

Appendix D

(Existing Conditions Analysis)

Appendix D1
(Existing Conditions – Synchro Printouts)

HCM 6th Signalized Intersection Capacity Analysis

1: US-17 & SR-200

03/17/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	799	33	240	718	294	30	91	281	321	101	31
Future Volume (veh/h)	74	799	33	240	718	294	30	91	281	321	101	31
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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			
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	80	868	36	261	780	320	33	99	0	349	110	0
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	195	1118	46	321	1322	410	60	1088		420	1400	
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
Prop Arrive On Green	0.06	0.22	0.22	0.09	0.26	0.26	0.03	0.31	0.00	0.12	0.39	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	33.3	29.4	32.6	45.9	23.3	32.3	40.8	17.5	0.0	43.3	13.4	0.0
Ln Grp LOS	C	C	C	D	C	C	D	B		D	B	
Approach Vol, veh/h	984				1361				132		459	
Approach Delay, s/veh	30.8				29.7				23.3		36.2	
Approach LOS	C				C				C		D	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	13.0	25.9	11.0	20.1	6.9	32.1	8.4	22.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	8.5	19.0	6.5	18.0	5.5	22.0	5.0	19.5				
Max Allow Headway (MAH), s	3.7	4.9	3.7	4.9	3.7	4.9	3.7	4.6				
Max Q Clear (g_c+I1), s	8.9	3.4	7.2	13.4	3.3	3.4	3.6	15.1				
Green Ext Time (g_e), s	0.0	0.4	0.0	2.2	0.0	0.5	0.0	2.3				
Prob of Phs Call (p_c)	1.00	1.00	0.99	1.00	0.47	1.00	0.79	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00			
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	3456	3456	1781	3456								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	5029	3554	5106								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	208	1585	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)				

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Lanes in Grp	2	0	2	0	1	0	2	0
Grp Vol (v), veh/h	349	0	261	0	33	0	80	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1781	0	1728	0
Q Serve Time (g_s), s	6.9	0.0	5.2	0.0	1.3	0.0	1.6	0.0
Cycle Q Clear Time (g_c), s	6.9	0.0	5.2	0.0	1.3	0.0	1.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	420	0	321	0	60	0	195	0
V/C Ratio (X)	0.83	0.00	0.81	0.00	0.55	0.00	0.41	0.00
Avail Cap (c_a), veh/h	420	0	321	0	140	0	247	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	30.1	0.0	31.2	0.0	33.3	0.0	31.9	0.0
Incr Delay (d2), s/veh	13.3	0.0	14.7	0.0	7.5	0.0	1.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	43.3	0.0	45.9	0.0	40.8	0.0	33.3	0.0
1st-Term Q (Q1), veh/ln	2.6	0.0	2.0	0.0	0.5	0.0	0.6	0.0
2nd-Term Q (Q2), veh/ln	0.8	0.0	0.7	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.4	0.0	2.6	0.0	0.6	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.17	0.00	0.15	0.00	0.06	0.00	0.04	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	2	0	3
Grp Vol (v), veh/h	0	99	0	587	0	110	0	780
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	1.4	0.0	11.3	0.0	1.4	0.0	9.4
Cycle Q Clear Time (g_c), s	0.0	1.4	0.0	11.3	0.0	1.4	0.0	9.4
Lane Grp Cap (c), veh/h	0	1088	0	757	0	1400	0	1322
V/C Ratio (X)	0.00	0.09	0.00	0.78	0.00	0.08	0.00	0.59
Avail Cap (c_a), veh/h	0	1088	0	875	0	1400	0	1422
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.3	0.0	25.6	0.0	13.3	0.0	22.7
Incr Delay (d2), s/veh	0.0	0.2	0.0	3.8	0.0	0.1	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.5	0.0	29.4	0.0	13.4	0.0	23.3
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	4.1	0.0	0.5	0.0	3.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.1

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	4.5	0.0	0.5	0.0	3.4
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.10	0.00	0.02	0.00	0.07
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	317	0	0	0	320
Grp Sat Flow (s), veh/h/ln	0	1585	0	1833	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	11.4	0.0	0.0	0.0	13.1
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	11.4	0.0	0.0	0.0	13.1
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.11	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	485	0	408	0	624	0	410
V/C Ratio (X)	0.00	0.00	0.00	0.78	0.00	0.00	0.00	0.78
Avail Cap (c_a), veh/h	0	485	0	471	0	624	0	442
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	25.6	0.0	0.0	0.0	24.1
Incr Delay (d2), s/veh	0.0	0.0	0.0	7.0	0.0	0.0	0.0	8.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	32.6	0.0	0.0	0.0	32.3
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.4	0.0	0.0	0.0	4.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.9
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	5.2	0.0	0.0	0.0	5.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.72
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	30.8
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis

3: SR-200 & Felmor Rd

03/17/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (veh/h)	17	1618	125	199	1488	78	60	26	201	166	52	81
Future Volume (veh/h)	17	1618	125	199	1488	78	60	26	201	166	52	81
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	1759	136	216	1617	85	65	28	218	180	57	88
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	99	1901	590	267	2383	740	365	414	350	418	147	226
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
Prop Arrive On Green	0.06	0.37	0.37	0.15	0.47	0.47	0.06	0.22	0.22	0.06	0.22	0.22
Unsig. Movement Delay												
Ln Grp Delay, s/veh	44.5	36.3	20.3	59.5	20.3	13.8	25.7	28.0	39.7	29.8	0.0	32.9
Ln Grp LOS	D	D	C	E	C	B	C	C	D	C	A	C
Approach Vol, veh/h	1913			1918			311			325		
Approach Delay, s/veh	35.2			24.4			35.7			31.2		
Approach LOS	D			C			D			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	2.0	3.0	1.1	4.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	9.6	24.4	18.0	38.0	9.6	24.4	9.5	46.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.1	19.9	13.5	33.5	5.1	19.9	5.0	42.0				
Max Allow Headway (MAH), s	3.8	4.2	3.8	5.2	3.8	5.4	3.8	5.2				
Max Q Clear (g_c+I1), s	7.1	13.2	12.6	31.7	4.5	8.6	2.9	24.2				
Green Ext Time (g_e), s	0.0	0.5	0.1	1.6	0.0	0.5	0.0	11.4				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	1870	5106	663	5106								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	1023	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Prot)	L (Pr/Pm)	L (Prot)								

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3: SR-200 & Felmor Rd

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	180	0	216	0	65	0	18	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	5.1	0.0	10.6	0.0	2.5	0.0	0.9	0.0
Cycle Q Clear Time (g_c), s	5.1	0.0	10.6	0.0	2.5	0.0	0.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1134	0	0	0	1243	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	19.9	0.0	0.0	0.0	19.9	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	18.8	0.0	0.0	0.0	13.3	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	3.9	0.0	0.0	0.0	0.4	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	418	0	267	0	365	0	99	0
V/C Ratio (X)	0.43	0.00	0.81	0.00	0.18	0.00	0.18	0.00
Avail Cap (c_a), veh/h	418	0	267	0	365	0	99	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	26.6	0.0	37.0	0.0	24.6	0.0	40.5	0.0
Incr Delay (d2), s/veh	3.2	0.0	22.5	0.0	1.1	0.0	4.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	29.8	0.0	59.5	0.0	25.7	0.0	44.5	0.0
1st-Term Q (Q1), veh/ln	3.1	0.0	4.5	0.0	1.0	0.0	0.4	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	1.7	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.5	0.0	6.2	0.0	1.1	0.0	0.5	0.0
%ile Storage Ratio (RQ%)	0.11	0.00	0.16	0.00	0.06	0.00	0.01	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T				T	
Lanes in Grp	0	1	0	3	0	0	0	3
Grp Vol (v), veh/h	0	28	0	1759	0	0	0	1617
Grp Sat Flow (s), veh/h/ln	0	1870	0	1702	0	0	0	1702
Q Serve Time (g_s), s	0.0	1.1	0.0	29.7	0.0	0.0	0.0	22.2
Cycle Q Clear Time (g_c), s	0.0	1.1	0.0	29.7	0.0	0.0	0.0	22.2
Lane Grp Cap (c), veh/h	0	414	0	1901	0	0	0	2383
V/C Ratio (X)	0.00	0.07	0.00	0.93	0.00	0.00	0.00	0.68
Avail Cap (c_a), veh/h	0	414	0	1901	0	0	0	2383
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.7	0.0	27.1	0.0	0.0	0.0	18.7
Incr Delay (d2), s/veh	0.0	0.3	0.0	9.2	0.0	0.0	0.0	1.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.0	0.0	36.3	0.0	0.0	0.0	20.3
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	11.4	0.0	0.0	0.0	8.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.3

HCM 6th Signalized Intersection Capacity Analysis

3: SR-200 & Felmor Rd

03/17/2022

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	13.1	0.0	0.0	0.0	8.6
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.36	0.00	0.00	0.00	0.22
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	218	0	136	0	145	0	85
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1686	0	1585
Q Serve Time (g_s), s	0.0	11.2	0.0	5.3	0.0	6.6	0.0	2.7
Cycle Q Clear Time (g_c), s	0.0	11.2	0.0	5.3	0.0	6.6	0.0	2.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.61	0.00	1.00
Lane Grp Cap (c), veh/h	0	350	0	590	0	373	0	740
V/C Ratio (X)	0.00	0.62	0.00	0.23	0.00	0.39	0.00	0.11
Avail Cap (c_a), veh/h	0	350	0	590	0	373	0	740
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	31.7	0.0	19.4	0.0	29.9	0.0	13.5
Incr Delay (d2), s/veh	0.0	8.1	0.0	0.9	0.0	3.0	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	39.7	0.0	20.3	0.0	32.9	0.0	13.8
1st-Term Q (Q1), veh/ln	0.0	4.2	0.0	1.9	0.0	2.6	0.0	0.9
2nd-Term Q (Q2), veh/ln	0.0	0.8	0.0	0.1	0.0	0.3	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.0	0.0	2.1	0.0	2.9	0.0	1.0
%ile Storage Ratio (RQ%)	0.00	0.25	0.00	0.06	0.00	0.09	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	30.3
HCM 6th LOS	C

HCM 6th Signalized Intersection Capacity Analysis

5: SR-200 & Chester Rd

03/17/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	98	1075	233	77	739	22	379	62	112	131	75	105
Future Volume (veh/h)	98	1075	233	77	739	22	379	62	112	131	75	105
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	107	1168	253	84	803	24	412	67	122	142	82	114
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	216	1331	413	199	1305	405	469	1272	567	231	1027	458
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
Prop Arrive On Green	0.06	0.26	0.26	0.06	0.26	0.26	0.14	0.36	0.36	0.07	0.29	0.29
Unsig. Movement Delay												
Ln Grp Delay, s/veh	33.5	31.6	25.3	33.3	23.9	19.8	46.8	14.8	16.5	34.4	18.3	20.4
Ln Grp LOS	C	C	C	C	C	B	D	B	B	C	B	C
Approach Vol, veh/h	1528			911			601			338		
Approach Delay, s/veh	30.7			24.6			37.1			25.8		
Approach LOS	C			C			D			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	9.2	29.5	8.5	22.7	14.0	24.7	8.9	22.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	6.8	21.7	5.0	18.5	9.5	19.0	5.5	18.0				
Max Allow Headway (MAH), s	3.8	4.5	3.8	5.0	3.8	4.5	3.8	5.2				
Max Q Clear (g_c+I1), s	4.8	5.7	3.6	17.4	10.2	5.9	4.1	11.7				
Green Ext Time (g_e), s	0.1	0.6	0.0	0.9	0.0	0.6	0.0	2.8				
Prob of Phs Call (p_c)	0.94	1.00	0.80	1.00	1.00	1.00	0.88	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	0.84			
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	3456	3456	3456	3456								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	5106	3554	5106								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	1585	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

5: SR-200 & Chester Rd

03/17/2022

Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	142	0	84	0	412	0	107	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	2.8	0.0	1.6	0.0	8.2	0.0	2.1	0.0
Cycle Q Clear Time (g_c), s	2.8	0.0	1.6	0.0	8.2	0.0	2.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	231	0	199	0	469	0	216	0
V/C Ratio (X)	0.61	0.00	0.42	0.00	0.88	0.00	0.50	0.00
Avail Cap (c_a), veh/h	336	0	247	0	469	0	272	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	31.8	0.0	31.9	0.0	29.7	0.0	31.7	0.0
Incr Delay (d2), s/veh	2.6	0.0	1.4	0.0	17.1	0.0	1.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	34.4	0.0	33.3	0.0	46.8	0.0	33.5	0.0
1st-Term Q (Q1), veh/ln	1.1	0.0	0.7	0.0	3.3	0.0	0.8	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	1.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.2	0.0	0.7	0.0	4.4	0.0	0.9	0.0
%ile Storage Ratio (RQ%)	0.09	0.00	0.03	0.00	0.18	0.00	0.04	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	3	0	2	0	3
Grp Vol (v), veh/h	0	67	0	1168	0	82	0	803
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	0.9	0.0	15.4	0.0	1.2	0.0	9.7
Cycle Q Clear Time (g_c), s	0.0	0.9	0.0	15.4	0.0	1.2	0.0	9.7
Lane Grp Cap (c), veh/h	0	1272	0	1331	0	1027	0	1305
V/C Ratio (X)	0.00	0.05	0.00	0.88	0.00	0.08	0.00	0.62
Avail Cap (c_a), veh/h	0	1272	0	1349	0	1027	0	1313
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.7	0.0	24.8	0.0	18.1	0.0	23.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	6.8	0.0	0.2	0.0	0.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.8	0.0	31.6	0.0	18.3	0.0	23.9
1st-Term Q (Q1), veh/ln	0.0	0.3	0.0	5.8	0.0	0.5	0.0	3.7
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

5: SR-200 & Chester Rd

03/17/2022

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.3	0.0	6.6	0.0	0.5	0.0	3.8
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.13	0.00	0.02	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	122	0	253	0	114	0	24
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	3.7	0.0	9.8	0.0	3.9	0.0	0.8
Cycle Q Clear Time (g_c), s	0.0	3.7	0.0	9.8	0.0	3.9	0.0	0.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	567	0	413	0	458	0	405
V/C Ratio (X)	0.00	0.22	0.00	0.61	0.00	0.25	0.00	0.06
Avail Cap (c_a), veh/h	0	567	0	419	0	458	0	408
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.6	0.0	22.8	0.0	19.1	0.0	19.7
Incr Delay (d2), s/veh	0.0	0.9	0.0	2.6	0.0	1.3	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.5	0.0	25.3	0.0	20.4	0.0	19.8
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	3.5	0.0	1.3	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.3	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.4	0.0	3.7	0.0	1.5	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.16	0.00	0.11	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	29.7
HCM 6th LOS	C

HCM 6th Signalized Intersection Capacity Analysis

6: Chester Rd & Pages Dairy Rd

03/17/2022

									
Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations									
Traffic Volume (veh/h)	38	222	46	108	322	69			
Future Volume (veh/h)	38	222	46	108	322	69			
Number	7	14	5	2	6	16			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00	1.00	1.00			1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No	No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	41	241	50	117	350	75			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes		Yes						
Cap, veh/h	338	301	664	2298	1835	819			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.19	0.19	0.05	0.65	0.52	0.52			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	18.6	26.3	4.8	3.6	7.4	7.0			
Ln Grp LOS	B	C	A	A	A	A			
Approach Vol, veh/h	282			167	425				
Approach Delay, s/veh	25.2			3.9	7.3				
Approach LOS	C			A	A				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4	5	6		
Case No			4.0		9.0	1.2	7.0		
Phs Duration (G+Y+Rc), s			40.1		14.9	7.2	32.9		
Change Period (Y+Rc), s			4.5		4.5	4.5	4.5		
Max Green (Gmax), s			28.0		18.0	5.0	18.5		
Max Allow Headway (MAH), s			5.2		4.0	3.8	5.0		
Max Q Clear (g_c+I1), s			2.7		10.0	2.6	4.9		
Green Ext Time (g_e), s			0.7		0.6	0.0	2.1		
Prob of Phs Call (p_c)			1.00		0.99	0.53	1.00		
Prob of Max Out (p_x)			0.00		0.09	1.00	0.00		
Left-Turn Movement Data									
Assigned Mvmt					7	5	1		
Mvmt Sat Flow, veh/h					1781	1781	0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			3647		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		1585		
Left Lane Group Data									
Assigned Mvmt		0	0	0	7	5	1	0	0
Lane Assignment		LL (Pr/Pm)							

HCM 6th Signalized Intersection Capacity Analysis

6: Chester Rd & Pages Dairy Rd

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Lanes in Grp	0	0	0	1	1	0	0	0
Grp Vol (v), veh/h	0	0	0	41	50	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1781	1781	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	1.1	0.6	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	1.1	0.6	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	962	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	30.4	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	25.5	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	28.4	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	338	664	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.12	0.08	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	583	739	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	18.5	4.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	18.6	4.8	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.4	0.2	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.4	0.2	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment	T				T			
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	117	0	0	0	350	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	0.7	0.0	0.0	0.0	2.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.7	0.0	0.0	0.0	2.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	2298	0	0	0	1835	0	0
V/C Ratio (X)	0.00	0.05	0.00	0.00	0.00	0.19	0.00	0.00
Avail Cap (c_a), veh/h	0	2298	0	0	0	1835	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.5	0.0	0.0	0.0	7.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	3.6	0.0	0.0	0.0	7.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.0	0.0	0.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

6: Chester Rd & Pages Dairy Rd

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.0	0.0	0.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment			R		R			
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	241	0	75	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	8.0	0.0	1.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	8.0	0.0	1.3	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	301	0	819	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.80	0.00	0.09	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	519	0	819	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	21.3	0.0	6.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	5.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	26.3	0.0	7.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	6.7	0.0	0.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.4	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	7.1	0.0	0.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.13	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B

HCM 6th Signalized Intersection Capacity Analysis

8: SR 200 & Blackrock Rd

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (veh/h)	48	1454	19	15	872	46	6	2	6	178	3	42
Future Volume (veh/h)	48	1454	19	15	872	46	6	2	6	178	3	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	1580	21	16	948	50	7	2	7	193	3	46
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
Opposing Right Turn Influence	No			No			No			No		
Cap, veh/h	160	1714	532	127	1619	503	557	146	510	474	26	397
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
Prop Arrive On Green	0.09	0.34	0.34	0.07	0.32	0.32	0.07	0.40	0.40	0.26	0.26	0.26
Unsig. Movement Delay												
Ln Grp Delay, s/veh	35.2	32.1	15.8	32.5	21.6	17.2	14.3	0.0	12.7	24.5	0.0	20.1
Ln Grp LOS	D	C	B	C	C	B	B	A	B	C	A	C
Approach Vol, veh/h	1653			1014			16			242		
Approach Delay, s/veh	32.0			21.6			13.4			23.6		
Approach LOS	C			C			B			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	5	6	7	8				
Case No	4.0		2.0	3.0	1.2	6.3	2.0	3.0				
Phs Duration (G+Y+Rc), s	32.5		9.5	28.0	9.5	23.0	10.8	26.7				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	28.0		5.0	23.5	5.0	18.5	6.3	22.2				
Max Allow Headway (MAH), s	5.5		3.8	5.2	3.8	4.1	3.8	5.2				
Max Q Clear (g_c+I1), s	2.2		2.6	22.8	2.2	10.2	3.9	12.9				
Green Ext Time (g_e), s	0.0		0.0	0.6	0.0	0.5	0.0	4.5				
Prob of Phs Call (p_c)	1.00		1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00		0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt			3		5	1	7					
Mvmt Sat Flow, veh/h			1781		1781	1406	1781					
Through Movement Data												
Assigned Mvmt	2			4		6		8				
Mvmt Sat Flow, veh/h	365			5106		98		5106				
Right-Turn Movement Data												
Assigned Mvmt	12			14		16		18				
Mvmt Sat Flow, veh/h	1276			1585		1502		1585				
Left Lane Group Data												
Assigned Mvmt	0	0	3	0	5	1	7	0				
Lane Assignment	L (Prot)			L (Pr/Pm)			L L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis

8: SR 200 & Blackrock Rd

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Lanes in Grp	0	0	1	0	1	1	1	0
Grp Vol (v), veh/h	0	0	16	0	7	193	52	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	1781	1406	1781	0
Q Serve Time (g_s), s	0.0	0.0	0.6	0.0	0.2	8.2	1.9	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.6	0.0	0.2	8.2	1.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	1356	1406	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	20.5	18.5	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	16.9	18.5	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	8.2	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	0	127	0	557	474	160	0
V/C Ratio (X)	0.00	0.00	0.13	0.00	0.01	0.41	0.32	0.00
Avail Cap (c_a), veh/h	0	0	127	0	557	474	160	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	30.5	0.0	14.3	22.0	29.9	0.0
Incr Delay (d2), s/veh	0.0	0.0	2.0	0.0	0.0	2.6	5.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	32.5	0.0	14.3	24.5	35.2	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.2	0.0	0.1	2.6	0.8	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.3	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.3	0.0	0.1	2.9	1.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.02	0.00	0.00	0.16	0.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	3	0	0	0	3
Grp Vol (v), veh/h	0	0	0	1580	0	0	0	948
Grp Sat Flow (s), veh/h/ln	0	0	0	1702	0	0	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	20.8	0.0	0.0	0.0	10.9
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	20.8	0.0	0.0	0.0	10.9
Lane Grp Cap (c), veh/h	0	0	0	1714	0	0	0	1619
V/C Ratio (X)	0.00	0.00	0.00	0.92	0.00	0.00	0.00	0.59
Avail Cap (c_a), veh/h	0	0	0	1714	0	0	0	1619
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	22.4	0.0	0.0	0.0	20.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	9.7	0.0	0.0	0.0	1.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	32.1	0.0	0.0	0.0	21.6
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	7.6	0.0	0.0	0.0	4.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.2

