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 #1 (Pre-COVID) w/ IMP
28: Northville Road & S. Seven Mile Road — PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	308	580	514	321	374	390
Future Volume (veh/h)	308	580	514	321	374	390
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1969	1969
Adj Flow Rate, veh/h	328	617	547	341	407	424
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	491	807	630	392	518	2179
Arrive On Green	0.26	0.26	0.28	0.28	0.44	1.00
Sat Flow, veh/h	1890	1682	2330	1389	1875	3839
Grp Volume(v), veh/h	328	617	462	426	407	424
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1734	1875	1870
Q Serve(g_s), s	12.4	6.5	18.6	18.7	9.3	0.0
Cycle Q Clear(g_c), s	12.4	6.5	18.6	18.7	9.3	0.0
Prop In Lane	1.00	1.00		0.80	1.00	
Lane Grp Cap(c), veh/h	491	807	533	490	518	2179
V/C Ratio(X)	0.67	0.76	0.87	0.79	0.79	0.19
Avail Cap(c_a), veh/h	491	807	533	490	518	2179
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	17.1	27.3	27.3	18.8	0.0
Incr Delay (d2), s/veh	7.0	6.8	17.2	18.5	11.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	9.8	10.3	9.6	5.8	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.5	23.9	44.5	45.8	30.3	0.2
LnGrp LOS	C	C	D	D	C	A
Approach Vol, veh/h	945		888		831	
Approach Delay, s/veh	27.2		45.1		14.9	
Approach LOS	C		D		B	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	24.0	29.0			53.0	27.0
Change Period (Y+Rc), s	6.4	6.4			6.4	6.2
Max Green Setting (Gmax), s	17.6	22.6			46.6	20.8
Max Q Clear Time (g_c+I1), s	11.3	20.7			2.0	14.4
Green Ext Time (p_c), s	0.7	1.0			3.0	2.1
Intersection Summary						
HCM 6th Ctrl Delay			29.4			
HCM 6th LOS			C			

HCM 6th AWSC — Background Conditions #2 (Both Closed) w/ IMP
2: Center Street & Randolph Street/Private Drive — AM Peak Hour

Intersection	
Intersection Delay, s/veh	28.1
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	2	80	4	0	5	15	315	1	5	375	47
Future Vol, veh/h	20	2	80	4	0	5	15	315	1	5	375	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	121	5	0	7	16	346	1	7	543	68
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	11.1	9.8	15.1	40.3
HCM LOS	B	A	C	E

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	20%	44%	100%	0%
Vol Thru, %	0%	100%	2%	0%	0%	89%
Vol Right, %	0%	0%	78%	56%	0%	11%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	15	316	102	9	5	422
LT Vol	15	0	20	4	5	0
Through Vol	0	315	2	0	0	375
RT Vol	0	1	80	5	0	47
Lane Flow Rate	16	347	155	12	7	612
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.029	0.553	0.257	0.022	0.012	0.919
Departure Headway (Hd)	6.244	5.736	5.992	6.618	5.993	5.409
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	574	629	598	538	598	673
Service Time	3.978	3.469	4.043	4.688	3.721	3.136
HCM Lane V/C Ratio	0.028	0.552	0.259	0.022	0.012	0.909
HCM Control Delay	9.2	15.4	11.1	9.8	8.8	40.7
HCM Lane LOS	A	C	B	A	A	E
HCM 95th-tile Q	0.1	3.4	1	0.1	0	12.1

HCM 6th AWSC — Background Conditions #2 (Both Closed) w/ IMP
12: Center Street & Cady Street — AM Peak Hour

Intersection	
Intersection Delay, s/veh	14.2
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	66	81	131	60	10	51	101	270	24	86	8
Future Vol, veh/h	1	66	81	131	60	10	51	101	270	24	86	8
Peak Hour Factor	0.88	0.88	0.88	0.77	0.77	0.77	0.94	0.94	0.94	0.75	0.75	0.75
Heavy Vehicles, %	0	0	0	3	3	3	1	1	1	3	3	3
Mvmt Flow	1	75	92	170	78	13	54	107	287	32	115	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	10.9	13.7	16.8	11.2
HCM LOS	B	B	C	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	1%	65%	20%
Vol Thru, %	24%	45%	30%	73%
Vol Right, %	64%	55%	5%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	422	148	201	118
LT Vol	51	1	131	24
Through Vol	101	66	60	86
RT Vol	270	81	10	8
Lane Flow Rate	449	168	261	157
Geometry Grp	1	1	1	1
Degree of Util (X)	0.637	0.268	0.435	0.26
Departure Headway (Hd)	5.109	5.727	5.993	5.959
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	700	622	598	598
Service Time	3.175	3.811	4.069	4.046
HCM Lane V/C Ratio	0.641	0.27	0.436	0.263
HCM Control Delay	16.8	10.9	13.7	11.2
HCM Lane LOS	C	B	B	B
HCM 95th-tile Q	4.6	1.1	2.2	1

HCM 6th Signalized Intersection Summary — Background Conditions #2 (Both 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												
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
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	
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	474	19
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88	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	420	418	253	197	706	598	374	960	811	389	916	37
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	1121	1138	690	869	1922	1627	903	1969	1663	878	1880	75
Grp Volume(v), veh/h	21	0	509	85	200	49	93	438	86	40	0	493
Grp Sat Flow(s),veh/h/ln	1121	0	1828	869	1922	1627	903	1969	1663	878	0	1955
Q Serve(g_s), s	1.1	0.0	19.5	7.6	5.9	1.6	6.3	11.7	2.2	2.5	0.0	13.8
Cycle Q Clear(g_c), s	7.0	0.0	19.5	27.1	5.9	1.6	20.1	11.7	2.2	14.2	0.0	13.8
Prop In Lane	1.00		0.38	1.00		1.00	1.00		1.00	1.00		0.04
Lane Grp Cap(c), veh/h	420	0	672	197	706	598	374	960	811	389	0	953
V/C Ratio(X)	0.05	0.00	0.76	0.43	0.28	0.08	0.25	0.46	0.11	0.10	0.00	0.52
Avail Cap(c_a), veh/h	420	0	672	197	706	598	374	960	811	389	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	20.3	0.0	22.2	34.1	17.9	16.5	20.9	13.5	11.1	18.2	0.0	14.0
Incr Delay (d2), s/veh	0.2	0.0	7.8	6.7	1.0	0.3	1.6	1.6	0.3	0.5	0.0	2.0
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	9.2	1.9	2.6	0.6	1.4	5.1	0.8	0.5	0.0	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.5	0.0	30.0	40.8	18.9	16.8	22.5	15.1	11.3	18.7	0.0	16.1
LnGrp LOS	C	A	C	D	B	B	C	B	B	B	A	B
Approach Vol, veh/h		530			334			617			533	
Approach Delay, s/veh		29.6			24.1			15.7			16.3	
Approach LOS		C			C			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+I1), s	22.1	21.5	16.2	29.1
Green Ext Time (p_c), s	3.2	2.1	3.3	0.1

Intersection Summary	
HCM 6th Ctrl Delay	20.9
HCM 6th LOS	C

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

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	46	206	156	340	256	50
Future Volume (veh/h)	46	206	156	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	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	0.90	0.90
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
Sat Flow, veh/h	1860	1655	1845	3778	3196	602
Grp Volume(v), veh/h	54	242	184	400	168	172
Grp Sat Flow(s),veh/h/ln	1860	1655	1845	1841	1856	1845
Q Serve(g_s), s	2.0	7.0	1.7	0.0	5.8	6.0
Cycle Q Clear(g_c), s	2.0	7.0	1.7	0.0	5.8	6.0
Prop In Lane	1.00	1.00	1.00			0.33
Lane Grp Cap(c), veh/h	274	815	926	2559	501	498
V/C Ratio(X)	0.20	0.30	0.20	0.16	0.34	0.34
Avail Cap(c_a), veh/h	274	815	926	2559	501	498
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	0.5	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 BackOfQ(50%),veh/ln	1.0	8.3	0.6	0.0	2.7	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.5	13.0	3.3	0.1	25.3	25.4
LnGrp LOS	C	B	A	A	C	C
Approach Vol, veh/h	296			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+I1), s	2.0	9.0	3.7	8.0
Green Ext Time (p_c), s	2.8	0.3	0.5	1.5

Intersection Summary	
HCM 6th Ctrl Delay	11.6
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 #2 (Both Closed) w/ IMP
28: Northville Road & S. Seven Mile Road — AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
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	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	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	0.88	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	0.27	0.17	0.41
Sat Flow, veh/h	1860	1655	1938	1642	1860	3809
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 Serve(g_s), s	11.2	0.0	12.7	14.4	6.9	2.8
Cycle Q Clear(g_c), s	11.2	0.0	12.7	14.4	6.9	2.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	437	815	497	443	620	2254
V/C Ratio(X)	0.66	0.27	0.66	0.73	0.55	0.09
Avail Cap(c_a), veh/h	437	815	497	443	620	2254
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	11.9	25.9	26.6	25.6	10.1
Incr Delay (d2), s/veh	7.5	0.8	6.7	10.2	3.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	2.3	6.1	6.4	5.7	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.2	12.7	32.7	36.7	29.1	10.2
LnGrp LOS	D	B	C	D	C	B
Approach Vol, veh/h	507		652		550	
Approach Delay, s/veh	25.4		34.7		21.9	
Approach LOS	C		C		C	

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	27.0	28.0	55.0	25.0
Change Period (Y+Rc), s	6.4	6.4	6.4	6.2
Max Green Setting (Gmax), s	20.6	21.6	48.6	18.8
Max Q Clear Time (g_c+I1), s	8.9	16.4	4.8	13.2
Green Ext Time (p_c), s	0.8	1.8	1.4	0.9

Intersection Summary	
HCM 6th Ctrl Delay	27.8
HCM 6th LOS	C

HCM 6th AWSC — Background Conditions #2 (Both Closed) w/ IMP
2: Center Street & Randolph Street/Private Drive — PM Peak Hour

Intersection	
Intersection Delay, s/veh	27.1
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	12	129	13	13	25	53	410	8	16	311	34
Future Vol, veh/h	46	12	129	13	13	25	53	410	8	16	311	34
Peak Hour Factor	0.84	0.84	0.84	0.91	0.91	0.91	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	55	14	154	14	14	27	61	471	9	22	426	47
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	13.9	11.3	30.5	31
HCM LOS	B	B	D	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	25%	25%	100%	0%
Vol Thru, %	0%	98%	6%	25%	0%	90%
Vol Right, %	0%	2%	69%	49%	0%	10%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	53	418	187	51	16	345
LT Vol	53	0	46	13	16	0
Through Vol	0	410	12	13	0	311
RT Vol	0	8	129	25	0	34
Lane Flow Rate	61	480	223	56	22	473
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.115	0.835	0.403	0.113	0.042	0.825
Departure Headway (Hd)	6.78	6.256	6.525	7.288	6.861	6.281
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	531	581	552	490	524	577
Service Time	4.494	3.971	4.572	5.357	4.576	3.996
HCM Lane V/C Ratio	0.115	0.826	0.404	0.114	0.042	0.82
HCM Control Delay	10.4	33	13.9	11.3	9.9	32
HCM Lane LOS	B	D	B	B	A	D
HCM 95th-tile Q	0.4	8.7	1.9	0.4	0.1	8.4

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												
Traffic Volume (veh/h)	49	273	27	15	296	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		0.99	0.99		0.99	1.00		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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	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	0.92	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	1	0	0	0	0	0
Cap, veh/h	166	908	92	75	684	538	101	759	70	314	361	127
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	247	2547	259	35	1918	1509	80	1673	154	511	796	279
Grp Volume(v), veh/h	181	0	198	331	0	277	347	0	0	517	0	0
Grp Sat Flow(s),veh/h/ln	1284	0	1769	1953	0	1509	1907	0	0	1586	0	0
Q Serve(g_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		0.15	0.05		1.00	0.09		0.08	0.37		0.18
Lane Grp Cap(c), veh/h	536	0	631	760	0	538	930	0	0	801	0	0
V/C Ratio(X)	0.34	0.00	0.31	0.44	0.00	0.51	0.37	0.00	0.00	0.65	0.00	0.00
Avail Cap(c_a), 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(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
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	1.7	0.0	1.3	1.8	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 BackOfQ(50%),veh/ln	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												
LnGrp Delay(d),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		378			608			347			517	
Approach Delay, s/veh		15.4			17.6			12.0			16.6	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		33.0		27.0		33.0				
Change Period (Y+Rc), s		5.6		* 5.8		5.6		* 5.8				
Max Green Setting (Gmax), s		21.4		* 27		21.4		* 27				
Max Q Clear Time (g_c+I1), s		11.3		16.6		10.7		9.0				
Green Ext Time (p_c), s		1.8		2.6		3.0		1.9				
Intersection Summary												
HCM 6th Ctrl Delay			15.8									
HCM 6th LOS			B									

Notes

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

HCM 6th AWSC — Background Conditions #2 (Both Closed) w/ IMP
12: Center Street & Cady Street — PM Peak Hour

Intersection	
Intersection Delay, s/veh	30.4
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	73	72	237	61	5	59	133	304	49	102	16
Future Vol, veh/h	5	73	72	237	61	5	59	133	304	49	102	16
Peak Hour Factor	0.79	0.79	0.79	0.88	0.88	0.88	0.90	0.90	0.90	0.80	0.80	0.80
Heavy Vehicles, %	1	1	1	0	0	0	1	1	1	1	1	1
Mvmt Flow	6	92	91	269	69	6	66	148	338	61	128	20
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	14.5	23.6	45.8	15.3
HCM LOS	B	C	E	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	3%	78%	29%
Vol Thru, %	27%	49%	20%	61%
Vol Right, %	61%	48%	2%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	496	150	303	167
LT Vol	59	5	237	49
Through Vol	133	73	61	102
RT Vol	304	72	5	16
Lane Flow Rate	551	190	344	209
Geometry Grp	1	1	1	1
Degree of Util (X)	0.928	0.376	0.675	0.415
Departure Headway (Hd)	6.063	7.128	7.057	7.159
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	601	503	513	501
Service Time	4.087	5.2	5.089	5.228
HCM Lane V/C Ratio	0.917	0.378	0.671	0.417
HCM Control Delay	45.8	14.5	23.6	15.3
HCM Lane LOS	E	B	C	C
HCM 95th-tile Q	11.9	1.7	5	2

HCM 6th Signalized Intersection Summary — Background 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												
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		0.99	1.00		0.99	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	2000	1984	1984	1984	2000	2000	2000	2000
Adj Flow Rate, veh/h	31	359	152	144	505	122	141	523	117	73	375	22
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.90	0.90	0.90	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	0	1	1	1	1	0	0	0
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	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	804	1321	559	895	1984	1686	992	1984	1664	800	1869	110
Grp Volume(v), veh/h	31	0	511	144	505	122	141	523	117	73	0	397
Grp Sat Flow(s),veh/h/ln	804	0	1880	895	1984	1686	992	1984	1664	800	0	1979
Q Serve(g_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	20.0	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	1.00		1.00	1.00		0.06
Lane Grp Cap(c), veh/h	212	0	691	208	729	619	446	967	811	333	0	965
V/C Ratio(X)	0.15	0.00	0.74	0.69	0.69	0.20	0.32	0.54	0.14	0.22	0.00	0.41
Avail Cap(c_a), veh/h	212	0	691	208	729	619	446	967	811	333	0	965
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	29.9	0.0	22.0	35.7	21.5	17.3	19.2	14.3	11.3	21.3	0.0	13.1
Incr Delay (d2), s/veh	1.5	0.0	7.0	17.4	5.4	0.7	1.9	2.2	0.4	1.5	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 BackOfQ(50%),veh/ln	0.6	0.0	9.0	3.8	8.5	1.6	2.1	6.5	1.1	1.1	0.0	4.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.4	0.0	29.0	53.1	26.8	18.0	21.0	16.4	11.7	22.8	0.0	14.4
LnGrp LOS	C	A	C	D	C	B	C	B	B	C	A	B
Approach Vol, veh/h		542			771			781			470	
Approach Delay, s/veh		29.1			30.3			16.5			15.7	
Approach LOS		C			C			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+I1), s		20.8		22.0		22.3		31.4				
Green Ext Time (p_c), s		4.2		2.0		2.6		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			23.2									
HCM 6th LOS			C									

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	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	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	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	0.56	1.00	0.27	0.27
Sat Flow, veh/h	1875	1668	1890	3870	3193	657
Grp Volume(v), veh/h	56	287	424	612	307	307
Grp Sat Flow(s),veh/h/ln	1875	1668	1890	1885	1885	1866
Q Serve(g_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			0.35
Lane Grp Cap(c), veh/h	394	822	727	2385	509	504
V/C Ratio(X)	0.14	0.35	0.58	0.26	0.60	0.61
Avail Cap(c_a), veh/h	394	822	727	2385	509	504
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
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 BackOfQ(50%),veh/ln	0.9	9.9	2.5	0.1	5.5	5.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),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	
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		23.0	29.0	28.0
Change Period (Y+Rc), s		6.4		* 6.2	6.4	6.4
Max Green Setting (Gmax), s		50.6		* 17	22.6	21.6
Max Q Clear Time (g_c+I1), s		2.0		10.4	10.3	13.5
Green Ext Time (p_c), s		4.6		0.6	1.1	2.3
Intersection Summary						
HCM 6th Ctrl Delay			14.4			
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 #2 (Both Closed) w/ IMP
28: Northville Road & S. Seven Mile Road — PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	352	519	455	341	362	380
Future Volume (veh/h)	352	519	455	341	362	380
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00		No
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	405	597	479	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	491	807	581	434	531	2196
Arrive On Green	0.26	0.26	0.28	0.28	0.44	1.00
Sat Flow, veh/h	1890	1682	2155	1537	1890	3870
Grp Volume(v), veh/h	405	597	439	399	381	400
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1708	1890	1885
Q Serve(g_s), s	16.1	5.3	17.4	17.5	6.9	0.0
Cycle Q Clear(g_c), s	16.1	5.3	17.4	17.5	6.9	0.0
Prop In Lane	1.00	1.00		0.90	1.00	
Lane Grp Cap(c), veh/h	491	807	533	482	531	2196
V/C Ratio(X)	0.82	0.74	0.82	0.83	0.72	0.18
Avail Cap(c_a), veh/h	491	807	533	482	531	2196
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	16.8	26.8	26.9	18.3	0.0
Incr Delay (d2), s/veh	14.5	6.0	13.6	14.9	8.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	9.2	9.2	8.6	5.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	42.4	22.8	40.4	41.8	26.3	0.2
LnGrp LOS	D	C	D	D	C	A
Approach Vol, veh/h	1002		838		781	
Approach Delay, s/veh	30.7		41.1		12.9	
Approach LOS	C		D		B	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	24.0	29.0			53.0	27.0
Change Period (Y+Rc), s	6.4	6.4			6.4	6.2
Max Green Setting (Gmax), s	17.6	22.6			46.6	20.8
Max Q Clear Time (g_c+I1), s	8.9	19.5			2.0	18.1
Green Ext Time (p_c), s	0.8	1.5			2.8	1.1
Intersection Summary						
HCM 6th Ctrl Delay			28.7			
HCM 6th LOS			C			

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	2	112	4	0	5	24	538	1	5	405	44
Future Volume (veh/h)	19	2	112	4	0	5	24	538	1	5	405	44
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
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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	2000	2000	2000	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	29	3	170	5	0	7	26	591	1	7	587	64
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	0	2	2	2	2	2	2
Cap, veh/h	92	18	216	164	32	156	510	1312	2	670	1165	127
Arrive On Green	0.15	0.15	0.15	0.15	0.00	0.15	1.00	1.00	1.00	0.67	0.67	0.67
Sat Flow, veh/h	150	115	1407	517	210	1017	780	1965	3	823	1744	190
Grp Volume(v), veh/h	202	0	0	12	0	0	26	0	592	7	0	651
Grp Sat Flow(s),veh/h/ln	1672	0	0	1744	0	0	780	0	1968	823	0	1934
Q Serve(g_s), s	3.6	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.2	0.0	10.1
Cycle Q Clear(g_c), s	6.9	0.0	0.0	0.3	0.0	0.0	10.6	0.0	0.0	0.2	0.0	10.1
Prop In Lane	0.14		0.84	0.42		0.58	1.00		0.00	1.00		0.10
Lane Grp Cap(c), veh/h	326	0	0	353	0	0	510	0	1315	670	0	1292
V/C Ratio(X)	0.62	0.00	0.00	0.03	0.00	0.00	0.05	0.00	0.45	0.01	0.00	0.50
Avail Cap(c_a), veh/h	478	0	0	489	0	0	510	0	1315	670	0	1292
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.91	0.00	0.91	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.4	0.0	0.0	21.6	0.0	0.0	1.3	0.0	0.0	3.3	0.0	5.0
Incr Delay (d2), s/veh	1.9	0.0	0.0	0.1	0.0	0.0	0.2	0.0	0.0	0.0	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 BackOfQ(50%),veh/ln	2.8	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.4	0.0	0.0	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.3	0.0	0.0	21.7	0.0	0.0	1.5	0.0	1.0	3.4	0.0	6.4
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		202			12			618			658	
Approach Delay, s/veh		26.3			21.7			1.0			6.4	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.6		14.4		45.6		14.4				
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+I1), s		12.6		8.9		12.1		2.3				
Green Ext Time (p_c), s		4.5		0.6		5.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			7.0									
HCM 6th LOS			A									

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
12: Center Street & Cady Street — AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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		0.99	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	1953	1953	1953	1969	1969	1969
Adj Flow Rate, veh/h	1	66	12	135	65	11	27	453	232	27	404	6
Peak Hour Factor	0.88	0.88	0.88	0.82	0.82	0.82	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	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
Sat Flow, veh/h	6	1640	295	972	542	83	31	1192	591	50	1807	26
Grp Volume(v), veh/h	79	0	0	211	0	0	712	0	0	437	0	0
Grp Sat Flow(s),veh/h/ln	1942	0	0	1598	0	0	1814	0	0	1883	0	0
Q Serve(g_s), s	0.0	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), 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
Prop In Lane	0.01		0.15	0.64		0.05	0.04		0.33	0.06		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	0.00	0.00	0.58	0.00	0.00	0.57	0.00	0.00	0.34	0.00	0.00
Avail Cap(c_a), veh/h	539	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	0.00	1.00	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	0.3	0.0	0.0	1.4	0.0	0.0	1.9	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 BackOfQ(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												
LnGrp Delay(d),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 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			C			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		44.8		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+I1), s		15.0		4.1		2.0		9.4				
Green Ext Time (p_c), s		5.6		0.2		3.4		0.5				

Intersection Summary	
HCM 6th Ctrl Delay	8.9
HCM 6th LOS	A

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 — AM Peak Hour

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	
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	
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	0.86	0.86	0.86
Percent Heavy Veh, %	1	1	1	4	4	4	2	2	2	2	2	2
Cap, veh/h	410	573	133	285	712	603	433	960	811	320	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	1969	1663	800	1884	72
Grp Volume(v), veh/h	48	0	399	34	210	76	55	554	70	79	0	409
Grp Sat Flow(s),veh/h/ln	1101	0	1919	969	1938	1640	976	1969	1663	800	0	1956
Q Serve(g_s), s	2.6	0.0	13.3	2.3	6.2	2.5	3.1	16.1	1.8	6.2	0.0	10.8
Cycle Q Clear(g_c), s	8.7	0.0	13.3	15.6	6.2	2.5	13.9	16.1	1.8	22.3	0.0	10.8
Prop In Lane	1.00		0.19	1.00		1.00	1.00		1.00	1.00		0.24
Lane Grp Cap(c), veh/h	410	0	705	285	712	603	433	960	811	320	0	953
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
Avail Cap(c_a), veh/h	410	0	705	285	712	603	433	960	811	320	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	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	3.3	0.9	1.1	0.4	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 BackOfQ(50%),veh/ln	0.7	0.0	6.1	0.6	2.8	0.9	0.7	7.0	0.7	1.3	0.0	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),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 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+I1), s		18.1		15.3		24.3		17.6				
Green Ext Time (p_c), s		4.0		2.2		2.6		1.2				

Intersection Summary	
HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

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						
Traffic Volume (veh/h)	46	206	156	340	256	50
Future Volume (veh/h)	46	206	156	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No	No		
Adj Sat Flow, veh/h/ln	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	0.90	0.90
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
Sat Flow, veh/h	1860	1655	1845	3778	3196	602
Grp Volume(v), veh/h	54	242	184	400	168	172
Grp Sat Flow(s),veh/h/ln	1860	1655	1845	1841	1856	1845
Q Serve(g_s), s	2.0	7.0	1.7	0.0	5.8	6.0
Cycle Q Clear(g_c), s	2.0	7.0	1.7	0.0	5.8	6.0
Prop In Lane	1.00	1.00	1.00			0.33
Lane Grp Cap(c), veh/h	274	815	926	2559	501	498
V/C Ratio(X)	0.20	0.30	0.20	0.16	0.34	0.34
Avail Cap(c_a), veh/h	274	815	926	2559	501	498
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	0.5	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 BackOfQ(50%),veh/ln	1.0	8.3	0.6	0.0	2.7	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	31.5	13.0	3.3	0.1	25.3	25.4
LnGrp LOS	C	B	A	A	C	C
Approach Vol, veh/h	296			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+I1), s	2.0		9.0	3.7	8.0	
Green Ext Time (p_c), s	2.8		0.3	0.5	1.5	

Intersection Summary	
HCM 6th Ctrl Delay	11.6
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
28: Northville Road & S. Seven Mile Road — AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
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		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	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	0.88	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	0.27	0.17	0.41
Sat Flow, veh/h	1860	1655	1938	1642	1860	3809
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 Serve(g_s), s	11.2	0.0	12.7	14.4	6.9	2.8
Cycle Q Clear(g_c), s	11.2	0.0	12.7	14.4	6.9	2.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	437	815	497	443	620	2254
V/C Ratio(X)	0.66	0.27	0.66	0.73	0.55	0.09
Avail Cap(c_a), veh/h	437	815	497	443	620	2254
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	11.9	25.9	26.6	25.6	10.1
Incr Delay (d2), s/veh	7.5	0.8	6.7	10.2	3.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	2.3	6.1	6.4	5.7	1.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.2	12.7	32.7	36.7	29.1	10.2
LnGrp LOS	D	B	C	D	C	B
Approach Vol, veh/h	507		652			550
Approach Delay, s/veh	25.4		34.7			21.9
Approach LOS	C		C			C

Timer - Assigned Phs	1	2				6		8				
Phs Duration (G+Y+Rc), s	27.0	28.0				55.0		25.0				
Change Period (Y+Rc), s	6.4	6.4				6.4		6.2				
Max Green Setting (Gmax), s	20.6	21.6				48.6		18.8				
Max Q Clear Time (g_c+I1), s	8.9	16.4				4.8		13.2				
Green Ext Time (p_c), s	0.8	1.8				1.4		0.9				

Intersection Summary	
HCM 6th Ctrl Delay	27.8
HCM 6th LOS	C

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	11	202	13	13	25	48	622	8	16	424	38
Future Volume (veh/h)	41	11	202	13	13	25	48	622	8	16	424	38
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	1.00		0.99	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	2000	2000	2000	1984	1984	1984
Adj Flow Rate, veh/h	49	13	240	14	14	27	55	715	9	22	581	52
Peak Hour Factor	0.84	0.84	0.84	0.91	0.91	0.91	0.87	0.87	0.87	0.73	0.73	0.73
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	1	1	1
Cap, veh/h	109	34	282	133	134	185	458	1198	15	565	1090	98
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	1.00	1.00	1.00	0.61	0.61	0.61
Sat Flow, veh/h	181	160	1320	268	628	864	805	1970	25	732	1793	160
Grp Volume(v), veh/h	302	0	0	55	0	0	55	0	724	22	0	633
Grp Sat Flow(s),veh/h/ln	1661	0	0	1760	0	0	805	0	1995	732	0	1953
Q Serve(g_s), s	6.4	0.0	0.0	0.0	0.0	0.0	1.4	0.0	0.0	0.7	0.0	11.3
Cycle Q Clear(g_c), s	10.4	0.0	0.0	1.5	0.0	0.0	12.7	0.0	0.0	0.7	0.0	11.3
Prop In Lane	0.16		0.79	0.25		0.49	1.00		0.01	1.00		0.08
Lane Grp Cap(c), veh/h	425	0	0	452	0	0	458	0	1213	565	0	1187
V/C Ratio(X)	0.71	0.00	0.00	0.12	0.00	0.00	0.12	0.00	0.60	0.04	0.00	0.53
Avail Cap(c_a), veh/h	478	0	0	503	0	0	458	0	1213	565	0	1187
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 Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.88	0.00	0.88	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.6	0.0	0.0	19.1	0.0	0.0	2.0	0.0	0.0	4.8	0.0	6.8
Incr Delay (d2), s/veh	4.2	0.0	0.0	0.1	0.0	0.0	0.5	0.0	1.9	0.1	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 BackOfQ(50%),veh/ln	4.3	0.0	0.0	0.6	0.0	0.0	0.1	0.0	0.6	0.1	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.8	0.0	0.0	19.2	0.0	0.0	2.4	0.0	1.9	4.9	0.0	8.5
LnGrp LOS	C	A	A	B	A	A	A	A	A	A	A	A
Approach Vol, veh/h		302			55			779			655	
Approach Delay, s/veh		26.8			19.2			2.0			8.4	
Approach LOS		C			B			A			A	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		42.0		18.0		42.0		18.0				
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+I1), s		14.7		12.4		13.3		3.5				
Green Ext Time (p_c), s		5.8		0.4		4.9		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	9.0
HCM 6th LOS	A

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
9: Griswold Street & Main Street — PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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		0.99	0.99			0.99	1.00		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	
Adj Sat Flow, veh/h/ln	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	196	91
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	166	908	92	75	684	538	107	737	80	335	329	137
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	247	2547	259	35	1918	1509	91	1626	176	554	726	303
Grp Volume(v), veh/h	181	0	198	331	0	277	301	0	0	476	0	0
Grp Sat Flow(s),veh/h/ln	1284	0	1769	1953	0	1509	1892	0	0	1583	0	0
Q Serve(g_s), s	0.6	0.0	4.9	0.0	0.0	8.7	0.0	0.0	0.0	6.9	0.0	0.0
Cycle Q Clear(g_c), s	9.3	0.0	4.9	7.7	0.0	8.7	5.9	0.0	0.0	12.8	0.0	0.0
Prop In Lane	0.29		0.15	0.05		1.00	0.10		0.09	0.40		0.19
Lane Grp Cap(c), veh/h	536	0	631	760	0	538	924	0	0	801	0	0
V/C Ratio(X)	0.34	0.00	0.31	0.44	0.00	0.51	0.33	0.00	0.00	0.59	0.00	0.00
Avail Cap(c_a), veh/h	536	0	631	760	0	538	924	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(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.8	0.0	14.0	14.9	0.0	15.2	10.6	0.0	0.0	12.1	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.0	1.3	1.8	0.0	3.5	0.9	0.0	0.0	3.2	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	1.9	0.0	2.0	3.6	0.0	3.3	2.4	0.0	0.0	4.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.5	0.0	15.3	16.7	0.0	18.7	11.5	0.0	0.0	15.4	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		379			608			301			476	
Approach Delay, s/veh		15.4			17.6			11.5			15.4	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		33.0		27.0		33.0				
Change Period (Y+Rc), s		5.6		* 5.8		5.6		* 5.8				
Max Green Setting (Gmax), s		21.4		* 27		21.4		* 27				
Max Q Clear Time (g_c+I1), s		11.3		14.8		10.7		7.9				
Green Ext Time (p_c), s		1.8		2.6		3.0		1.6				

Intersection Summary	
HCM 6th Ctrl Delay	15.5
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
12: Center Street & Cady Street — PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	73	26	186	61	17	22	453	216	49	482	33
Future Volume (veh/h)	10	73	26	186	61	17	22	453	216	49	482	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.95	0.96		0.95	0.99		0.98	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	
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	0.79	0.79	0.79	0.88	0.88	0.88	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	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	1.00	1.00	1.00
Sat Flow, veh/h	76	1354	449	1060	355	96	25	1239	574	91	1626	107
Grp Volume(v), veh/h	138	0	0	299	0	0	727	0	0	594	0	0
Grp Sat Flow(s),veh/h/ln	1879	0	0	1511	0	0	1837	0	0	1824	0	0
Q Serve(g_s), s	0.0	0.0	0.0	7.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), 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
Prop In Lane	0.09		0.24	0.71		0.06	0.03		1.00	0.31	0.09	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	0.00	0.00	0.67	0.00	0.00	0.63	0.00	0.00	0.52	0.00	0.00
Avail Cap(c_a), veh/h	528	0	0	473	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
Incr Delay (d2), s/veh	0.3	0.0	0.0	3.3	0.0	0.0	2.6	0.0	0.0	1.7	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 BackOfQ(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												
LnGrp Delay(d),s/veh	19.6	0.0	0.0	25.1	0.0	0.0	10.8	0.0	0.0	1.7	0.0	0.0
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+I1), s		17.6		5.7		2.0		13.1				
Green Ext Time (p_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 — 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	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
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	
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	0.90	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	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
Sat Flow, veh/h	816	1401	494	916	2000	1693	793	1984	1677	740	1826	134
Grp Volume(v), veh/h	36	0	495	101	478	134	116	618	99	71	0	643
Grp Sat Flow(s),veh/h/ln	816	0	1895	916	2000	1693	793	1984	1677	740	0	1960
Q Serve(g_s), s	3.1	0.0	17.9	8.5	15.9	4.4	10.5	18.5	2.6	6.3	0.0	20.0
Cycle Q Clear(g_c), s	19.0	0.0	17.9	26.4	15.9	4.4	10.5	18.5	2.6	24.9	0.0	20.0
Prop In Lane	1.00		0.26	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	228	0	696	222	735	622	278	967	817	279	0	955
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	0.67
Avail Cap(c_a), veh/h	228	0	696	222	735	622	278	967	817	279	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(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	28.9	0.0	21.7	33.0	21.0	17.4	27.3	15.3	11.2	24.5	0.0	15.6
Incr Delay (d2), s/veh	1.5	0.0	6.1	6.6	4.4	0.8	4.6	3.2	0.3	2.2	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	8.3	0.9	1.2	0.0	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),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 LOS	C	A	C	D	C	B	C	B	B	C	A	B
Approach Vol, veh/h		531			713			833			714	
Approach Delay, s/veh		27.9			26.1			19.5			20.1	
Approach LOS		C			C			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+I1), s		32.5		21.0		26.9		28.4				
Green Ext Time (p_c), s		2.7		2.2		3.8		0.4				

Intersection Summary			
HCM 6th Ctrl Delay		22.9	
HCM 6th LOS		C	

HCM 6th Signalized Intersection Summary — Background 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						
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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	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
Sat Flow, veh/h	1875	1668	1890	3870	3188	662
Grp Volume(v), veh/h	56	287	424	612	308	307
Grp Sat Flow(s),veh/h/ln	1875	1668	1890	1885	1885	1865
Q Serve(g_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			0.35
Lane Grp Cap(c), veh/h	394	822	727	2385	509	504
V/C Ratio(X)	0.14	0.35	0.58	0.26	0.60	0.61
Avail Cap(c_a), veh/h	394	822	727	2385	509	504
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
Incr Delay (d2), s/veh	0.8	1.2	3.4	0.3	5.3	5.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	9.9	2.5	0.1	5.6	5.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),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	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		23.0	29.0	28.0						
Change Period (Y+Rc), s		6.4		* 6.2	6.4	6.4						
Max Green Setting (Gmax), s		50.6		* 17	22.6	21.6						
Max Q Clear Time (g_c+I1), s		2.0		10.4	10.3	13.5						
Green Ext Time (p_c), s		4.6		0.6	1.1	2.3						

Intersection Summary			
HCM 6th Ctrl Delay		14.4	
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
28: Northville Road & S. Seven Mile Road — PM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	352	519	455	341	362	380
Future Volume (veh/h)	352	519	455	341	362	380
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	405	597	479	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	491	807	581	434	531	2196
Arrive On Green	0.26	0.26	0.28	0.28	0.44	1.00
Sat Flow, veh/h	1890	1682	2155	1537	1890	3870
Grp Volume(v), veh/h	405	597	439	399	381	400
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1708	1890	1885
Q Serve(g_s), s	16.1	5.3	17.4	17.5	6.9	0.0
Cycle Q Clear(g_c), s	16.1	5.3	17.4	17.5	6.9	0.0
Prop In Lane	1.00	1.00		0.90	1.00	
Lane Grp Cap(c), veh/h	491	807	533	482	531	2196
V/C Ratio(X)	0.82	0.74	0.82	0.83	0.72	0.18
Avail Cap(c_a), veh/h	491	807	533	482	531	2196
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	16.8	26.8	26.9	18.3	0.0
Incr Delay (d2), s/veh	14.5	6.0	13.6	14.9	8.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	9.2	9.2	8.6	5.1	0.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	42.4	22.8	40.4	41.8	26.3	0.2
LnGrp LOS	D	C	D	D	C	A
Approach Vol, veh/h	1002		838		781	
Approach Delay, s/veh	30.7		41.1		12.9	
Approach LOS	C		D		B	

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	24.0	29.0				53.0		27.0
Change Period (Y+Rc), s	6.4	6.4				6.4		6.2
Max Green Setting (Gmax), s	17.6	22.6				46.6		20.8
Max Q Clear Time (g_c+I1), s	8.9	19.5				2.0		18.1
Green Ext Time (p_c), s	0.8	1.5				2.8		1.1

Intersection Summary			
HCM 6th Ctrl Delay		28.7	
HCM 6th LOS		C	

Queuing and Blocking Report — Background Conditions #1 (Pre-COVID) 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)	142	35	61	136	29	206
Average Queue (ft)	54	6	15	51	3	67
95th Queue (ft)	107	27	45	126	18	165
Link Distance (ft)	394	193		153		1449
Upstream Blk Time (%)				0		
Queuing Penalty (veh)				0		
Storage Bay Dist (ft)			500		500	
Storage Blk Time (%)				0		
Queuing Penalty (veh)				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)	133	32	114	96	60	183	23
Average Queue (ft)	46	5	43	37	18	82	7
95th Queue (ft)	97	22	87	78	43	145	23
Link Distance (ft)	521		381		114		328
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		25		75		175	
Storage Blk Time (%)	23	0	1	0		0	
Queuing Penalty (veh)	2	1	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)	117	94	121	110	146	190
Average Queue (ft)	57	38	51	55	64	82
95th Queue (ft)	95	75	91	92	117	155
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)	1	0			0	
Queuing Penalty (veh)	1	0			1	
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Queuing and Blocking Report — Background Conditions #1 (Pre-COVID) w/ IMP
AM Peak Hour

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	51	95	262	149
Average Queue (ft)	13	46	101	56
95th Queue (ft)	39	85	231	123
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)			0	1
Queuing Penalty (veh)			3	3
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	53	323	71	134	60	80	484	75	185	214
Average Queue (ft)	19	174	21	51	11	25	218	33	57	124
95th Queue (ft)	45	289	56	105	34	62	406	86	130	204
Link Distance (ft)		386		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		0			29	2	1	0
Queuing Penalty (veh)		0		0			38	10	3	0

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	EB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	71	145	93	43	65	165	100
Average Queue (ft)	27	59	39	4	20	92	47
95th Queue (ft)	60	116	79	22	51	152	86
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 (%)							
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)	111	76	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 (%)	9	0	0	0		0	
Queuing Penalty (veh)	22	1	0	1		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		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		328
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)		25		75			175
Storage Blk Time (%)	42	1	12	1			1
Queuing Penalty (veh)	5	2	36	4			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)	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	
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	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	82	320	250	512	423	345	624	75	266	446
Average Queue (ft)	24	160	116	277	143	144	306	38	87	245
95th Queue (ft)	64	263	255	504	422	288	515	93	215	387
Link Distance (ft)		386		565	565		21443			532
Upstream Blk Time (%)				1	2					0
Queuing Penalty (veh)				5	8					1
Storage Bay Dist (ft)	500		150			600		50	250	
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	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	84	119	186	102	85	231	214
Average Queue (ft)	33	49	97	19	44	139	120
95th Queue (ft)	72	96	164	66	80	204	187
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 (%)			2	0			
Queuing Penalty (veh)			6	0			

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	
Queuing Penalty (veh)	57	24	6	6		0	
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					6	0	
Queuing Penalty (veh)					13	0	

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		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	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	96
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	
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	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	54	326	143	190	39	110	313	75	62	200
Average Queue (ft)	9	162	45	66	7	34	146	34	18	104
95th Queue (ft)	33	278	105	135	22	82	275	85	50	175
Link Distance (ft)		386		565	565		21443			532
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	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	71	107	97	42	62	159	111
Average Queue (ft)	28	39	39	3	17	83	52
95th Queue (ft)	62	81	82	21	48	135	95
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

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)	71	57	45	109	39	164
Average Queue (ft)	40	27	25	60	12	71
95th Queue (ft)	64	51	46	92	37	120
Link Distance (ft)	394	193		154		1449
Upstream Blk Time (%)				0		
Queuing Penalty (veh)				0		
Storage Bay Dist (ft)			500		500	
Storage Blk Time (%)				0		
Queuing Penalty (veh)				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	136	138	144	376
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)	0	1			2	
Queuing Penalty (veh)	1	1			7	
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)	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	
Queuing Penalty (veh)			1	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	81	256	219	391	350	126	389	75	93	205
Average Queue (ft)	20	141	103	190	75	54	172	41	40	112
95th Queue (ft)	54	222	212	374	298	110	328	92	79	177
Link Distance (ft)		386		565	565		21443			532
Upstream Blk Time (%)				0	0					
Queuing Penalty (veh)				0	1					
Storage Bay Dist (ft)	500		150			600		50	250	
Storage Blk Time (%)			12	16			23	2		
Queuing Penalty (veh)			58	21			54	11		

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	75	112	178	49	78	233	213
Average Queue (ft)	28	47	94	10	33	133	117
95th Queue (ft)	62	93	159	37	71	200	184
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)			4				

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)	136	101	230	238	174	138	64
Average Queue (ft)	100	50	139	137	87	22	28
95th Queue (ft)	126	95	208	215	156	84	61
Link Distance (ft)	82	82	219	219		222	222
Upstream Blk Time (%)	28	4	0	1		0	
Queuing Penalty (veh)	126	17	2	4		0	
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					5	0	
Queuing Penalty (veh)					10	0	

Zone Summary

Zone wide Queuing Penalty: 319

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)	98	38	58	158	23	199
Average Queue (ft)	44	9	10	49	2	53
95th Queue (ft)	78	33	41	135	13	146
Link Distance (ft)	394	193		153		1449
Upstream Blk Time (%)			0	0		
Queuing Penalty (veh)			0	2		
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)	86	74	107	134	150	196
Average Queue (ft)	48	31	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			1	
Queuing Penalty (veh)	0	0			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)	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 (%)			1	3
Queuing Penalty (veh)			4	14
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	T	TR
Maximum Queue (ft)	65	253	51	144	58	65	370	75	115	226	
Average Queue (ft)	24	111	17	61	13	18	176	31	41	110	
95th Queue (ft)	54	182	42	115	39	48	318	85	83	185	
Link Distance (ft)		386		565	565		21443			532	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	500		150			600		50	250		
Storage Blk Time (%)				0			24	1		0	
Queuing Penalty (veh)				0			28	4		0	

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	EB	NB	WB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	T	TR
Maximum Queue (ft)	69	102	117	25	61	172	105	
Average Queue (ft)	27	37	44	3	17	88	51	
95th Queue (ft)	59	79	91	16	47	144	90	
Link Distance (ft)	164	164		240	240	357	357	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			150					
Storage Blk Time (%)			0					
Queuing Penalty (veh)			0					

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	72	193	211	121	36	56
Average Queue (ft)	88	26	100	102	57	3	16
95th Queue (ft)	112	59	163	175	103	20	48
Link Distance (ft)	82	82	219	219		222	222
Upstream Blk Time (%)	10	0	0	0			
Queuing Penalty (veh)	24	1	0	1			
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					0		
Queuing Penalty (veh)					0		

Zone Summary

Zone wide Queuing Penalty: 80

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)	282	74	109	166	34	265
Average Queue (ft)	95	31	28	109	12	90
95th Queue (ft)	214	64	72	185	36	197
Link Distance (ft)	394	193		153		1449
Upstream Blk Time (%)	1		0	2		
Queuing Penalty (veh)	3		0	12		
Storage Bay Dist (ft)			500		500	
Storage Blk Time (%)			0	2		
Queuing Penalty (veh)			0	1		

