final report

July 12, 2022

Traffic Impact Study

Southside Drive 6105 Southside Drive Louisville, KY

Prepared for

Louisville Metro Planning Commission Kentucky Transportation Cabinet





Received July 14, 2022

Planning & Design Services

Table of Contents

INTRODUCTION	2
Figure 1. Site Map	2
EXISTING CONDITIONS	2
Figure 2. Existing (2022) Peak Hour Volumes	
FUTURE CONDITIONS	
Figure 3. No Build Peak Hour Volumes	4
TRIP GENERATION	4
Table 1. Peak Hour Trips Generated by Site	5
Figure 4. Trip Distribution Percentages	5
Figure 5. Peak Hour Trips Generated by Site	6
Figure 6. 2022 Build Peak Hour Volumes	7
ANALYSIS	7
Table 2. Peak Hour Level of Service	
Figure 7. 2034 No Build Peak Hour Volumes	
Figure 8. 2034 Build Peak Hour Volumes	
Table 3. Peak Hour Level of Service	
CONCLUSIONS	
APPENDIX	

INTRODUCTION

The detailed district development plan for 6105 Southside Drive (KY 1020) in Louisville, KY shows a mix of retail and contractor shops. **Figure 1** displays a map of the site. The development will have two access points, with one on Southside Drive opposite Alger Avenue and one on Steedly Drive. The purpose of this study is to examine the traffic impacts of the development upon the adjacent highway system. For this study, the impact area was defined to be the intersections of Southside Drive with Rochester Drive, Alger Avenue, Steedly Drive, and Strawberry Lane, and the proposed entrance.



EXISTING CONDITIONS

Southside Drive, KY 1020, is maintained by the Kentucky Transportation Cabinet (KYTC) with an estimated 2022 ADT of 14,200 vehicles per day north of Alger Avenue, as estimated from the turning movement count. The road is a two-lane highway with twelve-foot lanes, a 12-foot continuous left turn lane, with curb and gutter. The speed limit is 35 mph. There are sidewalks on the west side and on the east south of the site. The intersections with Rochester Drive and Strawberry Lane are controlled with a traffic signal. At the Rochester Drive intersection there are left turn lanes on approaches. At Strawberry Lane there are left turn lane on the 4 major approaches. Northbound Southside Drive has a right lane, and Roberts Avenue is a single lane approach.

Peak hour traffic counts for the intersections were obtained on Tuesday, April 26, 2022. The a.m. and peak hour occurred between 7:45 and 8:45 and the p.m. peak hour occurred between 4:00 and 5:00. **Figure 2** illustrates the existing a.m. and p.m. peak hour traffic volumes.



Figure 2. Existing (2022) Peak Hour Volumes

FUTURE CONDITIONS

The project completion date is 2024. An annual growth rate of 0.5 percent was applied to the traffic volumes. This is based upon a review of historical traffic counts at station 641, which showed declining traffic volumes for the past fourteen years. **Figure 3** displays the 2024 No Build peak hour volumes.



Figure 3. No Build Peak Hour Volumes

TRIP GENERATION

The Institute of Transportation Engineers <u>Trip Generation Manual</u>, 11th Edition contains trip generation rates for a wide range of developments. The land uses were reviewed and determined to be the best match. The trip generation results are listed in **Table 1**. The trips were assigned to the highway network with the percentages shown in **Figure 4**. **Figure 5** shows the trips generated by this development and distributed throughout the road network during the peak hours. **Figure 6** displays the individual turning movements for the peak hours when the development is completed.

	A.M. I	Peak	Hour	P.M. F	Peak	Hour
Land Use	Trips	In	Out	Trips	In	Out
Contractor Shops (45,000 sf)	75	56	19	87	28	59
Retail less than 40,000 (22,500 sf)	53	32	21	138	69	69
TOTAL	128	88	40	225	97	128

Table 1. Peak Hour Trips Generated by Site



Figure 4. Trip Distribution Percentages



Figure 5. Peak Hour Trips Generated by Site



Figure 6. 2022 Build Peak Hour Volumes

ANALYSIS

The qualitative measure of operation for a roadway facility or intersection is evaluated by assigning a "Level of Service". Level of Service is a ranking scale from A through F, "A" is the best operating condition and "F" is the worst. Level of Service results depend upon the facility that is analyzed. In this case, the Level of Service is based upon the total delay experienced at an intersection.

To evaluate the impact of the proposed development, the vehicle delays at the intersections were determined using procedures detailed in the <u>Highway Capacity Manual</u>, 6th edition. Future delays and Level of Service were determined for the intersections using the Synchro (version 11.1.2.9) software. The delays and Level of Service are summarized in **Table 2**.

		A.M.			P.M.	
Approach	2022	2024	2024	2022	2024	2024
Approach	Existing	No Build	Build	Existing	No Build	Build
	Α	Α	Α	Α	Α	Α
Southside Drive at Rochester Drive	3.5	3.5	3.5	8.9	9.1	9.2
	С	С	С	С	С	С
Rochester Drive Eastbound	25.5	25.5	25.5	22.7	22.9	22.9
De sheeter Drive Weethewerd	С	С	С	С	С	С
Rochester Drive westbound	24.8	24.8	24.8	25.7	25.7	25.7
Southoide Drive Northbound	A	A	A	A	A	A
	3.0	3.0	3.1	5.3	5.3	5.8
Southside Drive Southbound	A	A	Α	A	A	A
	2.4	2.4	2.5	5.2	5.2	5.6
Southside Drive at Alger Avenue						
Alger Avenue Eastbound	В	В	В	В	В	С
	11.0	11.0	12.6	14.8	14.9	15.8
Entrance Westbound	NA	NA	C 18.3	NA	NA	D 26.4
Southaida Driva Northbound	Α	А	Α	А	А	Α
	8.3	8.3	8.3	9.4	9.4	9.4
Southside Drive Southbound	NA	NA	A 8.8	NA	NA	A 9.2
Southside Drive at Steedly Drive						
Steedly Drive Westbound	В	В	В	С	С	С
	12.5	12.6	13.4	19.4	19.6	24.0
Southside Drive Southbound	A	A	A	А	А	A
	8.8	8.9	9.0	9.0	9.0	9.2
Southside Drive at Strawberry Lane	В	В	В	С	С	D
	15.3	15.3	15.3	34.2	35.0	39.1
Southside Drive Northbound	A	A	A	С	С	С
	9.4	9.4	9.8	22.4	23.0	24.2
Southside Drive Southbound	Α	A	А	D	D	D
	9.4	9.4	9.6	39.1	41.0	50.9
Roberts Avenue Northwest	D	D	D	E	E	E
	43.9	43.9	43.9	56.5	56.8	56.8
Thalia Avenue Eastbound	C	C	C	C	C	C
	32.7	32.7	32.7	29.3	29.1	29.1
Strawberry Lane Westbound	D	D	D	D to -	D	D
,	42.0	42.2	42.2	48.5	48.1	48.1

 Table 2. Peak Hour Level of Service

		A.M.			P.M.	
Approach	2022 Existing	2024 No Build	2024 Build	2022 Existing	2024 No Build	2024 Build
Steedly Drive at Entrance						
Steedly Drive Eastbound (left)			A 7.3			A 7.6
Entrance Southbound			A 8.9			В 10.0

Key: Level of Service, Delay in seconds per vehicle

The entrances were evaluated for turn lanes using the Kentucky Transportation Cabinet <u>Highway Design Guidance</u> <u>Manual</u> dated July, 2020. The Kentucky Transportation Cabinet policy requires analysis of ten years beyond completion. All volumes were calculated using an annual growth rate of 0.5 percent applied to the 2024 No Build volumes. The 2034 No Build volumes are shown in **Figure 7**. The site volumes were added for the 2034 Build volumes in **Figure 8**. The resulting delays and Level of Service are summarized in **Table 3**. Using the volumes in Figure 8, the volumes do not meet the turn lane warrants at the entrances.



Figure 7. 2034 No Build Peak Hour Volumes



Figure 8. 2034 Build Peak Hour Volumes

		A.M.			P.M.	
Approach	2022	2034	2034	2022	2034	2034
Approach	Existing	No Build	Build	Existing	No Build	Build
	Α	Α	Α	Α	Α	Α
Southside Drive at Rochester Drive	3.5	3.8	3.6	8.9	9.4	9.5
	С	С	С	С	С	С
Rochester Drive Eastbound	25.5	25.5	25.5	22.7	22.8	22.8
De sheeter Drive Weetheweed	С	С	С	С	С	С
Rochester Drive westbound	24.8	24.8	24.8	25.7	25.6	25.6
Southoide Drive Northbound	A	A	A	A	A	A
	3.0	3.6	3.2	5.3	5.7	6.2
Southside Drive Southbound	A	A	A	A	A	A
	2.4	2.5	2.6	5.2	5.6	6.0
Southside Drive at Alger Avenue						
Alger Avenue Eastbound	В	В	В	В	С	С
	11.0	11.1	12.8	14.8	15.4	16.4
Entrance Westbound	NA	NA	C 19.4	NA	NA	D 28.8
Southaida Driva Northbound	Α	А	Α	А	А	Α
	8.3	8.4	8.4	9.4	9.6	9.6
Southside Drive Southbound	NA	NA	A 8.9	NA	NA	A 9.4
Southside Drive at Steedly Drive						
Steedly Drive Westbound	В	В	В	С	С	D
	12.5	12.9	13.7	19.4	21.6	27.0
Southside Drive Southbound	A	A	A	А	A	A
	8.8	9.0	9.1	9.0	9.2	9.4
Southside Drive at Strawberry Lane	В	В	В	С	D	D
	15.3	15.8	15.8	34.2	38.6	44.8
Southside Drive Northbound	A	A	В	С	С	С
	9.4	9.9	10.3	22.4	24.3	25.7
Southside Drive Southbound	A	A	В	D	D	E
	9.4	9.9	10.1	39.1	47.9	63.0
Roberts Avenue Northwest	D	D	D	E	E	E
	43.9	44.2	44.2	56.5	57.2	57.2
Thalia Avenue Eastbound	С	С	С	С	С	С
	32.7	32.5	32.5	29.3	29.0	29.0
Strawberry Lane Westbound	D	D	D	D	D	D
	42.0	42.8	42.8	48.5	51.0	51.0

Table 3.	Peak Hour	Level of	Service
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		A.M.			P.M.	
Approach	2022 Existing	2034 No Build	2034 Build	2022 Existing	2034 No Build	2034 Build
Steedly Drive at Entrance						
Steedly Drive Eastbound (left)			A 7.4			A 7.7
Entrance Southbound			A 9.0			В 10.1

Key: Level of Service, Delay in seconds per vehicle

CONCLUSIONS

Based upon the volume of traffic generated by the development and the amount of traffic forecasted for the year 2024 and 2034, there will be an impact to the existing highway network, with Levels of Service remaining within acceptable limits. The delays experienced in the area will increase within acceptable limits.

APPENDIX

Traffic Counts

Classified Turn Movement Count || All vehicles

Louisville, KY

Site 1 of 4

KY-1020 Southside Dr (South) KY-1020 Southside Dr (North) Rochester Dr (West) Rochester Dr (East) Date Tuesday, April 26, 2022

Lat/Long 38.169544°, -85.764728°



www.marrtraffic.com

Weather Fair

53°F

0700 - 0900 (Weekday 2h Session) (04-26-2022)

All vehicles

												_									
		No	orthbou	nd			So	uthbou	nd			E	astboun	d			W	/estbou	nd		
	KY	-1020 So	outhside	Dr (Sou	th)	KY	-1020 Sc	outhside	Dr (Nor	th)		Roche	ster Dr (West)			Roche	ester Dr	(East)		
	Left	Thru	Right	U-Turn	Арр	Left	Thru	Right	U-Turn	Арр	Left	Thru	Right	U-Turn	Арр	Left	Thru	Right	U-Turn	Арр	Int
TIME	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
0700 - 0715	4	96	5	0	105	9	68	0	0	77	2	6	0	0	8	0	0	0	0	0	190
0715 - 0730	0	123	4	0	127	4	70	1	0	75	1	2	1	0	4	1	0	1	0	2	208
0730 - 0745	1	100	0	0	101	4	84	2	0	90	2	3	0	0	5	2	1	4	0	7	203
0745 - 0800	1	115	7	0	123	2	90	0	0	92	0	1	0	0	1	1	0	0	0	1	217
Hourly Total	6	434	16	0	456	19	312	3	0	334	5	12	1	0	18	4	1	5	0	10	818
0800 - 0815	2	96	4	0	102	6	79	0	0	85	1	2	0	0	3	0	1	2	0	3	193
0815 - 0830	4	131	4	0	139	3	65	1	0	69	0	5	1	0	6	2	0	1	0	3	217
0830 - 0845	3	121	3	0	127	6	76	2	0	84	1	4	4	0	9	1	1	1	0	3	223
0845 - 0900	5	96	3	0	104	6	71	2	0	79	1	3	0	0	4	0	1	0	0	1	188
Hourly Total	14	444	14	0	472	21	291	5	0	317	3	14	5	0	22	3	3	4	0	10	821
Grand Total	20	878	30	0	928	40	603	8	0	651	8	26	6	0	40	7	4	9	0	20	1639
Approach %	2.16	94.61	3.23	0.00	-	6.14	92.63	1.23	0.00	-	20.00	65.00	15.00	0.00	-	35.00	20.00	45.00	0.00	-	
Intersection %	1.22	53.57	1.83	0.00	56.62	2.44	36.79	0.49	0.00	39.72	0.49	1.59	0.37	0.00	2.44	0.43	0.24	0.55	0.00	1.22	
																					1
PHF	0.63	0.88	0.64	0.00	0.88	0.71	0.86	0.38	0.00	0.90	0.50	0.60	0.31	0.00	0.53	0.50	0.50	0.50	0.00	0.83	0.95
		0.63 0.88 0.64 0.00 0.8																			

1600 - 1800 (Weekday 2h Session) (04-26-2022)

All vehicles

		No	orthbou	nd			So	uthbou	nd			E	astboun	ıd			W	/estbou	nd		
	KY	-1020 So	uthside	Dr (Sou	th)	KY	-1020 Sc	outhside	Dr (Nor	th)		Roche	ster Dr ((West)			Roche	ester Dr	(East)		
	Left	Thru	Right	U-Turn	Арр	Left	Thru	Right	U-Turn	Арр	Left	Thru	Right	U-Turn	Арр	Left	Thru	Right	U-Turn	Арр	Int
TIME	1.1	1.2	1.3	1.4	Total	1.5	1.6	1.7	1.8	Total	1.9	1.10	1.11	1.12	Total	1.13	1.14	1.15	1.16	Total	Total
1600 - 1615	4	113	1	0	118	2	118	0	0	120	0	1	6	0	7	41	16	50	0	107	352
1615 - 1630	5	141	2	0	148	1	117	0	0	118	2	5	2	0	9	10	6	17	0	33	308
1630 - 1645	5	125	3	0	133	2	138	1	0	141	2	4	5	0	11	25	10	26	0	61	346
1645 - 1700	5	136	4	0	145	5	147	2	0	154	3	0	1	0	4	4	8	10	0	22	325
Hourly Total	19	515	10	0	544	10	520	3	0	533	7	10	14	0	31	80	40	103	0	223	1331
1700 - 1715	10	141	3	0	154	2	112	2	0	116	1	0	5	0	6	7	7	16	0	30	306
1715 - 1730	5	132	3	0	140	3	145	1	0	149	0	2	4	0	6	4	1	11	0	16	311
1730 - 1745	9	134	8	0	151	6	129	3	0	138	0	1	2	0	3	1	5	9	0	15	307
1745 - 1800	6	110	25	0	141	22	106	3	0	131	1	11	1	0	13	5	2	7	0	14	299
Hourly Total	30	517	39	0	586	33	492	9	0	534	2	14	12	0	28	17	15	43	0	75	1223
Grand Total	49	1032	49	0	1130	43	1012	12	0	1067	9	24	26	0	59	97	55	146	0	298	2554
Approach %	4.34	91.33	4.34	0.00	-	4.03	94.85	1.12	0.00	-	15.25	40.68	44.07	0.00	-	32.55	18.46	48.99	0.00	-	
Intersection %	1.92	40.41	1.92	0.00	44.24	1.68	39.62	0.47	0.00	41.78	0.35	0.94	1.02	0.00	2.31	3.80	2.15	5.72	0.00	11.67	
PHF	0.95	0.91	0.63	0.00	0.92	0.50	0.88	0.38	0.00	0.87	0.58	0.50	0.58	0.00	0.70	0.49	0.63	0.52	0.00	0.52	0.95

Classified Turn Movement Count || All vehicles

Louisville, KY

Site 2 of 4

KY-1020 Southside Dr (South) KY-1020 Southside Dr (North) Alger Ave Driveway Date Tuesday, April 26, 2022 Weather Fair 53°F

Lat/Long 38.166205°, -85.764798°

0700 - 0900 (Weekday 2h Session) (04-26-2022) All vehicles

							-					_									
		No	orthbou	nd			So	uthbou	nd			E	astboun	d			N	/estbou	nd		
	KY	-1020 Sc	outhside	Dr (Sou	th)	KY	-1020 Sc	uthside	Dr (Nor	th)		1	Alger Av	e			[Drivewa	y		
	Left	Thru	Right	U-Turn	Арр	Left	Thru	Right	U-Turn	Арр	Left	Thru	Right	U-Turn	Арр	Left	Thru	Right	U-Turn	Арр	Int
TIME	2.1	2.2	2.3	2.4	Total	2.5	2.6	2.7	2.8	Total	2.9	2.10	2.11	2.12	Total	2.13	2.14	2.15	2.16	Total	Tota
0700 - 0715	4	108	0	0	112	0	75	0	0	75	0	0	1	0	1	0	0	0	0	0	188
0715 - 0730	4	119	0	0	123	0	74	1	0	75	1	0	2	0	3	0	0	0	0	0	201
0730 - 0745	2	111	0	0	113	0	95	2	0	97	0	0	4	0	4	0	0	0	0	0	214
0745 - 0800	2	122	0	0	124	0	99	1	0	100	0	0	2	0	2	0	0	0	0	0	226
Hourly Total	12	460	0	0	472	0	343	4	0	347	1	0	9	0	10	0	0	0	0	0	829
0800 - 0815	4	106	0	0	110	0	87	1	0	88	1	0	2	0	3	0	0	0	0	0	201
0815 - 0830	3	138	0	0	141	0	67	2	0	69	0	0	5	0	5	1	0	0	0	1	216
0830 - 0845	1	132	1	0	134	0	87	0	0	87	1	0	3	0	4	0	0	0	0	0	225
0845 - 0900	3	107	0	0	110	0	80	0	0	80	1	0	5	0	6	0	0	0	0	0	196
Hourly Total	11	483	1	0	495	0	321	3	0	324	3	0	15	0	18	1	0	0	0	1	838
Grand Total	23	943	1	0	967	0	664	7	0	671	4	0	24	0	28	1	0	0	0	1	1667
Approach %	2.38	97.52	0.10	0.00	-	0.00	98.96	1.04	0.00	-	14.29	0.00	85.71	0.00	-	100.00	0.00	0.00	0.00	-	
Intersection %	1.38	56.57	0.06	0.00	58.01	0.00	39.83	0.42	0.00	40.25	0.24	0.00	1.44	0.00	1.68	0.06	0.00	0.00	0.00	0.06	
																					1
PHF	0.63	0.90	0.25	0.00	0.90	0.00	0.86	0.50	0.00	0.86	0.50	0.00	0.60	0.00	0.70	0.25	0.00	0.00	0.00	0.25	0.96

1600 - 1800 (Weekday 2h Session) (04-26-2022)

All vehicles

		No	orthbou	nd			So	uthbou	nd			E	astboun	d			W	/estbou	nd		
	KY	-1020 Sc	outhside	Dr (Sou	th)	KY	-1020 So	outhside	Dr (Nor	th)			Alger Av	e			[Drivewa	у		
	Left	Thru	Right	U-Turn	Арр	Left	Thru	Right	U-Turn	Арр	Left	Thru	Right	U-Turn	Арр	Left	Thru	Right	U-Turn	Арр	Int
TIME	2.1	2.2	2.3	2.4	Total	2.5	2.6	2.7	2.8	Total	2.9	2.10	2.11	2.12	Total	2.13	2.14	2.15	2.16	Total	Total
1600 - 1615	10	141	0	0	151	0	175	4	0	179	0	0	8	0	8	1	0	0	0	1	339
1615 - 1630	7	159	1	0	167	0	133	1	0	134	3	0	4	0	7	0	0	0	0	0	308
1630 - 1645	7	165	0	0	172	0	173	1	0	174	0	0	10	0	10	0	0	0	0	0	356
1645 - 1700	7	143	0	0	150	0	159	3	0	162	0	0	8	0	8	0	0	0	0	0	320
Hourly Total	31	608	1	0	640	0	640	9	0	649	3	0	30	0	33	1	0	0	0	1	1323
1700 - 1715	7	163	0	0	170	0	144	2	0	146	1	0	7	0	8	0	0	0	0	0	324
1715 - 1730	7	145	0	0	152	0	155	4	0	159	1	0	1	0	2	0	0	0	0	0	313
1730 - 1745	9	161	0	0	170	0	143	1	0	144	1	0	3	0	4	0	0	2	0	2	320
1745 - 1800	2	141	0	0	143	0	114	1	0	115	0	0	2	0	2	0	0	1	0	1	261
Hourly Total	25	610	0	0	635	0	556	8	0	564	3	0	13	0	16	0	0	3	0	3	1218
Grand Total	56	1218	1	0	1275	0	1196	17	0	1213	6	0	43	0	49	1	0	3	0	4	2541
Approach %	4.39	95.53	0.08	0.00	-	0.00	98.60	1.40	0.00	-	12.24	0.00	87.76	0.00	-	25.00	0.00	75.00	0.00	-	
Intersection %	2.20	47.93	0.04	0.00	50.18	0.00	47.07	0.67	0.00	47.74	0.24	0.00	1.69	0.00	1.93	0.04	0.00	0.12	0.00	0.16	
PHF	0.78	0.92	0.25	0.00	0.93	0.00	0.91	0.56	0.00	0.91	0.25	0.00	0.75	0.00	0.83	0.25	0.00	0.00	0.00	0.25	0.93



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Classified Turn Movement Count || All vehicles

Louisville, KY

Site 3 of 4

KY-1020 Southside Dr (South) KY-1020 Southside Dr (North) Driveway Steedly Dr

Date Tuesday, April 26, 2022 Weather Fair 53°F

Lat/Long 38.165638°, -85.764775°

0700 - 0900 (Weekday 2h Session) (04-26-2022) All vehicles

																					-
		No	orthbou	nd			So	uthbou	nd			E	astboun	ıd			N	/estbou	nd		
	KY	-1020 Sc	outhside	Dr (Sou	th)	KY	-1020 Sc	uthside	Dr (Nor	th)		[Drivewa	у			S	teedly D)r		
-	Left	Thru	Right	U-Turn	Арр	Left	Thru	Right	U-Turn	Арр	Left	Thru	Right	U-Turn	Арр	Left	Thru	Right	U-Turn	Арр	Ir
TIME	3.1	3.2	3.3	3.4	Total	3.5	3.6	3.7	3.8	Total	3.9	3.10	3.11	3.12	Total	3.13	3.14	3.15	3.16	Total	To
0700 - 0715	0	97	0	0	97	6	69	0	0	75	0	0	0	0	0	0	0	17	0	17	18
0715 - 0730	0	108	3	0	111	10	66	0	0	76	0	0	0	0	0	1	0	17	0	18	20
0730 - 0745	0	102	1	0	103	15	85	0	0	100	0	0	0	0	0	1	0	10	0	11	21
0745 - 0800	0	114	2	0	116	17	84	0	0	101	0	0	0	0	0	1	0	10	0	11	22
Hourly Total	0	421	6	0	427	48	304	0	0	352	0	0	0	0	0	3	0	54	0	57	830
0800 - 0815	0	101	2	0	103	20	68	0	0	88	0	0	0	0	0	1	0	11	0	12	203
0815 - 0830	0	130	2	0	132	11	61	0	0	72	0	0	0	0	0	2	0	12	0	14	21
0830 - 0845	0	127	0	0	127	13	78	0	0	91	0	0	0	0	0	2	0	7	0	9	22
0845 - 0900	0	101	1	0	102	16	69	0	0	85	0	0	0	0	0	1	0	9	0	10	19
Hourly Total	0	459	5	0	464	60	276	0	0	336	0	0	0	0	0	6	0	39	0	45	84
Grand Total	0	880	11	0	891	108	580	0	0	688	0	0	0	0	0	9	0	93	0	102	168
Approach %	0.00	98.77	1.23	0.00	-	15.70	84.30	0.00	0.00	-	0.00	0.00	0.00	0.00	-	8.82	0.00	91.18	0.00	-	
Intersection %	0.00	52.35	0.65	0.00	53.00	6.42	34.50	0.00	0.00	40.93	0.00	0.00	0.00	0.00	0.00	0.54	0.00	5.53	0.00	6.07]
																					1
PHF	0.00	0.91	0.75	0.00	0.91	0.76	0.87	0.00	0.00	0.87	0.00	0.00	0.00	0.00	0.00	0.75	0.00	0.83	0.00	0.82	0.9
									•												

1600 - 1800 (Weekday 2h Session) (04-26-2022)

All vehicles

		No	orthbou	nd			So	uthbou	nd			E	astboun	ıd			W	/estbou	nd		1
	KY	-1020 Sc	outhside	Dr (Sou	th)	KY	-1020 So	uthside	Dr (Nor	th)		[Driveway	y			S	teedly D	Dr		
	Left	Thru	Right	U-Turn	Арр	Left	Thru	Right	U-Turn	Арр	Left	Thru	Right	U-Turn	Арр	Left	Thru	Right	U-Turn	Арр	Int
TIME	3.1	3.2	3.3	3.4	Total	3.5	3.6	3.7	3.8	Total	3.9	3.10	3.11	3.12	Total	3.13	3.14	3.15	3.16	Total	Total
1600 - 1615	0	117	5	0	122	20	164	0	0	184	0	0	0	0	0	10	0	33	0	43	349
1615 - 1630	1	141	3	0	145	15	121	0	0	136	0	0	0	0	0	14	0	27	0	41	322
1630 - 1645	0	123	4	0	127	22	159	1	0	182	0	0	0	0	0	5	0	53	0	58	367
1645 - 1700	0	127	5	0	132	26	142	0	0	168	0	0	0	0	0	8	0	23	0	31	331
Hourly Total	1	508	17	0	526	83	586	1	0	670	0	0	0	0	0	37	0	136	0	173	1369
1700 - 1715	0	143	4	0	147	18	133	0	0	151	0	0	0	0	0	14	0	29	0	43	341
1715 - 1730	0	127	4	0	131	11	144	0	0	155	0	0	0	0	0	6	0	26	0	32	318
1730 - 1745	0	137	0	0	137	20	126	0	0	146	0	0	0	0	0	5	0	34	0	39	322
1745 - 1800	0	132	2	0	134	16	101	0	0	117	0	0	0	0	0	1	0	11	0	12	263
Hourly Total	0	539	10	0	549	65	504	0	0	569	0	0	0	0	0	26	0	100	0	126	1244
Grand Total	1	1047	27	0	1075	148	1090	1	0	1239	0	0	0	0	0	63	0	236	0	299	2613
Approach %	0.09	97.40	2.51	0.00	-	11.95	87.97	0.08	0.00	-	0.00	0.00	0.00	0.00	-	21.07	0.00	78.93	0.00	-	
Intersection %	0.04	40.07	1.03	0.00	41.14	5.66	41.71	0.04	0.00	47.42	0.00	0.00	0.00	0.00	0.00	2.41	0.00	9.03	0.00	11.44	
PHF	0.25	0.90	0.85	0.00	0.91	0.80	0.89	0.25	0.00	0.91	0.00	0.00	0.00	0.00	0.00	0.66	0.00	0.64	0.00	0.75	0.93