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	9.2	0.0	0.0	0.0	4.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.21	0.00	0.00	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	9	0	21	0	49	0	50
Grp Sat Flow (s), veh/h/ln	0	1641	0	1585	0	1600	0	1585
Q Serve Time (g_s), s	0.0	0.2	0.0	0.6	0.0	1.6	0.0	1.6
Cycle Q Clear Time (g_c), s	0.0	0.2	0.0	0.6	0.0	1.6	0.0	1.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.78	0.00	1.00	0.00	0.94	0.00	1.00
Lane Grp Cap (c), veh/h	0	656	0	532	0	423	0	503
V/C Ratio (X)	0.00	0.01	0.00	0.04	0.00	0.12	0.00	0.10
Avail Cap (c_a), veh/h	0	656	0	532	0	423	0	503
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.7	0.0	15.7	0.0	19.5	0.0	16.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.6	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
Control Delay (d), s/veh	0.0	12.7	0.0	15.8	0.0	20.1	0.0	17.2
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.2	0.0	0.6	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.2	0.0	0.6	0.0	0.6
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.04	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	27.6
HCM 6th LOS	C

Lanes, Volumes, Timings
4: Felmor Rd & Pages Dairy Rd

03/17/2022

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	209	121	92	175	16	19
Future Volume (vph)	209	121	92	175	16	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.950				0.925	
Flt Protected				0.983	0.978	
Satd. Flow (prot)	1770	0	0	1831	1685	0
Flt Permitted				0.983	0.978	
Satd. Flow (perm)	1770	0	0	1831	1685	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	555			651	534	
Travel Time (s)	12.6			14.8	12.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	227	132	100	190	17	21
Shared Lane Traffic (%)						
Lane Group Flow (vph)	359	0	0	290	38	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	46.0%			ICU Level of Service A		
Analysis Period (min)	15					

Lanes, Volumes, Timings
2: US-17 & Pages Dairy Rd

03/17/2022

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	134	375	28	7	358	87	4	16	11	40	50	63
Future Volume (vph)	134	375	28	7	358	87	4	16	11	40	50	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	95		0	185		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.971			0.951			0.944	
Flt Protected	0.950			0.950				0.994			0.987	
Satd. Flow (prot)	1770	3504	0	1770	3437	0	0	1761	0	0	1736	0
Flt Permitted	0.950			0.950				0.994			0.987	
Satd. Flow (perm)	1770	3504	0	1770	3437	0	0	1761	0	0	1736	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1062			523			462			718	
Travel Time (s)		24.1			11.9			10.5			16.3	
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
Adj. Flow (vph)	146	408	30	8	389	95	4	17	12	43	54	68
Shared Lane Traffic (%)												
Lane Group Flow (vph)	146	438	0	8	484	0	0	33	0	0	165	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	45.5%				ICU Level of Service A							
Analysis Period (min)	15											

HCS7 Roundabouts Report

General Information

Site Information

Analyst	Thomas Hatcher, P.E.		Intersection	
Agency or Co.	ETM, Inc.		E/W Street Name	Wildlight Pkwy
Date Performed	3/18/22		N/S Street Name	Chester Rd
Analysis Year	2027		Analysis Time Period (hrs)	0.25
Time Analyzed			Peak Hour Factor	0.92
Project Description	DSAP 2		Jurisdiction	Nassau County, Florida

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0
Lane Assignment	LTR				LTR				L				LTR			
Volume (V), veh/h	0	0	0	0	0	115	0	1	0	0	105	43	0	7	240	0
Percent Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (V_{PCE}), pc/h	0	0	0	0	0	129	0	1	0	0	118	48	0	8	269	0
Right-Turn Bypass	Non-Yielding				None				None				None			
Conflicting Lanes	1				2				1				2			
Pedestrians Crossing, p/h	0				0				0				0			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)		4.9763			4.3276		4.5436	4.5436			4.3276	
Follow-Up Headway (s)		2.6087			2.5352		2.5352	2.5352			2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h		0	0		130		0	166			277	
Entry Volume, veh/h		0	0		126		0	161			269	
Circulating Flow (v_c), pc/h	406			118			8			129		
Exiting Flow (v_{ex}), pc/h	56			0			119			398		
Capacity (C_{PCE}), pc/h		912			1284		1410	1410			1273	
Capacity (c), veh/h		886			1247		1369	1369			1235	
v/c Ratio (x)		0.00			0.10		0.00	0.12			0.22	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		4.1			3.7		2.6	3.6			4.8	
Lane LOS		A	A		A		A	A			A	
95% Queue, veh		0.0			0.3		0.0	0.4			0.8	
Approach Delay, s/veh				3.7			3.6			4.8		
Approach LOS				A			A			A		
Intersection Delay, s/veh LOS	4.2						A					

HCM 6th Signalized Intersection Capacity Analysis

1: US-17 & SR-200

03/17/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	111	904	37	383	995	429	71	136	347	361	142	33
Future Volume (veh/h)	111	904	37	383	995	429	71	136	347	361	142	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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			
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	121	983	40	416	1082	466	77	148	0	392	154	0
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	230	1208	49	484	1600	497	209	896		442	933	
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
Prop Arrive On Green	0.07	0.24	0.24	0.14	0.31	0.31	0.12	0.25	0.00	0.13	0.26	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	42.2	35.6	42.1	49.3	24.7	52.7	35.5	22.3	0.0	54.3	21.7	0.0
Ln Grp LOS	D	D	D	D	C	D	D	C		D	C	
Approach Vol, veh/h	1144				1964				225			
Approach Delay, s/veh	38.4				36.6				26.8			
Approach LOS	D				D				C			
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	14.1	23.4	15.0	22.5	13.3	24.2	9.5	28.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	9.6	18.9	10.5	18.0	8.8	19.7	5.0	23.5				
Max Allow Headway (MAH), s	3.7	4.9	3.7	4.9	3.7	4.9	3.7	4.6				
Max Q Clear (g_c+I1), s	10.4	4.4	10.8	15.9	5.0	4.5	4.5	23.4				
Green Ext Time (g_e), s	0.0	0.6	0.0	1.3	0.0	0.6	0.0	0.0				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	3456	3456	1781	3456								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	5033	3554	5106								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	205	1585	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

1: US-17 & SR-200

03/17/2022

Lanes in Grp	2	0	2	0	1	0	2	0
Grp Vol (v), veh/h	392	0	416	0	77	0	121	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1781	0	1728	0
Q Serve Time (g_s), s	8.4	0.0	8.8	0.0	3.0	0.0	2.5	0.0
Cycle Q Clear Time (g_c), s	8.4	0.0	8.8	0.0	3.0	0.0	2.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	442	0	484	0	209	0	230	0
V/C Ratio (X)	0.89	0.00	0.86	0.00	0.37	0.00	0.53	0.00
Avail Cap (c_a), veh/h	442	0	484	0	209	0	230	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	32.2	0.0	31.5	0.0	30.5	0.0	33.9	0.0
Incr Delay (d2), s/veh	22.1	0.0	17.8	0.0	4.9	0.0	8.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	54.3	0.0	49.3	0.0	35.5	0.0	42.2	0.0
1st-Term Q (Q1), veh/ln	3.2	0.0	3.4	0.0	1.2	0.0	1.0	0.0
2nd-Term Q (Q2), veh/ln	1.4	0.0	1.2	0.0	0.3	0.0	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.6	0.0	4.6	0.0	1.5	0.0	1.3	0.0
%ile Storage Ratio (RQ%)	0.23	0.00	0.26	0.00	0.14	0.00	0.07	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	2	0	3
Grp Vol (v), veh/h	0	148	0	664	0	154	0	1082
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	2.4	0.0	13.8	0.0	2.5	0.0	13.8
Cycle Q Clear Time (g_c), s	0.0	2.4	0.0	13.8	0.0	2.5	0.0	13.8
Lane Grp Cap (c), veh/h	0	896	0	817	0	933	0	1600
V/C Ratio (X)	0.00	0.17	0.00	0.81	0.00	0.16	0.00	0.68
Avail Cap (c_a), veh/h	0	896	0	817	0	933	0	1600
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	21.9	0.0	26.9	0.0	21.3	0.0	22.4
Incr Delay (d2), s/veh	0.0	0.4	0.0	8.7	0.0	0.4	0.0	2.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.3	0.0	35.6	0.0	21.7	0.0	24.7
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	5.1	0.0	0.9	0.0	4.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.3

HCM 6th Signalized Intersection Capacity Analysis

1: US-17 & SR-200

03/17/2022

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.0	0.0	6.1	0.0	1.0	0.0	5.3
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.13	0.00	0.05	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	359	0	0	0	466
Grp Sat Flow (s), veh/h/ln	0	1585	0	1834	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	13.9	0.0	0.0	0.0	21.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	13.9	0.0	0.0	0.0	21.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.11	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	399	0	440	0	416	0	497
V/C Ratio (X)	0.00	0.00	0.00	0.81	0.00	0.00	0.00	0.94
Avail Cap (c_a), veh/h	0	399	0	440	0	416	0	497
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	26.9	0.0	0.0	0.0	25.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	15.2	0.0	0.0	0.0	27.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	42.1	0.0	0.0	0.0	52.7
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	5.5	0.0	0.0	0.0	7.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	1.9	0.0	0.0	0.0	3.8
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	7.3	0.0	0.0	0.0	10.9
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.16	0.00	0.00	0.00	1.50
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	37.7
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis

3: SR-200 & Felmor Rd

03/17/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (veh/h)	8	1826	98	357	2059	44	103	24	203	39	25	41
Future Volume (veh/h)	8	1826	98	357	2059	44	103	24	203	39	25	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	1985	107	388	2238	48	112	26	221	42	27	45
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	89	1864	579	369	2665	827	376	370	314	373	125	208
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
Prop Arrive On Green	0.05	0.37	0.37	0.21	0.52	0.52	0.05	0.20	0.20	0.05	0.20	0.20
Unsig. Movement Delay												
Ln Grp Delay, s/veh	47.6	72.4	22.3	100.9	23.7	11.9	32.3	33.0	49.9	29.6	0.0	35.1
Ln Grp LOS	D	F	C	F	C	B	C	C	D	C	A	D
Approach Vol, veh/h	2101			2674			359			114		
Approach Delay, s/veh	69.8			34.7			43.1			33.1		
Approach LOS	E			C			D			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	2.0	3.0	1.1	4.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	9.5	24.3	25.2	41.0	9.5	24.3	9.5	56.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	19.8	20.7	36.5	5.0	19.8	5.0	52.2				
Max Allow Headway (MAH), s	3.8	4.2	3.8	5.2	3.8	5.5	3.8	5.2				
Max Q Clear (g_c+I1), s	3.8	15.0	22.7	38.5	7.0	5.6	2.5	39.3				
Green Ext Time (g_e), s	0.0	0.4	0.0	0.0	0.0	0.2	0.0	11.1				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	1870	5106	630	5106								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	1051	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Prot)	L (Pr/Pm)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

3: SR-200 & Felmor Rd

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	42	0	388	0	112	0	9	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.8	0.0	20.7	0.0	5.0	0.0	0.5	0.0
Cycle Q Clear Time (g_c), s	1.8	0.0	20.7	0.0	5.0	0.0	0.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1133	0	0	0	1328	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	19.8	0.0	0.0	0.0	19.8	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	18.7	0.0	0.0	0.0	16.2	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	373	0	369	0	376	0	89	0
V/C Ratio (X)	0.11	0.00	1.05	0.00	0.30	0.00	0.10	0.00
Avail Cap (c_a), veh/h	373	0	369	0	376	0	89	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	29.0	0.0	39.7	0.0	30.3	0.0	45.4	0.0
Incr Delay (d2), s/veh	0.6	0.0	61.3	0.0	2.0	0.0	2.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	29.6	0.0	100.9	0.0	32.3	0.0	47.6	0.0
1st-Term Q (Q1), veh/ln	0.8	0.0	8.9	0.0	2.1	0.0	0.2	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	6.3	0.0	0.2	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.8	0.0	15.2	0.0	2.4	0.0	0.3	0.0
%ile Storage Ratio (RQ%)	0.03	0.00	0.38	0.00	0.12	0.00	0.01	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	4.8	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T				T	
Lanes in Grp	0	1	0	3	0	0	0	3
Grp Vol (v), veh/h	0	26	0	1985	0	0	0	2238
Grp Sat Flow (s), veh/h/ln	0	1870	0	1702	0	0	0	1702
Q Serve Time (g_s), s	0.0	1.1	0.0	36.5	0.0	0.0	0.0	37.3
Cycle Q Clear Time (g_c), s	0.0	1.1	0.0	36.5	0.0	0.0	0.0	37.3
Lane Grp Cap (c), veh/h	0	370	0	1864	0	0	0	2665
V/C Ratio (X)	0.00	0.07	0.00	1.07	0.00	0.00	0.00	0.84
Avail Cap (c_a), veh/h	0	370	0	1864	0	0	0	2665
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	32.6	0.0	31.7	0.0	0.0	0.0	20.3
Incr Delay (d2), s/veh	0.0	0.4	0.0	40.7	0.0	0.0	0.0	3.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	33.0	0.0	72.4	0.0	0.0	0.0	23.7
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	14.4	0.0	0.0	0.0	13.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	7.0	0.0	0.0	0.0	0.8

HCM 6th Signalized Intersection Capacity Analysis

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	21.4	0.0	0.0	0.0	14.7
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.59	0.00	0.00	0.00	0.37
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	30.3	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	221	0	107	0	72	0	48
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1681	0	1585
Q Serve Time (g_s), s	0.0	13.0	0.0	4.6	0.0	3.6	0.0	1.5
Cycle Q Clear Time (g_c), s	0.0	13.0	0.0	4.6	0.0	3.6	0.0	1.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.63	0.00	1.00
Lane Grp Cap (c), veh/h	0	314	0	579	0	333	0	827
V/C Ratio (X)	0.00	0.70	0.00	0.18	0.00	0.22	0.00	0.06
Avail Cap (c_a), veh/h	0	314	0	579	0	333	0	827
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	37.4	0.0	21.6	0.0	33.6	0.0	11.8
Incr Delay (d2), s/veh	0.0	12.5	0.0	0.7	0.0	1.5	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	49.9	0.0	22.3	0.0	35.1	0.0	11.9
1st-Term Q (Q1), veh/ln	0.0	5.0	0.0	1.7	0.0	1.5	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.0	1.1	0.0	0.1	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	6.1	0.0	1.8	0.0	1.6	0.0	0.5
%ile Storage Ratio (RQ%)	0.00	0.31	0.00	0.05	0.00	0.05	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	49.3
HCM 6th LOS	D

HCM 6th Signalized Intersection Capacity Analysis

5: SR-200 & Chester Rd

03/17/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	249	982	377	166	1363	61	339	181	96	132	167	132
Future Volume (veh/h)	249	982	377	166	1363	61	339	181	96	132	167	132
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	271	1067	410	180	1482	66	368	197	104	143	182	143
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	324	1706	530	263	1615	501	415	1071	478	220	870	388
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
Prop Arrive On Green	0.09	0.33	0.33	0.08	0.32	0.32	0.12	0.30	0.30	0.06	0.24	0.24
Unsig. Movement Delay												
Ln Grp Delay, s/veh	52.8	23.1	31.0	39.2	35.0	19.6	54.8	21.1	21.9	39.8	24.6	27.8
Ln Grp LOS	D	C	C	D	C	B	D	C	C	D	C	C
Approach Vol, veh/h	1748			1728			669			468		
Approach Delay, s/veh	29.6			34.8			39.8			30.2		
Approach LOS	C			C			D			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	9.6	28.6	10.6	31.2	14.1	24.1	12.0	29.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	7.2	21.8	8.6	24.4	9.6	19.4	7.5	25.5				
Max Allow Headway (MAH), s	3.8	4.8	3.8	4.9	3.8	4.7	3.8	5.2				
Max Q Clear (g_c+I1), s	5.2	5.9	6.1	20.6	10.4	8.0	8.2	24.4				
Green Ext Time (g_e), s	0.1	1.4	0.1	2.7	0.0	1.2	0.0	0.9				
Prob of Phs Call (p_c)	0.96	1.00	0.98	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	3456	3456	3456	3456								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	5106	3554	5106								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	1585	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

5: SR-200 & Chester Rd

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	143	0	180	0	368	0	271	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	3.2	0.0	4.1	0.0	8.4	0.0	6.2	0.0
Cycle Q Clear Time (g_c), s	3.2	0.0	4.1	0.0	8.4	0.0	6.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	220	0	263	0	415	0	324	0
V/C Ratio (X)	0.65	0.00	0.69	0.00	0.89	0.00	0.84	0.00
Avail Cap (c_a), veh/h	311	0	371	0	415	0	324	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	36.6	0.0	36.0	0.0	34.7	0.0	35.6	0.0
Incr Delay (d2), s/veh	3.2	0.0	3.2	0.0	20.2	0.0	17.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	39.8	0.0	39.2	0.0	54.8	0.0	52.8	0.0
1st-Term Q (Q1), veh/ln	1.3	0.0	1.7	0.0	3.4	0.0	2.5	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	1.2	0.0	0.8	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.4	0.0	1.8	0.0	4.6	0.0	3.3	0.0
%ile Storage Ratio (RQ%)	0.10	0.00	0.08	0.00	0.19	0.00	0.14	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	3	0	2	0	3
Grp Vol (v), veh/h	0	197	0	1067	0	182	0	1482
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	3.3	0.0	14.1	0.0	3.3	0.0	22.4
Cycle Q Clear Time (g_c), s	0.0	3.3	0.0	14.1	0.0	3.3	0.0	22.4
Lane Grp Cap (c), veh/h	0	1071	0	1706	0	870	0	1615
V/C Ratio (X)	0.00	0.18	0.00	0.63	0.00	0.21	0.00	0.92
Avail Cap (c_a), veh/h	0	1071	0	1706	0	870	0	1628
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.7	0.0	22.4	0.0	24.0	0.0	26.3
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.7	0.0	0.5	0.0	8.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.1	0.0	23.1	0.0	24.6	0.0	35.0
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	5.4	0.0	1.3	0.0	8.6
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	1.3

HCM 6th Signalized Intersection Capacity Analysis

5: SR-200 & Chester Rd

03/17/2022

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.4	0.0	5.5	0.0	1.4	0.0	9.9
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.10	0.00	0.04	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	104	0	410	0	143	0	66
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	3.9	0.0	18.6	0.0	6.0	0.0	2.4
Cycle Q Clear Time (g_c), s	0.0	3.9	0.0	18.6	0.0	6.0	0.0	2.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	478	0	530	0	388	0	501
V/C Ratio (X)	0.00	0.22	0.00	0.77	0.00	0.37	0.00	0.13
Avail Cap (c_a), veh/h	0	478	0	530	0	388	0	505
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	20.9	0.0	23.9	0.0	25.1	0.0	19.5
Incr Delay (d2), s/veh	0.0	1.0	0.0	7.0	0.0	2.7	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	21.9	0.0	31.0	0.0	27.8	0.0	19.6
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	6.6	0.0	2.2	0.0	0.8
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	1.0	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.5	0.0	7.6	0.0	2.5	0.0	0.9
%ile Storage Ratio (RQ%)	0.00	0.07	0.00	0.32	0.00	0.18	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	33.1
HCM 6th LOS	C

HCM 6th Signalized Intersection Capacity Analysis

6: Chester Rd & Pages Dairy Rd

03/17/2022

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	97	201	196	468	260	52		
Future Volume (veh/h)	97	201	196	468	260	52		
Number	7	14	5	2	6	16		
Initial Q, veh	0	0	0	0	0	0		
Ped-Bike Adj (A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No	No			
Lanes Open During Work Zone								
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870		
Adj Flow Rate, veh/h	105	218	213	509	283	57		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Opposing Right Turn Influence	Yes		Yes					
Cap, veh/h	318	283	749	2337	1736	774		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Prop Arrive On Green	0.18	0.18	0.09	0.66	0.49	0.49		
Unsig. Movement Delay								
Ln Grp Delay, s/veh	20.3	25.9	5.1	4.0	8.0	7.7		
Ln Grp LOS	C	C	A	A	A	A		
Approach Vol, veh/h	323			722	340			
Approach Delay, s/veh	24.1			4.3	8.0			
Approach LOS	C			A	A			
Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Case No		4.0		9.0	1.2	7.0		
Phs Duration (G+Y+Rc), s		40.7		14.3	9.3	31.4		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green (Gmax), s		28.0		18.0	5.5	18.0		
Max Allow Headway (MAH), s		5.2		4.0	3.8	5.0		
Max Q Clear (g_c+I1), s		5.1		9.2	4.9	4.4		
Green Ext Time (g_e), s		3.5		0.7	0.0	1.6		
Prob of Phs Call (p_c)		1.00		0.99	0.96	1.00		
Prob of Max Out (p_x)		0.00		0.07	1.00	0.00		
Left-Turn Movement Data								
Assigned Mvmt				7	5	1		
Mvmt Sat Flow, veh/h				1781	1781	0		
Through Movement Data								
Assigned Mvmt		2		4		6		
Mvmt Sat Flow, veh/h		3647		0		3647		
Right-Turn Movement Data								
Assigned Mvmt		12		14		16		
Mvmt Sat Flow, veh/h		0		1585		1585		
Left Lane Group Data								
Assigned Mvmt	0	0	0	7	5	1	0	0
Lane Assignment	LL (Pr/Pm)							