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			1	
Queuing Penalty (veh)	2	1			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)	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)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	T	TR
Maximum Queue (ft)	73	308	214	271	180	178	402	76	298	411	
Average Queue (ft)	20	153	63	164	51	71	224	38	65	208	
95th Queue (ft)	53	253	139	251	136	147	376	92	184	343	
Link Distance (ft)		386		565	565		21443			532	
Upstream Blk Time (%)		0								0	
Queuing Penalty (veh)		0								0	
Storage Bay Dist (ft)	500		150			600		50	250		
Storage Blk Time (%)		0	1	12			30	1		4	
Queuing Penalty (veh)		0	3	12			62	9		3	

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	72	135	204	120	78	226	209
Average Queue (ft)	25	50	106	13	34	138	120
95th Queue (ft)	59	100	175	67	70	204	181
Link Distance (ft)	164	164		240	240	357	357
Upstream Blk Time (%)		0		0			
Queuing Penalty (veh)		0		0			
Storage Bay Dist (ft)			150				
Storage Blk Time (%)			3	0			
Queuing Penalty (veh)			7	0			

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)	136	106	234	235	165	123	82
Average Queue (ft)	97	53	140	136	79	21	28
95th Queue (ft)	120	97	208	214	135	73	67
Link Distance (ft)	82	82	219	219		222	222
Upstream Blk Time (%)	20	4	1	1		0	
Queuing Penalty (veh)	91	20	3	2		0	
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					3	0	
Queuing Penalty (veh)					5	0	

Zone Summary

Zone wide Queuing Penalty: 396

Scheme Summary

Control Data

Control Data and Model Parameters

Northville Downs - RDBT @ Central/Sheldon & 7 Mile	2028 PHF Flow Profile (veh)
Background Conditions - Scenario #1 (Pre-COVID)	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 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 + or -	XWalk 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	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						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			nex	Nmx
1	Central SB	12	1	0	100	66.00078 356	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00078 356	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	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	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	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		0.5684	
3	Sheldon NB	Exclusive	638	73	553	553	492	912	738	0.6998	0.0989
4	7 Mile WB	None	269		684		580	1280		0.2102	

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	2028 PHF Flow Profile (veh)
Background Conditions - Scenario #1 (Pre-COVID)	7.5 min Time Slice
Rodel-Win1	Queuing 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 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 + or -	XWalk 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	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	Entry Geometry						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			nex	Nmx
1	Central SB	12	1	0	100	66.00078 778	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00078 778	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		Exit 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		0.5902	
3	Sheldon NB	Exclusive	797	107	424	424	861	981	660	0.8126	0.1622
4	7 Mile WB	None	761		827		499	1239		0.6144	

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	14.86	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	2028 PHF Flow Profile (veh)
Background 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 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 + or -	XWalk 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	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			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)

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	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		Exit 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		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	4.96	2.28	0.05	A	A	A
2	7 Mile EB	None	7.02		7.02	3.57		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

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	4506	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	2028 PHF Flow Profile (veh)
Background Conditions - Scenario #2 (Both Closed)	7.5 min Time Slice
Rodel-Win1	Queuing 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 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 + or -	XWalk 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	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			nex	Nmx
1	Central SB	12	1	0	100	66.00080 468	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00080 468	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		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	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		0.5050	
3	Sheldon NB	Exclusive	598	105	411	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	Entry	Bypass	Leg
1	Central SB	Exclusive	6.30	4.33	6.21	2.30	0.07	A	A	A
2	7 Mile EB	None	7.51		7.51	3.49		A		A
3	Sheldon NB	Exclusive	8.34	4.59	7.78	4.81	0.41	A	A	A
4	7 Mile WB	None	5.83		5.83	3.95		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	2028 PHF Flow Profile (veh)
Background Conditions - Scenario #3 (Main 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 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 778	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00078 778	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		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
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	2028 PHF Flow Profile (veh)
Background Conditions - Scenario #3 (Main Closed)	7.5 min Time Slice
Rodel-Win1	Queuing 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 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	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						Leg	Leg Names	Exit Lanes	
		Eb	neb	Lb	Lt	Rb	Phib			nex	Nmx
1	Central SB	12	1	0	100	66.000792	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.000792	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		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

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	

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 (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					50		
Storage Blk Time (%)				46	0		
Queuing 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
Directions Served	LTR	LT	TR	LT	R	LT
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 (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)					50	
Storage Blk Time (%)				92	0	
Queuing 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
Directions Served	LTR	LT	TR	LT	R	LT
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 (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)					50	250
Storage Blk Time (%)				75	0	
Queuing 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	695	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
Queuing Penalty (veh)	73	85	38				653
Storage Bay Dist (ft)					50	250	
Storage Blk Time (%)				97	0	99	1
Queuing 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
Ped-Bike Adj(A_pbT)	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	
Adj Sat Flow, veh/h/ln	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	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	1890	1652	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/h/ln	1890	0	1933	1845	1938	1640	1875	0	1930	1875	0	1956
Q Serve(g_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 Clear(g_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		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
Avail Cap(c_a), veh/h	452	0	716	183	717	679	337	0	776	171	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(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	23.7	0.0	36.1	28.6	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	3.1	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 BackOfQ(50%),veh/ln	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			292			772			554	
Approach Delay, s/veh		50.4			26.9			51.3			28.7	
Approach LOS		D			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+I1), s	5.2	41.8	3.5	35.0	4.2	23.2	4.1	9.2				
Green Ext Time (p_c), s	0.0	1.4	0.0	2.0	0.0	2.8	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	509	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
Ped-Bike Adj(A_pbT)	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	
Adj Sat Flow, veh/h/ln	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	0.94	0.94	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	1385	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/h/ln	1890	0	1892	1905	2000	1692	1890	0	1935	1890	0	1960
Q Serve(g_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 Clear(g_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		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
Avail Cap(c_a), veh/h	182	0	621	184	656	624	211	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(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	31.2	0.0	39.7	31.5	38.5	27.5	25.2	0.0	32.1	27.2	0.0	29.8
Incr Delay (d2), s/veh	0.8	0.0	16.2	6.7	15.1	0.2	5.7	0.0	27.6	3.6	0.0	9.7
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 BackOfQ(50%),veh/ln	0.7	0.0	15.1	2.6	16.5	3.0	2.3	0.0	27.6	1.3	0.0	19.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.0	0.0	55.9	38.2	53.7	27.7	30.9	0.0	59.7	30.9	0.0	39.5
LnGrp LOS	C	A	E	D	D	C	C	A	E	C	A	D
Approach Vol, veh/h		517			801			952			807	
Approach Delay, s/veh		54.3			46.6			55.7			38.7	
Approach LOS		D			D			E			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.6	55.0	11.0	37.4	11.0	54.6	9.0	39.4				
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	49.0	5.4	37.4	5.0	49.0	5.4	37.4				
Max Q Clear Time (g_c+I1), s	4.7	49.8	7.0	30.0	6.5	40.6	3.5	31.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	1.8	0.0	3.1	0.0	2.0				
Intersection Summary												
HCM 6th Ctrl Delay			48.6									
HCM 6th LOS			D									

HCM 6th Signalized Intersection Summary — Background 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												
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
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	
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	474	19
Peak Hour Factor	0.86	0.86	0.86	0.88	0.88	0.88	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	434	366	222	229	671	627	244	510	100	207	570	23
Arrive On Green	0.02	0.32	0.32	0.05	0.35	0.35	0.05	0.32	0.32	0.04	0.30	0.30
Sat Flow, veh/h	1860	1138	689	1830	1922	1626	1875	1597	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 Serve(g_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		0.16	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	0.00	0.87	0.37	0.30	0.08	0.38	0.00	0.86	0.19	0.00	0.83
Avail Cap(c_a), veh/h	509	0	888	252	934	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	0.00	1.00	1.00	0.00	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	1.0	0.0	4.1	0.5	0.0	3.1
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	0.3	0.0	10.1	1.1	2.8	0.6	1.2	0.0	10.1	0.5	0.0	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),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 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			29.9			30.1	
Approach LOS		C			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	33.2	9.9	33.0	10.4	31.8	7.6	35.4
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+I1), s	3.2	23.9	4.6	24.3	4.9	22.0	2.6	8.4
Green Ext Time (p_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

HCM 6th Signalized Intersection Summary — Background 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												
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		0.99	1.00		0.99	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	1984	2000	1984	1984	1984	2000	2000	2000
Adj Flow Rate, veh/h	31	359	152	144	505	122	141	523	117	73	375	22
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.90	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	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	0.37	0.04	0.36	0.36
Sat Flow, veh/h	1890	1320	559	1890	1984	1685	1890	1565	350	1905	1869	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	1685	1890	0	1916	1905	0	1978
Q Serve(g_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		0.18	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	0.00	0.89	0.68	0.77	0.19	0.38	0.00	0.90	0.37	0.00	0.55
Avail Cap(c_a), veh/h	252	0	731	211	772	729	367	0	889	209	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	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.1	0.0	33.7	26.7	30.6	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	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 BackOfQ(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												
LnGrp Delay(d),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 LOS	C	A	D	D	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		D			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	43.5	11.0	36.4	11.0	42.9	8.5	38.9
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	47.0	5.4	39.4	5.0	47.0	5.4	39.4
Max Q Clear Time (g_c+I1), s	4.4	34.0	7.4	28.3	6.8	18.2	3.1	25.2
Green Ext Time (p_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

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

Movement	EBL	EBT	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
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	
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	0.86	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	0.05	0.38	0.38
Sat Flow, veh/h	1890	1558	361	1845	1938	1639	1875	1712	216	1875	1884	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	1890	0	1919	1845	1938	1639	1875	0	1929	1875	0	1956
Q Serve(g_s), s	1.5	0.0	15.8	1.1	7.4	2.8	1.4	0.0	24.1	2.0	0.0	13.2
Cycle Q Clear(g_c), s	1.5	0.0	15.8	1.1	7.4	2.8	1.4	0.0	24.1	2.0	0.0	13.2
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.11	1.00		0.04
Lane Grp Cap(c), veh/h	336	0	486	206	476	487	384	0	721	246	0	746
V/C Ratio(X)	0.14	0.00	0.82	0.17	0.44	0.16	0.14	0.00	0.87	0.32	0.00	0.55
Avail Cap(c_a), veh/h	386	0	986	269	996	927	418	0	1078	266	0	1093
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	21.4	0.0	28.3	22.8	25.7	20.9	15.1	0.0	23.3	17.9	0.0	19.5
Incr Delay (d2), s/veh	0.2	0.0	3.5	0.4	0.6	0.1	0.2	0.0	5.0	0.7	0.0	0.6
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	0.6	0.0	7.3	0.5	3.3	1.0	0.6	0.0	11.1	0.8	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.6	0.0	31.8	23.2	26.3	21.0	15.3	0.0	28.4	18.6	0.0	20.1
LnGrp LOS	C	A	C	C	C	C	B	A	C	B	A	C
Approach Vol, veh/h		447			320			679			488	
Approach Delay, s/veh		30.7			24.7			27.3			19.9	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.1	36.1	8.3	26.0	9.5	36.7	8.9	25.4
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+I1), s	4.0	26.1	3.1	17.8	3.4	15.2	3.5	9.4
Green Ext Time (p_c), s	0.0	4.0	0.0	2.4	0.0	2.6	0.0	1.4

Intersection Summary	
HCM 6th Ctrl Delay	25.8
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary — Background Conditions #3 (Main 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												
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
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	
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	0.90	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	203	408	144	201	622	596	233	666	107	179	718	53
Arrive On Green	0.03	0.29	0.29	0.05	0.31	0.31	0.05	0.40	0.40	0.04	0.39	0.39
Sat Flow, veh/h	1890	1401	494	1905	2000	1692	1890	1668	267	1890	1826	134
Grp Volume(v), veh/h	36	0	495	101	478	134	116	0	717	71	0	643
Grp Sat Flow(s),veh/h/ln	1890	0	1895	1905	2000	1692	1890	0	1935	1890	0	1960
Q Serve(g_s), s	1.4	0.0	26.7	3.9	23.0	5.9	3.9	0.0	37.7	2.4	0.0	31.5
Cycle Q Clear(g_c), s	1.4	0.0	26.7	3.9	23.0	5.9	3.9	0.0	37.7	2.4	0.0	31.5
Prop In Lane	1.00		0.26	1.00		1.00	1.00		0.14	1.00		0.07
Lane Grp Cap(c), veh/h	203	0	552	201	622	596	233	0	772	179	0	771
V/C Ratio(X)	0.18	0.00	0.90	0.50	0.77	0.22	0.50	0.00	0.93	0.40	0.00	0.83
Avail Cap(c_a), veh/h	241	0	701	201	740	696	233	0	854	190	0	865
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	27.1	0.0	36.2	28.1	33.2	24.3	23.2	0.0	30.5	24.8	0.0	29.2
Incr Delay (d2), s/veh	0.4	0.0	12.2	2.0	4.1	0.2	1.6	0.0	15.3	1.4	0.0	6.5
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	0.6	0.0	13.8	1.8	11.6	2.4	1.8	0.0	20.0	1.1	0.0	15.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.5	0.0	48.4	30.1	37.3	24.4	24.9	0.0	45.9	26.2	0.0	35.6
LnGrp LOS	C	A	D	C	D	C	C	A	D	C	A	D
Approach Vol, veh/h		531			713			833			714	
Approach Delay, s/veh		47.0			33.9			43.0			34.7	
Approach LOS		D			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.4	48.5	11.0	36.6	11.0	47.9	8.9	38.7
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	47.0	5.4	39.4	5.0	47.0	5.4	39.4
Max Q Clear Time (g_c+I1), s	4.4	39.7	5.9	28.7	5.9	33.5	3.4	25.0
Green Ext Time (p_c), s	0.0	2.8	0.0	2.3	0.0	3.6	0.0	2.9

Intersection Summary	
HCM 6th Ctrl Delay	39.3
HCM 6th LOS	D

Queuing and Blocking Report — Background 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)	85	378	67	119	53	60	752	110	301
Average Queue (ft)	23	207	23	65	14	28	416	46	177
95th Queue (ft)	52	331	54	119	37	64	653	79	278
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				1	48		3
Queuing Penalty (veh)		0				4	28		2

Queuing and Blocking Report — Background 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)	157	396	249	401	283	60	6390	300	548
Average Queue (ft)	24	222	102	236	84	48	3472	102	374
95th Queue (ft)	92	355	251	372	221	74	6322	279	568
Link Distance (ft)		386		578	578		21448		532
Upstream Blk Time (%)	0	1							6
Queuing Penalty (veh)	0	4							42
Storage Bay Dist (ft)	500		150			50		250	
Storage Blk Time (%)	0	1		26		18	53		23
Queuing Penalty (veh)	0	0		29		137	67		17

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	
Storage Blk Time (%)		1		1		2	37		0
Queuing Penalty (veh)		0		1		9	32		0

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	329	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			0				
Queuing Penalty (veh)		0			0				
Storage Bay Dist (ft)	500		150			50		250	
Storage Blk Time (%)		0	0	22		5	52		1
Queuing Penalty (veh)		0	2	28		27	66		0

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 (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	500		150			50		250	
Storage Blk Time (%)				1		1	38		
Queuing Penalty (veh)				0		4	19		

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	1							3
Queuing Penalty (veh)	0	3							19
Storage Bay Dist (ft)	500		150			50		250	
Storage Blk Time (%)	0	1		19		13	55		19
Queuing Penalty (veh)	0	0		18		90	60		13

Appendix D

FUTURE TRAFFIC CONDITIONS

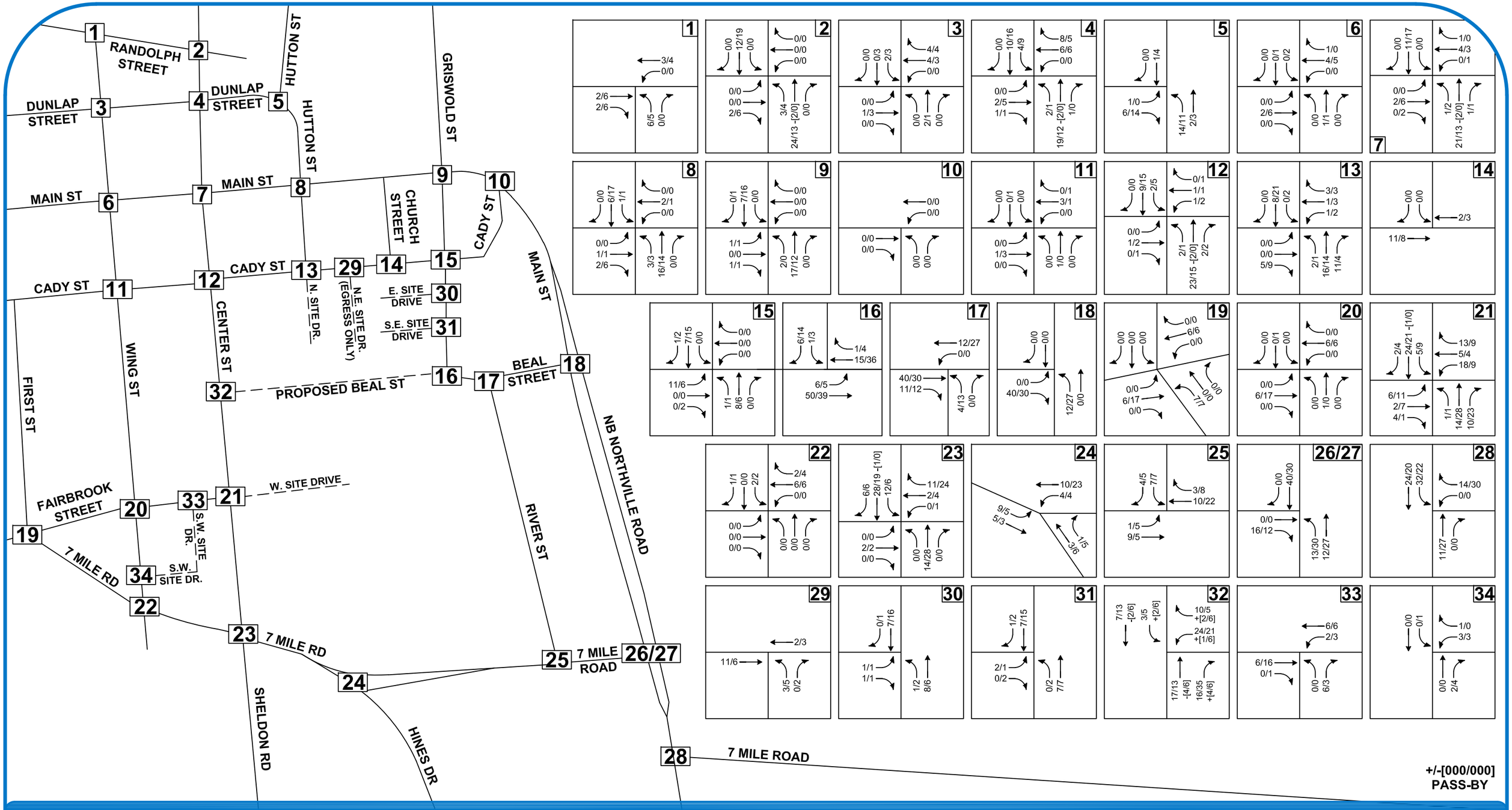


FIGURE 6.1 - SCENARIO #1 SITE-GENERATED TRAFFIC VOLUMES

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

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

NORTH

SCALE: NOT TO SCALE

F&V

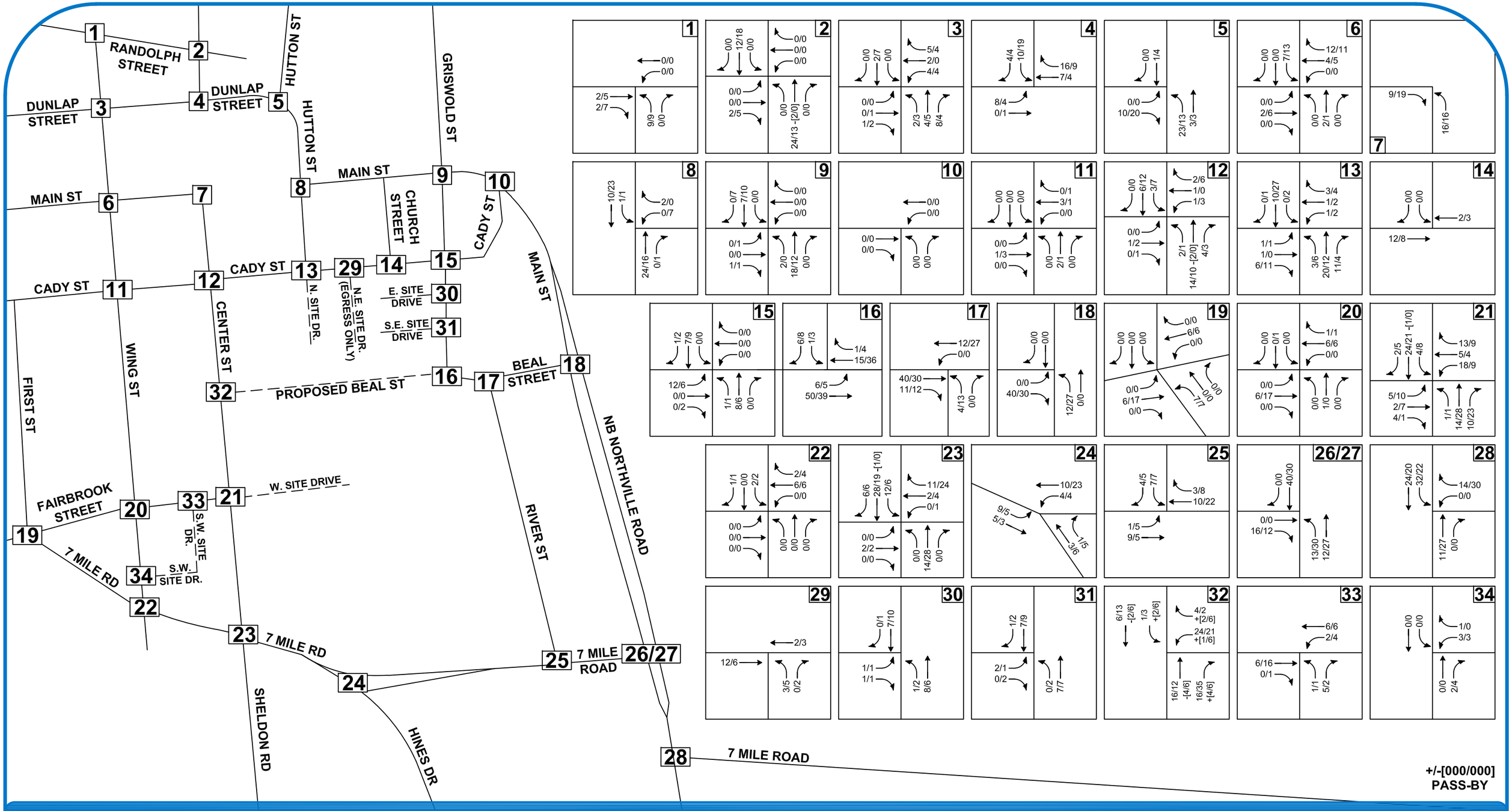


FIGURE 6.2 - SCENARIO #2 SITE-GENERATED TRAFFIC VOLUMES

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

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

NORTH

SCALE: NOT TO SCALE

F&V

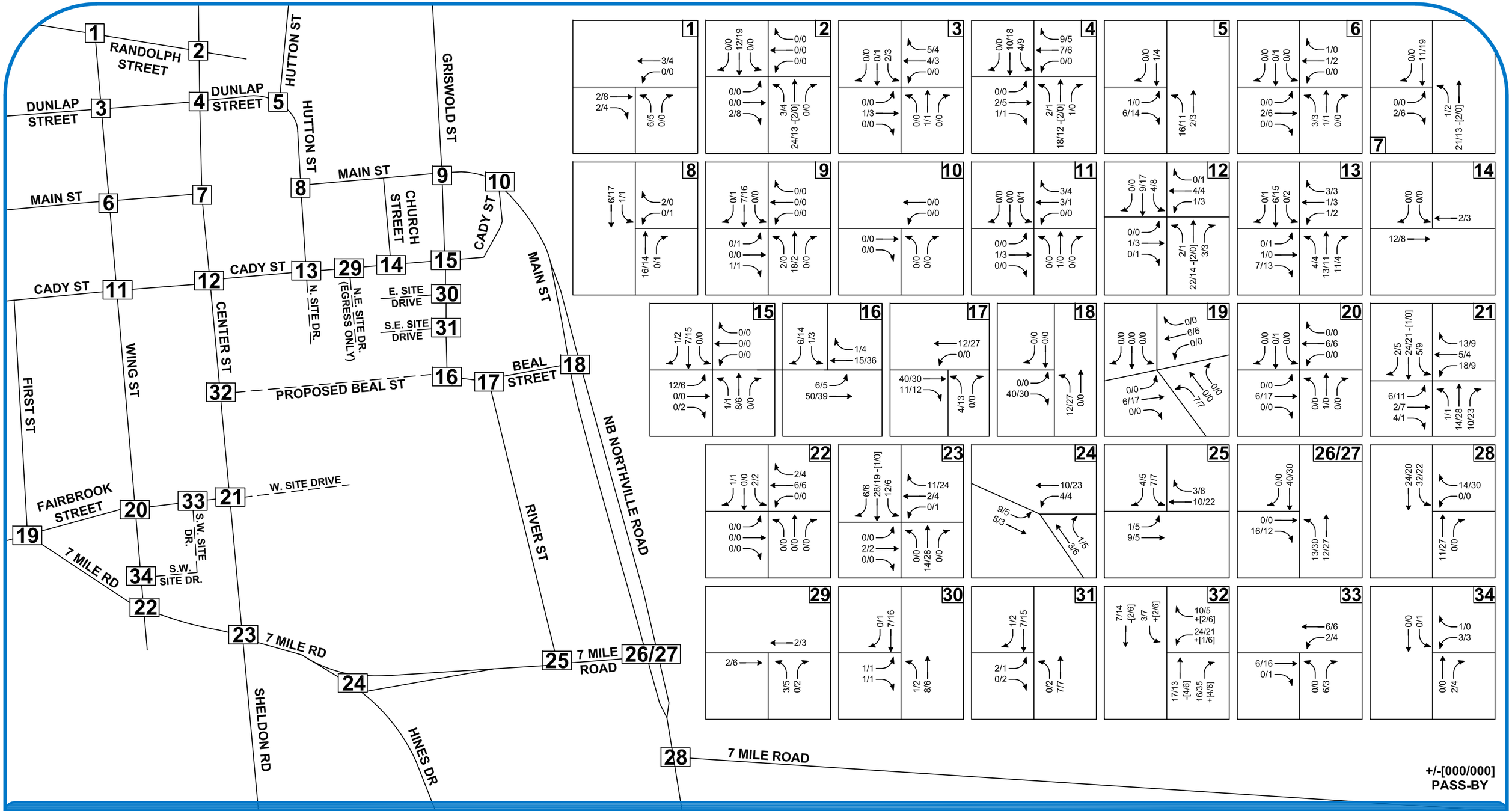


FIGURE 6.3 - SCENARIO #3 SITE-GENERATED TRAFFIC VOLUMES

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

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

NORTH

SCALE: NOT TO SCALE

F&V

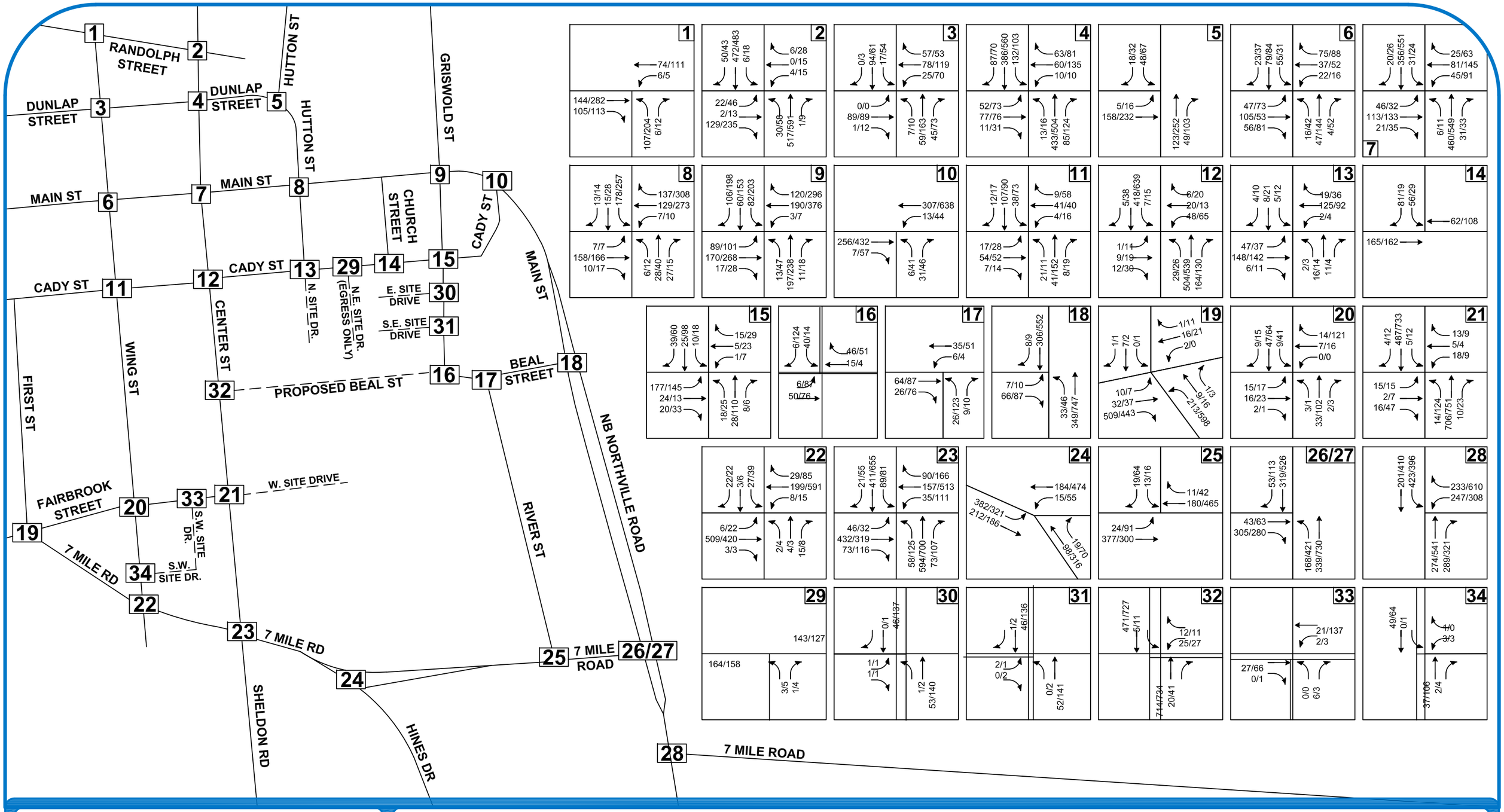


FIGURE 7.1 - SCENARIO #1 FUTURE TRAFFIC VOLUMES

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

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

NORTH

SCALE: NOT TO SCALE

F&V

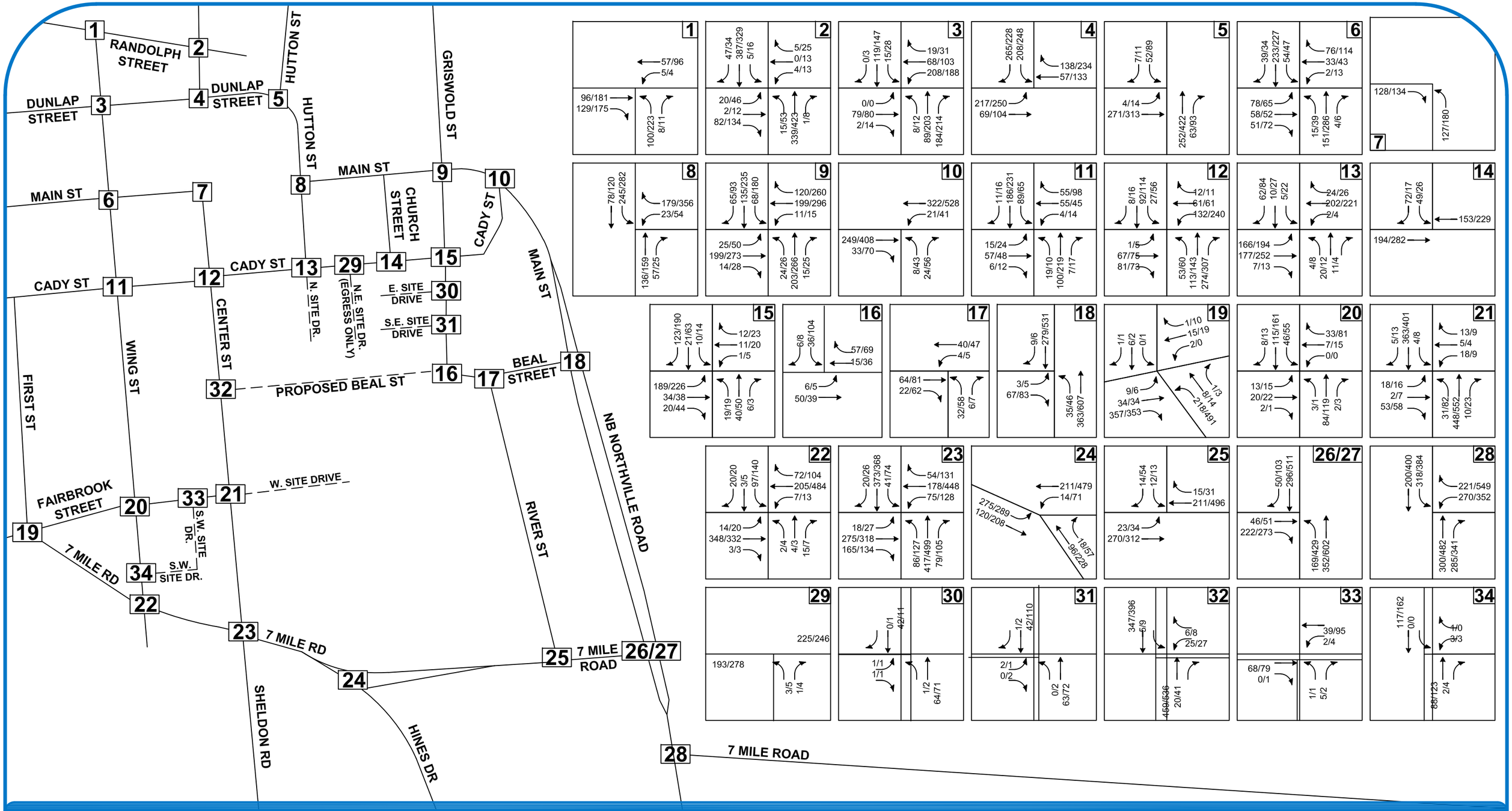


FIGURE 7.2 - SCENARIO #2 FUTURE TRAFFIC VOLUMES

NORTHVILLE DOWNS TIS - NORTHVILLE, MI

LEGEND

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

NORTH

SCALE: NOT TO SCALE

F&V

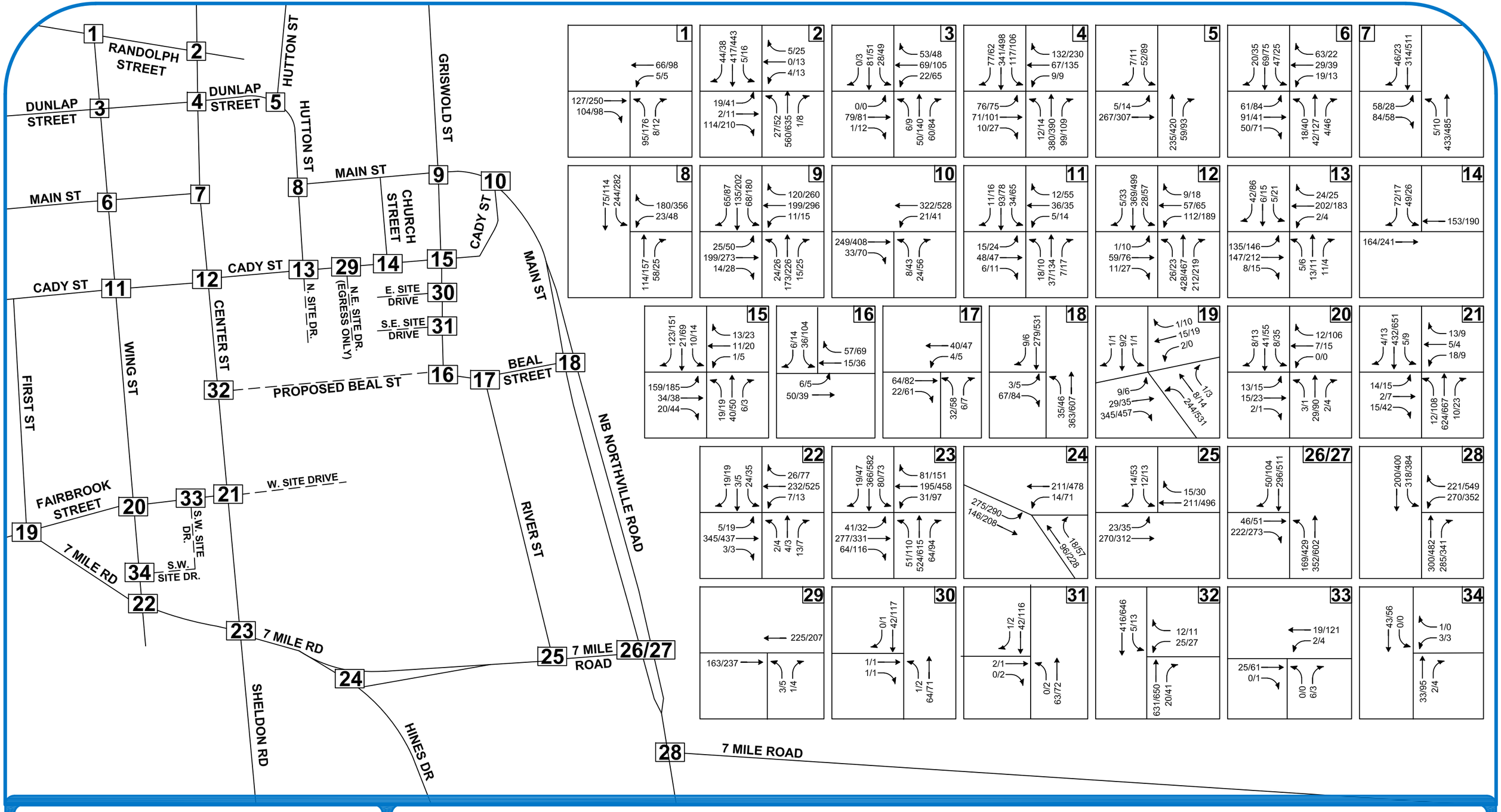


FIGURE 7.3 - SCENARIO #3

FUTURE TRAFFIC VOLUMES

NORTHVILLE DOWNS PUD - CITY OF NORTHVILLE, MI

LEGEND

- ROADS
- PROPOSED ROADS
- TRAFFIC VOLUMES (AM/PM)

NORTH

SCALE: NOT TO SCALE

F&V

Intersection	
Int Delay, s/veh	3.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	144	105	6	74	107	9
Future Vol, veh/h	144	105	6	74	107	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	60	60	77	77
Heavy Vehicles, %	3	3	2	2	4	4
Mvmt Flow	152	111	10	123	139	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	263	0	351	208
Stage 1	-	-	-	-	208	-
Stage 2	-	-	-	-	143	-
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	-	-	1301	-	642	827
Stage 1	-	-	-	-	822	-
Stage 2	-	-	-	-	879	-
Platoon blocked, %		-		-		
Mov Cap-1 Maneuver	-	-	1301	-	637	827
Mov Cap-2 Maneuver	-	-	-	-	637	-
Stage 1	-	-	-	-	822	-
Stage 2	-	-	-	-	872	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	12.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	649	-	-	1301	-
HCM Lane V/C Ratio	0.232	-	-	0.008	-
HCM Control Delay (s)	12.2	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.9	-	-	0	-

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	2	129	4	0	6	30	517	1	6	472	50
Future Vol, veh/h	22	2	129	4	0	6	30	517	1	6	472	50
Conflicting Peds, #/hr	0	0	0	0	0	0	5	0	4	4	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	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	195	5	0	8	33	568	1	9	684	72

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1382	1382	725	1476	1418	573	761	0	0	573	0	0
Stage 1	743	743	-	639	639	-	-	-	-	-	-	-
Stage 2	639	639	-	837	779	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	122	145	427	105	138	523	851	-	-	1000	-	-
Stage 1	409	423	-	468	474	-	-	-	-	-	-	-
Stage 2	466	472	-	364	409	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	115	137	425	54	130	521	847	-	-	996	-	-
Mov Cap-2 Maneuver	115	137	-	54	130	-	-	-	-	-	-	-
Stage 1	391	417	-	448	454	-	-	-	-	-	-	-
Stage 2	441	452	-	193	403	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	48.3	39.7	0.5	0.1
HCM LOS	E	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	847	-	-	300	117	996	-	-
HCM Lane V/C Ratio	0.039	-	-	0.773	0.114	0.009	-	-
HCM Control Delay (s)	9.4	-	-	48.3	39.7	8.6	-	-
HCM Lane LOS	A	-	-	E	E	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	6	0.4	0	-	-

Intersection	
Intersection Delay, s/veh	8.9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	89	1	25	78	57	7	59	45	17	94	0
Future Vol, veh/h	0	89	1	25	78	57	7	59	45	17	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	3	3	3	4	4	4
Mvmt Flow	0	114	1	34	107	78	8	70	54	19	107	0
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	8.7	9.2	8.7	9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	0%	16%	15%
Vol Thru, %	53%	99%	49%	85%
Vol Right, %	41%	1%	36%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	111	90	160	111
LT Vol	7	0	25	17
Through Vol	59	89	78	94
RT Vol	45	1	57	0
Lane Flow Rate	132	115	219	126
Geometry Grp	1	1	1	1
Degree of Util (X)	0.171	0.153	0.273	0.173
Departure Headway (Hd)	4.656	4.771	4.48	4.934
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	766	748	798	724
Service Time	2.708	2.823	2.525	2.987
HCM Lane V/C Ratio	0.172	0.154	0.274	0.174
HCM Control Delay	8.7	8.7	9.2	9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.5	1.1	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	77	11	10	60	63	13	433	85	132	386	87
Future Volume (veh/h)	52	77	11	10	60	63	13	433	85	132	386	87
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		0.99	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	
Adj Sat Flow, veh/h/ln	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	59	88	12	12	71	74	14	471	92	169	495	112
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	345	421	57	387	218	228	474	983	192	640	955	216
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	1.00	1.00	1.00	0.62	0.62	0.62
Sat Flow, veh/h	1237	1694	231	1287	879	916	813	1599	312	846	1553	351
Grp Volume(v), veh/h	59	0	100	12	0	145	14	0	563	169	0	607
Grp Sat Flow(s),veh/h/ln	1237	0	1925	1287	0	1795	813	0	1911	846	0	1904
Q Serve(g_s), s	2.5	0.0	2.5	0.4	0.0	4.0	0.3	0.0	0.0	5.8	0.0	10.8
Cycle Q Clear(g_c), s	6.4	0.0	2.5	2.9	0.0	4.0	11.1	0.0	0.0	5.8	0.0	10.8
Prop In Lane	1.00		0.12	1.00		0.51	1.00		0.16	1.00		0.18
Lane Grp Cap(c), veh/h	345	0	478	387	0	446	474	0	1175	640	0	1171
V/C Ratio(X)	0.17	0.00	0.21	0.03	0.00	0.33	0.03	0.00	0.48	0.26	0.00	0.52
Avail Cap(c_a), veh/h	345	0	478	387	0	446	474	0	1175	640	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 Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.1	0.0	17.9	19.0	0.0	18.4	1.6	0.0	0.0	5.6	0.0	6.5
Incr Delay (d2), s/veh	1.1	0.0	1.0	0.1	0.0	1.9	0.1	0.0	1.4	1.0	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 BackOfQ(50%),veh/ln	0.8	0.0	1.2	0.1	0.0	1.8	0.0	0.0	0.5	1.0	0.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.1	0.0	18.9	19.2	0.0	20.4	1.7	0.0	1.4	6.6	0.0	8.2
LnGrp LOS	C	A	B	B	A	C	A	A	A	A	A	A
Approach Vol, veh/h		159			157			577			776	
Approach Delay, s/veh		20.1			20.3			1.4			7.8	
Approach LOS		C			C			A			A	

Timer - Assigned Phs		2		4		6		8	
Phs Duration (G+Y+Rc), s		41.0		19.0		41.0		19.0	
Change Period (Y+Rc), s		* 4.1		* 4.1		* 4.1		* 4.1	
Max Green Setting (Gmax), s		* 37		* 15		* 37		* 15	
Max Q Clear Time (g_c+I1), s		13.1		8.4		12.8		6.0	
Green Ext Time (p_c), s		4.3		0.3		5.9		0.5	

Intersection Summary	
HCM 6th Ctrl Delay	7.9
HCM 6th LOS	A

Notes

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

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	5	158	123	49	48	18
Future Vol, veh/h	5	158	123	49	48	18
Conflicting Peds, #/hr	0	0	0	0	5	5
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	84	84	74	74
Heavy Vehicles, %	3	3	2	2	0	0
Mvmt Flow	5	170	146	58	65	24

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	204	0	-	0	360	180
Stage 1	-	-	-	-	175	-
Stage 2	-	-	-	-	185	-
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
Pot Cap-1 Maneuver	1362	-	-	-	643	868
Stage 1	-	-	-	-	860	-
Stage 2	-	-	-	-	852	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1362	-	-	-	640	864
Mov Cap-2 Maneuver	-	-	-	-	640	-
Stage 1	-	-	-	-	857	-
Stage 2	-	-	-	-	852	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	11
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1362	-	-	-	689
HCM Lane V/C Ratio	0.004	-	-	-	0.129
HCM Control Delay (s)	7.7	0	-	-	11
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

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												
Traffic Vol, veh/h	47	105	56	22	37	75	16	47	4	55	79	23
Future Vol, veh/h	47	105	56	22	37	75	16	47	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	2	2	2
Mvmt Flow	58	130	69	29	49	99	17	51	4	71	101	29
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	10.2	9.1	9	10.1
HCM LOS	B	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	24%	23%	16%	35%
Vol Thru, %	70%	50%	28%	50%
Vol Right, %	6%	27%	56%	15%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	67	208	134	157
LT Vol	16	47	22	55
Through Vol	47	105	37	79
RT Vol	4	56	75	23
Lane Flow Rate	72	257	176	201
Geometry Grp	1	1	1	1
Degree of Util (X)	0.106	0.337	0.227	0.28
Departure Headway (Hd)	5.281	4.721	4.639	5.014
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	671	755	767	711
Service Time	3.373	2.787	2.711	3.091
HCM Lane V/C Ratio	0.107	0.34	0.229	0.283
HCM Control Delay	9	10.2	9.1	10.1
HCM Lane LOS	A	B	A	B
HCM 95th-tile Q	0.4	1.5	0.9	1.1

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												
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			0.99	0.99			0.99	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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1969	1969	1969	1953	1953	1953	1953	1953	1953
Adj Flow Rate, veh/h	53	130	24	51	92	28	7	554	37	34	396	22
Peak Hour Factor	0.87	0.87	0.87	0.88	0.88	0.88	0.83	0.83	0.83	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	2	2	2	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	1.00	1.00	1.00
Sat Flow, veh/h	294	1279	206	354	1085	282	6	1801	119	68	1686	90
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	1926	0	0	1843	0	0
Q Serve(g_s), 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	11.9	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	0.08		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	0.00	0.00	0.32	0.00	0.00	0.53	0.00	0.00	0.41	0.00	0.00
Avail Cap(c_a), 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	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.2	0.0	0.0	17.9	0.0	0.0	8.5	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), 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(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	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			A	

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		5.5		* 5.2	
Max Green Setting (Gmax), s		33.5		* 16		33.5		* 16	
Max Q Clear Time (g_c+I1), s		13.9		7.3		2.0		6.4	
Green Ext Time (p_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.