Marr Traffic DATA COLLECTION

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TIME 1600 - 1615 1615 - 1630 1615 - 1645 1645 - 1700 Hourly Total 1715 - 1730 1715 - 1715 1715 - 1715	TIME 0700-0715 0715-0730 0715-0730 0745-0805 0745-0805 0815-0815 0815-0845 0815-0855-0855 0815-0855-0855-0855-0855-0855-0855-0855-	
Northbound Kr-1020 South-side Dr (Suth) Left Thru Right Right U-Turn App 4.1 4.2 4.3 1 0 177 3 1.37 3.8 1 0 177 1 1.37 5.4 2.0 0 184 1 1.37 5.4 2.0 0 184 1 1.37 5.4 2.0 0 184 1 1.31 6.9 1 0 202 5 1.44 6.5 1 0 215 1 1.33 4.7 1 0 223 1 1.27 4.4 1 0 230 1 1.27 4.4 1 0 230 1 1.27 4.4 1 0 230 1.0 554 2.23 3 0 790 1.02 70.03 <td< td=""><td>Northbornd KY-1020 Southside Dr (South) Left Thru Right Ur Turn A 2 71 48 1 0 122 1 109 72 2 0 184 0 109 72 2 0 184 0 109 72 2 0 184 0 109 72 2 0 184 0 109 72 2 0 184 0 109 72 2 0 184 0 112 53 4 0 183 0 125 5 2 0 141 0 112 40 2 0 141 0 112 19 0 154 154 0.12 33.21 16.32 0.75 0.00 50.42 0.12 3.23 16.32 0.75</td><td>Classified Turn Movement Cou Louisville, KY <u>Site4 of4</u> Kr-1020 Southside Dr (South) Kr-1020 Southside Dr (North) Thalia Ave Strawberry Lin Robert Ave</td></td<>	Northbornd KY-1020 Southside Dr (South) Left Thru Right Ur Turn A 2 71 48 1 0 122 1 109 72 2 0 184 0 109 72 2 0 184 0 109 72 2 0 184 0 109 72 2 0 184 0 109 72 2 0 184 0 109 72 2 0 184 0 112 53 4 0 183 0 125 5 2 0 141 0 112 40 2 0 141 0 112 19 0 154 154 0.12 33.21 16.32 0.75 0.00 50.42 0.12 3.23 16.32 0.75	Classified Turn Movement Cou Louisville, KY <u>Site4 of4</u> Kr-1020 Southside Dr (South) Kr-1020 Southside Dr (North) Thalia Ave Strawberry Lin Robert Ave
Southbound kr - 102 Southside Dr (North) Left Thru Right U-Turn App 4.6 4.7 Thru Right U-Turn App 5 2 1.68 0 0 175 9 1 1.73 1 0 179 4 2 172 1 0 179 22 1.60 2 0 1.69 1.69 3 2 1.60 0 1.69 1.69 4 5 1.15 1 0 1.69 3 2 1.60 1 0 1.69 4 5 1.15 1 0 1.69 4 5 1.15 1 0 1.25 21 8 603 4 0 636 21 8 637 0.52 0.00 - 1.13 0.50 33.56 0.1	Southbound Wr-1020 Southside Dr (North) 4.6 4.7 4.8 4.9 4.10 Toral 0 1 92 0 0 13 2 3 97 1 0 133 3 12 400 2 0 417 4 4 77 0 0 133 3 12 400 2 0 417 2 1 96 0 0 95 2 1 97 0 0 100 1 3 92 0 0 96 2 1 97 0 0 100 1 2.63 95.61 0.25 0.00 -380 1 2.63 95.61 0.25 0.00 -1 1.51 2.63 95.61 0.25 0.00 31.5 0.48 0.33 30.18 0.08	nt All vehicles
Eastbound Thalla Ave Thalla Ave Thalla Ave Left Thru Right U-Turn App 4.11 4.12 4.13 4.14 4.0 2.4 3 1.7 0 4 0 2.0 11 2 1.7 0 1 9 0 2.0 6 5 1 3 0 12 3 0 12 2 10 0 3 0 12 3 0 12 3 5 1 3 0 12 10 0 12 2 10 0 5 0 12 12 14 27 2 11 0 54 16.53 64.46 2.48 16.53 0.00 - 121 1.53 0.00 3.19 0.53 0.00 3.19 0.53 0.00 3.19	Estbound Thaila Ave Thaila Ave Thaila Ave Left Thru Right Right U-Turn App 4.11 4.12 4.13 Tota 3 4 0 0 9 4 4 1 0 0 9 3 4 2 0 0 3 1 5 0 0 0 3 1 5 0 0 0 3 1 5 0 0 0 3 1 5 0 0 0 3 1 5 0 0 0 3 4 5 0 0 0 6 9 18 3 1 0 6 27 132 1.61 0.00 -6 33.87 51.61 1.23 0.04 0.00 2.4	Date Tuesday, April 26, 2022 Tuesday, April 26, 2022 33.746994", -84.396903"
Westbound Strawbery Un Left Lnt Thrw Right U-Turn App 1 4.16 4.17 1.8 8.11 0 93 1 81 7 1 0 93 1 81 7 1 0 93 1 70 8 0 0 79 1 70 8 0 0 33 1 70 8 0 93 93 0 73 7 3 0 83 0 81 9 3 0 83 0 776 35 7 0 318 0 276 35 7 0 318 0 276 35 1 0 669 0.43 89.19 9.37 1.49 0.00 - 0.08 15.53 1.74 0.26	Wastbound Strawberry In Strawberry In 1 All of the IThru Right Unturn 1 Right Unturn All of the Ithru 1 Strawberry In 1 1 1.6 1.71 Right Unturn All of the Ithru 2 Right Unturn 3 O 4.19 4.20 Total 0 0 3.0 4.19 4.20 Total 0 3.0 4.19 4.20 Total 0 3.0 4.19 4.20 Total 0 3.0 4.19 4.20 Total 0 3.0 4.13 4.0 0 4.20 7 2 0 4.20 7 2 0 4.4 2 2 0 4.4 2 2 0 4.4 2 2 0 4.8 3.2 0 4.8 3.2 0 4.8 3.2 0 4.8 3.3 3 2 0 3.3 3 3 3 3 3 2 0 4.8 3.9 3.8 0 4.8 0.0 3.4 4.33 1.63 0.00	Weather Fair 53°F
Northwestbound Robert Ave Left Left Right U-Turn App Init 4.21 4.22 Right U-Turn App Init 5 1 2 1 0 0 9 477 5 1 1 1 0 12 488 493 3 1 11 3 0 18 493 493 19 1 15 1 0 14 493 493 2 0 2 1 0 47 357 14 493 2 0 2 1 0 14 493 357 16 2 18 14 0 50 144 379 379 36.08 6.19 38.14 19.59 0.00 55 379 379 379 36.02 0.16 0.97 0.50 0.00	Northwestbound Robert Ave Robert Ave 4,21 Left Right U-Turn App Int 4,21 4,22 0,2 2,2 0,2 2,2 0,2 2,2 0,3 1 0,0 2,3 3,3 1 0,0 3,3 1 0,0 3,3 1,0 0,1 2,2 3,3 1,0 1,0 1,0 3,3 1,0 1,1 2,3 3,3 1,0 1,1 2,3 3,3 1,0 1,1 2,3 3,3 1,0 1,1 2,3 3,3 1,0 1,1 2,3 3,3 1,0 1,1 2,3 3,3 1,0 1,1 2,3 3,3 1,0 1,1 2,3 3,3 1,1 0,0 1,1 2,3 3,3 1,1 0,0 1,1 2,3 1,1 1,1 1,1 1,1 1,1 1,1 1,1 1,1 1,1 1,1 1,1 1,1 1,1	Marr Traffic DATA COLLECTION www.martraffic.co

Southside Drive Traffic Impact Study

Diane B. Zimmerman Traffic Engineering, LLC. Received July 14, 2022 **HCS Reports**

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	-1		-	-1	~	*	*	*	*		`	
Movement	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR
Lane Configurations	<u> </u>	<u>†</u>	1			2	4			M		
Traffic Volume (vph)	0	435	199	11	9	11	396	1	12	1	20	
Future Volume (vph)	0	435	199	11	9	11	396	1	12	1	20	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	190
Total Lost time (s)		5.0	5.0			5.0	5.0			5.6		
Lane Util. Factor		1.00	1.00			1.00	1.00			1.00		
Frt		1.00	0.85			1.00	1.00			0.91		
Flt Protected		1.00	1.00			0.95	1.00			0.98		
Satd. Flow (prot)		1863	1583			1770	1862			1672		
Flt Permitted		1.00	1.00			0.43	1.00			0.87		
Satd. Flow (perm)		1863	1583			798	1862			1484		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.9
Adj. Flow (vph)	0	473	216	12	10	12	430	1	13	1	22	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	38	0	
Lane Group Flow (vph)	0	473	228	0	0	22	431	0	0	1	0	
Turn Type	Prot	NA	Perm		Prot	Perm	NA		Perm	Prot		
Protected Phases	5	2			1		6			7		
Permitted Phases			2			6			7			
Actuated Green, G (s)		58.3	58.3			58.3	58.3			3.2		
Effective Green, g (s)		58.3	58.3			58.3	58.3			3.2		
Actuated g/C Ratio		0.62	0.62			0.62	0.62			0.03		
Clearance Time (s)		5.0	5.0			5.0	5.0			5.6		
Vehicle Extension (s)		3.0	3.0			3.0	3.0			3.0		
Lane Grp Cap (vph)		1161	987			497	1161			50		
v/s Ratio Prot		c0.25					0.23					
v/s Ratio Perm			0.14			0.03				c0.00		
v/c Ratio		0.41	0.23			0.04	0.37			0.03		
Uniform Delay, d1		8.9	7.7			6.8	8.6			43.6		
Progression Factor		1.00	1.00			1.00	1.00			1.00		
Incremental Delay, d2		1.1	0.5			0.2	0.9			0.2		
Delay (s)		9.9	8.3			7.0	9.5			43.9		
Level of Service		А	А			А	А			D		
Approach Delay (s)		9.4					9.4			43.9		
Approach LOS		А					А			D		
Intersection Summary												
HCM 2000 Control Delay			15.3	Н	CM 2000	Level of S	Service		В			
HCM 2000 Volume to Capa	city ratio		0.48									
Actuated Cycle Length (s)			93.5	S	um of lost	t time (s)			21.7			
Intersection Capacity Utiliza	ition		55.3%	IC	U Level o	of Service			В			
Analysis Period (min)			15									

c Critical Lane Group

Scenario 1 AM 2022 3:25 pm 07/12/2022 Baseline Diane B. Zimmerman

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Movement	NEL	NET	NER	SWL2	SWL	SWT	SWR	
Lane Configurations	5	٦,			3	1.		
Traffic Volume (vph)	11	15	4	7	138	22	8	
Future Volume (vph)	11	15	4	7	138	22	8	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.6	5.6			5.6	5.6		
Lane Util. Factor	1.00	1.00			1.00	1.00		
Frt	1.00	0.97			1.00	0.96		
Flt Protected	0.95	1.00			0.95	1.00		
Satd. Flow (prot)	1770	1807			1770	1787		
Flt Permitted	0.74	1.00			0.74	1.00		
Satd. Flow (perm)	1370	1807			1386	1787		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	12	16	4	8	150	24	9	
RTOR Reduction (vph)	0	0	0	0	0	7	0	
Lane Group Flow (vph)	12	20	0	0	158	26	0	
Turn Type	Perm	NA		Perm	Perm	NA		
Protected Phases		8				8		
Permitted Phases	8			8	8			
Actuated Green, G (s)	15.8	15.8			15.8	15.8		
Effective Green, g (s)	15.8	15.8			15.8	15.8		
Actuated g/C Ratio	0.17	0.17			0.17	0.17		
Clearance Time (s)	5.6	5.6			5.6	5.6		
Vehicle Extension (s)	3.0	3.0			3.0	3.0		
Lane Grp Cap (vph)	231	305			234	301		
v/s Ratio Prot		0.01				0.01		
v/s Ratio Perm	0.01				c0.11			
v/c Ratio	0.05	0.07			0.68	0.08		
Uniform Delay, d1	32.6	32.6			36.4	32.8		
Progression Factor	1.00	1.00			1.00	1.00		
Incremental Delay, d2	0.1	0.1			7.5	0.1		
Delay (s)	32.7	32.7			43.9	32.9		
Level of Service	С	С			D	С		
Approach Delay (s)		32.7				42.0		
Approach LOS		С				D		

Scenario 1 AM 2022 3:25 pm 07/12/2022 Baseline Diane B. Zimmerman

Synchro 11 Report Page 2

Diane B. Zimmerman Traffic Engineering, LLC. Received July 14, 2022

AM 2022 9: Southside Dr & Rochester D

Movement EBI EBI EBR WBI WBI WBI NBI NBI NBI SBI SBI SBI Trafic Volume (veh/h) 2 12 5 4 2 4 10 463 18 17 310 3 Initial Q(b), veh 0	9: Southside Dr & Ro	ochest	er Dr									07/1	12/2022
Movement EBL EBT EBR WBL WBT WBR NBL NBT NBR SBL SBR SBR Lane Configurations		۶	→	\mathbf{F}	¥	←	•	•	Ť	1	6	ţ	~
Lane Configurations 4 7 7 1 7 1 7 Traffic Volume (veh/h) 2 12 5 4 2 4 10 463 18 17 310 3 Initial Q (2b), veh 0	Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Oxlome (veh/h) 2 12 5 4 2 4 10 463 18 17 310 3 Future Volume (veh/h) 2 12 5 4 2 4 10 463 18 17 310 3 Future Volume (veh/h) 2 12 5 4 2 4 10 463 18 17 310 3 Perd Bike Adj(A, pbT) 100	Lane Configurations		4			د	1	۲	4Î		7	4	
Future Volume (veh/n) 2 12 5 4 2 4 10 463 18 17 310 33 initial Q (Qb), veh 0	Traffic Volume (veh/h)	2	12	5	4	2	4	10	463	18	17	310	3
Initial Q(2b), ven 0	Future Volume (veh/h)	2	12	5	4	2	4	10	463	18	17	310	3
Ped-Bike Adj(A_pbT) 1.00	Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Parking Bus, Adj. 1.00 1.	Ped-Bike Adj(A_pbT)	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/hin 1870 <t< td=""><td>Parking Bus, Adj</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td><td>1.00</td></t<>	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
Adj Sat Flow, vehvhin 1870 <t< td=""><td>Work Zone On Approach</td><td></td><td>No</td><td></td><td></td><td>No</td><td></td><td></td><td>No</td><td></td><td></td><td>No</td><td></td></t<>	Work Zone On Approach		No			No			No			No	
Adj Flow Rate, vehnh 2 13 5 4 2 4 11 fo33 20 18 337 3 Peak Hour Factor 0.92	Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Peak Hour Factor 0.92 <th0.92< th=""> 0.92 0.92</th0.92<>	Adj Flow Rate, veh/h	2	13	5	4	2	4	11	503	20	18	337	3
Percent Heavy Veh, % 2 <th2< th=""> 2 <th2< th=""></th2<></th2<>	Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Cap, wh/h 81 34 13 152 19 54 865 1348 54 716 1396 12 Arrive On Green 0.03 0.03 0.03 0.03 0.03 0.03 0.75 0.7	Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Arrive On Green 0.03 0.03 0.03 0.03 0.03 0.03 0.75	Cap, veh/h	81	34	13	152	19	54	865	1348	54	716	1396	12
Sat Flow, veh/h 157 1021 393 1098 549 1585 1040 1787 71 879 1851 16 Grp Volume(v), veh/h 20 0 0 6 0 4 11 0 523 18 0 340 Grp Sat Flow(s), veh/h/In 1570 0 0 1647 0 1585 1040 0 1858 879 0 1867 Q Serve(g.s), s 0.8 0.0 0.0 0.0 0.1 0.2 0.0 5.0 5.4 0.0 2.9 Cycle Q Clear(g_c), seh/h 129 0 0 100 1.00 1.00 1.00 0.04 1.00 0.01 1.40 0.01 1.40 0.01 1.40 0.01 1.40 0.01 1.40	Arrive On Green	0.03	0.03	0.03	0.03	0.03	0.03	0.75	0.75	0.75	0.75	0.75	0.75
Grp Volume(v), veh/h 20 0 6 0 4 11 0 523 18 0 340 Grp Sat Flow(s), veh/hn 1570 0 0 1647 0 1585 1040 0 1858 879 0 1867 Q Serve(g, s), s 0.6 0.0 0.0 0.0 0.1 0.2 0.0 5.0 6.4 0.0 2.9 Cycle Q Clear(g, c), s 0.8 0.0 0.2 0.0 0.1 3.0 0.0 5.0 5.4 0.0 2.9 Prop In Lane 0.10 0.25 0.67 1.00 1.00 0.04 1.00 0.01 1.00 1.01 1.00 1.00 1.01 0.00 0.00 0.44 1.00 0.01 1.00 1.00 1.00 0.00 0.00 0.00 0.01 0.00 0.00 0.00 0.01 0.00 0.00 0.00 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 0.0 0.0 0.0 </td <td>Sat Flow, veh/h</td> <td>157</td> <td>1021</td> <td>393</td> <td>1098</td> <td>549</td> <td>1585</td> <td>1040</td> <td>1787</td> <td>71</td> <td>879</td> <td>1851</td> <td>16</td>	Sat Flow, veh/h	157	1021	393	1098	549	1585	1040	1787	71	879	1851	16
Grp Sat Flow(s),veh/h/ln 1570 0 0 1647 0 1585 1040 0 1858 879 0 1867 Q Serve(g.s), s 0.6 0.0 0.0 0.0 0.1 0.2 0.0 5.0 0.4 0.0 2.9 Cycle Q Clear(g_c), s 0.8 0.0 0.2 0.0 1.1 0.0 5.0 5.4 0.0 2.9 Prop In Lane 0.10 0.25 0.67 1.00 1.00 0.04 1.00 0.01 0.04 0.00 0.01 0.00 0.07 0.01 0.00 0.07 0.01 0.00 0.07 0.01 0.00 0.07 0.01 0.00 0.07 0.01 0.00 0.00 1.04 1.00 0.0 0.0 0	Grp Volume(v), veh/h	20	0	0	6	0	4	11	0	523	18	0	340
Q Serve(g.s), s 0.6 0.0 0.0 0.0 0.1 0.2 0.0 5.0 5.4 0.0 2.9 Cycle Q Clear(g.c), s 0.8 0.0 0.0 0.2 0.0 0.1 3.0 0.0 5.4 0.0 2.9 Prop In Lane 0.10 0.25 0.67 1.00 1.00 0.04 1.00 0.01 Lane Grp Cap(c), veh/h 129 0 0.170 0 54 865 0 1401 716 0 1409 V/C Ratio(X) 0.16 0.00 0.00 0.04 0.00 0.07 0.01 0.00 0.37 0.03 0.00 0.24 Avait Cap(c.a), veh/h 1740 0 0 1585 06 1401 716 0 1409 HCM Platon 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 1.00 1.00 1.00 1.00 1.00 1.00 0.00 0.0 0.0 0.0 0.0 0.0 0.0 </td <td>Grp Sat Flow(s),veh/h/ln</td> <td>1570</td> <td>0</td> <td>0</td> <td>1647</td> <td>0</td> <td>1585</td> <td>1040</td> <td>0</td> <td>1858</td> <td>879</td> <td>0</td> <td>1867</td>	Grp Sat Flow(s),veh/h/ln	1570	0	0	1647	0	1585	1040	0	1858	879	0	1867
	Q Serve(g_s), s	0.6	0.0	0.0	0.0	0.0	0.1	0.2	0.0	5.0	0.4	0.0	2.9
Prop In Lane 0.10 0.25 0.67 1.00 1.00 0.04 1.00 0.01 Lane Grp Cap(c), veh/h 129 0 0 170 0 54 865 0 1401 716 0 1400 V/C Ratio(X) 0.16 0.00 0.00 0.04 0.00 0.01 0.00 0.37 0.03 0.00 0.24 Avail Cap(c_a), veh/h 1740 0 0 1585 065 1401 716 0 1409 HCM Platcon Ratio 1.00 0.0 0.0 0.0 0.0 0.0 0.0	Cycle Q Clear(g_c), s	0.8	0.0	0.0	0.2	0.0	0.1	3.0	0.0	5.0	5.4	0.0	2.9
Lane Grp Cap(c), veh/h129001700548650140171601409V/C Ratio(X)0.160.000.000.040.000.070.010.000.370.030.000.24Avail Cap(c, a), veh/h1740001585015258650140171601409HCM Platoon Ratio1.000.00.00.00.00.00.00.00.00.00.00.00.00.00.00.00.00.00.00.0	Prop In Lane	0.10		0.25	0.67		1.00	1.00		0.04	1.00		0.01
V/C Ratio(X) 0.16 0.00 0.00 0.04 0.00 0.07 0.01 0.00 0.37 0.03 0.00 0.24 Avail Cap(c, a), veh/h 1740 0 0 1585 0 1525 865 0 1401 716 0 1409 HCM Platoon Ratio 1.00 0.0	Lane Grp Cap(c), veh/h	129	0	0	170	0	54	865	0	1401	716	0	1409
Avail Cap(c_a), veh/h 1740 0 0 1585 0 1525 865 0 1401 716 0 1409 HCM Platoon Ratio 1.00 1.0	V/C Ratio(X)	0.16	0.00	0.00	0.04	0.00	0.07	0.01	0.00	0.37	0.03	0.00	0.24
HCM Platoon Ratio 1.00 1.	Avail Cap(c_a), veh/h	1740	0	0	1585	0	1525	865	0	1401	716	0	1409
Upstream Filter(I) 1.00 0.00 1	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
Uniform Delay (d), s/veh 24.9 0.0 0.0 24.5 0.0 24.5 2.4 0.0 2.2 3.1 0.0 1.9 Incr Delay (d2), s/veh 0.6 0.0 0.0 0.1 0.0 0.6 0.0 0.0 0.0 0.8 0.1 0.0 0.4 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.	Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Incr Delay (d2), s/veh 0.6 0.0 0.1 0.0 0.6 0.0 0	Uniform Delay (d), s/veh	24.9	0.0	0.0	24.5	0.0	24.5	2.4	0.0	2.2	3.1	0.0	1.9
Initial Q Delay(d3),s/veh 0.0 <t< td=""><td>Incr Delay (d2), s/veh</td><td>0.6</td><td>0.0</td><td>0.0</td><td>0.1</td><td>0.0</td><td>0.6</td><td>0.0</td><td>0.0</td><td>0.8</td><td>0.1</td><td>0.0</td><td>0.4</td></t<>	Incr Delay (d2), s/veh	0.6	0.0	0.0	0.1	0.0	0.6	0.0	0.0	0.8	0.1	0.0	0.4
%ile BackOfQ(50%),veh/ln 0.2 0.0 0.0 0.1 0.0 0.1 0.0 0.8 0.1 0.0 0.4 Unsig. Movement Delay, s/veh 25.5 0.0 0.0 24.6 0.0 25.1 2.4 0.0 3.0 3.2 0.0 2.3 LnGrp Delay(d), s/veh 25.5 0.0 0.0 24.6 0.0 25.1 2.4 0.0 3.0 3.2 0.0 2.3 LnGrp LOS C A A C A C A<	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
Unsig. Movement Delay, s/veh 25.5 0.0 0.0 24.6 0.0 25.1 2.4 0.0 3.0 3.2 0.0 2.3 LnGrp LOS C A A C A C A	%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.8	0.1	0.0	0.4
LnGrp Delay(d),s/veh 25.5 0.0 0.0 24.6 0.0 25.1 2.4 0.0 3.0 3.2 0.0 2.3 LnGrp LOS C A A C A C A <td>Unsig. Movement Delay, s/vel</td> <td>ו</td> <td></td>	Unsig. Movement Delay, s/vel	ו											
LnGrp LOS C A A C A C A C A	LnGrp Delay(d),s/veh	25.5	0.0	0.0	24.6	0.0	25.1	2.4	0.0	3.0	3.2	0.0	2.3
Approach Vol, veh/h 20 10 534 358 Approach Delay, s/veh 25.5 24.8 3.0 2.4 Approach LOS C C A A Timer - Assigned Phs 2 4 6 8 Phs Duration (G+Y+Rc), s 45.0 7.4 45.0 7.4 Change Period (Y+Rc), s *5.5 5.6 *5.5 5.6 Max Green Setting (Gmax), s *40 50.4 *40 50.4 Max Q Clear Time (g_o+11), s 7.0 2.8 7.4 2.2 Green Ext Time (p_c), s 3.8 0.1 2.3 0.0 Intersection Summary 3.5 HCM 6th Ctrl Delay 3.5 HCM 6th LOS A A A	LnGrp LOS	С	A	A	С	A	С	A	A	A	A	A	<u> </u>
Approach Delay, s/veh 25.5 24.8 3.0 2.4 Approach LOS C C A A Timer - Assigned Phs 2 4 6 8 Phs Duration (G+Y+Rc), s 45.0 7.4 45.0 7.4 Change Period (Y+Rc), s *5.5 5.6 *5.5 5.6 Max Green Setting (Gmax), s *40 50.4 *40 50.4 Max Q Clear Time (g_c+11), s 7.0 2.8 7.4 2.2 Green Ext Time (p_c), s 3.8 0.1 2.3 0.0 Intersection Summary 3.5 HCM 6th Ctrl Delay 3.5 HCM 6th LOS A A A	Approach Vol, veh/h		20			10			534			358	
Approach LOS C C A A Timer - Assigned Phs 2 4 6 8 Phs Duration (G+Y+Rc), s 45.0 7.4 45.0 7.4 Change Period (Y+Rc), s *5.5 5.6 *5.5 5.6 Max Green Setting (Gmax), s *40 50.4 *40 50.4 Max Q Clear Time (g_c+11), s 7.0 2.8 7.4 2.2 Green Ext Time (p_c), s 3.8 0.1 2.3 0.0 Intersection Summary HCM 6th Ctrl Delay 3.5 HCM 6th LOS A	Approach Delay, s/veh		25.5			24.8			3.0			2.4	
Timer - Assigned Phs 2 4 6 8 Phs Duration (G+Y+Rc), s 45.0 7.4 45.0 7.4 Change Period (Y+Rc), s *5.5 5.6 *5.5 5.6 Max Green Setting (Gmax), s *40 50.4 *40 50.4 Max Q Clear Time (g_c+11), s 7.0 2.8 7.4 2.2 Green Ext Time (p_c), s 3.8 0.1 2.3 0.0 Intersection Summary HCM 6th Ctrl Delay 3.5 HCM 6th LOS A	Approach LOS		С			С			A			A	
Phs Duration (G+Y+Rc), s 45.0 7.4 45.0 7.4 Change Period (Y+Rc), s *5.5 5.6 *5.5 5.6 Max Green Setting (Gmax), s *40 50.4 *40 50.4 Max Q Clear Time (g_c+l1), s 7.0 2.8 7.4 2.2 Green Ext Time (p_c), s 3.8 0.1 2.3 0.0 Intersection Summary HCM 6th Ctrl Delay 3.5 HCM 6th LOS A	Timer - Assigned Phs		2		4		6		8				
Change Period (Y+Rc), s * 5.5 5.6 * 5.5 5.6 Max Green Setting (Gmax), s * 40 50.4 * 40 50.4 Max Q Clear Time (g_c+l1), s 7.0 2.8 7.4 2.2 Green Ext Time (p_c), s 3.8 0.1 2.3 0.0 Intersection Summary 3.5 HCM 6th Ctrl Delay 3.5 HCM 6th LOS A A A	Phs Duration (G+Y+Rc), s		45.0		7.4		45.0		7.4				
Max Green Setting (Gmax), s * 40 50.4 * 40 50.4 Max Q Clear Time (g_c+l1), s 7.0 2.8 7.4 2.2 Green Ext Time (p_c), s 3.8 0.1 2.3 0.0 Intersection Summary 3.5 HCM 6th LOS A Key State	Change Period (Y+Rc), s		* 5.5		5.6		* 5.5		5.6				
Max Q Clear Time (g_c+l1), s 7.0 2.8 7.4 2.2 Green Ext Time (p_c), s 3.8 0.1 2.3 0.0 Intersection Summary HCM 6th Ctrl Delay 3.5 HCM 6th LOS A	Max Green Setting (Gmax), s		* 40		50.4		* 40		50.4				
Green Ext Time (p_c), s 3.8 0.1 2.3 0.0 Intersection Summary HCM 6th Ctrl Delay 3.5 HCM 6th LOS A	Max Q Clear Time (g_c+l1), s		7.0		2.8		7.4		2.2				
Intersection Summary HCM 6th Ctrl Delay 3.5 HCM 6th LOS A	Green Ext Time (p_c), s		3.8		0.1		2.3		0.0				
HCM 6th Ctrl Delay3.5HCM 6th LOSA	Intersection Summary												
HCM 6th LOS A	HCM 6th Ctrl Delay			3.5									
	HCM 6th LOS			А									