HCM 6th Signalized Intersection Capacity Analysis

6: Chester Rd & Pages Dairy Rd

03/17/2022

Lanes in Grp	0	0	0	1	1	0	0	0
Grp Vol (v), veh/h	0	0	0	105	213	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1781	1781	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	2.8	2.9	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	2.8	2.9	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	1040	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	28.9	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	24.4	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	1.1	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	26.9	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	318	749	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.33	0.28	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	583	771	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	19.7	4.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.6	0.2	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	20.3	5.1	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.1	0.7	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.1	0.8	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.08	0.04	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment	T			T				
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	509	0	0	0	283	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	3.1	0.0	0.0	0.0	2.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.1	0.0	0.0	0.0	2.4	0.0	0.0
Lane Grp Cap (c), veh/h	0	2337	0	0	0	1736	0	0
V/C Ratio (X)	0.00	0.22	0.00	0.00	0.00	0.16	0.00	0.00
Avail Cap (c_a), veh/h	0	2337	0	0	0	1736	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	3.8	0.0	0.0	0.0	7.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.0	0.0	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	4.0	0.0	0.0	0.0	8.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.7	0.0	0.0	0.0	0.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

6: Chester Rd & Pages Dairy Rd

03/17/2022

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.8	0.0	0.0	0.0	0.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.00	0.00	0.01	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment			R		R			
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	218	0	57	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	7.2	0.0	1.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	7.2	0.0	1.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	283	0	774	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.77	0.00	0.07	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	519	0	774	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	21.5	0.0	7.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	4.4	0.0	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	25.9	0.0	7.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	6.1	0.0	0.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	6.4	0.0	0.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.12	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	9.8
HCM 6th LOS	A

HCM 6th Signalized Intersection Capacity Analysis

8: SR 200 & Blackrock Rd

03/17/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (veh/h)	78	1294	11	8	1671	164	13	2	14	99	3	69
Future Volume (veh/h)	78	1294	11	8	1671	164	13	2	14	99	3	69
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	85	1407	12	9	1816	178	14	2	15	108	3	75
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	119	1940	602	119	1940	602	489	71	532	440	15	378
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
Prop Arrive On Green	0.07	0.38	0.38	0.07	0.38	0.38	0.07	0.37	0.37	0.25	0.25	0.25
Unsig. Movement Delay												
Ln Grp Delay, s/veh	65.1	22.3	14.6	34.1	32.4	17.5	16.7	0.0	15.0	24.4	0.0	23.5
Ln Grp LOS	E	C	B	C	C	B	B	A	B	C	A	C
Approach Vol, veh/h	1504			2003			31			186		
Approach Delay, s/veh	24.7			31.1			15.8			24.0		
Approach LOS	C			C			B			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	5	6	7	8				
Case No	4.0		2.0	3.0	1.2	6.3	2.0	3.0				
Phs Duration (G+Y+Rc), s	32.5		9.5	33.0	9.5	23.0	9.5	33.0				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	28.0		5.0	28.5	5.0	18.5	5.0	28.5				
Max Allow Headway (MAH), s	5.5		3.8	5.2	3.8	4.5	3.8	5.1				
Max Q Clear (g_c+I1), s	2.5		2.4	19.7	2.4	6.7	5.5	27.7				
Green Ext Time (g_e), s	0.0		0.0	5.9	0.0	0.5	0.0	0.8				
Prob of Phs Call (p_c)	1.00		1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00		0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt				3		5	1	7				
Mvmt Sat Flow, veh/h				1781		1781	1396	1781				
Through Movement Data												
Assigned Mvmt	2			4		6		8				
Mvmt Sat Flow, veh/h	190			5106		61		5106				
Right-Turn Movement Data												
Assigned Mvmt	12			14		16		18				
Mvmt Sat Flow, veh/h	1424			1585		1533		1585				
Left Lane Group Data												
Assigned Mvmt	0	0	3	0	5	1	7	0				
Lane Assignment	L (Prot)			L (Pr/Pm)			L L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis

8: SR 200 & Blackrock Rd

03/17/2022

Lanes in Grp	0	0	1	0	1	1	1	0
Grp Vol (v), veh/h	0	0	9	0	14	108	85	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	1781	1396	1781	0
Q Serve Time (g_s), s	0.0	0.0	0.4	0.0	0.4	4.7	3.5	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.4	0.0	0.4	4.7	3.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	1321	1396	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	20.5	18.5	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	15.6	18.5	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.1	4.7	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	0	119	0	489	440	119	0
V/C Ratio (X)	0.00	0.00	0.08	0.00	0.03	0.25	0.72	0.00
Avail Cap (c_a), veh/h	0	0	119	0	489	440	119	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	32.8	0.0	16.6	23.1	34.3	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.2	0.0	0.1	1.3	30.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	34.1	0.0	16.7	24.4	65.1	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.1	0.0	0.2	1.5	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	1.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.2	0.0	0.2	1.7	2.5	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.01	0.00	0.01	0.09	0.13	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	3	0	0	0	3
Grp Vol (v), veh/h	0	0	0	1407	0	0	0	1816
Grp Sat Flow (s), veh/h/ln	0	0	0	1702	0	0	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	17.7	0.0	0.0	0.0	25.7
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	17.7	0.0	0.0	0.0	25.7
Lane Grp Cap (c), veh/h	0	0	0	1940	0	0	0	1940
V/C Ratio (X)	0.00	0.00	0.00	0.73	0.00	0.00	0.00	0.94
Avail Cap (c_a), veh/h	0	0	0	1940	0	0	0	1940
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	19.9	0.0	0.0	0.0	22.4
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.4	0.0	0.0	0.0	10.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	22.3	0.0	0.0	0.0	32.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	6.5	0.0	0.0	0.0	9.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.4	0.0	0.0	0.0	1.8

HCM 6th Signalized Intersection Capacity Analysis

8: SR 200 & Blackrock Rd

03/17/2022

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	6.9	0.0	0.0	0.0	11.2
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.30
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	17	0	12	0	78	0	178
Grp Sat Flow (s), veh/h/ln	0	1614	0	1585	0	1594	0	1585
Q Serve Time (g_s), s	0.0	0.5	0.0	0.4	0.0	2.9	0.0	5.9
Cycle Q Clear Time (g_c), s	0.0	0.5	0.0	0.4	0.0	2.9	0.0	5.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.88	0.00	1.00	0.00	0.96	0.00	1.00
Lane Grp Cap (c), veh/h	0	603	0	602	0	393	0	602
V/C Ratio (X)	0.00	0.03	0.00	0.02	0.00	0.20	0.00	0.30
Avail Cap (c_a), veh/h	0	603	0	602	0	393	0	602
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.9	0.0	14.5	0.0	22.4	0.0	16.2
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.1	0.0	1.1	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
Control Delay (d), s/veh	0.0	15.0	0.0	14.6	0.0	23.5	0.0	17.5
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.1	0.0	1.0	0.0	2.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.1	0.0	1.2	0.0	2.2
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.07	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	28.0
HCM 6th LOS	C

Lanes, Volumes, Timings
4: Felmor Rd & Pages Dairy Rd

03/17/2022

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	182	38	36	132	35	20
Future Volume (vph)	182	38	36	132	35	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.977				0.950	
Flt Protected				0.989	0.969	
Satd. Flow (prot)	1820	0	0	1842	1715	0
Flt Permitted				0.989	0.969	
Satd. Flow (perm)	1820	0	0	1842	1715	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	555			651	534	
Travel Time (s)	12.6			14.8	12.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	198	41	39	143	38	22
Shared Lane Traffic (%)						
Lane Group Flow (vph)	239	0	0	182	60	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 34.2%				ICU Level of Service A		
Analysis Period (min) 15						

Lanes, Volumes, Timings
2: US-17 & Pages Dairy Rd

03/17/2022

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	109	431	23	11	523	144	7	33	17	50	33	95
Future Volume (vph)	109	431	23	11	523	144	7	33	17	50	33	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	95		0	185		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.968			0.961			0.928	
Flt Protected	0.950			0.950				0.994			0.986	
Satd. Flow (prot)	1770	3511	0	1770	3426	0	0	1779	0	0	1704	0
Flt Permitted	0.950			0.950				0.994			0.986	
Satd. Flow (perm)	1770	3511	0	1770	3426	0	0	1779	0	0	1704	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1062			523			462			718	
Travel Time (s)		24.1			11.9			10.5			16.3	
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
Adj. Flow (vph)	118	468	25	12	568	157	8	36	18	54	36	103
Shared Lane Traffic (%)												
Lane Group Flow (vph)	118	493	0	12	725	0	0	62	0	0	193	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	52.1%				ICU Level of Service A							
Analysis Period (min)	15											

HCS7 Roundabouts Report

General Information

Site Information

Analyst	Thomas Hatcher, P.E.		Intersection	
Agency or Co.	ETM, Inc.		E/W Street Name	Wildlight Pkwy
Date Performed	3/18/22		N/S Street Name	Chester Rd
Analysis Year	2027		Analysis Time Period (hrs)	0.25
Time Analyzed			Peak Hour Factor	0.92
Project Description	DSAP 2		Jurisdiction	Nassau County, Florida

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0
Lane Assignment	LTR				LTR				L				LTR			
Volume (V), veh/h	0	0	0	0	0	116	0	8	0	0	269	213	0	6	171	0
Percent Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (V_{PCE}), pc/h	0	0	0	0	0	130	0	9	0	0	301	238	0	7	191	0
Right-Turn Bypass	Non-Yielding				None				None				None			
Conflicting Lanes	1				2				1				2			
Pedestrians Crossing, p/h	0				0				0				0			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)		4.9763			4.3276		4.5436	4.5436			4.3276	
Follow-Up Headway (s)		2.6087			2.5352		2.5352	2.5352			2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h		0	0		139		0	539			198	
Entry Volume, veh/h		0	0		135		0	523			192	
Circulating Flow (v_c), pc/h	328			301			7			130		
Exiting Flow (v_{ex}), pc/h	245			0			310			321		
Capacity (C_{PCE}), pc/h		988			1099		1411	1411			1271	
Capacity (c), veh/h		959			1067		1370	1370			1234	
v/c Ratio (x)		0.00			0.13		0.00	0.38			0.16	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		3.8			4.5		2.6	6.2			4.2	
Lane LOS		A	A		A		A	A			A	
95% Queue, veh		0.0			0.4		0.0	1.8			0.6	
Approach Delay, s/veh				4.5			6.2			4.2		
Approach LOS				A			A			A		
Intersection Delay, s/veh LOS	5.5						A					

Appendix D2
(Traffic Signal Warrant Analysis Forms)

SIGNAL WARRANT ANALYSIS - EXISTING

Introduction

- The Signal Warrant Analysis Spreadsheets are a tool for assisting traffic engineers when evaluating the need for a traffic signal installation
- The filled spreadsheets can be used as part of the supporting documents for the signal warrant evaluation

Note: This templates are a useful resource, but it remains necessary to apply engineering judgment and to consider specific environmental, traffic, geometric, and operational conditions

Instructions

Fill in "Orange" areas only

Automated cells based on in Input Data in "orange" cells

General Information

Fill in below the general information including:

District, County (drop-down menu)

City, Engineer, Date

Major and Minor Street with corresponding number of lanes and speed limits

Enter Eight Hour Volumes

Any 8 hours of an average day. Major-street and minor-street volumes shall be for the same 8 hours; however, the 8 hours satisfied in Condition A shall **not** be required to be the same 8 hours satisfied in Condition B **for 80% columns only**. On the minor street, the higher volume shall not be required to be on the same approach during each of the 8 hours.

Enter Four Hour Volumes

Any 4 hours of an average day. Vehicles per hour on the major street (total of both approaches) and the corresponding vehicles per hour on the higher-volume minor-street approach (one direction only, not required to be on the same approach during each of the 4 hours)

Enter Pedestrian Volumes (4-hr)

Pedestrians per hour crossing the major street (The volume requirement of warrant 2 is satisfied in the existing condition.

Enter Peak Hour Volumes

Vehicular: Any four consecutive 15-minute periods of an average day

Pedestrian: Any four consecutive 15-minute periods of an average day representing the vehicles per hour on the major street (total of both approaches) and the corresponding pedestrians per hour crossing the major street (total of all crossings)

Input DataForm 750-020-01
TRAFFIC ENGINEERING
February 2015City: **Yulee**
County: **74 – Nassau**
District: **Two**Engineer: **T. Hatcher, P.E.**
Date: **March 17, 2022**Major Street: **US-17** # Lanes: **2** Major Approach Speed: **35**
Minor Street: **Pages Dairy Rd** # Lanes: **1** Minor Approach Speed: **35****Eight Hour Volumes (Condition A)**

Hours	Major Street (total of both approaches)	Minor Street (one direction only)
6:30AM	949	183
7:30AM	1,012	142
8:30AM	824	124
11:30AM	863	124
12:30PM	930	153
3:30PM	1,291	203
4:30PM	1,331	193
5:30PM	908	201

Eight Hour Volumes (Condition B)

Hours	Major Street (total of both approaches)	Minor Street (one direction only)
6:30AM	949	183
7:30AM	1,012	142
8:30AM	824	124
11:30AM	863	124
12:30PM	930	153
3:30PM	1,291	203
4:30PM	1,331	193
5:30PM	908	201

Highest Four Hour Vehicular Volumes

Hours	Major Street (total of both approaches)	Minor Street (one direction only)
6:30AM	949	183
3:30PM	1,291	203
4:30PM	1,331	193
5:30PM	908	201

Highest Four Hour Pedestrian Volumes

Hours	Major Street (total of both approaches)	Pedestrian Crossings on Major Street

Vehicular Peak Hour Volumes

Peak Hour	Major Street (total of both approaches)	Minor Street (one direction only)	Total Entering Volume
3:30PM	1291	203	1494

Pedestrian Peak Hour Volumes

Peak Hour	Major Street (total of both approaches)	Pedestrian Crossing Volumes on Major Street

TRAFFIC SIGNAL WARRANT SUMMARY - EXISTING

City: **Yulee**
 County: **74 – Nassau**
 District: **Two**

Engineer: **T. Hatcher, P.E.**
 Date: **March 17, 2022**

Major Street: **US-17**
 Minor Street: **Pages Dairy Rd**

Lanes: **2** Major Approach Speed: **35**
 Lanes: **1** Minor Approach Speed: **35**

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)?

☐ Yes ☒ No

2. Is the warrant 2 is satisfied in the existing condition.

☐ Yes ☒ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes"

☐ 70% ☒ 100%

WARRANT 1 - EIGHT-HOUR VEHICULAR VOLUME

Warrant 1 is satisfied if Condition A or Condition B is "100%" satisfied for eight hours.

☐ Yes ☒ No

Warrant 1 is also satisfied if both Condition A and Condition B are "80%" satisfied (should only be applied after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems).

☐ Yes ☒ No

Condition A - Minimum Vehicular Volume

Condition A is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal.

100% Satisfied:

☐ Yes ☒ No

80% Satisfied:

☒ Yes ☐ No

70% Satisfied:

☒ Yes ☐ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	Minor	100% ^a	80% ^b	70% ^c	100% ^a	80% ^b	70% ^c
1	1	500	400	350	150	120	105
2 or more	1	600	480	420	150	120	105
2 or more	2 or more	600	480	420	200	160	140
1	2 or more	500	400	350	200	160	140

^a Basic Minimum hourly volume

^b Used for combination of Conditions A and B after adequate trial of other remedial measures

^c May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Street	Eight Highest Hours							
	6:30AM	7:30AM	8:30AM	11:30AM	12:30PM	3:30PM	4:30PM	5:30PM
Major	949	1,012	824	863	930	1,291	1,331	908
Minor	183	142	124	124	153	203	193	201

Existing Volumes

State of Florida Department of Transportation

TRAFFIC SIGNAL WARRANT SUMMARY

Form 750-020-01
TRAFFIC ENGINEERING
February 2015

Condition B - Interruption of Continuous Traffic

Condition B is intended for application where Condition A is not satisfied and the traffic volume on a major street is so heavy that traffic on the minor intersecting street suffers excessive delay or conflict in entering or crossing the major street.

Applicable: ☒ Yes ☐ No

100% Satisfied: ☒ Yes ☐ No

80% Satisfied: ☒ Yes ☐ No

70% Satisfied: ☒ Yes ☐ No

Number of Lanes for moving traffic on each approach		Vehicles per hour on major-street (total of both approaches)			Vehicles per hour on minor-street (one direction only)		
Major	Minor	100% ^a	80% ^b	70% ^c	100% ^a	80% ^b	70% ^c
1	1	750	600	525	75	60	53
2 or more	1	900	720	630	75	60	53
2 or more	2 or more	900	720	630	100	80	70
1	2 or more	750	600	525	100	80	70

^a Basic Minimum hourly volume

^b Used for combination of Conditions A and B after adequate trial of other remedial measures

^c May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

Record 8 highest hours and the corresponding major-street and minor-street volumes in the Instructions Sheet.

Eight Highest Hours								
Street	6:30AM	7:30AM	8:30AM	11:30AM	12:30PM	3:30PM	4:30PM	5:30PM
Major	949	1,012	824	863	930	1,291	1,331	908
Minor	183	142	124	124	153	203	193	201

Existing Volumes

TRAFFIC SIGNAL WARRANT SUMMARY - EXISTING

City: **Yulee**
 County: **74 – Nassau**
 District: **Two**

Engineer: **T. Hatcher, P.E.**
 Date: **March 17, 2022**

Major Street: **US-17**
 Minor Street: **Pages Dairy Rd**

Lanes: **2** Major Approach Speed: **35**
 Lanes: **1** Minor Approach Speed: **35**

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)?
2. Is the warrant 2 is satisfied in the existing condition.

☐ Yes ☒ No

☐ Yes ☒ No

"70%" volume level **may** be used if Question 1 or 2 above is answered "Yes"

☐ Yes ☒ No

WARRANT 2 - FOUR-HOUR VEHICULAR VOLUME

If all four points lie above the appropriate line, then the warrant is satisfied.

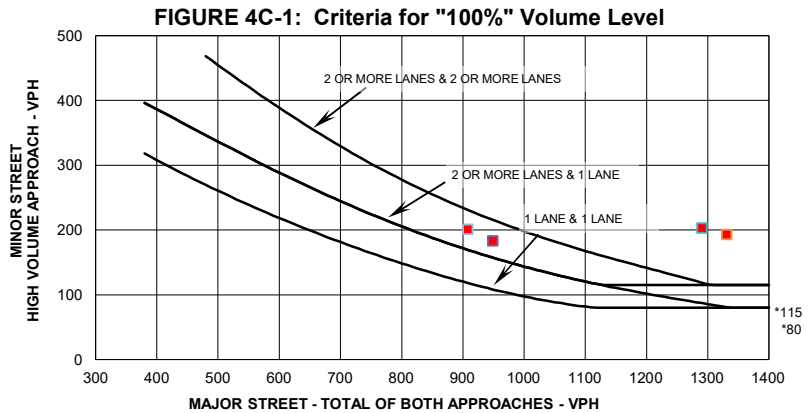
Applicable: ☒ Yes ☐ No

Satisfied: ☒ Yes ☐ No

Plot four volume combinations on the applicable figure below.

100% Volume Level

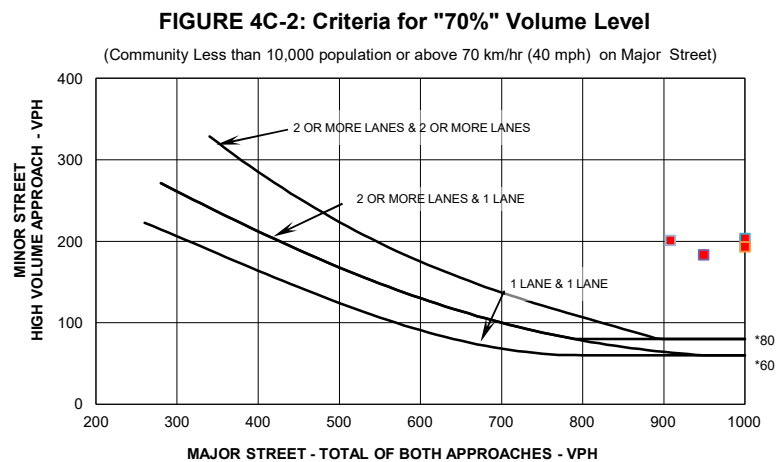
Four Highest Hours	Volumes	
	Major Street	Minor Street
6:30AM	949	183
3:30PM	1,291	203
4:30PM	1,331	193
5:30PM	908	201



* Note: 115 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 80 vph applies as the lower threshold volume threshold for a minor street approach with one lane.