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												
Traffic Volume (veh/h)	7	158	10	7	129	137	9	28	27	178	15	13
Future Volume (veh/h)	7	158	10	7	129	137	9	28	27	178	15	13
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		0.99	0.99		0.99		0.99
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	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	2000	2000	2000	1969	1969	1969	2000	2000	2000	1969	1969	1969
Adj Flow Rate, veh/h	8	186	12	8	147	156	13	41	39	209	18	15
Peak Hour Factor	0.85	0.85	0.85	0.88	0.88	0.88	0.69	0.69	0.69	0.85	0.85	0.85
Percent Heavy Veh, %	0	0	0	2	2	2	0	0	0	2	2	2
Cap, veh/h	76	1083	833	82	1057	820	99	250	202	464	30	397
Arrive On Green	1.00	1.00	1.00	0.18	0.18	0.18	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	24	1957	1506	35	1911	1483	113	936	758	1310	113	1490
Grp Volume(v), veh/h	194	0	12	155	0	156	93	0	0	227	0	15
Grp Sat Flow(s),veh/h/ln	1980	0	1506	1945	0	1483	1807	0	0	1422	0	1490
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	5.3	0.0	0.0	0.0	5.5	0.0	0.4
Cycle Q Clear(g_c), s	0.0	0.0	0.0	4.0	0.0	5.3	2.3	0.0	0.0	7.8	0.0	0.4
Prop In Lane	0.04		1.00	0.05		1.00	0.14		0.42	0.92		1.00
Lane Grp Cap(c), veh/h	1158	0	833	1140	0	820	550	0	0	495	0	397
V/C Ratio(X)	0.17	0.00	0.01	0.14	0.00	0.19	0.17	0.00	0.00	0.46	0.00	0.04
Avail Cap(c_a), veh/h	1158	0	833	1140	0	820	550	0	0	495	0	397
HCM Platoon Ratio	2.00	2.00	2.00	0.33	0.33	0.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	12.6	0.0	13.1	17.0	0.0	0.0	18.8	0.0	16.3
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.2	0.0	0.5	0.7	0.0	0.0	3.0	0.0	0.2
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	0.1	0.0	0.0	1.7	0.0	1.8	1.0	0.0	0.0	3.0	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.3	0.0	0.0	12.8	0.0	13.7	17.6	0.0	0.0	21.8	0.0	16.5
LnGrp LOS	A	A	A	B	A	B	B	A	A	C	A	B
Approach Vol, veh/h		206			311			93			242	
Approach Delay, s/veh		0.3			13.2			17.6			21.5	
Approach LOS		A			B			B			C	

Timer - Assigned Phs		2		4		6		8	
Phs Duration (G+Y+Rc), s		38.7		21.3		38.7		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+I1), s		2.0		9.8		7.3		4.3	
Green Ext Time (p_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.

HCM 6th Signalized Intersection Summary
9: Griswold 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												
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
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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1938	1938	1938	1984	1984	1984	1953	1953	1953
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	0.88	0.88	0.88	0.90	0.90	0.90
Percent Heavy Veh, %	1	1	1	4	4	4	1	1	1	1	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	1293	45	1800	93	407	499	676
Grp Volume(v), veh/h	156	0	181	206	0	172	251	0	0	276	0	0
Grp Sat Flow(s),veh/h/ln	1078	0	1769	1933	0	1529	1938	0	0	1582	0	0
Q Serve(g_s), s	3.8	0.0	3.7	0.0	0.0	4.1	0.0	0.0	0.0	1.5	0.0	0.0
Cycle Q Clear(g_c), s	7.9	0.0	3.7	3.8	0.0	4.1	5.7	0.0	0.0	7.3	0.0	0.0
Prop In Lane	0.70		0.12	0.02		0.85	0.06		0.05	0.33		0.43
Lane Grp Cap(c), veh/h	601	0	819	957	0	708	735	0	0	628	0	0
V/C Ratio(X)	0.26	0.00	0.22	0.22	0.00	0.24	0.34	0.00	0.00	0.44	0.00	0.00
Avail Cap(c_a), veh/h	601	0	819	957	0	708	735	0	0	628	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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.1	0.0	9.6	9.7	0.0	9.7	14.7	0.0	0.0	15.1	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.6	0.5	0.0	0.8	1.3	0.0	0.0	2.2	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	1.4	0.0	1.4	1.6	0.0	1.4	2.5	0.0	0.0	2.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	12.1	0.0	10.2	10.2	0.0	10.5	15.9	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		337			378			251			276	
Approach Delay, s/veh		11.1			10.3			15.9			17.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs		2		4		6		8	
Phs Duration (G+Y+Rc), s		33.4		26.6		33.4		26.6	
Change Period (Y+Rc), s		5.6		* 5.8		5.6		* 5.8	
Max Green Setting (Gmax), s		27.8		* 21		27.8		* 21	
Max Q Clear Time (g_c+I1), s		9.9		9.3		6.1		7.7	
Green Ext Time (p_c), s		2.1		1.3		2.4		1.1	

Intersection Summary	
HCM 6th Ctrl Delay	13.2
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 #1 (Pre-COVID)
AM Peak Hour

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	256	7	13	307	6	31
Future Vol, veh/h	256	7	13	307	6	31
Conflicting Peds, #/hr	0	1	1	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	87	87	79	79
Heavy Vehicles, %	1	1	3	3	5	5
Mvmt Flow	291	8	15	353	8	39

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	300	0	503	151
Stage 1	-	-	-	-	296	-
Stage 2	-	-	-	-	207	-
Critical Hdwy	-	-	4.16	-	6.9	7
Critical Hdwy Stg 1	-	-	-	-	5.9	-
Critical Hdwy Stg 2	-	-	-	-	5.9	-
Follow-up Hdwy	-	-	2.23	-	3.55	3.35
Pot Cap-1 Maneuver	-	-	1251	-	491	859
Stage 1	-	-	-	-	720	-
Stage 2	-	-	-	-	799	-
Platoon blocked, %	-	-				
Mov Cap-1 Maneuver	-	-	1250	-	483	858
Mov Cap-2 Maneuver	-	-	-	-	483	-
Stage 1	-	-	-	-	719	-
Stage 2	-	-	-	-	787	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	762	-	-	1250	-
HCM Lane V/C Ratio	0.061	-	-	0.012	-
HCM Control Delay (s)	10	-	-	7.9	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

HCM 6th AWSC
11: Wing Street & Cady Street

Future Conditions #1 (Pre-COVID)
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	17	54	7	4	41	9	21	41	8	38	107	12
Future Vol, veh/h	17	54	7	4	41	9	21	41	8	38	107	12
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	27	86	11	5	50	11	23	46	9	47	132	15
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	8.5	8.1	8.2	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	30%	22%	7%	24%
Vol Thru, %	59%	69%	76%	68%
Vol Right, %	11%	9%	17%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	70	78	54	157
LT Vol	21	17	4	38
Through Vol	41	54	41	107
RT Vol	8	7	9	12
Lane Flow Rate	78	124	66	194
Geometry Grp	1	1	1	1
Degree of Util (X)	0.1	0.159	0.085	0.241
Departure Headway (Hd)	4.646	4.617	4.647	4.476
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	772	778	770	802
Service Time	2.675	2.644	2.677	2.501
HCM Lane V/C Ratio	0.101	0.159	0.086	0.242
HCM Control Delay	8.2	8.5	8.1	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.6	0.3	0.9

HCM 6th TWSC
12: Center Street & Cady Street

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

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	9	12	48	20	6	29	504	164	7	418	5
Future Vol, veh/h	1	9	12	48	20	6	29	504	164	7	418	5
Conflicting Peds, #/hr	2	0	1	1	0	2	1	0	0	0	0	1
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	60	60	60	82	82	82	90	90	90	89	89	89
Heavy Vehicles, %	0	0	0	0	0	3	3	3	3	2	2	2
Mvmt Flow	2	15	20	59	24	7	32	560	182	8	470	6

Major/Minor	Minor2		Minor1			Major1			Major2		
Conflicting Flow All	1223	1296	475	1223	1208	653	477	0	0	742	0	0
Stage 1	490	490	-	715	715	-	-	-	-	-	-	-
Stage 2	733	806	-	508	493	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.13	-	-	4.12	-	-
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	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	158	164	594	158	185	471	1080	-	-	865	-	-
Stage 1	564	552	-	425	438	-	-	-	-	-	-	-
Stage 2	415	398	-	551	550	-	-	-	-	-	-	-
Platoon blocked, %												
Mov Cap-1 Maneuver	132	153	593	134	173	470	1079	-	-	865	-	-
Mov Cap-2 Maneuver	132	153	-	134	173	-	-	-	-	-	-	-
Stage 1	534	544	-	403	415	-	-	-	-	-	-	-
Stage 2	364	377	-	511	542	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	21.6	58.4	0.4	0.1
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1079	-	-	254	152	865	-	-
HCM Lane V/C Ratio	0.03	-	-	0.144	0.594	0.009	-	-
HCM Control Delay (s)	8.4	0	-	21.6	58.4	9.2	0	-
HCM Lane LOS	A	A	-	C	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	3.1	0	-	-

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

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

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	47	148	6	2	125	19	2	16	11	5	8	4
Future Vol, veh/h	47	148	6	2	125	19	2	16	11	5	8	4
Conflicting Peds, #/hr	4	0	0	0	0	4	1	0	3	3	0	1
Sign Control	Free	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	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	176	7	3	189	29	2	17	12	7	11	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	222	0	0	183	0	0	511	520	183	523	509	209
Stage 1	-	-	-	-	-	-	292	292	-	214	214	-
Stage 2	-	-	-	-	-	-	219	228	-	309	295	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.12	6.52	6.22	7.21	6.61	6.31
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.21	5.61	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.21	5.61	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.518	4.018	3.318	3.599	4.099	3.399
Pot Cap-1 Maneuver	1353	-	-	1398	-	-	473	461	859	451	454	809
Stage 1	-	-	-	-	-	-	716	671	-	768	709	-
Stage 2	-	-	-	-	-	-	783	715	-	682	653	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1348	-	-	1398	-	-	444	437	857	413	430	805
Mov Cap-2 Maneuver	-	-	-	-	-	-	444	437	-	413	430	-
Stage 1	-	-	-	-	-	-	683	640	-	730	705	-
Stage 2	-	-	-	-	-	-	764	711	-	622	623	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	0.1	12.1	12.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	538	1348	-	-	1398	-	-	476
HCM Lane V/C Ratio	0.059	0.042	-	-	0.002	-	-	0.048
HCM Control Delay (s)	12.1	7.8	0	-	7.6	0	-	12.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.1

HCM 6th TWSC
14: Cady Street & Chruch Street

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

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	
Traffic Vol, veh/h	0	165	62	0	56	81
Future Vol, veh/h	0	165	62	0	56	81
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	81	81	64	64	76	76
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	0	204	97	0	74	107

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	301	97
Stage 1	-	-	-	-	97	-
Stage 2	-	-	-	-	204	-
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
Pot Cap-1 Maneuver	0	-	-	0	695	965
Stage 1	0	-	-	0	932	-
Stage 2	0	-	-	0	835	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	695	965
Mov Cap-2 Maneuver	-	-	-	-	695	-
Stage 1	-	-	-	-	932	-
Stage 2	-	-	-	-	835	-

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

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	833
HCM Lane V/C Ratio	-	-	0.216
HCM Control Delay (s)	-	-	10.5
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.8

HCM 6th TWSC
15: Griswold Street & Cady Street

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

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	177	24	20	1	5	15	18	28	8	10	25	39
Future Vol, veh/h	177	24	20	1	5	15	18	28	8	10	25	39
Conflicting Peds, #/hr	5	0	0	0	0	5	3	0	0	0	0	3
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, #	-	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	195	26	22	2	8	25	21	33	9	13	33	51

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	189	172	62	189	193	43	87	0	0	42	0	0
Stage 1	88	88	-	80	80	-	-	-	-	-	-	-
Stage 2	101	84	-	109	113	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.1	-	-	4.14	-	-
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	-	-	2.236	-	-
Pot Cap-1 Maneuver	773	723	1006	776	706	1033	1522	-	-	1554	-	-
Stage 1	922	824	-	934	832	-	-	-	-	-	-	-
Stage 2	908	827	-	901	806	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	729	704	1003	725	688	1028	1518	-	-	1554	-	-
Mov Cap-2 Maneuver	729	704	-	725	688	-	-	-	-	-	-	-
Stage 1	906	814	-	921	820	-	-	-	-	-	-	-
Stage 2	861	815	-	845	796	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.2	9.1	2.5	1
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1518	-	-	745	904	1554	-	-
HCM Lane V/C Ratio	0.014	-	-	0.326	0.039	0.008	-	-
HCM Control Delay (s)	7.4	0	-	12.2	9.1	7.3	0	-
HCM Lane LOS	A	A	-	B	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.4	0.1	0	-	-

SimTraffic Performance Report

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

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
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	0.1
Total Del/Veh (s)	4.3	4.9	0.3	0.3	3.9	4.1	2.9

HCM 6th TWSC
17: River Street & Beal Street

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

Intersection	
Int Delay, s/veh	2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑			↓	↓	
Traffic Vol, veh/h	64	26	6	35	26	9
Future Vol, veh/h	64	26	6	35	26	9
Conflicting Peds, #/hr	0	0	0	0	1	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	62	62	72	72	70	70
Heavy Vehicles, %	5	5	0	0	7	7
Mvmt Flow	103	42	8	49	37	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	145	0	190	125
Stage 1	-	-	-	-	124	-
Stage 2	-	-	-	-	66	-
Critical Hdwy	-	-	4.1	-	6.47	6.27
Critical Hdwy Stg 1	-	-	-	-	5.47	-
Critical Hdwy Stg 2	-	-	-	-	5.47	-
Follow-up Hdwy	-	-	2.2	-	3.563	3.363
Pot Cap-1 Maneuver	-	-	1450	-	788	912
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	944	-
Platoon blocked, %	-	-			-	
Mov Cap-1 Maneuver	-	-	1450	-	782	911
Mov Cap-2 Maneuver	-	-	-	-	782	-
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	937	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.1	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	812	-	-	1450	-
HCM Lane V/C Ratio	0.062	-	-	0.006	-
HCM Control Delay (s)	9.7	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0	-

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

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

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↓			↓↑	↑↑	
Traffic Vol, veh/h	7	66	33	349	306	8
Future Vol, veh/h	7	66	33	349	306	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	61	61	88	88	91	91
Heavy Vehicles, %	4	4	3	3	2	2
Mvmt Flow	11	108	38	397	336	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	616	173	345	0	-	0
Stage 1	341	-	-	-	-	-
Stage 2	275	-	-	-	-	-
Critical Hdwy	6.88	6.98	4.16	-	-	-
Critical Hdwy Stg 1	5.88	-	-	-	-	-
Critical Hdwy Stg 2	5.88	-	-	-	-	-
Follow-up Hdwy	3.54	3.34	2.23	-	-	-
Pot Cap-1 Maneuver	418	834	1203	-	-	-
Stage 1	686	-	-	-	-	-
Stage 2	741	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	401	834	1203	-	-	-
Mov Cap-2 Maneuver	401	-	-	-	-	-
Stage 1	658	-	-	-	-	-
Stage 2	741	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.7	0.8	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1203	-	756	-	-
HCM Lane V/C Ratio	0.031	-	0.158	-	-
HCM Control Delay (s)	8.1	0.1	10.7	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	-	-

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	0.1	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	1.4

20: Wing Street & Fairbrook Street

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	16	2	0	7	14	3	33	2	9	47	9
Future Vol, veh/h	15	16	2	0	7	14	3	33	2	9	47	9
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	21	22	3	0	10	20	4	44	3	12	64	12
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	7.5	7	7.6	7.6
HCM LOS	A	A	A	A

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 Util (X)	0.06	0.053	0.032	0.1
Departure Headway (Hd)	4.269	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	0.061	0.054	0.032	0.101
HCM Control Delay	7.6	7.5	7	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.1	0.3

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

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
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

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1399	1395	556	1403	1392	790	558	0	0	795	0	0
Stage 1	568	568	-	822	822	-	-	-	-	-	-	-
Stage 2	831	827	-	581	570	-	-	-	-	-	-	-
Critical Hdwy	7.15	6.55	6.25	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.15	5.55	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	116	139	525	117	142	390	1013	-	-	826	-	-
Stage 1	502	502	-	368	388	-	-	-	-	-	-	-
Stage 2	360	382	-	499	505	-	-	-	-	-	-	-
Platoon blocked, %									-	-	-	-
Mov Cap-1 Maneuver	105	134	525	106	136	390	1013	-	-	826	-	-
Mov Cap-2 Maneuver	105	134	-	106	136	-	-	-	-	-	-	-
Stage 1	488	496	-	358	377	-	-	-	-	-	-	-
Stage 2	332	371	-	468	499	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	33.6	37.3	0.2	0.1
HCM LOS	D	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1013	-	-	175	150	826	-	-
HCM Lane V/C Ratio	0.015	-	-	0.286	0.261	0.007	-	-
HCM Control Delay (s)	8.6	0	-	33.6	37.3	9.4	0	-
HCM Lane LOS	A	A	-	D	E	A	A	-
HCM 95th %tile Q(veh)	0	-	-	1.1	1	0	-	-

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

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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	0	2	0	0	3	3	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	-
Grade, %	-	0	-	-	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	8	636	4	9	224	33	3	5	19	32	4	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	259	0	0	640	0	0	928	931	641	930	917	243
Stage 1	-	-	-	-	-	-	654	654	-	261	261	-
Stage 2	-	-	-	-	-	-	274	277	-	669	656	-
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
Pot Cap-1 Maneuver	1306	-	-	939	-	-	240	259	461	246	270	791
Stage 1	-	-	-	-	-	-	443	451	-	740	689	-
Stage 2	-	-	-	-	-	-	715	667	-	444	459	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1304	-	-	939	-	-	227	254	460	228	265	789
Mov Cap-2 Maneuver	-	-	-	-	-	-	227	254	-	228	265	-
Stage 1	-	-	-	-	-	-	440	448	-	734	681	-
Stage 2	-	-	-	-	-	-	681	659	-	417	456	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	15.6	18.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	367	1304	-	-	939	-	-	330
HCM Lane V/C Ratio	0.072	0.006	-	-	0.01	-	-	0.185
HCM Control Delay (s)	15.6	7.8	-	-	8.9	-	-	18.4
HCM Lane LOS	C	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.7

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)	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
Ped-Bike Adj(A_pbT)	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	
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	0.86	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/h/ln	1118	0	1934	810	1938	1640	896	0	1931	729	0	1952
Q Serve(g_s), 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 Q Clear(g_c), s	7.7	0.0	22.4	26.0	4.9	3.2	18.4	0.0	24.7	35.5	0.0	14.2
Prop In Lane	1.00		0.14	1.00		1.00	1.00		0.11	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_a), 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 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	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
%ile BackOfQ(50%),veh/ln	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												
LnGrp Delay(d),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			22.8			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 (g_c+I1), s	26.7	24.4	37.5	28.0
Green Ext Time (p_c), s	4.3	1.8	0.6	0.2

Intersection Summary	
HCM 6th Ctrl Delay	24.6
HCM 6th LOS	C

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)	0.2	0.0	0.0	0.1	0.2	0.0	0.0	0.0
Total Delay (hr)	0.1	0.0	0.0	0.5	0.1	0.4	0.3	1.4
Total Del/Veh (s)	20.2	0.4	0.5	18.5	13.0	3.7	5.1	5.5

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

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

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	24	377	180	11	13	19
Future Vol, veh/h	24	377	180	11	13	19
Conflicting Peds, #/hr	3	0	0	3	2	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	83	83	71	71
Heavy Vehicles, %	2	2	5	5	6	6
Mvmt Flow	26	414	217	13	18	27

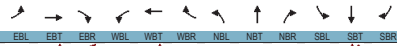
Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	233	0	-	0	695	230
Stage 1	-	-	-	-	227	-
Stage 2	-	-	-	-	468	-
Critical Hdwy	4.12	-	-	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.218	-	-	-	3.554	3.354
Pot Cap-1 Maneuver	1335	-	-	-	402	799
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	622	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1331	-	-	-	390	794
Mov Cap-2 Maneuver	-	-	-	-	390	-
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	620	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1331	-	-	-	559
HCM Lane V/C Ratio	0.02	-	-	-	0.081
HCM Control Delay (s)	7.8	0	-	-	12
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

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

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	43	305	0	168	0	0	0	0	0	319	53
Future Volume (Veh/h)	0	43	305	0	168	0	0	0	0	0	319	53
Sign Control		Stop			Yield			Free			Free	
Grade		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
Hourly flow rate (vph)	0	53	377	0	191	0	0	0	0	0	336	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)												
pX, platoon unblocked												
vC, conflicting volume	460	364	196	572	392	0	392				0	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	460	364	196	572	392	0	392				0	
tC, single (s)	7.5	6.5	6.9	7.6	6.6	7.0	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	100	91	54	100	64	100	100				100	
cM capacity (veh/h)	351	563	812	197	536	1075	1163				1629	

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	53	377	191	224	168
Volume Left	0	0	0	0	0
Volume Right	0	377	0	0	56
cSH	563	812	536	1700	1700
Volume to Capacity	0.09	0.46	0.36	0.13	0.10
Queue Length 95th (ft)	8	62	40	0	0
Control Delay (s)	12.1	13.2	15.4	0.0	0.0
Lane LOS	B	B	C		
Approach Delay (s)	13.1		15.4	0.0	
Approach LOS	B		C		

Intersection Summary					
Average Delay			8.5		
Intersection Capacity Utilization			50.1%	ICU Level of Service	A
Analysis Period (min)			15		

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

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

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	43	0	168	339	0	0
Future Volume (Veh/h)	43	0	168	339	0	0
Sign Control	Yield			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.81	0.81	0.88	0.88	0.92	0.92
Hourly flow rate (vph)	53	0	191	385	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						
vC, conflicting volume	574	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	574	0	0			
tC, single (s)	6.8	6.9	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	87	100	88			
cM capacity (veh/h)	395	1084	1600			

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	53	319	257
Volume Left	53	191	0
Volume Right	0	0	0
cSH	395	1600	1700
Volume to Capacity	0.13	0.12	0.15
Queue Length 95th (ft)	11	10	0
Control Delay (s)	15.5	4.9	0.0
Lane LOS	C	A	
Approach Delay (s)	15.5	2.7	
Approach LOS	C		

Intersection Summary					
Average Delay			3.8		
Intersection Capacity Utilization			51.5%	ICU Level of Service	A
Analysis Period (min)			15		

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

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

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	247	233	274	289	423	201
Future Volume (veh/h)	247	233	274	289	423	201
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1953	1953	1938	1938	1984	1984
Adj Flow Rate, veh/h	287	271	288	304	486	231
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	271	288	304	486	231
Grp Sat Flow(s),veh/h/ln	1860	1655	1841	1642	1890	1885
Q Serve(g_s), s	9.4	0.0	11.8	14.4	16.0	2.7
Cycle Q Clear(g_c), s	9.4	0.0	11.8	14.4	16.0	2.7
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(X)	0.43	0.29	0.76	0.90	1.04	0.13
Avail Cap(c_a), veh/h	665	923	377	337	468	1829
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	9.4	30.0	31.0	30.5	11.3
Incr Delay (d2), s/veh	2.0	0.8	13.6	29.7	51.9	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	2.4	6.3	8.1	14.6	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.6	10.2	43.6	60.7	82.4	11.4
LnGrp LOS	C	B	D	E	F	B
Approach Vol, veh/h	558		592			717
Approach Delay, s/veh	16.0		52.4			59.5
Approach LOS	B		D			E

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 (g_c+I1), s	18.0	16.4				4.7	11.4
Green Ext Time (p_c), s	0.0	0.0				1.5	1.7

Intersection Summary			
HCM 6th Ctrl Delay			44.3
HCM 6th LOS			D

HCM 6th TWSC
29: N.E. Site Drive (Egress Only) & Cady Street

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	164	0	0	143	3	1
Future Vol, veh/h	164	0	0	143	3	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	66	66	92	92
Heavy Vehicles, %	1	1	1	1	2	2
Mvmt Flow	202	0	0	217	3	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	419	202
Stage 1					202	
Stage 2	-	-	-	-	217	-
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
Pot Cap-1 Maneuver	-	0	0	-	591	839
Stage 1	-	0	0	-	832	-
Stage 2	-	0	0	-	819	-
Platoon blocked, %				-		
Mov Cap-1 Maneuver	-	-	-	-	591	839
Mov Cap-2 Maneuver	-	-	-	-	591	-
Stage 1	-	-	-	-	832	-
Stage 2	-	-	-	-	819	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR
Capacity (veh/h)	638	-	-
HCM Lane V/C Ratio	0.007	-	-
HCM Control Delay (s)	10.7	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0	-	-

HCM 6th TWSC
30: Griswold Street & E. Site Drive

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

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1	1	53	46	0
Future Vol, veh/h	1	1	1	53	46	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	85	85	60	60
Heavy Vehicles, %	2	2	0	0	3	3
Mvmt Flow	1	1	1	62	77	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	141	77	77	0	-	0
Stage 1	77			-	-	
Stage 2	64	-	-	-	-	-
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	852	984	1535	-	-	-
Stage 1	946	-	-	-	-	-
Stage 2	959	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	851	984	1535	-	-	-
Mov Cap-2 Maneuver	851	-	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	959	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT	SBR
Capacity (veh/h)	1535	- 913	-	-
HCM Lane V/C Ratio	0.001	- 0.002	-	-
HCM Control Delay (s)	7.3	0 9	-	-
HCM Lane LOS	A	A A	-	-
HCM 95th %tile Q(veh)	0	- 0	-	-

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
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
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	85	85	60	60
Heavy Vehicles, %	2	2	0	0	3	3
Mvmt Flow	2	0	0	61	77	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	139	78	79	0	-	0
Stage 1	78	-	-	-	-	-
Stage 2	61	-	-	-	-	-
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	854	983	1532	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	962	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	854	983	1532	-	-	-
Mov Cap-2 Maneuver	854	-	-	-	-	-
Stage 1	945	-	-	-	-	-
Stage 2	962	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1532	-	854	-	-
HCM Lane V/C Ratio	-	-	0.003	-	-
HCM Control Delay (s)	0	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
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
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	90	90	88	88
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	27	13	793	22	6	535

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1351	804	0	0	815	0
Stage 1	804	-	-	-	-	-
Stage 2	547	-	-	-	-	-
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	-	-	2.218	-
Pot Cap-1 Maneuver	166	383	-	-	812	-
Stage 1	440	-	-	-	-	-
Stage 2	580	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	164	383	-	-	812	-
Mov Cap-2 Maneuver	164	-	-	-	-	-
Stage 1	440	-	-	-	-	-
Stage 2	574	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.3	0	0.1
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	201	812	-
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 %tile Q(veh)	-	-	0.7	0	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
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	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	66	66	69	69	92	92
Heavy Vehicles, %	5	5	0	0	2	2
Mvmt Flow	41	0	3	30	0	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	41	0	77	41
Stage 1	-	-	-	-	41	-
Stage 2	-	-	-	-	36	-
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
Pot Cap-1 Maneuver	-	-	1581	-	926	1030
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	986	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1581	-	924	1030
Mov Cap-2 Maneuver	-	-	-	-	924	-
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	984	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	8.5
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1030	-	-	1581	-
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 %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
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
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh 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	49	3	0	58

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	109	51	0	0	52	0
Stage 1	51	-	-	-	-	-
Stage 2	58	-	-	-	-	-
Critical Hdwy	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	-
Pot Cap-1 Maneuver	888	1017	-	-	1541	-
Stage 1	971	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	888	1017	-	-	1541	-
Mov Cap-2 Maneuver	888	-	-	-	-	-
Stage 1	971	-	-	-	-	-
Stage 2	965	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	917	1541	-
HCM Lane V/C Ratio	-	-	0.005	-	-
HCM Control Delay (s)	-	-	8.9	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	6.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	282	113	5	111	204	12
Future Vol, veh/h	282	113	5	111	204	12
Conflicting Peds, #/hr	0	11	11	0	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	81	81	78	78
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	324	130	6	137	262	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	465	0	549	404
Stage 1	-	-	-	-	400	-
Stage 2	-	-	-	-	149	-
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
Pot Cap-1 Maneuver	-	-	1107	-	498	649
Stage 1	-	-	-	-	679	-
Stage 2	-	-	-	-	881	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1095	-	490	640
Mov Cap-2 Maneuver	-	-	-	-	490	-
Stage 1	-	-	-	-	672	-
Stage 2	-	-	-	-	876	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	21
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	496	-	-	1095	-
HCM Lane V/C Ratio	0.558	-	-	0.006	-
HCM Control Delay (s)	21	-	-	8.3	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	3.4	-	-	0	-

Intersection	
Int Delay, s/veh	76.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	13	235	15	15	28	58	591	9	18	483	43
Future Vol, veh/h	46	13	235	15	15	28	58	591	9	18	483	43
Conflicting Peds, #/hr	2	0	5	5	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
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	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	55	15	280	16	16	31	67	679	10	25	662	59

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1601	1592	712	1724	1616	698	736	0	0	701	0	0
Stage 1	757	757	-	830	830	-	-	-	-	-	-	-
Stage 2	844	835	-	894	786	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.1	-	-	4.1	-	-
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	-	-
Pot Cap-1 Maneuver	86	108	436	71	105	444	879	-	-	901	-	-
Stage 1	403	419	-	367	388	-	-	-	-	-	-	-
Stage 2	361	386	-	338	406	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	63	95	428	20	92	438	866	-	-	891	-	-
Mov Cap-2 Maneuver	63	95	-	20	92	-	-	-	-	-	-	-
Stage 1	366	401	-	335	354	-	-	-	-	-	-	-
Stage 2	295	352	-	109	389	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 367.5	257.3	0.8	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	866	-	-	208	59	891	-	-
HCM Lane V/C Ratio	0.077	-	-	1.683	1.08	0.028	-	-
HCM Control Delay (s)	9.5	-	-	$ 367.5	257.3	9.2	-	-
HCM Lane LOS	A	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	23.4	5.2	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

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

Intersection	
Intersection Delay, s/veh	11.8
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	61	3
Future Vol, veh/h	0	89	12	70	119	53	10	163	73	54	61	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	116	16	93	159	71	11	187	84	74	84	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	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	10.1	13	12	10.7
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	0%	29%	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 Util (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	0.414	0.205	0.474	0.258
HCM Control Delay	12	10.1	13	10.7
HCM Lane LOS	B	B	B	B
HCM 95th-tile 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		0.93	0.95		0.93	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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	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	1.00	1.00	1.00	0.62	0.62	0.62
Sat Flow, veh/h	1125	1317	536	1225	1134	679	675	1519	374	765	1738	218
Grp Volume(v), veh/h	83	0	121	11	0	235	17	0	683	132	0	808
Grp Sat Flow(s),veh/h/ln	1125	0	1853	1225	0	1813	675	0	1893	765	0	1956
Q Serve(g_s), s	4.1	0.0	3.2	0.4	0.0	6.3	0.7	0.0	0.0	4.8	0.0	16.3
Cycle Q Clear(g_c), s	10.4	0.0	3.2	3.6	0.0	6.3	17.0	0.0	0.0	4.8	0.0	16.3
Prop In Lane	1.00		0.29	1.00		0.37	1.00		0.20	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(X)	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_a), 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 Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	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	0.3	0.0	2.2	0.9	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 BackOfQ(50%),veh/ln	1.2	0.0	1.5	0.1	0.0	2.9	0.1	0.0	0.7	0.7	0.0	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.4	0.0	19.5	17.6	0.0	21.5	4.0	0.0	2.2	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	
Approach Delay, s/veh		22.3			21.3			2.2			10.0	
Approach LOS		C			C			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	41.0	19.0	41.0	19.0
Change Period (Y+Rc), s	* 4.1	* 4.1	* 4.1	* 4.1
Max Green Setting (Gmax), s	* 37	* 15	* 37	* 15
Max Q Clear Time (g_c+I1), s	19.0	12.4	18.3	8.3
Green Ext Time (p_c), s	5.1	0.2	7.2	0.8

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	SBL	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	-	-	-	-	0	-
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	Major1		Major2		Minor2	
Conflicting Flow All	405	0	-	0	645	369
Stage 1	-	-	-	-	349	-
Stage 2	-	-	-	-	296	-
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
Pot Cap-1 Maneuver	1165	-	-	-	438	679
Stage 1	-	-	-	-	716	-
Stage 2	-	-	-	-	757	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1144	-	-	-	415	654
Mov Cap-2 Maneuver	-	-	-	-	415	-
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	743	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	15
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1144	-	-	-	471
HCM Lane V/C Ratio	0.015	-	-	-	0.236
HCM Control Delay (s)	8.2	0	-	-	15
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile 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	0.82	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	0	0	2
Mvmt Flow	89	65	99	19	65	110	46	158	57	41	111	49
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	11.6	10.4	11.8	10.8
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	35%	10%	20%
Vol Thru, %	61%	26%	34%	55%
Vol Right, %	22%	39%	57%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	238	207	155	152
LT Vol	42	73	15	31
Through Vol	144	53	52	84
RT Vol	52	81	88	37
Lane Flow Rate	262	252	194	200
Geometry Grp	1	1	1	1
Degree of Util (X)	0.389	0.374	0.284	0.302
Departure Headway (Hd)	5.357	5.329	5.277	5.433
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	670	674	678	660
Service Time	3.405	3.378	3.33	3.485
HCM Lane V/C Ratio	0.391	0.374	0.286	0.303
HCM Control Delay	11.8	11.6	10.4	10.8
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	1.8	1.7	1.2	1.3

HCM 6th Signalized Intersection Summary
7: Center 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)	32	133	35	91	145	63	11	549	33	24	551	26
Future Volume (veh/h)	32	133	35	91	145	63	11	549	33	24	551	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.94	0.96		0.94	0.99		0.98	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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	2000	2000	2000	2000	2000	2000	1984	1984	1984
Adj Flow Rate, veh/h	36	149	39	105	167	72	12	578	35	25	580	27
Peak Hour Factor	0.89	0.89	0.89	0.87	0.87	0.87	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	0	0	0	1	1	1
Cap, veh/h	114	353	84	190	243	94	68	1026	61	81	1008	46
Arrive On Green	0.26	0.26	0.26	0.44	0.44	0.44	0.56	0.56	0.56	1.00	1.00	1.00
Sat Flow, veh/h	169	1342	319	423	925	357	12	1838	110	33	1805	82
Grp Volume(v), veh/h	224	0	0	344	0	0	625	0	0	632	0	0
Grp Sat Flow(s),veh/h/ln	1830	0	0	1704	0	0	1960	0	0	1920	0	0
Q Serve(g_s), s	0.0	0.0	0.0	3.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.9	0.0	0.0	9.5	0.0	0.0	12.2	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.16		0.17	0.31		0.21	0.02		0.06	0.04		0.04
Lane Grp Cap(c), veh/h	551	0	0	527	0	0	1155	0	0	1134	0	0
V/C Ratio(X)	0.41	0.00	0.00	0.65	0.00	0.00	0.54	0.00	0.00	0.56	0.00	0.00
Avail Cap(c_a), veh/h	551	0	0	527	0	0	1155	0	0	1134	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.67	1.67	1.67	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	18.5	0.0	0.0	14.9	0.0	0.0	8.6	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	0.0	6.2	0.0	0.0	1.8	0.0	0.0	2.0	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	2.8	0.0	0.0	3.8	0.0	0.0	4.9	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.7	0.0	0.0	21.0	0.0	0.0	10.4	0.0	0.0	2.0	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	B	A	A	A	A	A
Approach Vol, veh/h		224			344			625			632	
Approach Delay, s/veh		20.7			21.0			10.4			2.0	
Approach LOS		C			C			B			A	

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	5.5	* 5.2
Max Green Setting (Gmax), s	33.5	* 16	33.5	* 16
Max Q Clear Time (g_c+I1), s	14.2	7.9	2.0	11.5
Green Ext Time (p_c), s	4.5	0.8	5.3	0.9

Intersection Summary	
HCM 6th Ctrl Delay	10.7
HCM 6th LOS	B

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

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)	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		0.98	0.98		0.98	0.98		0.95	0.98		0.95
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	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	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	0.85	0.85	0.85	0.87	0.87	0.87	0.78	0.78	0.78	0.91	0.91	0.91
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	74	1077	827	73	1088	827	71	181	52	268	17	388
Arrive On Green	1.00	1.00	1.00	0.74	0.74	0.74	0.27	0.27	0.27	0.27	0.27	0.27
Sat Flow, veh/h	21	1945	1494	19	1967	1494	0	679	195	579	64	1457
Grp Volume(v), veh/h	203	0	20	325	0	354	85	0	0	313	0	15
Grp Sat Flow(s),veh/h/ln	1967	0	1494	1986	0	1494	874	0	0	643	0	1457
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	5.5	0.0	0.0	0.0	0.0	0.0	0.5
Cycle Q Clear(g_c), s	0.0	0.0	0.0	3.3	0.0	5.5	16.0	0.0	0.0	16.0	0.0	0.5
Prop In Lane	0.04		1.00	0.03		1.00	0.18		0.22	0.90		1.00
Lane Grp Cap(c), veh/h	1151	0	827	1161	0	827	304	0	0	285	0	388
V/C Ratio(X)	0.18	0.00	0.02	0.28	0.00	0.43	0.28	0.00	0.00	1.10	0.00	0.04
Avail Cap(c_a), veh/h	1151	0	827	1161	0	827	304	0	0	285	0	388
HCM Platoon Ratio	2.00	2.00	2.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	4.0	0.0	4.3	17.5	0.0	0.0	25.2	0.0	16.3
Incr Delay (d2), s/veh	0.3	0.0	0.1	0.6	0.0	1.6	2.3	0.0	0.0	81.6	0.0	0.2
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	0.1	0.0	0.0	1.2	0.0	1.5	1.0	0.0	0.0	10.5	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.3	0.0	0.1	4.6	0.0	5.9	19.8	0.0	0.0	106.8	0.0	16.5
LnGrp LOS	A	A	A	A	A	A	B	A	A	F	A	B
Approach Vol, veh/h		223			679			85			328	
Approach Delay, s/veh		0.3			5.3			19.8			102.6	
Approach LOS		A			A			B			F	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	38.7	21.3	38.7	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+I1), s	2.0	18.0	7.5	18.0
Green Ext Time (p_c), s	1.4	0.0	3.6	0.0

Intersection Summary	
HCM 6th Ctrl Delay	29.7
HCM 6th LOS	C

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)
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		0.99	1.00		0.99	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	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	0.85	0.85	0.85	0.95	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	295	878	97	65	913	703	126	521	37	261	156	187
Arrive On Green	0.15	0.15	0.15	0.46	0.46	0.46	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	426	1895	210	8	1971	1517	164	1504	108	517	450	539
Grp Volume(v), veh/h	190	0	277	403	0	312	330	0	0	590	0	0
Grp Sat Flow(s),veh/h/ln	765	0	1766	1977	0	1519	1776	0	0	1506	0	0
Q Serve(g_s), s	8.6	0.0	8.4	0.0	0.0	8.3	0.0	0.0	0.0	12.8	0.0	0.0
Cycle Q Clear(g_c), s	16.9	0.0	8.4	8.2	0.0	8.3	8.0	0.0	0.0	20.8	0.0	0.0
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(X)	0.42	0.00	0.34	0.41	0.00	0.44	0.48	0.00	0.00	0.98	0.00	0.00
Avail Cap(c_a), 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(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	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	20.6	0.0	0.0
Incr Delay (d2), s/veh	2.9	0.0	1.1	1.3	0.0	2.0	2.4	0.0	0.0	31.3	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	3.2	0.0	3.9	3.5	0.0	2.9	3.5	0.0	0.0	12.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),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
LnGrp LOS	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+Rc), s		33.4		26.6		33.4		26.6				
Change Period (Y+Rc), s		5.6		* 5.8		5.6		* 5.8				
Max Green Setting (Gmax), s		27.8		* 21		27.8		* 21				
Max Q Clear Time (g_c+I1), s		18.9		22.8		10.3		10.0				
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	NBL	NBR
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	2	0	0	0
Sign Control	Free	Free	Free	Stop	Stop	
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	0	0	-
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	Major1		Major2		Minor1	
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
Pot Cap-1 Maneuver	-	-	976	-	244	698
Stage 1	-	-	-	-	535	-
Stage 2	-	-	-	-	631	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	974	-	225	697
Mov Cap-2 Maneuver	-	-	-	-	225	-
Stage 1	-	-	-	-	534	-
Stage 2	-	-	-	-	584	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	20.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	350	-	-	974	-
HCM Lane V/C Ratio	0.331	-	-	0.048	-
HCM Control Delay (s)	20.3	-	-	8.9	0.3
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.4	-	-	0.1	-