Notes

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

Scenario 1 AM 2022 3:25 pm 07/12/2022 Baseline Diane B. Zimmerman

2: Steedly Dr &	Sout	hside	Dr				
Intersection							
nt Delay, s/veh	1.3						
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
ane Configurations	- M		1.		3	្ឋ	
Traffic Vol. veh/h	6	40	472	6	61	291	
Future Vol. veh/h	6	40	172	6	61	201	
Conflicting Pede #/hr	0		1/2	0	0	201	
Sign Control	Stop	Stop	Eroo	Eroo	Eroo	Eroo	
Sign Control	Stop	Stop	riee	Fiee	Fiee	Fiee	
	-	None	-	None	-	None	
Storage Length	0	-	-	-	75	-	
ven in Median Storage	e,# 0	-	0	-	-	0	
Grade, %	0	-	0	-	-	0	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	10	2	
Mvmt Flow	7	43	513	7	66	316	
Major/Minor	Minor1	1	Major1	I	Major2		
Conflicting Flow All	965	517	0	0	520	0	
Stage 1	517	-	-	-	-	-	
Stage 2	448	-		-	-	-	
Critical Hdwy	6.42	6 22		-	42	_	
Critical Hdwy Stg 1	5.42	-		-	-	-	
Critical Hdwy Stg 2	5.42	_	_	_	_	_	
Follow-up Hdwy	3 518	3 3 1 8		_	2 29	_	
Pot Cap 1 Maneuver	283	558			1007		
Stage 1	508	000			1007		
Stage 1	644	-	-	-	-	-	
Diatoon blocked 0/	044	-	-	-	-	-	
Hau Cap 1 Manaurur	004	550	-	-	1007	-	
Nov Cap-1 Maneuver	204	558	-	-	1007	-	
wov Cap-2 Maneuver	394	-	-	-	-	-	
Stage 1	598	-	-	-	-	-	
Stage 2	601	-	-	-	-	-	
Approach	WB		NB		SB		
HCM Control Delay, s	12.5		0		1.5		
HCM LOS	В						
	_						
Minor Lane/Major Mvm	nt	NBT	NBRV	VBLn1	SBL	SBT	
Capacity (veh/h)		-	-	529	1007	-	
HCM Lane V/C Ratio		-		0.095	0.066		
HCM Control Delay (s)		-	-	12.5	8.8	0	
				.2.0	5.5		
HCM Lane LOS		-	-	К	A	А	

Scenario 1 AM 2022 3:25 pm 07/12/2022 Baseline Diane B. Zimmerman

Synchro 11 Report Page 1

Diane B. Zimmerman Traffic Engineering, LLC. Received July 14, 2022

Planning & Design Services

AM 2022	
8: Southside Dr & Alger Ave	

Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	- M		3	↑	ţ,	
Traffic Vol. veh/h	2	12	10	498	340	4
Future Vol, veh/h	2	12	10	498	340	4
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	-	75	-	-	-
Veh in Median Storage	,# 0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	20	2	2	2
Mymt Flow	2	13	11	541	370	4
M . A.C	r 0		A · A		4 . 0	
Major/Minor r	viinor2	070	viajor1	<u> </u>	viajor2	
Conflicting Flow All	935	372	374	0	-	0
Stage 1	3/2	-	-	-	-	-
Stage 2	563	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.3	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.38	-	-	-
Pot Cap-1 Maneuver	295	674	1092	-	-	-
Stage 1	697	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	292	674	1092	-	-	-
Mov Cap-2 Maneuver	416	-	-	-	-	-
Stage 1	690	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Approach	FB		NB		SB	
HCM Control Delay	11		0.2		0	
HCM LOS	- II R		0.2		0	
	U					
					0.07	0.00
Minor Lane/Major Mvm	t	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)		1092	-	619	-	-
HCM Lane V/C Ratio		0.01	-	0.025	-	-
HCM Control Delay (s)		8.3	-	11	-	-
HCM Lane LOS		A	-	В	-	-

Scenario 1 AM 2022 3:25 pm 07/12/2022 Baseline Diane B. Zimmerman

Synchro 11 Report Page 2

07/12/2022

Diane B. Zimmerman Traffic Engineering, LLC. Received July 14, 2022

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Movement	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR:
Lane Configurations	ሻ	↑	1			2	4Î			M		
Traffic Volume (vph)	0	439	201	11	9	11	400	1	12	1	20	;
Future Volume (vph)	0	439	201	11	9	11	400	1	12	1	20	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	190
Total Lost time (s)		5.0	5.0			5.0	5.0			5.6		
Lane Util. Factor		1.00	1.00			1.00	1.00			1.00		
Frt		1.00	0.85			1.00	1.00			0.91		
Flt Protected		1.00	1.00			0.95	1.00			0.98		
Satd. Flow (prot)		1863	1583			1770	1862			1672		
Flt Permitted		1.00	1.00			0.43	1.00			0.87		
Satd. Flow (perm)		1863	1583			793	1862			1484		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	477	218	12	10	12	435	1	13	1	22	;
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	38	0	(
Lane Group Flow (vph)	0	477	230	0	0	22	436	0	0	1	0	(
Turn Type	Prot	NA	Perm		Prot	Perm	NA		Perm	Prot		
Protected Phases	5	2			1		6			7		
Permitted Phases			2			6			7			
Actuated Green, G (s)		58.3	58.3			58.3	58.3			3.2		
Effective Green, g (s)		58.3	58.3			58.3	58.3			3.2		
Actuated g/C Ratio		0.62	0.62			0.62	0.62			0.03		
Clearance Time (s)		5.0	5.0			5.0	5.0			5.6		
Vehicle Extension (s)		3.0	3.0			3.0	3.0			3.0		
Lane Grp Cap (vph)		1161	987			494	1161			50		
v/s Ratio Prot		c0.26					0.23					
v/s Ratio Perm			0.15			0.03				c0.00		
v/c Ratio		0.41	0.23			0.04	0.38			0.03		
Uniform Delay, d1		8.9	7.8			6.8	8.7			43.6		
Progression Factor		1.00	1.00			1.00	1.00			1.00		
Incremental Delay, d2		1.1	0.6			0.2	0.9			0.2		
Delay (s)		10.0	8.3			7.0	9.6			43.9		
Level of Service		А	А			А	А			D		
Approach Delay (s)		9.4					9.5			43.9		
Approach LOS		А					А			D		
Intersection Summary												
HCM 2000 Control Delay			15.3	Н	CM 2000	Level of S	Service		В			
HCM 2000 Volume to Capac	ity ratio		0.48									
Actuated Cycle Length (s)			93.5	S	um of los	t time (s)			21.7			
Intersection Capacity Utilizati	on		55.5%	IC	U Level	of Service			В			
Analysis Period (min)			15									

c Critical Lane Group

Scenario 3 AM 2024 No Build 5:49 pm 07/12/2022

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Movement	NEL	NET	NER	SWL2	SWL	SWT	SWR	
Lane Configurations	3	1.			3	1.		
Traffic Volume (vph)	11	15	4	7	139	22	8	
Future Volume (vph)	11	15	4	7	139	22	8	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.6	5.6			5.6	5.6		
Lane Util. Factor	1.00	1.00			1.00	1.00		
Frt	1.00	0.97			1.00	0.96		
Flt Protected	0.95	1.00			0.95	1.00		
Satd. Flow (prot)	1770	1807			1770	1787		
Flt Permitted	0.74	1.00			0.74	1.00		
Satd. Flow (perm)	1370	1807			1386	1787		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	12	16	4	8	151	24	9	
RTOR Reduction (vph)	0	0	0	0	0	7	0	
Lane Group Flow (vph)	12	20	0	0	159	26	0	
Turn Type	Perm	NA		Perm	Perm	NA		
Protected Phases		8				8		
Permitted Phases	8			8	8			
Actuated Green, G (s)	15.8	15.8			15.8	15.8		
Effective Green, g (s)	15.8	15.8			15.8	15.8		
Actuated g/C Ratio	0.17	0.17			0.17	0.17		
Clearance Time (s)	5.6	5.6			5.6	5.6		
Vehicle Extension (s)	3.0	3.0			3.0	3.0		
Lane Grp Cap (vph)	231	305			234	301		
v/s Ratio Prot		0.01				0.01		
v/s Ratio Perm	0.01				c0.11			
v/c Ratio	0.05	0.07			0.68	0.08		
Uniform Delay, d1	32.6	32.6			36.5	32.8		
Progression Factor	1.00	1.00			1.00	1.00		
Incremental Delay, d2	0.1	0.1			7.6	0.1		
Delay (s)	32.7	32.7			44.1	32.9		
Level of Service	С	С			D	С		
Approach Delay (s)		32.7				42.2		
Approach LOS		С				D		

Scenario 3 AM 2024 No Build 5:49 pm 07/12/2022

Synchro 11 Report Page 2

Planning & Design Services

AM 2024 No Build 9: Southside Dr & Rochester Dr

9: Southside Dr & Ro	ochest	er Dr									07/′	12/2022
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		\$			ŧ	1	7	4Î		1	¢Î	
Traffic Volume (veh/h)	2	12	5	4	2	4	10	468	18	17	313	3
Future Volume (veh/h)	2	12	5	4	2	4	10	468	18	17	313	3
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	13	5	4	2	4	11	509	20	18	340	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	34	13	152	19	54	863	1348	53	711	1396	12
Arrive On Green	0.03	0.03	0.03	0.03	0.03	0.03	0.75	0.75	0.75	0.75	0.75	0.75
Sat Flow, veh/h	157	1021	393	1098	549	1585	1038	1787	70	874	1851	16
Grp Volume(v), veh/h	20	0	0	6	0	4	11	0	529	18	0	343
Grp Sat Flow(s),veh/h/ln	1570	0	0	1647	0	1585	1038	0	1858	874	0	1867
Q Serve(g_s), s	0.6	0.0	0.0	0.0	0.0	0.1	0.2	0.0	5.1	0.4	0.0	2.9
Cycle Q Clear(g_c), s	0.8	0.0	0.0	0.2	0.0	0.1	3.1	0.0	5.1	5.5	0.0	2.9
Prop In Lane	0.10	0	0.25	0.67	0	1.00	1.00		0.04	1.00	0	0.01
Lane Grp Cap(c), veh/h	129	0	0	1/0	0	54	863	0	1401	/11	0	1409
V/C Ratio(X)	0.16	0.00	0.00	0.04	0.00	0.07	0.01	0.00	0.38	0.03	0.00	0.24
Avail Cap(c_a), ven/n	1/40	1 00	1 00	1585	1 00	1525	863	1 00	1401	/11	1 00	1409
HGM 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	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/ven	24.9	0.0	0.0	24.0	0.0	24.0	2.4	0.0	Z.Z	0.1	0.0	1.9
Initial O Delay(d2) s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.4
wile BackOfO(50%) yeb/lp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unsig Movement Delay s/veh	0.2	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.4
InGro Delay(d) s/veh	25.5	0.0	0.0	24.6	0.0	25.1	24	0.0	3.0	32	0.0	23
InGrp LOS	C	A	A	C	A	C	Α	A	A	A	0.0 A	2.0 A
Approach Vol. veh/h		20			10			540			361	
Approach Delay s/yeh		25.5			24.8			3.0			24	
Approach LOS		C			C			A			A	
Timer Assisted Dis		0		4		0		0				
Timer - Assigned Phs		<u> </u>		4		0		8				
Physical Change Deried (V, De), s		45.U * E E		1.4 E.C		40.U		1.4 E.C				
Max Green Setting (Cmax)		0.C * 40		50.4		C.C * 40		50.4				
Max O Clear Time (g. c. 11) a		40		00.4 0.0		40		00.4				
(g_c+n) , s		2.0		Z.0		7.0		2.2				
Oreen Ext Time (p_0), s		0.8		0.1		2.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			3.5									
HCM 6th LOS			A									

Notes

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

Scenario 3 AM 2024 No Build 5:49 pm 07/12/2022

2: Southside Dr	· & St	eedly	Dr				07/12/2
ntersection	13						
The Delay, Siven	1.5						
Novement	WBL	WBR	NBT	NBR	SBL	SBT	
ane Configurations	- Y		ef		1	र्भ	
Traffic Vol, veh/h	6	40	477	6	62	294	
uture Vol, veh/h	6	40	477	6	62	294	
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	-	-	-	75	-	
Veh in Median Storage	e, # 0	-	0	-	-	0	
Grade, %	0	-	0	-	-	0	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	10	2	
Nvmt Flow	7	43	518	7	67	320	
Major/Minor I	Minor1	Ν	/lajor1	1	Major2		
Conflicting Flow All	976	522	0	0	525	0	
Stage 1	522	-	-	-	-	-	
Stage 2	454	-	-	-	-	-	
Critical Hdwy	6.42	6.22	-	-	4.2	-	
Critical Hduny Sta 1	E / 2				-	-	
Jiliudi Huwy Sig T	0.4Z	-	-				
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42 5.518	- - 3.318	-	-	- 2.29	-	
Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver	5.42 5.42 3.518 279	- 3.318 555	-	-	- 2.29 1002	- - -	
Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1	5.42 3.518 279 595	- 3.318 555	-	-	- 2.29 1002		
Critical Hdwy Stg 7 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2	5.42 5.42 3.518 279 595 640	3.318 555 -	-		- 2.29 1002 -		
Critical Hdwy Stg 7 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, %	5.42 5.42 3.518 279 595 640	3.318 555 - -	-		- 2.29 1002 - -		
Critical Hdwy Stg 7 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuver	5.42 5.42 3.518 279 595 640 260	- 3.318 555 - - 555	-		2.29 1002 - - 1002		
Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuver Mov Cap-2 Maneuver	5.42 5.42 3.518 279 595 640 260 391	- 3.318 555 - - 555 -	-		- 2.29 1002 - - 1002	- - - - - - -	
Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1	5.42 5.42 3.518 279 595 640 260 391 595	3.318 555 - 555 555 - -			- 2.29 1002 - - 1002 - -		
Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1 Stage 2	5.42 5.42 3.518 279 595 640 260 391 595 597	- 3.318 555 - - 555 555 - - -			2.29 1002 - 1002 - 1002 -		
Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1 Stage 2	5.42 5.42 3.518 279 595 640 260 391 595 597	- 3.318 555 - - 5555 - - -			2.29 1002 - - 1002 - - -		
Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1 Stage 2	5.42 5.42 3.518 279 595 640 260 391 595 597 WB	- 3.318 555 - - 555 - - -	- - - - - - - - - -		- 2.29 1002 - - 1002 - - - - - - - -		
Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1 Stage 2 Approach	5.42 5.42 3.518 279 595 640 260 391 595 597 WB 12.6	- 3.318 555 - - 5555 - - - -	- - - - - - - - - - - - - - - - - - -		2.29 1002 - 1002 - 1002 - - - - - - - - - -		
Critical Hdwy Stg 1 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1 Stage 2 Approach HCM Control Delay, s HCM LOS	5.42 5.42 3.518 279 595 640 260 391 595 597 WB 12.6 R	- 3.318 555 - - 5555 - - - -	- - - - - - - - - - - - - - - - - - -		2.29 1002 - 1002 - 1002 - - - - - - - - - - - - - - -		
Critical Hdwy Stg 7 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1 Stage 2 Approach HCM Control Delay, s HCM LOS	5.42 5.42 3.518 279 595 640 260 391 595 597 WB 12.6 B	3.318 555 - - 5555 - - - -	- - - - - - - - - - - - - - - - - - -		2.29 1002 - 1002 - - - - - - - - - - - - - - - - - -		
Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1 Stage 2 Approach HCM Control Delay, s HCM LOS Winor Lane/Maior Mym	5.42 5.42 3.518 279 595 640 260 391 595 597 WB 12.6 B	- 3.318 555 - 5555 - - - - -	- - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - -	2.29 1002 - 1002 - - - - - - - - - - - - - - - - - -	- - - - - - - -	
Critical Hdwy Stg 2 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1 Stage 2 Approach HCM Control Delay, s HCM LOS Minor Lane/Major Mvm Capacity (yeh/h)	5.42 5.42 3.518 279 595 640 260 391 595 597 WB 12.6 B	- 3.318 555 - 5555 - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	- 2 29 1002 - 1002 - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - -	
Critical Hdwy Stg 2 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1 Stage 2 Approach HCM Control Delay, s HCM LOS Minor Lane/Major Mvm Capacity (veh/h) HCM Lane V/C Ratio	5.42 5.42 3.518 279 595 640 260 391 595 597 WB 12.6 B	- 3.318 555 - 5555 - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	- 2 29 1002 - 1002 - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - -	
Critical Hdwy Stg 2 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1 Stage 2 Approach HCM Control Delay, s HCM LOS Minor Lane/Major Mvm Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay (s)	5.42 5.42 3.518 279 595 640 260 391 595 597 WB 12.6 B	- 3.318 555 - 5555 - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	- 2.29 1002 - 1002 - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - -	
Critical Hdwy Stg 2 Critical Hdwy Stg 2 Follow-up Hdwy Pot Cap-1 Maneuver Stage 1 Stage 2 Platoon blocked, % Mov Cap-1 Maneuver Mov Cap-2 Maneuver Stage 1 Stage 2 Approach HCM Control Delay, s HCM LOS Minor Lane/Major Mvm Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay (s) HCM Los	5.42 5.42 3.518 279 595 640 260 391 595 597 WB 12.6 B	- 3.318 555 - 5555 - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	- 2.29 1002 - 1002 - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - 0 0	

Scenario 3 AM 2024 No Build 5:49 pm 07/12/2022

3: Southside Dr	⁻ & Al	ger A	ve				
ntersection							
nt Delay, s/veh	0.3						
Novement	EBL	EBR	NBL	NBT	SBT	SBR	
ane Configurations	- M		3	•	ţ,		
raffic Vol. veh/h	2	12	10	503	343	4	
uture Vol. veh/h	2	12	10	503	343	4	
Conflicting Peds. #/hr	0	0	0	0	0	0	
Sian Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	-	75	-	-	-	
/eh in Median Storade	e, # 0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	92	92	92	92	92	92	
leavy Vehicles. %	2	2	20	2	2	2	
/lvmt Flow	2	13	11	547	373	4	
/aior/Minor	Minor2	Ν	Maior1	Ν	laior2		
Conflicting Flow All	0///	375	377	0	najorz	0	
Stage 1	375	515	511	0	-	0	
Stage 2	560	_	-	-	-	-	
Pritical Hdwy	6.42	6.22	13	-	-	-	
Pritical Hdwy Sta 1	5.42	0.22	4.0	-	-	-	
Critical Hdwy Stg 2	5.42	_	_	-	_	-	
Follow-up Hdwy	3 518	3 318	2 38	_	_	_	
of Can_1 Maneuver	201	671	1089	-	_	-	
Stane 1	695	0/1	1000	_	_	_	
Stage 2	566	-	-	-	-	_	
Platoon blocked %	000	-	-	_		_	
Any Can-1 Maneuver	288	671	1080	-	-	-	
Nov Cap-2 Maneuver	413	-	1000	_		_	
Stage 1	688	-	-	-		-	
Stage 2	566	_	_	_	_	_	
olugo z	000						
Approach	EB		NB		SB		
ICM Control Delay s	11		0.2		0		
ICM LOS	B						
	2						
/linor Lane/Major Mvn	nt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)		1089	-	616	-	-	
ICM Lane V/C Ratio		0.01	-	0.025	-	-	
ICM Control Delay (s)		8.3	-	11	-	-	
TOW CONTROL Delay (3)							
ICM Lane LOS		Α	-	В	-	-	

Scenario 3 AM 2024 No Build 5:49 pm 07/12/2022

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Movement	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR
Lane Configurations	1	•	Z.			Ľ.	4Î			X		
Traffic Volume (vph)	0	479	201	11	9	11	418	1	12	1	20	;
Future Volume (vph)	0	479	201	11	9	11	418	1	12	1	20	;
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	190
Total Lost time (s)		5.0	5.0			5.0	5.0			5.6		
Lane Util. Factor		1.00	1.00			1.00	1.00			1.00		
Frt		1.00	0.85			1.00	1.00			0.91		
Flt Protected		1.00	1.00			0.95	1.00			0.98		
Satd. Flow (prot)		1863	1583			1770	1862			1672		
Flt Permitted		1.00	1.00			0.40	1.00			0.87		
Satd. Flow (perm)		1863	1583			737	1862			1484		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	521	218	12	10	12	454	1	13	1	22	:
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	38	0	(
Lane Group Flow (vph)	0	521	230	0	0	22	455	0	0	1	0	(
Turn Type	Prot	NA	Perm		Prot	Perm	NA		Perm	Prot		
Protected Phases	5	2			1		6			7		
Permitted Phases			2			6			7			
Actuated Green, G (s)		58.3	58.3			58.3	58.3			3.2		
Effective Green, g (s)		58.3	58.3			58.3	58.3			3.2		
Actuated g/C Ratio		0.62	0.62			0.62	0.62			0.03		
Clearance Time (s)		5.0	5.0			5.0	5.0			5.6		
Vehicle Extension (s)		3.0	3.0			3.0	3.0			3.0		
Lane Grp Cap (vph)		1161	987			459	1161			50		
v/s Ratio Prot		c0.28					0.24					
v/s Ratio Perm			0.15			0.03				c0.00		
v/c Ratio		0.45	0.23			0.05	0.39			0.03		
Uniform Delay, d1		9.2	7.8			6.8	8.8			43.6		
Progression Factor		1.00	1.00			1.00	1.00			1.00		
Incremental Delay, d2		1.3	0.6			0.2	1.0			0.2		
Delay (s)		10.5	8.3			7.0	9.8			43.9		
Level of Service		В	А			А	А			D		
Approach Delay (s)		9.8					9.6			43.9		
Approach LOS		А					А			D		
Intersection Summary												
HCM 2000 Control Delay			15.3	Н	CM 2000	Level of S	Service		В			
HCM 2000 Volume to Capac	ity ratio		0.51									
Actuated Cycle Length (s)			93.5	S	um of los	t time (s)			21.7			
Intersection Capacity Utilizati	ion		57.6%	IC	U Level	of Service			В			
Analysis Poriod (min)			15									

c Critical Lane Group

Scenario 7 AM 2024 Build 12:07 pm 07/13/2022

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		×	~	4	ŧ	•	V	
Movement	NEL	NET	NER	SWL2	SWL	SWT	SWR	
Lane Configurations	<u>۲</u>	4			1	4		
Traffic Volume (vph)	11	15	4	7	139	22	8	
Future Volume (vph)	11	15	4	7	139	22	8	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.6	5.6			5.6	5.6		
Lane Util. Factor	1.00	1.00			1.00	1.00		
Frt	1.00	0.97			1.00	0.96		
Flt Protected	0.95	1.00			0.95	1.00		
Satd. Flow (prot)	1770	1807			1770	1787		
Flt Permitted	0.74	1.00			0.74	1.00		
Satd. Flow (perm)	1370	1807			1386	1787		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	12	16	4	8	151	24	9	
RTOR Reduction (vph)	0	0	0	0	0	7	0	
Lane Group Flow (vph)	12	20	0	0	159	26	0	
Turn Type	Perm	NA		Perm	Perm	NA		
Protected Phases		8				8		
Permitted Phases	8			8	8			
Actuated Green, G (s)	15.8	15.8			15.8	15.8		
Effective Green, a (s)	15.8	15.8			15.8	15.8		
Actuated g/C Ratio	0.17	0.17			0.17	0.17		
Clearance Time (s)	5.6	5.6			5.6	5.6		
Vehicle Extension (s)	3.0	3.0			3.0	3.0		
l ane Grp Cap (vph)	231	305			234	301		
v/s Ratio Prot	201	0.01			201	0.01		
v/s Ratio Perm	0.01	0.01			c0 11	0.01		
v/c Ratio	0.05	0.07			0.68	0.08		
Uniform Delay, d1	32.6	32.6			36.5	32.8		
Progression Factor	1.00	1.00			1.00	1.00		
Incremental Delay, d2	0.1	0.1			7.6	0.1		
Delay (s)	32.7	32.7			44.1	32.9		
Level of Service	C.1	02.1			 D	02.0		
Approach Delay (s)		32.7			U	42.2		
Approach LOS		02.1				42.2 D		