70% Volume Level

Four Highest Hours	Volumes	
	Major Street	Minor Street
6:30AM	949	183
3:30PM	1,291	203
4:30PM	1,331	193
5:30PM	908	201



* Note: 80 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 60 vph applies as the lower threshold volume threshold for a minor street approach with one lane.

TRAFFIC SIGNAL WARRANT SUMMARY - EXISTING

City: **Yulee**
County: **74 - Nassau**
District: **Two**

Engineer: **T. Hatcher, P.E.**
Date: **March 17, 2022**

Major Street: **US-17**
Minor Street: **Pages Dairy Rd**

Lanes: **2** Major Approach Speed: **35**
Lanes: **1** Minor Approach Speed: **35**

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)?
2. Is the warrant 2 is satisfied in the existing condition.

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes"

☐ Yes ☒ No
☐ Yes ☒ No
☐ 70% ☒ 100%

WARRANT 3 - PEAK HOUR

If all three criteria are fulfilled **or** the plotted point lies above the appropriate line, then the warrant is satisfied.

Unusual condition justifying use of warrant:

Record hour when criteria are fulfilled and the corresponding delay or volume in boxes provided.

Peak Hour 100% Volume		
Time	Major Vol.	Minor Vol.
3:30PM	1291	203

Peak Hour 70% Volume		
Time	Major Vol.	Minor Vol.
3:30PM	1,291	203

Criteria

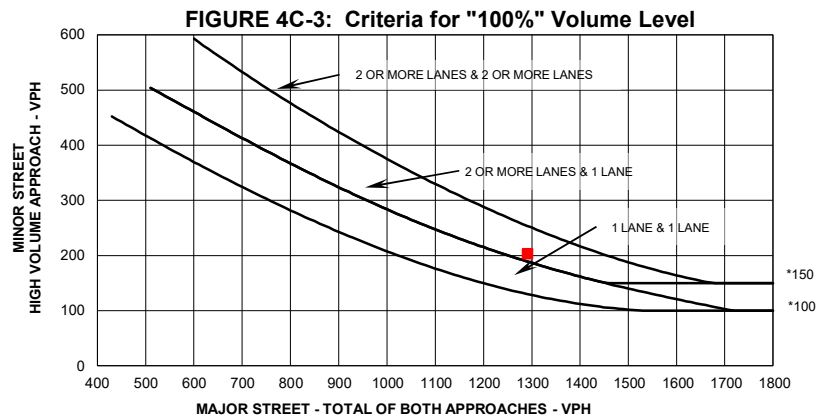
1. Delay on Minor Approach *(vehicle-hours)		
Approach Lanes	1	2
Delay Criteria*	4.0	5.0
Delay*		
Fulfilled?:	☐ Yes	☐ No

2. Volume on Minor Approach One-Direction *(vehicles per hour)		
Approach Lanes	1	2
Volume Criteria*	100	150
Volume*	203	
Fulfilled?:	☒ Yes	☐ No

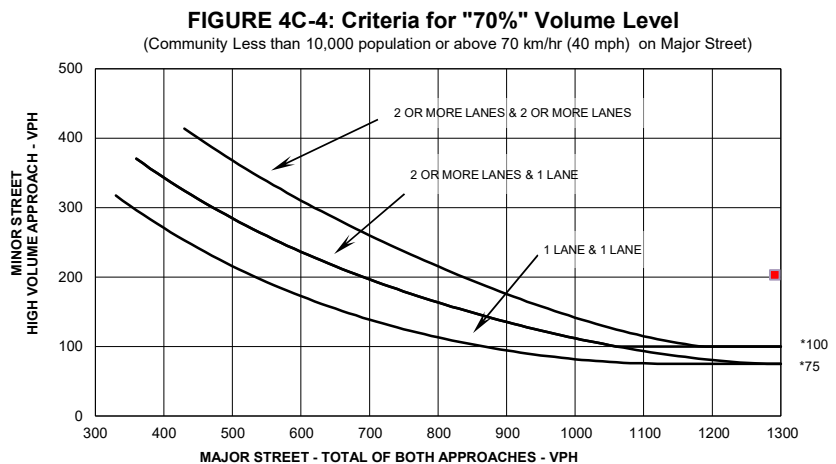
3. Total Intersection Entering Volume *(vehicles per hour)		
No. of Approaches	3	4
Volume Criteria*	650	800
Volume*	1,494	
Fulfilled?:	☒ Yes	☐ No

Applicable: ☐ Yes ☒ No
Satisfied: ☐ Yes ☒ No

Plot volume combination on the applicable figure below.



* Note: 150 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 100 vph applies as the lower threshold volume threshold for a minor street approach with one lane.



* Note: 100 vph applies as the lower threshold volume for a minor street approach with two or more lanes and 75 vph applies as the lower threshold volume threshold for a minor street approach with one lane.

TRAFFIC SIGNAL WARRANT SUMMARY - EXISTING

City: **Yulee**
 County: **74 - Nassau**
 District: **Two**

Engineer: **T. Hatcher, P.E.**
 Date: **March 17, 2022**

Major Street: **US-17**
 Minor Street: **Pages Dairy Rd**

Lanes: **2** Major Approach Speed: **35**
 Lanes: **1** Minor Approach Speed: **35**

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

Volume Level Criteria

1. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)?
2. Is the posted speed or 85th-percentile of major street > 40 mph (70 km/h)?

☒ Yes ☐ No

☐ Yes ☒ No

"70%" volume level **may** be used if Question 1 **or** 2 above is answered "Yes"

☒ 70% ☒ 100%

WARRANT 4 - PEDESTRIAN VOLUME

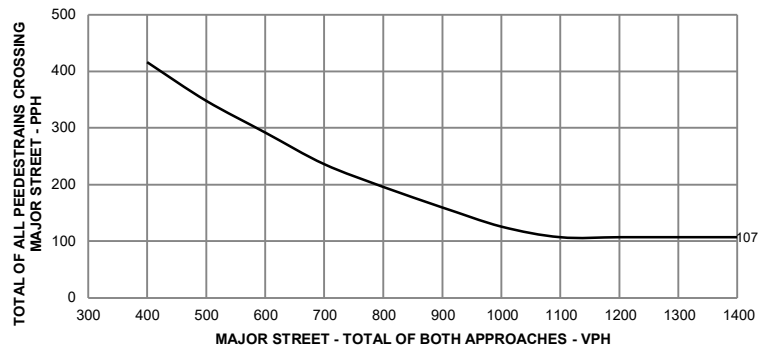
For each of any 4 hours of an average day, the plotted points lie above the appropriate line, then the warrant is satisfied.

Applicable: ☐ Yes ☒ No

Satisfied: ☐ Yes ☐ No

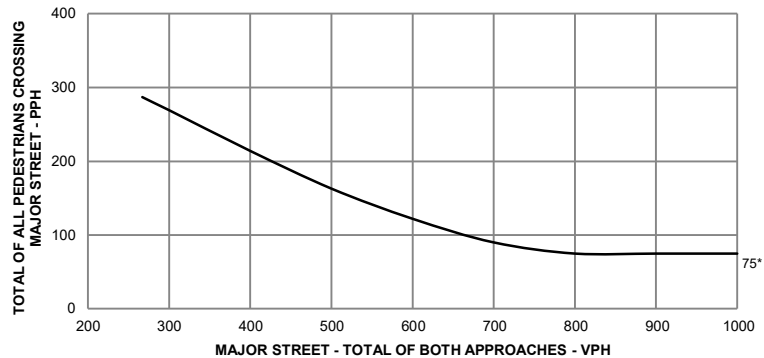
Plot four volume combinations on the applicable figure below.

Figure 4C-5. Criteria for "100%" Volume Level



* Note: 107 pph applies as the lower threshold volume

Figure 4C-6 Criteria for "70%" Volume Level



* Note: 75 pph applies as the lower threshold volume

100% Volume Level		
Four Highest Hours	Volumes	
	Major Street	Pedestrian Total

70% Volume Level		
Four Highest Hours	Volumes	
	Major Street	Pedestrian Total

WARRANT 4 - PEDESTRIAN VOLUME

For 1 hour (any four consecutive 15-minute periods) of an average day, the plotted point falls above the appropriate line, then the warrant is satisfied.

Applicable: ☐ Yes ☐ No

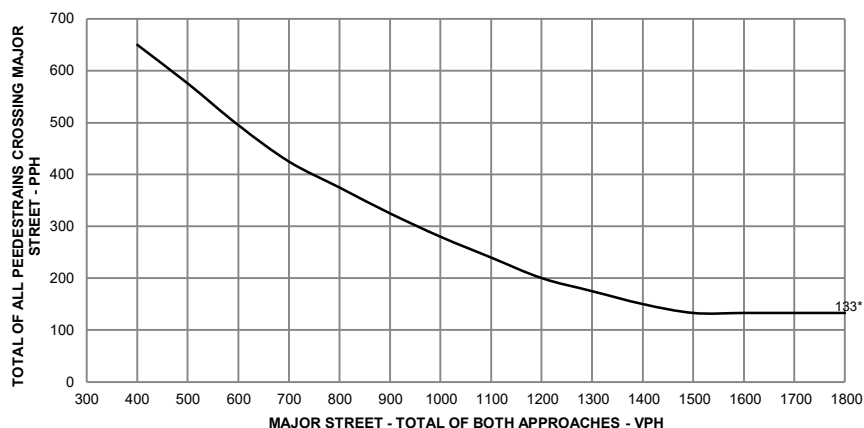
Satisfied: ☐ Yes ☐ No

Plot one volume combination on the applicable figure below.

100% Volume Level

Peak Hour	Volumes	
	Major Street	Pedestrian Total

Figure 4C-7. Criteria for "100%" Volume Level - Peak Hour

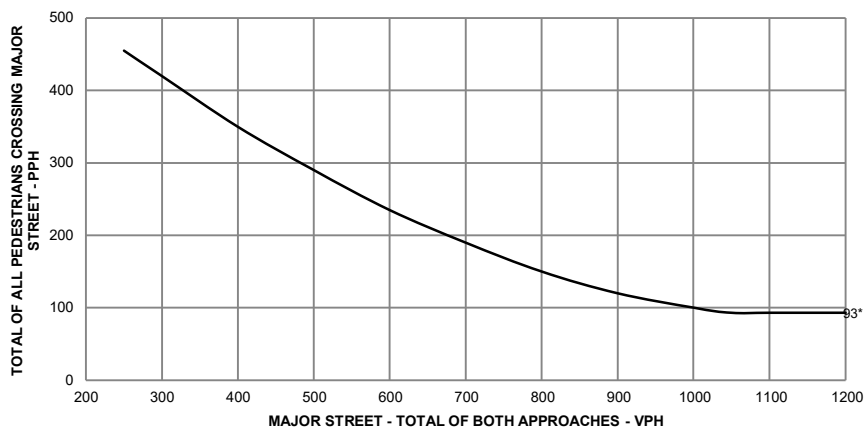


* Note: 133 pph applies as the lower threshold volume

70% Volume Level

Peak Hour	Volumes	
	Major Street	Pedestrian Total

Figure 4C-8 Criteria for "70%" Volume Level - Peak Hour



* Note: 93 pph applies as the lower threshold volume

TRAFFIC SIGNAL WARRANT SUMMARY - EXISTING

City: **Yulee**
 County: **74 – Nassau**
 District: **Two**

Engineer: **T. Hatcher, P.E.**
 Date: **March 17, 2022**

Major Street: **US-17** Lanes: **2** Major Approach Speed: **35**
 Minor Street: **Pages Dairy Rd** Lanes: **1** Minor Approach Speed: **35**

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

WARRANT 5 - SCHOOL CROSSING

Record hours where criteria are fulfilled and the corresponding volume or gap frequency in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled.

Applicable: ☐ Yes ☒ No

Satisfied: ☐ Yes ☒ No

Criteria				Fulfilled?	
				Yes	No
1. There are a minimum of 20 students crossing the major street during the highest crossing hour.	Students:	Hour:			
2. There are fewer adequate gaps in the major street traffic stream during the period when the children are using the established school crossing than the number of minutes in the same period.	Minutes:		Gaps:		
3. The nearest traffic signal along the major street is located more than 300 ft. (90 m) away, or the nearest signal is within 300 ft. (90 m) but the proposed traffic signal will not restrict the progressive movement of traffic.					

TRAFFIC SIGNAL WARRANT SUMMARY - EXISTING

City: **Yulee**
 County: **74 – Nassau**
 District: **Two**

Engineer: **T. Hatcher, P.E.**
 Date: **March 17, 2022**

Major Street: **US-17**
 Minor Street: **Pages Dairy Rd**

Lanes: **2**
 Lanes: **1**

Major Approach Speed: **35**
 Minor Approach Speed: **35**

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

WARRANT 6 - COORDINATED SIGNAL SYSTEM

Indicate if the criteria are fulfilled in the boxes provided. The warrant is satisfied if either criterion is fulfilled. This warrant should not be applied when the resulting signal spacing would be less than 300 m (1,000 ft.).

Applicable: ☐ Yes ☒ No

Satisfied: ☐ Yes ☒ No

Criteria	Fulfilled?	
	Yes	No
1. On a one-way street or a street that has traffic predominately in one direction, the adjacent signals are so far apart that they do not provide the necessary degree of vehicle platooning.		x
2. On a two-way street, adjacent signals do not provide the necessary degree of platooning, and the proposed and adjacent signals will collectively provide a progressive operation.		x

TRAFFIC SIGNAL WARRANT SUMMARY - EXISTING

City: **Yulee**
 County: **74 – Nassau**
 District: **Two**

Engineer: **T. Hatcher, P.E.**
 Date: **March 17, 2022**

Major Street: **US-17**
 Minor Street: **Pages Dairy Rd**

Lanes: **2** Major Approach Speed: **35**
 Lanes: **1** Minor Approach Speed: **35**

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

WARRANT 7 - CRASH EXPERIENCE

Record hours where criteria are fulfilled, the corresponding volume, and other information in the boxes provided. The warrant is satisfied if all three of the criteria are fulfilled.

Applicable: ☐ Yes ☐ No
 Satisfied: ☐ Yes ☐ No

Criteria		Hour				Volume		Met?		Fulfilled?	
						Major	Minor	Yes	No	Yes	No
1. warrants to the right is met.	Warrant 1, Condition A (80% satisfied)										
	Warrant 1, Condition B (80% satisfied)										
	Warrant 4, Pedestrian Volume at 80% of volume requirements: # ped/hr for four (4) hours or # ped/hr for one (1) hour.										
2.	Adequate trial of other remedial measure has failed to reduce crash frequency.	Measure tried:									
3.	Five or more reported crashes, of types susceptible to correction by signal, have occurred within a 12-month period.	Observed Crash Types:					Number of crashes per 12 months:				

TRAFFIC SIGNAL WARRANT SUMMARY - EXISTING

City: **Yulee**
 County: **74 – Nassau**
 District: **Two**

Engineer: **T. Hatcher, P.E.**
 Date: **March 17, 2022**

Major Street: **US-17**
 Minor Street: **Pages Dairy Rd**

Lanes: **2** Major Approach Speed: **35**
 Lanes: **1** Minor Approach Speed: **35**

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

WARRANT 8 - ROADWAY NETWORK

Record hours where criteria are fulfilled, and the corresponding volume or other information in the boxes provided. The warrant is satisfied if at least one of the criteria is fulfilled and if all intersecting routes have one or more of the Major Route characteristics listed.

Applicable: ☐ Yes ☒ No

Satisfied: ☐ Yes ☒ No

Criteria								Met?		Fulfilled?		
								Yes	No	Yes	No	
1. Both of the criteria to the right are met.	a. Total entering volume of at least 1,000 veh/hr during a typical weekday peak hour.				Entering Volume:							
	b. Five-year projected volumes that satisfy one or more of Warrants 1, 2, or 3.				Warrant:	1	2	3				
					Satisfied?:							
2. Total entering volume at least 1,000 veh/hr for each of any 5 hrs of a non-normal business day (Sat. or Sun.)								← Hour				
								← Volume				

Characteristics of Major Routes						Met?		Fulfilled?	
						Yes	No	Yes	No
1. Part of the street or highway system that serves as the principal roadway network for through traffic flow.	Major Street:								
	Minor Street:								
2. Rural or suburban highway outside of, entering, or traversing a city.	Major Street:								
	Minor Street:								
3. Appears as a major route on an official plan.	Major Street:								
	Minor Street:								

TRAFFIC SIGNAL WARRANT SUMMARY - EXISTING

City: **Yulee**
 County: **74 – Nassau**
 District: **Two**

Engineer: **T. Hatcher, P.E.**
 Date: **March 17, 2022**

Major Street: **US-17**
 Minor Street: **Pages Dairy Rd**

Lanes: **2** Major Approach Speed: **35**
 Lanes: **1** Minor Approach Speed: **35**

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

Approach Lane Criteria

1. How many approach lanes are there at the track crossing?

☐ 1 ☐ 2 or
☐ Fig 4C-9 ☐ Fig 4C-10

If there The volume requirement of warrant 2 is satisfied in the existing condition.

WARRANT 9 - INTERSECTION NEAR A GRADE CROSSING

This signal warrant should be applied only after adequate consideration has been given to other alternatives or after a trial of an alternative has failed to alleviate the safety concerns associated with the grade crossing.

Indicate if both criteria are fulfilled in the boxes provided. The warrant is satisfied if both criteria are met.

Applicable: ☐ Yes ☒ No
 Satisfied: ☐ Yes ☒ No

Criteria	Fulfilled?	
	Yes	No
1. A grade crossing exists on an approach controlled by a STOP or YIELD sign and the center of the track nearest to the intersection is within 140 feet of the stop line or yield line on the approach; and	☐	☐
2. During the highest traffic volume hour during which the rail uses the crossing, the plotted point falls above the applicable curve for the existing combination of approach lanes over the track and the distance D (clear storage distance).	☐	☐

Use the following tables (4C-2, 4C-3, and 4C-4 to appropriately adjust the minor-street approach volume).

Inputs

Occurrences of Rail traffic per day
 % of High Occupancy Buses on Minor-Street Approach
 Enter D (feet)
 % of Tractor-Trailer Trucks on Minor-Street Approach

Adjustment Factors from Tables

1.00

0.50

Table 4C-2. Adjustment Factor for Daily Frequency of Rail Traffic

Rail Traffic per Day	Adjustment Factor
1	0.67
2	0.91
3 to 5	1.00
6 to 8	1.18
9 to 11	1.25
12 or more	1.33

Table 4C-3. Adjustment Factor for Percentage of High-Occupancy Buses

% of High-Occupancy Buses* on Minor Street Approach	Adjustment Factor
0%	1.00
2%	1.09
4%	1.19
6% or more	1.32

* A high-occupancy bus is defined as a bus occupied by at least 20 people

Table 4C-4. Adjustment Factor for Percentage of Tractor-Trailer Trucks

% of Tractor-Trailer Trucks on Minor-Street Approach	Adjustment Factor	
	D less than 70 feet	D of 70 feet or more
0% to 2.5%	0.50	0.50
2.6% to 7.5%	0.75	0.75
7.6% to 12.5%	1.00	1.00
12.6% to 17.5%	2.30	1.15
17.6% to 22.5%	2.70	1.35
22.6% to 27.5%	3.28	1.64
More than 27.5%	4.18	2.09

Input the major and minor street volumes before adjustment factors are applied

1 Approach Lane		
D (ft)	Major Vol.	Minor Vol.

After adjustment factors are applied

1 Approach Lane w/Factors		
D (ft)	Major Vol.	Minor Vol.

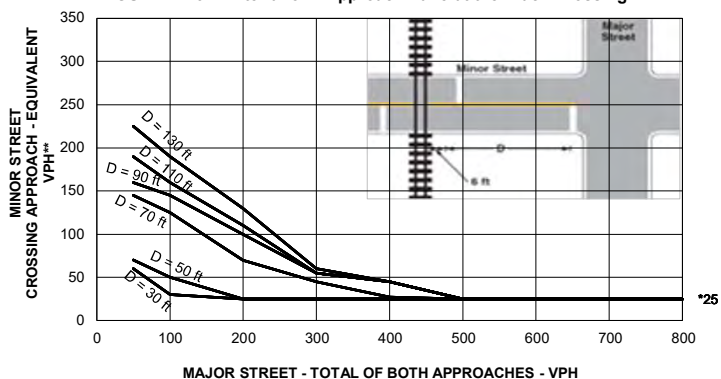
Input D and the major and minor street volumes before adjustment factors are applied

2 or more Approach Lanes		
D (ft)	Major Vol.	Minor Vol.

After adjustment factors are applied

2+ Approach Lane w/Factors		
D (ft)	Major Vol.	Minor Vol.