HCM 6th AWSC
11: Wing Street & Cady Street

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

Intersection	
Intersection Delay, s/veh	9.2
Intersection LOS	A

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	0	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
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	9	8.7	9.4	9.5
HCM LOS	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	94	114	180
LT Vol	11	28	16	73
Through Vol	152	52	40	90
RT Vol	19	14	58	17
Lane Flow Rate	202	113	127	202
Geometry Grp	1	1	1	1
Degree of Util (X)	0.264	0.157	0.166	0.267
Departure Headway (Hd)	4.692	4.985	4.726	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	0.266	0.158	0.168	0.269
HCM Control Delay	9.4	9	8.7	9.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile 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	26	539	130	15	639	38
Future Vol, veh/h	11	19	30	65	13	20	26	539	130	15	639	38
Conflicting Peds, #/hr	23	0	2	2	0	23	13	0	1	1	0	13
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	95	95	95	95	95	95
Heavy Vehicles, %	4	4	4	0	0	0	1	1	1	0	0	0
Mvmt Flow	14	24	38	83	17	26	27	567	137	16	673	40

Major/Minor	Major2			Minor1			Major1			Major2		
Conflicting Flow All	1472	1497	708	1449	1449	660	726	0	0	705	0	0
Stage 1	738	738	-	691	691	-	-	-	-	-	-	-
Stage 2	734	759	-	758	758	-	-	-	-	-	-	-
Critical Hdwy	7.14	6.54	6.24	7.1	6.5	6.2	4.11	-	-	4.1	-	-
Critical Hdwy Stg 1	6.14	5.54	-	6.1	5.5	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.14	5.54	-	6.1	5.5	-	-	-	-	-	-	-
Follow-up Hdwy	3.536	4.036	3.336	3.5	4	3.3	2.209	-	-	2.2	-	-
Pot Cap-1 Maneuver	104	121	431	110	132	467	882	-	-	902	-	-
Stage 1	407	421	-	438	449	-	-	-	-	-	-	-
Stage 2	409	412	-	402	418	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	80	110	425	~ 78	120	456	871	-	-	901	-	-
Mov Cap-2 Maneuver	80	110	-	~ 78	120	-	-	-	-	-	-	-
Stage 1	381	403	-	415	425	-	-	-	-	-	-	-
Stage 2	344	390	-	333	400	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	47.7	258.2	0.3	0.2
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	871	-	-	158	99	901	-	-
HCM Lane V/C Ratio	0.031	-	-	0.487	1.269	0.018	-	-
HCM Control Delay (s)	9.3	0	-	47.7	258.2	9.1	0	-
HCM Lane LOS	A	A	-	E	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.3	8.7	0.1	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

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

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

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	37	142	11	4	92	36	3	14	4	12	21	10
Future Vol, veh/h	37	142	11	4	92	36	3	14	4	12	21	10
Conflicting Peds, #/hr	3	0	0	0	0	3	2	0	0	0	0	2
Sign Control	Free	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	89	89	89	84	84	84	92	92	92	71	71	71
Heavy Vehicles, %	1	1	1	0	0	0	2	2	2	0	0	0
Mvmt Flow	42	160	12	5	110	43	3	15	4	17	30	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	156	0	0	172	0	0	416	416	166	405	401	137
Stage 1	-	-	-	-	-	-	250	250	-	145	145	-
Stage 2	-	-	-	-	-	-	166	166	-	260	256	-
Critical Hdwy	4.11	-	-	4.1	-	-	7.12	6.52	6.22	7.1	6.5	6.2
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.1	5.5	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.1	5.5	-
Follow-up Hdwy	2.209	-	-	2.2	-	-	3.518	4.018	3.318	3.5	4	3.3
Pot Cap-1 Maneuver	1430	-	-	1417	-	-	547	527	878	560	541	917
Stage 1	-	-	-	-	-	-	754	700	-	863	781	-
Stage 2	-	-	-	-	-	-	836	761	-	749	699	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1426	-	-	1417	-	-	500	506	878	528	519	913
Mov Cap-2 Maneuver	-	-	-	-	-	-	500	506	-	528	519	-
Stage 1	-	-	-	-	-	-	729	677	-	832	776	-
Stage 2	-	-	-	-	-	-	787	756	-	704	676	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.2	11.8	11.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	549	1426	-	-	1417	-	-	580
HCM Lane V/C Ratio	0.042	0.029	-	-	0.003	-	-	0.104
HCM Control Delay (s)	11.8	7.6	0	-	7.5	0	-	11.9
HCM Lane LOS	B	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3

HCM 6th TWSC
14: Cady Street & Chruch Street

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

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	162	108	0	29	19
Future Vol, veh/h	0	162	108	0	29	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	95	95	90	90	72	72
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	0	171	120	0	40	26

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	291	120
Stage 1	-	-	-	-	120	-
Stage 2	-	-	-	-	171	-
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
Pot Cap-1 Maneuver	0	-	0	0	704	937
Stage 1	0	-	0	0	910	-
Stage 2	0	-	0	0	864	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	704	937
Mov Cap-2 Maneuver	-	-	-	-	704	-
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	864	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	781
HCM Lane V/C Ratio	-	-	0.085
HCM Control Delay (s)	-	-	10
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.3

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
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	Stop	Stop	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	83	83	83	68	68	68	88	88	88	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	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	-	-
Pot Cap-1 Maneuver	542	548	891	555	526	926	1392	-	-	1466	-	-
Stage 1	803	737	-	821	751	-	-	-	-	-	-	-
Stage 2	782	746	-	781	713	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	475	525	888	503	504	926	1388	-	-	1466	-	-
Mov Cap-2 Maneuver	475	525	-	503	504	-	-	-	-	-	-	-
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	7.5	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.2	0.5	0	-	-

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

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	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	0.2
Total Del/Veh (s)	4.3	4.8	0.6	0.5	4.2	0.7	4.1	2.5

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↔	⋎	
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	1	0	0	6
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	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	
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
Pot Cap-1 Maneuver	-	-	1411	-	782	911
Stage 1	-	-	-	-	895	-
Stage 2	-	-	-	-	953	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1410	-	778	905
Mov Cap-2 Maneuver	-	-	-	-	778	-
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 %tile Q(veh)	0.7	-	-	0	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	⋎			↑↑	↑↑	
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	-	-	-	-	-
Veh 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	1095	298	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	-	-	-
Pot Cap-1 Maneuver	211	704	986	-	-	-
Stage 1	523	-	-	-	-	-
Stage 2	576	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	190	702	983	-	-	-
Mov Cap-2 Maneuver	190	-	-	-	-	-
Stage 1	473	-	-	-	-	-
Stage 2	574	-	-	-	-	-

Approach	EB	NB	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 %tile Q(veh)	0.2	-	0.8	-	-

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	0.4	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

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		↔			↔			↔			↔	
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	0	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	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	8.1	8.6	8.4
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	41%	0%	34%
Vol Thru, %	96%	56%	12%	53%
Vol Right, %	3%	2%	88%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	106	41	137	120
LT Vol	1	17	0	41
Through Vol	102	23	16	64
RT Vol	3	1	121	15
Lane Flow Rate	154	49	151	132
Geometry Grp	1	1	1	1
Degree of Util (X)	0.192	0.067	0.175	0.165
Departure Headway (Hd)	4.498	4.881	4.175	4.514
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	797	734	860	795
Service Time	2.525	2.911	2.198	2.542
HCM Lane V/C Ratio	0.193	0.067	0.176	0.166
HCM Control Delay	8.6	8.3	8.1	8.4
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.7	0.2	0.6	0.6

Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	15	7	47	9	4	9	124	751	23	9	733	12
Future Vol, veh/h	15	7	47	9	4	9	124	751	23	9	733	12
Conflicting Peds, #/hr	1	0	0	0	0	1	4	0	0	0	0	4
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	92	92	92	94	94	94	91	91	91
Heavy Vehicles, %	0	0	0	2	2	2	1	1	1	0	0	0
Mvmt Flow	18	9	57	10	4	10	132	799	24	10	805	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1919	1923	816	1940	1917	812	822	0	0	823	0	0
Stage 1	836	836	-	1075	1075	-	-	-	-	-	-	-
Stage 2	1083	1087	-	865	842	-	-	-	-	-	-	-
Critical Hdwy	7.1	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	-	-
Pot Cap-1 Maneuver	52	68	380	49	67	379	812	-	-	816	-	-
Stage 1	364	385	-	266	296	-	-	-	-	-	-	-
Stage 2	265	295	-	348	380	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	35	46	379	27	45	379	809	-	-	816	-	-
Mov Cap-2 Maneuver	35	46	-	27	45	-	-	-	-	-	-	-
Stage 1	253	375	-	186	207	-	-	-	-	-	-	-
Stage 2	176	206	-	282	370	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	133.2	134.8	1.4	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	809	-	-	98	49	816	-	-
HCM Lane V/C Ratio	0.163	-	-	0.859	0.488	0.012	-	-
HCM Control Delay (s)	10.3	0	-	133.2	134.8	9.5	0	-
HCM Lane LOS	B	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.6	-	-	4.8	1.8	0	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	420	3	15	591	85	4	3	8	39	6	22
Future Vol, veh/h	22	420	3	15	591	85	4	3	8	39	6	22
Conflicting Peds, #/hr	0	0	1	1	0	0	0	0	0	5	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	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	90	90	90	70	70	70	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	0	0	0	1	1	1
Mvmt Flow	26	494	4	17	657	94	6	4	11	48	7	27

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	751	0	0	499	0	0	1304	1334	502	1299	1289	704
Stage 1	-	-	-	-	-	-	549	549	-	738	738	-
Stage 2	-	-	-	-	-	-	755	785	-	561	551	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.1	6.5	6.2	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.5	4	3.3	3.509	4.009	3.309
Pot Cap-1 Maneuver	858	-	-	1065	-	-	139	155	573	139	164	439
Stage 1	-	-	-	-	-	-	524	520	-	411	426	-
Stage 2	-	-	-	-	-	-	404	407	-	514	517	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	858	-	-	1064	-	-	121	148	570	128	156	439
Mov Cap-2 Maneuver	-	-	-	-	-	-	121	148	-	128	156	-
Stage 1	-	-	-	-	-	-	508	504	-	399	419	-
Stage 2	-	-	-	-	-	-	367	400	-	482	501	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.2	22.9	44.4
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	223	858	-	-	1064	-	-	170
HCM Lane V/C Ratio	0.096	0.03	-	-	0.016	-	-	0.481
HCM Control Delay (s)	22.9	9.3	-	-	8.4	-	-	44.4
HCM Lane LOS	C	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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
Ped-Bike Adj(A_pbT)	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	
Adj Sat Flow, veh/h/ln	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	189	510	186	230	735	622	210	819	126	147	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	741	1387	505	926	2000	1693	716	1680	258	654	1812	146
Grp Volume(v), veh/h	36	0	483	117	540	175	132	0	850	86	0	753
Grp Sat Flow(s),veh/h/ln	741	0	1893	926	2000	1693	716	0	1937	654	0	1958
Q Serve(g_s), s	3.5	0.0	17.3	9.8	18.7	5.8	13.4	0.0	32.1	6.9	0.0	25.6
Cycle Q Clear(g_c), s	22.3	0.0	17.3	27.2	18.7	5.8	39.0	0.0	32.1	39.0	0.0	25.6
Prop In Lane	1.00		0.27	1.00		1.00	1.00		0.13	1.00		0.07
Lane Grp Cap(c), veh/h	189	0	696	230	735	622	210	0	944	147	0	954
V/C Ratio(X)	0.19	0.00	0.69	0.51	0.73	0.28	0.63	0.00	0.90	0.59	0.00	0.79
Avail Cap(c_a), veh/h	189	0	696	230	735	622	210	0	944	147	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(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	31.6	0.0	21.5	33.0	21.9	17.8	33.9	0.0	18.7	37.7	0.0	17.1
Incr Delay (d2), s/veh	2.2	0.0	5.6	7.9	6.4	1.1	13.5	0.0	13.3	16.0	0.0	6.6
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	8.2	2.6	9.4	2.3	3.3	0.0	16.0	2.3	0.0	11.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.8	0.0	27.1	40.9	28.4	19.0	47.4	0.0	32.0	53.7	0.0	23.7
LnGrp LOS	C	A	C	D	C	B	D	A	C	D	A	C
Approach Vol, veh/h		519			832			982			839	
Approach Delay, s/veh		27.6			28.1			34.1			26.7	
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+I1), s	41.0	24.3	41.0	29.2
Green Ext Time (p_c), s	0.0	1.5	0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	29.5
HCM 6th LOS	C

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)	0.1	0.0	0.0	0.3	0.3	0.0	0.0	0.1
Total Delay (hr)	0.3	0.0	0.2	4.5	0.8	0.3	0.2	6.3
Total Del/Veh (s)	21.8	0.4	1.3	49.8	38.2	3.0	4.0	15.9

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	91	300	465	42	16	64
Future Vol, veh/h	91	300	465	42	16	64
Conflicting Peds, #/hr	0	0	0	0	0	1
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	91	91	93	93	88	88
Heavy Vehicles, %	2	2	1	1	0	0
Mvmt Flow	100	330	500	45	18	73

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	545	0	-	0	1053	524
Stage 1	-	-	-	-	523	-
Stage 2	-	-	-	-	530	-
Critical Hdwy	4.12	-	-	-	6.4	6.2
Critical Hdwy Stg 1	-	-	-	-	5.4	-
Critical Hdwy Stg 2	-	-	-	-	5.4	-
Follow-up Hdwy	2.218	-	-	-	3.5	3.3
Pot Cap-1 Maneuver	1024	-	-	-	253	557
Stage 1	-	-	-	-	599	-
Stage 2	-	-	-	-	594	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1024	-	-	-	223	556
Mov Cap-2 Maneuver	-	-	-	-	223	-
Stage 1	-	-	-	-	527	-
Stage 2	-	-	-	-	594	-

Approach	EB	WB	SB
HCM Control Delay, s	2.1	0	15.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBR	SBLn1
Capacity (veh/h)	1024	-	-	428
HCM Lane V/C Ratio	0.098	-	-	0.212
HCM Control Delay (s)	8.9	0	-	15.7
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.3	-	-	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	63	280	0	421	0	0	0	0	0	526	113
Future Volume (Veh/h)	0	63	280	0	421	0	0	0	0	0	526	113
Sign Control		Stop			Yield			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92	0.95	0.95	0.95
Hourly flow rate (vph)	0	68	304	0	443	0	0	0	0	0	554	119
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	835	614	336	615	673	0	673			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	835	614	336	615	673	0	673			0		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	83	54	100	0	100	100			100		
cM capacity (veh/h)	0	406	659	177	377	1088	914			1629		

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	68	304	443	369	304
Volume Left	0	0	0	0	0
Volume Right	0	304	0	0	119
cSH	406	659	377	1700	1700
Volume to Capacity	0.17	0.46	1.17	0.22	0.18
Queue Length 95th (ft)	15	61	441	0	0
Control Delay (s)	15.6	15.0	135.0	0.0	0.0
Lane LOS	C	C	F		
Approach Delay (s)	15.2		135.0	0.0	
Approach LOS	C		F		

Intersection Summary					
Average Delay		44.0			
Intersection Capacity Utilization		73.2%	ICU Level of Service		D
Analysis Period (min)		15			

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	
Grade	0%			0%	0%	
Peak Hour Factor	0.91	0.91	0.95	0.95	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		
pX, platoon unblocked	0.83					
vC, conflicting volume	1270	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	914	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	59	100	73			
cM capacity (veh/h)	167	1091	1629			

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	69	699	512
Volume Left	69	443	0
Volume Right	0	0	0
cSH	167	1629	1700
Volume to Capacity	0.41	0.27	0.30
Queue Length 95th (ft)	46	28	0
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	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	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	1682	2378	1348	1875	3839
Grp Volume(v), veh/h	328	649	477	440	430	446
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1742	1875	1870
Q Serve(g_s), s	10.8	6.2	16.4	16.4	14.1	5.6
Cycle Q Clear(g_c), 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(X)	0.49	0.69	1.23	1.23	0.92	0.25
Avail Cap(c_a), veh/h	676	938	386	357	465	1814
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	20.0	12.8	31.8	31.8	29.8	12.0
Incr 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 BackOfQ(50%),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		158.1			34.0
Approach LOS	B		F			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 (g_c+I1), s	16.1	18.4				7.6	12.8
Green Ext Time (p_c), 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	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	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	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	-	0	0	-	676	878
Stage 1	-	0	0	-	863	-
Stage 2	-	0	0	-	877	-
Platoon 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	NBLn1	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 %tile Q(veh)	0	-	-

HCM 6th TWSC
30: Griswold Street & E. Site Drive

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
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
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	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
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	3.518	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	673	889	1435	-	-	-
Stage 1	871	-	-	-	-	-
Stage 2	866	-	-	-	-	-
Platoon 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	EBLn1	SBT	SBR
Capacity (veh/h)	1435	-	765	-	-
HCM Lane V/C Ratio	0.002	-	0.003	-	-
HCM Control Delay (s)	7.5	0	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

HCM 6th TWSC
31: Griswold Street & S.E. Site Drive

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

Intersection	
Int Delay, s/veh	0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
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
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	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
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	3.518	3.318	2.2	-	-	-
Pot Cap-1 Maneuver	673	890	1435	-	-	-
Stage 1	872	-	-	-	-	-
Stage 2	865	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	672	890	1435	-	-	-
Mov Cap-2 Maneuver	672	-	-	-	-	-
Stage 1	870	-	-	-	-	-
Stage 2	865	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.5	0.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1435	-	803	-	-
HCM Lane V/C Ratio	0.002	-	0.004	-	-
HCM Control Delay (s)	7.5	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

HCM 6th TWSC
32: Center Street & Proposed Beal Street

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

Intersection	
Int Delay, s/veh	1.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	27	11	734	41	11	727
Future Vol, veh/h	27	11	734	41	11	727
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	95	95	91	91
Heavy Vehicles, %	2	2	1	1	0	0
Mvmt Flow	29	12	773	43	12	799

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1618	795	0	0	816	0
Stage 1	795	-	-	-	-	-
Stage 2	823	-	-	-	-	-
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	114	388	-	-	820	-
Stage 1	445	-	-	-	-	-
Stage 2	431	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	111	388	-	-	820	-
Mov Cap-2 Maneuver	111	-	-	-	-	-
Stage 1	445	-	-	-	-	-
Stage 2	420	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	41.1	0	0.1
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	140	820	-
HCM Lane V/C Ratio	-	-	0.295	0.015	-
HCM Control Delay (s)	-	-	41.1	9.5	0
HCM Lane LOS	-	-	E	A	A
HCM 95th %tile Q(veh)	-	-	1.1	0	-

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
Lane Configurations						
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	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
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
Pot Cap-1 Maneuver	-	-	1498	-	750	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 %tile 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	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
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	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
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	-	-	-	-	-
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	-
Pot 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		

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 %tile Q(veh)	-	-	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
Lane Configurations						
Traffic Vol, veh/h	96	129	5	57	100	8
Future Vol, veh/h	96	129	5	57	100	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	-
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
Pot 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 %tile 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
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
Conflicting Peds, #/hr	0	0	0	0	0	0	0	5	0	4	4	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	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	30	3	124	5	0	7	16	373	1	7	561	68

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1023	1024	600	1083	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	-	-
Pot Cap-1 Maneuver	215	236	503	197	227	673	949	-	-	1180	-	-
Stage 1	481	484	-	623	599	-	-	-	-	-	-	-
Stage 2	621	597	-	448	469	-	-	-	-	-	-	-
Platoon blocked, %											-	-
Mov Cap-1 Maneuver	208	228	501	144	220	670	944	-	-	1176	-	-
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		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	944	-	-	387	255	1176	-	-
HCM Lane V/C Ratio	0.017	-	-	0.407	0.047	0.006	-	-
HCM Control Delay (s)	8.9	-	-	20.5	19.8	8.1	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.9	0.1	0	-	-

HCM 6th AWSC
3: Wing Street & Dunlap Street

Future Conditions #2 (Both Closed)
AM Peak Hour

Intersection	
Intersection Delay, s/veh	14.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	79	2	208	68	19	8	89	184	15	119	0
Future Vol, veh/h	0	79	2	208	68	19	8	89	184	15	119	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	3	285	93	26	10	106	219	17	135	0
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	10.3	17.4	13.5	11.2
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	0%	71%	11%
Vol Thru, %	32%	98%	23%	89%
Vol Right, %	65%	2%	6%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	281	81	295	134
LT Vol	8	0	208	15
Through Vol	89	79	68	119
RT Vol	184	2	19	0
Lane Flow Rate	335	104	404	152
Geometry Grp	1	1	1	1
Degree of Util (X)	0.493	0.173	0.623	0.255
Departure Headway (Hd)	5.309	5.985	5.551	6.037
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	676	595	647	591
Service Time	3.371	4.061	3.605	4.111
HCM Lane V/C Ratio	0.496	0.175	0.624	0.257
HCM Control Delay	13.5	10.3	17.4	11.2
HCM Lane LOS	B	B	C	B
HCM 95th-tile Q	2.7	0.6	4.3	1

HCM 6th AWSC
4: Dunlap Street & Center Street

Future Conditions #2 (Both Closed)
AM Peak Hour

Intersection	
Intersection Delay, s/veh	14.5
Intersection LOS	B

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	217	69	57	138	208	265
Future Vol, veh/h	217	69	57	138	208	265
Peak Hour Factor	0.88	0.88	0.85	0.85	0.78	0.78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	247	78	67	162	267	340
Number of Lanes	1	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	2
HCM Control Delay	14.9	12.8	14.9
HCM LOS	B	B	B

Lane	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	0%	100%	0%
Vol Thru, %	0%	100%	29%	0%	0%
Vol Right, %	0%	0%	71%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	217	69	195	208	265
LT Vol	217	0	0	208	0
Through Vol	0	69	57	0	0
RT Vol	0	0	138	0	265
Lane Flow Rate	247	78	229	267	340
Geometry Grp	7	7	4	7	7
Degree of Util (X)	0.483	0.143	0.383	0.498	0.52
Departure Headway (Hd)	7.052	6.544	6.004	6.72	5.505
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	510	547	599	536	652
Service Time	4.802	4.293	4.05	4.465	3.25
HCM Lane V/C Ratio	0.484	0.143	0.382	0.498	0.521
HCM Control Delay	16.3	10.4	12.8	16	14.1
HCM Lane LOS	C	B	B	C	B
HCM 95th-tile Q	2.6	0.5	1.8	2.7	3

HCM 6th TWSC
5: Dunlap Street & Hutton Street

Future Conditions #2 (Both Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
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	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	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	-	-	-	-	338	-
Stage 2	-	-	-	-	304	-
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
Pot Cap-1 Maneuver	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	SBLn1
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 %tile Q(veh)	0	-	-	-	0.6

HCM 6th AWSC
6: Wing Street & Main Street

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												
Traffic Vol, veh/h	78	58	51	2	33	76	15	151	4	54	233	39
Future Vol, veh/h	78	58	51	2	33	76	15	151	4	54	233	39
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	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	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	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	326
LT Vol	15	78	2	54
Through Vol	151	58	33	233
RT Vol	4	51	76	39
Lane Flow Rate	183	231	146	418
Geometry Grp	1	1	1	1
Degree of Util (X)	0.292	0.37	0.228	0.615
Departure Headway (Hd)	5.744	5.763	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	0.294	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-tile Q	1.2	1.7	0.9	4.2

HCM 6th AWSC
7: Center Street & Main Street

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												
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	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	0	8.6	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	127	128	0	0
LT Vol	127	0	0	0
Through Vol	0	0	0	0
RT Vol	0	128	0	0
Lane Flow Rate	165	154	0	0
Geometry Grp	1	1	1	1
Degree of Util (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	0.159	0	0
HCM Control Delay	8.6	7.4	7.5	7.4
HCM Lane LOS	A	A	N	N
HCM 95th-tile Q	0.8	0.6	0	0

HCM 6th AWSC
8: Hutton Street & Main Street

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						
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		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
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 Util (X)	0.36	0.055	0.351	0.442	0.129
Departure Headway (Hd)	5.371	6.648	5.434	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	0.359	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-tile Q	1.6	0.2	1.6	2.3	0.4

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

Future Conditions #2 (Both 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	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 (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	1.00		0.99	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	
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	257	19	81	161	77
Peak Hour Factor	0.92	0.92	0.92	0.75	0.75	0.75	0.79	0.79	0.79	0.84	0.84	0.84
Percent Heavy Veh, %	3	3	3	4	4	4	2	2	2	2	2	2
Cap, veh/h	183	1386	96	83	1004	569	98	579	40	182	338	142
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	239	2992	208	42	2167	1228	93	1669	117	307	978	409
Grp Volume(v), veh/h	132	0	126	241	0	199	306	0	0	319	0	0
Grp Sat Flow(s),veh/h/ln	1701	0	1738	1908	0	1530	1879	0	0	1693	0	0
Q Serve(g_s), s	0.0	0.0	2.5	0.0	0.0	4.8	0.0	0.0	0.0	0.7	0.0	0.0
Cycle Q Clear(g_c), s	2.3	0.0	2.5	4.6	0.0	4.8	7.3	0.0	0.0	8.1	0.0	0.0
Prop In Lane	0.20		0.12	0.06		0.80	0.10		0.06	0.25		0.24
Lane Grp Cap(c), veh/h	860	0	805	948	0	709	717	0	0	662	0	0
V/C Ratio(X)	0.15	0.00	0.16	0.25	0.00	0.28	0.43	0.00	0.00	0.48	0.00	0.00
Avail Cap(c_a), veh/h	860	0	805	948	0	709	717	0	0	662	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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.3	0.0	9.3	9.9	0.0	9.9	15.2	0.0	0.0	15.4	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.4	0.5	0.0	1.0	1.9	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	1.0	0.0	0.9	1.9	0.0	1.6	3.2	0.0	0.0	3.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	9.6	0.0	9.7	10.5	0.0	10.9	17.0	0.0	0.0	17.9	0.0	0.0
LnGrp LOS	A	A	A	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		258			440			306			319	
Approach Delay, s/veh		9.7			10.7			17.0			17.9	
Approach LOS		A			B			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	33.4	26.6	33.4	26.6
Change Period (Y+Rc), s	5.6	* 5.8	5.6	* 5.8
Max Green Setting (Gmax), s	27.8	* 21	27.8	* 21
Max Q Clear Time (g_c+I1), s	4.5	10.1	6.8	9.3
Green Ext Time (p_c), s	1.6	1.4	2.8	1.3

Intersection Summary		
HCM 6th Ctrl Delay	13.7	
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 #2 (Both Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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	8	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	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	0	318	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
Pot Cap-1 Maneuver	-	-	1217	-	461	859
Stage 1	-	-	-	-	736	-
Stage 2	-	-	-	-	763	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1208	-	444	852
Mov Cap-2 Maneuver	-	-	-	-	444	-
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	741	-

Approach	EB	WB	NB
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	-	-	1208	-
HCM Lane V/C Ratio	0.077	-	-	0.023	-
HCM Control Delay (s)	10.6	-	-	8	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

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	0.90	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	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	9.6	9.4	9.5	12.2
HCM LOS	A	A	A	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	126	78	114	286
LT Vol	19	15	4	89
Through Vol	100	57	55	186
RT Vol	7	6	55	11
Lane Flow Rate	140	124	139	353
Geometry Grp	1	1	1	1
Degree of Util (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	0.185	0.198	0.476
HCM Control Delay	9.5	9.6	9.4	12.2
HCM Lane LOS	A	A	A	B
HCM 95th-tile Q	0.7	0.7	0.7	2.5

Intersection	
Int Delay, s/veh	19.9

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	2	3	0	2	2	0	3
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	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			Major1			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	-	-
Pot Cap-1 Maneuver	396	352	923	372	419	766	1453	-	-	1141	-	-
Stage 1	803	737	-	640	612	-	-	-	-	-	-	-
Stage 2	610	533	-	720	727	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	304	321	920	256	382	763	1449	-	-	1139	-	-
Mov Cap-2 Maneuver	304	321	-	256	382	-	-	-	-	-	-	-
Stage 1	759	710	-	605	579	-	-	-	-	-	-	-
Stage 2	488	504	-	559	700	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.9	67.5	0.9	1.8
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1449	-	-	497	297	1139	-	-
HCM Lane V/C Ratio	0.039	-	-	0.341	0.896	0.032	-	-
HCM Control Delay (s)	7.6	0	-	15.9	67.5	8.3	0	-
HCM Lane LOS	A	A	-	C	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.5	8.3	0.1	-	-

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	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	7	0	0	7	7	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	-
Grade, %	-	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	2	2	2	2	6	6	6
Mvmt Flow	187	199	8	3	281	33	4	22	12	7	14	86

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	321	0	0	207	0	0	931	904	210	912	892	305
Stage 1	-	-	-	-	-	-	577	577	-	311	311	-
Stage 2	-	-	-	-	-	-	354	327	-	601	581	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.12	6.52	6.22	7.16	6.56	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.16	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.16	5.56	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.518	4.018	3.318	3.554	4.054	3.354
Pot Cap-1 Maneuver	1245	-	-	1370	-	-	247	277	830	250	277	726
Stage 1	-	-	-	-	-	-	502	502	-	691	651	-
Stage 2	-	-	-	-	-	-	663	648	-	480	493	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1237	-	-	1370	-	-	180	227	824	196	227	721
Mov Cap-2 Maneuver	-	-	-	-	-	-	180	227	-	196	227	-
Stage 1	-	-	-	-	-	-	416	416	-	569	644	-
Stage 2	-	-	-	-	-	-	570	642	-	369	409	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4	0.1	19.7	14.3
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	283	1237	-	-	1370	-	-	495
HCM Lane V/C Ratio	0.134	0.151	-	-	0.002	-	-	0.216
HCM Control Delay (s)	19.7	8.4	0	-	7.6	0	-	14.3
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.5	0.5	-	-	0	-	-	0.8

Intersection	
Int Delay, s/veh	3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	
Traffic Vol, veh/h	0	194	153	0	49	72
Future Vol, veh/h	0	194	153	0	49	72
Conflicting Peds, #/hr	3	0	0	3	0	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	81	81	64	64	76	76
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	0	240	239	0	64	95

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	479	241
Stage 1	-	-	-	-	239	-
Stage 2	-	-	-	-	240	-
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
Pot Cap-1 Maneuver	0	-	-	0	549	803
Stage 1	0	-	-	0	805	-
Stage 2	0	-	-	0	805	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	549	801
Mov Cap-2 Maneuver	-	-	-	-	549	-
Stage 1	-	-	-	-	805	-
Stage 2	-	-	-	-	805	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	12
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	675
HCM Lane V/C Ratio	-	-	0.236
HCM Control Delay (s)	-	-	12
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.9

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	189	34	20	1	11	12	19	40	6	10	21	123
Future Vol, veh/h	189	34	20	1	11	12	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	Stop	Stop	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	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	225	40	24	2	18	20	30	63	10	13	28	162

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	282	268	109	295	344	68	190	0	0	73	0	0
Stage 1	135	135	-	128	128	-	-	-	-	-	-	-
Stage 2	147	133	-	167	216	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	672	640	947	661	582	1001	1372	-	-	1533	-	-
Stage 1	871	787	-	881	794	-	-	-	-	-	-	-
Stage 2	858	788	-	840	728	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	626	619	947	597	563	1001	1372	-	-	1533	-	-
Mov Cap-2 Maneuver	626	619	-	597	563	-	-	-	-	-	-	-
Stage 1	851	779	-	861	776	-	-	-	-	-	-	-
Stage 2	802	770	-	769	721	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.1	10.3	2.2	0.5
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1372	-	-	643	723	1533	-	-
HCM Lane V/C Ratio	0.022	-	-	0.45	0.055	0.009	-	-
HCM Control Delay (s)	7.7	0	-	15.1	10.3	7.4	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.3	0.2	0	-	-

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

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Denied Del/Veh (s)	0.1	0.1	0.0	0.0	0.0		0.0	0.0
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	4.3	5.0	0.3	0.3	3.9		3.6	2.7

HCM 6th TWSC
17: River Street & Beal Street

Future Conditions #2 (Both Closed)
AM Peak Hour

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	1	0	1	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	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		Major2		Minor1	
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
Pot Cap-1 Maneuver	-	-	1468	-	815	959
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	940	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1467	-	809	955
Mov Cap-2 Maneuver	-	-	-	-	809	-
Stage 1	-	-	-	-	928	-
Stage 2	-	-	-	-	934	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	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 %tile Q(veh)	0.2	-	-	0	-

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

Future Conditions #2 (Both Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	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	-	-	-
Pot Cap-1 Maneuver	421	851	1207	-	-	-
Stage 1	707	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	399	848	1202	-	-	-
Mov Cap-2 Maneuver	399	-	-	-	-	-
Stage 1	672	-	-	-	-	-
Stage 2	732	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	0.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1202	-	809	-	-
HCM Lane V/C Ratio	0.034	-	0.101	-	-
HCM Control Delay (s)	8.1	0.2	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

SimTraffic Performance Report

Future 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)	0.2	0.3	0.3	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	0.1	0.0	0.0	0.0	0.0	0.2
Total Del/Veh (s)	2.2	1.0	0.7	9.9	6.7	3.9	1.4	0.8	0.6	14.6	7.6	1.3

HCM 6th AWSC
20: Wing Street & Fairbrook Street

Future Conditions #2 (Both Closed)
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	13	20	2	0	7	33	3	84	2	46	115	8
Future Vol, veh/h	13	20	2	0	7	33	3	84	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	27	3	0	10	48	4	112	3	62	155	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	8.2	7.6	8.4	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	37%	0%	27%
Vol Thru, %	94%	57%	18%	68%
Vol Right, %	2%	6%	82%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	89	35	40	169
LT Vol	3	13	0	46
Through Vol	84	20	7	115
RT Vol	2	2	33	8
Lane Flow Rate	119	48	58	228
Geometry Grp	1	1	1	1
Degree of Util (X)	0.151	0.064	0.069	0.278
Departure Headway (Hd)	4.567	4.799	4.255	4.387
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	787	747	842	824
Service Time	2.588	2.825	2.281	2.387
HCM Lane V/C Ratio	0.151	0.064	0.069	0.277
HCM Control Delay	8.4	8.2	7.6	9.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.2	0.2	1.1

HCM 6th TWSC
21: Center Street & Fairbrook Street/W. Site Drive

Future Conditions #2 (Both Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	2	53	18	5	13	31	448	10	4	363	5
Future Vol, veh/h	18	2	53	18	5	13	31	448	10	4	363	5
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
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	76	76	76	92	92	92	95	95	95	77	77	77
Heavy Vehicles, %	3	3	3	2	2	2	1	1	1	2	2	2
Mvmt Flow	24	3	70	20	5	14	33	472	11	5	471	6

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1037	1033	474	1065	1031	478	477	0	0	483	0	0
Stage 1	484	484	-	544	544	-	-	-	-	-	-	-
Stage 2	553	549	-	521	487	-	-	-	-	-	-	-
Critical Hdwy	7.13	6.53	6.23	7.12	6.52	6.22	4.11	-	-	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	2.209	-	-	2.218	-	-
Pot Cap-1 Maneuver	208	232	588	200	233	587	1090	-	-	1080	-	-
Stage 1	562	550	-	523	519	-	-	-	-	-	-	-
Stage 2	516	515	-	539	550	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	192	221	588	168	222	587	1090	-	-	1080	-	-
Mov Cap-2 Maneuver	192	221	-	168	222	-	-	-	-	-	-	-
Stage 1	539	547	-	502	498	-	-	-	-	-	-	-
Stage 2	478	494	-	470	547	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	17.7	23.2	0.5	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1090	-	-	378	237	1080	-	-
HCM Lane V/C Ratio	0.03	-	-	0.254	0.165	0.005	-	-
HCM Control Delay (s)	8.4	0	-	17.7	23.2	8.3	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1	0.6	0	-	-

HCM 6th TWSC
22: St. Lawrence Blvd/Wing Street & Seven Mile Road

Future Conditions #2 (Both Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	348	3	7	205	72	2	4	13	97	3	20
Future Vol, veh/h	14	348	3	7	205	72	2	4	13	97	3	20
Conflicting Peds, #/hr	2	0	0	0	0	2	0	0	3	3	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	-
Grade, %	-	0	-	-	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	18	435	4	8	230	81	3	5	16	114	4	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	313	0	0	439	0	0	774	802	440	776	764	273
Stage 1	-	-	-	-	-	-	473	473	-	289	289	-
Stage 2	-	-	-	-	-	-	301	329	-	487	475	-
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
Pot Cap-1 Maneuver	1247	-	-	1116	-	-	306	308	601	312	331	761
Stage 1	-	-	-	-	-	-	557	545	-	714	669	-
Stage 2	-	-	-	-	-	-	691	632	-	558	554	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1245	-	-	1116	-	-	289	301	599	293	323	760
Mov Cap-2 Maneuver	-	-	-	-	-	-	289	301	-	293	323	-
Stage 1	-	-	-	-	-	-	549	537	-	703	663	-
Stage 2	-	-	-	-	-	-	661	626	-	528	546	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.3	0.2	13.4	24.1
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	453	1245	-	-	1116	-	-	327
HCM Lane V/C Ratio	0.053	0.014	-	-	0.007	-	-	0.432
HCM Control Delay (s)	13.4	7.9	-	-	8.2	-	-	24.1
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	2.1

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

Future Conditions #2 (Both Closed)
AM Peak Hour

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
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	
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	0.88	0.88	0.88	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	784	149	338	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	686	867	1922	1627	867	1608	305	866	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	1107	0	1829	867	1922	1627	867	0	1913	866	0	1951
Q Serve(g_s), s	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 Clear(g_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		0.16	1.00		0.05
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_a), 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(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	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	0.2	0.0	8.0	6.9	1.0	0.3	1.9	0.0	2.6	1.1	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	0.0	6.9	0.9	0.0	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),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 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			C			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+I1), s		24.4		21.7		22.0		29.3				
Green Ext Time (p_c), s		3.5		2.0		3.5		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			21.9									
HCM 6th LOS			C									

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

Future Conditions #2 (Both Closed)
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 (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	0.4	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
25: Seven Mile Road & River Street

Future Conditions #2 (Both Closed)
AM Peak Hour

Intersection						
Int Delay, s/veh	1.1					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
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
Storage Length	-	-	-	-	0	-
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	26	303	237	17	20	23

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	256	0	-	0	603	251
Stage 1	-	-	-	-	248	-
Stage 2	-	-	-	-	355	-
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
Pot Cap-1 Maneuver	1303	-	-	-	454	776
Stage 1	-	-	-	-	782	-
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	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
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 %tile Q(veh)	0.1	-	-	-	0.2

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

Future Conditions #2 (Both Closed)
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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			Yield			Free			Free	
Grade		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	261	0	199	0	0	0	0	0	329	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)												
pX, platoon unblocked												
vC, conflicting volume	456	357	192	452	385	0	385				0	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	456	357	192	452	385	0	385				0	
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.1				4.2	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	100	90	68	100	63	100	100				100	
cM capacity (veh/h)	347	565	813	306	543	1078	1170				1614	

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	54	261	199	219	166
Volume Left	0	0	0	0	0
Volume Right	0	261	0	0	56
cSH	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		15.4	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
27: NB Northville Road & N. Seven Mile Road

Future Conditions #2 (Both Closed)
AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	46	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	0.85	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, platoon unblocked						
vC, conflicting volume	605	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	605	0	0			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	86	100	88			
cM capacity (veh/h)	374	1081	1607			

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	54	337	276
Volume Left	54	199	0
Volume Right	0	0	0
cSH	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	
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
28: Northville Road & S. Seven Mile Road

Future Conditions #2 (Both Closed)
AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
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
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1953	1953	1938	1938	1953	1953
Adj Flow Rate, veh/h	287	235	341	324	379	238
Peak Hour Factor	0.94	0.94	0.88	0.88	0.84	0.84
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	1642	1860	3809
Grp Volume(v), veh/h	287	235	341	324	379	238
Grp Sat Flow(s),veh/h/ln	1860	1655	1841	1642	1860	1856
Q Serve(g_s), s	9.4	0.0	14.5	15.6	11.5	2.8
Cycle Q Clear(g_c), s	9.4	0.0	14.5	15.6	11.5	2.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	665	923	377	337	462	1800
V/C Ratio(X)	0.43	0.25	0.90	0.96	0.82	0.13
Avail Cap(c_a), 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	9.1	31.0	31.5	28.8	11.3
Incr Delay (d2), s/veh	2.0	0.7	27.4	46.4	15.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	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			617
Approach Delay, s/veh	16.3		65.0			31.4
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 (g_c+I1), s	13.5	17.6			4.8	11.4
Green Ext Time (p_c), s	0.3	0.0			1.5	1.5

Intersection Summary												
HCM 6th Ctrl Delay				39.4								
HCM 6th LOS				D								

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	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	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	81	81	72	72	92	92
Heavy Vehicles, %	1	1	1	1	2	2
Mvmt Flow	238	0	0	313	3	1

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	551	238
Stage 1	-	-	-	-	238	-
Stage 2	-	-	-	-	313	-
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
Pot Cap-1 Maneuver	-	0	0	-	495	801
Stage 1	-	0	0	-	802	-
Stage 2	-	0	0	-	741	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	495	801
Mov Cap-2 Maneuver	-	-	-	-	495	-
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	741	-

Approach	EB	WB	NB
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 %tile Q(veh)	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	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
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	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	-	-	-
Pot 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	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

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
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	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	-	-	-
Pot 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 %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.6

Movement	WBL	WBR	NBT	NBR	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
Storage Length	0	-	-	-	-	-
Veh 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	Minor1		Major1		Major2	
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	-	-	2.218	-
Pot Cap-1 Maneuver	285	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	NBR	WBLn1	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 %tile Q(veh)	-	-	0.4	0	-

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
Storage Length	-	-	-	-	0	-
Veh 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	Major1		Major2		Minor1	
Conflicting Flow All	0	0	89	0	152	89
Stage 1	-	-	-	-	89	-
Stage 2	-	-	-	-	63	-
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
Pot Cap-1 Maneuver	-	-	1519	-	840	969
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	960	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1519	-	838	969
Mov Cap-2 Maneuver	-	-	-	-	838	-
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	958	-

Approach	EB	WB	NB
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 %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	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
Storage Length	0	-	-	-	-	-
Veh 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	117	3	0	138

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	257	119	0	0	120	0
Stage 1	119	-	-	-	-	-
Stage 2	138	-	-	-	-	-
Critical Hdwy	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	-
Pot Cap-1 Maneuver	732	933	-	-	1455	-
Stage 1	906	-	-	-	-	-
Stage 2	889	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	732	933	-	-	1455	-
Mov Cap-2 Maneuver	732	-	-	-	-	-
Stage 1	906	-	-	-	-	-
Stage 2	889	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.7	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	774	1455	-
HCM Lane V/C Ratio	-	-	0.006	-	-
HCM Control Delay (s)	-	-	9.7	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	6.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	181	174	4	96	223	11
Future Vol, veh/h	181	174	4	96	223	11
Conflicting Peds, #/hr	0	11	11	0	0	4
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	81	81	78	78
Heavy Vehicles, %	0	0	0	0	1	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	-	-	-	-	319	-
Stage 2	-	-	-	-	129	-
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
Pot 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	EBT	EBR	WBL	WBT
Capacity (veh/h)	567	-	-	1139	-
HCM Lane V/C Ratio	0.529	-	-	0.004	-
HCM Control Delay (s)	18.3	-	-	8.2	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	3.1	-	-	0	-

Intersection	
Int Delay, s/veh	9.3

Movement	EBL	EBT	EBR	WBL	WBT	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	5	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
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	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	55	14	160	14	14	27	61	486	9	22	451	47

Major/Minor	Minor2			Minor1			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	-	-
Pot Cap-1 Maneuver	172	196	579	154	191	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	29.9	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	29.9	8.5	-	-
HCM Lane LOS	A	-	-	E	D	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	5.6	1.1	0.1	-	-

Intersection	
Intersection Delay, s/veh	27.7
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	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	38	201	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	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 Util (X)	0.838	0.255	0.802	0.479
Departure Headway (Hd)	6.243	7.509	6.722	7.076
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-tile Q	8.8	1	7.7	2.6

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	
Opposing Lanes	1	2	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		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 Util (X)	0.59	0.229	0.696	0.65	0.498
Departure Headway (Hd)	7.476	6.964	6.285	7.359	6.136
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	480	513	570	490	585
Service Time	5.258	4.746	4.356	5.133	3.909
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-tile Q	3.7	0.9	5.5	4.6	2.8

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	313	422	93	89	11
Future Vol, veh/h	14	313	422	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	-	-	-	-	0	-
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	15	340	459	101	100	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	579	0	-	0	909	549
Stage 1	-	-	-	-	529	-
Stage 2	-	-	-	-	380	-
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
Pot Cap-1 Maneuver	1005	-	-	-	307	537
Stage 1	-	-	-	-	593	-
Stage 2	-	-	-	-	694	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	987	-	-	-	290	517
Mov Cap-2 Maneuver	-	-	-	-	290	-
Stage 1	-	-	-	-	571	-
Stage 2	-	-	-	-	682	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	23.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	987	-	-	-	305
HCM Lane V/C Ratio	0.015	-	-	-	0.368
HCM Control Delay (s)	8.7	0	-	-	23.5
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	1.6