Scenario 7 AM 2024 Build 12:07 pm 07/13/2022

AM 2024 Build 9: Southside Dr & Rochester Dr

9: Southside Dr & Ro	ochest	er Dr									07/1	3/2022
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		4			د	1	7	4		7	4	
Traffic Volume (veh/h)	2	12	5	4	2	4	10	486	18	17	353	3
Future Volume (veh/h)	2	12	5	4	2	4	10	486	18	17	353	3
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	13	5	4	2	4	11	528	20	18	384	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	34	13	152	19	54	825	1350	51	697	1398	11
Arrive On Green	0.03	0.03	0.03	0.03	0.03	0.03	0.75	0.75	0.75	0.75	0.75	0.75
Sat Flow, veh/h	157	1021	393	1098	549	1585	997	1790	68	859	1853	14
Grp Volume(v), veh/h	20	0	0	6	0	4	11	0	548	18	0	387
Grp Sat Flow(s).veh/h/ln	1570	0	0	1647	0	1585	997	0	1858	859	0	1868
Q Serve(q s), s	0.6	0.0	0.0	0.0	0.0	0.1	0.2	0.0	5.4	0.4	0.0	3.4
Cycle Q Clear(q c), s	0.8	0.0	0.0	0.2	0.0	0.1	3.5	0.0	5.4	5.8	0.0	3.4
Prop In Lane	0.10		0.25	0.67		1.00	1.00		0.04	1.00		0.01
Lane Grp Cap(c), veh/h	129	0	0	170	0	54	825	0	1402	697	0	1409
V/C Ratio(X)	0.16	0.00	0.00	0.04	0.00	0.07	0.01	0.00	0.39	0.03	0.00	0.27
Avail Cap(c a), veh/h	1740	0	0	1585	0	1525	825	0	1402	697	0	1409
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	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.9	0.0	0.0	24.5	0.0	24.5	2.5	0.0	2.2	3.2	0.0	2.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.1	0.0	0.6	0.0	0.0	0.8	0.1	0.0	0.5
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/In	0.2	0.0	0.0	0.1	0.0	0.1	0.0	0.0	0.9	0.1	0.0	0.5
Unsig. Movement Delay, s/veh	1											
LnGrp Delay(d),s/veh	25.5	0.0	0.0	24.6	0.0	25.1	2.6	0.0	3.1	3.3	0.0	2.5
LnGrp LOS	С	А	А	С	А	С	А	А	А	А	А	А
Approach Vol. veh/h		20			10			559			405	
Approach Delay, s/veh		25.5			24.8			3.1			2.5	
Approach LOS		С			С			A			A	
T: A : 101		-			-	0		0				_
Timer - Assigned Phs		Z		4		0		8				
Phs Duration (G+Y+Rc), s		45.0		1.4		45.0		1.4				
Change Period (Y+Rc), s		^ 5.5		5.6		^ 5.5		5.6				
Max Green Setting (Gmax), s		^ 40		50.4		^ 40		50.4				
Max Q Clear Time (g_c+I1), s		1.4		2.8		7.8		2.2				
Green Ext Time (p_c), s		4.1		0.1		2.7		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			3.5									
HCM 6th LOS			А									
Notes												

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

Scenario 7 AM 2024 Build 12:07 pm 07/13/2022

2: Southside Dr	⁻ & St	eedly	Dr				07/13/
ntersection							
nt Delay, s/veh	1.3						
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
ane Configurations	- M		ţ,		<u> </u>	4	
Traffic Vol veh/h	11	40	507	16	62	307	
Future Vol. veh/h	11	40	507	16	62	307	
Conflicting Peds. #/hr	0	0	0	0	0	0	
Sian Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized		None	-	None	-	None	
Storage Length	0	-	-	-	75	-	
Veh in Median Storade	e, # 0	-	0	-	-	0	
Grade, %	0	-	0	-	-	0	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	2	2	2	2	10	2	
Mvmt Flow	12	43	551	17	67	334	
Major/Minor	Minor1	Ν	/lajor1	Ν	/lajor2		
Conflicting Flow All	1028	560	0	0	568	0	
Stage 1	560	-	-	-	-	-	
Stage 2	468	-	-	-	-	-	
Critical Hdwy	6.42	6.22	-	-	4.2	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwy	3.518	3.318	-	-	2.29	-	
Pot Cap-1 Maneuver	259	528	-	-	966	-	
Stage 1	572	-	-	-	-	-	
Stage 2	630	-	-	-	-	-	
Platoon blocked, %			-	-		-	
Mov Cap-1 Maneuver	241	528	-	-	966	-	
Mov Cap-2 Maneuver	374	-	-	-	-	-	
Store 1	572	-	-	-	-	-	
Stage I	E07	_	-	-	-	-	
Stage 2	587						
Stage 2	587		h P		0.0		
Stage 2 Stage 2	587 WB		NB		SB		
Stage 2 Stage 2 Approach HCM Control Delay, s	587 WB 13.4		<u>NB</u>		SB 1.5	_	
Stage 2 Stage 2 Approach HCM Control Delay, s HCM LOS	587 WB 13.4 B		<u>NB</u> 0		<u>SB</u> 1.5		
Stage 2 Stage 2 Approach HCM Control Delay, s HCM LOS	587 WB 13.4 B	NRT	NB 0	VBI n1	SB 1.5 SBL	SRT	
Stage 2 Stage 2 Approach HCM Control Delay, s HCM LOS Minor Lane/Major Mvn Canacity (vch/h)	587 WB 13.4 B	NBT	NB 0 NBR\	VBLn1	SB 1.5 SBL	SBT	
Stage 1 Stage 2 Approach HCM Control Delay, s HCM LOS Minor Lane/Major Mvn Capacity (veh/h) HCM Lane V/C Patio	587 WB 13.4 B	NBT -	NB 0 NBRV	<u>VBLn1</u> 485 0 114	SB 1.5 SBL 966 0.07	SBT -	
Stage 1 Stage 2 HCM Control Delay, s HCM LOS Minor Lane/Major Mvn Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay (a)	587 WB 13.4 B	NBT -	NB 0 NBRV -	VBLn1 485 0.114 13.4	SB 1.5 SBL 966 0.07	SBT - -	
Stage 1 Stage 2 Approach HCM Control Delay, s HCM LOS Minor Lane/Major Mvn Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay (s) HCM Lane V/OS	587 WB 13.4 B	NBT - -	NB 0 NBRV - -	VBLn1 485 0.114 13.4	SB 1.5 SBL 966 0.07 9	SBT - - 0	

Scenario 7 AM 2024 Build 12:07 pm 07/13/2022

Intersection													
nt Delay, s/veh	1.2												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		4			4		۲.	ţ,		۲	4		
Traffic Vol, veh/h	2	0	12	13	0	18	10	503	30	40	343	4	
Future Vol, veh/h	2	0	12	13	0	18	10	503	30	40	343	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	-	-	-	-	-	-	75	-	-	75	-	-	
Veh in Median Storage	,# -	0	-	-	0	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles %	2	2	2	2	2	2	20	2	2	2	2	2	
Mymt Flow	2	0	13	14	0	20	11	547	33	43	373	4	
	-					20		0.17			0.0		
Major/Minor I	Minor2		I	Minor1		1	Major1		Ν	Major2			
Conflicting Flow All	1057	1063	375	1054	1049	564	377	0	0	580	0	0	
Stage 1	461	461	-	586	586	-	-	-	-	-	-	-	
Stage 2	596	602	-	468	463	-	-	-	-	-	-	-	
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.3	-	-	4.12	-	-	
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Follow-up Hdwv	3.518	4.018	3.318	3.518	4.018	3.318	2.38	-	-	2.218	-	-	
Pot Cap-1 Maneuver	203	223	671	204	227	525	1089	-	-	994	-	-	
Stage 1	581	565	-	496	497	-	-	-	-	-	-	-	
Stage 2	490	489	-	575	564	-	-	-	-	-	-	-	
Platoon blocked. %								-	-		-	-	
Moy Cap-1 Maneuver	188	211	671	192	215	525	1089	-	-	994	-	-	
Mov Cap-2 Maneuver	188	211		192	215	-		_	_	-	-	-	
Stage 1	575	541	-	491	492	-	-	-	-	-	-	-	
Stage 2	467	484	_	539	540	_	_	_	-	-	_	-	
Glago Z	101	10-1		000	540								
Approach	EB			WB			NB			SB			
HCM Control Delay, s	12.6			18.3			0.2			0.9			
HCM LOS	В			С									
Minor Lane/Major Mvm	t	NBL	NBT	NBR	EBLn1V	VBLn1	SBL	SBT	SBR				
Capacity (veh/h)		1089	-	-	491	304	994	-	-				
HCM Lane V/C Ratio		0.01	-	-	0.031	0.111	0.044	-	-				
HCM Control Delay (s)		8.3	-	-	12.6	18.3	8.8	-	-				
HCM Lane LOS		А	-	-	В	С	А	-	-				
HCM 95th %tile Q(veh)		0	-	_	0.1	0.4	0.1						

Scenario 7 AM 2024 Build 12:07 pm 07/13/2022

AM 2024 Build 15: Steedly Dr

07/13/2022

Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	ţ,		- M	
Traffic Vol. veh/h	10	68	46	8	4	5
Future Vol. veh/h	10	68	46	8	4	5
Conflicting Peds #/hr	0	0	-0	0	- 0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	1166	None	TICC	None	Stop	None
Storago Longth	-	NUTE	-	NONE	-	NONE
Voh in Modion Storage	-	-	-	-	0	-
ven in weulan Storage,	# -	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	11	74	50	9	4	5
Major/Minor M	/lajor1	N	Major2		Minor2	
Conflicting Flow All	59	0	-	0	151	55
Stage 1	-	-	-	-	55	-
Stage 2	-	-	-	-	96	-
Critical Hdwv	4 12	-	-	-	6 42	6 22
Critical Hdwy Stg 1		-	-	-	5 42	
Critical Hdwy Stg 2	_	-	_	_	5.12	_
	2 218				3 518	3 3 1 8
Pot Cap 1 Manouvor	15/5	-	-	-	8/1	1012
Store 1	1040	-	-	-	041	1012
Stage 1	-	-	-	-	908	-
Stage 2	-	-	-	-	928	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1545	-	-	-	835	1012
Mov Cap-2 Maneuver	-	-	-	-	835	-
Stage 1	-	-	-	-	961	-
Stage 2	-	-	-	-	928	-
, in the second se						
Approach	FB		WB		SB	
HCM Control Delay	0.0		0		80	
LOW CONTROL Delay, S	0.9		0		0.9	
					A	
Minor Lane/Major Mvmt	i 📃	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)		1545	-	-	-	925
HCM Lane V/C Ratio		0.007	-	-	-	0.011
HCM Control Delay (s)		7.3	0	-	-	8.9
HCM Lane LOS		А	А	_	_	Δ
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Scenario 7 AM 2024 Build 12:07 pm 07/13/2022

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Movement	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR
Lane Configurations	ľ	•	Z.			24	4Î			M		
Traffic Volume (vph)	0	461	211	12	9	12	420	1	13	1	21	;
Future Volume (vph)	0	461	211	12	9	12	420	1	13	1	21	;
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	190
Total Lost time (s)		5.0	5.0			5.0	5.0			5.6		
Lane Util. Factor		1.00	1.00			1.00	1.00			1.00		
Frt		1.00	0.85			1.00	1.00			0.91		
Flt Protected		1.00	1.00			0.95	1.00			0.98		
Satd. Flow (prot)		1863	1583			1770	1862			1673		
Flt Permitted		1.00	1.00			0.41	1.00			0.87		
Satd. Flow (perm)		1863	1583			759	1862			1481		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	501	229	13	10	13	457	1	14	1	23	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	40	0	(
Lane Group Flow (vph)	0	501	242	0	0	23	458	0	0	1	0	(
Turn Type	Prot	NA	Perm		Prot	Perm	NA		Perm	Prot		
Protected Phases	5	2			1		6			7		
Permitted Phases			2			6			7			
Actuated Green, G (s)		58.3	58.3			58.3	58.3			3.2		
Effective Green, g (s)		58.3	58.3			58.3	58.3			3.2		
Actuated g/C Ratio		0.62	0.62			0.62	0.62			0.03		
Clearance Time (s)		5.0	5.0			5.0	5.0			5.6		
Vehicle Extension (s)		3.0	3.0			3.0	3.0			3.0		
Lane Grp Cap (vph)		1154	980			470	1153			50		
v/s Ratio Prot		c0.27					0.25					
v/s Ratio Perm			0.15			0.03				c0.00		
v/c Ratio		0.43	0.25			0.05	0.40			0.03		
Uniform Delay, d1		9.3	8.0			7.0	9.0			43.9		
Progression Factor		1.00	1.00			1.00	1.00			1.00		
Incremental Delay, d2		1.2	0.6			0.2	1.0			0.2		
Delay (s)		10.5	8.6			7.2	10.1			44.2		
Level of Service		В	А			А	В			D		
Approach Delay (s)		9.9					9.9			44.2		
Approach LOS		А					А			D		
Intersection Summary												
HCM 2000 Control Delay			15.8	Н	CM 2000	Level of S	Service		В			
HCM 2000 Volume to Capac	city ratio		0.51									
Actuated Cycle Length (s)			94.1	S	um of losi	time (s)			21.7			
Intersection Capacity Utilizat	tion		57.1%	IC	U Level	of Service			В			
Analysis Period (min)			15									

c Critical Lane Group

Scenario 5 AM 2034 No Build 6:19 pm 07/12/2022
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Movement	NEL	NET	NER	SWL2	SWL	SWT	SWR	
Lane Configurations	5	۴.			3	1.		
Traffic Volume (vph)	12	16	4	7	146	23	8	
Future Volume (vph)	12	16	4	7	146	23	8	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.6	5.6			5.6	5.6		
Lane Util. Factor	1.00	1.00			1.00	1.00		
Frt	1.00	0.97			1.00	0.96		
Flt Protected	0.95	1.00			0.95	1.00		
Satd. Flow (prot)	1770	1810			1770	1789		
Flt Permitted	0.73	1.00			0.74	1.00		
Satd. Flow (perm)	1369	1810			1385	1789		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	13	17	4	8	159	25	9	
RTOR Reduction (vph)	0	0	0	0	0	7	0	
Lane Group Flow (vph)	13	21	0	0	167	27	0	
Turn Type	Perm	NA		Perm	Perm	NA		
Protected Phases		8				8		
Permitted Phases	8			8	8			
Actuated Green, G (s)	16.4	16.4			16.4	16.4		
Effective Green, g (s)	16.4	16.4			16.4	16.4		
Actuated g/C Ratio	0.17	0.17			0.17	0.17		
Clearance Time (s)	5.6	5.6			5.6	5.6		
Vehicle Extension (s)	3.0	3.0			3.0	3.0		
Lane Grp Cap (vph)	238	315			241	311		
v/s Ratio Prot		0.01				0.01		
v/s Ratio Perm	0.01				c0.12			
v/c Ratio	0.05	0.07			0.69	0.09		
Uniform Delay, d1	32.4	32.5			36.5	32.6		
Progression Factor	1.00	1.00			1.00	1.00		
Incremental Delay, d2	0.1	0.1			8.3	0.1		
Delay (s)	32.5	32.5			44.8	32.7		
Level of Service	С	С			D	С		
Approach Delay (s)		32.5				42.8		
Approach LOS		С				D		

Scenario 5 AM 2034 No Build 6:19 pm 07/12/2022

AM 2034 No Build 9: Southside Dr & Rochester Dr

9: Southside Dr & Ro	ochest	er Dr									07/1	2/2022
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		\$			ŧ	1	1	4Î		7	4	
Traffic Volume (veh/h)	2	13	5	4	2	4	11	592	19	18	329	3
Future Volume (veh/h)	2	13	5	4	2	4	11	592	19	18	329	3
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	14	5	4	2	4	12	643	21	20	358	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	37	13	153	19	55	846	1357	44	613	1396	12
Arrive On Green	0.03	0.03	0.03	0.03	0.03	0.03	0.75	0.75	0.75	0.75	0.75	0.75
Sat Flow, veh/h	150	1053	376	1098	549	1585	1021	1801	59	772	1852	16
Grp Volume(v), veh/h	21	0	0	6	0	4	12	0	664	20	0	361
Grp Sat Flow(s),veh/h/ln	1580	0	0	1647	0	1585	1021	0	1860	772	0	1868
Q Serve(g_s), s	0.6	0.0	0.0	0.0	0.0	0.1	0.2	0.0	7.2	0.5	0.0	3.1
Cycle Q Clear(g_c), s	0.8	0.0	0.0	0.2	0.0	0.1	3.3	0.0	7.2	7.7	0.0	3.1
Prop In Lane	0.10		0.24	0.67		1.00	1.00		0.03	1.00		0.01
Lane Grp Cap(c), veh/h	130	0	0	172	0	55	846	0	1401	613	0	1407
V/C Ratio(X)	0.16	0.00	0.00	0.03	0.00	0.07	0.01	0.00	0.47	0.03	0.00	0.26
Avail Cap(c_a), veh/h	1744	0	0	1583	0	1524	846	0	1401	613	0	1407
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	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.9	0.0	0.0	24.5	0.0	24.5	2.5	0.0	2.5	4.0	0.0	2.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.1	0.0	0.6	0.0	0.0	1.2	0.1	0.0	0.4
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/in	0.3	0.0	0.0	0.1	0.0	0.1	0.0	0.0	1.2	0.1	0.0	0.5
Unsig. Movement Delay, s/veh	05.5	0.0	0.0	010	0.0	05.0	0.5	0.0	0.0		0.0	0.4
LnGrp Delay(d),s/veh	25.5	0.0	0.0	24.6	0.0	25.0	2.5	0.0	3.6	4.1	0.0	2.4
LnGrp LOS	C	A	A	C	A	C	A	A	A	A	A	A
Approach Vol, veh/h		21			10			676			381	
Approach Delay, s/ven		25.5			24.8			3.0			2.5	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.0		7.4		45.0		7.4				
Change Period (Y+Rc), s		* 5.5		5.6		* 5.5		5.6				
Max Green Setting (Gmax), s		* 40		50.4		* 40		50.4				
Max Q Clear Time (g_c+l1), s		9.2		2.8		9.7		2.2				
Green Ext Time (p_c), s		5.3		0.1		2.5		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			3.8									
HCM 6th LOS			Α									

Notes

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

Scenario 5 AM 2034 No Build 6:19 pm 07/12/2022

2: Southside Dr	⁻ & St	eedly	/ Dr				07/12
ntersection							
nt Delay, s/veh	1.3						
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
ane Configurations	M		1.		3	4	
Traffic Vol veh/h	6	42	501	6	65	309	
Future Vol. veh/h	6	42	501	6	65	309	
Conflicting Peds #/hr	0	0	0	0	0	0	
Sian Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized		None	-	None	-	None	
Storage Length	0	-	-	-	75	-	
Veh in Median Storage	e # 0	-	0	-	-	0	
Grade %	0	-	0	_	_	0	
Peak Hour Factor	.92	92	92	92	92	92	
Heavy Vehicles %	2	2	2	2	10	2	
Mymt Flow	7	46	545	7	71	336	
		40	0+0	,		000	
Major/Minor	Minor1	Ν	Major1	I	Major2		
Conflicting Flow All	1027	549	0	0	552	0	
Stage 1	549	-	-	-	-	-	
Stage 2	478	-	-	-	-	-	
Critical Hdwy	6.42	6.22	-	-	4.2	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwy	3.518	3.318	-	-	2.29	-	
Pot Cap-1 Maneuver	260	535	-	-	979	-	
Stage 1	579	-	-	-	-	-	
Stage 2	624	-	-	-	-	-	
Platoon blocked, %			-	-		-	
Mov Cap-1 Maneuver	241	535	-	-	979	-	
Mov Cap-2 Maneuver	374	-	-	-	-	-	
Stage 1	579	-	-	-	-	-	
Stage 2	578	-	-	-	-	-	
Approach	WB		NB		SB		
HCM Control Delay, s	12.9		0		1.6		
HCM LOS	В						
Minor Lane/Major Mvm	nt	NBT	NBR	VBLn1	SBL	SBT	
Capacity (veh/h)		-	-	508	979	-	
HCM Lane V/C Ratio		-	-	0.103	0.072	-	
HCM Control Delay (s))	-	-	12.9	9	0	
				D	٨	٨	
HCM Lane LOS		-	-	D	A	A	

Scenario 5 AM 2034 No Build 6:19 pm 07/12/2022

B: Southside Dr	* & Al	ger A	ve				07/
		0					
ntersection							
nt Delay, s/veh	0.3						
Vlovement	EBL	EBR	NBL	NBT	SBT	SBR	
ane Configurations	M		3		1.		
Traffic Vol. veh/h	2	13	11	529	361	4	
-uture Vol. veh/h	2	13	11	529	361	4	
Conflicting Peds #/hr	0	0	0	020	0	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
ST Channelized	otop	None	1100	None	1100	None	
Storage Length	0	- Hone	75	- Alono		-	
/eh in Median Storage	. # 0	-	15	0	0	-	
Grade %	, π 0 Λ	_	_	0	0	_	
Peak Hour Factor	02	02	02	02	02	02	
Heavy Vehicles %	20	20	20	20	20	20	
Wymt Flow	2	1/	12	575	302	2	
	2	14	12	- 010	002	4	
Maior/Minor	Minor2	Ν	/laior1	Ν	Maior2		
Conflicting Flow All	993	394	396	0		0	
Stage 1	394	-	-	-	-	-	
Stage 2	599	-	-	-	-	-	
Critical Hdwv	6 4 2	6 22	43	-	-	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwv	3.518	3.318	2.38	-	-	-	
Pot Cap-1 Maneuver	272	655	1071	-	-	-	
Stage 1	681	-	-	-	-	-	
Stage 2	549	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Nov Cap-1 Maneuver	269	655	1071	-	-	-	
Nov Cap-2 Maneuver	397	-	-	-	-	-	
Stage 1	674	-	-	-	-	-	
Stage 2	549	-	-	-	-	-	
Ū							
Approach	EB		NB		SB		
HCM Control Delay, s	11.1		0.2		0		
HCM LOS	В						
Minor Lane/Major Mvm	nt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)		1071	-	603	-	-	
HCM Lane V/C Ratio		0.011	-	0.027	-	-	
HCM Control Delay (s)		8.4	-	11.1	-	-	
HCM Lane LOS		А	-	В	_	-	
				-			

Scenario 5 AM 2034 No Build 6:19 pm 07/12/2022

					1.		1					-
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Movement	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR
Lane Configurations	۳	↑	1			2	f,			M		
Traffic Volume (vph)	0	501	211	12	9	12	438	1	13	1	21	
Future Volume (vph)	0	501	211	12	9	12	438	1	13	1	21	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0			5.0	5.0			5.6		
Lane Util. Factor		1.00	1.00			1.00	1.00			1.00		
Frt		1.00	0.85			1.00	1.00			0.91		
Flt Protected		1.00	1.00			0.95	1.00			0.98		
Satd. Flow (prot)		1863	1583			1770	1862			1673		
Flt Permitted		1.00	1.00			0.38	1.00			0.87		
Satd. Flow (perm)		1863	1583			703	1862			1481		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	545	229	13	10	13	476	1	14	1	23	ŝ
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	40	0	(
Lane Group Flow (vph)	0	545	242	0	0	23	477	0	0	1	0	(
Turn Type	Prot	NA	Perm		Prot	Perm	NA		Perm	Prot		
Protected Phases	5	2			1		6			7		
Permitted Phases			2			6			7			
Actuated Green, G (s)		58.3	58.3			58.3	58.3			3.2		
Effective Green, g (s)		58.3	58.3			58.3	58.3			3.2		
Actuated g/C Ratio		0.62	0.62			0.62	0.62			0.03		
Clearance Time (s)		5.0	5.0			5.0	5.0			5.6		
Vehicle Extension (s)		3.0	3.0			3.0	3.0			3.0		
Lane Grp Cap (vph)		1154	980			435	1153			50		
v/s Ratio Prot		c0.29					0.26					
v/s Ratio Perm			0.15			0.03				c0.00		
v/c Ratio		0.47	0.25			0.05	0.41			0.03		
Uniform Delay, d1		9.6	8.0			7.0	9.2			43.9		
Progression Factor		1.00	1.00			1.00	1.00			1.00		
Incremental Delay, d2		1.4	0.6			0.2	1.1			0.2		
Delay (s)		11.0	8.6			7.3	10.3			44.2		
Level of Service		В	А			А	В			D		
Approach Delay (s)		10.3					10.1			44.2		
Approach LOS		В					В			D		
Intersection Summary												
HCM 2000 Control Delay			15.8	Н	CM 2000	Level of S	Service		В			
HCM 2000 Volume to Capacity	/ ratio		0.54									
Actuated Cycle Length (s)			94.1	S	um of lost	time (s)			21.7			
Intersection Capacity Utilization	n		59.2%	IC	U Level	of Service			В			
· · · · · · · · · · · ·			45									

c Critical Lane Group

Scenario 8 AM 2034 Build 12:20 pm 07/13/2022

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Mayamant		NET	NED	SIMI 0	₹ €\//I	сwт	ewd	
Novement Long Configurations			NER	SVVLZ	SVVL	3001	SWK	
Traffic Volume (unb)	10	16	4	7	146	₩ 22	0	
Future Volume (vph)	12	10	4	7	140	20	0	
ruture volume (vpn)	1000	1000	4	1000	140	20	1000	
Total Leat time (a)	1900	1900	1900	1900	1900	1900	1900	
Fotal Lost time (s)	0.0	0.0			0.0	0.0		
Lane Util. Factor	1.00	1.00			1.00	1.00		
FIL FIL Destasted	1.00	0.97			1.00	0.90		
	0.95	1.00			0.95	1.00		
Sata. Flow (prot)	1770	1810			1//0	1/89		
Fit Permitted	0.73	1.00			0.74	1.00		
Sata. Flow (perm)	1369	1810			1385	1789		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	13	17	4	8	159	25	9	
RTOR Reduction (vph)	0	0	0	0	0	7	0	
Lane Group Flow (vph)	13	21	0	0	167	27	0	
Turn Type	Perm	NA		Perm	Perm	NA		
Protected Phases		8				8		
Permitted Phases	8			8	8			
Actuated Green, G (s)	16.4	16.4			16.4	16.4		
Effective Green, g (s)	16.4	16.4			16.4	16.4		
Actuated g/C Ratio	0.17	0.17			0.17	0.17		
Clearance Time (s)	5.6	5.6			5.6	5.6		
Vehicle Extension (s)	3.0	3.0			3.0	3.0		
Lane Grp Cap (vph)	238	315			241	311		
v/s Ratio Prot		0.01				0.01		
v/s Ratio Perm	0.01				c0.12			
v/c Ratio	0.05	0.07			0.69	0.09		
Uniform Delay, d1	32.4	32.5			36.5	32.6		
Progression Factor	1.00	1.00			1.00	1.00		
Incremental Delay, d2	0.1	0.1			8.3	0.1		
Delay (s)	32.5	32.5			44.8	32.7		
Level of Service	C	C			D	C		
Approach Delay (s)	5	32.5			5	42.8		
Approach LOS		02.0				12.0		