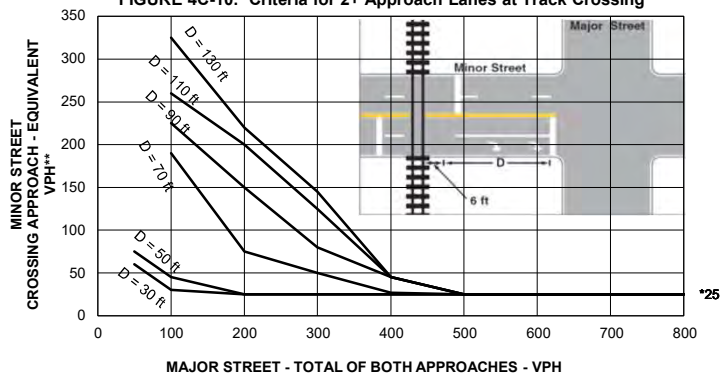
FIGURE 4C-9: Criteria for 1 Approach Lane at the Track Crossing



* Note: 25 vph applies as the lower threshold volume

* *Note: VPH after applying the adjustment factors in Tables 4C-2, 4C, and or 4C-4, if appropriate

FIGURE 4C-10: Criteria for 2+ Approach Lanes at Track Crossing



* Note: 25 vph applies as the lower threshold volume

* *Note: VPH after applying the adjustment factors in Tables 4C-2, 4C, and or 4C-4, if appropriate

TRAFFIC SIGNAL WARRANT SUMMARY - EXISTING

City: **Yulee**
County: **74 – Nassau**
District: **Two**

Engineer: **T. Hatcher, P.E.**
Date: **March 17, 2022**

Major Street: **US-17**
Minor Street: **Pages Dairy Rd**

Lanes: **2** Major Approach Speed: **35**
Lanes: **1** Minor Approach Speed: **35**

MUTCD Electronic Reference to Chapter 4: <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part4.pdf>

CONCLUSIONS

Remarks: **Volume requirements for Warrants 1B, 2, and 3 are satisfied.**

WARRANTS SATISFIED:

☒ Warrant 1	☐ Not Applicable
☒ Warrant 2	☐ Not Applicable
☒ Warrant 3	☐ Not Applicable
☐ Warrant 4	☒ Not Applicable
☐ Warrant 5	☒ Not Applicable
☐ Warrant 6	☒ Not Applicable
☐ Warrant 7	☒ Not Applicable
☐ Warrant 8	☒ Not Applicable
☐ Warrant 9	☒ Not Applicable

Appendix E

(Synchro Printouts – Background Conditions)

HCM 6th Signalized Intersection Capacity Analysis

1: US-17 & SR-200

03/17/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	887	37	252	754	309	36	107	329	337	106	33
Future Volume (veh/h)	82	887	37	252	754	309	36	107	329	337	106	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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			
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	964	40	274	820	336	39	116	0	366	115	0
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	203	1186	49	326	1386	430	68	1035		420	1332	
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
Prop Arrive On Green	0.06	0.24	0.24	0.09	0.27	0.27	0.04	0.29	0.00	0.12	0.37	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	33.3	30.7	35.1	48.8	22.8	32.2	40.7	18.4	0.0	48.1	14.3	0.0
Ln Grp LOS	C	C	D	D	C	C	D	B		D	B	
Approach Vol, veh/h	1093				1430				155			
Approach Delay, s/veh	32.4				30.0				24.0			
Approach LOS	C				C				C			
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	13.0	24.9	11.1	21.0	7.2	30.7	8.6	23.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	8.5	18.9	6.6	18.0	5.8	21.6	5.2	19.4				
Max Allow Headway (MAH), s	3.7	4.9	3.7	4.9	3.7	4.9	3.7	4.6				
Max Q Clear (g_c+I1), s	9.3	3.7	7.5	14.7	3.5	3.5	3.7	15.7				
Green Ext Time (g_e), s	0.0	0.4	0.0	1.8	0.0	0.5	0.0	2.1				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	0.53	1.00	0.82	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00			
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	3456	3456		1781		3456						
Through Movement Data												
Assigned Mvmt	2		4		6		8					
Mvmt Sat Flow, veh/h	3554		5029		3554		5106					
Right-Turn Movement Data												
Assigned Mvmt	12		14		16		18					
Mvmt Sat Flow, veh/h	1585		208		1585		1585					
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)		L (Prot)		L (Prot)						

HCM 6th Signalized Intersection Capacity Analysis

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Lanes in Grp	2	0	2	0	1	0	2	0
Grp Vol (v), veh/h	366	0	274	0	39	0	89	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1781	0	1728	0
Q Serve Time (g_s), s	7.3	0.0	5.5	0.0	1.5	0.0	1.7	0.0
Cycle Q Clear Time (g_c), s	7.3	0.0	5.5	0.0	1.5	0.0	1.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	420	0	326	0	68	0	203	0
V/C Ratio (X)	0.87	0.00	0.84	0.00	0.58	0.00	0.44	0.00
Avail Cap (c_a), veh/h	420	0	326	0	148	0	257	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	30.2	0.0	31.2	0.0	33.1	0.0	31.8	0.0
Incr Delay (d2), s/veh	17.9	0.0	17.6	0.0	7.5	0.0	1.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	48.1	0.0	48.8	0.0	40.7	0.0	33.3	0.0
1st-Term Q (Q1), veh/ln	2.8	0.0	2.1	0.0	0.6	0.0	0.7	0.0
2nd-Term Q (Q2), veh/ln	1.0	0.0	0.8	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.8	0.0	2.9	0.0	0.7	0.0	0.7	0.0
%ile Storage Ratio (RQ%)	0.19	0.00	0.17	0.00	0.07	0.00	0.04	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	2	0	3
Grp Vol (v), veh/h	0	116	0	652	0	115	0	820
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	1.7	0.0	12.7	0.0	1.5	0.0	9.8
Cycle Q Clear Time (g_c), s	0.0	1.7	0.0	12.7	0.0	1.5	0.0	9.8
Lane Grp Cap (c), veh/h	0	1035	0	803	0	1332	0	1386
V/C Ratio (X)	0.00	0.11	0.00	0.81	0.00	0.09	0.00	0.59
Avail Cap (c_a), veh/h	0	1035	0	875	0	1332	0	1415
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.2	0.0	25.3	0.0	14.1	0.0	22.1
Incr Delay (d2), s/veh	0.0	0.2	0.0	5.5	0.0	0.1	0.0	0.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.4	0.0	30.7	0.0	14.3	0.0	22.8
1st-Term Q (Q1), veh/ln	0.0	0.6	0.0	4.6	0.0	0.5	0.0	3.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.1

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.0	5.2	0.0	0.5	0.0	3.5
%ile Storage Ratio (RQ%)	0.00	0.02	0.00	0.11	0.00	0.03	0.00	0.08
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	352	0	0	0	336
Grp Sat Flow (s), veh/h/ln	0	1585	0	1833	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	12.7	0.0	0.0	0.0	13.7
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	12.7	0.0	0.0	0.0	13.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.11	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	462	0	432	0	594	0	430
V/C Ratio (X)	0.00	0.00	0.00	0.81	0.00	0.00	0.00	0.78
Avail Cap (c_a), veh/h	0	462	0	471	0	594	0	439
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	25.3	0.0	0.0	0.0	23.6
Incr Delay (d2), s/veh	0.0	0.0	0.0	9.8	0.0	0.0	0.0	8.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	35.1	0.0	0.0	0.0	32.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	4.9	0.0	0.0	0.0	4.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	1.2	0.0	0.0	0.0	1.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	6.1	0.0	0.0	0.0	5.6
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.76
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	32.0
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		  			  						 		
Traffic Volume (veh/h)	18	1700	131	209	1564	82	63	27	211	175	54	85	
Future Volume (veh/h)	18	1700	131	209	1564	82	63	27	211	175	54	85	
Number	7	4	14	3	8	18	5	2	12	1	6	16	
Initial Q, 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			
Lanes Open During Work Zone													
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	
Adj Flow Rate, veh/h	20	1848	142	227	1700	89	68	29	229	190	59	92	
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	
Opposing Right Turn Influence	Yes				Yes				Yes				Yes
Cap, veh/h	105	1912	594	247	2320	720	371	430	365	425	152	237	
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	
Prop Arrive On Green	0.06	0.37	0.37	0.14	0.45	0.45	0.06	0.23	0.23	0.06	0.23	0.23	
Unsig. Movement Delay													
Ln Grp Delay, s/veh	44.3	41.7	20.3	77.6	22.2	14.5	25.2	27.4	39.1	29.5	0.0	32.1	
Ln Grp LOS	D	D	C	E	C	B	C	C	D	C	A	C	
Approach Vol, veh/h	2010			2016			326			341			
Approach Delay, s/veh	40.2			28.1			35.2			30.7			
Approach LOS	D			C			D			C			
Timer:	1	2	3	4	5	6	7	8					
Assigned Phs	1	2	3	4	5	6	7	8					
Case No	1.1	3.0	2.0	3.0	1.1	4.0	2.0	3.0					
Phs Duration (G+Y+Rc), s	9.6	25.2	17.0	38.2	9.5	25.3	9.8	45.4					
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
Max Green (Gmax), s	5.1	20.7	12.5	33.7	5.0	20.8	5.3	40.9					
Max Allow Headway (MAH), s	3.8	4.2	3.8	5.2	3.8	5.4	3.8	5.2					
Max Q Clear (g_c+I1), s	7.1	13.7	13.3	33.9	4.6	8.8	3.0	26.5					
Green Ext Time (g_e), s	0.0	0.5	0.0	0.0	0.0	0.6	0.0	10.2					
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00					
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
Left-Turn Movement Data													
Assigned Mvmt	1	3	5	7									
Mvmt Sat Flow, veh/h	1781	1781	1781	1781									
Through Movement Data													
Assigned Mvmt	2	4	6	8									
Mvmt Sat Flow, veh/h	1870	5106	659	5106									
Right-Turn Movement Data													
Assigned Mvmt	12	14	16	18									
Mvmt Sat Flow, veh/h	1585	1585	1027	1585									
Left Lane Group Data													
Assigned Mvmt	1	0	3	0	5	0	7	0					
Lane Assignment	L (Pr/Pm)	L (Prot)	L (Pr/Pm)	L (Prot)									

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	190	0	227	0	68	0	20	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	5.1	0.0	11.3	0.0	2.6	0.0	1.0	0.0
Cycle Q Clear Time (g_c), s	5.1	0.0	11.3	0.0	2.6	0.0	1.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1121	0	0	0	1236	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	20.7	0.0	0.0	0.0	20.7	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	19.6	0.0	0.0	0.0	14.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	4.6	0.0	0.0	0.0	0.4	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	425	0	247	0	371	0	105	0
V/C Ratio (X)	0.45	0.00	0.92	0.00	0.18	0.00	0.19	0.00
Avail Cap (c_a), veh/h	425	0	247	0	371	0	105	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	26.2	0.0	38.2	0.0	24.1	0.0	40.3	0.0
Incr Delay (d2), s/veh	3.4	0.0	39.3	0.0	1.1	0.0	4.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	29.5	0.0	77.6	0.0	25.2	0.0	44.3	0.0
1st-Term Q (Q1), veh/ln	3.3	0.0	4.8	0.0	1.1	0.0	0.4	0.0
2nd-Term Q (Q2), veh/ln	0.4	0.0	2.7	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.7	0.0	7.5	0.0	1.2	0.0	0.5	0.0
%ile Storage Ratio (RQ%)	0.11	0.00	0.19	0.00	0.06	0.00	0.01	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T				T	
Lanes in Grp	0	1	0	3	0	0	0	3
Grp Vol (v), veh/h	0	29	0	1848	0	0	0	1700
Grp Sat Flow (s), veh/h/ln	0	1870	0	1702	0	0	0	1702
Q Serve Time (g_s), s	0.0	1.1	0.0	31.9	0.0	0.0	0.0	24.5
Cycle Q Clear Time (g_c), s	0.0	1.1	0.0	31.9	0.0	0.0	0.0	24.5
Lane Grp Cap (c), veh/h	0	430	0	1912	0	0	0	2320
V/C Ratio (X)	0.00	0.07	0.00	0.97	0.00	0.00	0.00	0.73
Avail Cap (c_a), veh/h	0	430	0	1912	0	0	0	2320
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.1	0.0	27.6	0.0	0.0	0.0	20.1
Incr Delay (d2), s/veh	0.0	0.3	0.0	14.1	0.0	0.0	0.0	2.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	27.4	0.0	41.7	0.0	0.0	0.0	22.2
1st-Term Q (Q1), veh/ln	0.0	0.5	0.0	12.3	0.0	0.0	0.0	9.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	2.5	0.0	0.0	0.0	0.4

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.5	0.0	14.8	0.0	0.0	0.0	9.6
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.41	0.00	0.00	0.00	0.24
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	229	0	142	0	151	0	89
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1686	0	1585
Q Serve Time (g_s), s	0.0	11.7	0.0	5.5	0.0	6.8	0.0	2.9
Cycle Q Clear Time (g_c), s	0.0	11.7	0.0	5.5	0.0	6.8	0.0	2.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.61	0.00	1.00
Lane Grp Cap (c), veh/h	0	365	0	594	0	390	0	720
V/C Ratio (X)	0.00	0.63	0.00	0.24	0.00	0.39	0.00	0.12
Avail Cap (c_a), veh/h	0	365	0	594	0	390	0	720
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	31.2	0.0	19.3	0.0	29.2	0.0	14.2
Incr Delay (d2), s/veh	0.0	8.0	0.0	1.0	0.0	2.9	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
Control Delay (d), s/veh	0.0	39.1	0.0	20.3	0.0	32.1	0.0	14.5
1st-Term Q (Q1), veh/ln	0.0	4.4	0.0	2.0	0.0	2.7	0.0	1.0
2nd-Term Q (Q2), veh/ln	0.0	0.8	0.0	0.2	0.0	0.3	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	5.2	0.0	2.1	0.0	3.0	0.0	1.1
%ile Storage Ratio (RQ%)	0.00	0.26	0.00	0.06	0.00	0.09	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	33.9
HCM 6th LOS	C

HCM 6th Signalized Intersection Capacity Analysis

5: SR-200 & Chester Rd

03/17/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	1130	245	81	776	23	398	65	118	137	79	110
Future Volume (veh/h)	103	1130	245	81	776	23	398	65	118	137	79	110
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	112	1228	266	88	843	25	433	71	128	149	86	120
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	219	1347	418	202	1322	411	484	1254	559	234	997	445
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
Prop Arrive On Green	0.06	0.26	0.26	0.06	0.26	0.26	0.14	0.35	0.35	0.07	0.28	0.28
Unsig. Movement Delay												
Ln Grp Delay, s/veh	33.6	34.5	26.0	33.3	24.0	19.6	48.5	15.0	16.9	34.6	18.7	21.1
Ln Grp LOS	C	C	C	C	C	B	D	B	B	C	B	C
Approach Vol, veh/h	1606			956			632			355		
Approach Delay, s/veh	33.0			24.7			38.4			26.2		
Approach LOS	C			C			D			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	9.2	29.2	8.6	23.0	14.3	24.1	8.9	22.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	6.9	21.6	5.0	18.5	9.8	18.7	5.0	18.5				
Max Allow Headway (MAH), s	3.8	4.5	3.8	5.0	3.8	4.5	3.8	5.2				
Max Q Clear (g_c+I1), s	4.9	6.0	3.7	18.3	10.6	6.1	4.2	12.3				
Green Ext Time (g_e), s	0.1	0.7	0.0	0.1	0.0	0.7	0.0	3.0				
Prob of Phs Call (p_c)	0.94	1.00	0.82	1.00	1.00	1.00	0.89	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.85				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	3456	3456	3456	3456								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	5106	3554	5106								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	1585	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

5: SR-200 & Chester Rd

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	149	0	88	0	433	0	112	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	2.9	0.0	1.7	0.0	8.6	0.0	2.2	0.0
Cycle Q Clear Time (g_c), s	2.9	0.0	1.7	0.0	8.6	0.0	2.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	234	0	202	0	484	0	219	0
V/C Ratio (X)	0.64	0.00	0.44	0.00	0.89	0.00	0.51	0.00
Avail Cap (c_a), veh/h	341	0	247	0	484	0	247	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	31.8	0.0	31.8	0.0	29.6	0.0	31.7	0.0
Incr Delay (d2), s/veh	2.9	0.0	1.5	0.0	18.9	0.0	1.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	34.6	0.0	33.3	0.0	48.5	0.0	33.6	0.0
1st-Term Q (Q1), veh/ln	1.2	0.0	0.7	0.0	3.4	0.0	0.9	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	1.3	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.3	0.0	0.7	0.0	4.7	0.0	0.9	0.0
%ile Storage Ratio (RQ%)	0.09	0.00	0.03	0.00	0.20	0.00	0.04	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	3	0	2	0	3
Grp Vol (v), veh/h	0	71	0	1228	0	86	0	843
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	0.9	0.0	16.3	0.0	1.2	0.0	10.3
Cycle Q Clear Time (g_c), s	0.0	0.9	0.0	16.3	0.0	1.2	0.0	10.3
Lane Grp Cap (c), veh/h	0	1254	0	1347	0	997	0	1322
V/C Ratio (X)	0.00	0.06	0.00	0.91	0.00	0.09	0.00	0.64
Avail Cap (c_a), veh/h	0	1254	0	1349	0	997	0	1349
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.0	0.0	25.0	0.0	18.6	0.0	23.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	9.5	0.0	0.2	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.0	0.0	34.5	0.0	18.7	0.0	24.0
1st-Term Q (Q1), veh/ln	0.0	0.4	0.0	6.2	0.0	0.5	0.0	3.9
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	1.2	0.0	0.0	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

5: SR-200 & Chester Rd

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.4	0.0	7.4	0.0	0.5	0.0	4.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.14	0.00	0.02	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	128	0	266	0	120	0	25
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	4.0	0.0	10.4	0.0	4.1	0.0	0.8
Cycle Q Clear Time (g_c), s	0.0	4.0	0.0	10.4	0.0	4.1	0.0	0.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	559	0	418	0	445	0	411
V/C Ratio (X)	0.00	0.23	0.00	0.64	0.00	0.27	0.00	0.06
Avail Cap (c_a), veh/h	0	559	0	419	0	445	0	419
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.9	0.0	22.8	0.0	19.6	0.0	19.5
Incr Delay (d2), s/veh	0.0	1.0	0.0	3.2	0.0	1.5	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.9	0.0	26.0	0.0	21.1	0.0	19.6
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	3.6	0.0	1.4	0.0	0.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.4	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.5	0.0	4.0	0.0	1.6	0.0	0.3
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.17	0.00	0.12	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	31.1
HCM 6th LOS	C

HCM 6th Signalized Intersection Capacity Analysis

6: Chester Rd & Pages Dairy Rd

03/17/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations									
Traffic Volume (veh/h)	47	275	48	113	380	81			
Future Volume (veh/h)	47	275	48	113	380	81			
Number	7	14	5	2	6	16			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00	1.00	1.00			1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No	No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	51	299	52	123	413	88			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes		Yes						
Cap, veh/h	404	359	587	2166	1699	758			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.23	0.23	0.05	0.61	0.48	0.48			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	17.1	27.8	5.8	4.4	8.8	8.2			
Ln Grp LOS	B	C	A	A	A	A			
Approach Vol, veh/h	350			175	501				
Approach Delay, s/veh	26.3			4.8	8.7				
Approach LOS	C			A	A				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4	5	6		
Case No			4.0		9.0	1.2	7.0		
Phs Duration (G+Y+Rc), s			38.0		17.0	7.2	30.8		
Change Period (Y+Rc), s			4.5		4.5	4.5	4.5		
Max Green (Gmax), s			28.0		18.0	5.0	18.5		
Max Allow Headway (MAH), s			5.2		4.0	3.8	5.0		
Max Q Clear (g_c+I1), s			2.8		11.9	2.7	5.8		
Green Ext Time (g_e), s			0.7		0.6	0.0	2.4		
Prob of Phs Call (p_c)			1.00		1.00	0.55	1.00		
Prob of Max Out (p_x)			0.00		0.34	1.00	0.00		
Left-Turn Movement Data									
Assigned Mvmt					7	5	1		
Mvmt Sat Flow, veh/h					1781	1781	0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			3647		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		1585		
Left Lane Group Data									
Assigned Mvmt		0	0	0	7	5	1	0	0
Lane Assignment					LL (Pr/Pm)				

HCM 6th Signalized Intersection Capacity Analysis

6: Chester Rd & Pages Dairy Rd

03/17/2022

Lanes in Grp	0	0	0	1	1	0	0	0
Grp Vol (v), veh/h	0	0	0	51	52	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1781	1781	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	1.3	0.7	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	1.3	0.7	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	897	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	28.3	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	22.5	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	26.3	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	404	587	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.13	0.09	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	583	660	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	16.9	5.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	17.1	5.8	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.5	0.2	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.5	0.2	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.03	0.01	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment	T			T				
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	123	0	0	0	413	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	0.8	0.0	0.0	0.0	3.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.8	0.0	0.0	0.0	3.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	2166	0	0	0	1699	0	0
V/C Ratio (X)	0.00	0.06	0.00	0.00	0.00	0.24	0.00	0.00
Avail Cap (c_a), veh/h	0	2166	0	0	0	1699	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	4.3	0.0	0.0	0.0	8.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	4.4	0.0	0.0	0.0	8.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.0	0.0	1.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

6: Chester Rd & Pages Dairy Rd

03/17/2022

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.0	0.0	1.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment			R		R			
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	299	0	88	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	9.9	0.0	1.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	9.9	0.0	1.7	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	359	0	758	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.83	0.00	0.12	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	519	0	758	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	20.3	0.0	7.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	7.6	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	27.8	0.0	8.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	8.1	0.0	0.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.8	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	8.8	0.0	0.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.17	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	14.0
HCM 6th LOS	B