Intersection	
Intersection Delay, s/veh	18.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	52	72	13	43	114	39	296	6	47	227	34
Future Vol, veh/h	65	52	72	13	43	114	39	296	6	47	227	34
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	0	0	0
Mvmt Flow	79	63	88	16	54	143	43	325	7	62	299	45
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	14.8	13.8	20.5	22.1
HCM LOS	B	B	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	34%	8%	15%
Vol Thru, %	87%	28%	25%	74%
Vol Right, %	2%	38%	67%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	341	189	170	308
LT Vol	39	65	13	47
Through Vol	296	52	43	227
RT Vol	6	72	114	34
Lane Flow Rate	375	230	212	405
Geometry Grp	1	1	1	1
Degree of Util (X)	0.653	0.43	0.387	0.693
Departure Headway (Hd)	6.277	6.713	6.556	6.158
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	573	532	546	584
Service Time	4.351	4.796	4.642	4.231
HCM Lane V/C Ratio	0.654	0.432	0.388	0.693
HCM Control Delay	20.5	14.8	13.8	22.1
HCM Lane LOS	C	B	B	C
HCM 95th-tile Q	4.7	2.1	1.8	5.4

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	0	180	0	0	0	0	0
Future Vol, veh/h	0	0	134	0	0	0	180	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.90	0.92	0.92	0.92	0.78	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	0	231	0	0	0	0	0
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	7.6	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 Grp	1	1	1	1
Degree of Util (X)	0.281	0.161	0	0
Departure Headway (Hd)	4.377	3.893	4.635	4.49
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	0.283	0.16	0	0
HCM Control Delay	9.2	7.6	7.6	7.5
HCM Lane LOS	A	A	N	N
HCM 95th-tile Q	1.2	0.6	0	0

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	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
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	25	0	356	0	0
Lane Flow Rate	207	59	387	310	132
Geometry Grp	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	0.358	0.113	0.609	0.572	0.226
HCM Control Delay	12.7	10.5	16.9	18.1	10.7
HCM Lane LOS	B	B	C	C	B
HCM 95th-tile Q	1.6	0.4	4.1	3.6	0.9

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 (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	1.00		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	
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	302	28	189	247	98
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	93	580	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	2582	268	33	1922	1514	80	1672	148	488	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 Serve(g_s), s	0.4	0.0	4.1	0.0	0.0	7.2	0.0	0.0	0.0	12.0	0.0	0.0
Cycle Q Clear(g_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		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
Avail Cap(c_a), 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	0.00	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
Incr Delay (d2), 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(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	1.4	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												
LnGrp Delay(d),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			B			D	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	33.4	26.6	33.4	26.6
Change Period (Y+Rc), s	5.6	* 5.8	5.6	* 5.8
Max Green Setting (Gmax), s	27.8	* 21	27.8	* 21
Max Q Clear Time (g_c+I1), s	9.6	22.8	9.2	10.8
Green Ext Time (p_c), s	2.4	0.0	4.0	1.5

Intersection Summary	
HCM 6th Ctrl Delay	19.5
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 #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	10	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	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
Pot Cap-1 Maneuver	-	-	1048	-	301	734
Stage 1	-	-	-	-	586	-
Stage 2	-	-	-	-	679	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1038	-	280	727
Mov Cap-2 Maneuver	-	-	-	-	280	-
Stage 1	-	-	-	-	580	-
Stage 2	-	-	-	-	638	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	16.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	429	-	-	1038	-
HCM Lane V/C Ratio	0.288	-	-	0.042	-
HCM Control Delay (s)	16.8	-	-	8.6	0.2
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.2	-	-	0.1	-

HCM 6th AWSC
11: Wing Street & Cady Street

Future Conditions #2 (Both Closed)
PM Peak Hour

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	24	48	12	14	45	98	10	219	17	65	231	16
Future Vol, veh/h	24	48	12	14	45	98	10	219	17	65	231	16
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	0	0	0
Mvmt Flow	29	58	14	16	50	109	11	243	19	73	260	18
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	10	10.2	11.5	13.1
HCM LOS	A	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	29%	9%	21%
Vol Thru, %	89%	57%	29%	74%
Vol Right, %	7%	14%	62%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	246	84	157	312
LT Vol	10	24	14	65
Through Vol	219	48	45	231
RT Vol	17	12	98	16
Lane Flow Rate	273	101	174	351
Geometry Grp	1	1	1	1
Degree of Util (X)	0.392	0.163	0.258	0.496
Departure Headway (Hd)	5.169	5.794	5.33	5.089
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	697	618	673	708
Service Time	3.204	3.84	3.373	3.121
HCM Lane V/C Ratio	0.392	0.163	0.259	0.496
HCM Control Delay	11.5	10	10.2	13.1
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	1.9	0.6	1	2.8

HCM 6th TWSC
12: Center Street & Cady Street

Future Conditions #2 (Both Closed)
PM Peak Hour

Intersection	
Int Delay, s/veh	153.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	75	73	240	61	11	60	143	307	56	114	16
Future Vol, veh/h	5	75	73	240	61	11	60	143	307	56	114	16
Conflicting Peds, #/hr	25	0	4	4	0	25	21	0	3	3	0	21
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	88	88	88	90	90	90	80	80	80
Heavy Vehicles, %	1	1	1	0	0	0	1	1	1	1	1	1
Mvmt Flow	6	95	92	273	69	13	67	159	341	70	143	20

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	844	951	178	858	791	358	184	0	0	503	0	0
Stage 1	314	314	-	467	467	-	-	-	-	-	-	-
Stage 2	530	637	-	391	324	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.11	-	-	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	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	284	261	868	279	324	691	1397	-	-	1067	-	-
Stage 1	699	658	-	580	565	-	-	-	-	-	-	-
Stage 2	534	473	-	637	653	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	192	220	847	~ 148	272	673	1369	-	-	1064	-	-
Mov Cap-2 Maneuver	192	220	-	~ 148	272	-	-	-	-	-	-	-
Stage 1	635	598	-	537	523	-	-	-	-	-	-	-
Stage 2	412	438	-	441	594	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	29	$ 564	0.9	2.6
HCM LOS	D	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1369	-	-	338	168	1064	-	-
HCM Lane V/C Ratio	0.049	-	-	0.573	2.11	0.066	-	-
HCM Control Delay (s)	7.8	0	-	29	$ 564	8.6	0	-
HCM Lane LOS	A	A	-	D	F	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	3.4	28.1	0.2	-	-

Notes
~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	8.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	194	252	13	4	221	26	8	12	4	22	27	84
Future Vol, veh/h	194	252	13	4	221	26	8	12	4	22	27	84
Conflicting Peds, #/hr	13	0	0	0	0	13	0	0	0	0	0	3
Sign Control	Free	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	95	92	92	92	63	63	63
Heavy Vehicles, %	1	1	1	0	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	282	0	0	1033	968	275	964	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
Pot 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 %tile Q(veh)	0.5	0.6	-	-	0	-	-	3.4

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↕	
Traffic Vol, veh/h	0	282	229	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	-	-	-	-	0	-
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	1	0	0
Mvmt Flow	0	297	254	0	36	24

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	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
Pot Cap-1 Maneuver	0	-	-	0	499	789
Stage 1	0	-	-	0	793	-
Stage 2	0	-	-	0	758	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	499	788
Mov Cap-2 Maneuver	-	-	-	-	499	-
Stage 1	-	-	-	-	793	-
Stage 2	-	-	-	-	758	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.9
HCM LOS			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 %tile Q(veh)	-	-	0.3

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	1	0	3	10	0	4	4	0	10
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	64	64	64	86	86	86	88	88	88
Heavy Vehicles, %	1	1	1	0	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			Minor1			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	-	-
Pot Cap-1 Maneuver	596	590	853	596	515	1002	1275	-	-	1550	-	-
Stage 1	783	722	-	902	810	-	-	-	-	-	-	-
Stage 2	865	807	-	753	649	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	527	564	844	518	492	995	1263	-	-	1544	-	-
Mov Cap-2 Maneuver	527	564	-	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)	7.9	0	-	19.8	11.2	7.4	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	3.6	0.4	0	-	-

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
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

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	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	-	-	0	0	-
Peak Hour Factor	92	92	66	66	70	70
Heavy Vehicles, %	1	1	0	0	2	2
Mvmt Flow	88	67	8	71	83	10

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	158	0	215	135
Stage 1	-	-	-	-	125	-
Stage 2	-	-	-	-	90	-
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
Pot 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
HCM Control Delay, s	0	0.7	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	777	-	-	1430	-
HCM Lane V/C Ratio	0.12	-	-	0.005	-
HCM Control Delay (s)	10.3	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	↓			↕	↑	
Traffic Vol, veh/h	5	83	46	607	531	6
Future Vol, veh/h	5	83	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
Storage Length	0	-	-	-	-	-
Veh 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	104	51	674	559	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1005	287	569	0	-	0
Stage 1	566	-	-	-	-	-
Stage 2	439	-	-	-	-	-
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	-	-	-
Pot 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
HCM Control Delay, s	11.9	0.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1002	-	632	-	-
HCM Lane V/C Ratio	0.051	-	0.174	-	-
HCM Control Delay (s)	8.8	0.3	11.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.6	-	-

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

20: Wing Street & Fairbrook Street

Intersection	
Intersection Delay, s/veh	9
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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	5	1	1	1	0	0	0
Mvmt Flow	18	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 Util (X)	0.225	0.066	0.132	0.313
Departure Headway (Hd)	4.541	5.159	4.514	4.472
Convergence, Y/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	8.9	8.6	8.2	9.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.9	0.2	0.5	1.3

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

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	62	62	62	92	92	92	94	94	94	94	94	94
Heavy Vehicles, %	0	0	0	2	2	2	0	0	0	1	1	1
Mvmt Flow	26	11	94	10	4	10	87	587	24	9	427	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1237	1242	441	1280	1237	599	446	0	0	611	0	0
Stage 1	457	457	-	773	773	-	-	-	-	-	-	-
Stage 2	780	785	-	507	464	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.12	6.52	6.22	4.1	-	-	4.11	-	-
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	2.2	-	-	2.209	-	-
Pot Cap-1 Maneuver	154	176	621	143	176	502	1125	-	-	973	-	-
Stage 1	587	571	-	392	409	-	-	-	-	-	-	-
Stage 2	391	407	-	548	564	-	-	-	-	-	-	-
Platoon blocked, %									-	-	-	-
Mov Cap-1 Maneuver	133	153	617	103	153	502	1120	-	-	973	-	-
Mov Cap-2 Maneuver	133	153	-	103	153	-	-	-	-	-	-	-
Stage 1	515	561	-	346	361	-	-	-	-	-	-	-
Stage 2	334	359	-	449	554	-	-	-	-	-	-	-

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 %tile Q(veh)	0.3	-	-	2	0.5	0	-	-

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

Intersection	
Int Delay, s/veh	18.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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	1	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
Storage Length	100	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	90	90	90	70	70	70	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	0	0	0	1	1	1
Mvmt Flow	24	391	4	14	538	116	6	4	10	171	6	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	654	0	0	396	0	0	1081	1124	399	1077	1068	596
Stage 1	-	-	-	-	-	-	442	442	-	624	624	-
Stage 2	-	-	-	-	-	-	639	682	-	453	444	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.1	6.5	6.2	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.5	4	3.3	3.509	4.009	3.309
Pot Cap-1 Maneuver	933	-	-	1163	-	-	197	207	655	197	223	505
Stage 1	-	-	-	-	-	-	598	580	-	475	479	-
Stage 2	-	-	-	-	-	-	468	453	-	588	577	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	933	-	-	1162	-	-	178	199	651	184	214	505
Mov Cap-2 Maneuver	-	-	-	-	-	-	178	199	-	184	214	-
Stage 1	-	-	-	-	-	-	582	564	-	463	473	-
Stage 2	-	-	-	-	-	-	434	448	-	557	561	-

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	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	290	933	-	-	1162	-	-	200
HCM Lane V/C Ratio	0.069	0.025	-	-	0.012	-	-	1.006
HCM Control Delay (s)	18.3	9	-	-	8.1	-	-	114.7
HCM Lane LOS	C	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	8.8

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	318	134	128	448	131	127	499	105	74	368	26
Future Volume (veh/h)	27	318	134	128	448	131	127	499	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			0.99	1.00		0.99	1.00		0.99	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	
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	0.88	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	557	893	1984	1686	968	1585	335	778	1845	130
Grp Volume(v), veh/h	31	0	513	145	509	149	141	0	671	80	0	424
Grp Sat Flow(s),veh/h/ln	781	0	1881	893	1984	1686	968	0	1920	778	0	1975
Q Serve(g_s), s	2.8	0.0	19.0	10.4	17.5	4.9	8.9	0.0	22.0	7.2	0.0	11.2
Cycle Q Clear(g_c), s	20.3	0.0	19.0	29.4	17.5	4.9	20.1	0.0	22.0	29.2	0.0	11.2
Prop In Lane	1.00		0.30	1.00		1.00	1.00		0.17	1.00		0.07
Lane Grp Cap(c), veh/h	207	0	691	206	729	619	426	0	936	255	0	963
V/C Ratio(X)	0.15	0.00	0.74	0.70	0.70	0.24	0.33	0.00	0.72	0.31	0.00	0.44
Avail Cap(c_a), veh/h	207	0	691	206	729	619	426	0	936	255	0	963
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	30.1	0.0	22.0	35.8	21.5	17.6	19.9	0.0	16.2	27.7	0.0	13.4
Incr Delay (d2), s/veh	1.5	0.0	7.1	18.2	5.5	0.9	2.1	0.0	4.7	3.2	0.0	1.5
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	0.6	0.0	9.1	3.8	8.6	1.9	2.1	0.0	9.8	1.5	0.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.7	0.0	29.1	54.0	27.0	18.5	22.0	0.0	20.8	30.9	0.0	14.8
LnGrp LOS	C	A	C	D	C	B	C	A	C	C	A	B
Approach Vol, veh/h		544			803			812			504	
Approach Delay, s/veh		29.2			30.3			21.0			17.4	
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 (g_c+I1), s	24.0	22.3	31.2	31.4
Green Ext Time (p_c), s	4.7	2.0	1.9	0.0

Intersection Summary	
HCM 6th Ctrl Delay	24.8
HCM 6th LOS	C

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	0.2	0.2	0.0	0.0	0.0
Total Delay (hr)	0.4	0.0	0.6	2.0	0.4	0.2	0.2	3.8
Total Del/Veh (s)	21.5	1.5	4.6	30.3	23.3	2.9	3.7	10.4

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
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	4	6	12
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	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	584
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
Pot Cap-1 Maneuver	986	-	-	-	268	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	SBLn1
Capacity (veh/h)	982	-	-	-	419
HCM Lane V/C Ratio	0.038	-	-	-	0.208
HCM Control Delay (s)	8.8	0	-	-	15.8
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	51	273	0	429	0	0	0	0	0	511	103
Future Volume (Veh/h)	0	51	273	0	429	0	0	0	0	0	511	103
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	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	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	820	592	323	597	646	0	646				0	
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1				4.1	
tC, 2 stage (s)												
tF (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	
cM 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
cSH	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		

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	
Grade	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	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	932	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	66	100	72			
cM capacity (veh/h)	163	1084	1629			

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	56	669	427
Volume Left	56	456	0
Volume Right	0	0	0
cSH	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		

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 (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
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	1682	2209	1492	1890	3870
Grp Volume(v), veh/h	405	631	453	413	404	421
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1716	1890	1885
Q Serve(g_s), s	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(X)	0.60	0.67	1.17	1.17	0.86	0.23
Avail Cap(c_a), 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(I)	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
Incr 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
Unsig. Movement Delay, s/veh						
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	B		F			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 (g_c+I1), s	14.6	18.4				7.2	16.0
Green Ext Time (p_c), s	0.2	0.0				2.9	3.3

Intersection Summary	
HCM 6th Ctrl Delay	59.2
HCM 6th LOS	E

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	278	0	0	246	5	4
Future Vol, veh/h	278	0	0	246	5	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	92	92
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	293	0	0	259	5	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	552	293
Stage 1	-	-	-	-	293	-
Stage 2	-	-	-	-	259	-
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
Pot Cap-1 Maneuver	-	0	0	-	495	746
Stage 1	-	0	0	-	757	-
Stage 2	-	0	0	-	784	-
Platoon blocked, %				-		
Mov Cap-1 Maneuver	-	-	-	-	495	746
Mov Cap-2 Maneuver	-	-	-	-	495	-
Stage 1	-	-	-	-	757	-
Stage 2	-	-	-	-	784	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	11.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	582	-	-
HCM Lane V/C Ratio	0.017	-	-
HCM Control Delay (s)	11.3	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	1	1	2	71	111	1
Future Vol, veh/h	1	1	2	71	111	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	86	86	92	92
Heavy Vehicles, %	2	2	0	0	1	1
Mvmt Flow	1	1	2	83	121	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	209	122	122	0	-	0
Stage 1	122	-	-	-	-	-
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	-	-	-
Pot Cap-1 Maneuver	779	929	1478	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	936	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	778	929	1478	-	-	-
Mov Cap-2 Maneuver	778	-	-	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	936	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT EBLn1	SBT	SBR
Capacity (veh/h)	1478	- 847	-	-
HCM Lane V/C Ratio	0.002	- 0.003	-	-
HCM Control Delay (s)	7.4	0 9.3	-	-
HCM Lane LOS	A	A A	-	-
HCM 95th %tile Q(veh)	0	- 0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
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	-	-	-	-	-
Veh 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	778	930	1478	-	-	-
Mov Cap-2 Maneuver	778	-	-	-	-	-
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	SBT	SBR
Capacity (veh/h)	1478	-	873	-	-
HCM Lane V/C Ratio	0.002	-	0.004	-	-
HCM Control Delay (s)	7.4	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
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	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	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		Major1		Major2	
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	246	489	-	-	947	-
Mov Cap-2 Maneuver	246	-	-	-	-	-
Stage 1	537	-	-	-	-	-
Stage 2	640	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	20	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	278	947	-
HCM Lane V/C Ratio	-	-	0.137	0.01	-
HCM Control Delay (s)	-	-	20	8.8	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0	-

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
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	-
Veh 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	-	748	922
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	913	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1438	-	746	922
Mov Cap-2 Maneuver	-	-	-	-	746	-
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 %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
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	-	-	-	-	-
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	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	623	862	-	-	1397	-
Stage 1	850	-	-	-	-	-
Stage 2	835	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	623	862	-	-	1397	-
Mov Cap-2 Maneuver	623	-	-	-	-	-
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	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	623	1397	-
HCM Lane V/C Ratio	-	-	0.005	-	-
HCM Control Delay (s)	-	-	10.8	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
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	-
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	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	-	-	-	-	838	-
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 95th %tile Q(veh)	0.7	-	-	0	-

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	19	2	114	4	0	5	27	560	1	5	417	44
Future Vol, veh/h	19	2	114	4	0	5	27	560	1	5	417	44
Conflicting Peds, #/hr	0	0	0	0	0	0	5	0	4	4	0	5
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	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	29	3	173	5	0	7	30	615	1	7	604	64

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1334	1335	641	1418	1367	620	673	0	0	620	0	0
Stage 1	656	656	-	680	680	-	-	-	-	-	-	-
Stage 2	679	680	-	738	687	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	132	154	477	116	148	492	918	-	-	960	-	-
Stage 1	457	464	-	444	454	-	-	-	-	-	-	-
Stage 2	443	452	-	413	450	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	126	147	475	70	141	490	914	-	-	956	-	-
Mov Cap-2 Maneuver	126	147	-	70	141	-	-	-	-	-	-	-
Stage 1	440	458	-	428	437	-	-	-	-	-	-	-
Stage 2	423	435	-	259	445	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	31.4	34.5	0.4	0.1
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	914	-	-	334	134	956	-	-
HCM Lane V/C Ratio	0.032	-	-	0.612	0.09	0.008	-	-
HCM Control Delay (s)	9.1	-	-	31.4	34.5	8.8	-	-
HCM Lane LOS	A	-	-	D	D	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	3.8	0.3	0	-	-

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												
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	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	8.5	8.9	8.5	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	5%	0%	15%	26%
Vol Thru, %	43%	99%	48%	74%
Vol Right, %	52%	1%	37%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	116	80	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 Util (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	2.493	2.919
HCM Lane V/C Ratio	0.174	0.137	0.245	0.169
HCM Control Delay	8.5	8.5	8.9	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.5	1	0.6

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

Future 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)	76	71	10	9	67	132	12	380	99	117	341	77
Future Volume (veh/h)	76	71	10	9	67	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		0.99	0.99		0.99	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	
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	1.00	1.00	1.00	0.62	0.62	0.62
Sat Flow, veh/h	1143	1695	230	1296	591	1159	868	1503	393	879	1552	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 Serve(g_s), 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 Clear(g_c), 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		0.12	1.00		0.66	1.00		0.21	1.00		0.18
Lane Grp Cap(c), veh/h	271	0	478	393	0	434	523	0	1166	661	0	1171
V/C Ratio(X)	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_a), 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 Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.4	0.0	17.8	18.9	0.0	19.6	1.1	0.0	0.0	5.4	0.0	6.2
Incr Delay (d2), s/veh	3.1	0.0	0.9	0.1	0.0	4.7	0.1	0.0	1.2	0.8	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 BackOfQ(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	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			C			A			A	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	41.0	19.0	41.0	19.0
Change Period (Y+Rc), s	* 4.1	* 4.1	* 4.1	* 4.1
Max Green Setting (Gmax), s	* 37	* 15	* 37	* 15
Max Q Clear Time (g_c+I1), s	11.3	13.2	11.0	9.0
Green Ext Time (p_c), s	4.0	0.1	5.1	0.7

Intersection Summary	
HCM 6th Ctrl Delay	9.5
HCM 6th LOS	A

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

HCM 6th TWSC
5: Dunlap Street & Hutton Street

Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	1.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
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	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	84	84	74	74
Heavy Vehicles, %	3	3	2	2	0	0
Mvmt Flow	5	287	280	70	70	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	350	0	-	0	617	320
Stage 1	-	-	-	-	315	-
Stage 2	-	-	-	-	302	-
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
Pot Cap-1 Maneuver	1203	-	-	-	457	725
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			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1203	-	-	-	476
HCM Lane V/C Ratio	0.004	-	-	-	0.167
HCM Control Delay (s)	8	0	-	-	14.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

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												
Traffic Vol, veh/h	61	91	50	19	29	63	18	42	4	47	69	20
Future Vol, veh/h	61	91	50	19	29	63	18	42	4	47	69	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	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	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	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	20
Lane Flow Rate	69	249	146	174
Geometry Grp	1	1	1	1
Degree of Util (X)	0.098	0.32	0.184	0.238
Departure Headway (Hd)	5.13	4.623	4.534	4.912
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	694	773	787	727
Service Time	3.199	2.672	2.588	2.971
HCM Lane V/C Ratio	0.099	0.322	0.186	0.239
HCM Control Delay	8.8	9.9	8.6	9.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	1.4	0.7	0.9

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

Future Conditions #3 (Main Closed)
AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	58	84	5	433	314	46
Future Volume (veh/h)	58	84	5	433	314	46
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	0.99	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	
Adj Sat Flow, veh/h/ln	1984	1984	1953	1953	1953	1953
Adj Flow Rate, veh/h	67	97	6	522	349	51
Peak Hour Factor	0.87	0.87	0.83	0.83	0.90	0.90
Percent Heavy Veh, %	1	1	3	3	3	3
Cap, veh/h	187	271	64	1085	930	136
Arrive On Green	0.26	0.26	0.56	0.56	1.00	1.00
Sat Flow, veh/h	710	1029	5	1943	1665	243
Grp Volume(v), veh/h	165	0	528	0	0	400
Grp Sat Flow(s),veh/h/ln	1750	0	1948	0	0	1909
Q Serve(g_s), s	4.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.6	0.0	9.8	0.0	0.0	0.0
Prop In Lane	0.41	0.59	0.01			0.13
Lane Grp Cap(c), veh/h	461	0	1148	0	0	1066
V/C Ratio(X)	0.36	0.00	0.46	0.00	0.00	0.38
Avail Cap(c_a), veh/h	461	0	1148	0	0	1066
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	18.0	0.0	8.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	1.3	0.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	3.8	0.0	0.0	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.1	0.0	9.3	0.0	0.0	1.0
LnGrp LOS	C	A	A	A	A	A
Approach Vol, veh/h	165			528	400	
Approach Delay, s/veh	20.1			9.3	1.0	
Approach LOS	C			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+I1), s	11.8	6.6	2.0
Green Ext Time (p_c), s	3.7	0.3	2.9

Intersection Summary	
HCM 6th Ctrl Delay	7.9
HCM 6th LOS	A

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

HCM 6th AWSC
8: Hutton Street & Main Street

Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	23	180	114	58	244	75
Future Vol, veh/h	23	180	114	58	244	75
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	234	143	73	260	80
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	10.8	10.8	12.4
HCM LOS	B	B	B

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	66%	0%	0%	0%	100%
Vol Right, %	34%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	172	23	180	244	75
LT Vol	0	23	0	244	0
Through Vol	114	0	0	0	75
RT Vol	58	0	180	0	0
Lane Flow Rate	215	30	234	260	80
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.319	0.054	0.348	0.437	0.123
Departure Headway (Hd)	5.334	6.565	5.352	6.061	5.562
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	675	548	676	597	647
Service Time	3.356	4.268	3.055	3.781	3.277
HCM Lane V/C Ratio	0.319	0.055	0.346	0.436	0.124
HCM Control Delay	10.8	9.6	10.9	13.4	9.1
HCM Lane LOS	B	A	B	B	A
HCM 95th-tile Q	1.4	0.2	1.6	2.2	0.4

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												
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(A_pbT)	1.00		0.99	0.99		0.99	1.00		0.99	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	
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	0.92	0.75	0.75	0.75	0.79	0.79	0.79	0.84	0.84	0.84
Percent Heavy Veh, %	3	3	3	4	4	4	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	0.46	0.35	0.35	0.35	0.35	0.35	0.35
Sat Flow, veh/h	239	2992	208	42	2167	1228	105	1630	132	305	976	408
Grp Volume(v), veh/h	132	0	126	241	0	199	268	0	0	319	0	0
Grp Sat Flow(s),veh/h/ln	1701	0	1738	1908	0	1530	1867	0	0	1689	0	0
Q Serve(g_s), s	0.0	0.0	2.5	0.0	0.0	4.8	0.0	0.0	0.0	2.1	0.0	0.0
Cycle Q Clear(g_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		0.80	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	0.38	0.00	0.00	0.48	0.00	0.00
Avail Cap(c_a), veh/h	860	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(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	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
Incr 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	1.0	0.0	0.9	1.9	0.0	1.6	2.7	0.0	0.0	3.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),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
LnGrp 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+Rc), s		33.4			26.6			33.4			26.6	
Change Period (Y+Rc), s		5.6			* 5.8			5.6			* 5.8	
Max Green Setting (Gmax), s		27.8			* 21			27.8			* 21	
Max Q Clear Time (g_c+I1), s		4.5			10.3			6.8			8.3	
Green Ext Time (p_c), 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	EBR	WBL	WBT	NBL	NBR
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	8	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	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	0	318	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
Pot Cap-1 Maneuver	-	-	1217	-	461	859
Stage 1	-	-	-	-	731	-
Stage 2	-	-	-	-	763	-
Platoon blocked, %		-		-		
Mov Cap-1 Maneuver	-	-	1208	-	444	852
Mov Cap-2 Maneuver	-	-	-	-	444	-
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	741	-

Approach	EB	WB	NB
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	-	-	1208	-
HCM Lane V/C Ratio	0.077	-	-	0.023	-
HCM Control Delay (s)	10.6	-	-	8	0.1
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

HCM 6th AWSC
11: Wing Street & Cady Street

Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
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	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 Util (X)	0.087	0.138	0.081	0.209
Departure Headway (Hd)	4.572	4.535	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	0.139	0.082	0.209
HCM Control Delay	8	8.3	7.9	8.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.5	0.3	0.8

HCM 6th TWSC
12: Center Street & Cady Street

Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	62.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	59	11	112	57	9	26	428	212	28	369	5
Future Vol, veh/h	1	59	11	112	57	9	26	428	212	28	369	5
Conflicting Peds, #/hr	2	0	0	0	0	2	3	0	2	2	0	3
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	88	88	82	82	82	90	90	90	89	89	89
Heavy Vehicles, %	0	0	0	0	0	0	3	3	3	2	2	2
Mvmt Flow	1	67	13	137	70	11	29	476	236	31	415	6

Major/Minor	Major2			Minor1			Major1			Major2		
Conflicting Flow All	1178	1255	421	1174	1140	598	424	0	0	714	0	0
Stage 1	483	483	-	654	654	-	-	-	-	-	-	-
Stage 2	695	772	-	520	486	-	-	-	-	-	-	-
Critical Hdwy	7.1	6.5	6.2	7.1	6.5	6.2	4.13	-	-	4.12	-	-
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	2.227	-	-	2.218	-	-
Pot Cap-1 Maneuver	169	173	637	170	203	506	1130	-	-	886	-	-
Stage 1	569	556	-	459	466	-	-	-	-	-	-	-
Stage 2	436	412	-	543	554	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	109	157	635	~ 104	184	504	1127	-	-	884	-	-
Mov Cap-2 Maneuver	109	157	-	~ 104	184	-	-	-	-	-	-	-
Stage 1	542	529	-	438	445	-	-	-	-	-	-	-
Stage 2	343	393	-	443	527	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	41.7	$ 410.3	0.3	0.6
HCM LOS	E	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1127	-	-	176	127	884	-	-
HCM Lane V/C Ratio	0.026	-	-	0.458	1.709	0.036	-	-
HCM Control Delay (s)	8.3	0	-	41.7$	410.3	9.2	0	-
HCM Lane LOS	A	A	-	E	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.2	16.3	0.1	-	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

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

Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	135	147	8	2	202	24	5	13	11	5	6	42
Future Vol, veh/h	135	147	8	2	202	24	5	13	11	5	6	42
Conflicting Peds, #/hr	7	0	0	0	0	7	0	0	7	7	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	0	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	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	6	6	6
Mvmt Flow	152	165	9	3	281	33	5	14	12	7	8	58

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	321	0	0	174	0	0	811	801	177	805	789	305
Stage 1	-	-	-	-	-	-	474	474	-	311	311	-
Stage 2	-	-	-	-	-	-	337	327	-	494	478	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.12	6.52	6.22	7.16	6.56	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.16	5.56	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.16	5.56	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.518	4.018	3.318	3.554	4.054	3.354
Pot Cap-1 Maneuver	1245	-	-	1409	-	-	298	318	866	296	318	726
Stage 1	-	-	-	-	-	-	571	558	-	691	651	-
Stage 2	-	-	-	-	-	-	677	648	-	550	549	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1237	-	-	1409	-	-	239	272	860	247	272	721
Mov Cap-2 Maneuver	-	-	-	-	-	-	239	272	-	247	272	-
Stage 1	-	-	-	-	-	-	493	482	-	593	644	-
Stage 2	-	-	-	-	-	-	612	642	-	452	474	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.9	0.1	16.1	12.9
HCM LOS			C	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	356	1237	-	-	1409	-	-	527
HCM Lane V/C Ratio	0.089	0.123	-	-	0.002	-	-	0.14
HCM Control Delay (s)	16.1	8.3	0	-	7.6	0	-	12.9
HCM Lane LOS	C	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.3	0.4	-	-	0	-	-	0.5

HCM 6th TWSC
14: Cady Street & Chruch Street

Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	164	153	0	49	72
Future Vol, veh/h	0	164	153	0	49	72
Conflicting Peds, #/hr	3	0	0	3	0	2
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	81	81	64	64	76	76
Heavy Vehicles, %	1	1	1	1	0	0
Mvmt Flow	0	202	239	0	64	95

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	441	241
Stage 1	-	-	-	-	239	-
Stage 2	-	-	-	-	202	-
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
Pot Cap-1 Maneuver	0	-	0	-	577	803
Stage 1	0	-	0	-	805	-
Stage 2	0	-	0	-	837	-
Platoon blocked, %		-		-		
Mov Cap-1 Maneuver	-	-	-	-	577	801
Mov Cap-2 Maneuver	-	-	-	-	577	-
Stage 1	-	-	-	-	805	-
Stage 2	-	-	-	-	837	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	692
HCM Lane V/C Ratio	-	-	0.23
HCM Control Delay (s)	-	-	11.8
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.9

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	Stop	Stop	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	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	283	268	109	295	344	68	190	0	0	73	0	0
Stage 1	135	135	-	128	128	-	-	-	-	-	-	-
Stage 2	148	133	-	167	216	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	671	640	947	661	582	1001	1372	-	-	1533	-	-
Stage 1	871	787	-	881	794	-	-	-	-	-	-	-
Stage 2	857	788	-	840	728	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	624	619	947	597	563	1001	1372	-	-	1533	-	-
Mov Cap-2 Maneuver	624	619	-	597	563	-	-	-	-	-	-	-
Stage 1	851	779	-	861	776	-	-	-	-	-	-	-
Stage 2	800	770	-	769	721	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.2	10.2	2.2	0.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	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	-	14.2	10.2	7.4	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.9	0.2	0	-	-

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Delay (hr)	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
Total Delay (hr)	0.0	0.1	0.0	0.0	0.0	0.0	0.1
Total Del/Veh (s)	4.8	4.6	0.2	0.3	3.8	3.6	2.6

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	1	0	1	3
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	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		Major2		Minor1	
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
Pot Cap-1 Maneuver	-	-	1468	-	815	959
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	940	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1467	-	809	955
Mov Cap-2 Maneuver	-	-	-	-	809	-
Stage 1	-	-	-	-	928	-
Stage 2	-	-	-	-	934	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	9.6
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	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 %tile Q(veh)	0.2	-	-	0	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	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	-	-	-
Pot Cap-1 Maneuver	421	851	1207	-	-	-
Stage 1	707	-	-	-	-	-
Stage 2	735	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	399	848	1202	-	-	-
Mov Cap-2 Maneuver	399	-	-	-	-	-
Stage 1	672	-	-	-	-	-
Stage 2	732	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.9	0.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1202	-	809	-	-
HCM Lane V/C Ratio	0.034	-	0.101	-	-
HCM Control Delay (s)	8.1	0.2	9.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

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

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBT	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
Denied Del/Veh (s)	0.4	0.3	0.3	0.0	0.1	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	0.2
Total Del/Veh (s)	1.6	0.7	0.7	8.9	8.1	4.4	1.6	0.7	1.8	6.2	1.3

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	15	2	0	7	12	3	29	2	8	41	8
Future Vol, veh/h	13	15	2	0	7	12	3	29	2	8	41	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	21	3	0	10	17	4	39	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	7.5	6.9	7.5	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	9%	43%	0%	14%
Vol Thru, %	85%	50%	37%	72%
Vol Right, %	6%	7%	63%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	34	30	19	57
LT Vol	3	13	0	8
Through Vol	29	15	7	41
RT Vol	2	2	12	8
Lane Flow Rate	45	41	28	77
Geometry Grp	1	1	1	1
Degree of Util (X)	0.053	0.048	0.029	0.087
Departure Headway (Hd)	4.247	4.178	3.763	4.065
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	839	849	939	877
Service Time	2.295	2.244	1.834	2.108
HCM Lane V/C Ratio	0.054	0.048	0.03	0.088
HCM Control Delay	7.5	7.5	6.9	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.2	0.1	0.3

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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	Stop	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	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	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	-	-
Pot Cap-1 Maneuver	151	175	573	152	177	440	1068	-	-	894	-	-
Stage 1	547	538	-	416	430	-	-	-	-	-	-	-
Stage 2	410	426	-	541	539	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	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 %tile Q(veh)	0	-	-	0.6	0.7	0	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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	2	0	0	3	3	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	-
Grade, %	-	0	-	-	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	292	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
Pot Cap-1 Maneuver	1270	-	-	1119	-	-	318	329	604	324	342	756
Stage 1	-	-	-	-	-	-	577	561	-	710	666	-
Stage 2	-	-	-	-	-	-	688	646	-	578	570	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1268	-	-	1119	-	-	303	324	602	307	337	755
Mov Cap-2 Maneuver	-	-	-	-	-	-	303	324	-	307	337	-
Stage 1	-	-	-	-	-	-	574	558	-	705	660	-
Stage 2	-	-	-	-	-	-	659	640	-	553	567	-

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	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	469	1268	-	-	1119	-	-	410
HCM Lane V/C Ratio	0.051	0.005	-	-	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 %tile Q(veh)	0.2	0	-	-	0	-	-	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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
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	
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	0.86	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	359	968	1938	1640	941	1719	211	789	1855	96
Grp Volume(v), veh/h	48	0	401	34	212	88	55	0	640	93	0	448
Grp Sat Flow(s),veh/h/ln	1087	0	1919	968	1938	1640	941	0	1930	789	0	1951
Q Serve(g_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 Clear(g_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		0.11	1.00		0.05
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_a), 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	0.6	0.0	3.3	0.9	1.1	0.5	0.7	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 BackOfQ(50%),veh/ln	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												
LnGrp Delay(d),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	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+I1), s	22.3	15.4	30.5	17.7
Green Ext Time (p_c), s	4.2	2.2	2.2	1.2

Intersection Summary	
HCM 6th Ctrl Delay	20.0
HCM 6th LOS	B

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	0.2	0.1	0.1	0.0	0.1
Total Delay (hr)	0.1	0.0	0.0	0.3	0.0	0.3	0.2	0.9
Total Del/Veh (s)	12.8	0.3	0.6	15.0	9.3	3.3	3.9	4.1

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
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
Storage Length	-	-	-	-	0	-
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	26	303	237	17	20	23

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	256	0	-	0	603	251			
Stage 1	-	-	-	-	248	-			
Stage 2	-	-	-	-	355	-			
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			
Pot Cap-1 Maneuver	1303	-	-	-	454	776			
Stage 1	-	-	-	-	782	-			
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	11.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
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 %tile Q(veh)	0.1	-	-	-	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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			Yield			Free			Free	
Grade		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	261	0	199	0	0	0	0	0	329	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)												
pX, platoon unblocked												
vC, conflicting volume	456	357	192	452	385	0	385			0		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	456	357	192	452	385	0	385			0		
tC, single (s)	7.6	6.6	7.0	7.6	6.6	7.0	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	90	68	100	63	100	100			100		
cM capacity (veh/h)	347	565	813	306	543	1078	1170			1614		

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	54	261	199	219	166
Volume Left	0	0	0	0	0
Volume Right	0	261	0	56	
cSH	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		15.4	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
27: NB Northville Road & N. Seven Mile Road

Future Conditions #3 (Main Closed)
AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	46	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	0.85	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, platoon unblocked						
vC, conflicting volume	605	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	605	0	0			
tC, single (s)	6.9	7.0	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	86	100	88			
cM capacity (veh/h)	374	1081	1607			

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	54	337	276
Volume Left	54	199	0
Volume Right	0	0	0
cSH	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	
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
28: Northville Road & S. Seven Mile Road

Future Conditions #3 (Main Closed)
AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
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
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1953	1953	1938	1938	1953	1953
Adj Flow Rate, veh/h	287	235	341	324	379	238
Peak Hour Factor	0.94	0.94	0.88	0.88	0.84	0.84
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	1642	1860	3809
Grp Volume(v), veh/h	287	235	341	324	379	238
Grp Sat Flow(s),veh/h/ln	1860	1655	1841	1642	1860	1856
Q Serve(g_s), s	9.4	0.0	14.5	15.6	11.5	2.8
Cycle Q Clear(g_c), s	9.4	0.0	14.5	15.6	11.5	2.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	665	923	377	337	462	1800
V/C Ratio(X)	0.43	0.25	0.90	0.96	0.82	0.13
Avail Cap(c_a), 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	9.1	31.0	31.5	28.8	11.3
Incr Delay (d2), s/veh	2.0	0.7	27.4	40.4	15.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	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			617
Approach Delay, s/veh	16.3		65.0			31.4
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 (g_c+I1), s	13.5	17.6				4.8	11.4
Green Ext Time (p_c), s	0.3	0.0				1.5	1.5

Intersection Summary	
HCM 6th Ctrl Delay	39.4
HCM 6th LOS	D

HCM 6th TWSC
29: N.E. Site Drive (Egress Only) & Cady Street

Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
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
Storage Length	-	-	-	-	0	-
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	-	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	-	0	0	-	521	840
Stage 1	-	0	0	-	833	-
Stage 2	-	0	0	-	741	-
Platoon 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	NBLn1	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 %tile Q(veh)	0	-	-

HCM 6th TWSC
30: Griswold Street & E. Site Drive

Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	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
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	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	-	-	-
Pot 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	0	8.9	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

HCM 6th TWSC
31: Griswold Street & S.E. Site Drive

Future Conditions #3 (Main Closed)
AM Peak Hour

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
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	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	-	-	-
Pot 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 %tile Q(veh)	0	-	0	-	-

HCM 6th TWSC
32: Center Street & Proposed Beal Street

Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	25	12	631	20	5	416
Future Vol, veh/h	25	12	631	20	5	416
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	94	94	77	77
Heavy Vehicles, %	2	2	1	1	2	2
Mvmt Flow	27	13	671	21	6	540

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1234	682	0	0	692	0
Stage 1	682	-	-	-	-	-
Stage 2	552	-	-	-	-	-
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	-	-	2.218	-
Pot Cap-1 Maneuver	195	450	-	-	903	-
Stage 1	502	-	-	-	-	-
Stage 2	577	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	193	450	-	-	903	-
Mov Cap-2 Maneuver	193	-	-	-	-	-
Stage 1	502	-	-	-	-	-
Stage 2	572	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.3	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	237	903	-
HCM Lane V/C Ratio	-	-	0.17	0.007	-
HCM Control Delay (s)	-	-	23.3	9	0
HCM Lane LOS	-	-	C	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0	-

HCM 6th TWSC
33: S.W. Site Drive & Fairbrook Street

Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	1.1

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
Storage Length	-	-	-	-	0	-
Veh 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	33	0	3	28	0	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	33	0	67	33
Stage 1	-	-	-	-	33	-
Stage 2	-	-	-	-	34	-
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
Pot Cap-1 Maneuver	-	-	1592	-	938	1041
Stage 1	-	-	-	-	989	-
Stage 2	-	-	-	-	988	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1592	-	936	1041
Mov Cap-2 Maneuver	-	-	-	-	936	-
Stage 1	-	-	-	-	989	-
Stage 2	-	-	-	-	986	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	8.5
HCM LOS			A

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	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

HCM 6th TWSC
34: Wing Street & S.W. Site Drive

Future Conditions #3 (Main Closed)
AM Peak Hour

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
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
Storage Length	0	-	-	-	-	-
Veh 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	0	47	0
Stage 1	46	-	-	-	-	-
Stage 2	51	-	-	-	-	-
Critical Hdwy	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	-
Pot Cap-1 Maneuver	902	1023	-	-	1548	-
Stage 1	976	-	-	-	-	-
Stage 2	971	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	902	1023	-	-	1548	-
Mov Cap-2 Maneuver	902	-	-	-	-	-
Stage 1	976	-	-	-	-	-
Stage 2	971	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	929	1548	-
HCM Lane V/C Ratio	-	-	0.005	-	-
HCM Control Delay (s)	-	-	8.9	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

HCM 6th TWSC
1: Wing Street & Randolph Street

Future Conditions #3 (Main Closed)
PM Peak Hour

Intersection	
Int Delay, s/veh	5.4

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
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	87	87	81	81	78	78
Heavy Vehicles, %	0	0	0	0	1	1
Mvmt Flow	287	113	6	121	226	15

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	411	0	488	359
Stage 1	-	-	-	-	355	-
Stage 2	-	-	-	-	133	-
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
Pot Cap-1 Maneuver	-	-	1159	-	541	688
Stage 1	-	-	-	-	712	-
Stage 2	-	-	-	-	896	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1147	-	532	678
Mov Cap-2 Maneuver	-	-	-	-	532	-
Stage 1	-	-	-	-	705	-
Stage 2	-	-	-	-	891	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	17
HCM LOS			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	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.3	-	-	0	-

HCM 6th TWSC
2: Center Street & Randolph Street/Private Drive

Future Conditions #3 (Main Closed)
PM Peak Hour

Intersection	
Int Delay, s/veh	44.2

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	5	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
Storage Length	-	-	-	-	-	-	500	-	-	500	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	84	84	84	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	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1569	1563	653	1681	1585	749	674	0	0	751	0	0
Stage 1	692	692	-	867	867	-	-	-	-	-	-	-
Stage 2	877	871	-	814	718	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	91	113	471	76	109	415	927	-	-	863	-	-
Stage 1	437	448	-	350	373	-	-	-	-	-	-	-
Stage 2	346	371	-	375	436	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	69	100	462	29	97	409	914	-	-	853	-	-
Mov Cap-2 Maneuver	69	100	-	29	97	-	-	-	-	-	-	-
Stage 1	402	430	-	323	345	-	-	-	-	-	-	-
Stage 2	289	343	-	162	419	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	237.6	122.4	0.7	0.3
HCM LOS	F	F		

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	-	-	237.6	122.4	9.3	-	-
HCM Lane LOS	A	-	-	F	F	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	17.4	3.4	0.1	-	-

HCM 6th AWSC
3: Wing Street & Dunlap Street

Future Conditions #3 (Main Closed)
PM Peak Hour

Intersection	
Intersection Delay, s/veh	10.9
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
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	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	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	9.6	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 Grp	1	1	1	1
Degree of Util (X)	0.373	0.18	0.412	0.216
Departure Headway (Hd)	5.02	5.365	5.106	5.505
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	718	668	706	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-tile Q	1.7	0.7	2	0.8

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

Future 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)	75	101	27	9	135	230	14	390	109	106	498	62
Future Volume (veh/h)	75	101	27	9	135	230	14	390	109	106	498	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	0.95		0.93	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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000	2000
Adj Flow Rate, veh/h	85	115	31	10	147	250	15	424	118	136	638	79
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	0	0	0	0	0	0
Cap, veh/h	140	370	100	343	157	267	413	922	257	655	1071	133
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	1.00	1.00	1.00	0.62	0.62	0.62
Sat Flow, veh/h	1003	1488	401	1202	631	1074	746	1499	417	870	1741	216
Grp Volume(v), veh/h	85	0	146	10	0	397	15	0	542	136	0	717
Grp Sat Flow(s),veh/h/ln	1003	0	1890	1202	0	1705	746	0	1916	870	0	1957
Q Serve(g_s), s	1.2	0.0	3.8	0.4	0.0	13.7	0.5	0.0	0.0	4.3	0.0	13.4
Cycle Q Clear(g_c), s	14.9	0.0	3.8	4.2	0.0	13.7	13.8	0.0	0.0	4.3	0.0	13.4
Prop In Lane	1.00		0.21	1.00		0.63	1.00		0.22	1.00		0.11
Lane Grp Cap(c), veh/h	140	0	469	343	0	423	413	0	1178	655	0	1203
V/C Ratio(X)	0.61	0.00	0.31	0.03	0.00	0.94	0.04	0.00	0.46	0.21	0.00	0.60
Avail Cap(c_a), veh/h	140	0	469	343	0	423	413	0	1178	655	0	1203
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 Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.9	0.0	18.4	20.1	0.0	22.1	2.5	0.0	0.0	5.3	0.0	7.0
Incr Delay (d2), s/veh	17.9	0.0	1.7	0.2	0.0	30.6	0.2	0.0	1.3	0.7	0.0	2.2
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	1.9	0.0	1.8	0.1	0.0	8.7	0.0	0.0	0.4	0.7	0.0	5.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.8	0.0	20.1	20.2	0.0	52.7	2.7	0.0	1.3	6.0	0.0	9.2
LnGrp LOS	D	A	C	C	A	D	A	A	A	A	A	A
Approach Vol, veh/h		231			407			557			853	
Approach Delay, s/veh		30.3			51.9			1.3			8.7	
Approach LOS		C			D			A			A	

Timer - Assigned Phs		2		4		6		8	
Phs Duration (G+Y+Rc), s		41.0		19.0		41.0		19.0	
Change Period (Y+Rc), s		* 4.1		* 4.1		* 4.1		* 4.1	
Max Green Setting (Gmax), s		* 37		* 15		* 37		* 15	
Max Q Clear Time (g_c+I1), s		15.8		16.9		15.4		15.7	
Green Ext Time (p_c), s		4.0		0.0		6.5		0.0	

Intersection Summary	
HCM 6th Ctrl Delay	17.7
HCM 6th LOS	B

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.