AM 2034 Build 9: Southside Dr & Rochester Dr

9: Southside Dr & Ro	chest	ter Dr									07/1	3/2022
	٭	-	\mathbf{F}	¥	←	۰.	1	Ť	1	6	ţ	~
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		\$			ŧ	1	1	el el		1	4	
Traffic Volume (veh/h)	2	13	5	4	2	4	11	510	19	18	369	3
Future Volume (veh/h)	2	13	5	4	2	4	11	510	19	18	369	3
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	2	14	5	4	2	4	12	554	21	20	401	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	80	37	13	153	19	55	810	1349	51	676	1397	10
Arrive On Green	0.03	0.03	0.03	0.03	0.03	0.03	0.75	0.75	0.75	0.75	0.75	0.75
Sat Flow, veh/h	150	1053	376	1098	549	1585	981	1790	68	838	1854	14
Grp Volume(v), veh/h	21	0	0	6	0	4	12	0	575	20	0	404
Grp Sat Flow(s).veh/h/ln	1580	0	0	1647	0	1585	981	0	1858	838	0	1868
Q Serve(q s), s	0.6	0.0	0.0	0.0	0.0	0.1	0.2	0.0	5.8	0.5	0.0	3.6
Cycle Q Clear(g c), s	0.8	0.0	0.0	0.2	0.0	0.1	3.8	0.0	5.8	6.2	0.0	3.6
Prop In Lane	0.10		0.24	0.67		1.00	1.00		0.04	1.00		0.01
Lane Grp Cap(c), veh/h	130	0	0	172	0	55	810	0	1400	676	0	1408
V/C Ratio(X)	0.16	0.00	0.00	0.03	0.00	0.07	0.01	0.00	0.41	0.03	0.00	0.29
Avail Cap(c a), veh/h	1744	0	0	1583	0	1524	810	0	1400	676	0	1408
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	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.9	0.0	0.0	24.5	0.0	24.5	2.6	0.0	2.3	3.4	0.0	2.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.1	0.0	0.6	0.0	0.0	0.9	0.1	0.0	0.5
Initial Q Delav(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	0.0	0.1	0.0	0.1	0.0	0.0	0.9	0.1	0.0	0.6
Unsig, Movement Delay, s/veh												
LnGrp Delav(d).s/veh	25.5	0.0	0.0	24.6	0.0	25.0	2.7	0.0	3.2	3.5	0.0	2.5
LnGrp LOS	С	A	A	С	A	С	A	A	A	A	A	A
Approach Vol. veh/h		21			10			587			424	
Approach Delay s/veh		25.5			24.8			3.2			2.6	
Approach LOS		C			C			A			A	
		Ū			Ū							_
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.0		7.4		45.0		7.4				
Change Period (Y+Rc), s		* 5.5		5.6		* 5.5		5.6				
Max Green Setting (Gmax), s		* 40		50.4		* 40		50.4				
Max Q Clear Time (g_c+l1), s		7.8		2.8		8.2		2.2				
Green Ext Time (p_c), s		4.3		0.1		2.8		0.0				
Intersection Summary												
HCM 6th Ctrl Delav			3.6									
HCM 6th LOS			A									
Notes												

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

Scenario 8 AM 2034 Build 12:20 pm 07/13/2022

2: Southside Dr	⁻ & St	eedly	' Dr				07/13
ntersection							
nt Delay, s/veh	1.3						
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
ane Configurations	- ¥		ţ,		1	ب ا	
Traffic Vol. veh/h	11	42	531	16	65	322	
uture Vol. veh/h	11	42	531	16	65	322	
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	-	-	-	75	-	
Veh in Median Storage	e,#0	-	0	-	-	0	
Grade, %	0	-	0	-	-	0	
Peak Hour Factor	92	92	92	92	92	92	
leavy Vehicles, %	2	2	2	2	10	2	
Nvmt Flow	12	46	577	17	71	350	
Major/Minor	Minor1	N	/lajor1	N	/lajor2		
Conflicting Flow All	1078	586	0	0	594	0	
Stage 1	586	-	-	-	-	-	
Stage 2	492	-	-	-	-	-	
Critical Hdwy	6.42	6.22	-	-	4.2	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwy	3.518	3.318	-	-	2.29	-	
Pot Cap-1 Maneuver	242	510	-	-	944	-	
Stage 1	556	-	-	-	-	-	
Stage 2	615	-	-	-	-	-	
Platoon blocked, %			-	-		-	
Nov Cap-1 Maneuver	224	510	-	-	944	-	
Nov Cap-2 Maneuver	359	-	-	-	-	-	
Stage 1	556	-	-	-	-	-	
Stage 2	569	-	-	-	-	-	
Approach	WB		NB		SB		
HCM Control Delay, s	13.7		0		1.5		
HCM LOS	В						
Minor Lane/Major Mvn	nt	NBT	NBR	VBLn1	SBL	SBT	
Capacity (veh/h)		-	-	469	944	-	
HCM Lane V/C Ratio		-	-	0.123	0.075	-	
HCM Control Delay (s))	-	-	13.7	9.1	0	
HCM Lane LOS		-	-	В	А	А	

Intersection													
nt Delay, s/veh	1.2												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		\$			4		۲	¢Î,		۲	4		
Traffic Vol, veh/h	2	0	13	13	0	18	10	529	30	40	361	4	
Future Vol, veh/h	2	0	13	13	0	18	10	529	30	40	361	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	-	-	-	-	-	-	75	-	-	75	-	-	
Veh in Median Storage	.# -	0	-	-	0	-	-	0	-	-	0	-	
Grade %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	.92	92	92	.92	92	92	92	92	92	92	92	
Heavy Vehicles %	2	2	2	2	2	2	20	2	2	2	2	2	
Mymt Flow	2	0	1/	1/	0	20	11	575	33	13	392	1	
	2	0	14	14	0	20	11	010	00	40	002	4	
Major/Minor	linor?			Minor1			Maior1		A	Jaior2			
	11012	1110	204	1101	1006	E02	206	0	0		0	0	
	1104	400	394	044	1090	09Z	390	0	0	000	0	0	
Stage 1	480	480	-	014	014	-	-	-	-	-	-	-	
Stage 2	024	030	-	407	482	-	-	-	-	-	-	-	
Onlical Howy	1.1Z	0.52	0.22	1.1Z	0.52	0.22	4.3	-	-	4.1Z	-	-	
Critical Howy Stg 1	0.12	5.52	-	0.12	5.52	-	-	-	-	-	-	-	
Unitical Howy Stg 2	0.12	5.52	-	0.12	5.52	-	-	-	-	-	-	-	
Follow-up Hawy	3.518	4.018	3.318	3.518	4.018	3.318	2.38	-	-	2.218	-	-	
Pot Cap-1 Maneuver	188	209	655	189	213	506	1071	-	-	970	-	-	
Stage 1	567	554	-	4/9	483	-	-	-	-	-	-	-	
Stage 2	473	4/5	-	562	553	-	-	-	-	-	-	-	
Platoon blocked, %	170	400	055	477	004	500	1071	-	-	070	-	-	
Mov Cap-1 Maneuver	1/3	198	655	1//	201	506	10/1	-	-	970	-	-	
Mov Cap-2 Maneuver	173	198	-	177	201	-	-	-	-	-	-	-	
Stage 1	561	530	-	474	478	-	-	-	-	-	-	-	
Stage 2	450	470	-	525	529	-	-	-	-	-	-	-	
Approach	EB			WB			NB			SB			
HOW Control Delay, s	12.8			19.4			0.1			0.9			
HUM LUS	В			C									
Minor Long/Maire M	4	NDI	NDT	NDD		MDL 4	0DI	CDT	000				
Capacity (ych/h)	l	1074	NBT	NBR		20 A	070	5B1	SBR				
		0.04	-	-	4/0	204	9/U	-	-				
HOM Cantral Delaw (a)		0.01	-	-	0.034	0.119	0.045	-	-				
HUN Control Delay (s)		8.4	-	-	12.8	19.4	8.9	-	-				
							~ ~						

15: Steedly Dr &	<u>& Ent</u>	rance)				
ntersection							
nt Delay, s/veh	1.1						
lovement	FBI	FBT	WBT	WBR	SBL	SBR	
ane Configurations		4	1.0		M		
raffic Vol. veh/h	10	71	18	8	4	5	
uture Vol. veh/h	10	71	40	8	4	5	
Conflicting Dode #/hr	10	0	40	0	4	0	
Connicting Peus, #/nr	Eroo	Eroo	Eroo	Eroo	O	Stop	
Sign Control	Free	Free	Free	Free	Stop	Stop	
	-	None	-	None	-	None	
torage Length	-	-	-	-	0	-	
/eh in Median Storage	,# -	0	0	-	0	-	
Brade, %	-	0	0	-	0	-	
eak Hour Factor	92	92	92	92	92	92	
leavy Vehicles, %	2	2	2	2	2	2	
/lvmt Flow	11	77	52	9	4	5	
/lajor/Minorl	Major1	N	/lajor2	1	Minor2		
Conflicting Flow All	61	0	-	0	156	57	
Stage 1	-	-	-	-	57	_	
Stage 2	-	-		-	99	-	
Critical Hdwy	4 12	_	-	-	6 4 2	6 22	
Critical Hdwy Sta 1					5.42	0.22	
ritical Hdwy Stg 7	_	_	_	_	5.12	_	
ollow up Hdwy	2 2 1 8	_	-	_	3 518	3 3 1 8	
ollow-up Huwy Pot Con 1 Manouvor	1542	-	-	-	935	1000	
Ot Cap-1 Maneuver	1042	-	-	-	000	1009	
Stage 1	-	-	-	-	900	-	
Stage Z	-	-	-	-	920	-	
Taloon Diocked, %	4540	-	-	-	0.00	4000	
Nov Cap-1 Maneuver	1542	-	-	-	829	1009	
lov Cap-2 Maneuver	-	-	-	-	829	-	
Stage 1	-	-	-	-	959	-	
Stage 2	-	-	-	-	925	-	
Approach	FB		WB		SB		
ICM Control Dolov	0.0		0		00		
ICM CONTROL Delay, S	0.9		0		9		
					A		
/linor Lane/Maior Mvm	ıt	EBL	EBT	WBT	WBR	SBLn1	
apacity (veh/h)		1542	-	-	_	920	
CM Long V/C Datio		0.007	_	_		0.011	
11. W L AUE V/L . R 300		0.007	-	-	-	0.011	
CM Control Dolay (a)		71	0			0	
ICM Lane LOS		7.4	0	-	-	9	

Synchro 11 Report Page 3

Planning & Design Services

PM 2022

Movement NBL NBT NBR NBR2 SBL2 SBL SBR NWL2 NWL NWR NWR2 Lane Configurations 1 1 67 1	1: Thalia Ave/Straw	berry L	.n & So	outhsic	de Dr 8	Robe	erts Ave	e				07/	12/2022
Movement NBL NBT NBR NBR2 SBL2 SBL SBT SBR NWL2 NWL NWR NWR2 Lane Configurations 1		ሻ	Ť	۲	۴	L.	Ļ	ţ	Ļ	Ł	ŗ	•	ť
Lane Configurations Image: Configuration of the configuratina configuration of the configuration of the configuratio	Movement	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2
Traffic Volume (vph) 6 544 224 4 22 11 672 3 19 4 19 5 Future Volume (vph) 6 544 224 4 22 11 672 3 19 4 19 5 Ideal Flow (vphp) 1900<	Lane Configurations	2	1	2M			Ľ.	eî			X		
Future Volume (vph) 6 544 224 4 22 11 672 3 19 4 19 5 Ideal Flow (vphp) 1900	Traffic Volume (vph)	6	544	224	4	22	11	672	3	19	4	19	5
Ideal Flow (vphpl) 1900 1	Future Volume (vph)	6	544	224	4	22	11	672	3	19	4	19	5
Total Lost time (s) 5.5 5.0	Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor 1.00 1.00 1.00 1.00 1.00 1.00 Frt 1.00 1.00 0.85 1.00 1.00 0.93 Flt Protected 0.95 1.00 1.00 0.95 1.00 0.98 Satd. Flow (prot) 1770 1863 1583 1770 1862 1693 Flt Permitted 0.95 1.00 1.00 0.31 1.00 0.83 Satd. Flow (perm) 1770 1863 1583 573 1862 0.92	Total Lost time (s)	5.5	5.0	5.0			5.0	5.0			5.6		
Frt 1.00 1.00 0.85 1.00 1.00 0.93 Flt Protected 0.95 1.00 1.00 0.95 1.00 0.98 Satt. Flow (prot) 1770 1863 1583 1770 1862 1693 Flt Permitted 0.95 1.00 1.00 0.31 1.00 0.83 Satt. Flow (perm) 1770 1863 1583 573 1862 1433 Perak-hour factor, PHF 0.92	Lane Util. Factor	1.00	1.00	1.00			1.00	1.00			1.00		
Fit Protected 0.95 1.00 1.00 0.95 1.00 0.98 Satd. Flow (pot) 1770 1863 1583 1770 1862 1693 Fit Permitted 0.95 1.00 1.00 0.31 1.00 0.83 Satd. Flow (perm) 1770 1863 1583 573 1862 1433 Peak-hour factor, PHF 0.92	Frt	1.00	1.00	0.85			1.00	1.00			0.93		
Satd. Flow (prot) 1770 1863 1583 1770 1862 1693 Flt Permitted 0.95 1.00 1.00 0.31 1.00 0.83 Satd. Flow (perm) 1770 1863 1583 573 1862 1433 Peak-hour factor, PHF 0.92 <td>Flt Protected</td> <td>0.95</td> <td>1.00</td> <td>1.00</td> <td></td> <td></td> <td>0.95</td> <td>1.00</td> <td></td> <td></td> <td>0.98</td> <td></td> <td></td>	Flt Protected	0.95	1.00	1.00			0.95	1.00			0.98		
Flt Permitted 0.95 1.00 1.00 0.31 1.00 0.83 Satd. Flow (perm) 1770 1863 1583 573 1862 1433 Peak-hour factor, PHF 0.92 <th< td=""><td>Satd. Flow (prot)</td><td>1770</td><td>1863</td><td>1583</td><td></td><td></td><td>1770</td><td>1862</td><td></td><td></td><td>1693</td><td></td><td></td></th<>	Satd. Flow (prot)	1770	1863	1583			1770	1862			1693		
Satd. Flow (perm) 1770 1863 1583 573 1862 1433 Peak-hour factor, PHF 0.92	FIt Permitted	0.95	1.00	1.00			0.31	1.00			0.83		
Peak-hour factor, PHF 0.92	Satd. Flow (perm)	1770	1863	1583			573	1862			1433		
Adj. Flow (vph) 7 591 243 4 24 12 730 3 21 4 21 5 RTOR Reduction (vph) 0 <t< td=""><td>Peak-hour factor, PHF</td><td>0.92</td><td>0.92</td><td>0.92</td><td>0.92</td><td>0.92</td><td>0.92</td><td>0.92</td><td>0.92</td><td>0.92</td><td>0.92</td><td>0.92</td><td>0.92</td></t<>	Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
RTOR Reduction (vph) 0 0 0 0 0 0 0 0 0 0 49 0 0 Lane Group Flow (vph) 7 591 247 0 0 36 733 0 0 2 0 0 Turn Type Prot NA Perm Prot Perm NA Perm Prot Protected Phases 5 2 1 6 7 7 Permitted Phases 2 6 7 <td< td=""><td>Adj. Flow (vph)</td><td>7</td><td>591</td><td>243</td><td>4</td><td>24</td><td>12</td><td>730</td><td>3</td><td>21</td><td>4</td><td>21</td><td>5</td></td<>	Adj. Flow (vph)	7	591	243	4	24	12	730	3	21	4	21	5
Lane Group Flow (vph) 7 591 247 0 0 36 733 0 0 2 0 0 Turn Type Prot NA Perm Prot Perm NA Perm Prot Prot Prot Perm NA Perm Prot Prot Prot Perm NA Perm Prot Prot Prot Prot Prot Prot Perm Prot Perm Prot Perm Prot Perm Perm Perm Perm Prot Perm Prot Perm Perm Perm Perm Perm Perm Perm Perm Perm Prot Perm	RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	49	0	0
Turn Type Prot NA Perm Prot Perm NA Perm Prot Protected Phases 5 2 1 6 7 Permitted Phases 2 6 7 Actuated Green, G (s) 1.3 62.2 65.4 55.4 4.3 Effective Green, g (s) 1.3 62.2 62.2 55.4 55.4 4.3 Actuated g/C Ratio 0.01 0.52 0.52 0.46 0.46 0.04 Clearance Time (s) 5.5 5.0 5.0 5.0 5.0 5.6 Vehicle Extension (s) 3.0 3.0 3.0 3.0 3.0 3.0 Lane Grp Cap (vph) 19 960 815 263 854 51 v/s Ratio Perm 0.16 0.06 c0.39 c0.39 c0.39 c0.39 v/s Ratio Perm 0.16 0.06 0.04 0.04 0.04 0.04 0.04 0.04 0.04 0.04 0.04	Lane Group Flow (vph)	7	591	247	0	0	36	733	0	0	2	0	0
Protected Phases 5 2 1 6 7 Permitted Phases 2 6 7 Actuated Green, G (s) 1.3 62.2 65.4 55.4 4.3 Effective Green, g (s) 1.3 62.2 62.2 55.4 55.4 4.3 Actuated g/C Ratio 0.01 0.52 0.52 0.46 0.46 0.04 Clearance Time (s) 5.5 5.0 5.0 5.0 5.0 5.6 Vehicle Extension (s) 3.0 3.0 3.0 3.0 3.0 3.0 Lane Grp Cap (vph) 19 960 815 263 854 51 v/s Ratio Prot 0.00 c0.32 c0.39 c0.39 c0.30 0.14 0.86 0.04 Uniform Delay, d1 59.3 20.8 16.8 18.8 29.1 56.2 Progression Factor 1.00 1.00 1.00 1.00 1.00 1.00	Turn Type	Prot	NA	Perm		Prot	Perm	NA		Perm	Prot		
Permitted Phases 2 6 7 Actuated Green, G (s) 1.3 62.2 55.4 55.4 4.3 Effective Green, g (s) 1.3 62.2 62.2 55.4 55.4 4.3 Actuated g/C Ratio 0.01 0.52 0.52 0.46 0.46 0.04 Clearance Time (s) 5.5 5.0 5.0 5.0 5.0 5.6 Vehicle Extension (s) 3.0 3.0 3.0 3.0 3.0 3.0 Lane Grp Cap (vph) 19 960 815 263 854 51 v/s Ratio Prot 0.00 c0.32 c0.39 c0.39 c0.46 0.04 v/s Ratio Perm 0.16 0.06 c0.00 c0.00 c0.02 c0.39 v/s Ratio 0.37 0.62 0.30 0.14 0.86 0.04 Uniform Delay, d1 59.3 20.8 16.8 18.8 29.1 56.2 Progression Factor 1.00 1.00 1.00	Protected Phases	5	2			1		6			7		
Actuated Green, G (s) 1.3 62.2 62.2 55.4 55.4 4.3 Effective Green, g (s) 1.3 62.2 62.2 55.4 55.4 4.3 Actuated g/C Ratio 0.01 0.52 0.52 0.46 0.46 0.04 Clearance Time (s) 5.5 5.0 5.0 5.0 5.0 5.0 5.0 Vehicle Extension (s) 3.0 3.0 3.0 3.0 3.0 3.0 Lane Grp Cap (vph) 19 960 815 263 854 51 v/s Ratio Prot 0.00 c0.32 c0.39 c0.39 c0.46 0.04 v/s Ratio Perm 0.16 0.06 c0.00 c0.00 c0.02 c0.39 v/s Ratio 0.37 0.62 0.30 0.14 0.86 0.04 Uniform Delay, d1 59.3 20.8 16.8 18.8 29.1 56.2 Progression Factor 1.00 1.00 1.00 1.00 1.00	Permitted Phases			2			6			7			
Effective Green, g (s) 1.3 62.2 62.2 55.4 55.4 4.3 Actuated g/C Ratio 0.01 0.52 0.52 0.46 0.46 0.04 Clearance Time (s) 5.5 5.0 5.0 5.0 5.0 5.0 5.0 Vehicle Extension (s) 3.0 3.0 3.0 3.0 3.0 3.0 Lane Grp Cap (vph) 19 960 815 263 854 51 v/s Ratio Prot 0.00 c0.32 c0.39 c0.39 v/s Ratio Perm 0.16 0.06 c0.00 v/c Ratio 0.37 0.62 0.30 0.14 0.86 0.04 Uniform Delay, d1 59.3 20.8 16.8 18.8 29.1 56.2 Progression Factor 1.00 1.00 1.00 1.00 1.00	Actuated Green, G (s)	1.3	62.2	62.2			55.4	55.4			4.3		
Actuated g/C Ratio 0.01 0.52 0.52 0.46 0.46 0.04 Clearance Time (s) 5.5 5.0 5.0 5.0 5.0 5.0 5.0 Vehicle Extension (s) 3.0 3.0 3.0 3.0 3.0 3.0 Lane Grp Cap (vph) 19 960 815 263 854 51 v/s Ratio Prot 0.00 c0.32 c0.39 c0.39 c0.00 c0.00 v/s Ratio Perm 0.16 0.06 c0.00 c0.02 c0.00 c0.01 c0.01 c0.02 c0.00 c0.02 c0.00 c0.02 c0.00 c0.02 c0.00 c0.02 c0.00 c0.01 c0.01 c0.01 c0.02 c0.02 c0.02 c0.00 c0.01 c0.01 c0.01 c0.02 c0.01 c0.01 c0.01 c0.01 c0.01 c0.02 c0.02 c0.02 c0.02	Effective Green, g (s)	1.3	62.2	62.2			55.4	55.4			4.3		
Clearance Time (s) 5.5 5.0	Actuated g/C Ratio	0.01	0.52	0.52			0.46	0.46			0.04		
Vehicle Extension (s) 3.0	Clearance Time (s)	5.5	5.0	5.0			5.0	5.0			5.6		
Lane Grp Cap (vph) 19 960 815 263 854 51 v/s Ratio Prot 0.00 c0.32 c0.39 <t< td=""><td>Vehicle Extension (s)</td><td>3.0</td><td>3.0</td><td>3.0</td><td></td><td></td><td>3.0</td><td>3.0</td><td></td><td></td><td>3.0</td><td></td><td></td></t<>	Vehicle Extension (s)	3.0	3.0	3.0			3.0	3.0			3.0		
v/s Ratio Prot 0.00 c0.32 c0.39 v/s Ratio Perm 0.16 0.06 c0.00 v/c Ratio 0.37 0.62 0.30 0.14 0.86 0.04 Uniform Delay, d1 59.3 20.8 16.8 18.8 29.1 56.2 Progression Factor 1.00 1.00 1.00 1.00 1.00	Lane Grp Cap (vph)	19	960	815			263	854			51		
v/s Ratio Perm 0.16 0.06 c0.00 v/c Ratio 0.37 0.62 0.30 0.14 0.86 0.04 Uniform Delay, d1 59.3 20.8 16.8 18.8 29.1 56.2 Progression Factor 1.00 1.00 1.00 1.00 1.00	v/s Ratio Prot	0.00	c0.32					c0.39					
v/c Ratio 0.37 0.62 0.30 0.14 0.86 0.04 Uniform Delay, d1 59.3 20.8 16.8 18.8 29.1 56.2 Progression Factor 1.00 1.00 1.00 1.00 1.00 1.00	v/s Ratio Perm			0.16			0.06				c0.00		
Uniform Delay, d1 59.3 20.8 16.8 18.8 29.1 56.2 Progression Factor 1.00 1.00 1.00 1.00 1.00	v/c Ratio	0.37	0.62	0.30			0.14	0.86			0.04		
Progression Factor 1.00 1.00 1.00 1.00 1.00 1.00 1.00	Uniform Delay, d1	59.3	20.8	16.8			18.8	29.1			56.2		
	Progression Factor	1.00	1.00	1.00			1.00	1.00			1.00		
Incremental Delay, d2 11.7 3.0 1.0 1.1 10.9 0.3	Incremental Delay, d2	11.7	3.0	1.0			1.1	10.9			0.3		
Delay (s) 71.0 23.7 17.8 19.9 40.1 56.5	Delay (s)	71.0	23.7	17.8			19.9	40.1			56.5		
Level of Service E C B B D E	Level of Service	E	С	В			В	D			E		
Approach Delay (s) 22.4 39.1 56.5	Approach Delay (s)		22.4					39.1			56.5		
Approach LOS C D E	Approach LOS		С					D			E		
Intersection Summary	Intersection Summary												
HCM 2000 Control Delay 34.2 HCM 2000 Level of Service C	HCM 2000 Control Delay			34.2	Н	CM 2000	Level of	Service		С			
HCM 2000 Volume to Capacity ratio 0.82	HCM 2000 Volume to Capaci	ity ratio		0.82									
Actuated Cycle Length (s) 120.7 Sum of lost time (s) 21.7	Actuated Cycle Length (s)	•		120.7	S	um of los	t time (s)			21.7			
Intersection Capacity Utilization 77.4% ICU Level of Service D	Intersection Capacity Utilizati	on		77.4%	IC	U Level	of Service	:		D			
Analysis Period (min) 15	Analysis Period (min)			15									

c Critical Lane Group

Scenario 2 PM 2022 5:27 pm 07/12/2022

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Movement	NEL	NET	NER	NER2	SWL2	SWL	SWT	SWR	
Lane Configurations	۲.	ħ				3	î,		
Traffic Volume (vph)	6	51	1	9	3	314	31	3	
Future Volume (vph)	6	51	1	9	3	314	31	3	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.6	5.6				5.6	5.6		
Lane Util. Factor	1.00	1.00				1.00	1.00		
Frt	1.00	0.97				1.00	0.99		
Flt Protected	0.95	1.00				0.95	1.00		
Satd. Flow (prot)	1770	1816				1770	1840		
Flt Permitted	0.73	1.00				0.71	1.00		
Satd. Flow (perm)	1365	1816				1330	1840		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adi, Flow (vph)	7	55	1	10	3	341	34	3	
RTOR Reduction (vph)	0	4	0	0	0	0	2	0	
Lane Group Flow (vph)	7	62	0	0	0	344	35	0	
Turn Type	Perm	NA			Perm	Perm	NA		
Protected Phases		8					8		
Permitted Phases	8	-			8	8	-		
Actuated Green, G (s)	38.0	38.0				38.0	38.0		
Effective Green, a (s)	38.0	38.0				38.0	38.0		
Actuated g/C Ratio	0.31	0.31				0.31	0.31		
Clearance Time (s)	5.6	5.6				5.6	5.6		
Vehicle Extension (s)	3.0	3.0				3.0	3.0		
Lane Grp Cap (vph)	429	571				418	579		
v/s Ratio Prot		0.03					0.02		
v/s Ratio Perm	0.01					c0.26			
v/c Ratio	0.02	0.11				0.82	0.06		
Uniform Delay, d1	28.5	29.3				38.2	28.9		
Progression Factor	1.00	1.00				1.00	1.00		
ncremental Delay, d2	0.0	0.1				12.3	0.0		
Delay (s)	28.5	29.4				50.6	28.9		
_evel of Service	C	C				D	C		
Approach Delav (s)		29.3				-	48.5		
Approach LOS		C					D		