HCM 6th Signalized Intersection Capacity Analysis

8: SR 200 & Blackrock Rd

03/17/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (veh/h)	50	1528	20	15	917	48	7	2	7	201	3	48
Future Volume (veh/h)	50	1528	20	15	917	48	7	2	7	201	3	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	1661	22	16	997	52	8	2	8	218	3	52
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
Opposing Right Turn Influence	No			No			No			No		
Cap, veh/h	163	1743	541	127	1641	509	543	129	516	466	23	391
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
Prop Arrive On Green	0.09	0.34	0.34	0.07	0.32	0.32	0.07	0.39	0.39	0.26	0.26	0.26
Unsig. Movement Delay												
Ln Grp Delay, s/veh	35.2	35.4	15.5	32.5	21.7	17.1	14.6	0.0	13.0	26.1	0.0	20.6
Ln Grp LOS	D	D	B	C	C	B	B	A	B	C	A	C
Approach Vol, veh/h	1737			1065			18			273		
Approach Delay, s/veh	35.2			21.6			13.7			25.0		
Approach LOS	D			C			B			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4	5	6	7	8				
Case No		4.0	2.0	3.0	1.2	6.3	2.0	3.0				
Phs Duration (G+Y+Rc), s		32.1	9.5	28.4	9.5	22.6	10.9	27.0				
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s		27.6	5.0	23.9	5.0	18.1	6.4	22.5				
Max Allow Headway (MAH), s		5.5	3.8	5.2	3.8	4.1	3.8	5.2				
Max Q Clear (g_c+I1), s		2.3	2.6	24.2	2.2	11.5	4.0	13.5				
Green Ext Time (g_e), s		0.0	0.0	0.0	0.0	0.5	0.0	4.6				
Prob of Phs Call (p_c)		1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)		0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt			3		5	1	7					
Mvmt Sat Flow, veh/h			1781		1781	1405	1781					
Through Movement Data												
Assigned Mvmt		2		4		6		8				
Mvmt Sat Flow, veh/h		327		5106		87		5106				
Right-Turn Movement Data												
Assigned Mvmt			12		14		16			18		
Mvmt Sat Flow, veh/h			1308		1585		1511			1585		
Left Lane Group Data												
Assigned Mvmt	0	0	3	0	5	1	7	0				
Lane Assignment			L (Prot)		L (Pr/Pm)		L L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis

8: SR 200 & Blackrock Rd

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Lanes in Grp	0	0	1	0	1	1	1	0
Grp Vol (v), veh/h	0	0	16	0	8	218	54	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	1781	1405	1781	0
Q Serve Time (g_s), s	0.0	0.0	0.6	0.0	0.2	9.5	2.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.6	0.0	0.2	9.5	2.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	1349	1405	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	20.1	18.1	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	16.3	18.1	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	0	127	0	543	466	163	0
V/C Ratio (X)	0.00	0.00	0.13	0.00	0.01	0.47	0.33	0.00
Avail Cap (c_a), veh/h	0	0	127	0	543	466	163	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	30.5	0.0	14.6	22.8	29.8	0.0
Incr Delay (d2), s/veh	0.0	0.0	2.0	0.0	0.0	3.3	5.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	32.5	0.0	14.6	26.1	35.2	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.2	0.0	0.1	3.0	0.8	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.4	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.3	0.0	0.1	3.4	1.1	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.02	0.00	0.00	0.19	0.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	3	0	0	0	3
Grp Vol (v), veh/h	0	0	0	1661	0	0	0	997
Grp Sat Flow (s), veh/h/ln	0	0	0	1702	0	0	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	22.2	0.0	0.0	0.0	11.5
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	22.2	0.0	0.0	0.0	11.5
Lane Grp Cap (c), veh/h	0	0	0	1743	0	0	0	1641
V/C Ratio (X)	0.00	0.00	0.00	0.95	0.00	0.00	0.00	0.61
Avail Cap (c_a), veh/h	0	0	0	1743	0	0	0	1641
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	22.5	0.0	0.0	0.0	20.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	12.9	0.0	0.0	0.0	1.7
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	35.4	0.0	0.0	0.0	21.7
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	8.1	0.0	0.0	0.0	4.3
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	2.1	0.0	0.0	0.0	0.3

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8: SR 200 & Blackrock Rd

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	10.2	0.0	0.0	0.0	4.5
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.23	0.00	0.00	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	10	0	22	0	55	0	52
Grp Sat Flow (s), veh/h/ln	0	1635	0	1585	0	1598	0	1585
Q Serve Time (g_s), s	0.0	0.3	0.0	0.6	0.0	1.8	0.0	1.6
Cycle Q Clear Time (g_c), s	0.0	0.3	0.0	0.6	0.0	1.8	0.0	1.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.80	0.00	1.00	0.00	0.95	0.00	1.00
Lane Grp Cap (c), veh/h	0	645	0	541	0	413	0	509
V/C Ratio (X)	0.00	0.02	0.00	0.04	0.00	0.13	0.00	0.10
Avail Cap (c_a), veh/h	0	645	0	541	0	413	0	509
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.9	0.0	15.4	0.0	19.9	0.0	16.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.1	0.0	0.7	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
Control Delay (d), s/veh	0.0	13.0	0.0	15.5	0.0	20.6	0.0	17.1
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.2	0.0	0.7	0.0	0.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.2	0.0	0.7	0.0	0.6
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.01	0.00	0.04	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	29.5
HCM 6th LOS	C

Lanes, Volumes, Timings

4: Felmor Rd & Pages Dairy Rd

03/17/2022

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	259	150	114	217	20	24
Future Volume (vph)	259	150	114	217	20	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.951				0.927	
Flt Protected				0.983	0.978	
Satd. Flow (prot)	1771	0	0	1831	1689	0
Flt Permitted				0.983	0.978	
Satd. Flow (perm)	1771	0	0	1831	1689	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	555			651	534	
Travel Time (s)	12.6			14.8	12.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	282	163	124	236	22	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	445	0	0	360	48	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	53.8%			ICU Level of Service A		
Analysis Period (min)	15					

Lanes, Volumes, Timings
2: US-17 & Pages Dairy Rd

03/17/2022

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	141	395	29	8	376	92	4	19	14	50	62	79
Future Volume (vph)	141	395	29	8	376	92	4	19	14	50	62	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	95		0	185		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.990			0.971			0.949			0.944	
Flt Protected	0.950			0.950				0.995			0.987	
Satd. Flow (prot)	1770	3504	0	1770	3437	0	0	1759	0	0	1736	0
Flt Permitted	0.950			0.950				0.995			0.987	
Satd. Flow (perm)	1770	3504	0	1770	3437	0	0	1759	0	0	1736	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1062			523			462			718	
Travel Time (s)		24.1			11.9			10.5			16.3	
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
Adj. Flow (vph)	153	429	32	9	409	100	4	21	15	54	67	86
Shared Lane Traffic (%)												
Lane Group Flow (vph)	153	461	0	9	509	0	0	40	0	0	207	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	48.7%				ICU Level of Service A							
Analysis Period (min)	15											

HCS7 Roundabouts Report

General Information

Site Information

Analyst	Thomas Hatcher, P.E.		Intersection	
Agency or Co.	ETM, Inc.		E/W Street Name	Wildlight Pkwy
Date Performed	3/18/22		N/S Street Name	Chester Rd
Analysis Year	2027		Analysis Time Period (hrs)	0.25
Time Analyzed			Peak Hour Factor	0.92
Project Description	DSAP 2		Jurisdiction	Nassau County, Florida

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0
Lane Assignment	LTR				LTR				L				LTR			
Volume (V), veh/h	0	0	0	0	0	136	0	1	0	0	123	50	0	8	284	0
Percent Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (V_{PCE}), pc/h	0	0	0	0	0	152	0	1	0	0	138	56	0	9	318	0
Right-Turn Bypass	Non-Yielding				None				None				None			
Conflicting Lanes	1				2				1				2			
Pedestrians Crossing, p/h	0				0				0				0			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)		4.9763			4.3276		4.5436	4.5436			4.3276	
Follow-Up Headway (s)		2.6087			2.5352		2.5352	2.5352			2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h		0	0		153		0	194			327	
Entry Volume, veh/h		0	0		149		0	188			317	
Circulating Flow (v_c), pc/h	479			138			9			152		
Exiting Flow (v_{ex}), pc/h	65			0			139			470		
Capacity (C_{PCE}), pc/h		847			1263		1408	1408			1248	
Capacity (c), veh/h		822			1226		1367	1367			1212	
v/c Ratio (x)		0.00			0.12		0.00	0.14			0.26	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		4.4			3.9		2.6	3.7			5.3	
Lane LOS		A	A		A		A	A			A	
95% Queue, veh		0.0			0.4		0.0	0.5			1.1	
Approach Delay, s/veh				3.9			3.7			5.3		
Approach LOS				A			A			A		
Intersection Delay, s/veh LOS	4.6						A					

HCM 6th Signalized Intersection Capacity Analysis

1: US-17 & SR-200

03/17/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	1004	41	402	1046	451	83	160	406	379	149	35
Future Volume (veh/h)	124	1004	41	402	1046	451	83	160	406	379	149	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	135	1091	45	437	1137	490	90	174	0	412	162	0
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	284	1257	52	557	1679	521	202	849		518	979	
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
Prop Arrive On Green	0.08	0.25	0.25	0.16	0.33	0.33	0.11	0.24	0.00	0.15	0.28	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	45.0	43.9	51.8	46.9	28.3	56.4	44.2	28.0	0.0	48.8	25.1	0.0
Ln Grp LOS	D	D	D	D	C	E	D	C		D	C	
Approach Vol, veh/h	1271		2064			264			574			
Approach Delay, s/veh	46.5		38.9			33.5			42.1			
Approach LOS	D		D			C			D			
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	18.0	26.0	19.0	27.0	14.7	29.3	11.9	34.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	13.5	21.5	14.5	22.5	10.2	24.8	7.4	29.6				
Max Allow Headway (MAH), s	3.7	4.9	3.7	4.9	3.7	4.9	3.7	4.6				
Max Q Clear (g_c+I1), s	12.4	5.5	12.9	20.7	6.2	5.1	5.4	29.0				
Green Ext Time (g_e), s	0.2	0.8	0.3	1.1	0.1	0.8	0.1	0.5				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	3456	3456	1781	3456								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	5030	3554	5106								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	207	1585	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

1: US-17 & SR-200

03/17/2022

Lanes in Grp	2	0	2	0	1	0	2	0
Grp Vol (v), veh/h	412	0	437	0	90	0	135	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1781	0	1728	0
Q Serve Time (g_s), s	10.4	0.0	10.9	0.0	4.2	0.0	3.4	0.0
Cycle Q Clear Time (g_c), s	10.4	0.0	10.9	0.0	4.2	0.0	3.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	518	0	557	0	202	0	284	0
V/C Ratio (X)	0.79	0.00	0.78	0.00	0.45	0.00	0.48	0.00
Avail Cap (c_a), veh/h	518	0	557	0	202	0	284	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	36.9	0.0	36.3	0.0	37.3	0.0	39.4	0.0
Incr Delay (d2), s/veh	11.9	0.0	10.6	0.0	7.0	0.0	5.6	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	48.8	0.0	46.9	0.0	44.2	0.0	45.0	0.0
1st-Term Q (Q1), veh/ln	4.1	0.0	4.4	0.0	1.8	0.0	1.4	0.0
2nd-Term Q (Q2), veh/ln	0.9	0.0	0.8	0.0	0.4	0.0	0.2	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	5.0	0.0	5.2	0.0	2.2	0.0	1.6	0.0
%ile Storage Ratio (RQ%)	0.25	0.00	0.30	0.00	0.21	0.00	0.09	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	2	0	3
Grp Vol (v), veh/h	0	174	0	738	0	162	0	1137
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	3.5	0.0	18.7	0.0	3.1	0.0	17.3
Cycle Q Clear Time (g_c), s	0.0	3.5	0.0	18.7	0.0	3.1	0.0	17.3
Lane Grp Cap (c), veh/h	0	849	0	851	0	979	0	1679
V/C Ratio (X)	0.00	0.20	0.00	0.87	0.00	0.17	0.00	0.68
Avail Cap (c_a), veh/h	0	849	0	851	0	979	0	1679
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	27.4	0.0	32.3	0.0	24.7	0.0	26.1
Incr Delay (d2), s/veh	0.0	0.5	0.0	11.6	0.0	0.4	0.0	2.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	28.0	0.0	43.9	0.0	25.1	0.0	28.3
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	7.2	0.0	1.2	0.0	6.4
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	1.4	0.0	0.0	0.0	0.3

HCM 6th Signalized Intersection Capacity Analysis

1: US-17 & SR-200

03/17/2022

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.5	0.0	8.5	0.0	1.3	0.0	6.8
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.19	0.00	0.06	0.00	0.15
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	398	0	0	0	490
Grp Sat Flow (s), veh/h/ln	0	1585	0	1833	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	18.7	0.0	0.0	0.0	27.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	18.7	0.0	0.0	0.0	27.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.11	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	379	0	458	0	437	0	521
V/C Ratio (X)	0.00	0.00	0.00	0.87	0.00	0.00	0.00	0.94
Avail Cap (c_a), veh/h	0	379	0	458	0	437	0	521
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	32.3	0.0	0.0	0.0	29.3
Incr Delay (d2), s/veh	0.0	0.0	0.0	19.5	0.0	0.0	0.0	27.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	51.8	0.0	0.0	0.0	56.4
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	7.7	0.0	0.0	0.0	9.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	2.5	0.0	0.0	0.0	3.9
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	10.2	0.0	0.0	0.0	13.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.23	0.00	0.00	0.00	1.82
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	41.3
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis

3: SR-200 & Felmor Rd

03/17/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (veh/h)	8	1919	103	375	2164	46	108	25	213	41	26	43
Future Volume (veh/h)	8	1919	103	375	2164	46	108	25	213	41	26	43
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	9	2086	112	408	2352	50	117	27	232	45	28	47
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	81	2038	633	406	2971	922	311	306	259	316	103	172
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
Prop Arrive On Green	0.05	0.40	0.40	0.23	0.58	0.58	0.05	0.16	0.16	0.05	0.16	0.16
Unsig. Movement Delay												
Ln Grp Delay, s/veh	53.1	59.2	22.0	88.0	20.1	10.0	41.1	39.6	79.3	36.2	0.0	42.7
Ln Grp LOS	D	F	C	F	C	B	D	D	E	D	A	D
Approach Vol, veh/h	2207				2810				376			
Approach Delay, s/veh	57.3				29.8				64.5			
Approach LOS	E				C				E			
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	2.0	3.0	1.1	4.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	9.5	22.5	29.6	48.4	9.5	22.5	9.5	68.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	18.0	25.1	43.9	5.0	18.0	5.0	64.0				
Max Allow Headway (MAH), s	3.8	4.2	3.8	5.2	3.8	5.5	3.8	5.2				
Max Q Clear (g_c+I1), s	4.3	17.8	27.1	45.9	7.0	6.3	2.5	41.3				
Green Ext Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.2	0.0	18.8				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	1870	5106	627	5106								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	1053	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Prot)	L (Pr/Pm)	L (Prot)								

HCM 6th Signalized Intersection Capacity Analysis

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	45	0	408	0	117	0	9	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	2.3	0.0	25.1	0.0	5.0	0.0	0.5	0.0
Cycle Q Clear Time (g_c), s	2.3	0.0	25.1	0.0	5.0	0.0	0.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1120	0	0	0	1325	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.0	0.0	0.0	0.0	18.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	16.7	0.0	0.0	0.0	13.7	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.1	0.0	0.0	0.0	2.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	316	0	406	0	311	0	81	0
V/C Ratio (X)	0.14	0.00	1.00	0.00	0.38	0.00	0.11	0.00
Avail Cap (c_a), veh/h	316	0	406	0	311	0	81	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	35.3	0.0	42.5	0.0	37.6	0.0	50.4	0.0
Incr Delay (d2), s/veh	0.9	0.0	45.6	0.0	3.4	0.0	2.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	36.2	0.0	88.0	0.0	41.1	0.0	53.1	0.0
1st-Term Q (Q1), veh/ln	1.0	0.0	10.9	0.0	0.0	0.0	0.2	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	5.1	0.0	0.3	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.1	0.0	16.0	0.0	0.3	0.0	0.3	0.0
%ile Storage Ratio (RQ%)	0.03	0.00	0.40	0.00	0.01	0.00	0.01	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T				T	
Lanes in Grp	0	1	0	3	0	0	0	3
Grp Vol (v), veh/h	0	27	0	2086	0	0	0	2352
Grp Sat Flow (s), veh/h/ln	0	1870	0	1702	0	0	0	1702
Q Serve Time (g_s), s	0.0	1.3	0.0	43.9	0.0	0.0	0.0	39.3
Cycle Q Clear Time (g_c), s	0.0	1.3	0.0	43.9	0.0	0.0	0.0	39.3
Lane Grp Cap (c), veh/h	0	306	0	2038	0	0	0	2971
V/C Ratio (X)	0.00	0.09	0.00	1.02	0.00	0.00	0.00	0.79
Avail Cap (c_a), veh/h	0	306	0	2038	0	0	0	2971
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	39.0	0.0	33.0	0.0	0.0	0.0	17.8
Incr Delay (d2), s/veh	0.0	0.6	0.0	26.2	0.0	0.0	0.0	2.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	39.6	0.0	59.2	0.0	0.0	0.0	20.1
1st-Term Q (Q1), veh/ln	0.0	0.6	0.0	17.5	0.0	0.0	0.0	14.4
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	4.9	0.0	0.0	0.0	0.6

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.7	0.0	22.4	0.0	0.0	0.0	15.0
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.62	0.00	0.00	0.00	0.38
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	12.1	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	232	0	112	0	75	0	50
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1681	0	1585
Q Serve Time (g_s), s	0.0	15.8	0.0	5.0	0.0	4.3	0.0	1.5
Cycle Q Clear Time (g_c), s	0.0	15.8	0.0	5.0	0.0	4.3	0.0	1.5
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.63	0.00	1.00
Lane Grp Cap (c), veh/h	0	259	0	633	0	275	0	922
V/C Ratio (X)	0.00	0.89	0.00	0.18	0.00	0.27	0.00	0.05
Avail Cap (c_a), veh/h	0	259	0	633	0	275	0	922
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	45.1	0.0	21.4	0.0	40.3	0.0	9.9
Incr Delay (d2), s/veh	0.0	34.2	0.0	0.6	0.0	2.4	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	79.3	0.0	22.0	0.0	42.7	0.0	10.0
1st-Term Q (Q1), veh/ln	0.0	6.2	0.0	1.9	0.0	1.8	0.0	0.5
2nd-Term Q (Q2), veh/ln	0.0	2.5	0.0	0.1	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	8.6	0.0	2.0	0.0	2.0	0.0	0.5
%ile Storage Ratio (RQ%)	0.00	0.43	0.00	0.05	0.00	0.06	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	43.4
HCM 6th LOS	D

HCM 6th Signalized Intersection Capacity Analysis

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	262	1032	396	174	1432	64	356	190	101	138	175	138
Future Volume (veh/h)	262	1032	396	174	1432	64	356	190	101	138	175	138
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	285	1122	430	189	1557	70	387	207	110	150	190	150
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	356	1844	572	265	1709	531	459	1059	472	222	815	364
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
Prop Arrive On Green	0.10	0.36	0.36	0.08	0.33	0.33	0.13	0.30	0.30	0.06	0.23	0.23
Unsig. Movement Delay												
Ln Grp Delay, s/veh	51.2	24.1	30.7	44.3	36.3	20.9	50.6	24.0	25.0	44.8	28.9	32.9
Ln Grp LOS	D	C	C	D	D	C	D	C	C	D	C	C
Approach Vol, veh/h	1837				1816				704		490	
Approach Delay, s/veh	29.9				36.5				38.8		35.0	
Approach LOS	C				D				D		C	
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	10.3	31.3	11.4	37.0	16.5	25.1	13.8	34.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	8.3	23.7	9.7	30.3	12.5	19.5	9.5	30.5				
Max Allow Headway (MAH), s	3.8	4.8	3.8	4.9	3.8	4.7	3.8	5.2				
Max Q Clear (g_c+I1), s	5.8	6.7	6.8	23.4	11.8	9.2	9.3	28.3				
Green Ext Time (g_e), s	0.1	1.5	0.2	4.7	0.1	1.2	0.0	1.9				
Prob of Phs Call (p_c)	0.98	1.00	0.99	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	0.87	1.00	0.00	1.00	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	3456	3456	3456	3456								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	5106	3554	5106								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	1585	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