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	-	-	-	-	0	-
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	15	334	457	101	100	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	577	0	-	0	901	547
Stage 1	-	-	-	-	527	-
Stage 2	-	-	-	-	374	-
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
Pot Cap-1 Maneuver	1006	-	-	-	310	539
Stage 1	-	-	-	-	594	-
Stage 2	-	-	-	-	698	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	988	-	-	-	293	519
Mov Cap-2 Maneuver	-	-	-	-	293	-
Stage 1	-	-	-	-	572	-
Stage 2	-	-	-	-	685	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	23.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	988	-	-	-	308
HCM Lane V/C Ratio	0.015	-	-	-	0.365
HCM Control Delay (s)	8.7	0	-	-	23.3
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	1.6

Intersection	
Intersection 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	0	0	0
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	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	10.4	9	10.2	9.6
HCM LOS	B	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
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	135
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
Departure Headway (Hd)	4.864	4.891	5.187	4.895
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	730	727	696	725
Service Time	2.952	2.978	3.187	2.987
HCM Lane V/C Ratio	0.321	0.329	0.132	0.246
HCM Control Delay	10.2	10.4	9	9.6
HCM Lane LOS	B	B	A	A
HCM 95th-tile Q	1.4	1.4	0.5	0.9

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			0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	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	1	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	1883	84
Grp Volume(v), veh/h	97	0	522	0	0	562
Grp Sat Flow(s),veh/h/ln	1666	0	1983	0	0	1967
Q Serve(g_s), s	2.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.7	0.0	9.4	0.0	0.0	0.0
Prop In Lane	0.32	0.67	0.02			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_a), 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
%ile BackOfQ(50%),veh/ln	1.1	0.0	3.7	0.0	0.0	0.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.4	0.0	9.2	0.0	0.0	1.7
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+I1), s	11.4		4.7		2.0
Green Ext Time (p_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.

Intersection	
Intersection 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		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
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
Departure Headway (Hd)	6.179	6.86	5.644	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	4.384	3.877
HCM Lane V/C Ratio	0.351	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-tile Q	1.6	0.3	4.1	3.6	0.8

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		0.99	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	
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	2582	268	33	1922	1514	92	1646	170	540	726	290
Grp Volume(v), veh/h	183	0	198	331	0	277	315	0	0	494	0	0
Grp Sat Flow(s),veh/h/ln	1391	0	1768	1955	0	1514	1908	0	0	1556	0	0
Q Serve(g_s), s	0.4	0.0	4.1	0.0	0.0	7.2	0.0	0.0	0.0	10.6	0.0	0.0
Cycle Q Clear(g_c), s	7.6	0.0	4.1	6.4	0.0	7.2	7.5	0.0	0.0	18.1	0.0	0.0
Prop In Lane	0.29		0.15	0.05		1.00	0.10		0.09	0.38		0.19
Lane Grp Cap(c), veh/h	722	0	819	969	0	701	727	0	0	622	0	0
V/C Ratio(X)	0.25	0.00	0.24	0.34	0.00	0.39	0.43	0.00	0.00	0.79	0.00	0.00
Avail Cap(c_a), veh/h	722	0	819	969	0	701	727	0	0	622	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	0.00	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	15.2	0.0	0.0	18.4	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.7	1.0	0.0	1.7	1.9	0.0	0.0	10.0	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	1.4	0.0	1.6	2.8	0.0	2.4	3.3	0.0	0.0	7.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.4	0.0	10.4	11.3	0.0	12.2	17.1	0.0	0.0	28.4	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	C	A	A
Approach Vol, veh/h		381			608			315			494	
Approach Delay, s/veh		10.4			11.7			17.1			28.4	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	2		4		6		8	
Phs Duration (G+Y+Rc), s	33.4		26.6		33.4		26.6	
Change Period (Y+Rc), s	5.6		* 5.8		5.6		* 5.8	
Max Green Setting (Gmax), s	27.8		* 21		27.8		* 21	
Max Q Clear Time (g_c+I1), s	9.6		20.1		9.2		9.5	
Green Ext Time (p_c), s	2.4		0.3		4.0		1.4	

Intersection Summary		
HCM 6th Ctrl Delay		17.0
HCM 6th LOS		B

Notes

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

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	10	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	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
Pot Cap-1 Maneuver	-	-	1048	-	301	734
Stage 1	-	-	-	-	586	-
Stage 2	-	-	-	-	679	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	-	-	1038	-	280	727
Mov Cap-2 Maneuver	-	-	-	-	280	-
Stage 1	-	-	-	-	580	-
Stage 2	-	-	-	-	638	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	16.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	429	-	-	1038	-
HCM Lane V/C Ratio	0.288	-	-	0.042	-
HCM Control Delay (s)	16.8	-	-	8.6	0.2
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.2	-	-	0.1	-

Intersection	
Intersection 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	47	11	14	35	55	10	134	17	65	78	16
Future Vol, veh/h	24	47	11	14	35	55	10	134	17	65	78	16
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	0	0	0
Mvmt Flow	29	57	13	16	39	61	11	149	19	73	88	18
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	8.4	9	9.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	29%	13%	41%
Vol Thru, %	83%	57%	34%	49%
Vol Right, %	11%	13%	53%	10%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	161	82	104	159
LT Vol	10	24	14	65
Through Vol	134	47	35	78
RT Vol	17	11	55	16
Lane Flow Rate	179	99	116	179
Geometry Grp	1	1	1	1
Degree of Util (X)	0.228	0.133	0.147	0.23
Departure Headway (Hd)	4.583	4.851	4.367	4.637
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	782	736	782	772
Service Time	2.625	2.898	2.612	2.679
HCM Lane V/C Ratio	0.229	0.135	0.148	0.232
HCM Control Delay	9	8.6	8.4	9.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.9	0.5	0.5	0.9

Intersection	
Int Delay, s/veh	674.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	76	27	189	65	18	23	467	219	57	499	33
Future Vol, veh/h	10	76	27	189	65	18	23	467	219	57	499	33
Conflicting Peds, #/hr	25	0	4	4	0	25	21	0	3	3	0	21
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	88	88	88	95	95	95	95	95	95
Heavy Vehicles, %	1	1	1	0	0	0	1	1	1	1	1	1
Mvmt Flow	13	96	34	215	74	20	24	492	231	60	525	35

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1412	1458	568	1391	1360	636	581	0	0	726	0	0
Stage 1	684	684	-	659	659	-	-	-	-	-	-	-
Stage 2	728	774	-	732	701	-	-	-	-	-	-	-
Critical Hdwy	7.11	6.51	6.21	7.1	6.5	6.2	4.11	-	-	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	2.209	-	-	2.209	-	-
Pot Cap-1 Maneuver	116	130	524	~ 121	150	481	998	-	-	882	-	-
Stage 1	440	450	-	456	464	-	-	-	-	-	-	-
Stage 2	416	410	-	416	444	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	51	109	512	~ 25	126	468	978	-	-	879	-	-
Mov Cap-2 Maneuver	51	109	-	~ 25	126	-	-	-	-	-	-	-
Stage 1	413	397	-	435	443	-	-	-	-	-	-	-
Stage 2	310	391	-	264	392	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	216.5	$ 3867.1	0.3	0.9
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	978	-	-	119	34	879	-	-
HCM Lane V/C Ratio	0.025	-	-	1.202	9.091	0.068	-	-
HCM Control Delay (s)	8.8	0	-	216.5	$ 3867.1	9.4	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	9	37.5	0.2	-	-

Notes	
~: Volume exceeds capacity	$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	146	212	15	4	183	25	6	11	4	21	15	86
Future Vol, veh/h	146	212	15	4	183	25	6	11	4	21	15	86
Conflicting Peds, #/hr	13	0	0	0	0	13	0	0	0	0	0	3
Sign Control	Free	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	95	92	92	92	63	63	63
Heavy Vehicles, %	1	1	1	0	0	0	2	2	2	1	1	1
Mvmt Flow	155	226	16	4	193	26	7	12	4	33	24	137

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	232	0	0	242	0	0	842	784	234	779	779	222
Stage 1	-	-	-	-	-	-	544	544	-	227	227	-
Stage 2	-	-	-	-	-	-	298	240	-	552	552	-
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
Pot Cap-1 Maneuver	1342	-	-	1336	-	-	284	325	805	314	328	820
Stage 1	-	-	-	-	-	-	523	519	-	778	718	-
Stage 2	-	-	-	-	-	-	711	707	-	520	516	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1325	-	-	1336	-	-	197	277	805	267	279	808
Mov Cap-2 Maneuver	-	-	-	-	-	-	197	277	-	267	279	-
Stage 1	-	-	-	-	-	-	452	449	-	664	707	-
Stage 2	-	-	-	-	-	-	568	696	-	435	446	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.2	0.1	19.1	16.3
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	279	1325	-	-	1336	-	-	511
HCM Lane V/C Ratio	0.082	0.117	-	-	0.003	-	-	0.379
HCM Control Delay (s)	19.1	8.1	0	-	7.7	0	-	16.3
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	0.3	0.4	-	-	0	-	-	1.8

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	
Traffic Vol, veh/h	0	241	190	0	26	17
Future Vol, veh/h	0	241	190	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	-	-	-	-	0	-
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	1	0	0
Mvmt Flow	0	254	211	0	36	24

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	465	212
Stage 1	-	-	-	-	211	-
Stage 2	-	-	-	-	254	-
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
Pot Cap-1 Maneuver	0	-	-	0	559	833
Stage 1	0	-	-	0	829	-
Stage 2	0	-	-	0	793	-
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	-	-	-	-	559	832
Mov Cap-2 Maneuver	-	-	-	-	559	-
Stage 1	-	-	-	-	829	-
Stage 2	-	-	-	-	793	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBT	WBT	SBLn1
Capacity (veh/h)	-	-	642
HCM Lane V/C Ratio	-	-	0.093
HCM Control Delay (s)	-	-	11.2
HCM Lane LOS	-	-	B
HCM 95th %tile Q(veh)	-	-	0.3

Intersection	
Int Delay, s/veh	8.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	185	38	44	5	20	23	19	50	3	14	69	151
Future Vol, veh/h	185	38	44	5	20	23	19	50	3	14	69	151
Conflicting Peds, #/hr	3	0	1	1	0	3	10	0	4	4	0	10
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	64	64	64	86	86	86	88	88	88
Heavy Vehicles, %	1	1	1	0	0	0	0	0	0	0	0	0
Mvmt Flow	195	40	46	8	31	36	22	58	3	16	78	172

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	346	315	175	348	400	67	260	0	0	65	0	0
Stage 1	206	206	-	108	108	-	-	-	-	-	-	-
Stage 2	140	109	-	240	292	-	-	-	-	-	-	-
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	-	-
Pot Cap-1 Maneuver	610	602	871	610	541	1002	1316	-	-	1550	-	-
Stage 1	798	733	-	902	810	-	-	-	-	-	-	-
Stage 2	865	807	-	768	675	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	542	577	862	532	518	995	1303	-	-	1544	-	-
Mov Cap-2 Maneuver	542	577	-	532	518	-	-	-	-	-	-	-
Stage 1	777	717	-	883	793	-	-	-	-	-	-	-
Stage 2	785	790	-	677	660	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.8	11	2.1	0.4
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1303	-	-	583	675	1544	-	-
HCM Lane V/C Ratio	0.017	-	-	0.482	0.111	0.01	-	-
HCM Control Delay (s)	7.8	0	-	16.8	11	7.4	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	2.6	0.4	0	-	-

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

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
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)	3.9	4.9	0.4	0.4	4.2	4.2	2.7

Intersection	
Int Delay, s/veh	3.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
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	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	-	-	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	
Conflicting Flow All	0	0	158	0	215	135
Stage 1	-	-	-	-	125	-
Stage 2	-	-	-	-	90	-
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
Pot 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
HCM Control Delay, s	0	0.7	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	777	-	-	1430	-
HCM Lane V/C Ratio	0.12	-	-	0.005	-
HCM Control Delay (s)	10.3	-	-	7.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
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
Storage Length	0	-	-	-	-	-
Veh 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	105	51	674	559	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1005	287	569	0	-	0
Stage 1	566	-	-	-	-	-
Stage 2	439	-	-	-	-	-
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	-	-	-
Pot 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
HCM Control Delay, s	11.9	0.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1002	-	633	-	-
HCM Lane V/C Ratio	0.051	-	0.176	-	-
HCM Control Delay (s)	8.8	0.3	11.9	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.6	-	-

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	0.1
Denied Del/Veh (s)	0.3	0.3	0.4	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2
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	0.5
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

Intersection	
Intersection Delay, s/veh	8.1
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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	0.91	0.69	0.69	0.69	0.91	0.91	0.91
Heavy Vehicles, %	5	5	5	5	5	5	1	1	1	0	0	0
Mvmt Flow	18	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
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	8.1	7.8	8.3	8.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	1%	38%	0%	34%
Vol Thru, %	95%	59%	12%	53%
Vol Right, %	4%	3%	88%	13%
Sign Control	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 Util (X)	0.169	0.062	0.151	0.14
Departure Headway (Hd)	4.416	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	0.062	0.151	0.14
HCM Control Delay	8.3	8.1	7.8	8.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.6	0.2	0.5	0.5

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	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	1	4	0	0	0	0	4
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, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	92	92	92	94	94	94	91	91	91
Heavy Vehicles, %	0	0	0	2	2	2	1	1	1	0	0	0
Mvmt Flow	18	9	51	10	4	10	115	710	24	10	715	14

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1706	1710	726	1724	1705	723	733	0	0	734	0	0
Stage 1	746	746	-	952	952	-	-	-	-	-	-	-
Stage 2	960	964	-	772	753	-	-	-	-	-	-	-
Critical Hdwy	7.1	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	-	-
Pot Cap-1 Maneuver	73	92	428	70	91	426	876	-	-	880	-	-
Stage 1	409	424	-	312	338	-	-	-	-	-	-	-
Stage 2	311	336	-	392	417	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	55	70	426	46	69	426	873	-	-	880	-	-
Mov Cap-2 Maneuver	55	70	-	46	69	-	-	-	-	-	-	-
Stage 1	317	414	-	242	263	-	-	-	-	-	-	-
Stage 2	232	261	-	331	407	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	62.2	68.1	1.3	0.1
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	873	-	-	136	80	880	-	-
HCM Lane V/C Ratio	0.132	-	-	0.574	0.299	0.011	-	-
HCM Control Delay (s)	9.7	0	-	62.2	68.1	9.1	0	-
HCM Lane LOS	A	A	-	F	F	A	A	-
HCM 95th %tile Q(veh)	0.5	-	-	2.9	1.1	0	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	19	437	3	13	525	77	4	3	7	35	5	19
Future Vol, veh/h	19	437	3	13	525	77	4	3	7	35	5	19
Conflicting Peds, #/hr	0	0	1	1	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
Storage Length	100	-	-	500	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	90	90	90	70	70	70	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	0	0	0	1	1	1
Mvmt Flow	22	514	4	14	583	86	6	4	10	43	6	23

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	669	0	0	519	0	0	1230	1258	522	1226	1217	626
Stage 1	-	-	-	-	-	-	561	561	-	654	654	-
Stage 2	-	-	-	-	-	-	669	697	-	572	563	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.1	6.5	6.2	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.1	5.5	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.5	4	3.3	3.509	4.009	3.309
Pot Cap-1 Maneuver	921	-	-	1047	-	-	156	172	559	156	182	486
Stage 1	-	-	-	-	-	-	516	513	-	457	465	-
Stage 2	-	-	-	-	-	-	450	446	-	507	511	-
Platoon blocked, %			-			-						
Mov Cap-1 Maneuver	921	-	-	1046	-	-	140	165	556	145	175	486
Mov Cap-2 Maneuver	-	-	-	-	-	-	140	165	-	145	175	-
Stage 1	-	-	-	-	-	-	503	500	-	446	459	-
Stage 2	-	-	-	-	-	-	417	440	-	480	498	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	0.2	21.7	34.8
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	236	921	-	-	1046	-	-	191
HCM Lane V/C Ratio	0.085	0.024	-	-	0.014	-	-	0.377
HCM Control Delay (s)	21.7	9	-	-	8.5	-	-	34.8
HCM Lane LOS	C	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	1.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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
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	
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	0.90	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	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	0.37	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	794	1403	492	914	2000	1693	774	1680	257	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 Serve(g_s), 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		0.13	1.00		0.07
Lane Grp Cap(c), veh/h	222	0	696	220	735	622	261	0	944	210	0	954
V/C Ratio(X)	0.16	0.00	0.71	0.46	0.66	0.26	0.44	0.00	0.79	0.37	0.00	0.70
Avail Cap(c_a), 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(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	29.1	0.0	21.7	33.1	21.1	17.7	28.5	0.0	17.1	31.2	0.0	16.0
Incr Delay (d2), 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	9.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),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
LnGrp LOS	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+I1), s		34.3		21.2		35.8		28.6				
Green Ext Time (p_c), s		2.4		2.1		1.5		0.4				

Intersection Summary												
HCM 6th Ctrl Delay			25.1									
HCM 6th LOS			C									

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 (s)	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

Intersection						
Int Delay, s/veh	1.6					

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
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	-	-	-	-	0	-
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	38	339	551	33	17	69

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	588	0	-	0	993	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
Pot Cap-1 Maneuver	987	-	-	-	268	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
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
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 %tile Q(veh)	0.1	-	-	-	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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			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	300	0	456	0	0	0	0	0	538	109
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	324	597	647	0	647				0	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	820	592	324	597	647	0	647				0	
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1				4.1	
tC, 2 stage (s)												
tF (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	
cM capacity (veh/h)	0	417	672	193	390	1088	934				1629	

Direction, Lane #	EB 1	EB 2	WB 1	SB 1	SB 2
Volume Total	56	300	456	359	288
Volume Left	0	0	0	0	0
Volume Right	0	300	0	0	109
cSH	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	F		
Approach Delay (s)	14.7		131.4	0.0	
Approach LOS	B		F		

Intersection Summary												
Average Delay			44.6									
Intersection Capacity Utilization			68.9%		ICU Level of Service				C			
Analysis Period (min)			15									

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	
Grade	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	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	932	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	66	100	72			
cM capacity (veh/h)	163	1084	1629			

Direction, Lane #	EB 1	NB 1	NB 2
Volume Total	56	669	427
Volume Left	56	456	0
Volume Right	0	0	0
cSH	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			70.3%	ICU Level of Service		C
Analysis Period (min)			15			

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 (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
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	1682	2209	1492	1890	3870
Grp Volume(v), veh/h	405	631	453	413	404	421
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1716	1890	1885
Q Serve(g_s), s	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(X)	0.60	0.67	1.17	1.17	0.86	0.23
Avail Cap(c_a), 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(I)	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
Incr Delay (d2), s/veh	3.9	3.9	101.5	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
Unsig. Movement Delay, s/veh						
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	B		F			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 (g_c+I1), s	14.6	18.4			7.2	16.0
Green Ext Time (p_c), s	0.2	0.0			2.9	3.3

Intersection Summary						
HCM 6th Ctrl Delay			59.2			
HCM 6th LOS			E			

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	92	92
Heavy Vehicles, %	0	0	0	0	2	2
Mvmt Flow	249	0	0	218	5	4

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	-	-	467	249
Stage 1	-	-	-	-	249	-
Stage 2	-	-	-	-	218	-
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
Pot Cap-1 Maneuver	-	0	0	-	554	790
Stage 1	-	0	0	-	792	-
Stage 2	-	0	0	-	818	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	-	-	554	790
Mov Cap-2 Maneuver	-	-	-	-	554	-
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	818	-

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

Minor Lane/Major Mvmt	NBLn1	EBT	WBT
Capacity (veh/h)	639	-	-
HCM Lane V/C Ratio	0.015	-	-
HCM Control Delay (s)	10.7	-	-
HCM Lane LOS	B	-	-
HCM 95th %tile Q(veh)	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
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
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh 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	1	2	83	127	1

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	215	128	128	0	-	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	-	-	-
Pot Cap-1 Maneuver	773	922	1470	-	-	-
Stage 1	898	-	-	-	-	-
Stage 2	936	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	772	922	1470	-	-	-
Mov Cap-2 Maneuver	772	-	-	-	-	-
Stage 1	897	-	-	-	-	-
Stage 2	936	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.3	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1470	-	840	-	-
HCM Lane V/C Ratio	0.002	-	0.003	-	-
HCM Control Delay (s)	7.5	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
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
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh 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	126	2

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	215	127	128	0	-	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	-	-	-
Pot Cap-1 Maneuver	773	923	1470	-	-	-
Stage 1	899	-	-	-	-	-
Stage 2	935	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	772	923	1470	-	-	-
Mov Cap-2 Maneuver	772	-	-	-	-	-
Stage 1	898	-	-	-	-	-
Stage 2	935	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	0.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1470	-	867	-	-
HCM Lane V/C Ratio	0.002	-	0.004	-	-
HCM Control Delay (s)	7.5	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0	-	-

Intersection	
Int Delay, s/veh	1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
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
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	90	90	94	94
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	29	12	722	46	14	687

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1460	745	0	0	768	0
Stage 1	745	-	-	-	-	-
Stage 2	715	-	-	-	-	-
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	142	414	-	-	850	-
Stage 1	469	-	-	-	-	-
Stage 2	485	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	138	414	-	-	850	-
Mov Cap-2 Maneuver	138	-	-	-	-	-
Stage 1	469	-	-	-	-	-
Stage 2	472	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	32.6	0	0.2
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	171	850	-
HCM Lane V/C Ratio	-	-	0.242	0.016	-
HCM Control Delay (s)	-	-	32.6	9.3	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	0.9	0.1	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
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
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh 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	98	2	4	133	0	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	100	0	240	99
Stage 1	-	-	-	-	99	-
Stage 2	-	-	-	-	141	-
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	-	-	1474	-	748	957
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	886	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1474	-	746	957
Mov Cap-2 Maneuver	-	-	-	-	746	-
Stage 1	-	-	-	-	925	-
Stage 2	-	-	-	-	883	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	957	-	-	1474	-
HCM Lane V/C Ratio	0.003	-	-	0.003	-
HCM Control Delay (s)	8.8	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
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
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
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	138	6	0	68

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	209	141	0	0	144	0
Stage 1	141	-	-	-	-	-
Stage 2	68	-	-	-	-	-
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	779	907	-	-	1445	-
Stage 1	886	-	-	-	-	-
Stage 2	955	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	779	907	-	-	1445	-
Mov Cap-2 Maneuver	779	-	-	-	-	-
Stage 1	886	-	-	-	-	-
Stage 2	955	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.6	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	779	1445	-
HCM Lane V/C Ratio	-	-	0.004	-	-
HCM Control Delay (s)	-	-	9.6	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0	0	-

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)	63	69	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)				

Intersection: 4: Center Street & Dunlap Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	81	87	32	105	45	177	132	173
Average Queue (ft)	29	38	6	50	10	86	55	91
95th Queue (ft)	64	78	26	89	35	153	101	157
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	1
Queuing Penalty (veh)	0	0		0	13	3	0	1

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)				

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 (%)	2		5	
Queuing Penalty (veh)	4		24	
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	
Queuing Penalty (veh)	2	1	2	0		0	

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR	
Maximum Queue (ft)	120	101	94	126	153	199	
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 (%)	1	0			1		
Queuing Penalty (veh)	1	0			2		
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)	28	51
Average Queue (ft)	2	19
95th Queue (ft)	16	43
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)	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 (%)				0
Queuing Penalty (veh)				1
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)	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 & Chruch Street

Movement	SB
Directions Served	LR
Maximum Queue (ft)	64
Average Queue (ft)	37
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	8
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)	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 (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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 (%)				
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	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 (%)				
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)	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			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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

Movement	EB	EB	WB	NB	SB
Directions Served	L	TR	L	LTR	LTR
Maximum Queue (ft)	16	37	25	52	61
Average Queue (ft)	1	1	2	15	26
95th Queue (ft)	8	15	14	42	51
Link Distance (ft)		1045		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	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	63	362	59	126	68	59	577	177	320
Average Queue (ft)	22	191	21	49	17	27	301	81	127
95th Queue (ft)	50	306	52	99	47	63	527	161	235
Link Distance (ft)		386		578	578		21448		531
Upstream Blk Time (%)		0							
Queuing Penalty (veh)		1							
Storage Bay Dist (ft)	500		150			50		150	
Storage Blk Time (%)		0		0		2	41	4	4
Queuing Penalty (veh)		0		0		14	24	16	4

Intersection: 24: Hines Drive & Seven Mile Road

Movement	WB	NB	SB
Directions Served	L	TR	LT
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 (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	225		
Storage Blk Time (%)			
Queuing Penalty (veh)			

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)	821	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	EB	WB
Directions Served	T	R	T
Maximum Queue (ft)	37	137	57
Average Queue (ft)	20	58	28
95th Queue (ft)	37	104	56
Link Distance (ft)	180	180	16
Upstream Blk Time (%)		0	5
Queuing Penalty (veh)		0	9
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	LT	T
Maximum Queue (ft)	30	67	8
Average Queue (ft)	13	11	0
95th Queue (ft)	34	42	6
Link Distance (ft)	16	233	233
Upstream Blk Time (%)	4		
Queuing Penalty (veh)	2		
Storage Bay Dist (ft)			
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)	98	45	180	207	199	250	95
Average Queue (ft)	73	7	108	115	160	82	35
95th Queue (ft)	105	28	164	191	222	247	71
Link Distance (ft)	82	82	219	219		222	222
Upstream Blk Time (%)	2		0	0		5	
Queuing Penalty (veh)	5		0	0		14	
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					30		
Queuing 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 (%)	
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)	25
Average Queue (ft)	3
95th Queue (ft)	18
Link Distance (ft)	201
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	EB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	2
95th Queue (ft)	15
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)	62	82
Average Queue (ft)	27	5
95th Queue (ft)	56	37
Link Distance (ft)	293	124
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
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)	34
Average Queue (ft)	6
95th Queue (ft)	25
Link Distance (ft)	271
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

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 (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing 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 (%)		0		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Center Street & Dunlap Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	91	105	35	154	49	230	152	181
Average Queue (ft)	41	47	8	82	11	88	55	130
95th Queue (ft)	80	83	30	140	39	172	113	188
Link Distance (ft)		192		135		326		153
Upstream Blk Time (%)				2		0	0	2
Queuing Penalty (veh)				4		0	0	20
Storage Bay Dist (ft)	100		75		30		500	
Storage Blk Time (%)	0	0		18	4	22	0	2
Queuing Penalty (veh)	0	0		2	24	4	0	3

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	64
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	109	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	288	179	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 (%)	4		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	88	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	1		3	
Queuing Penalty (veh)	4	2	17	3		0	

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	LT	TR	LT	TR	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	1			4	54	
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	148
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		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 & Chruch Street

Movement	SB
Directions Served	LR
Maximum Queue (ft)	53
Average Queue (ft)	26
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)		

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 (%)				
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	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 (%)				
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)	91	59	325	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			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	54	13	25	22	32	87
Average Queue (ft)	10	0	3	1	10	33
95th Queue (ft)	37	8	15	10	32	68
Link Distance (ft)		1045		386	426	110
Upstream Blk Time (%)						1
Queuing Penalty (veh)						1
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	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	64	261	236	356	247	60	6903	199	491
Average Queue (ft)	21	150	80	193	65	53	3986	94	250
95th Queue (ft)	50	237	182	308	182	73	7609	207	407
Link Distance (ft)		386		578	578		21448		531
Upstream Blk Time (%)									0
Queuing Penalty (veh)									2
Storage Bay Dist (ft)	500		150			50		150	
Storage Blk Time (%)			2	18		30	47	5	21
Queuing Penalty (veh)			13	20		244	59	36	17

Intersection: 24: Hines Drive & Seven Mile Road

Movement	WB	NB	SB
Directions Served	L	TR	LT
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 (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	225		
Storage Blk Time (%)			
Queuing Penalty (veh)			

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)	821	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	EB	WB
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 (%)			21
Queuing Penalty (veh)			89
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	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 (%)	8		
Queuing Penalty (veh)	5		
Storage Bay Dist (ft)			
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)	97	59	258	262	200	261	156
Average Queue (ft)	81	24	223	224	160	107	69
95th Queue (ft)	103	55	291	301	215	259	125
Link Distance (ft)	82	82	219	219		222	222
Upstream Blk Time (%)	3	0	39	42		6	0
Queuing Penalty (veh)	13	0	171	182		27	0
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					33	0	
Queuing Penalty (veh)					69	0	

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 (%)		
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)	31
Average Queue (ft)	2
95th Queue (ft)	14
Link Distance (ft)	201
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	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 (%)		
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)	92	100
Average Queue (ft)	26	9
95th Queue (ft)	63	50
Link Distance (ft)	293	124
Upstream Blk Time (%)		0
Queuing Penalty (veh)		1
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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

Movement	EB	WB	NB
Directions Served	TR	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 (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

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 (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 1118

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 (%)		
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
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 (%)				
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)	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 (%)		0		
Queuing Penalty (veh)		1		
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Dunlap Street & Center Street

Movement	EB	EB	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 (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	100			500	
Storage Blk Time (%)	0				
Queuing Penalty (veh)	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 (%)			
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)	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 (%)				0
Queuing Penalty (veh)				2
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Center Street & Main Street

Movement	EB	NB
Directions Served	LTR	LTR
Maximum Queue (ft)	64	65
Average Queue (ft)	34	40
95th Queue (ft)	50	61
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)	63	90	84	88	62
Average Queue (ft)	20	46	47	49	33
95th Queue (ft)	49	76	76	76	54
Link Distance (ft)	375		124		333
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)		75		175	
Storage Blk Time (%)		1			
Queuing Penalty (veh)		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	94	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	125	1018
Upstream Blk Time (%)	0	0			2	
Queuing Penalty (veh)	0	0			5	
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)	60	45
Average Queue (ft)	7	18
95th Queue (ft)	34	42
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)	72	67	67	92
Average Queue (ft)	32	36	37	44
95th Queue (ft)	55	58	56	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)	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 (%)				
Queuing Penalty (veh)				
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)	105	17	54	69
Average Queue (ft)	30	1	23	31
95th Queue (ft)	77	7	47	58
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 & Chruch Street

Movement	EB	WB	SB
Directions Served	T	T	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 (%)			
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)	109	35	24	12
Average Queue (ft)	50	17	1	0
95th Queue (ft)	84	42	12	8
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)	84	34
Average Queue (ft)	33	20
95th Queue (ft)	67	42
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	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 (%)		
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)	57	39
Average Queue (ft)	28	10
95th Queue (ft)	46	34
Link Distance (ft)	604	75
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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	65	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)	61	56	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)				

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

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	28	10	25	13	53	110
Average Queue (ft)	4	0	2	1	13	45
95th Queue (ft)	19	5	14	8	39	82
Link Distance (ft)		1045		386	426	110
Upstream Blk Time (%)						0
Queuing Penalty (veh)						0
Storage Bay Dist (ft)	100		500			
Storage Blk Time (%)						
Queuing Penalty (veh)						

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)	37	291	108	148	49	62	501	101	254
Average Queue (ft)	7	143	45	62	10	40	210	25	117
95th Queue (ft)	26	247	92	119	33	76	393	73	210
Link Distance (ft)		386		578	578		21448		531
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	500		150			50		150	
Storage Blk Time (%)			0	0		6	30		3
Queuing Penalty (veh)			0	0		30	26		2

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)		

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)	821	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	EB	WB
Directions Served	T	R	T
Maximum Queue (ft)	40	92	60
Average Queue (ft)	18	42	26
95th Queue (ft)	37	70	54
Link Distance (ft)	180	180	16
Upstream Blk Time (%)			4
Queuing Penalty (veh)			8
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	LT
Maximum Queue (ft)	33	60
Average Queue (ft)	10	9
95th Queue (ft)	31	36
Link Distance (ft)	16	233
Upstream Blk Time (%)	3	
Queuing Penalty (veh)	1	
Storage Bay Dist (ft)		
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)	99	37	187	213	198	191	78
Average Queue (ft)	76	6	115	115	125	35	39
95th Queue (ft)	105	27	171	195	198	118	74
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)		

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)	

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

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	85
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)	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 (%)						
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)	68	136	186	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 (%)		3	2	
Queuing Penalty (veh)		12	9	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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		154
Upstream Blk Time (%)		0	4	1	0
Queuing Penalty (veh)		0	17	0	1
Storage Bay Dist (ft)	100			500	
Storage Blk Time (%)	4			1	0
Queuing 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 (%)			
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)	99	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 (%)				0
Queuing Penalty (veh)				2
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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
Queuing Penalty (veh)		0
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)	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 (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		75		175	
Storage Blk Time (%)	0	11		0	
Queuing Penalty (veh)	0	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)	100	89	139	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 (%)	0	0			8	50
Queuing Penalty (veh)	0	0			26	0
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

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	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)	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 (%)				
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)	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 (%)	0	1		0
Queuing Penalty (veh)	1	3		0
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)	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 (%)				0
Queuing Penalty (veh)				1
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Cady Street & Chruch 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 (%)		
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)	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 (%)				
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)	55	55
Average Queue (ft)	25	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)	6	31	56
Average Queue (ft)	0	2	29
95th Queue (ft)	4	13	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
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
Queuing Penalty (veh)		1
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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	86	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)				

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

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	32	25	25	42	36	131
Average Queue (ft)	7	2	2	2	10	66
95th Queue (ft)	27	13	13	19	32	119
Link Distance (ft)		1045		386	426	110
Upstream Blk Time (%)						5
Queuing Penalty (veh)						8
Storage Bay Dist (ft)	100		500			
Storage Blk Time (%)						
Queuing Penalty (veh)						

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	263	250	442	396	60	786	129	235
Average Queue (ft)	16	145	107	215	99	46	405	48	119
95th Queue (ft)	42	236	233	438	380	77	800	98	193
Link Distance (ft)		386		578	578		21448		531
Upstream Blk Time (%)				1	2				
Queuing Penalty (veh)				4	8				
Storage Bay Dist (ft)	500		150			50		150	
Storage Blk Time (%)			14	19		8	43	0	2
Queuing Penalty (veh)			62	24		50	55	0	2

Intersection: 24: Hines Drive & Seven Mile Road

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	91	151	272	4
Average Queue (ft)	7	18	113	0
95th Queue (ft)	79	179	220	3
Link Distance (ft)		821	3643	578
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	225			
Storage Blk Time (%)		2		
Queuing Penalty (veh)		1		

Intersection: 25: Seven Mile Road & River Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	78	37	81
Average Queue (ft)	14	1	34
95th Queue (ft)	50	9	63
Link Distance (ft)	821	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	EB	WB	SB
Directions Served	T	R	T	TR
Maximum Queue (ft)	49	102	69	12
Average Queue (ft)	19	54	46	0
95th Queue (ft)	41	89	63	5
Link Distance (ft)	180	180	16	364
Upstream Blk Time (%)			20	
Queuing Penalty (veh)			87	
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	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 (%)	5		
Queuing Penalty (veh)	3		
Storage Bay Dist (ft)			
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)	98	54	255	256	200	258	152
Average Queue (ft)	82	16	200	206	162	106	64
95th Queue (ft)	103	45	282	294	222	251	120
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	0	
Queuing Penalty (veh)					61	0	

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)		

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	LT	LR
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)		

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 (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Zone Summary

Zone wide Queuing Penalty: 657

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 (%)		
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
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 (%)				
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)	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 (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 4: Center Street & Dunlap Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	79	89	29	144	42	158	131	164
Average Queue (ft)	42	42	6	67	8	75	45	84
95th Queue (ft)	74	76	25	116	31	136	94	147
Link Distance (ft)		192		135		323		153
Upstream Blk Time (%)				1			0	0
Queuing Penalty (veh)				2			0	2
Storage Bay Dist (ft)	100		75		30		500	
Storage Blk Time (%)	0	0		9	2	20	0	0
Queuing Penalty (veh)	0	0		1	9	3	0	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	28
95th Queue (ft)	29	11	53
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)	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 (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 7: Center Street & Main Street

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	109	185	83
Average Queue (ft)	50	121	48
95th Queue (ft)	87	190	78
Link Distance (ft)	114	149	323
Upstream Blk Time (%)	0	3	
Queuing Penalty (veh)	0	13	
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)	77	94	91	113	51
Average Queue (ft)	19	47	45	54	31
95th Queue (ft)	54	79	73	86	48
Link Distance (ft)	375		124		333
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		75		175	
Storage Blk Time (%)		1			
Queuing Penalty (veh)		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	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 (%)	0	0			1	
Queuing Penalty (veh)	0	0			2	
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)	38	43
Average Queue (ft)	5	17
95th Queue (ft)	24	41
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)	47	54	53	58
Average Queue (ft)	29	28	28	35
95th Queue (ft)	46	46	49	50
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)	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 (%)		0		0
Queuing Penalty (veh)		0		2
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)	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 (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 14: Cady Street & Chruch Street

Movement	SB
Directions Served	LR
Maximum Queue (ft)	64
Average Queue (ft)	38
95th Queue (ft)	59
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
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 (%)			
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)	67	37
Average Queue (ft)	32	22
95th Queue (ft)	60	43
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	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 (%)		
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)	45	68
Average Queue (ft)	30	13
95th Queue (ft)	44	45
Link Distance (ft)	604	75
Upstream Blk Time (%)		0
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 19: Seven Mile Road & Fairbrook Street & First Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	60	54	73	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	67	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)				

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

Movement	EB	WB	WB	NB	SB
Directions Served	L	L	TR	LTR	LTR
Maximum Queue (ft)	19	25	7	50	50
Average Queue (ft)	1	2	0	11	25
95th Queue (ft)	6	14	4	38	48
Link Distance (ft)			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	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	50	220	65	154	72	59	458	189	248
Average Queue (ft)	18	107	15	67	17	26	224	56	118
95th Queue (ft)	42	177	42	123	48	64	393	133	194
Link Distance (ft)		386		578	578		21448		531
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	500		150			50		150	
Storage Blk Time (%)				0		1	35	4	2
Queuing Penalty (veh)				0		6	18	16	2

Intersection: 24: Hines Drive & Seven Mile Road

Movement	NB	SB
Directions Served	TR	LT
Maximum Queue (ft)	136	8
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)		

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)	821	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	EB	WB
Directions Served	T	R	T
Maximum Queue (ft)	47	117	55
Average Queue (ft)	18	47	28
95th Queue (ft)	39	90	54
Link Distance (ft)	180	180	16
Upstream Blk Time (%)			4
Queuing Penalty (veh)			8
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	LT	T
Maximum Queue (ft)	50	75	32
Average Queue (ft)	10	11	2
95th Queue (ft)	33	44	23
Link Distance (ft)	16	233	233
Upstream Blk Time (%)	3		
Queuing Penalty (veh)	2		
Storage Bay Dist (ft)			
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)	98	52	216	230	199	244	99
Average Queue (ft)	78	7	113	124	129	40	37
95th Queue (ft)	98	31	188	220	206	149	77
Link Distance (ft)	82	82	219	219		222	222
Upstream Blk Time (%)	2		0	1		2	
Queuing Penalty (veh)	6		1	3		4	
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					16	0	
Queuing Penalty (veh)					16	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)	

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)	

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

Intersection: 1: Wing Street & Randolph Street

Movement	EB	WB	NB
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	NB	SB	SB
Directions Served	LTR	LTR	L	TR	L	TR
Maximum Queue (ft)	413	150	76	126	227	913
Average Queue (ft)	210	69	16	6	19	453
95th Queue (ft)	470	182	52	52	161	1504
Link Distance (ft)	394	193		153		1449
Upstream Blk Time (%)	34	18	0	0		23
Queuing Penalty (veh)	88	0	0	0		0
Storage Bay Dist (ft)			500		500	
Storage Blk Time (%)			0	0		30
Queuing Penalty (veh)			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	139	67
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)				

Intersection: 4: Center Street & Dunlap Street

Movement	EB	EB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	TR	L	TR	L	TR
Maximum Queue (ft)	134	198	90	166	39	300	152	206
Average Queue (ft)	42	109	7	85	5	178	76	142
95th Queue (ft)	109	234	43	189	25	374	150	226
Link Distance (ft)		192		135		323		153
Upstream Blk Time (%)		26	0	12		29	1	34
Queuing Penalty (veh)		50	0	45		148	0	217
Storage Bay Dist (ft)	100		75		30		500	
Storage Blk Time (%)	4	33		25	2	51	1	34
Queuing Penalty (veh)	6	24		2	9	7	9	35

Intersection: 5: Dunlap Street & Hutton Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	308	142	635
Average Queue (ft)	153	13	313
95th Queue (ft)	376	91	650
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	62
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)				

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	SB
Directions Served	L	R	TR	L	T
Maximum Queue (ft)	417	100	117	250	344
Average Queue (ft)	255	57	49	88	218
95th Queue (ft)	526	129	112	240	444
Link Distance (ft)	375		124		333
Upstream Blk Time (%)	49		8		45
Queuing Penalty (veh)	198		14		177
Storage Bay Dist (ft)		75		175	
Storage Blk Time (%)	53	16		9	57
Queuing Penalty (veh)	189	8		10	162