Scenario 2 PM 2022 5:27 pm 07/12/2022

PM 2022 9: Southside Dr & Rochester Dr

9: Southside Dr & Re	ochest	er Dr									07/1	2/2022
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		\$			ا	1	۲. ۲	eî.		2	4	
Traffic Volume (veh/h)	7	10	4	80	40	103	19	515	10	10	520	3
Future Volume (veh/h)	7	10	4	80	40	103	19	515	10	10	520	3
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	1811	1811	1811	1885	1900	1900	1900	1856	1856	1900	1870	1870
Adj Flow Rate, veh/h	8	11	4	87	43	112	21	560	11	11	565	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	6	6	1	0	0	0	3	3	0	2	2
Cap, veh/h	112	111	29	236	74	193	597	1246	24	593	1277	7
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.69	0.69	0.69	0.69	0.69	0.69
Sat Flow, veh/h	230	925	243	1099	614	1610	857	1814	36	854	1859	10
Grp Volume(v), veh/h	23	0	0	130	0	112	21	0	571	11	0	568
Grp Sat Flow(s).veh/h/ln	1399	0	0	1714	0	1610	857	0	1849	854	0	1869
Q Serve(q s), s	0.0	0.0	0.0	0.0	0.0	3.8	0.6	0.0	8.0	0.3	0.0	7.9
Cycle Q Clear(g c), s	3.9	0.0	0.0	3.8	0.0	3.8	8.5	0.0	8.0	8.4	0.0	7.9
Prop In Lane	0.35		0.17	0.67		1.00	1.00		0.02	1.00		0.01
Lane Grp Cap(c), veh/h	252	0	0	310	0	193	597	0	1270	593	0	1284
V/C Ratio(X)	0.09	0.00	0.00	0.42	0.00	0.58	0.04	0.00	0.45	0.02	0.00	0.44
Avail Cap(c a), veh/h	1383	0	0	1483	0	1411	597	0	1270	593	0	1284
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	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.6	0.0	0.0	24.0	0.0	23.9	6.0	0.0	4.1	6.0	0.0	4.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.9	0.0	2.7	0.1	0.0	1.2	0.1	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/In	0.3	0.0	0.0	1.6	0.0	1.5	0.1	0.0	2.1	0.1	0.0	2.1
Unsig. Movement Delay, s/vel	h											
LnGrp Delay(d),s/veh	22.7	0.0	0.0	24.9	0.0	26.7	6.1	0.0	5.2	6.0	0.0	5.2
LnGrp LOS	С	А	А	С	А	С	А	А	А	А	А	А
Approach Vol. veh/h		23			242			592			579	
Approach Delay s/yeh		22.7			25.7			53			52	
Approach LOS		С			C			A			A	
		0			Ū	0					~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.0		12.5		45.0		12.5				
Change Period (Y+Rc), s		* 5.5		5.6		* 5.5		5.6				
Max Green Setting (Gmax), s		* 40		50.4		* 40		50.4				
Max Q Clear Time (g_c+I1), s		10.5		5.9		10.4		5.8				
Green Ext Time (p_c), s		4.3		0.1		4.2		1.2				
Intersection Summary												
HCM 6th Ctrl Delay			8.9									
HCM 6th LOS			А									
Notes												

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

Scenario 2 PM 2022 5:27 pm 07/12/2022

3 IBL WBR NBT	- NBR SBL	SBT		
3				

Lane Configurations	۰¥		4		٦	ب
Traffic Vol, veh/h	37	136	508	17	83	586
Future Vol, veh/h	37	136	508	17	83	586
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	-	-	-	75	-
Veh in Median Storage	e,#0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	2	2	4	2
Mvmt Flow	40	148	552	18	90	637

Major/Minor	Minor1	Ν	/lajor1	1	Major2		
Conflicting Flow All	1378	561	0	0	570	0	
Stage 1	561	-	-	-	-	-	
Stage 2	817	-	-	-	-	-	
Critical Hdwy	6.45	6.25	-	-	4.14	-	
Critical Hdwy Stg 1	5.45	-	-	-	-	-	
Critical Hdwy Stg 2	5.45	-	-	-	-	-	
Follow-up Hdwy	3.545	3.345	-	-	2.236	-	
Pot Cap-1 Maneuver	157	521	-	-	993	-	
Stage 1	565	-	-	-	-	-	
Stage 2	429	-	-	-	-	-	
Platoon blocked, %			-	-		-	
Mov Cap-1 Maneuver	143	521	-	-	993	-	
Mov Cap-2 Maneuver	273	-	-	-	-	-	
Stage 1	565	-	-	-	-	-	
Stage 2	390	-	-	-	-	-	
Approach	WB		NB		SB		
HCM Control Delay, s	19.4		0		1.1		
HCM LOS	С						
Minor Lane/Major Mvr	nt	NBT	NBRW	/BLn1	SBL	SBT	
Capacity (veh/h)		-	-	436	993	-	
HCM Lane V/C Ratio		-	-	0.431	0.091	-	
HCM Control Delay (s)	-	-	19.4	9	0	
HCM Lane LOS		-	-	С	A	Α	
HCM 95th %tile Q(veh	1)	-	-	2.1	0.3	-	

Scenario 2 PM 2022 5:27 pm 07/12/2022

Synchro 11 Report Page 1

PM 2022

8: Southside Dr	& Al	ger A	ve				07/12/202
Intersection							
Int Delay, s/veh	0.6						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations	Y		۲.	↑	f,		
Traffic Vol, veh/h	3	30	31	608	640	9	
Future Vol, veh/h	3	30	31	608	640	9	
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	-	75	-	-	-	
Vah in Madian Starage	# 0			0	0		

	-					-	
Future Vol, veh/h	3	30	31	608	640	9	
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	-	75	-	-	-	
Veh in Median Storage,	# 0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles, %	10	10	10	2	2	2	
Mvmt Flow	3	33	34	661	696	10	

Major/Minor	Minor2	1	Major1	Ν	/lajor2		
Conflicting Flow All	1430	701	706	0	-	0	
Stage 1	701	-	-	-	-	-	
Stage 2	729	-	-	-	-	-	
Critical Hdwy	6.5	6.3	4.2	-	-	-	
Critical Hdwy Stg 1	5.5	-	-	-	-	-	
Critical Hdwy Stg 2	5.5	-	-	-	-	-	
Follow-up Hdwy	3.59	3.39	2.29	-	-	-	
Pot Cap-1 Maneuver	142	425	856	-	-	-	
Stage 1	478	-	-	-	-	-	
Stage 2	463	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Mov Cap-1 Maneuver	136	425	856	-	-	-	
Mov Cap-2 Maneuver	272	-	-	-	-	-	
Stage 1	459	-	-	-	-	-	
Stage 2	463	-	-	-	-	-	
Approach	EB		NB		SB		
HCM Control Delay, s	14.8		0.5		0		
HCM LOS	В						
Minor Lane/Major Mvr	nt	NBL	NBT I	EBLn1	SBT	SBR	
Capacity (veh/h)		856	-	404	-	-	
HCM Lane V/C Ratio		0.039	-	0.089	-	-	
HCM Control Delay (s)	9.4	-	14.8	-	-	
HCM Lane LOS		Α	-	В	-	-	
HCM 95th %tile Q(veh	1)	0.1	-	0.3	-	-	

Scenario 2 PM 2022 5:27 pm 07/12/2022

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Movement	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2
Lane Configurations	ľ	•	24			Ľ.	4Î			X		
Traffic Volume (vph)	6	549	226	4	22	11	679	3	19	4	19	ł
Future Volume (vph)	6	549	226	4	22	11	679	3	19	4	19	Ę
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.0	5.0			5.0	5.0			5.6		
Lane Util. Factor	1.00	1.00	1.00			1.00	1.00			1.00		
Frt	1.00	1.00	0.85			1.00	1.00			0.93		
Flt Protected	0.95	1.00	1.00			0.95	1.00			0.98		
Satd. Flow (prot)	1770	1863	1583			1770	1862			1693		
Flt Permitted	0.95	1.00	1.00			0.30	1.00			0.83		
Satd. Flow (perm)	1770	1863	1583			558	1862			1433		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	597	246	4	24	12	738	3	21	4	21	Ę
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	49	0	(
Lane Group Flow (vph)	7	597	250	0	0	36	741	0	0	2	0	(
Turn Type	Prot	NA	Perm		Prot	Perm	NA		Perm	Prot		
Protected Phases	5	2			1		6			7		
Permitted Phases			2			6			7			
Actuated Green, G (s)	1.3	62.1	62.1			55.3	55.3			4.3		
Effective Green, g (s)	1.3	62.1	62.1			55.3	55.3			4.3		
Actuated g/C Ratio	0.01	0.51	0.51			0.46	0.46			0.04		
Clearance Time (s)	5.5	5.0	5.0			5.0	5.0			5.6		
Vehicle Extension (s)	3.0	3.0	3.0			3.0	3.0			3.0		
Lane Grp Cap (vph)	18	953	810			254	848			50		
v/s Ratio Prot	0.00	c0.32					c0.40					
v/s Ratio Perm			0.16			0.06				c0.00		
v/c Ratio	0.39	0.63	0.31			0.14	0.87			0.04		
Uniform Delay, d1	59.6	21.3	17.2			19.2	29.8			56.5		
Progression Factor	1.00	1.00	1.00			1.00	1.00			1.00		
Incremental Delay, d2	13.4	3.1	1.0			1.2	12.1			0.3		
Delay (s)	73.0	24.4	18.1			20.4	42.0			56.8		
Level of Service	E	С	В			С	D			E		
Approach Delay (s)		23.0					41.0			56.8		
Approach LOS		С					D			E		
Intersection Summary												
HCM 2000 Control Delay			35.0	Н	CM 2000	Level of S	Service		D			
HCM 2000 Volume to Capa	city ratio		0.83									
Actuated Cycle Length (s)			121.3	S	um of los	time (s)			21.7			
Intersection Capacity Utiliza	tion		78.0%	IC	U Level	of Service			D			
Analysis Period (min)			15									

c Critical Lane Group

Scenario 4 PM 2024 No Build 6:07 pm 07/12/2022

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Movement	NEL	NET	NER	NER2	SWL2	SWL	SWT	SWR	
Lane Configurations	۲	î,				3	1.		
Traffic Volume (vph)	6	51	1	9	3	317	31	3	
Future Volume (vph)	6	51	1	9	3	317	31	3	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.6	5.6				5.6	5.6		
Lane Util. Factor	1.00	1.00				1.00	1.00		
Frt	1.00	0.97				1.00	0.99		
Flt Protected	0.95	1.00				0.95	1.00		
Satd. Flow (prot)	1770	1816				1770	1840		
Flt Permitted	0.73	1.00				0.71	1.00		
Satd. Flow (perm)	1365	1816				1330	1840		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adi, Flow (vph)	7	55	1	10	3	345	34	3	
RTOR Reduction (vph)	0	4	0	0	0	0	2	0	
Lane Group Flow (vph)	7	62	0	0	0	348	35	0	
Turn Type	Perm	NA			Perm	Perm	NA		
Protected Phases		8					8		
Permitted Phases	8				8	8			
Actuated Green, G (s)	38.7	38.7				38.7	38.7		
Effective Green, a (s)	38.7	38.7				38.7	38.7		
Actuated g/C Ratio	0.32	0.32				0.32	0.32		
Clearance Time (s)	5.6	5.6				5.6	5.6		
Vehicle Extension (s)	3.0	3.0				3.0	3.0		
Lane Grp Cap (vph)	435	579				424	587		
v/s Ratio Prot		0.03					0.02		
v/s Ratio Perm	0.01	0.00				c0.26	0.02		
v/c Ratio	0.02	0.11				0.82	0.06		
Uniform Delay d1	28.3	29.1				38.1	28.7		
Progression Factor	1.00	1.00				1.00	1.00		
ncremental Delay, d2	0.0	0.1				12.0	0.0		
Delay (s)	28.3	29.2				50.1	28.7		
Level of Service	C	C				D	C		
Approach Delay (s)		29.1					48.1		
							D		

Scenario 4 PM 2024 No Build 6:07 pm 07/12/2022

PM 2024 No Build 9: Southside Dr & Rochester Dr

9: Southside Dr & Ro	ochest	er Dr									07/1	2/2022
	٦	-	\mathbf{F}	¥	←	×.	•	Ť	1	6	ţ	~
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		\$			ŧ	1	1	4Î		7	4Î	
Traffic Volume (veh/h)	7	10	14	81	40	104	19	520	10	10	525	3
Future Volume (veh/h)	7	10	14	81	40	104	19	520	10	10	525	3
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	1811	1811	1811	1885	1900	1900	1900	1856	1856	1900	1870	1870
Adj Flow Rate, veh/h	8	11	15	88	43	113	21	565	11	11	571	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	6	6	1	0	0	0	3	3	0	2	2
Cap, veh/h	96	83	81	238	73	195	591	1245	24	588	1276	7
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.69	0.69	0.69	0.69	0.69	0.69
Sat Flow, veh/h	157	688	667	1100	608	1610	852	1814	35	850	1859	10
Grp Volume(v), veh/h	34	0	0	131	0	113	21	0	576	11	0	574
Grp Sat Flow(s),veh/h/ln	1512	0	0	1708	0	1610	852	0	1849	850	0	1869
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	3.8	0.7	0.0	8.2	0.3	0.0	8.0
Cycle Q Clear(g_c), s	3.9	0.0	0.0	3.9	0.0	3.8	8.7	0.0	8.2	8.5	0.0	8.0
Prop In Lane	0.24	-	0.44	0.67		1.00	1.00		0.02	1.00		0.01
Lane Grp Cap(c), veh/h	260	0	0	311	0	195	591	0	1269	588	0	1282
V/C Ratio(X)	0.13	0.00	0.00	0.42	0.00	0.58	0.04	0.00	0.45	0.02	0.00	0.45
Avail Cap(c_a), veh/h	1397	0	0	14/1	0	1410	591	0	1269	588	0	1282
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	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/ven	22.1	0.0	0.0	23.9	0.0	23.9	0.1	0.0	4.1	0.1	0.0	4.1
Incr Delay (d2), s/ven	0.2	0.0	0.0	0.9	0.0	2.1	0.1	0.0	1.2	0.1	0.0	1.1
Initial Q Delay(03),s/ven	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Wile BackOlQ(50%), ven/in	0.4	0.0	0.0	1.7	0.0	0.1	0.1	0.0	Z.Z	0.1	0.0	Z.Z
LinGra Dolay(d) s/veh	22.0	0.0	0.0	2/ 8	0.0	26.6	6.2	0.0	53	61	0.0	5.2
	22.9	0.0	0.0	24.0	0.0	20.0	0.2	0.0	0.0	0.1	0.0	υ.Ζ
Approach Vol. voh/h		24	Λ	0	244	0	<u></u>	507		<u></u>	595	
Approach Delay, s/yeh		22.0			244			53			5.2	
Approach LOS		22.3			20.1			Δ			Δ	
Approach E00		U			0			Λ			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.0		12.6		45.0		12.6				
Change Period (Y+Rc), s		* 5.5		5.6		* 5.5		5.6				
Max Green Setting (Gmax), s		* 40		50.4		* 40		50.4				
Max Q Clear Time (g_c+l1), s		10.7		5.9		10.5		5.9				
Green Ext Time (p_c), s		4.4		0.2		4.3		1.2				
Intersection Summary												
HCM 6th Ctrl Delay			9.1									
HCM 6th LOS			Α									

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

Scenario 4 PM 2024 No Build 6:07 pm 07/12/2022

PM 2024 No Bu 2 [.] Southside Dr	uild ∙& St	eedly	/ Dr				07/12/
	0. 01	eeury	21				
ntersection							
nt Delay, s/veh	3						
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
ane Configurations	¥		ţ,		3	র	
Fraffic Vol. veh/h	37	137	513	17	84	592	
uture Vol. veh/h	37	137	513	17	84	592	
Conflicting Peds. #/hr	0	0	0	0	0	0	
Sian Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	-	-	-	75	-	
/eh in Median Storage	e, # 0	-	0	-	-	0	
Grade, %	0	-	0	-	-	0	
Peak Hour Factor	92	92	92	92	92	92	
leavy Vehicles, %	5	5	2	2	4	2	
Nymt Flow	40	149	558	18		643	
Maior/Minor	Minor1	Ν	Maior1		Maior2		
Conflicting Flow All	1302	567	0	0	576	0	
Stage 1	567		-	-	010	-	
Stage 2	825	_	_			_	
Critical Hdwy	6.45	6 25		-	4 14	-	
Critical Hdwy Sta 1	5.45	0.20			7.17	-	
Critical Hdwy Stg 2	5 45	-	-	_	_	_	
Follow-up Hdwy	3 545	3 345		-	2 236	-	
Pot Can-1 Maneuver	154	517	-	_	987	_	
Stage 1	562	-			-	-	
Stage 2	425	-		-	-	-	
Platoon blocked %	120					-	
Mov Cap-1 Maneuver	140	517	-	-	987	-	
Mov Cap-2 Maneuver	270	-	-	-	-	-	
Stage 1	562	-	-	-	-	-	
Stage 2	386	-	-	-	-	-	
Approach	WB		NB		SB		
HCM Control Delay s	19.6		0		11		
HCM LOS	C		5				
	5						
Minor Lane/Maior Mvm	nt	NBT	NBRV	VBLn1	SBL	SBT	
Capacity (veh/h)		-	_	433	987	-	
HCM Lane V/C Ratio		-	-	0 437	0.093	-	
				40.0	0.000	0	
HCM Control Delay (s)		-	-	19 0	9	U	
HCM Control Delay (s)	I	-	-	19.0 C	9 A	A	

Scenario 4 PM 2024 No Build 6:07 pm 07/12/2022

B: Southside D	r & Al	ger A	ve				07/12
ntersection							
nt Delay, s/veh	0.6						
Vlovement	EBL	EBR	NBL	NBT	SBT	SBR	
ane Configurations	- M		3	•	ţ,		
Fraffic Vol. veh/h	3	30	31	614	646	9	
-uture Vol. veh/h	3	30	31	614	646	9	
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	-	75	-	_	-	
/eh in Median Storage	e # 0	-		0	0	_	
Grade %	0	-	_	0	0	_	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles %	10	10	10	2	2	2	
Wymt Flow	3	33	3/	667	702	10	
	0	- 00	- 04	001	102	10	
Maior/Minor	Minor2	Ν	Jaior1	Ν	Maior2		
Conflicting Flow All	1//2	707	712	0	najorz	0	
Stage 1	707	101	112	0		0	
Stage 2	735						
Pritical Hdwy	65	63	12	-	-	-	
Critical Hdwy Sta 1	5.5	0.0	4.2				
Critical Hdwy Stg 7	5.5	-	-	-	-	-	
	3 50	3 30	2 20	-	-	-	
Pot Cap 1 Maneuver	1/0	122	852	-	-	-	
Stage 1	140	422	002	-	-	-	
Stage 2	475	-	-	-	-	-	
Platoon blocked %	-+00	-	-	-			
Mov Can_1 Maneuver	13/	122	852	-	-	-	
Mov Cap 2 Maneuver	270	422	0.02	-	-		
Stage 1	156	-	-	-	-	-	
Stage 2	400	-	-	-	-	-	
Staye Z	400	-	-	-	-	-	
Approach	EB		NB		SB		
HCM Control Delay, s	14.9		0.5		0		
HCM LOS	В						
Minor Lane/Major Mvr	nt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)		852	-	401	-	-	
HCM Lane V/C Ratio		0.04	-	0.089	-	-	
HCM Control Delay (s)	9.4	-	14.9	-	-	
HCM Lane LOS		А	-	В	-	-	

Scenario 4 PM 2024 No Build 6:07 pm 07/12/2022

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	1		ſ	ſ		*	ŧ	*	Ť			Ç
Movement	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR:
Lane Configurations	<u>۳</u>	↑	1			2	€Î			- M		
Traffic Volume (vph)	6	593	226	4	22	11	737	3	19	4	19	
Future Volume (vph)	6	593	226	4	22	11	737	3	19	4	19	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	190
Total Lost time (s)	5.5	5.0	5.0			5.0	5.0			5.6		
Lane Util. Factor	1.00	1.00	1.00			1.00	1.00			1.00		
Frt	1.00	1.00	0.85			1.00	1.00			0.93		
FIt Protected	0.95	1.00	1.00			0.95	1.00			0.98		
Satd. Flow (prot)	1770	1863	1583			1770	1862			1693		
FIt Permitted	0.95	1.00	1.00			0.26	1.00			0.83		
Satd. Flow (perm)	1770	1863	1583			481	1862			1433		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.9
Adj. Flow (vph)	7	645	246	4	24	12	801	3	21	4	21	ļ
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	49	0	
Lane Group Flow (vph)	7	645	250	0	0	36	804	0	0	2	0	
Turn Type	Prot	NA	Perm		Prot	Perm	NA		Perm	Prot		
Protected Phases	5	2			1		6			7		
Permitted Phases			2			6			7			
Actuated Green, G (s)	1.3	62.1	62.1			55.3	55.3			4.3		
Effective Green, g (s)	1.3	62.1	62.1			55.3	55.3			4.3		
Actuated g/C Ratio	0.01	0.51	0.51			0.46	0.46			0.04		
Clearance Time (s)	5.5	5.0	5.0			5.0	5.0			5.6		
Vehicle Extension (s)	3.0	3.0	3.0			3.0	3.0			3.0		
Lane Grp Cap (vph)	18	953	810			219	848			50		
v/s Ratio Prot	0.00	c0.35					c0.43					
v/s Ratio Perm			0.16			0.07				c0.00		
v/c Ratio	0.39	0.68	0.31			0.16	0.95			0.04		
Uniform Delay, d1	59.6	22.1	17.2			19.4	31.6			56.5		
Progression Factor	1.00	1.00	1.00			1.00	1.00			1.00		
Incremental Delay, d2	13.4	3.9	1.0			1.6	20.6			0.3		
Delay (s)	73.0	26.0	18.1			21.0	52.2			56.8		
Level of Service	E	С	В			С	D			E		
Approach Delay (s)		24.2					50.9			56.8		
Approach LOS		С					D			E		
Intersection Summary												
HCM 2000 Control Delay			39.1	Н	CM 2000	Level of	Service		D			
HCM 2000 Volume to Capa	city ratio		0.88									
Actuated Cycle Length (s)			121.3	S	um of los	t time (s)			21.7			
ntersection Capacity Utiliza	tion		81.0%	IC	U Level	of Service	:		D			
Analysis Period (min)			15									

c Critical Lane Group

Scenario 9 PM 2024 Build 12:26 pm 07/13/2022

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Movement	NEL	NET	NER	NER2	SWL2	SWL	SWT	SWR	
l ane Configurations	3	1.				3	1.		
Traffic Volume (vph)	6	51	1	9	3	317	31	3	
Future Volume (vph)	6	51	1	9	3	317	31	3	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.6	5.6				5.6	5.6		
Lane Util. Factor	1.00	1.00				1.00	1.00		
Frt	1.00	0.97				1.00	0.99		
Flt Protected	0.95	1.00				0.95	1.00		
Satd. Flow (prot)	1770	1816				1770	1840		
Flt Permitted	0.73	1.00				0.71	1.00		
Satd. Flow (perm)	1365	1816				1330	1840		
Peak-hour factor PHF	0.92	0.92	0.92	0 92	0.92	0.92	0.92	0.92	
Adi Flow (vph)	7	55	1	10	3	345	34	3	
RTOR Reduction (vph)	0	4	0	0	0	0	2	0	
Lane Group Flow (vph)	7	62	0	0	0	348	35	0	
Turn Type	Perm	NA			Perm	Perm	NA		
Protected Phases		8					8		
Permitted Phases	8				8	8			
Actuated Green, G (s)	38.7	38.7				38.7	38.7		
Effective Green, a (s)	38.7	38.7				38.7	38.7		
Actuated g/C Ratio	0.32	0.32				0.32	0.32		
Clearance Time (s)	5.6	5.6				5.6	5.6		
Vehicle Extension (s)	3.0	3.0				3.0	3.0		
Lane Grp Cap (vph)	435	579				424	587		
v/s Ratio Prot		0.03					0.02		
v/s Ratio Perm	0.01					c0.26			
v/c Ratio	0.02	0.11				0.82	0.06		
Uniform Delay, d1	28.3	29.1				38.1	28.7		
Progression Factor	1.00	1.00				1.00	1.00		
ncremental Delay, d2	0.0	0.1				12.0	0.0		
Delay (s)	28.3	29.2				50.1	28.7		
Level of Service	С	С				D	С		
Approach Delay (s)		29.1					48.1		
Approach LOS		С					D		