5: SR-200 & Chester Rd

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	150	0	189	0	387	0	285	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	3.8	0.0	4.8	0.0	9.8	0.0	7.3	0.0
Cycle Q Clear Time (g_c), s	3.8	0.0	4.8	0.0	9.8	0.0	7.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	222	0	265	0	459	0	356	0
V/C Ratio (X)	0.68	0.00	0.71	0.00	0.84	0.00	0.80	0.00
Avail Cap (c_a), veh/h	319	0	372	0	480	0	365	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	41.2	0.0	40.6	0.0	38.1	0.0	39.5	0.0
Incr Delay (d2), s/veh	3.6	0.0	3.7	0.0	12.5	0.0	11.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	44.8	0.0	44.3	0.0	50.6	0.0	51.2	0.0
1st-Term Q (Q1), veh/ln	1.6	0.0	2.0	0.0	4.1	0.0	3.0	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	0.8	0.0	0.6	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	1.7	0.0	2.2	0.0	4.9	0.0	3.6	0.0
%ile Storage Ratio (RQ%)	0.12	0.00	0.09	0.00	0.21	0.00	0.15	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	3	0	2	0	3
Grp Vol (v), veh/h	0	207	0	1122	0	190	0	1557
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	3.9	0.0	16.2	0.0	3.9	0.0	26.3
Cycle Q Clear Time (g_c), s	0.0	3.9	0.0	16.2	0.0	3.9	0.0	26.3
Lane Grp Cap (c), veh/h	0	1059	0	1844	0	815	0	1709
V/C Ratio (X)	0.00	0.20	0.00	0.61	0.00	0.23	0.00	0.91
Avail Cap (c_a), veh/h	0	1059	0	1844	0	815	0	1730
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.6	0.0	23.5	0.0	28.2	0.0	28.7
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.6	0.0	0.7	0.0	7.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.0	0.0	24.1	0.0	28.9	0.0	36.3
1st-Term Q (Q1), veh/ln	0.0	1.6	0.0	6.3	0.0	1.6	0.0	10.3
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	1.2

HCM 6th Signalized Intersection Capacity Analysis

5: SR-200 & Chester Rd

03/17/2022

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.7	0.0	6.4	0.0	1.7	0.0	11.5
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.12	0.00	0.05	0.00	0.13
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	110	0	430	0	150	0	70
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	4.7	0.0	21.4	0.0	7.2	0.0	2.8
Cycle Q Clear Time (g_c), s	0.0	4.7	0.0	21.4	0.0	7.2	0.0	2.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	472	0	572	0	364	0	531
V/C Ratio (X)	0.00	0.23	0.00	0.75	0.00	0.41	0.00	0.13
Avail Cap (c_a), veh/h	0	472	0	572	0	364	0	537
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.8	0.0	25.2	0.0	29.5	0.0	20.8
Incr Delay (d2), s/veh	0.0	1.2	0.0	5.5	0.0	3.4	0.0	0.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.0	0.0	30.7	0.0	32.9	0.0	20.9
1st-Term Q (Q1), veh/ln	0.0	1.7	0.0	7.7	0.0	2.7	0.0	1.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.9	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.9	0.0	8.6	0.0	3.1	0.0	1.0
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.36	0.00	0.22	0.00	0.04
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	34.2
HCM 6th LOS	C

HCM 6th Signalized Intersection Capacity Analysis

6: Chester Rd & Pages Dairy Rd

03/17/2022



Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations									
Traffic Volume (veh/h)	120	250	206	492	307	62			
Future Volume (veh/h)	120	250	206	492	307	62			
Number	7	14	5	2	6	16			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00	1.00	1.00			1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No	No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	130	272	224	535	334	67			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes		Yes						
Cap, veh/h	380	338	682	2213	1588	708			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.21	0.21	0.09	0.62	0.45	0.45			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	18.9	25.8	6.2	4.9	9.6	9.1			
Ln Grp LOS	B	C	A	A	A	A			
Approach Vol, veh/h	402			759	401				
Approach Delay, s/veh	23.5			5.3	9.5				
Approach LOS	C			A	A				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4	5	6		
Case No			4.0		9.0	1.2	7.0		
Phs Duration (G+Y+Rc), s			38.8		16.2	9.7	29.1		
Change Period (Y+Rc), s			4.5		4.5	4.5	4.5		
Max Green (Gmax), s			28.0		18.0	5.5	18.0		
Max Allow Headway (MAH), s			5.2		4.0	3.8	5.0		
Max Q Clear (g_c+I1), s			5.7		11.0	5.3	5.2		
Green Ext Time (g_e), s			3.7		0.8	0.0	1.9		
Prob of Phs Call (p_c)			1.00		1.00	0.97	1.00		
Prob of Max Out (p_x)			0.00		0.23	1.00	0.00		
Left-Turn Movement Data									
Assigned Mvmt					7	5	1		
Mvmt Sat Flow, veh/h					1781	1781	0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			3647		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		1585		
Left Lane Group Data									
Assigned Mvmt		0	0	0	7	5	1	0	0
Lane Assignment					LL (Pr/Pm)				

HCM 6th Signalized Intersection Capacity Analysis

6: Chester Rd & Pages Dairy Rd

03/17/2022

Lanes in Grp	0	0	0	1	1	0	0	0
Grp Vol (v), veh/h	0	0	0	130	224	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1781	1781	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	3.4	3.3	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	3.4	3.3	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	984	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	26.6	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	21.4	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	24.6	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	380	682	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.34	0.33	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	583	692	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	18.3	5.9	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.3	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	18.9	6.2	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.3	0.9	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	1.3	1.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.09	0.05	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment	T			T				
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	535	0	0	0	334	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	3.7	0.0	0.0	0.0	3.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.7	0.0	0.0	0.0	3.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	2213	0	0	0	1588	0	0
V/C Ratio (X)	0.00	0.24	0.00	0.00	0.00	0.21	0.00	0.00
Avail Cap (c_a), veh/h	0	2213	0	0	0	1588	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	4.6	0.0	0.0	0.0	9.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	4.9	0.0	0.0	0.0	9.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	0.0	0.0	1.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

6: Chester Rd & Pages Dairy Rd

03/17/2022

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.0	0.0	0.0	0.0	1.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.00	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment			R		R			
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	272	0	67	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	9.0	0.0	1.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	9.0	0.0	1.3	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	338	0	708	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.80	0.00	0.09	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	519	0	708	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	20.5	0.0	8.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	5.2	0.0	0.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	25.8	0.0	9.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	7.4	0.0	0.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.5	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	7.9	0.0	0.4	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.15	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	11.1
HCM 6th LOS	B

HCM 6th Signalized Intersection Capacity Analysis

8: SR 200 & Blackrock Rd

03/17/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (veh/h)	82	1360	12	9	1756	172	14	2	15	112	3	78
Future Volume (veh/h)	82	1360	12	9	1756	172	14	2	15	112	3	78
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	1478	13	10	1909	187	15	2	16	122	3	85
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
Opposing Right Turn Influence	No			No			No			No		
Cap, veh/h	122	2106	654	111	2074	644	454	64	511	421	13	366
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.14	0.82	0.82	0.06	0.41	0.41	0.06	0.36	0.36	0.24	0.24	0.24
Unsig. Movement Delay												
Ln Grp Delay, s/veh	65.0	6.9	4.2	36.9	30.7	17.1	18.7	0.0	16.9	27.2	0.0	26.1
Ln Grp LOS	E	A	A	D	C	B	B	A	B	C	A	C
Approach Vol, veh/h	1580			2106			33			210		
Approach Delay, s/veh	10.2			29.5			17.7			26.7		
Approach LOS	B			C			B			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	5	6	7	8				
Case No	4.0		2.0	3.0	1.2	6.3	2.0	3.0				
Phs Duration (G+Y+Rc), s	33.0		9.5	37.5	9.5	23.5	10.0	37.0				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	28.5		5.0	33.0	5.0	19.0	5.5	32.5				
Max Allow Headway (MAH), s	5.5		3.8	5.2	3.8	4.5	3.8	5.1				
Max Q Clear (g_c+I1), s	2.6		2.4	11.6	2.5	7.8	5.8	30.4				
Green Ext Time (g_e), s	0.0		0.0	11.5	0.0	0.6	0.0	2.0				
Prob of Phs Call (p_c)	1.00		1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00		0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt			3		5	1	7					
Mvmt Sat Flow, veh/h			1781		1781	1395	1781					
Through Movement Data												
Assigned Mvmt	2			4		6		8				
Mvmt Sat Flow, veh/h	179			5106		54		5106				
Right-Turn Movement Data												
Assigned Mvmt	12			14		16		18				
Mvmt Sat Flow, veh/h	1433			1585		1539		1585				
Left Lane Group Data												
Assigned Mvmt	0	0	3	0	5	1	7	0				
Lane Assignment	L (Prot)			L (Pr/Pm)			L L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis

8: SR 200 & Blackrock Rd

03/17/2022

Lanes in Grp	0	0	1	0	1	1	1	0
Grp Vol (v), veh/h	0	0	10	0	15	122	89	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	1781	1395	1781	0
Q Serve Time (g_s), s	0.0	0.0	0.4	0.0	0.5	5.8	3.8	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.4	0.0	0.5	5.8	3.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	1309	1395	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	21.0	19.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	15.4	19.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.1	5.8	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	0	111	0	454	421	122	0
V/C Ratio (X)	0.00	0.00	0.09	0.00	0.03	0.29	0.73	0.00
Avail Cap (c_a), veh/h	0	0	111	0	454	421	122	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	35.4	0.0	18.6	25.5	33.8	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.6	0.0	0.1	1.7	31.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	36.9	0.0	18.7	27.2	65.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.2	0.0	0.2	1.9	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	1.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.2	0.0	0.2	2.1	2.6	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.01	0.00	0.01	0.12	0.13	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	3	0	0	0	3
Grp Vol (v), veh/h	0	0	0	1478	0	0	0	1909
Grp Sat Flow (s), veh/h/ln	0	0	0	1702	0	0	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	9.6	0.0	0.0	0.0	28.4
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	9.6	0.0	0.0	0.0	28.4
Lane Grp Cap (c), veh/h	0	0	0	2106	0	0	0	2074
V/C Ratio (X)	0.00	0.00	0.00	0.70	0.00	0.00	0.00	0.92
Avail Cap (c_a), veh/h	0	0	0	2106	0	0	0	2074
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	5.0	0.0	0.0	0.0	22.5
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.0	0.0	0.0	0.0	8.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	6.9	0.0	0.0	0.0	30.7
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.6	0.0	0.0	0.0	10.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.4	0.0	0.0	0.0	1.6

HCM 6th Signalized Intersection Capacity Analysis

8: SR 200 & Blackrock Rd

03/17/2022

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	2.0	0.0	0.0	0.0	12.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.33
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	18	0	13	0	88	0	187
Grp Sat Flow (s), veh/h/ln	0	1612	0	1585	0	1593	0	1585
Q Serve Time (g_s), s	0.0	0.6	0.0	0.1	0.0	3.6	0.0	6.4
Cycle Q Clear Time (g_c), s	0.0	0.6	0.0	0.1	0.0	3.6	0.0	6.4
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.89	0.00	1.00	0.00	0.97	0.00	1.00
Lane Grp Cap (c), veh/h	0	574	0	654	0	378	0	644
V/C Ratio (X)	0.00	0.03	0.00	0.02	0.00	0.23	0.00	0.29
Avail Cap (c_a), veh/h	0	574	0	654	0	378	0	644
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.8	0.0	4.1	0.0	24.6	0.0	16.0
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.1	0.0	1.4	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
Control Delay (d), s/veh	0.0	16.9	0.0	4.2	0.0	26.1	0.0	17.1
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.0	0.0	1.3	0.0	2.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.0	0.0	1.5	0.0	2.4
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.08	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	21.5
HCM 6th LOS	C

Lanes, Volumes, Timings

4: Felmor Rd & Pages Dairy Rd

03/17/2022

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	226	48	44	163	43	25
Future Volume (vph)	226	48	44	163	43	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.976				0.951	
Flt Protected				0.989	0.969	
Satd. Flow (prot)	1818	0	0	1842	1717	0
Flt Permitted				0.989	0.969	
Satd. Flow (perm)	1818	0	0	1842	1717	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	555			651	534	
Travel Time (s)	12.6			14.8	12.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	246	52	48	177	47	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	298	0	0	225	74	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	39.7%			ICU Level of Service A		
Analysis Period (min)	15					

Lanes, Volumes, Timings
2: US-17 & Pages Dairy Rd

03/17/2022

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	115	453	24	12	549	151	9	41	22	62	41	117
Future Volume (vph)	115	453	24	12	549	151	9	41	22	62	41	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	95		0	185		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.968			0.959			0.928	
Flt Protected	0.950			0.950				0.994			0.986	
Satd. Flow (prot)	1770	3511	0	1770	3426	0	0	1776	0	0	1704	0
Flt Permitted	0.950			0.950				0.994			0.986	
Satd. Flow (perm)	1770	3511	0	1770	3426	0	0	1776	0	0	1704	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1062			523			462			718	
Travel Time (s)		24.1			11.9			10.5			16.3	
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
Adj. Flow (vph)	125	492	26	13	597	164	10	45	24	67	45	127
Shared Lane Traffic (%)												
Lane Group Flow (vph)	125	518	0	13	761	0	0	79	0	0	239	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	55.8%				ICU Level of Service B							
Analysis Period (min)	15											

HCS7 Roundabouts Report

General Information

Site Information

Analyst	Thomas Hatcher, P.E.		Intersection	
Agency or Co.	ETM, Inc.		E/W Street Name	Wildlight Pkwy
Date Performed	3/18/22		N/S Street Name	Chester Rd
Analysis Year	2027		Analysis Time Period (hrs)	0.25
Time Analyzed			Peak Hour Factor	0.92
Project Description	DSAP 2		Jurisdiction	Nassau County, Florida

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0
Lane Assignment	LTR				LTR				L				LTR			
Volume (V), veh/h	0	0	0	0	0	137	0	9	0	0	317	251	0	7	202	0
Percent Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (V_{PCE}), pc/h	0	0	0	0	0	153	0	10	0	0	355	281	0	8	226	0
Right-Turn Bypass	Non-Yielding				None				None				None			
Conflicting Lanes	1				2				1				2			
Pedestrians Crossing, p/h	0				0				0				0			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)		4.9763			4.3276		4.5436	4.5436			4.3276	
Follow-Up Headway (s)		2.6087			2.5352		2.5352	2.5352			2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h		0	0		163		0	636			234	
Entry Volume, veh/h		0	0		158		0	617			227	
Circulating Flow (v_c), pc/h	387			355			8			153		
Exiting Flow (v_{ex}), pc/h	289			0			365			379		
Capacity (C_{PCE}), pc/h		930			1050		1410	1410			1247	
Capacity (c), veh/h		903			1020		1369	1369			1211	
v/c Ratio (x)		0.00			0.16		0.00	0.45			0.19	

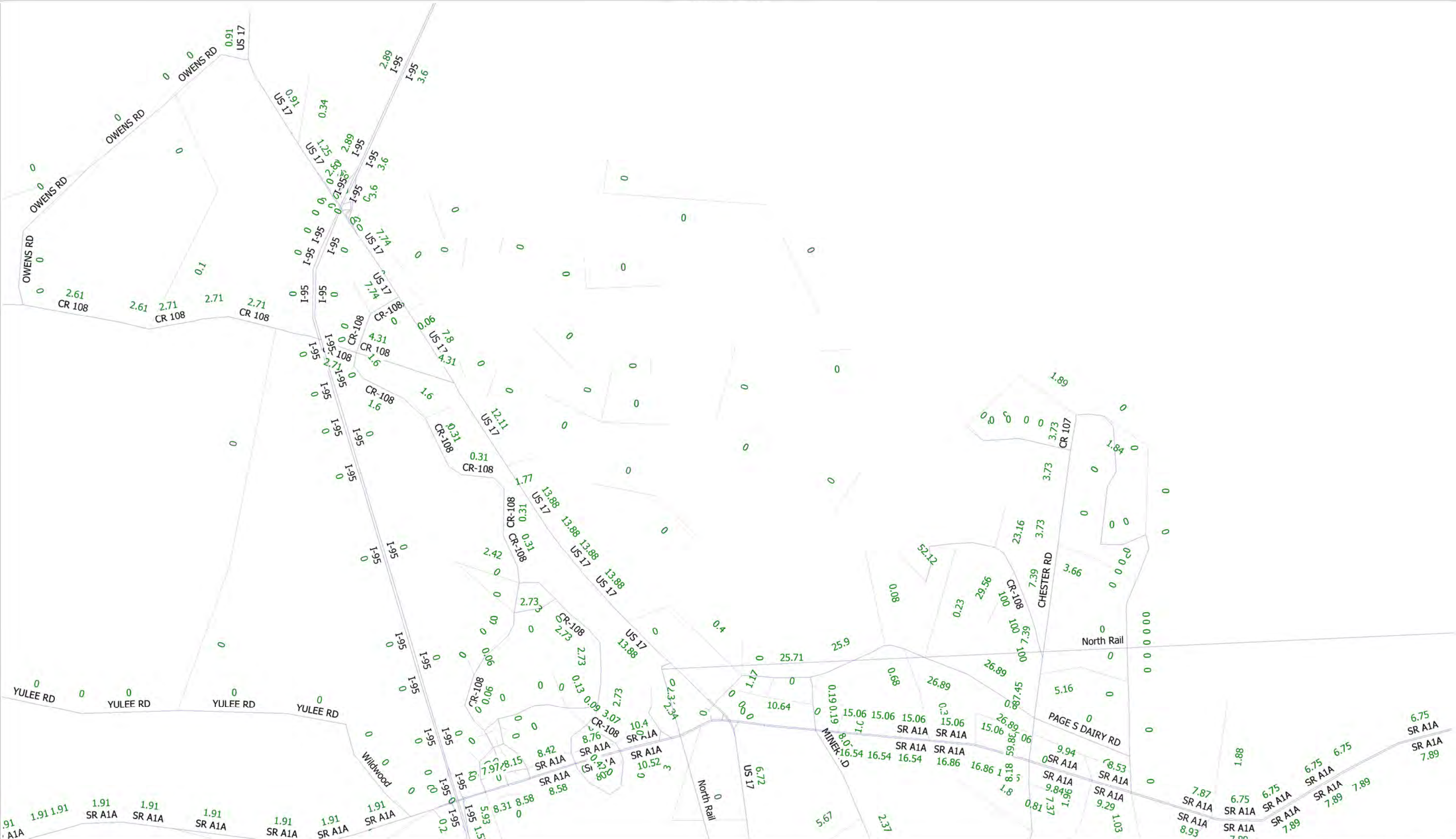
Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		4.0			5.0		2.6	7.0			4.6	
Lane LOS		A	A		A		A	A			A	
95% Queue, veh		0.0			0.5		0.0	2.4			0.7	
Approach Delay, s/veh				5.0			7.0			4.6		
Approach LOS				A			A			A		
Intersection Delay, s/veh LOS	6.2						A					

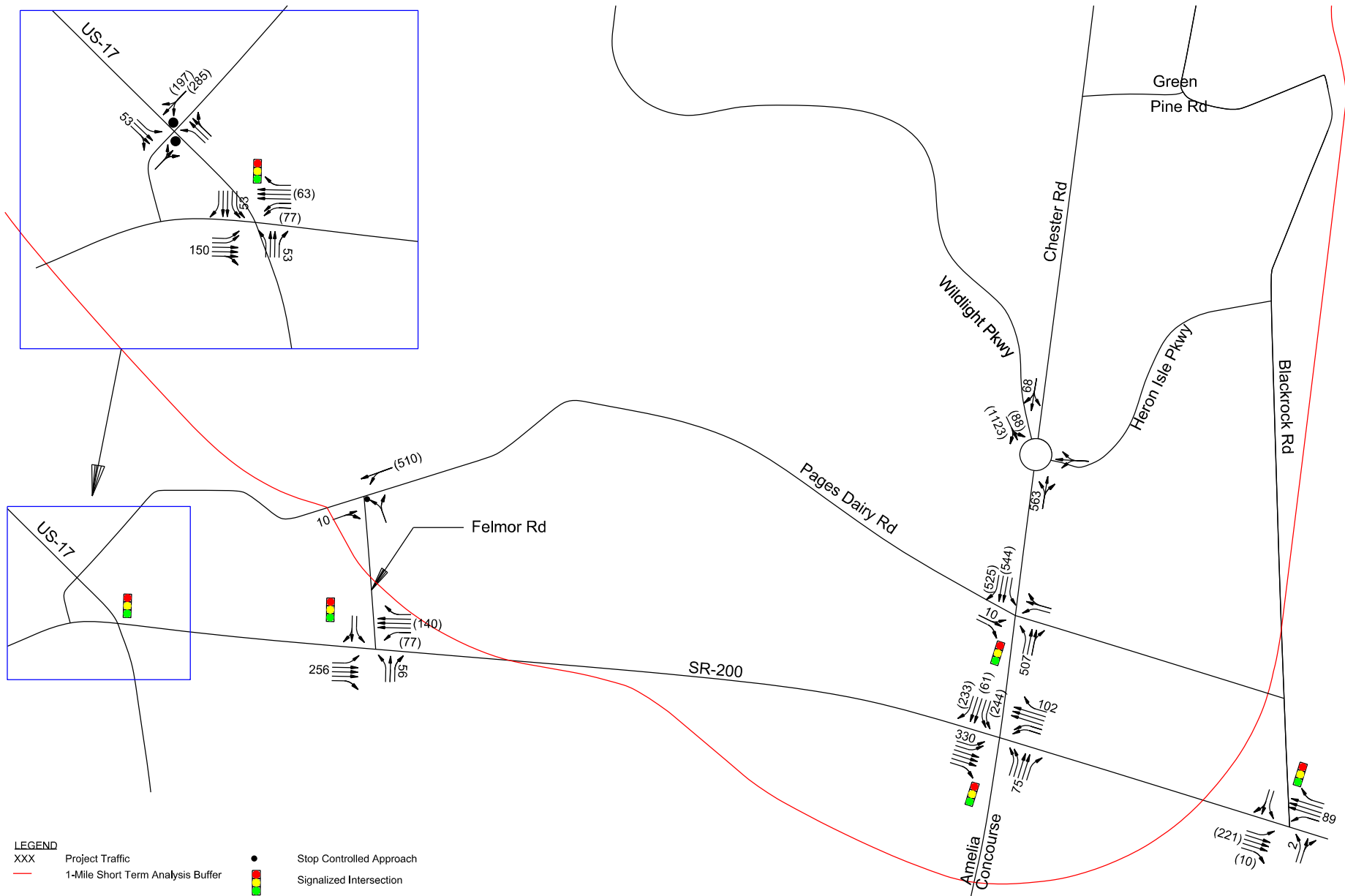
Appendix F

(NERPM Model Project Traffic Distributions)