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	NB	SB
Directions Served	LT	TR	LT	TR	LTR	LTR
Maximum Queue (ft)	124	117	372	384	162	1033
Average Queue (ft)	51	50	206	198	110	719
95th Queue (ft)	111	108	413	423	175	1314
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)	2	5	32	32	31	49
Queuing Penalty (veh)	3	9	89	91	82	0
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 10: Cady Street & Main Street

Movement	EB	EB	WB	WB	NB
Directions Served	T	TR	LT	T	LR
Maximum Queue (ft)	19	18	609	611	345
Average Queue (ft)	1	1	210	203	123
95th Queue (ft)	15	11	699	700	364
Link Distance (ft)	336	336	748	748	406
Upstream Blk Time (%)			17	17	12
Queuing Penalty (veh)			46	47	12
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)		1	8	7
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)				

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 & Chruch Street

Movement	EB	WB	SB
Directions Served	T	T	LR
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		8	
Queuing Penalty (veh)	18		5	
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)	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	0	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)	56	91	72	4
Average Queue (ft)	27	31	14	0
95th Queue (ft)	48	82	64	0
Link Distance (ft)	604	75	75	154
Upstream Blk Time (%)		14	14	
Queuing Penalty (veh)		45	44	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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 (%)				
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)	49	78	60	54
Average Queue (ft)	22	34	30	26
95th Queue (ft)	48	67	56	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	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		22	1
Queuing Penalty (veh)	7		172	8
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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

Movement	EB	EB	WB	WB	NB	SB
Directions Served	L	TR	L	TR	LTR	LTR
Maximum Queue (ft)	37	30	25	26	36	70
Average Queue (ft)	9	2	3	1	11	24
95th Queue (ft)	31	16	15	12	34	54
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	EB	WB	WB	WB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	TR	L	TR
Maximum Queue (ft)	171	292	210	454	456	60	5028	191	337
Average Queue (ft)	53	154	63	257	158	39	1622	51	145
95th Queue (ft)	150	248	166	549	488	79	4470	142	300
Link Distance (ft)		386		578	578		21448		531
Upstream Blk Time (%)				16	6				
Queuing Penalty (veh)				55	22				
Storage Bay Dist (ft)	500		150			50		150	
Storage Blk Time (%)			4	24		12	61	1	9
Queuing Penalty (veh)			20	23		83	66	7	7

Intersection: 24: Hines Drive & Seven Mile Road

Movement	WB	WB	NB	SB
Directions Served	L	R	TR	LT
Maximum Queue (ft)	105	509	1006	13
Average Queue (ft)	6	125	228	0
95th Queue (ft)	61	595	801	5
Link Distance (ft)		821	3643	578
Upstream Blk Time (%)		11		
Queuing Penalty (veh)		56		
Storage Bay Dist (ft)	225			
Storage Blk Time (%)		15		
Queuing Penalty (veh)		10		

Intersection: 25: Seven Mile Road & River Street

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	243	229	88
Average Queue (ft)	29	34	30
95th Queue (ft)	154	205	68
Link Distance (ft)	821	395	1186
Upstream Blk Time (%)		5	
Queuing Penalty (veh)		26	
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	EB	WB	SB
Directions Served	T	R	T	TR
Maximum Queue (ft)	50	105	65	20
Average Queue (ft)	20	46	40	2
95th Queue (ft)	41	85	66	15
Link Distance (ft)	180	180	16	364
Upstream Blk Time (%)			19	
Queuing Penalty (veh)			80	
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	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 (%)	7	7	4
Queuing Penalty (veh)	4	33	19
Storage Bay Dist (ft)			
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)	98	79	253	252	199	250	152
Average Queue (ft)	80	24	197	202	125	68	51
95th Queue (ft)	110	62	274	284	217	194	107
Link Distance (ft)	82	82	219	219		222	222
Upstream Blk Time (%)	3	4	19	22		3	0
Queuing Penalty (veh)	14	18	79	89		11	0
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					21	0	
Queuing Penalty (veh)					41	0	

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	
Queuing Penalty (veh)	0	63	
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)	31	15
Average Queue (ft)	2	2
95th Queue (ft)	16	18
Link Distance (ft)	201	195
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	EB
Directions Served	LR
Maximum Queue (ft)	24
Average Queue (ft)	1
95th Queue (ft)	11
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	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
Queuing Penalty (veh)	0	160	1
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

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

Movement	EB	NB
Directions Served	TR	LR
Maximum Queue (ft)	46	34
Average Queue (ft)	5	6
95th Queue (ft)	37	27
Link Distance (ft)	218	271
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

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 (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

Zone wide Queuing Penalty: 4268

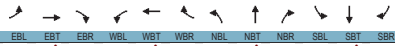
HCM 6th Signalized Intersection Summary — Future Conditions #1 (Pre-COVID) w/ IMP
2: Center Street & Randolph Street/Private Drive — AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	2	129	4	0	6	30	517	1	6	472	50
Future Volume (veh/h)	22	2	129	4	0	6	30	517	1	6	472	50
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
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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	2000	2000	2000	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	0.66	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	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	0.17	0.00	0.17	1.00	1.00	1.00	0.65	0.65	0.65
Sat Flow, veh/h	150	110	1410	459	197	1050	708	1965	3	841	1751	184
Grp Volume(v), veh/h	231	0	0	13	0	0	33	0	569	9	0	756
Grp Sat Flow(s),veh/h/ln	1671	0	0	1706	0	0	708	0	1968	841	0	1935
Q Serve(g_s), s	4.2	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.2	0.0	13.5
Cycle Q Clear(g_c), s	7.9	0.0	0.0	0.4	0.0	0.0	14.5	0.0	0.0	0.2	0.0	13.5
Prop In Lane	0.14		0.84	0.38		0.62	1.00		0.00	1.00		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	0.03	0.00	0.00	0.08	0.00	0.44	0.01	0.00	0.60
Avail Cap(c_a), veh/h	478	0	0	486	0	0	421	0	1279	666	0	1257
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 Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.89	0.00	0.89	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
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	1.0	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												
LnGrp Delay(d),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 LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		231			13			602			765	
Approach Delay, s/veh		25.8			20.8			1.1			8.1	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2			4			6			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+I1), s		16.5			9.9			15.5			2.4	
Green Ext Time (p_c), s		4.0			0.6			5.8			0.0	
Intersection Summary												
HCM 6th Ctrl Delay			8.1									
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 #1 (Pre-COVID) 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												
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			0.99	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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	1953	1953	1953	1969	1969	1969
Adj Flow Rate, veh/h	2	15	20	59	24	7	32	560	182	8	470	6
Peak Hour Factor	0.60	0.60	0.60	0.82	0.82	0.82	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	1.00	1.00	1.00
Sat Flow, veh/h	39	787	972	902	578	125	36	1367	431	8	1918	24
Grp Volume(v), veh/h	37	0	0	90	0	0	774	0	0	484	0	0
Grp Sat Flow(s),veh/h/ln	1798	0	0	1604	0	0	1834	0	0	1950	0	0
Q Serve(g_s), 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(g_c), s	1.1	0.0	0.0	3.0	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
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_a), veh/h	504	0	0	485	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	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	24.4	0.0	0.0	25.2	0.0	0.0	4.2	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.7	0.0	0.0	1.7	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 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												
LnGrp Delay(d),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 LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		37			90			774			484	
Approach Delay, s/veh		24.7			25.9			5.8			0.6	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2			4			6			8	
Phs Duration (G+Y+Rc), s		48.4			11.6			48.4			11.6	
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+I1), s		14.1			3.1			2.0			5.0	
Green Ext Time (p_c), s		6.3			0.1			3.7			0.2	
Intersection Summary												
HCM 6th Ctrl Delay			5.8									
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 #1 (Pre-COVID) 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												
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
Ped-Bike Adj(A_pbT)	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	
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	0.86	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	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	280	810	1938	1640	896	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	1934	810	1938	1640	896	1969	1667	729	0	1952
Q Serve(g_s), 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(g_c), s	7.7	0.0	22.4	26.0	4.9	3.2	18.4	20.0	2.0	30.1	0.0	14.2
Prop In Lane	1.00		0.14	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	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_a), 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	1.00	1.00	1.00	0.00	0.00	1.00
Uniform Delay (d), s/veh	20.2	0.0	23.1	35.0	17.6	17.0	20.5	15.6	11.0	27.1	0.0	14.1
Incr Delay (d2), s/veh	0.6	0.0	11.2	3.4	0.8	0.6	1.0	3.8	0.2	4.3	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	0.8	0.0	11.6	0.8	2.2	1.2	0.9	9.0	0.7	2.0	0.0	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	0.0	34.3	38.4	18.3	17.6	21.5	19.4	11.3	31.4	0.0	16.2
LnGrp LOS	C	A	C	D	B	B	C	B	B	C	A	B
Approach Vol, veh/h		648			307			788			605	
Approach Delay, s/veh		33.2			20.6			18.8			18.8	
Approach LOS		C			C			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+I1), s		22.0			24.4			32.1			28.0	
Green Ext Time (p_c), s		4.6			1.8			2.2			0.2	
Intersection Summary												
HCM 6th Ctrl Delay			23.0									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary — Future Conditions #1 (Pre-COVID) w/ IMP
26: SB Northville Road & N. Seven Mile Road — AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	43	305	168	339	319	53
Future Volume (veh/h)	43	305	168	339	319	53
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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	
Adj Sat Flow, veh/h/ln	1969	1969	1922	1922	1984	1984
Adj Flow Rate, veh/h	53	377	191	385	336	56
Peak Hour Factor	0.81	0.81	0.88	0.88	0.95	0.95
Percent Heavy Veh, %	2	2	5	5	1	1
Cap, veh/h	253	801	914	2584	915	151
Arrive On Green	0.14	0.14	0.69	1.00	0.28	0.28
Sat Flow, veh/h	1875	1668	1830	3748	3338	534
Grp Volume(v), veh/h	53	377	191	385	194	198
Grp Sat Flow(s),veh/h/ln	1875	1668	1830	1826	1885	1888
Q Serve(g_s), s	2.0	10.8	1.7	0.0	6.6	6.7
Cycle Q Clear(g_c), s	2.0	10.8	1.7	0.0	6.6	6.7
Prop In Lane	1.00	1.00	1.00			0.28
Lane Grp Cap(c), veh/h	253	801	914	2584	533	533
V/C Ratio(X)	0.21	0.47	0.21	0.15	0.36	0.37
Avail Cap(c_a), veh/h	253	801	914	2584	533	533
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	30.8	14.0	2.7	0.0	23.0	23.0
Incr Delay (d2), s/veh	1.9	2.0	0.5	0.1	1.9	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	13.2	0.6	0.0	3.1	3.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.7	16.0	3.2	0.1	24.9	25.0
LnGrp LOS	C	B	A	A	C	C
Approach Vol, veh/h	430			576	392	
Approach Delay, s/veh	18.0			1.1	24.9	
Approach LOS	B			A	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		63.0		17.0	34.0	29.0
Change Period (Y+Rc), s		6.4		* 6.2	6.4	6.4
Max Green Setting (Gmax), s		56.6		* 11	27.6	22.6
Max Q Clear Time (g_c+I1), s		2.0		12.8	3.7	8.7
Green Ext Time (p_c), s		2.7		0.0	0.5	1.8
Intersection Summary						
HCM 6th Ctrl Delay			13.0			
HCM 6th LOS			B			

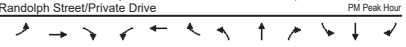
Notes

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

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

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	247	233	274	289	423	201
Future Volume (veh/h)	247	233	274	289	423	201
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1953	1953	1938	1938	1984	1984
Adj Flow Rate, veh/h	287	271	288	304	486	231
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	437	815	497	443	642	2290
Arrive On Green	0.23	0.23	0.27	0.27	0.17	0.41
Sat Flow, veh/h	1860	1655	1938	1642	1890	3870
Grp Volume(v), veh/h	287	271	288	304	486	231
Grp Sat Flow(s),veh/h/ln	1860	1655	1841	1642	1890	1885
Q Serve(g_s), s	11.2	0.0	10.8	13.3	12.6	3.0
Cycle Q Clear(g_c), s	11.2	0.0	10.8	13.3	12.6	3.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	437	815	497	443	642	2290
V/C Ratio(X)	0.66	0.33	0.58	0.69	0.76	0.10
Avail Cap(c_a), veh/h	437	815	497	443	642	2290
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	12.3	25.3	26.2	27.3	10.2
Incr Delay (d2), s/veh	7.5	1.1	4.9	8.4	8.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	2.9	5.1	5.8	9.4	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.2	13.4	30.1	34.5	35.4	10.3
LnGrp LOS	D	B	C	C	D	B
Approach Vol, veh/h	558		592		717	
Approach Delay, s/veh	24.6		32.4		27.3	
Approach LOS	C		C		C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	27.0	28.0			55.0	25.0
Change Period (Y+Rc), s	6.4	6.4			6.4	6.2
Max Green Setting (Gmax), s	20.6	21.6			48.6	18.8
Max Q Clear Time (g_c+I1), s	14.6	15.3			5.0	13.2
Green Ext Time (p_c), s	0.9	1.9			1.5	1.0
Intersection Summary						
HCM 6th Ctrl Delay			28.1			
HCM 6th LOS			C			

HCM 6th Signalized Intersection Summary — Future Conditions #1 (Pre-COVID) w/ IMP
2: Center Street & Randolph Street/Private Drive — PM Peak Hour



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	13	235	15	15	28	58	591	9	18	483	43
Future Volume (veh/h)	46	13	235	15	15	28	58	591	9	18	483	43
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	1.00		1.00	0.99	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	2000	2000	2000	1984	1984	1984
Adj Flow Rate, veh/h	55	15	280	16	16	31	67	679	10	25	662	59
Peak Hour Factor	0.84	0.84	0.84	0.91	0.91	0.91	0.87	0.87	0.87	0.73	0.73	0.73
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	1	1	1
Cap, veh/h	112	37	317	138	143	199	372	1147	17	561	1046	93
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	1.00	1.00	1.00	0.58	0.58	0.58
Sat Flow, veh/h	179	154	1329	265	599	837	743	1965	29	756	1793	160
Grp Volume(v), veh/h	350	0	0	63	0	0	67	0	689	25	0	721
Grp Sat Flow(s),veh/h/ln	1661	0	0	1701	0	0	743	0	1994	756	0	1953
Q Serve(g_s), s	7.8	0.0	0.0	0.0	0.0	0.0	2.7	0.0	0.0	0.9	0.0	14.6
Cycle Q Clear(g_c), s	12.1	0.0	0.0	1.6	0.0	0.0	17.3	0.0	0.0	0.9	0.0	14.6
Prop In Lane	0.16		0.80	0.25		0.49	1.00		0.01	1.00		0.08
Lane Grp Cap(c), veh/h	465	0	0	480	0	0	372	0	1164	561	0	1140
V/C Ratio(X)	0.75	0.00	0.00	0.13	0.00	0.00	0.18	0.00	0.59	0.04	0.00	0.63
Avail Cap(c_a), veh/h	479	0	0	493	0	0	372	0	1164	561	0	1140
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 Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.81	0.00	0.81	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.0	0.0	0.0	18.0	0.0	0.0	3.6	0.0	0.0	5.4	0.0	8.3
Incr Delay (d2), s/veh	6.4	0.0	0.0	0.1	0.0	0.0	0.9	0.0	1.8	0.1	0.0	2.7
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 BackOfQ(50%),veh/ln	5.3	0.0	0.0	0.7	0.0	0.0	0.3	0.0	0.6	0.1	0.0	5.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.4	0.0	0.0	18.2	0.0	0.0	4.5	0.0	1.8	5.5	0.0	10.9
LnGrp LOS	C	A	A	B	A	A	A	A	A	A	A	B
Approach Vol, veh/h		350			63			756			746	
Approach Delay, s/veh		28.4			18.2			2.0			10.7	
Approach LOS		C			B			A			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		40.5		19.5		40.5		19.5				
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+I1), s		19.3		14.1		16.6		3.6				
Green Ext Time (p_c), s		5.0		0.2		5.4		0.2				
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
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		0.97	0.98		0.97	0.99		0.97	0.98		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	0.90
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	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	0.85	0.85	0.85	0.87	0.87	0.87	0.78	0.78	0.78	0.91	0.91	0.91
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	711
Arrive On Green	0.11	0.11	0.11	0.34	0.34	0.34	0.48	0.48	0.48	0.48	0.48	0.48
Sat Flow, 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/h/ln	1966	0	1474	1984	0	1474	1814	0	0	1395	0	1487
Q Serve(g_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 Clear(g_c), s	5.6	0.0	0.7	7.7	0.0	12.5	1.5	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		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	0.00	0.04	0.44	0.00	0.70	0.09	0.00	0.00	0.40	0.00	0.02
Avail Cap(c_a), 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	0.00	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	0.9	0.0	0.1	1.9	0.0	8.0	0.2	0.0	0.0	1.5	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/ln	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			A			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		26.0		34.0		26.0		34.0				
Change Period (Y+Rc), s		5.5		* 5.3		5.5		* 5.3				
Max Green Setting (Gmax), s		20.5		* 29		20.5		* 29				
Max Q Clear Time (g_c+I1), s		7.6		10.6		14.5		3.5				
Green Ext Time (p_c), s		1.0		2.0		1.8		0.4				
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	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	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	0.85	0.85	0.85	0.95	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	0.36	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	324	1860	211	9	1967	1515	170	1531	110	518	478	555
Grp Volume(v), veh/h	190	0	277	403	0	312	330	0	0	590	0	0
Grp Sat Flow(s),veh/h/ln	628	0	1765	1976	0	1515	1812	0	0	1551	0	0
Q Serve(g_s), s	9.2	0.0	8.8	0.0	0.0	10.0	0.0	0.0	0.0	12.8	0.0	0.0
Cycle Q Clear(g_c), s	19.2	0.0	8.8	9.8	0.0	10.0	6.6	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
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
Avail Cap(c_a), 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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
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	7.8	0.0	2.2	2.6	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/ln	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			B			C	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		33.0		27.0		33.0				
Change Period (Y+Rc), s		5.6		* 5.8		5.6		* 5.8				
Max Green Setting (Gmax), s		21.4		* 27		21.4		* 27				
Max Q Clear Time (g_c+I1), s		21.2		21.4		12.0		8.6				
Green Ext Time (p_c), s		0.1		2.1		3.3		1.9				
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		0.92	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	1938	1938	1938	2000	2000	2000	1984	1984	1984	2000	2000	2000
Adj Flow Rate, veh/h	14	24	38	83	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	0	0	0	1	1	1	0	0	0
Cap, veh/h	94	103	125	232	53	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	0.67	1.00	1.00	1.00
Sat Flow, veh/h	147	670	817	864	345	314	30	1486	350	15	1832	107
Grp Volume(v), veh/h	76	0	0	126	0	0	731	0	0	729	0	0
Grp Sat Flow(s),veh/h/ln	1635	0	0	1523	0	0	1866	0	0	1954	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.4	0.0	0.0	4.1	0.0	0.0	12.3	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.18		0.50	0.66		0.21	0.04		0.19	0.02		0.05
Lane Grp Cap(c), veh/h	322	0	0	333	0	0	1310	0	0	1368	0	0
V/C Ratio(X)	0.24	0.00	0.00	0.38	0.00	0.00	0.56	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	455	0	0	452	0	0	1310	0	0	1368	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	22.5	0.0	0.0	23.1	0.0	0.0	5.3	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.7	0.0	0.0	1.7	0.0	0.0	1.5	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	0.9	0.0	0.0	1.6	0.0	0.0	4.0	0.0	0.0	0.6	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	0.0	0.0	23.8	0.0	0.0	7.1	0.0	0.0	1.5	0.0	0.0
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		76			126			731			729	
Approach Delay, s/veh		22.9			23.8			7.1			1.5	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.6		14.4		45.6		14.4				
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+I1), s		14.3		4.4		2.0		6.1				
Green Ext Time (p_c), s		5.9		0.2		6.6		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			6.6									
HCM 6th LOS			A									

Notes

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

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

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)	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
Ped-Bike Adj(A_pbT)	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	
Adj Sat Flow, veh/h/ln	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	189	510	186	230	735	622	210	967	817	211	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	741	1387	505	926	2000	1693	716	1984	1677	654	1812	146
Grp Volume(v), veh/h	36	0	483	117	540	175	132	737	113	86	0	753
Grp Sat Flow(s),veh/h/ln	741	0	1893	926	2000	1693	716	1984	1677	654	0	1958
Q Serve(g_s), s	3.5	0.0	17.3	9.8	18.7	5.8	13.4	24.2	3.0	9.9	0.0	25.6
Cycle Q Clear(g_c), s	22.3	0.0	17.3	27.2	18.7	5.8	39.0	24.2	3.0	34.1	0.0	25.6
Prop In Lane	1.00		0.27	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	189	0	696	230	735	622	210	967	817	211	0	954
V/C Ratio(X)	0.19	0.00	0.69	0.51	0.73	0.28	0.63	0.76	0.14	0.41	0.00	0.79
Avail Cap(c_a), veh/h	189	0	696	230	735	622	210	967	817	211	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(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	31.6	0.0	21.5	33.0	21.9	17.8	33.9	16.7	11.3	30.6	0.0	17.1
Incr Delay (d2), s/veh	2.2	0.0	5.6	7.9	6.4	1.1	13.5	5.7	0.4	5.8	0.0	6.6
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	8.2	2.6	9.4	2.3	3.3	11.2	1.1	1.8	0.0	11.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.8	0.0	27.1	40.9	28.4	19.0	47.4	22.4	11.6	36.4	0.0	23.7
LnGrp LOS	C	A	C	D	C	B	D	C	B	D	A	C
Approach Vol, veh/h		519			832			982			839	
Approach Delay, s/veh		27.6			28.1			24.5			25.0	
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+I1), s		41.0		24.3		36.1		29.2				
Green Ext Time (p_c), s		0.0		1.5		1.6		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			26.1									
HCM 6th LOS			C									

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

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

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	63	280	421	730	526	113
Future Volume (veh/h)	63	280	421	730	526	113
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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	
Adj Sat Flow, veh/h/ln	1969	1969	1984	1984	1984	1984
Adj Flow Rate, veh/h	68	304	443	768	554	119
Peak Hour Factor	0.92	0.92	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	1	1	1	1
Cap, veh/h	206	738	890	2762	989	212
Arrive On Green	0.11	0.11	0.67	1.00	0.32	0.32
Sat Flow, veh/h	1875	1668	1890	3870	3188	661
Grp Volume(v), veh/h	68	304	443	768	337	336
Grp Sat Flow(s),veh/h/ln	1875	1668	1890	1885	1885	1865
Q Serve(g_s), s	2.7	8.8	5.7	0.0	11.9	11.9
Cycle Q Clear(g_c), s	2.7	8.8	5.7	0.0	11.9	11.9
Prop In Lane	1.00	1.00	1.00			0.35
Lane Grp Cap(c), veh/h	206	738	890	2762	603	597
V/C Ratio(X)	0.33	0.41	0.52	0.28	0.56	0.56
Avail Cap(c_a), veh/h	206	738	850	2762	603	597
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	32.9	15.2	3.4	0.0	22.5	22.6
Incr Delay (d2), s/veh	4.2	1.7	2.3	0.3	3.7	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	10.9	1.6	0.1	5.6	5.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	37.1	16.9	5.7	0.3	26.2	26.4
LnGrp LOS	D	B	A	A	C	C
Approach Vol, veh/h	372			1211	673	
Approach Delay, s/veh	20.6			2.2	26.3	
Approach LOS	C			A	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		65.0		15.0	33.0	32.0
Change Period (Y+Rc), s		6.4		* 6.2	6.4	6.4
Max Green Setting (Gmax), s		58.6		* 8.8	26.6	25.6
Max Q Clear Time (g_c+I1), s		2.0		10.8	7.7	13.9
Green Ext Time (p_c), s		6.2		0.0	1.3	3.2
Intersection Summary						
HCM 6th Ctrl Delay			12.4			
HCM 6th LOS			B			

Notes

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

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

Future Conditions #1 (Pre-COVID) w/ IMP
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		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	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	491	807	644	381	511	2179
Arrive On Green	0.26	0.26	0.28	0.28	0.29	0.77
Sat Flow, veh/h	1890	1682	2378	1348	1875	3839
Grp Volume(v), veh/h	328	649	477	440	430	446
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1742	1875	1870
Q Serve(g_s), s	12.4	8.5	19.4	19.4	12.6	2.6
Cycle Q Clear(g_c), s	12.4	8.5	19.4	19.4	12.6	2.6
Prop In Lane	1.00	1.00		0.77	1.00	
Lane Grp Cap(c), veh/h	491	807	533	492	511	2179
V/C Ratio(X)	0.67	0.80	0.89	0.90	0.84	0.20
Avail Cap(c_a), veh/h	491	807	533	492	511	2179
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	17.6	27.6	27.6	25.1	4.0
Incr Delay (d2), s/veh	7.0	8.4	20.2	21.5	15.3	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	10.8	11.0	10.3	8.1	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.5	26.0	47.7	49.0	40.4	4.3
LnGrp LOS	C	C	D	D	D	A
Approach Vol, veh/h	977		917		876	
Approach Delay, s/veh	28.5		48.4		22.0	
Approach LOS	C		D		C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	24.0	29.0			53.0	27.0
Change Period (Y+Rc), s	6.4	6.4			6.4	6.2
Max Green Setting (Gmax), s	17.6	22.6			46.6	20.8
Max Q Clear Time (g_c+I1), s	14.6	21.4			4.6	14.4
Green Ext Time (p_c), s	0.5	0.7			3.2	2.2
Intersection Summary						
HCM 6th Ctrl Delay			33.0			
HCM 6th LOS			C			

HCM 6th AWSC
2: Center Street & Randolph Street/Private Drive

Future Conditions #2 (Both Closed) w/ IMP
AM Peak Hour

Intersection	
Intersection Delay, s/veh	32.3
Intersection LOS	D

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	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	11.4	10	16.6	47.5
HCM LOS	B	A	C	E

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	1	82	5	0	47
Lane Flow Rate	16	374	158	12	7	629
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.029	0.601	0.267	0.023	0.012	0.956
Departure Headway (Hd)	6.295	5.786	6.102	6.769	6.051	5.469
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	0.27	0.023	0.012	0.943
HCM Control Delay	9.2	16.9	11.4	10	8.9	47.9
HCM Lane LOS	A	C	B	A	A	E
HCM 95th-tile Q	0.1	4	1.1	0.1	0	13.6

HCM 6th AWSC
12: Center Street & Cady Street

Future Conditions #2 (Both Closed) w/ IMP
AM Peak Hour

Intersection	
Intersection Delay, s/veh	15.2
Intersection LOS	C

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
Peak Hour Factor	0.88	0.88	0.88	0.77	0.77	0.77	0.94	0.94	0.94	0.75	0.75	0.75
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
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	11.2	14.2	18.5	11.6
HCM LOS	B	B	C	B

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	274	81	12	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	5.867	6.106	6.056
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	18.5	11.2	14.2	11.6
HCM Lane LOS	C	B	B	B
HCM 95th-tile Q	5.2	1.1	2.3	1.2

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

Future Conditions #2 (Both Closed) w/ IMP
AM Peak Hour

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
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	
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	0.88	0.88	0.88	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	686	867	1922	1627	867	1969	1663	866	1853	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 Serve(g_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 Clear(g_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		0.38	1.00		1.00	1.00		1.00	1.00		0.05
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_a), 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	8.0	6.9	1.0	0.3	1.9	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												
LnGrp Delay(d),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 LOS	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	

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+I1), s	24.4	21.7	17.9	29.3
Green Ext Time (p_c), s	3.1	2.0	3.7	0.0

Intersection Summary	
HCM 6th Ctrl Delay	21.2
HCM 6th LOS	C

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

Future Conditions #2 (Both Closed) w/ IMP
AM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	46	222	169	352	296	50
Future Volume (veh/h)	46	222	169	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1953	1953	1938	1938	1953	1953
Adj Flow Rate, veh/h	54	261	199	414	329	56
Peak Hour Factor	0.85	0.85	0.85	0.85	0.90	0.90
Percent Heavy Veh, %	3	3	4	4	3	3
Cap, veh/h	251	795	922	2605	898	151
Arrive On Green	0.14	0.14	0.69	1.00	0.28	0.28
Sat Flow, veh/h	1860	1655	1845	3778	3275	535
Grp Volume(v), veh/h	54	261	199	414	191	194
Grp Sat Flow(s),veh/h/ln	1860	1655	1845	1841	1856	1857
Q Serve(g_s), s	2.1	7.8	1.8	0.0	6.6	6.7
Cycle Q Clear(g_c), s	2.1	7.8	1.8	0.0	6.6	6.7
Prop In Lane	1.00	1.00	1.00			0.29
Lane Grp Cap(c), veh/h	251	795	922	2605	524	525
V/C Ratio(X)	0.22	0.33	0.22	0.16	0.36	0.37
Avail Cap(c_a), veh/h	251	795	922	2605	524	525
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	30.8	12.8	2.7	0.0	23.0	23.0
Incr Delay (d2), s/veh	2.0	1.1	0.5	0.1	2.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	9.1	0.6	0.0	3.0	3.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.8	13.9	3.2	0.1	24.9	25.0
LnGrp LOS	C	B	A	A	C	C
Approach Vol, veh/h	315			613	385	
Approach Delay, s/veh	17.2			1.1	25.0	
Approach LOS	B			A	C	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	63.0	17.0	34.0	29.0
Change Period (Y+Rc), s	6.4	* 6.2	6.4	6.4
Max Green Setting (Gmax), s	56.6	* 11	27.6	22.6
Max Q Clear Time (g_c+I1), s	2.0	9.8	3.8	8.7
Green Ext Time (p_c), s	3.0	0.1	0.5	1.8

Intersection Summary	
HCM 6th Ctrl Delay	12.0
HCM 6th LOS	B

Notes

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

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

Future Conditions #2 (Both Closed) w/ IMP
AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
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
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1953	1953	1938	1938	1953	1953
Adj Flow Rate, veh/h	287	235	341	324	379	238
Peak Hour Factor	0.94	0.94	0.88	0.88	0.84	0.84
Percent Heavy Veh, %	3	3	4	4	3	3
Cap, veh/h	437	815	497	443	619	2254
Arrive On Green	0.23	0.23	0.27	0.27	0.17	0.41
Sat Flow, veh/h	1860	1655	1938	1642	1860	3809
Grp Volume(v), veh/h	287	235	341	324	379	238
Grp Sat Flow(s),veh/h/ln	1860	1655	1841	1642	1860	1856
Q Serve(g_s), s	11.2	0.0	13.3	14.4	8.6	3.2
Cycle Q Clear(g_c), s	11.2	0.0	13.3	14.4	8.6	3.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	437	815	497	443	619	2254
V/C Ratio(X)	0.66	0.29	0.69	0.73	0.61	0.11
Avail Cap(c_a), veh/h	437	815	497	443	619	2254
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	12.0	26.2	26.6	26.2	10.3
Incr Delay (d2), s/veh	7.5	0.9	7.5	10.2	4.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	2.4	6.4	6.4	6.6	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.2	12.9	33.7	36.7	30.7	10.3
LnGrp LOS	D	B	C	D	C	B
Approach Vol, veh/h	522		665		617	
Approach Delay, s/veh	25.2		35.2		22.8	
Approach LOS	C		D		C	

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	27.0	28.0	55.0	25.0
Change Period (Y+Rc), s	6.4	6.4	6.4	6.2
Max Green Setting (Gmax), s	20.6	21.6	48.6	18.8
Max Q Clear Time (g_c+I1), s	10.6	16.4	5.2	13.2
Green Ext Time (p_c), s	0.9	1.8	1.6	0.9

Intersection Summary	
HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

HCM 6th AWSC
2: Center Street & Randolph Street/Private Drive

Future Conditions #2 (Both Closed) w/ IMP
PM Peak Hour

Intersection	
Intersection Delay, s/veh	31.6
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	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
Peak Hour Factor	0.84	0.84	0.84	0.91	0.91	0.91	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	55	14	160	14	14	27	61	486	9	22	451	47
Number of Lanes	0	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	14.5	11.6	35	37.6
HCM LOS	B	B	D	E

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	24%	25%	100%	0%
Vol Thru, %	0%	98%	6%	25%	0%	91%
Vol Right, %	0%	2%	70%	49%	0%	9%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	53	431	192	51	16	363
LT Vol	53	0	46	13	16	0
Through Vol	0	423	12	13	0	329
RT Vol	0	8	134	25	0	34
Lane Flow Rate	61	495	229	56	22	497
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.116	0.872	0.423	0.117	0.042	0.877
Departure Headway (Hd)	6.86	6.336	6.655	7.49	6.926	6.349
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	523	570	542	477	517	572
Service Time	4.603	4.079	4.701	5.561	4.67	4.093
HCM Lane V/C Ratio	0.117	0.868	0.423	0.117	0.043	0.869
HCM Control Delay	10.5	38	14.5	11.6	10	38.8
HCM Lane LOS	B	E	B	B	A	E
HCM 95th-tile Q	0.4	9.8	2.1	0.4	0.1	10

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

Future Conditions #2 (Both Closed) w/ IMP
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 (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	0.99		0.99	1.00		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	
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	302	28	189	247	98
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	167	900	95	75	684	538	100	765	67	305	362	132
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	250	2524	266	35	1918	1509	77	1687	149	494	798	291
Grp Volume(v), veh/h	182	0	199	331	0	277	360	0	0	534	0	0
Grp Sat Flow(s),veh/h/ln	1272	0	1768	1953	0	1509	1914	0	0	1583	0	0
Q Serve(g_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 Clear(g_c), s	9.3	0.0	4.9	7.7	0.0	8.7	7.3	0.0	0.0	15.6	0.0	0.0
Prop In Lane	0.30		0.15	0.05		1.00	0.08		0.08	0.35		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	0.00	0.32	0.44	0.00	0.51	0.39	0.00	0.00	0.67	0.00	0.00
Avail Cap(c_a), 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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
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 BackOfQ(50%),veh/ln	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												
LnGrp Delay(d),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	
Approach Delay, s/veh		15.4			17.6			12.2			17.3	
Approach LOS		B			B			B			B	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		33.0		27.0		33.0				
Change Period (Y+Rc), s		5.6		* 5.8		5.6		* 5.8				
Max Green Setting (Gmax), s		21.4		* 27		21.4		* 27				
Max Q Clear Time (g_c+I1), s		11.3		17.6		10.7		9.3				
Green Ext Time (p_c), s		1.8		2.6		3.0		2.0				
Intersection Summary												
HCM 6th Ctrl Delay			16.0									
HCM 6th LOS			B									

Notes

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

HCM 6th AWSC
12: Center Street & Cady Street

Future Conditions #2 (Both Closed) w/ IMP
PM Peak Hour

Intersection	
Intersection Delay, s/veh	37.4
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	75	73	240	61	11	60	143	307	56	114	16
Future Vol, veh/h	5	75	73	240	61	11	60	143	307	56	114	16
Peak Hour Factor	0.79	0.79	0.79	0.88	0.88	0.88	0.90	0.90	0.90	0.80	0.80	0.80
Heavy Vehicles, %	1	1	1	0	0	0	1	1	1	1	1	1
Mvmt Flow	6	95	92	273	69	13	67	159	341	70	143	20
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	15.5	26.9	59.8	17.2
HCM LOS	C	D	F	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	3%	77%	30%
Vol Thru, %	28%	49%	20%	61%
Vol Right, %	60%	48%	4%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	510	153	312	186
LT Vol	60	5	240	56
Through Vol	143	75	61	114
RT Vol	307	73	11	16
Lane Flow Rate	567	194	355	232
Geometry Grp	1	1	1	1
Degree of Util (X)	0.988	0.402	0.718	0.479
Departure Headway (Hd)	6.276	7.478	7.294	7.424
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	578	478	493	484
Service Time	4.333	5.559	5.36	5.501
HCM Lane V/C Ratio	0.981	0.406	0.72	0.479
HCM Control Delay	59.8	15.5	26.9	17.2
HCM Lane LOS	F	C	D	C
HCM 95th-tile Q	14.1	1.9	5.7	2.6

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

Future Conditions #2 (Both Closed) w/ IMP
PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	318	134	128	448	131	127	499	105	74	368	26
Future Volume (veh/h)	27	318	134	128	448	131	127	499	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		0.99	1.00		0.99	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	1984	2000	1984	1984	1984	2000	2000	2000	2000
Adj Flow 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	0.90	0.90	0.90	0.93	0.93	0.93
Percent Heavy Veh, %	1	1	1	1	0	1	1	1	1	0	0	0
Cap, veh/h	207	486	205	206	729	619	426	967	811	315	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	557	893	1984	1686	968	1984	1664	777	1845	130
Grp Volume(v), veh/h	31	0	513	145	509	149	141	554	117	80	0	424
Grp Sat Flow(s),veh/h/ln	781	0	1881	893	1984	1686	968	1984	1664	777	0	1975
Q Serve(g_s), s	2.8	0.0	19.0	10.4	17.5	4.9	8.9	15.9	3.1	6.5	0.0	11.2
Cycle Q Clear(g_c), s	20.3	0.0	19.0	29.4	17.5	4.9	20.1	15.9	3.1	22.4	0.0	11.2
Prop In Lane	1.00		0.30	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	207	0	691	206	729	619	426	967	811	315	0	963
V/C Ratio(X)	0.15	0.00	0.74	0.70	0.70	0.24	0.33	0.57	0.14	0.25	0.00	0.44
Avail Cap(c_a), veh/h	207	0	691	206	729	619	426	967	811	315	0	963
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	0.00	0.00	1.00
Uniform Delay (d), s/veh	30.1	0.0	22.0	35.8	21.5	17.6	19.9	14.6	11.3	22.5	0.0	13.4
Incr Delay (d2), s/veh	1.5	0.0	7.1	18.2	5.5	0.9	2.1	2.5	0.4	1.9	0.0	1.5
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	0.6	0.0	9.1	3.8	8.6	1.9	2.1	7.0	1.1	1.3	0.0	4.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.7	0.0	29.1	54.0	27.0	18.5	22.0	17.0	11.7	24.5	0.0	14.8
LnGrp LOS	C	A	C	D	C	B	C	B	B	C	A	B
Approach Vol, veh/h		544			803			812			504	
Approach Delay, s/veh		29.2			30.3			17.1			16.4	
Approach LOS		C			C			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+I1), s		22.1		22.3		24.4		31.4				
Green Ext Time (p_c), s		4.3		2.0		2.7		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			23.4									
HCM 6th LOS			C									

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

Future Conditions #2 (Both Closed) w/ IMP
PM Peak Hour

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	51	273	429	602	511	103
Future Volume (veh/h)	51	273	429	602	511	103
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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	
Adj Sat Flow, veh/h/ln	1969	1969	1984	1984	1984	1984
Adj Flow Rate, veh/h	56	300	456	640	538	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	206	738	859	2762	1002	200
Arrive On Green	0.11	0.11	0.67	1.00	0.32	0.32
Sat Flow, veh/h	1875	1668	1890	3870	3230	626
Grp Volume(v), veh/h	56	300	456	640	323	323
Grp Sat Flow(s),veh/h/ln	1875	1668	1890	1885	1885	1872
Q Serve(g_s), s	2.2	8.8	6.0	0.0	11.3	11.3
Cycle Q Clear(g_c), s	2.2	8.8	6.0	0.0	11.3	11.3
Prop In Lane	1.00	1.00	1.00			0.33
Lane Grp Cap(c), veh/h	206	738	859	2762	603	599
V/C Ratio(X)	0.27	0.41	0.53	0.23	0.54	0.54
Avail Cap(c_a), veh/h	206	738	859	2762	603	599
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	32.7	15.2	3.4	0.0	22.3	22.4
Incr Delay (d2), s/veh	3.2	1.7	2.3	0.2	3.4	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	10.7	1.6	0.1	5.2	5.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.9	16.8	5.7	0.2	25.7	25.8
LnGrp LOS	D	B	A	A	C	C
Approach Vol, veh/h	356			1096	646	
Approach Delay, s/veh	19.8			2.5	25.8	
Approach LOS	B			A	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		65.0		15.0	33.0	32.0
Change Period (Y+Rc), s		6.4		* 6.2	6.4	6.4
Max Green Setting (Gmax), s		58.6		* 8.8	26.6	25.6
Max Q Clear Time (g_c+I1), s		2.0		10.8	8.0	13.3
Green Ext Time (p_c), s		4.9		0.0	1.4	3.1
Intersection Summary						
HCM 6th Ctrl Delay			12.6			
HCM 6th LOS			B			

Notes

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

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

Future Conditions #2 (Both Closed) w/ IMP
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 (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00	1.00		No
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	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	491	807	596	421	525	2196
Arrive On Green	0.26	0.26	0.28	0.28	0.29	0.77
Sat Flow, veh/h	1890	1682	2209	1492	1890	3870
Grp Volume(v), veh/h	405	631	453	413	404	421
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1716	1890	1885
Q Serve(g_s), s	16.1	7.4	18.2	18.2	10.4	2.4
Cycle Q Clear(g_c), s	16.1	7.4	18.2	18.2	10.4	2.4
Prop In Lane	1.00	1.00		0.87	1.00	
Lane Grp Cap(c), veh/h	491	807	533	485	525	2196
V/C Ratio(X)	0.82	0.78	0.85	0.85	0.77	0.19
Avail Cap(c_a), veh/h	491	807	533	485	525	2196
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	17.3	27.1	27.1	24.3	4.0
Incr Delay (d2), s/veh	14.5	7.4	15.6	17.0	10.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	10.2	9.8	9.1	6.9	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	42.4	24.7	42.7	44.1	34.7	4.2
LnGrp LOS	D	C	D	D	C	A
Approach Vol, veh/h	1036		866		825	
Approach Delay, s/veh	31.6		43.4		19.1	
Approach LOS	C		D		B	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	24.0	29.0			53.0	27.0
Change Period (Y+Rc), s	6.4	6.4			6.4	6.2
Max Green Setting (Gmax), s	17.6	22.6			46.6	20.8
Max Q Clear Time (g_c+I1), s	12.4	20.2			4.4	18.1
Green Ext Time (p_c), s	0.6	1.2			3.0	1.2
Intersection Summary						
HCM 6th Ctrl Delay			31.6			
HCM 6th LOS			C			

HCM 6th Signalized Intersection Summary
2: Center Street & Randolph Street/Private Drive

Future Conditions #3 (Main Closed) w/ IMP
AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	2	114	4	0	5	27	560	1	5	417	44
Future Volume (veh/h)	19	2	114	4	0	5	27	560	1	5	417	44
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
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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	2000	2000	2000	1969	1969	1969	1969	1969	1969
Adj Flow Rate, veh/h	29	3	173	5	0	7	30	615	1	7	604	64
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	0	2	2	2	2	2	2
Cap, veh/h	91	18	220	165	32	158	496	1309	2	656	1165	123
Arrive On Green	0.16	0.16	0.16	0.16	0.00	0.16	1.00	1.00	1.00	0.67	0.67	0.67
Sat Flow, veh/h	147	114	1411	515	208	1013	768	1965	3	805	1749	185
Grp Volume(v), veh/h	205	0	0	12	0	0	30	0	616	7	0	668
Grp Sat Flow(s),veh/h/ln	1672	0	0	1736	0	0	768	0	1968	805	0	1935
Q Serve(g_s), s	3.6	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.2	0.0	10.6
Cycle Q Clear(g_c), s	7.0	0.0	0.0	0.3	0.0	0.0	11.2	0.0	0.0	0.2	0.0	10.6
Prop In Lane	0.14		0.84	0.42		0.58	1.00		0.00	1.00		0.10
Lane Grp Cap(c), veh/h	329	0	0	355	0	0	496	0	1311	656	0	1289
V/C Ratio(X)	0.62	0.00	0.00	0.03	0.00	0.00	0.06	0.00	0.47	0.01	0.00	0.52
Avail Cap(c_a), veh/h	478	0	0	488	0	0	496	0	1311	656	0	1289
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 Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.91	0.00	0.91	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.3	0.0	0.0	21.5	0.0	0.0	1.5	0.0	0.0	3.4	0.0	5.1
Incr Delay (d2), s/veh	1.9	0.0	0.0	0.1	0.0	0.0	0.2	0.0	1.1	0.0	0.0	1.5
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	2.8	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.4	0.0	0.0	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.3	0.0	0.0	21.6	0.0	0.0	1.7	0.0	1.1	3.4	0.0	6.6
LnGrp LOS	C	A	A	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		205			12			646			675	
Approach Delay, s/veh		26.3			21.6			1.1			6.6	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.5		14.5		45.5		14.5				
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+I1), s		13.2		9.0		12.6		2.3				
Green Ext Time (p_c), s		4.7		0.6		5.2		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			7.0									
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
12: Center Street & Cady Street — AM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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		0.99	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	1953	1953	1953	1969	1969	1969
Adj Flow Rate, veh/h	1	67	12	137	70	11	29	476	236	31	415	6
Peak Hour Factor	0.88	0.88	0.88	0.82	0.82	0.82	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	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	6	1645	291	955	565	81	33	1203	578	59	1783	25
Grp Volume(v), veh/h	80	0	0	218	0	0	741	0	0	452	0	0
Grp Sat Flow(s),veh/h/ln	1943	0	0	1601	0	0	1814	0	0	1867	0	0
Q Serve(g_s), s	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 Clear(g_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
Lane Grp Cap(c), veh/h	393	0	0	372	0	0	1242	0	0	1278	0	0
V/C Ratio(X)	0.20	0.00	0.00	0.59	0.00	0.00	0.60	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	539	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	0.00	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	0.3	0.0	0.0	1.5	0.0	0.0	2.1	0.0	0.0	0.8	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	0.0	2.9	0.0	0.0	4.6	0.0	0.0	0.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),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 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			C			A			A	