PM 2024 Build 9: Southside Dr & Rochester Dr

9: Southside Dr & Ro	ochest	er Dr									07/′	13/2022
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		\$			¢	1	1	4		1	4	
Traffic Volume (veh/h)	7	10	14	81	40	104	19	578	10	10	569	3
Future Volume (veh/h)	7	10	14	81	40	104	19	578	10	10	569	3
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	1811	1811	1811	1885	1900	1900	1900	1856	1856	1900	1870	1870
Adj Flow Rate, veh/h	8	11	15	88	43	113	21	628	11	11	618	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	6	6	1	0	0	0	3	3	0	2	2
Cap, ven/h	96	83	81	238	73	195	557	1247	22	543	12/6	6
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.69	0.69	0.69	0.69	0.69	0.69
Sat Flow, ven/n	157	880	100	1100	800	1010	810	1818	32	802	1800	9
Grp Volume(v), veh/h	34	0	0	131	0	113	21	0	639	11	0	621
Grp Sat Flow(s), ven/n/ln	1512	0	0	1708	0	1610	816	0	1850	802	0	1869
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	3.8	0.7	0.0	9.5	0.4	0.0	9.0
Cycle Q Clear(g_c), s	3.9	0.0	0.0	3.9	0.0	3.8	9.7	0.0	9.5	9.9	0.0	9.0
Prop In Lane	0.24	0	0.44	0.07	0	1.00	1.00	0	1260	F42	0	1000
V/C Patio(X)	0.13	0.00	0.00	0.42	0.00	0.58	0.04	0.00	0.50	043	0.00	0.48
	1307	0.00	0.00	1/71	0.00	1/10	557	0.00	1260	5/3	0.00	1282
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	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d) s/veh	22.7	0.0	0.0	23.9	0.0	23.9	6.5	0.0	4.3	67	0.0	4.2
Incr Delay (d2) s/veh	0.2	0.0	0.0	0.9	0.0	27	0.0	0.0	1.0	0.1	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	0.4	0.0	0.0	1.7	0.0	1.5	0.1	0.0	2.6	0.1	0.0	2.5
Unsig, Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.9	0.0	0.0	24.8	0.0	26.6	6.7	0.0	5.8	6.8	0.0	5.6
LnGrp LOS	С	А	А	С	А	С	А	А	А	А	А	A
Approach Vol, veh/h		34			244			660			632	
Approach Delay, s/veh		22.9			25.7			5.8			5.6	
Approach LOS		С			С			А			А	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.0		12.6		45.0		12.6				
Change Period (Y+Rc), s		* 5.5		5.6		* 5.5		5.6				
Max Green Setting (Gmax), s		* 40		50.4		* 40		50.4				
Max Q Clear Time (g_c+l1), s		11.7		5.9		11.9		5.9				
Green Ext Time (p_c), s		5.0		0.2		4.7		1.2				
Intersection Summary												
HCM 6th Ctrl Delay			9.2									
HCM 6th LOS			А									

Notes

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

Scenario 9 PM 2024 Build 12:26 pm 07/13/2022

Intersection						
Intersection						
Intersection						
lat Dalass at the	0.0					
int Delay, s/veh	3.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	۰¥		4		۲.	ا
Traffic Vol, veh/h	51	137	546	28	84	636
Future Vol, veh/h	51	137	546	28	84	636
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	-	-	-	75	-
Veh in Median Storage	e,#0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	5	5	2	2	4	2
Mvmt Flow	55	149	593	30	91	691
Major/Minor	Minor1	1	Major1	Ν	Major2	
Conflicting Flow All	1481	608	0	0	623	0
Stage 1	608	-	-	-	-	-
Stage 2	873	-	-	-	-	-
Critical Hdwy	6.45	6.25	-	-	4.14	-
Critical Hdwy Stg 1	5.45	-	-	-	-	-
Critical Hdwy Stg 2	5.45	-	-	-	-	-
Follow-up Hdwy	3.545	3.345	-	-	2.236	-
Pot Cap-1 Maneuver	136	490	-	-	948	-
Stage 1	538	-	-	-	-	-
Stage 2	404	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	123	490	-	-	948	-
Nov Cap-2 Maneuver	252	-	-	-	-	-
Stage 1	538	-	-	-	-	-
Stage 2	365	-	-	-	-	-
Annroach	WB		NB		SB	
HCM Control Delay	2/		0		11	
HCM LOS	24		0		1.1	
	U					
Minor Lane/Maior Mym	nt	NBT	NBRV	VBI n1	SBL	SBT
Canacity (veh/h)				390	948	001
HCM Lane V/C Ratio		_	-	0.524	0.006	
HCM Control Delay (e)		-	-	2/	0.000	0
HCM Lane LOS		-	-	24	0.Z	Δ
HCM Q5th %tile O(yeh)		-	-	20	0.2	А

PM 2024 Build	8. AI	aer Δ	Ve/F	ntran	6								07/13/20
5. Southside Di		yer A	VE/L	nuan	ce								01/13/20
ntersection													
nt Delay, s/veh	2.6												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
ane Configurations		4			4		5	1.		5	1.		
Traffic Vol. veh/h	3	0	30	44	0	58	31	614	33	44	646	9	
uture Vol, veh/h	3	0	30	44	0	58	31	614	33	44	646	9	
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	-	-	-	-	-	-	75	-	-	75	-	-	
/eh in Median Storage.	# -	1	-	-	1	-	-	0	-	-	0	-	
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-	
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	
Heavy Vehicles. %	10	2	10	2	2	2	10	2	2	2	2	2	
Avmt Flow	3	0	33	48	0	63	34	667	36	48	702	10	
				10	, in the second s								
Major/Minor N	1inor2			Minor1		1	Major1		1	Major2			
Conflicting Flow All	1588	1574	707	1573	1561	685	712	0	0	703	0	0	
Stage 1	803	803	-	753	753	-	-	-	-	-	-	-	
Stage 2	785	771	-	820	808	-	-	-	-	-	-	-	
Critical Hdwv	7.2	6.52	6.3	7.12	6.52	6.22	4.2	-	-	4.12	-	-	
Critical Hdwy Stg 1	6.2	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.2	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Follow-up Hdwy	3.59	4.018	3.39	3.518	4.018	3.318	2.29	-	-	2.218	-	-	
Pot Cap-1 Maneuver	83	110	422	89	112	448	852	-	-	895	-	-	
Stage 1	366	396	-	402	417	-	-	-	-	-	-	-	
Stage 2	374	410	-	369	394	-	-	-	-	-	-	-	
Platoon blocked, %								-	-		-	-	
Nov Cap-1 Maneuver	66	100	422	76	102	448	852	-	-	895	-	-	
Nov Cap-2 Maneuver	166	210	-	184	214	-	-	-	-	-	-	-	
Stage 1	351	375	-	386	400	-	-	-	-	-	-	-	
Stage 2	309	394	-	322	373	-	-	-	-	-	-	-	
Approach	EB			WB			NB			SB			
HCM Control Delay, s	15.8			26.4			0.4			0.6			
HCM LOS	С			D									
Minor Lane/Maior Mymt		NRI	NRT	NRD	EBI n1\	NRI n1	SBI	SBT	SBD				
Capacity (veh/h)		852	-		370	277	895		- ODIX				
HCM Lane V/C Ratio		0.04	_	-	0 097	0.4	0.053	-					
HCM Control Delay (s)		9.04	-	-	15.8	26.4	9.000						
ioni oona or Doldy (3)		0.4	-		10.0	20.4	٥.٢						
ICM Lane LOS			_					_					

15: Steedly Dr &	<u>& Ent</u>	rance)			
1						
ntersection	4.4					
ni Delay, s/ven	1.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
∟ane Configurations		- 4	4		۰¥	
Fraffic Vol, veh/h	11	101	174	9	12	14
Future Vol, veh/h	11	101	174	9	12	14
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	-
Jeh in Median Storage	,# -	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	110	189	10	13	15
Maior/Minor	Maior1	Ν	Aaior2	1	Minor2	
Conflicting Flow All	199	0		0	328	194
Stage 1		-		-	194	
Stage 2	-	-	_	-	134	-
Critical Hdwv	4 12	-	-	-	6.42	6 22
Critical Hdwy Stg 1		_	-	_	5 42	- U.L.L
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1373	-	-	-	666	847
Stage 1	-	-	-	-	839	-
Stage 2	-	-	-	-	892	-
Platoon blocked %		-	-	-		
Nov Cap-1 Maneuver	1373	-	-	-	660	847
Mov Cap-2 Maneuver		-	-	-	660	-
Stage 1	-	_	-	-	831	_
Stage 2	-	-	-	-	892	-
Approach	EP		WP		SP	
	EB		VVB		30	
HOW CONTROL Delay, S	0.8		0		10	
					В	
Minor Lane/Major Mvm	it	EBL	EBT	WBT	WBR :	SBLn1
Capacity (veh/h)		1373	-	-	-	749
HCM Lane V/C Ratio		0.009	-	-	-	0.038
HCM Control Delay (s)		7.6	0	-	-	10
HCM Lane LOS		А	Α	-	-	В
LION OF A NAL OF		0				0.4

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Movement	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR2
Lane Configurations	1	•	24			Ľ.	4Î			X		
Traffic Volume (vph)	6	577	238	4	23	12	714	3	20	4	20	ł
Future Volume (vph)	6	577	238	4	23	12	714	3	20	4	20	Ę
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.0	5.0			5.0	5.0			5.6		
Lane Util. Factor	1.00	1.00	1.00			1.00	1.00			1.00		
Frt	1.00	1.00	0.85			1.00	1.00			0.93		
Flt Protected	0.95	1.00	1.00			0.95	1.00			0.98		
Satd. Flow (prot)	1770	1863	1583			1770	1862			1693		
Flt Permitted	0.95	1.00	1.00			0.27	1.00			0.83		
Satd. Flow (perm)	1770	1863	1583			502	1862			1431		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	7	627	259	4	25	13	776	3	22	4	22	Ę
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	51	0	(
Lane Group Flow (vph)	7	627	263	0	0	38	779	0	0	2	0	(
Turn Type	Prot	NA	Perm		Prot	Perm	NA		Perm	Prot		
Protected Phases	5	2			1		6			7		
Permitted Phases			2			6			7			
Actuated Green, G (s)	1.3	62.0	62.0			55.2	55.2			4.4		
Effective Green, a (s)	1.3	62.0	62.0			55.2	55.2			4.4		
Actuated g/C Ratio	0.01	0.51	0.51			0.45	0.45			0.04		
Clearance Time (s)	5.5	5.0	5.0			5.0	5.0			5.6		
Vehicle Extension (s)	3.0	3.0	3.0			3.0	3.0			3.0		
Lane Grp Cap (vph)	18	945	803			226	841			51		
v/s Ratio Prot	0.00	c0.34					c0.42					
v/s Ratio Perm			0.17			0.08				c0.00		
v/c Ratio	0.39	0.66	0.33			0.17	0.93			0.04		
Uniform Delay, d1	60.1	22.4	17.8			19.9	31.6			56.9		
Progression Factor	1.00	1.00	1.00			1.00	1.00			1.00		
Incremental Delay, d2	13.4	3.7	1.1			1.6	17.6			0.3		
Delay (s)	73.4	26.0	18.9			21.5	49.2			57.2		
Level of Service	E	С	В			С	D			E		
Approach Delay (s)		24.3					47.9			57.2		
Approach LOS		С					D			E		
Intersection Summary												
HCM 2000 Control Delay			38.6	Н	CM 2000	Level of	Service		D			
HCM 2000 Volume to Capa	city ratio		0.87									
Actuated Cycle Length (s)			122.2	S	um of los	t time (s)			21.7			
Intersection Capacity Utiliza	tion		80.7%	IC	U Level	of Service			D			
Analysis Pariod (min)			15									

c Critical Lane Group

Scenario 6 PM 2034 No Build 6:24 pm 07/12/2022

Movement NEL NET NER Lane Configurations 1 1 1 Traffic Volume (vph) 6 54 1 Future Volume (vph) 6 54 1 Ideal Flow (vphpl) 1900 1900 1900 Total Lost time (s) 5.6 5.6 Lane Util. Factor 1.00 1.00 Frt 1.00 0.98 Flt Protected 0.95 1.00 Satd. Flow (prot) 1770 1819 Flt Permitted 0.73 1.00 Satd. Flow (perm) 1363 1819 Peak-hour factor, PHF 0.92 0.92 0.92 Adj. Flow (vph) 7 59 1 RTOR Reduction (vph) 0 3 0 Lane Group Flow (vph) 7 67 0 Turn Type Perm NA Protected Phases 8 4ctuated Green, G (s) 39.6 Actuated Green, G (s) 39.6 39.6 4ctuated g/C Ratio </th <th>NER2 S 9 9 1900 - 1900 - 10 0 92 10 0 92</th> <th>SWL2 3 3 1900 0.92 3 0</th> <th>SWL 333 333 1900 5.6 1.00 1.00 0.95 1770 0.71 1325 0.92 362</th> <th>SWT 33 33 1900 5.6 1.00 0.99 1.00 1841 1.00 1841 0.92 36</th> <th>SWR 3 1900 0.92</th> <th></th>	NER2 S 9 9 1900 - 1900 - 10 0 92 10 0 92	SWL2 3 3 1900 0.92 3 0	SWL 333 333 1900 5.6 1.00 1.00 0.95 1770 0.71 1325 0.92 362	SWT 33 33 1900 5.6 1.00 0.99 1.00 1841 1.00 1841 0.92 36	SWR 3 1900 0.92	
Lane Configurations Image: Configuration in the image: Configuratin the image: Configuration in the image: Configuration in the im	9 9 1900 0.92 10 0	3 3 1900	333 333 1900 5.6 1.00 0.95 1770 0.71 1325 0.92 362	 33 33 1900 5.6 1.00 0.99 1.00 1841 1.00 1841 0.92 36 	3 3 1900	
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Future Volume (vph) 6 54 1 Ideal Flow (vphpl) 1900 1900 1900 1900 Total Lost time (s) 5.6 5.6 5.6 5.6 Lane Util. Factor 1.00 1.00 5.6 5.6 Fit 1.00 0.98 5.6 5.6 Satd. Flow (prot) 1770 1819 5.6 5.6 Fit Permitted 0.73 1.00 5.6 5.6 Satd. Flow (port) 1770 1819 5.6 5.6 Peak-hour factor, PHF 0.92 0.92 0.92 0.92 Adj. Flow (vph) 7 59 1 7.67 0 Turn Type Perm NA 7.67 0 0 1 0.0 3.0 1 1.60 1.61 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 <t< td=""><td>9 1900 0.92 10 0</td><td>3 1900 0.92 3 0</td><td>333 1900 5.6 1.00 0.95 1770 0.71 1325 0.92 362</td><td>33 1900 5.6 1.00 0.99 1.00 1841 1.00 1841 0.92 36</td><td>3 1900 0.92</td><td></td></t<>	9 1900 0.92 10 0	3 1900 0.92 3 0	333 1900 5.6 1.00 0.95 1770 0.71 1325 0.92 362	33 1900 5.6 1.00 0.99 1.00 1841 1.00 1841 0.92 36	3 1900 0.92	
Ideal Flow (vphpl) 1900 1900 1900 Total Lost time (s) 5.6 5.6 Lane Util. Factor 1.00 1.00 Frt 1.00 0.98 Flt Protected 0.95 1.00 Satd. Flow (prot) 1770 1819 Flt Permitted 0.73 1.00 Satd. Flow (perm) 1363 1819 Peak-hour factor, PHF 0.92 0.92 0.92 Adj. Flow (vph) 7 59 1 RTOR Reduction (vph) 0 3 0 Lane Group Flow (vph) 7 67 0 Turn Type Perm NA Protected Phases 8 8 Permitted Phases 8 8 Actuated Green, G (s) 39.6 39.6 Effective Green, g (s) 3.0 3.0 Lane Gry Cap (vph) 441 589 v/s Ratio Prot 0.04 v/s Ratio Prot V/s Ratio Perm 0.01 v/c Ratio V/s Ratio Perm 0.02 0.11 Uniform Delay, d1 <td< td=""><td>1900 0.92 10 0</td><td>0.92 0.92</td><td>1900 5.6 1.00 0.95 1770 0.71 1325 0.92 362</td><td>1900 5.6 1.00 0.99 1.00 1841 1.00 1841 0.92 36</td><td>0.92</td><td></td></td<>	1900 0.92 10 0	0.92 0.92	1900 5.6 1.00 0.95 1770 0.71 1325 0.92 362	1900 5.6 1.00 0.99 1.00 1841 1.00 1841 0.92 36	0.92	
Total Lost time (s) 5.6 5.6 Lane Util. Factor 1.00 1.00 Frt 1.00 0.98 Flt Protected 0.95 1.00 Satd. Flow (prot) 1770 1819 Flt Permitted 0.73 1.00 Satd. Flow (perm) 1363 1819 Peak-hour factor, PHF 0.92 0.92 0.92 Adj. Flow (vph) 7 59 1 RTOR Reduction (vph) 0 3 0 Lane Group Flow (vph) 7 67 0 Turn Type Perm NA Protected Phases 8 8 Actuated Green, G (s) 39.6 39.6 Effective Green g (s) 39.6 39.6 Effective Green, g (s) 3.0 3.0 Lane Grp Cap (vph) 441 589 v/s Ratio Prot 0.04 v/s Ratio Prot V/s Ratio Perm 0.01 v/s Ratio Perm v/s Ratio Perm 0.02 0.11 Uniform D	0.92 10 0	0.92	5.6 1.00 1.00 0.95 1770 0.71 1325 0.92 362	5.6 1.00 0.99 1.00 1841 1.00 1841 0.92 36	0.92	
Lane Util. Factor 1.00 1.00 Frt 1.00 0.98 Flt Protected 0.95 1.00 Satd. Flow (prot) 1770 1819 Flt Permitted 0.73 1.00 Satd. Flow (perm) 1363 1819 Peak-hour factor, PHF 0.92 0.92 0.92 Adj. Flow (vph) 7 59 1 RTOR Reduction (vph) 0 3 0 Lane Group Flow (vph) 7 67 0 Turn Type Perm NA Protected Phases 8 8 Actuated Green, G (s) 39.6 39.6 Actuated Green, g (s) 39.6 39.6 Actuated g/C Ratio 0.32 0.32 Clearance Time (s) 5.6 5.6 Vehicle Extension (s) 3.0 3.0 Lane Grp Cap (vph) 441 589 v/s Ratio Prot 0.04 v/s Ratio Prot V/s Ratio Perm 0.01 v/c Ratio V/s Ratio Pe	0.92 10 0	0.92	1.00 1.00 0.95 1770 0.71 1325 0.92 362	1.00 0.99 1.00 1841 1.00 1841 0.92 36	0.92	
Frt 1.00 0.98 FIt Protected 0.95 1.00 Satd. Flow (prot) 1770 1819 FIt Permitted 0.73 1.00 Satd. Flow (perm) 1363 1819 Peak-hour factor, PHF 0.92 0.92 0.92 Adj. Flow (vph) 7 59 1 RTOR Reduction (vph) 0 3 0 Lane Group Flow (vph) 7 67 0 Turn Type Perm NA Protected Phases 8 8 Actuated Green, G (s) 39.6 39.6 Effective Green, g (s) 39.6 39.6 Actuated g/C Ratio 0.32 0.32 Clearance Time (s) 5.6 5.6 Vehicle Extension (s) 3.0 3.0 Lane Grp Cap (vph) 441 589 v/s Ratio Prot 0.04 v/s Ratio Prot V/s Ratio Perm 0.01 v/c Ratio V/s Ratio Perm 0.01 1.00 V/s Ratio Perm 0.01 1.00 V/s Ratio Perm 0.01	0.92 10 0	0.92	1.00 0.95 1770 0.71 1325 0.92 362	0.99 1.00 1841 1.00 1841 0.92 36	0.92	
Flt Protected 0.95 1.00 Satd. Flow (prot) 1770 1819 Flt Permitted 0.73 1.00 Satd. Flow (perm) 1363 1819 Peak-hour factor, PHF 0.92 0.92 0.92 Adj. Flow (vph) 7 59 1 RTOR Reduction (vph) 0 3 0 Lane Group Flow (vph) 7 67 0 Turn Type Perm NA Protected Phases 8 Actuated Green, G (s) 39.6 39.6 Effective Green, g (s) 39.6 39.6 Actuated g/C Ratio 0.32 0.32 Clearance Time (s) 5.6 5.6 Vehicle Extension (s) 3.0 3.0 Lane Grp Cap (vph) 441 589 v/s Ratio Prot 0.04 v/s Ratio Prot V/s Ratio Perm 0.01 v/c Ratio V/s Ratio Perm 0.01 v/c Ratio Uniform Delay, d1 28.1 29.0	0.92 10 0	0.92	0.95 1770 0.71 1325 0.92 362	1.00 1841 1.00 1841 0.92 36	0.92	
Satd. Flow (prot) 1770 1819 Flt Permitted 0.73 1.00 Satd. Flow (perm) 1363 1819 Peak-hour factor, PHF 0.92 0.92 0.92 Adj. Flow (vph) 7 59 1 RTOR Reduction (vph) 0 3 0 Lane Group Flow (vph) 7 67 0 Turn Type Perm NA Protected Phases 8 Actuated Green, G (s) 39.6 39.6 Effective Green, g (s) 39.6 39.6 Actuated g/C Ratio 0.32 0.32 Clearance Time (s) 5.6 5.6 Vehicle Extension (s) 3.0 3.0 Lane Grp Cap (vph) 441 589 //s Ratio Prot 0.04 //s Ratio Prot 0.01 //c Ratio 0.02 0.11 //s Ratio Perm 0.01 //c Ratio 0.02 0.11 Jniform Delay, d1 28.1 29.0 20 20	0.92 10 0	0.92	1770 0.71 1325 0.92 362	1841 1.00 1841 0.92	0.92	
Flt Permitted 0.73 1.00 Satd. Flow (perm) 1363 1819 Peak-hour factor, PHF 0.92 0.92 0.92 Adj. Flow (vph) 7 59 1 RTOR Reduction (vph) 0 3 0 Lane Group Flow (vph) 7 67 0 Turn Type Perm NA Protected Phases 8 8 Actuated Green, G (s) 39.6 39.6 Effective Green, g (s) 39.6 39.6 Actuated g/C Ratio 0.32 0.32 Clearance Time (s) 5.6 5.6 Vehicle Extension (s) 3.0 3.0 Lane Grp Cap (vph) 441 589 //s Ratio Prot 0.01 .02 //s Ratio Perm 0.01 .02 //c Ratio 0.02 0.11 Jniform Delay, d1 28.1 29.0	0.92 10 0	0.92	0.71 1325 0.92 362	1.00 1841 0.92	0.92	
Satd. Flow (perm) 1363 1819 Peak-hour factor, PHF 0.92 0.92 0.92 Adj. Flow (vph) 7 59 1 RTOR Reduction (vph) 0 3 0 Lane Group Flow (vph) 7 67 0 Turn Type Perm NA Protected Phases 8 Actuated Green, G (s) 39.6 39.6 Effective Green, g (s) 39.6 39.6 Actuated g/C Ratio 0.32 0.32 Clearance Time (s) 5.6 5.6 Vehicle Extension (s) 3.0 3.0 Lane Grp Cap (vph) 441 589 v/s Ratio Prot 0.04 v/s Ratio Prot V/s Ratio Perm 0.01 v/c Ratio Uniform Delay, d1 28.1 29.0	0.92 10 0	0.92	1325 0.92 362	1841 0.92	0.92	
Peak-hour factor, PHF 0.92 0.92 0.92 Adj. Flow (vph) 7 59 1 RTOR Reduction (vph) 0 3 0 Lane Group Flow (vph) 7 67 0 Turn Type Perm NA Protected Phases 8 Actuated Green, G (s) 39.6 39.6 Effective Green, g (s) 39.6 39.6 Actuated g/C Ratio 0.32 0.32 Clearance Time (s) 5.6 5.6 Vehicle Extension (s) 3.0 3.0 Lane Grp Cap (vph) 441 589 v/s Ratio Prot 0.04 v/s Ratio Prot V/s Ratio Perm 0.01 v/c Ratio Uniform Delay, d1 28.1 29.0	0.92 10 0	0.92	0.92 362	0.92	0.92	
Adj. Flow (vph) 7 59 1 RTOR Reduction (vph) 0 3 0 Lane Group Flow (vph) 7 67 0 Turn Type Perm NA Protected Phases 8 Actuated Green, G (s) 39.6 39.6 Actuated Green, G (s) 39.6 39.6 Actuated g/C Ratio 0.32 0.32 Clearance Time (s) 5.6 5.6 Vehicle Extension (s) 3.0 3.0 Lane Grp Cap (vph) 441 589 v/s Ratio Prot 0.04 v/s Ratio Prot v/s Ratio Perm 0.01 v/c Ratio V/c Ratio 0.02 0.11 Uniform Delay, d1 28.1 29.0	10 0	3	362	36	-	
RTOR Reduction (vph) 0 3 0 _ane Group Flow (vph) 7 67 0 Turn Type Perm NA Protected Phases 8 Permitted Phases 8 Actuated Green, G (s) 39.6 39.6 Effective Green, g (s) 39.6 39.6 Actuated g/C Ratio 0.32 0.32 Clearance Time (s) 5.6 5.6 Vehicle Extension (s) 3.0 3.0 _ane Grp Cap (vph) 441 589 v/s Ratio Prot 0.04 .0.04 v/s Ratio Perm 0.01 .0.11 Jniform Delay, d1 28.1 29.0	0	0		50	3	
Lane Group Flow (vph) 7 67 0 Furn Type Perm NA Protected Phases 8 Permitted Phases 8 Actuated Green, G (s) 39.6 Effective Green, g (s) 39.6 Actuated g/C Ratio 0.32 O.32 0.32 Clearance Time (s) 5.6 Jehicle Extension (s) 3.0 .ane Grp Cap (vph) 441 V/s Ratio Prot 0.04 v/s Ratio Perm 0.01 v/c Ratio 0.02 0.11 Jniform Delay, d1 28.1 29.0		0	0	2	0	
Furn Type Perm NA Protected Phases 8 Permitted Phases 8 Actuated Green, G (s) 39.6 Actuated Green, g (s) 39.6 Actuated g/C Ratio 0.32 Clearance Time (s) 5.6 Vehicle Extension (s) 3.0 .ane Grp Cap (vph) 441 V/s Ratio Prot 0.04 v/s Ratio Perm 0.01 v/c Ratio 0.02 0.11 Jniform Delay, d1 28.1 29.0	0	0	365	37	0	
Protected Phases 8 Permitted Phases 8 Actuated Green, G (s) 39.6 39.6 Effective Green, g (s) 39.6 39.6 Actuated g/C Ratio 0.32 0.32 Clearance Time (s) 5.6 5.6 Vehicle Extension (s) 3.0 3.0 Lane Grp Cap (vph) 441 589 v/s Ratio Prot 0.04 v/s Ratio Perm 0.01 v/c Ratio 0.02 0.11 Uniform Delay, d1 28.1 29.0	F	Perm	Perm	NA		
Permitted Phases 8 Actuated Green, G (s) 39.6 39.6 Effective Green, g (s) 39.6 39.6 Actuated g/C Ratio 0.32 0.32 Clearance Time (s) 5.6 5.6 Vehicle Extension (s) 3.0 3.0 Lane Grp Cap (vph) 441 589 v/s Ratio Prot 0.04 v/s Ratio Perm 0.01 v/c Ratio 0.02 0.11 Uniform Delay, d1 28.1 29.0				8		
Actuated Green, G (s) 39.6 39.6 Effective Green, g (s) 39.6 39.6 Actuated g/C Ratio 0.32 0.32 Clearance Time (s) 5.6 5.6 Vehicle Extension (s) 3.0 3.0 Lane Grp Cap (vph) 441 589 v/s Ratio Prot 0.04 v/s Ratio Perm 0.01 v/c Ratio 0.02 0.11 Uniform Delay, d1 28.1 29.0		8	8			
Effective Green, g (s) 39.6 39.6 Actuated g/C Ratio 0.32 0.32 Clearance Time (s) 5.6 5.6 Vehicle Extension (s) 3.0 3.0 Lane Grp Cap (vph) 441 589 v/s Ratio Prot 0.04 v/s Ratio Perm 0.01 v/c Ratio 0.02 0.11 Uniform Delay, d1 28.1 29.0			39.6	39.6		
Actuated g/C Ratio 0.32 0.32 Clearance Time (s) 5.6 5.6 Vehicle Extension (s) 3.0 3.0 Lane Grp Cap (vph) 441 589 v/s Ratio Prot 0.04 v/s Ratio Perm 0.01 v/c Ratio 0.02 0.11 Uniform Delay, d1 28.1 29.0			39.6	39.6		
Clearance Time (s) 5.6 5.6 Vehicle Extension (s) 3.0 3.0 Lane Grp Cap (vph) 441 589 v/s Ratio Prot 0.04 v/s Ratio Perm 0.01 v/c Ratio 0.02 0.11 Uniform Delay, d1 28.1 29.0			0.32	0.32		
Vehicle Extension (s) 3.0 3.0 Lane Grp Cap (vph) 441 589 v/s Ratio Prot 0.04 v/s Ratio Perm 0.01 v/c Ratio 0.02 0.11 Uniform Delay, d1 28.1 29.0			5.6	5.6		
Lane Grp Cap (vph) 441 589 v/s Ratio Prot 0.04 v/s Ratio Perm 0.01 v/c Ratio 0.02 0.11 Uniform Delay, d1 28.1 29.0			3.0	3.0		
v/s Ratio Prot 0.04 v/s Ratio Perm 0.01 v/c Ratio 0.02 0.11 Uniform Delay, d1 28.1 29.0			429	596		
v/s Ratio Perm 0.01 v/c Ratio 0.02 0.11 Uniform Delay, d1 28.1 29.0 Description 1.00 1.00				0.02		
//c Ratio 0.02 0.11 Jniform Delay, d1 28.1 29.0 Description 1.00 1.00			c0.28			
Uniform Delay, d1 28.1 29.0			0.85	0.06		
Drograppion Easter 1.00 1.00			38.5	28.5		
Togression Factor 1.00 1.00			1.00	1.00		
ncremental Delay, d2 0.0 0.1			14.9	0.0		
Delay (s) 28.1 29.1			53.4	28.5		
_evel of Service C C			D	С		
Approach Delay (s) 29.0				51.0		
Approach LOS C				D		