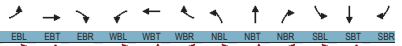
Timer - Assigned Phs	2		4		6		8	
Phs Duration (G+Y+Rc), s	44.5		15.5		44.5		15.5	
Change Period (Y+Rc), s	5.5		* 5.2		5.5		* 5.2	
Max Green Setting (Gmax), s	34.5		* 15		34.5		* 15	
Max Q Clear Time (g_c+I1), s	16.1		4.1		2.0		9.7	
Green Ext Time (p_c), s	5.7		0.2		3.5		0.5	

Intersection Summary	
HCM 6th Ctrl 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												
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
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	
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	0.86	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	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	1087	1560	359	968	1938	1640	941	1969	1663	789	1855	96
Grp Volume(v), veh/h	48	0	401	34	212	88	55	570	70	93	0	448
Grp Sat Flow(s),veh/h/ln	1087	0	1919	968	1938	1640	941	1969	1663	789	0	1951
Q Serve(g_s), s	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 Clear(g_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		0.19	1.00		1.00	1.00		1.00	1.00		0.05
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
Avail Cap(c_a), 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	3.3	0.9	1.1	0.5	0.7	2.7	0.2	2.5	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 BackOfQ(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												
LnGrp Delay(d),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 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	
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+I1), s	18.7		15.4		26.4		17.7	
Green Ext Time (p_c), s	4.1		2.2		2.7		1.2	

Intersection Summary	
HCM 6th Ctrl Delay	18.9
HCM 6th LOS	B

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						
Traffic Volume (veh/h)	46	222	169	352	296	50
Future Volume (veh/h)	46	222	169	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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1953	1953	1938	1938	1953	1953
Adj Flow Rate, veh/h	54	261	199	414	329	56
Peak Hour Factor	0.85	0.85	0.85	0.85	0.90	0.90
Percent Heavy Veh, %	3	3	4	4	3	3
Cap, veh/h	251	795	922	2605	898	151
Arrive On Green	0.14	0.14	0.69	1.00	0.28	0.28
Sat Flow, veh/h	1860	1655	1845	3778	3275	535
Grp Volume(v), veh/h	54	261	199	414	191	194
Grp Sat Flow(s),veh/h/ln	1860	1655	1845	1841	1856	1857
Q Serve(g_s), s	2.1	7.8	1.8	0.0	6.6	6.7
Cycle Q Clear(g_c), s	2.1	7.8	1.8	0.0	6.6	6.7
Prop In Lane	1.00	1.00	1.00			0.29
Lane Grp Cap(c), veh/h	251	795	922	2605	524	525
V/C Ratio(X)	0.22	0.33	0.22	0.16	0.36	0.37
Avail Cap(c_a), veh/h	251	795	922	2605	524	525
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	30.8	12.8	2.7	0.0	23.0	23.0
Incr Delay (d2), s/veh	2.0	1.1	0.5	0.1	2.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	9.1	0.6	0.0	3.0	3.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.8	13.9	3.2	0.1	24.9	25.0
LnGrp LOS	C	B	A	A	C	C
Approach Vol, veh/h	315			613	385	
Approach Delay, s/veh	17.2			1.1	25.0	
Approach LOS	B			A	C	

Timer - Assigned Phs	2		4	5	6	
Phs Duration (G+Y+Rc), s	63.0		17.0	34.0	29.0	
Change Period (Y+Rc), s	6.4		* 6.2	6.4	6.4	
Max Green Setting (Gmax), s	56.6		* 11	27.6	22.6	
Max Q Clear Time (g_c+I1), s	2.0		9.8	3.8	8.7	
Green Ext Time (p_c), s	3.0		0.1	0.5	1.8	

Intersection Summary	
HCM 6th Ctrl Delay	12.0
HCM 6th LOS	B

Notes

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

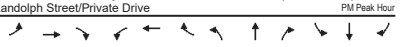
HCM 6th Signalized Intersection Summary — Future Conditions #3 (Main Closed) w/ IMP
28: Northville Road & S. Seven Mile Road — AM Peak Hour

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
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
Ped-Bike Adj(A_pbT)	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
Adj Sat Flow, veh/h/ln	1953	1953	1938	1938	1953	1953
Adj Flow Rate, veh/h	287	235	341	324	379	238
Peak Hour Factor	0.94	0.94	0.88	0.88	0.84	0.84
Percent Heavy Veh, %	3	3	4	4	3	3
Cap, veh/h	437	815	497	443	619	2254
Arrive On Green	0.23	0.23	0.27	0.27	0.17	0.41
Sat Flow, veh/h	1860	1655	1938	1642	1860	3809
Grp Volume(v), veh/h	287	235	341	324	379	238
Grp Sat Flow(s),veh/h/ln	1860	1655	1841	1642	1860	1856
Q Serve(g_s), s	11.2	0.0	13.3	14.4	8.6	3.2
Cycle Q Clear(g_c), s	11.2	0.0	13.3	14.4	8.6	3.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	437	815	497	443	619	2254
V/C Ratio(X)	0.66	0.29	0.69	0.73	0.61	0.11
Avail Cap(c_a), veh/h	437	815	497	443	619	2254
HCM Platoon Ratio	1.00	1.00	1.00	1.00	0.67	0.67
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.7	12.0	26.2	26.6	26.2	10.3
Incr Delay (d2), s/veh	7.5	0.9	7.5	10.2	4.5	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	2.4	6.4	6.4	6.6	1.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.2	12.9	33.7	36.7	30.7	10.3
LnGrp LOS	D	B	C	D	C	B
Approach Vol, veh/h	522		665			617
Approach Delay, s/veh	25.2		35.2			22.8
Approach LOS	C		D			C

Timer - Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	27.0	28.0				55.0		25.0
Change Period (Y+Rc), s	6.4	6.4				6.4		6.2
Max Green Setting (Gmax), s	20.6	21.6				48.6		18.8
Max Q Clear Time (g_c+I1), s	10.6	16.4				5.2		13.2
Green Ext Time (p_c), s	0.9	1.8				1.6		0.9

Intersection Summary	
HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	11	210	13	13	25	52	635	8	16	443	38
Future Volume (veh/h)	41	11	210	13	13	25	52	635	8	16	443	38
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	1.00		0.99	1.00		0.99	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	
Adj Sat Flow, veh/h/ln	2000	2000	2000	2000	2000	2000	2000	2000	2000	1984	1984	1984
Adj Flow Rate, veh/h	49	13	250	14	14	27	60	730	9	22	607	52
Peak Hour Factor	0.84	0.84	0.84	0.91	0.91	0.91	0.87	0.87	0.87	0.73	0.73	0.73
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	1	1	1
Cap, veh/h	108	34	292	134	136	188	435	1188	15	555	1085	93
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	1.00	1.00	1.00	0.60	0.60	0.60
Sat Flow, veh/h	175	155	1332	268	622	858	786	1971	24	722	1800	154
Grp Volume(v), veh/h	312	0	0	55	0	0	60	0	739	22	0	659
Grp Sat Flow(s),veh/h/ln	1662	0	0	1748	0	0	786	0	1995	722	0	1954
Q Serve(g_s), s	6.6	0.0	0.0	0.0	0.0	0.0	1.8	0.0	0.0	0.7	0.0	12.1
Cycle Q Clear(g_c), s	10.8	0.0	0.0	1.5	0.0	0.0	13.9	0.0	0.0	0.7	0.0	12.1
Prop In Lane	0.16		0.80	0.25		0.49	1.00		0.01	1.00		0.08
Lane Grp Cap(c), veh/h	434	0	0	458	0	0	435	0	1202	555	0	1178
V/C Ratio(X)	0.72	0.00	0.00	0.12	0.00	0.00	0.14	0.00	0.61	0.04	0.00	0.56
Avail Cap(c_a), veh/h	479	0	0	501	0	0	435	0	1202	555	0	1178
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	0.87	0.00	0.87	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.4	0.0	0.0	18.9	0.0	0.0	2.3	0.0	0.0	4.9	0.0	7.1
Incr Delay (d2), s/veh	4.7	0.0	0.0	0.1	0.0	0.0	0.6	0.0	0.0	2.1	0.1	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	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	0.0	0.6	0.0	0.0	0.0	0.1	0.0	0.7	0.1	0.0	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.1	0.0	0.0	19.0	0.0	0.0	2.9	0.0	0.0	2.1	5.0	0.0	9.1
LnGrp LOS	C	A	A	B	A	A	A	A	A	A	A	A	A
Approach Vol, veh/h		312			55			799			681	
Approach Delay, s/veh		27.1			19.0			2.1			8.9	
Approach LOS		C			B			A			A	

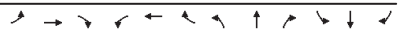
Timer - Assigned Phs	2		4		6		8	
Phs Duration (G+Y+Rc), s	41.7		18.3		41.7		18.3	
Change Period (Y+Rc), s	5.5		* 5.2		5.5		* 5.2	
Max Green Setting (Gmax), s	34.5		* 15		34.5		* 15	
Max Q Clear Time (g_c+I1), s	15.9		12.8		14.1		3.5	
Green Ext Time (p_c), s	5.9		0.4		5.0		0.1	

Intersection Summary	
HCM 6th Ctrl Delay	9.4
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
9: Griswold Street & Main Street — 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	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		0.99	0.99		0.99	1.00		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	
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	167	900	95	75	684	538	105	743	76	327	344	134
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	250	2524	266	35	1918	1509	87	1639	168	538	758	296
Grp Volume(v), veh/h	182	0	199	331	0	277	315	0	0	494	0	0
Grp Sat Flow(s),veh/h/ln	1272	0	1768	1953	0	1509	1895	0	0	1592	0	0
Q Serve(g_s), s	0.6	0.0	4.9	0.0	0.0	8.7	0.0	0.0	0.0	7.2	0.0	0.0
Cycle Q Clear(g_c), s	9.3	0.0	4.9	7.7	0.0	8.7	6.3	0.0	0.0	13.4	0.0	0.0
Prop In Lane	0.30		0.15	0.05		1.00	0.10		0.09	0.38		0.19
Lane Grp Cap(c), veh/h	531	0	630	760	0	538	925	0	0	805	0	0
V/C Ratio(X)	0.34	0.00	0.32	0.44	0.00	0.51	0.34	0.00	0.00	0.61	0.00	0.00
Avail Cap(c_a), veh/h	531	0	630	760	0	538	925	0	0	805	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	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.8	0.0	14.0	14.9	0.0	15.2	10.7	0.0	0.0	12.3	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.0	1.3	1.8	0.0	3.5	1.0	0.0	0.0	3.5	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	1.9	0.0	2.0	3.6	0.0	3.3	2.5	0.0	0.0	4.8	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.6	0.0	15.3	16.7	0.0	18.7	11.7	0.0	0.0	15.8	0.0	0.0
LnGrp LOS	B	A	B	B	A	B	B	A	A	B	A	A
Approach Vol, veh/h		381			608			315			494	
Approach Delay, s/veh		15.4			17.6			11.7			15.8	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	2		4		6		8	
Phs Duration (G+Y+Rc), s	27.0		33.0		27.0		33.0	
Change Period (Y+Rc), s	5.6		* 5.8		5.6		* 5.8	
Max Green Setting (Gmax), s	21.4		* 27		21.4		* 27	
Max Q Clear Time (g_c+I1), s	11.3		15.4		10.7		8.3	
Green Ext Time (p_c), s	1.8		2.6		3.0		1.7	

Intersection Summary	
HCM 6th Ctrl Delay	15.6
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
12: Center Street & Cady Street — PM Peak Hour

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
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		0.95	0.96		0.95	0.99		0.98	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	
Adj Sat Flow, veh/h/ln	1984	1984	1984	2000	2000	2000	1984	1984	1984	1984	1984	1984
Adj Flow Rate, veh/h	13	96	34	215	74	20	24	492	231	60	525	35
Peak Hour Factor	0.79	0.79	0.79	0.88	0.88	0.88	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	0	0	0	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	1.00	1.00	1.00
Sat Flow, veh/h	73	1363	448	1051	367	98	25	1243	568	106	1608	103
Grp Volume(v), veh/h	143	0	0	309	0	0	747	0	0	620	0	0
Grp Sat Flow(s),veh/h/ln	1884	0	0	1516	0	0	1836	0	0	1816	0	0
Q Serve(g_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 Clear(g_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		0.06
Lane Grp Cap(c), veh/h	502	0	0	453	0	0	1145	0	0	1137	0	0
V/C Ratio(X)	0.28	0.00	0.00	0.68	0.00	0.00	0.65	0.00	0.00	0.55	0.00	0.00
Avail Cap(c_a), veh/h	514	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(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	19.2	0.0	0.0	21.7	0.0	0.0	8.4	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	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 BackOfQ(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												
LnGrp Delay(d),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 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			A	

Timer - Assigned Phs	2	4	6	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+I1), s	18.4	5.8	2.0	13.5
Green Ext Time (p_c), s	5.5	0.4	5.6	0.2

Intersection Summary	
HCM 6th Ctrl Delay	11.2
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
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	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
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	
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	0.90	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	222	516	181	220	735	622	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/h/ln	794	0	1895	914	2000	1693	774	1984	1677	720	0	1958
Q Serve(g_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 Clear(g_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		0.26	1.00		1.00	1.00		1.00	1.00		0.07
Lane Grp Cap(c), veh/h	222	0	696	220	735	622	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_a), veh/h	222	0	696	220	735	622	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(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	29.1	0.0	21.7	33.1	21.1	17.7	28.5	15.6	11.2	25.9	0.0	16.0
Incr Delay (d2), s/veh	1.6	0.0	6.1	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 BackOfQ(50%),veh/ln	0.7	0.0	8.6	2.2	7.9	2.1	2.3	8.9	0.9	1.4	0.0	9.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	30.7	0.0	27.8	39.9	25.6	18.7	33.9	19.3	11.5	28.8	0.0	20.2
LnGrp LOS	C	A	C	D	C	B	C	B	B	C	A	C
Approach Vol, veh/h		533			743			862			747	
Approach Delay, s/veh		28.0			26.1			20.3			21.1	
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+I1), s	34.3	21.2	29.2	28.6
Green Ext Time (p_c), s	2.2	2.1	3.5	0.4

Intersection Summary	
HCM 6th Ctrl Delay	23.4
HCM 6th LOS	C

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						
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
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1969	1969	1984	1984	1984	1984
Adj Flow Rate, veh/h	56	300	456	640	538	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	206	738	859	2762	1000	202
Arrive On Green	0.11	0.11	0.67	1.00	0.32	0.32
Sat Flow, veh/h	1875	1668	1890	3870	3225	631
Grp Volume(v), veh/h	56	300	456	640	324	323
Grp Sat Flow(s),veh/h/ln	1875	1668	1890	1885	1885	1871
Q Serve(g_s), s	2.2	8.8	6.0	0.0	11.3	11.4
Cycle Q Clear(g_c), s	2.2	8.8	6.0	0.0	11.3	11.4
Prop In Lane	1.00	1.00	1.00			0.34
Lane Grp Cap(c), veh/h	206	738	859	2762	603	599
V/C Ratio(X)	0.27	0.41	0.53	0.23	0.54	0.54
Avail Cap(c_a), veh/h	206	738	859	2762	603	599
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	32.7	15.2	3.4	0.0	22.3	22.4
Incr Delay (d2), s/veh	3.2	1.7	2.3	0.2	3.4	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	10.7	1.6	0.1	5.3	5.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	35.9	16.8	5.7	0.2	25.7	25.8
LnGrp LOS	D	B	A	A	C	C
Approach Vol, veh/h	356			1096	647	
Approach Delay, s/veh	19.8			2.5	25.8	
Approach LOS	B			A	C	

Timer - Assigned Phs	2	4	5	6
Phs Duration (G+Y+Rc), s	65.0	15.0	33.0	32.0
Change Period (Y+Rc), s	6.4	* 6.2	6.4	6.4
Max Green Setting (Gmax), s	58.6	* 8.8	26.6	25.6
Max Q Clear Time (g_c+I1), s	2.0	10.8	8.0	13.4
Green Ext Time (p_c), s	4.9	0.0	1.4	3.1

Intersection Summary	
HCM 6th Ctrl Delay	12.6
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
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 (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	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
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	491	807	596	421	525	2196
Arrive On Green	0.26	0.26	0.28	0.28	0.29	0.77
Sat Flow, veh/h	1890	1682	2209	1492	1890	3870
Grp Volume(v), veh/h	405	631	453	413	404	421
Grp Sat Flow(s),veh/h/ln	1890	1682	1885	1716	1890	1885
Q Serve(g_s), s	16.1	7.4	18.2	18.2	10.4	2.4
Cycle Q Clear(g_c), s	16.1	7.4	18.2	18.2	10.4	2.4
Prop In Lane	1.00	1.00		0.87	1.00	
Lane Grp Cap(c), veh/h	491	807	533	485	525	2196
V/C Ratio(X)	0.82	0.78	0.85	0.85	0.77	0.19
Avail Cap(c_a), veh/h	491	807	533	485	525	2196
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.33	1.33
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	17.3	27.1	27.1	24.3	4.0
Incr Delay (d2), s/veh	14.5	7.4	15.6	17.0	10.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	10.2	9.8	9.1	6.9	0.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	42.4	24.7	42.7	44.1	34.7	4.2
LnGrp LOS	D	C	D	D	C	A
Approach Vol, veh/h	1036		866		825	
Approach Delay, s/veh	31.6		43.4		19.1	
Approach LOS	C		D		B	

Timer - Assigned Phs	1	2	6	8
Phs Duration (G+Y+Rc), s	24.0	29.0	53.0	27.0
Change Period (Y+Rc), s	6.4	6.4	6.4	6.2
Max Green Setting (Gmax), s	17.6	22.6	46.6	20.8
Max Q Clear Time (g_c+I1), s	12.4	20.2	4.4	18.1
Green Ext Time (p_c), s	0.6	1.2	3.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	31.6
HCM 6th LOS	C

Queuing and Blocking Report — Future Conditions #1 (Pre-COVID) 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)	138	35	66	148	29	206
Average Queue (ft)	53	7	13	48	3	59
95th Queue (ft)	103	28	44	124	18	153
Link Distance (ft)	394	193		153		1449
Upstream Blk Time (%)				0		
Queuing Penalty (veh)				1		
Storage Bay Dist (ft)			500		500	
Storage Blk Time (%)				0		
Queuing Penalty (veh)				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)	114	33	102	96	69	168	23
Average Queue (ft)	46	5	42	37	23	87	6
95th Queue (ft)	93	23	84	75	53	145	22
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	
Queuing Penalty (veh)	2	1	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)	126	103	108	131	151	200
Average Queue (ft)	60	38	46	57	75	88
95th Queue (ft)	103	83	87	104	128	167
Link Distance (ft)	103	103	336	336	125	1018
Upstream Blk Time (%)	1	0			1	
Queuing Penalty (veh)	2	0			2	
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Queuing and Blocking Report — Future Conditions #1 (Pre-COVID) w/ IMP
AM Peak Hour

Intersection: 12: Center Street & Cady Street

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	LTR
Maximum Queue (ft)	51	109	278	151
Average Queue (ft)	13	45	122	59
95th Queue (ft)	41	88	268	132
Link Distance (ft)	145	254	252	118
Upstream Blk Time (%)			1	1
Queuing Penalty (veh)			8	6
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	132	370	71	132	73	62	516	75	167	252
Average Queue (ft)	26	195	21	49	14	19	225	33	64	135
95th Queue (ft)	84	327	53	102	44	48	421	88	129	229
Link Distance (ft)		386		565	565		21443			532
Upstream Blk Time (%)	0	2								
Queuing Penalty (veh)	0	14								
Storage Bay Dist (ft)	500		150			600		50	250	
Storage Blk Time (%)	0	2		0			31	1		0
Queuing Penalty (veh)	0	1		0			41	9		0

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	EB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	80	144	134	56	65	185	117
Average Queue (ft)	26	66	51	5	18	105	59
95th Queue (ft)	60	126	106	28	48	165	100
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 (%)			0				
Queuing Penalty (veh)			0				

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	0	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

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	293
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		
Queuing Penalty (veh)	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	125	15
Link Distance (ft)	521		381		114		328
Upstream Blk Time (%)			0				
Queuing Penalty (veh)			3				
Storage Bay Dist (ft)		25		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	150	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			1	
Queuing Penalty (veh)	19	5			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)	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	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	120	294	249	410	342	519	739	75	297	433
Average Queue (ft)	37	158	110	216	100	219	361	44	113	241
95th Queue (ft)	94	267	239	387	293	479	650	99	250	381
Link Distance (ft)		386		565	565		21443			532
Upstream Blk Time (%)				0	0					
Queuing Penalty (veh)				1	1					
Storage Bay Dist (ft)	500		150			600		50	250	
Storage Blk Time (%)			5	23			38	2	1	7
Queuing Penalty (veh)			25	25			88	15	4	6

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	76	147	199	138	74	215	189
Average Queue (ft)	33	58	102	17	39	133	119
95th Queue (ft)	66	115	175	71	67	195	176
Link Distance (ft)	164	164		240	240	357	357
Upstream Blk Time (%)		0		0			
Queuing Penalty (veh)		0		0			
Storage Bay Dist (ft)			150				
Storage Blk Time (%)			3				
Queuing Penalty (veh)			10				

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		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

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 (%)						
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)	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)	0	0			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 (%)			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	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	43	343	149	214	64	108	339	75	71	252
Average Queue (ft)	8	164	52	67	10	39	162	35	21	121
95th Queue (ft)	28	281	115	142	36	86	292	86	53	203
Link Distance (ft)		386		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	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	TR	
Maximum Queue (ft)	75	105	105	38	52	146	117	
Average Queue (ft)	24	40	44	6	14	87	61	
95th Queue (ft)	54	84	89	26	42	137	106	
Link Distance (ft)	164	164		240	240	357	357	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)			150					
Storage Blk Time (%)			0					
Queuing Penalty (veh)			0					

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)	120	65	207	235	143	71	62
Average Queue (ft)	88	25	101	107	64	10	17
95th Queue (ft)	117	59	169	193	118	40	48
Link Distance (ft)	82	82	219	219		222	222
Upstream Blk Time (%)	12	0	0	1			
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

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)	83	49	53	114	34	154
Average Queue (ft)	42	26	26	59	12	73
95th Queue (ft)	71	49	49	93	36	119
Link Distance (ft)	394	193		154		1449
Upstream Blk Time (%)				0		
Queuing Penalty (veh)				0		
Storage Bay Dist (ft)			500		500	
Storage Blk Time (%)				0		
Queuing Penalty (veh)				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)	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	250	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		1	0
Queuing Penalty (veh)	0		5	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	WB	NB	NB	NB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR
Maximum Queue (ft)	64	273	228	392	298	147	401	75	92	217
Average Queue (ft)	20	148	95	173	59	53	181	40	43	119
95th Queue (ft)	50	244	195	335	248	106	334	92	78	192
Link Distance (ft)		386		565	565		21443			532
Upstream Blk Time (%)				0	1					
Queuing Penalty (veh)				2	4					
Storage Bay Dist (ft)	500		150			600		50	250	
Storage Blk Time (%)			8	15			24	2		0
Queuing Penalty (veh)			37	20			56	12		0

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	EB	NB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	TR
Maximum Queue (ft)	106	103	174	40	58	212	187
Average Queue (ft)	30	44	92	8	28	134	114
95th Queue (ft)	70	89	156	31	58	200	173
Link Distance (ft)	164	164		240	240	357	357
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)			150				
Storage Blk Time (%)			1				
Queuing Penalty (veh)			4				

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)	135	117	237	246	196	152	100
Average Queue (ft)	95	56	145	138	99	29	30
95th Queue (ft)	118	103	217	221	175	103	71
Link Distance (ft)	82	82	219	219		222	222
Upstream Blk Time (%)	19	4	1	1		1	
Queuing Penalty (veh)	90	20	3	5		2	
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					10		
Queuing Penalty (veh)					20		

Zone Summary

Zone wide Queuing Penalty: 287

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)	138	39	44	161	29	146
Average Queue (ft)	48	6	11	57	2	43
95th Queue (ft)	94	26	37	145	15	119
Link Distance (ft)	394	193		153		1449
Upstream Blk Time (%)				1		
Queuing Penalty (veh)				3		
Storage Bay Dist (ft)			500		500	
Storage Blk Time (%)				1		
Queuing Penalty (veh)				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	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	159	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 (%)			1	3
Queuing Penalty (veh)			5	14
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

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

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR	
Maximum Queue (ft)	68	249	64	134	88	82	370	75	145	229	
Average Queue (ft)	19	110	18	66	16	20	188	21	49	111	
95th Queue (ft)	49	186	49	121	49	53	323	68	104	196	
Link Distance (ft)		386		565	565		21443			532	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	500		150			600		50	250		
Storage Blk Time (%)				0			25	0		0	
Queuing Penalty (veh)				0			29	2		0	

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	EB	NB	WB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	T	TR
Maximum Queue (ft)	94	114	132	38	65	172	121	
Average Queue (ft)	28	40	52	4	15	89	59	
95th Queue (ft)	64	85	103	22	47	143	108	
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 (%)			0					
Queuing Penalty (veh)			0					

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)	126	80	187	214	148	39	58
Average Queue (ft)	88	28	100	102	67	6	18
95th Queue (ft)	114	65	157	170	119	26	49
Link Distance (ft)	82	82	219	219		222	222
Upstream Blk Time (%)	10	0	0	0			
Queuing Penalty (veh)	26	1	0	1			
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					2		
Queuing Penalty (veh)					2		

Zone Summary

Zone wide Queuing Penalty: 88

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)	193	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 (%)			0	1		
Queuing Penalty (veh)			0	1		

Intersection: 9: Griswold Street & Main Street

Movement	EB	EB	WB	WB	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	81	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)				

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

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	R	L	TR	
Maximum Queue (ft)	72	312	243	360	203	299	538	75	258	408	
Average Queue (ft)	20	164	84	175	51	87	246	35	63	213	
95th Queue (ft)	53	274	189	293	141	235	446	88	157	338	
Link Distance (ft)		386		565	565		21443			532	
Upstream Blk Time (%)										0	
Queuing Penalty (veh)										0	
Storage Bay Dist (ft)	500		150			600		50	250		
Storage Blk Time (%)			2	15			31	1		4	
Queuing Penalty (veh)			10	15			63	7		3	

Intersection: 26: SB Northville Road & N. Seven Mile Road

Movement	EB	EB	NB	NB	WB	NB	NB	SB	SB
Directions Served	L	R	L	T	T	T	T	TR	
Maximum Queue (ft)	89	122	189	78	65	252	197		
Average Queue (ft)	33	51	103	9	31	136	111		
95th Queue (ft)	70	99	174	45	62	206	174		
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						

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)	133	113	240	241	198	218	84
Average Queue (ft)	95	60	156	143	104	33	32
95th Queue (ft)	117	101	231	238	183	118	69
Link Distance (ft)	82	82	219	219		222	222
Upstream Blk Time (%)	17	4	2	3		1	
Queuing Penalty (veh)	80	20	7	11		4	
Storage Bay Dist (ft)					120		
Storage Blk Time (%)					12	0	
Queuing Penalty (veh)					25	0	

Zone Summary

Zone wide Queuing Penalty: 467

Scheme Summary

Control Data

Control Data and Model Parameters

Northville Downs - RDBT @ Central/Sheldon & 7 Mile	2028 PHF Flow Profile (veh)
Future Conditions - Scenario #1 (Pre-COVID)	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 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 + or -	XWalk 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	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 455	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00076 455	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	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	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	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	2028 PHF Flow Profile (veh)
Future Conditions - Scenario #1 (Pre-COVID)	7.5 min Time Slice
Rodel-Win1	Queuing 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 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 + or -	XWalk 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	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 877	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00076 877	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	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	0.1786
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	5.24		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	2028 PHF Flow Profile (veh)
Future 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 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 + or -	XWalk 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	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 666	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00076 666	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		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	Entry	Bypass		Entry	Bypass	Entry	Bypass
1	Central SB	Exclusive	414	20	339	339	489	1083	957	0.3822	0.0209
2	7 Mile EB	None	458		489		284	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		395	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	3.89		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

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	2028 PHF Flow Profile (veh)
Future Conditions - Scenario #2 (Both Closed)	7.5 min Time Slice
Rodel-Win1	Queuing 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 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 + or -	XWalk 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	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	66.00077088	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00077088	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		Entry	Bypass	Entry	Bypass
1	Central SB	Exclusive	442	26	703	703	657	980	842	0.4510	0.0309
2	7 Mile EB	None	479		570		601	930		0.5151	
3	Sheldon NB	Exclusive	626	105	419	419	630	1013	877	0.6182	0.1198
4	7 Mile WB	None	707		653		497	1395		0.5067	

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	6.62	4.37	6.50	2.57	0.09	A	A	A
2	7 Mile EB	None	7.79		7.79	3.67		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

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

Northville Downs - RDBT @ Central/Sheldon & 7 Mile	2028 PHF Flow Profile (veh)
Future Conditions - Scenario #3 (Main 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 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	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	66.00077088	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00077088	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	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		Exit 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	461	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
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

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

Northville Downs - RDBT @ Central/Sheldon & 7 Mile	2028 PHF Flow Profile (veh)
Future Conditions - Scenario #3 (Main Closed)	7.5 min Time Slice
Rodel-Win1	Queuing 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 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 511	30	2	7 Mile EB	1	2
3	Sheldon NB	12	1	0	100	66.00077 511	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	73	582	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)			
			Arrival Flow		Opposing Flow		Exit Flow	Capacity		Average VCR	
			Entry	Bypass	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	Leg	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	11.95	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

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 Blk Time (%)	23						
Queuing Penalty (veh)	132						
Storage Bay Dist (ft)					50	250	
Storage Blk Time (%)				97	0	12	
Queuing Penalty (veh)				71	2	2	

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 Blk Time (%)	9	14	9				73
Queuing Penalty (veh)	40	55	37				581
Storage Bay Dist (ft)					50	250	
Storage Blk Time (%)				98	0	84	
Queuing Penalty (veh)				105	1	45	

Queuing and Blocking Report — Future 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)	184	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 (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)					50	
Storage Blk Time (%)				35	0	
Queuing Penalty (veh)				28	1	

Queuing and Blocking Report — Future 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)	125	351	340	2031	75	316	29
Average Queue (ft)	65	183	119	1070	70	135	5
95th Queue (ft)	106	364	295	2121	101	258	21
Link Distance (ft)	344	541	541	21410		490	490
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					50		
Storage Blk Time (%)				95	0		
Queuing Penalty (veh)				100	2		

Queuing and Blocking Report — Future 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)	136	76	53	385	75	222	29
Average Queue (ft)	58	35	13	247	62	75	2
95th Queue (ft)	110	69	41	395	108	165	14
Link Distance (ft)	344	541	541	21410			491
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)					50	250	
Storage Blk Time (%)				66	0		
Queuing Penalty (veh)				42	1		

Queuing and Blocking Report — Future 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)	378	541	645	6210	75	300	536
Average Queue (ft)	104	231	183	2355	64	299	525
95th Queue (ft)	246	477	515	4890	107	302	536
Link Distance (ft)	344	541	541	21410			491
Upstream Blk Time (%)	3	7	10				96
Queuing Penalty (veh)	15	24	34				672
Storage Bay Dist (ft)					50	250	
Storage Blk Time (%)				97	0	99	0
Queuing Penalty (veh)				91	2	47	1

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												
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
Ped-Bike Adj(A_pbT)	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	
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	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	0.86	0.86	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	1890	1654	280	1845	1938	1640	1875	1751	184	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/h/ln	1890	0	1934	1845	1938	1640	1875	0	1935	1875	0	1952
Q Serve(g_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 Clear(g_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		0.10	1.00		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	0.93	0.25	0.27	0.16	0.21	0.00	0.95	0.61	0.00	0.65
Avail Cap(c_a), veh/h	446	0	711	181	713	676	311	0	774	168	0	780
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	36.3	28.8	28.0	23.7	21.8	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
%ile BackOfQ(50%),veh/ln	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	C	A	D	C	A	C
Approach Vol, veh/h		648			307			777			605	
Approach Delay, s/veh		51.1			27.0			52.2			30.5	
Approach LOS		D			C			D			C	

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+I1), s	5.7	42.3	3.5	35.4	4.2	25.6	4.1	9.3
Green Ext Time (p_c), s	0.0	1.2	0.0	2.0	0.0	3.0	0.0	1.3

Intersection Summary	
HCM 6th Ctrl Delay	43.0
HCM 6th LOS	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												
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
Ped-Bike Adj(A_pbT)	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	
Adj Sat Flow, veh/h/ln	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	0.94	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	1890	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/h/ln	1890	0	1892	1905	2000	1692	1890	0	1937	1890	0	1958
Q Serve(g_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 Clear(g_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		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
Avail Cap(c_a), veh/h	183	0	643	187	679	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	38.0	27.4	26.3	0.0	32.5	27.1	0.0	30.7
Incr Delay (d2), s/veh	0.8	0.0	14.9	6.4	14.3	0.3	10.4	0.0	40.4	6.6	0.0	14.2
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	14.8	2.6	16.4	3.5	2.5	0.0	30.6	1.5	0.0	21.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.6	0.0	54.1	37.4	52.3	27.7	36.7	0.0	72.9	33.7	0.0	45.0
LnGrp LOS	C	A	D	D	D	C	D	A	F	C	A	D
Approach Vol, veh/h		519			832			982			839	
Approach Delay, s/veh		52.6			45.1			68.0			43.8	
Approach LOS		D			D			E			D	

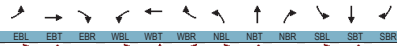
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.7	54.0	11.0	37.4	11.0	53.7	9.0	39.4
Change Period (Y+Rc), s	6.0	6.0	5.6	5.6	6.0	6.0	5.6	5.6
Max Green Setting (Gmax), s	5.0	48.0	5.4	38.4	5.0	48.0	5.4	38.4
Max Q Clear Time (g_c+I1), s	4.9	50.0	7.0	29.8	6.5	42.9	3.5	31.3
Green Ext Time (p_c), s	0.0	0.0	0.0	2.0	0.0	2.3	0.0	2.3

Intersection Summary	
HCM 6th Ctrl Delay	53.1
HCM 6th LOS	D

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												
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
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	
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	0.88	0.88	0.88	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	422	366	220	220	667	633	228	526	100	215	591	31
Arrive On Green	0.02	0.32	0.32	0.05	0.35	0.35	0.05	0.33	0.33	0.04	0.32	0.32
Sat Flow, veh/h	1860	1143	686	1830	1922	1626	1875	1607	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 Serve(g_s), 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		0.38	1.00		1.00	1.00		0.16	1.00		0.05
Lane Grp Cap(c), veh/h	422	0	586	220	667	633	228	0	626	215	0	623
V/C Ratio(X)	0.05	0.00	0.87	0.39	0.30	0.10	0.41	0.00	0.86	0.26	0.00	0.86
Avail Cap(c_a), veh/h	493	0	851	240	894	825	238	0	967	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(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	19.5	0.0	28.6	22.0	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	7.1	1.1	0.3	0.1	1.2	0.0	5.0	0.6	0.0	4.9
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
%ile BackOfQ(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												
LnGrp Delay(d),s/veh	19.6	0.0	35.7	23.1	21.5	17.3	23.1	0.0	33.0	22.5	0.0	33.4
LnGrp LOS	B	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+Rc), s	9.7	35.2	10.0	34.1	10.5	34.4	7.6	36.5				
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+I1), s	3.8	25.5	4.7	25.5	4.9	25.1	2.7	8.8				
Green Ext Time (p_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

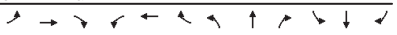


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	318	134	128	448	131	127	499	105	74	368	26
Future Volume (veh/h)	27	318	134	128	448	131	127	499	105	74	368	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	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	
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	0.88	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	195	401	169	202	647	622	359	605	128	189	696	49
Arrive On Green	0.03	0.30	0.30	0.05	0.33	0.33	0.05	0.38	0.38	0.04	0.38	0.38
Sat Flow, veh/h	1890	1323	557	1890	1984	1685	1890	1584	335	1905	1844	130
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	1685	1890	0	1919	1905	0	1974
Q Serve(g_s), 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		0.30	1.00		1.00	1.00		0.17	1.00		0.07
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	0.90	0.72	0.79	0.24	0.39	0.00	0.92	0.42	0.00	0.57
Avail Cap(c_a), veh/h	238	0	705	202	744	704	359	0	858	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(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	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	4.9	0.2	0.7	0.0	13.0	1.5	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 BackOfQ(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												
LnGrp Delay(d),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 LOS	C	A	D	D	D	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			D			D			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.5	46.1	11.0	37.4	11.0	45.7	8.6	39.8				
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	47.0	5.4	39.4	5.0	47.0	5.4	39.4				
Max Q Clear Time (g_c+I1), s	4.7	36.9	7.4	29.5	6.9	19.9	3.2	26.4				
Green Ext Time (p_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												
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
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	
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	0.86	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	0.04	0.38	0.38	0.05	0.39	0.39
Sat Flow, veh/h	1890	1560	359	1845	1938	1639	1875	1719	211	1875	1855	96
Grp Volume(v), veh/h	48	0	401	34	212	88	55	0	640	93	0	448
Grp Sat Flow(s),veh/h/ln	1890	0	1919	1845	1938	1639	1875	0	1930	1875	0	1951
Q Serve(g_s), s	1.5	0.0	16.3	1.1	7.7	3.3	1.4	0.0	25.4	2.4	0.0	15.0
Cycle Q Clear(g_c), s	1.5	0.0	16.3	1.1	7.7	3.3	1.4	0.0	25.4	2.4	0.0	15.0
Prop In Lane	1.00		0.19	1.00		1.00	1.00		0.11	1.00		0.05
Lane Grp Cap(c), veh/h	329	0	486	202	476	490	365	0	734	244	0	761
V/C Ratio(X)	0.15	0.00	0.83	0.17	0.45	0.18	0.15	0.00	0.87	0.38	0.00	0.59
Avail Cap(c_a), veh/h	376	0	961	262	970	908	397	0	1050	258	0	1062
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	22.0	0.0	29.2	23.5	26.4	21.5	15.4	0.0	23.8	18.4	0.0	20.0
Incr Delay (d2), s/veh	0.2	0.0	3.6	0.4	0.7	0.2	0.2	0.0	5.9	1.0	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 BackOfQ(50%),veh/ln	0.7	0.0	7.6	0.5	3.5	1.2	0.6	0.0	11.8	1.0	0.0	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.2	0.0	32.8	23.9	27.1	21.7	15.6	0.0	29.6	19.4	0.0	20.7
LnGrp LOS	C	A	C	C	C	C	B	A	C	B	A	C
Approach Vol, veh/h		449			334			695			541	
Approach Delay, s/veh		31.7			25.3			28.5			20.5	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.4	37.5	8.3	26.5	9.6	38.3	8.9	25.9				
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+I1), s	4.4	27.4	3.1	18.3	3.4	17.0	3.5	9.7				
Green Ext Time (p_c), s	0.0	4.0	0.0	2.4	0.0	2.9	0.0	1.5				
Intersection Summary												
HCM 6th Ctrl Delay			26.5									
HCM 6th LOS			C									

HCM 6th Signalized Intersection Summary Future Conditions #3 (Main 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												
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
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	
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	0.90	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	195	408	143	194	619	594	224	684	105	170	730	59
Arrive On Green	0.03	0.29	0.29	0.05	0.31	0.31	0.05	0.41	0.41	0.04	0.40	0.40
Sat Flow, veh/h	1890	1403	492	1905	2000	1692	1890	1680	257	1890	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	1890	0	1895	1905	2000	1692	1890	0	1937	1890	0	1957
Q Serve(g_s), s	1.4	0.0	27.7	4.1	24.0	7.4	4.0	0.0	40.7	2.6	0.0	34.0
Cycle Q Clear(g_c), s	1.4	0.0	27.7	4.1	24.0	7.4	4.0	0.0	40.7	2.6	0.0	34.0
Prop In Lane	1.00		0.26	1.00		1.00	1.00		0.13	1.00		0.07
Lane Grp Cap(c), veh/h	195	0	550	194	619	594	224	0	789	170	0	789
V/C Ratio(X)	0.18	0.00	0.90	0.52	0.78	0.27	0.52	0.00	0.95	0.46	0.00	0.85
Avail Cap(c_a), veh/h	230	0	681	194	719	678	224	0	830	178	0	839
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	28.1	0.0	37.4	29.2	34.4	25.5	24.0	0.0	31.3	25.9	0.0	29.7
Incr Delay (d2), s/veh	0.5	0.0	13.4	2.6	4.7	0.2	2.1	0.0	18.8	1.9	0.0	7.8
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	14.5	2.0	12.2	3.0	1.8	0.0	22.2	1.2	0.0	17.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	0.0	50.8	31.7	39.2	25.7	26.0	0.0	50.2	27.8	0.0	37.5
LnGrp LOS	C	A	D	C	D	C	C	A	D	C	A	D
Approach Vol, veh/h		533			743			862			747	
Approach Delay, s/veh		49.3			35.3			46.9			36.5	
Approach LOS		D			D			D			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.5	50.7	11.0	37.5	11.0	50.2	8.9	39.5				
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	47.0	5.4	39.4	5.0	47.0	5.4	39.4				
Max Q Clear Time (g_c+I1), s	4.6	42.7	6.1	29.7	6.0	36.0	3.4	26.0				
Green Ext Time (p_c), s	0.0	1.9	0.0	2.2	0.0	3.4	0.0	2.9				
Intersection Summary												
HCM 6th Ctrl Delay			41.7									
HCM 6th LOS			D									

Queuing and Blocking Report Future 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)	80	384	62	145	54	60	866	132	254
Average Queue (ft)	24	209	20	52	14	18	466	61	144
95th Queue (ft)	54	365	46	117	38	43	831	108	234
Link Distance (ft)		386		578	578		21448		532
Upstream Blk Time (%)		0							
Queuing Penalty (veh)		1							
Storage Bay Dist (ft)	500		150			50		250	
Storage Blk Time (%)		0		0		0	49		0
Queuing Penalty (veh)		0		0		2	28		0

Queuing and Blocking Report Future 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)	157	400	250	473	455	59	5956	300	562
Average Queue (ft)	25	213	90	252	121	46	3639	109	355
95th Queue (ft)	95	331	235	420	318	73	6264	294	557
Link Distance (ft)		386		578	578		21448		532
Upstream Blk Time (%)	0	1		0	0				3
Queuing Penalty (veh)	0	3		0	0				20
Storage Bay Dist (ft)	500		150			50		250	
Storage Blk Time (%)	0	1		32		11	57		22
Queuing Penalty (veh)	0	0		35		92	71		18

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	56	235
Link Distance (ft)		386		578	578		21448		532
Upstream Blk Time (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	500		150			50		250	
Storage Blk Time (%)				0		2	38		1
Queuing Penalty (veh)				0		12	33		0

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	
Storage Blk Time (%)		0	1	15		6	55		1
Queuing Penalty (veh)		0	3	19		36	69		1

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 (%)									
Queuing Penalty (veh)									
Storage Bay Dist (ft)	500		150			50		250	
Storage Blk Time (%)				0		1	38		
Queuing Penalty (veh)				0		6	19		

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							0
Queuing Penalty (veh)		0							3
Storage Bay Dist (ft)	500		150			50		250	
Storage Blk Time (%)		0	0	24		9	56		15
Queuing Penalty (veh)		0	0	24		63	61		11