Scenario 6 PM 2034 No Build 6:24 pm 07/12/2022

Synchro 11 Report Page 2

Planning & Design Services

PM 2034 No Build 9: Southside Dr & Rochester Dr

9: Southside Dr & Ro	ochest	er Dr									07/1	2/2022
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		\$			ا	1	1	eî.		2	4	
Traffic Volume (veh/h)	7	11	15	85	42	109	20	547	11	11	552	3
Future Volume (veh/h)	7	11	15	85	42	109	20	547	11	11	552	3
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	1811	1811	1811	1885	1900	1900	1900	1856	1856	1900	1870	1870
Adj Flow Rate, veh/h	8	12	16	92	46	118	22	595	12	12	600	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	6	6	1	0	0	0	3	3	0	2	2
Cap, veh/h	94	88	85	241	78	203	564	1236	25	560	1268	6
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.68	0.68	0.68	0.68	0.68	0.68
Sat Flow, veh/h	146	699	676	1086	614	1610	829	1812	37	826	1859	9
Grp Volume(v), veh/h	36	0	0	138	0	118	22	0	607	12	0	603
Grp Sat Flow(s).veh/h/ln	1520	0	0	1700	0	1610	829	0	1849	826	0	1869
Q Serve(q s), s	0.0	0.0	0.0	0.0	0.0	4.0	0.7	0.0	9.0	0.4	0.0	8.8
Cycle Q Clear(g c), s	4.2	0.0	0.0	4.1	0.0	4.0	9.5	0.0	9.0	9.4	0.0	8.8
Prop In Lane	0.22		0.44	0.67		1.00	1.00		0.02	1.00		0.00
Lane Grp Cap(c), veh/h	268	0	0	318	0	203	564	0	1261	560	0	1275
V/C Ratio(X)	0.13	0.00	0.00	0.43	0.00	0.58	0.04	0.00	0.48	0.02	0.00	0.47
Avail Cap(c a), veh/h	1393	0	0	1462	0	1401	564	0	1261	560	0	1275
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	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.6	0.0	0.0	23.9	0.0	23.9	6.6	0.0	4.4	6.6	0.0	4.3
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.9	0.0	2.6	0.1	0.0	1.3	0.1	0.0	1.3
Initial Q Delav(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	0.4	0.0	0.0	1.7	0.0	1.6	0.1	0.0	2.5	0.1	0.0	2.4
Unsig, Movement Delay, s/veh	1											
LnGrp Delav(d).s/veh	22.8	0.0	0.0	24.8	0.0	26.5	6.7	0.0	5.7	6.7	0.0	5.6
LnGrp LOS	С	A	A	С	A	С	A	A	A	A	A	A
Approach Vol. veh/h		36			256			629			615	
Approach Delay s/yeh		22.8			25.6			57			5.6	
Approach LOS		C			C			A			A	
Approach 200		Ū			Ū						~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	_
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.0		12.9		45.0		12.9				
Change Period (Y+Rc), s		* 5.5		5.6		* 5.5		5.6				
Max Green Setting (Gmax), s		* 40		50.4		* 40		50.4				
Max Q Clear Time (g_c+I1), s		11.5		6.2		11.4		6.1				
Green Ext Time (p_c), s		4.7		0.2		4.5		1.2				
Intersection Summary												
HCM 6th Ctrl Delay			9.4									
HCM 6th LOS			А									
Notes												

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

Scenario 6 PM 2034 No Build 6:24 pm 07/12/2022

2: Southside Dr	& St	eedly	/ Dr				07/12
ntersection							
nt Delay, s/veh	3.3						
Vovement	WBL	WBR	NBT	NBR	SBL	SBT	
ane Configurations	Y		¢Î,		3	ب اً	
Fraffic Vol, veh/h	39	144	539	18	88	622	
uture Vol, veh/h	39	144	539	18	88	622	
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	-	-	-	75	-	
/eh in Median Storage	,# 0	-	0	-	-	0	
Grade, %	0	-	0	-	-	0	
Peak Hour Factor	92	92	92	92	92	92	
leavy Vehicles, %	5	5	2	2	4	2	
Nvmt Flow	42	157	586	20	96	676	
Major/Minor I	Minor1	Ι	Major1	I	Major2		
Conflicting Flow All	1464	596	0	0	606	0	
Stage 1	596	-	-	-	-	-	
Stage 2	868	-	-	-	-	-	
Critical Hdwy	6.45	6.25	-	-	4.14	-	
Critical Hdwy Stg 1	5.45	-	-	-	-	-	
Critical Hdwy Stg 2	5.45	-	-	-	-	-	
Follow-up Hdwy	3.545	3.345	-	-	2.236	-	
Pot Cap-1 Maneuver	139	498	-	-	962	-	
Stage 1	545	-	-	-	-	-	
Stage 2	406	-	-	-	-	-	
Platoon blocked, %			-	-		-	
Nov Cap-1 Maneuver	125	498	-	-	962	-	
Nov Cap-2 Maneuver	254	-	-	-	-	-	
Stage 1	545	-	-	-	-	-	
Stage 2	365	-	-	-	-	-	
Approach	WB		NB		SB		
HCM Control Delay, s	21.6		0		1.1		
HCM LOS	С						
Minor Lane/Major Mvm	ıt	NBT	NBRV	VBLn1	SBL	SBT	
Capacity (veh/h)		-	-	413	962	-	
HCM Lane V/C Ratio		-	-	0.482	0.099	-	
		-	-	21.6	9.2	0	
HCM Control Delay (s)							
HCM Control Delay (s) HCM Lane LOS		-	-	С	А	Α	

Scenario 6 PM 2034 No Build 6:24 pm 07/12/2022

8: Southside D	r & Al	ger A	ve				07/12
ntersection							
nt Delay, s/veh	0.6						
Movement	EBL	EBR	NBL	NBT	SBT	SBR	
ane Configurations	- M		3	•	î,		
Fraffic Vol. veh/h	3	32	33	645	679	9	
uture Vol. veh/h	3	32	33	645	679	9	
Conflicting Peds. #/hr	0	0	0	0	0	0	
Sian Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	-	75	-	-	-	
/eh in Median Storad	e,# 0	-	-	0	0	-	
Grade, %	0	-	-	0	0	-	
Peak Hour Factor	92	92	92	92	92	92	
leavy Vehicles, %	10	10	10	2	2	2	
Nvmt Flow	3	35	36	701	738	10	
Maior/Minor	Minor2	Ν	Maior1	Ν	/laior2		
Conflicting Flow All	1516	743	748	0	-	0	
Stage 1	743	-	-	-	-	-	
Stage 2	773	-	-	-	-	-	
Critical Hdwv	65	63	42	-	-	-	
Critical Hdwy Stg 1	5.5	-	-	-	-	-	
Critical Hdwy Stg 2	5.5	-	-	-	-	-	
Follow-up Hdwv	3,59	3.39	2.29	-	-	-	
Pot Cap-1 Maneuver	126	402	825	-	-	-	
Stage 1	456	-	-	-	-	-	
Stage 2	442	-	-	-	-	-	
Platoon blocked, %				-	-	-	
Nov Cap-1 Maneuver	120	402	825	-	-	-	
Nov Cap-2 Maneuver	255	-	-	-	-	-	
Stage 1	436	-	-	-	-	-	
Stage 2	442	-	-	-	-	-	
÷							
Approach	EB		NB		SB		
ICM Control Delay. s	15.4		0.5		0		
HCM LOS	С						
	1						
Minor Lane/Major Mvr	nt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)		825	-	383	-	-	
HCM Lane V/C Ratio		0.043	-	0.099	-	-	
HCM Control Delay (s)	9.6	-	15.4	-	-	
HCM Lane LOS		A	-	С	-	-	

Scenario 6 PM 2034 No Build 6:24 pm 07/12/2022

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Movement	NBL	NBT	NBR	NBR2	SBL2	SBL	SBT	SBR	NWL2	NWL	NWR	NWR
Lane Configurations	1	1	24			24	4			M		
Traffic Volume (vph)	6	621	238	4	23	12	772	3	20	4	20	ł
Future Volume (vph)	6	621	238	4	23	12	772	3	20	4	20	ł
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.0	5.0			5.0	5.0			5.6		
Lane Util. Factor	1.00	1.00	1.00			1.00	1.00			1.00		
Frt	1.00	1.00	0.85			1.00	1.00			0.93		
Flt Protected	0.95	1.00	1.00			0.95	1.00			0.98		
Satd. Flow (prot)	1770	1863	1583			1770	1862			1693		
FIt Permitted	0.95	1.00	1.00			0.23	1.00			0.83		
Satd. Flow (perm)	1770	1863	1583			425	1862			1431		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adi, Flow (vph)	7	675	259	4	25	13	839	3	22	4	22	(
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	51	0	(
Lane Group Flow (vph)	7	675	263	0	0	38	842	0	0	2	0	(
Turn Type	Prot	NA	Perm		Prot	Perm	NA		Perm	Prot		
Protected Phases	5	2			1		6			7		
Permitted Phases		-	2			6	Ŭ		7			
Actuated Green G (s)	13	62.0	62 0			55.2	55.2			44		
Effective Green a (s)	13	62.0	62.0			55.2	55.2			44		
Actuated g/C Ratio	0.01	0.51	0.51			0.45	0.45			0.04		
Clearance Time (s)	5.5	5.0	5.0			5.0	5.0			56		
Vehicle Extension (s)	3.0	3.0	3.0			3.0	3.0			3.0		
ane Grn Can (vnh)	18	945	803			191	841			51		
v/s Ratio Prot	0.00	c0.36	000			101	c0 45			01		
v/s Ratio Perm	0.00	00.00	0 17			0.09	00.10			c0 00		
v/c Ratio	0.39	0.71	0.17			0.00	1.00			0.04		
Uniform Delay, d1	60.1	23.3	17.8			20.2	33.5			56.9		
Progression Factor	1.00	1.00	1.00			1.00	1.00			1.00		
Incremental Delay, d2	13.4	4.6	1.00			2.3	31.3			0.3		
Delay (s)	73.4	27.9	18.9			22.5	64.8			57.2		
l evel of Service	F	C	B			C	F			F		
Approach Delay (s)	-	25.7	D			Ŭ	63.0			57.2		
Approach LOS		C					E			E		
Intersection Summary												
HCM 2000 Control Delay			44.8	Н	CM 2000	Level of	Service		D			
HCM 2000 Volume to Capa	citv ratio		0.92									
Actuated Cycle Length (s)	,		122.2	S	um of los	time (s)			21.7			
Intersection Capacity Utiliza	tion		83.8%	IC	U Level	of Service			E			
Analysis Poriod (min)			15						_			

c Critical Lane Group

Scenario 10 PM 2034 Build 12:34 pm 07/13/2022

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Movement	NEL	NET	NER	NER2	SWL2	SWL	SWT	SWR	
Lane Configurations	<u>۲</u>	4				2	4		
Traffic Volume (vph)	6	54	1	9	3	333	33	3	
Future Volume (vph)	6	54	1	9	3	333	33	3	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)	5.6	5.6				5.6	5.6		
Lane Util. Factor	1.00	1.00				1.00	1.00		
Frt	1.00	0.98				1.00	0.99		
Flt Protected	0.95	1.00				0.95	1.00		
Satd. Flow (prot)	1770	1819				1770	1841		
Flt Permitted	0.73	1.00				0.71	1.00		
Satd. Flow (perm)	1363	1819				1325	1841		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	7	59	1	10	3	362	36	3	
RTOR Reduction (vph)	0	3	0	0	0	0	2	0	
Lane Group Flow (vph)	7	67	0	0	0	365	37	0	
Turn Type	Perm	NA			Perm	Perm	NA		
Protected Phases		8					8		
Permitted Phases	8				8	8			
Actuated Green, G (s)	39.6	39.6				39.6	39.6		
Effective Green, g (s)	39.6	39.6				39.6	39.6		
Actuated g/C Ratio	0.32	0.32				0.32	0.32		
Clearance Time (s)	5.6	5.6				5.6	5.6		
Vehicle Extension (s)	3.0	3.0				3.0	3.0		
Lane Grp Cap (vph)	441	589				429	596		
v/s Ratio Prot		0.04					0.02		
v/s Ratio Perm	0.01					c0.28	_		
v/c Ratio	0.02	0.11				0.85	0.06		
Uniform Delay, d1	28.1	29.0				38.5	28.5		
Progression Factor	1.00	1.00				1.00	1.00		
Incremental Delay, d2	0.0	0.1				14.9	0.0		
Delay (s)	28.1	29.1				53.4	28.5		
Level of Service	C	С				D	C		
Approach Delay (s)	-	29.0					51.0		
Approach LOS		0					D		

Scenario 10 PM 2034 Build 12:34 pm 07/13/2022

Synchro 11 Report Page 2

Planning & Design Services

PM 2034 Build 9: Southside Dr & Rochester Dr

9: Southside Dr & Ro	ochest	er Dr									07/	13/2022
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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		\$			¢	1	2	4Î		1	4	
Traffic Volume (veh/h)	7	11	15	85	42	109	20	605	11	11	596	3
Future Volume (veh/h)	7	11	15	85	42	109	20	605	11	11	596	3
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	1811	1811	1811	1885	1900	1900	1900	1856	1856	1900	1870	1870
Adj Flow Rate, veh/h	8	12	16	92	46	118	22	658	12	12	648	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	6	6	6	1	0	0	0	3	3	0	2	2
Cap, veh/h	94	88	85	241	78	203	531	1239	23	515	1269	6
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.68	0.68	0.68	0.68	0.68	0.68
Sat Flow, veh/h	146	699	676	1086	614	1610	793	1816	33	779	1860	9
Grp Volume(v), veh/h	36	0	0	138	0	118	22	0	670	12	0	651
Grp Sat Flow(s),veh/h/ln	1520	0	0	1700	0	1610	793	0	1850	779	0	1869
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	4.0	0.8	0.0	10.5	0.5	0.0	9.8
Cycle Q Clear(g_c), s	4.2	0.0	0.0	4.1	0.0	4.0	10.6	0.0	10.5	10.9	0.0	9.8
Prop In Lane	0.22		0.44	0.67		1.00	1.00		0.02	1.00		0.00
Lane Grp Cap(c), veh/h	268	0	0	318	0	203	531	0	1262	515	0	1275
V/C Ratio(X)	0.13	0.00	0.00	0.43	0.00	0.58	0.04	0.00	0.53	0.02	0.00	0.51
Avail Cap(c_a), veh/h	1393	0	0	1462	0	1401	531	0	1262	515	0	1275
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	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/ven	22.0	0.0	0.0	23.9	0.0	23.9	7.1	0.0	4.0	1.3	0.0	4.5
Incr Delay (d2), s/ven	0.2	0.0	0.0	0.9	0.0	2.0	0.1	0.0	1.0	0.1	0.0	0.0
Wile ReekOfO(50%) veh/lp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Unsig Movement Delay, s/vet	0.4	0.0	0.0	1.7	0.0	1.0	U. I	0.0	Ζ.ϑ	U. I	0.0	2.0
InGro Delay(d) s/veb	22.8	0.0	0.0	24.8	0.0	26.5	7.2	0.0	62	71	0.0	6.0
	22.0 C	0.0 A	0.0 A	24.0 C	0.0 A	20.0 C	A	0.0 A	0.2 A	A	0.0 A	0.0 A
Approach Vol. veh/h	0	36			256			602		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	663	
Approach Delay, s/yeh		22.8			25.6			6.2			6.0	
Approach LOS		C			C			A			A	
					Ŭ						~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	_
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		45.0		12.9		45.0		12.9				
Change Period (Y+Rc), s		* 5.5		5.6		* 5.5		5.6				
Max Green Setting (Gmax), s		* 40		50.4		* 40		50.4				
Max Q Clear Time (g_c+I1), s		12.6		6.2		12.9		6.1				
Green Ext Time (p_c), s		5.3		0.2		5.0		1.2				
Intersection Summary												
HCM 6th Ctrl Delay			9.5									
HCM 6th LOS			А									

Notes

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

Scenario 10 PM 2034 Build 12:34 pm 07/13/2022

2: Southside Di	r & St	eedly	/ Dr				07/13/
ntersection							
nt Delay, s/veh	4						
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
ane Configurations	W.		ţ,		3	4	
Traffic Vol. veh/h	53	144	572	29	88	666	
Future Vol. veh/h	53	144	572	29	88	666	
Conflicting Peds #/hr	0	0	0	0	0	0	
Sian Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	None	-	None	-	None	
Storage Length	0	-	-	-	75	-	
Veh in Median Storage	e.# 0	-	0	-	-	0	
Grade. %	0	-	0	-	-	0	
Peak Hour Factor	92	92	92	92	92	92	
Heavy Vehicles. %	5	5	2	2	4	2	
Nymt Flow	58	157	622	32	96	724	
Major/Minor	Minor1	١	Major1	I	Major2		
Conflicting Flow All	1554	638	0	0	654	0	
Stage 1	638	-	-	-	-	-	
Stage 2	916	-	-	-	-	-	
Critical Hdwy	6.45	6.25	-	-	4.14	-	
Critical Hdwy Stg 1	5.45	-	-	-	-	-	
Critical Hdwy Stg 2	5.45	-	-	-	-	-	
ollow-up Hdwy	3.545	3.345	-	-	2.236	-	
Pot Cap-1 Maneuver	123	471	-	-	923	-	
Stage 1	521	-	-	-	-	-	
Stage 2	385	-	-	-	-	-	
Platoon blocked, %			-	-		-	
Nov Cap-1 Maneuver	110	471	-	-	923	-	
Nov Cap-2 Maneuver	237	-	-	-	-	-	
Stage 1	521	-	-	-	-	-	
Stage 2	345	-	-	-	-	-	
Approach	WR		NB		SB		
HCM Control Delay	27		0		11		
Town Control Delay, S			0		1.1		
	D						
HCM LOS							
HCM LOS Minor Lane/Major Mvn	nt	NBT	NBR	VBLn1	SBL	SBT	
HCM LOS Minor Lane/Major Mvn Capacity (veh/h)	nt	NBT	NBR	VBLn1 372	SBL 923	SBT -	
HCM LOS Minor Lane/Major Mvn Capacity (veh/h) HCM Lane V/C Ratio	nt	NBT -	NBRV -	VBLn1 372 0.576	SBL 923 0.104	SBT -	
HCM LOS Minor Lane/Major Mvn Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay (s)	nt	NBT - -	NBRV - -	VBLn1 372 0.576 27	SBL 923 0.104 9.4	SBT - - 0	
HCM LOS Minor Lane/Major Mvn Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay (s) HCM Lane LOS	n <u>t </u>	<u>NBT</u> - - -	NBR\ - - -	VBLn1 372 0.576 27 D	SBL 923 0.104 9.4 A	SBT - - 0 A	

Scenario 10 PM 2034 Build 12:34 pm 07/13/2022

Intersection													
Int Delay, s/veh	2.7												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		\$			\$		۲.	4Î		7	4		
Traffic Vol, veh/h	3	0	32	44	0	58	33	645	33	44	679	9	
Future Vol, veh/h	3	0	32	44	0	58	33	645	33	44	679	9	
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	
Sian Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free	
RT Channelized			None	-		None	-	-	None	-	-	None	
Storage Length		-	-	-	-	-	75	-	-	75	-	-	
Veh in Median Storage	# _	1	-	-	1	_	10	0	-	10	Ο	_	
Grade %	, " -	0	-	-	0	-	-	0	-	-	0	-	
Dook Hour Fostor	02	0	- 00	- 00	0	- 02	- 00	02	- 00	- 00	0	-	
	92	92	92	92	92	92	92	92	92	92	92	92	
neavy venicles, %	10	2	10	2	2	2	10	2	2	2	2	2	
wivmt flow	3	0	35	48	0	63	36	701	36	48	738	10	
Major/Minor N	/linor2			Minor1			Major1		Ν	/lajor2			
Conflicting Flow All	1662	1648	743	1648	1635	719	748	0	0	737	0	0	
Stage 1	839	839	-	791	791	-	-	-	-	-	-	-	
Stage 2	823	809	-	857	844	-	-	-	-	-	-	-	
Critical Hdwy	7.2	6.52	6.3	7.12	6.52	6.22	4.2	-	-	4.12	-	-	
Critical Hdwy Stg 1	6.2	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	6.2	5.52	-	6.12	5.52	-	-	-	-	-	-	-	
Follow-up Hdwv	3.59	4.018	3.39	3.518	4.018	3.318	2.29	-	-	2.218	-	-	
Pot Cap-1 Maneuver	74	99	402	79	101	428	825	-	-	869	-	-	
Stage 1	349	381	-	383	401	-	-	-	-	-	-		
Stage 2	356	394	-	352	379	_	-	-	-	-		-	
Platoon blocked %	000	001		002	070								
Mov Can_1 Maneuver	58	80	402	67	Q1	128	825	-	-	860	-	-	
Mov Cap 2 Manouver	154	107	402	171	201	420	020	-	-	000	-	-	
Store 1	224	191	-	266	201	-	-	-	-	-	-	-	
Stage 1	200	300	-	200	203	-	-	-	-	-	-	-	
Stage 2	290	311	-	304	358	-	-	-	-	-	-	-	
Approach	EB			WB			NB			SB			
HCM Control Delay, s	16.4			28.8			0.4			0.6			
HCM LOS	С			D									
Minor Lane/Major Mvm	t	NBL	NBT	NBR	EBLn1V	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)		825	-	-	353	260	869	-	-				
HCM Lane V/C Ratio		0.043	-	-	0.108	0.426	0.055	-	-				
HCM Control Delay (s)		96	-	-	16.4	28.8	94	-	-				
		A	-	-	C	D	A	-	-				
HUMLANELUS						0	11						

Scenario 10 PM 2034 Build 12:34 pm 07/13/2022
15: Steedly Dr 8	Ent	rance)			
*						
ntersection						
nt Delay, s/veh	1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		4	1		V	
Traffic Vol veh/h	11	106	183	9	12	14
Future Vol. veh/h	11	106	183	9	12	14
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	115	199	10	13	15
Major/Minor N	/lajor1	Ν	Aajor2	1	Minor2	
Conflicting Flow All	209	0	-	0	343	204
Stage 1	-	-	-	-	204	-
Stage 2	-	-	-	-	139	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1362	-	-	-	653	837
Stage 1	-	-	-	-	830	-
Stage 2	-	-	-	-	888	-
Platoon blocked. %		-	-	-		
Mov Cap-1 Maneuver	1362	-	-	-	647	837
Mov Cap-2 Maneuver	-	-	-	-	647	-
Stage 1	-	-	-	-	823	-
Stage 2	-	-	-	-	888	-
Approach	EB		WB		SB	
	0.7		0		10.1	
HCM Control Delay s	5.1				B	
HCM Control Delay, s HCM LOS						
HCM Control Delay, s HCM LOS						
HCM Control Delay, s HCM LOS Minor Lane/Maior Mvm	t	EBL	EBT	WBT	WBR	SBLn1
HCM Control Delay, s HCM LOS Minor Lane/Major Mvm Capacity (veh/h)	t	EBL	EBT	WBT	WBR	SBLn1 737
HCM Control Delay, s HCM LOS Minor Lane/Major Mvm Capacity (veh/h) HCM Lane V/C Ratio	t	EBL 1362 0.009	EBT -	WBT -	WBR	SBLn1 737 0.038
HCM Control Delay, s HCM LOS Minor Lane/Major Mvm Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay (e)	t	EBL 1362 0.009 7.7	EBT - -	WBT - -	WBR	SBLn1 737 0.038 10.1
HCM Control Delay, s HCM LOS Minor Lane/Major Mvm Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay (s) HCM Lane LOS	t	EBL 1362 0.009 7.7 A	EBT - - 0 A	WBT - -	WBR : - - -	SBLn1 737 0.038 10.1 B
HCM Control Delay, s HCM LOS Minor Lane/Major Mvm Capacity (veh/h) HCM Lane V/C Ratio HCM Control Delay (s) HCM Lane LOS HCM 95th %tile Q(veh)	t	EBL 1362 0.009 7.7 A	EBT - - 0 A	WBT - - -	WBR :	SBLn1 737 0.038 10.1 B 0.1

Scenario 10 PM 2034 Build 12:34 pm 07/13/2022

Synchro 11 Report Page 3