Appendix F1
(2027 NERPM Model Project Traffic Distributions)





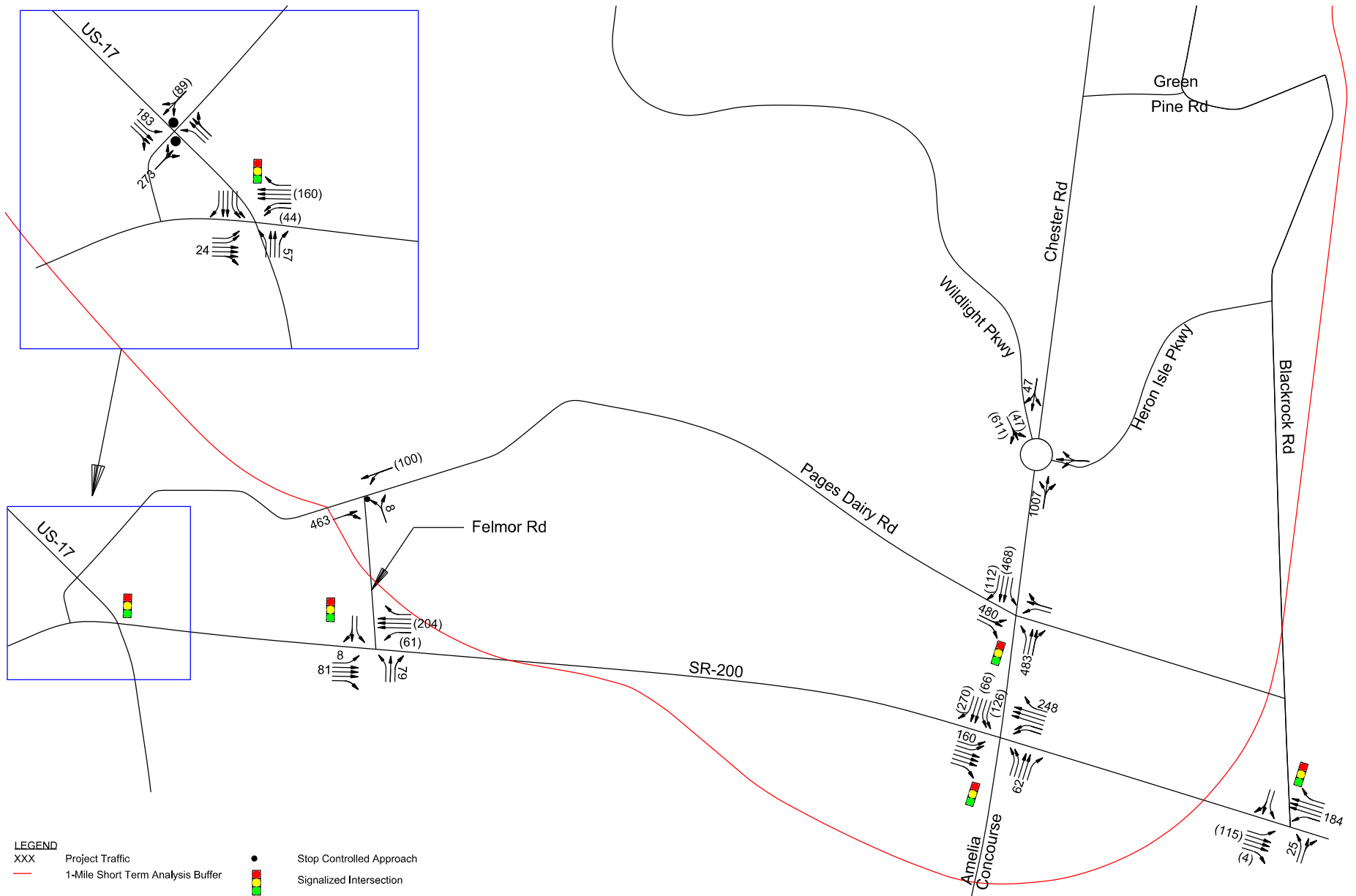


England-Thing & Miller, Inc.
 14775 Old St. Augustine Road
 Jacksonville, FL 32256
 TEL: (904) 642-8990
 FAX: (904) 645-9485
 CA - 00002554 LC - 0000316

CPA 21-09 / Short Term Analysis

AM Peak Hour
 Project Traffic

Figure F1



England-Thing & Miller, Inc.
 14775 Old St. Augustine Road
 Jacksonville, FL 32256
 TEL: (904) 642-8990
 FAX: (904) 645-9485
 CA - 00002554 LC - 0000316

CPA 21-09 / Short Term Analysis

PM Peak Hour
 Project Traffic

Figure F2

Appendix F2

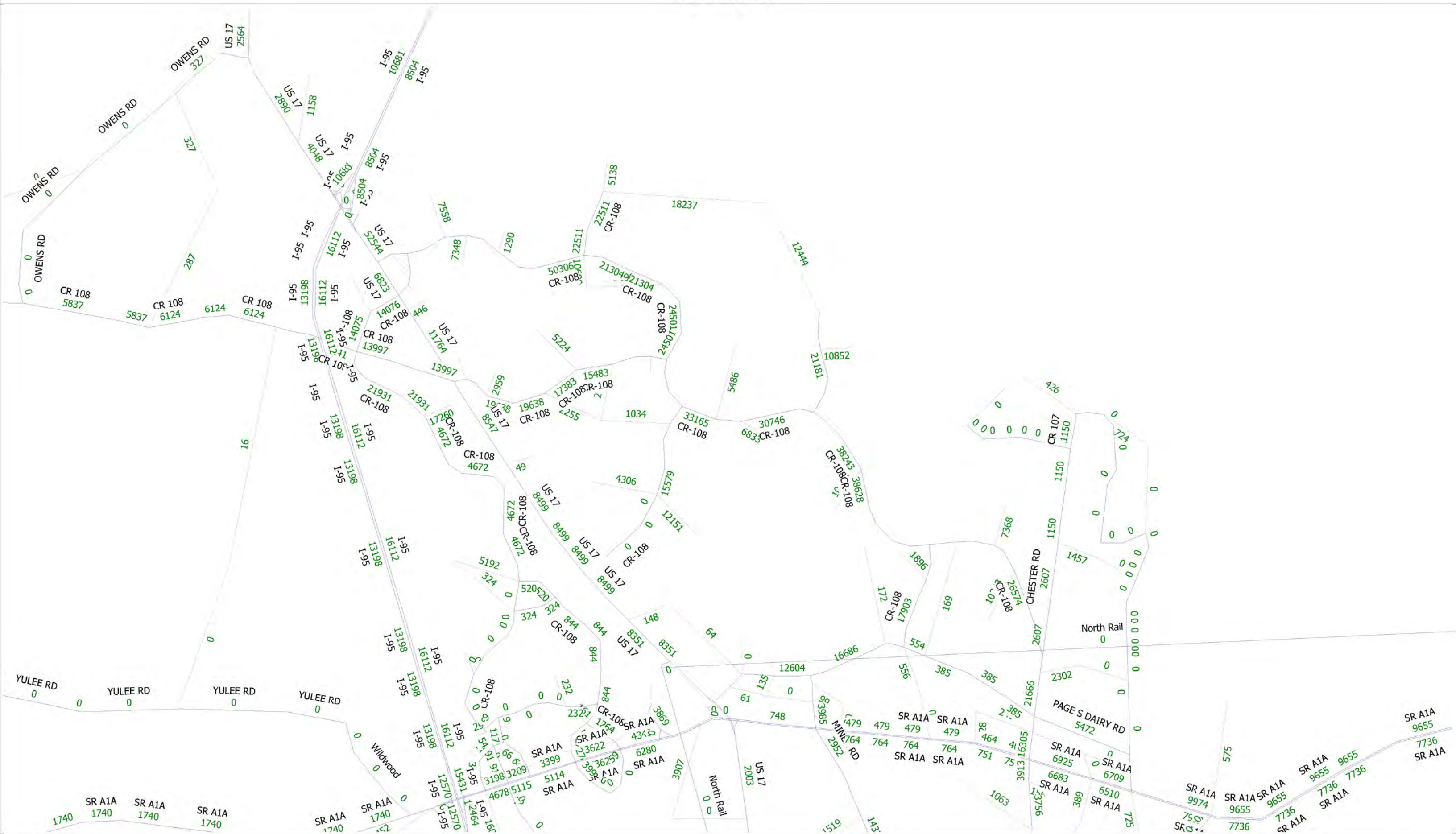
(2052 NERPM Model Project Traffic Distributions)

East Nassau Community Planning Area

CPA 21-09

2052 Project Traffic

NERPMAB 1v3

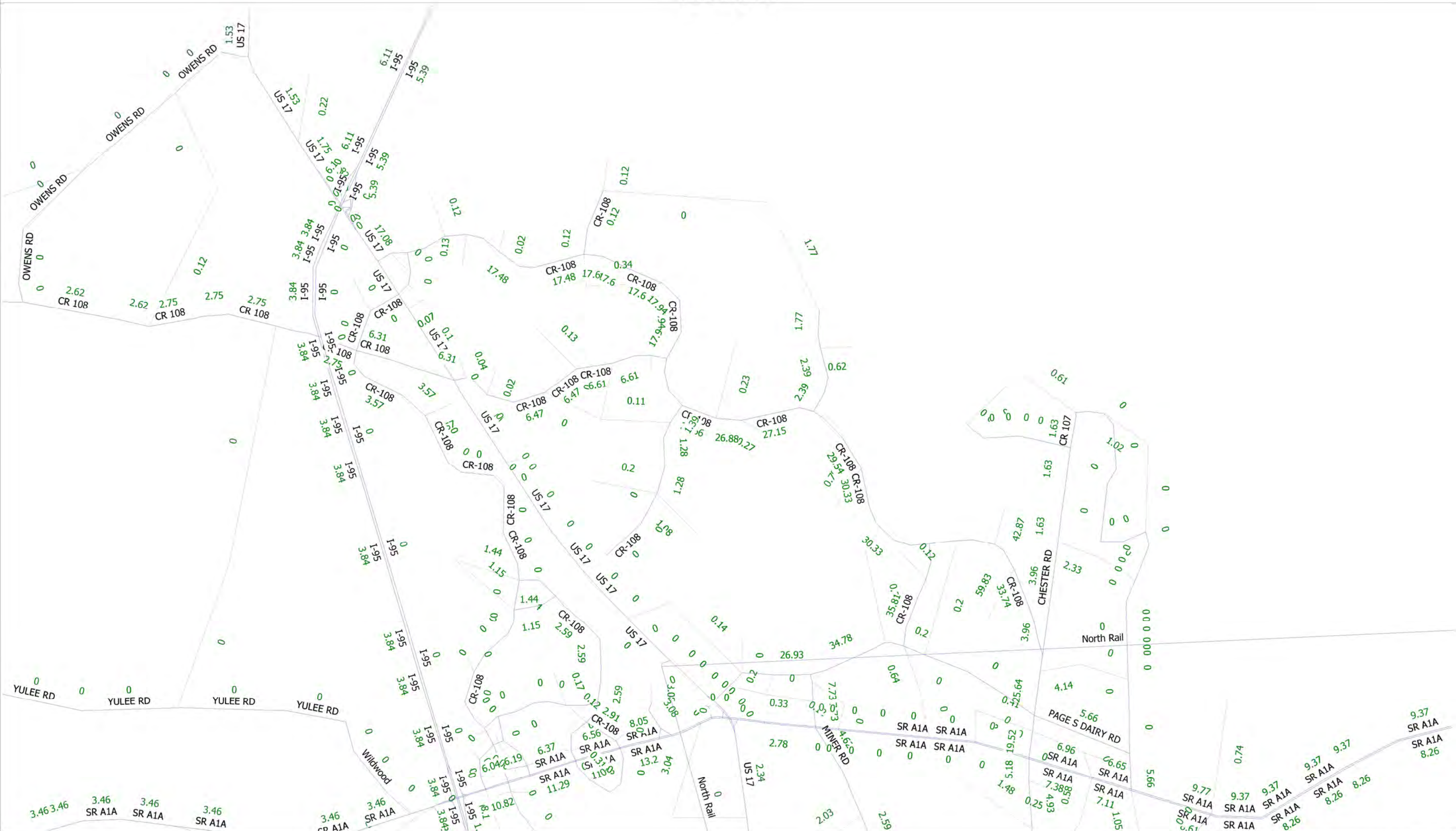


East Nassau Community Planning Area

CPA 21-09

2052 Daily Distribution - TAZ 27&28

NERPMAB 1v3



NERPMAB 1v3

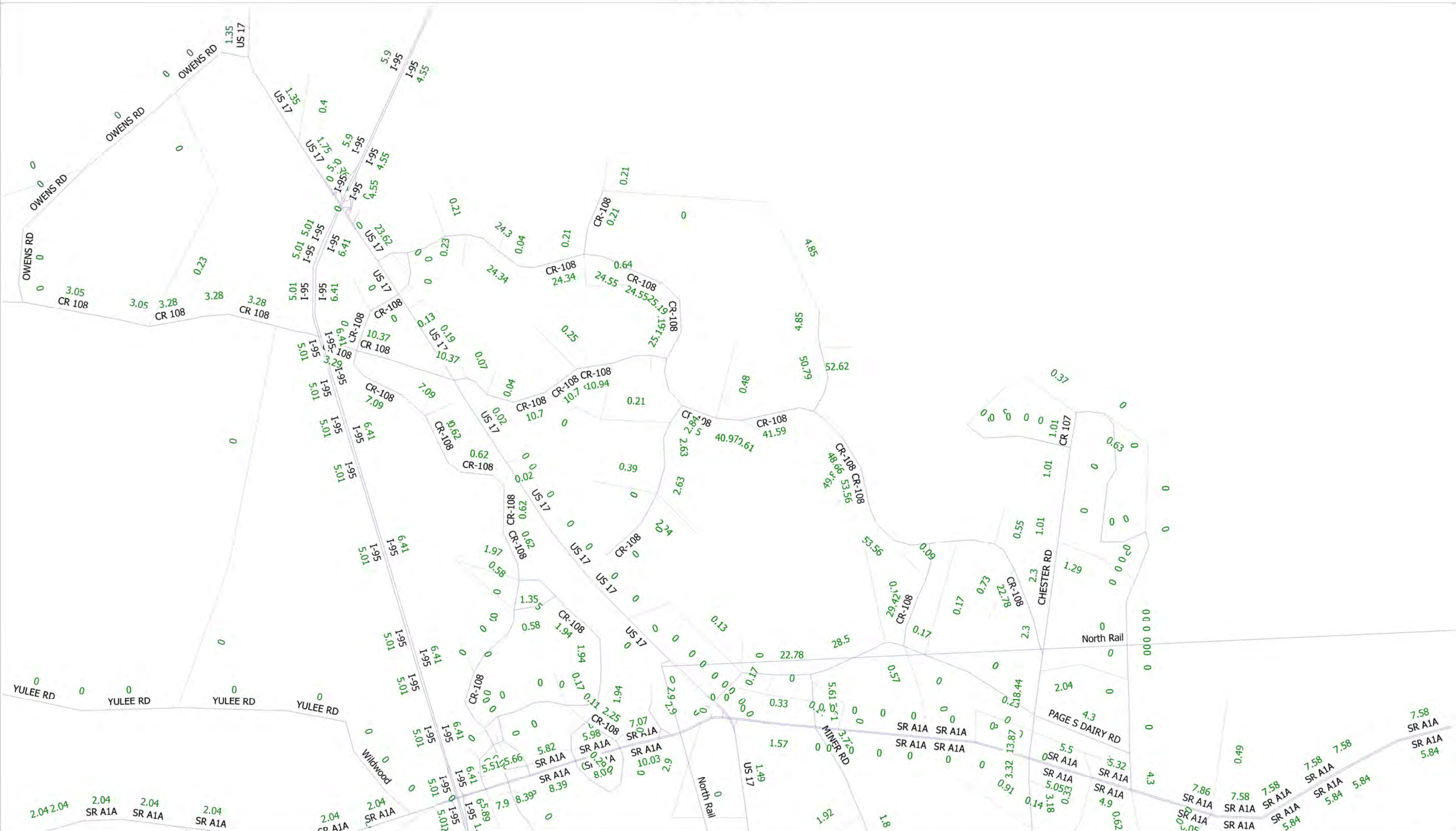


East Nassau Community Planning Area

CPA 21-09

2052 Daily Distribution - TAZ 30&31

NERPMAB 1v3



NERPMAB 1v3

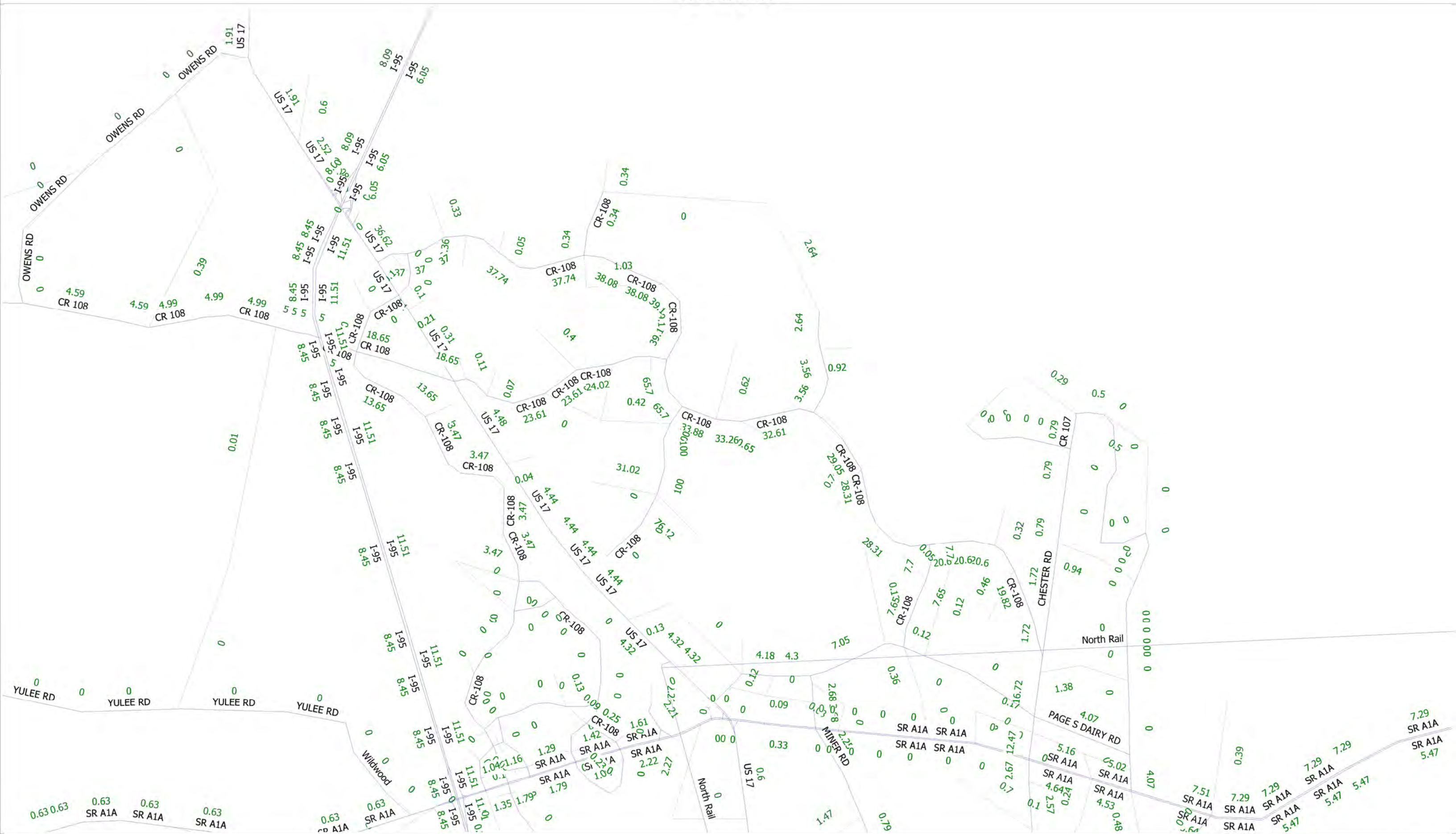


East Nassau Community Planning Area

CPA 21-09

2052 Daily Distribution - TAZ 33&91

NERPMAB 1v3

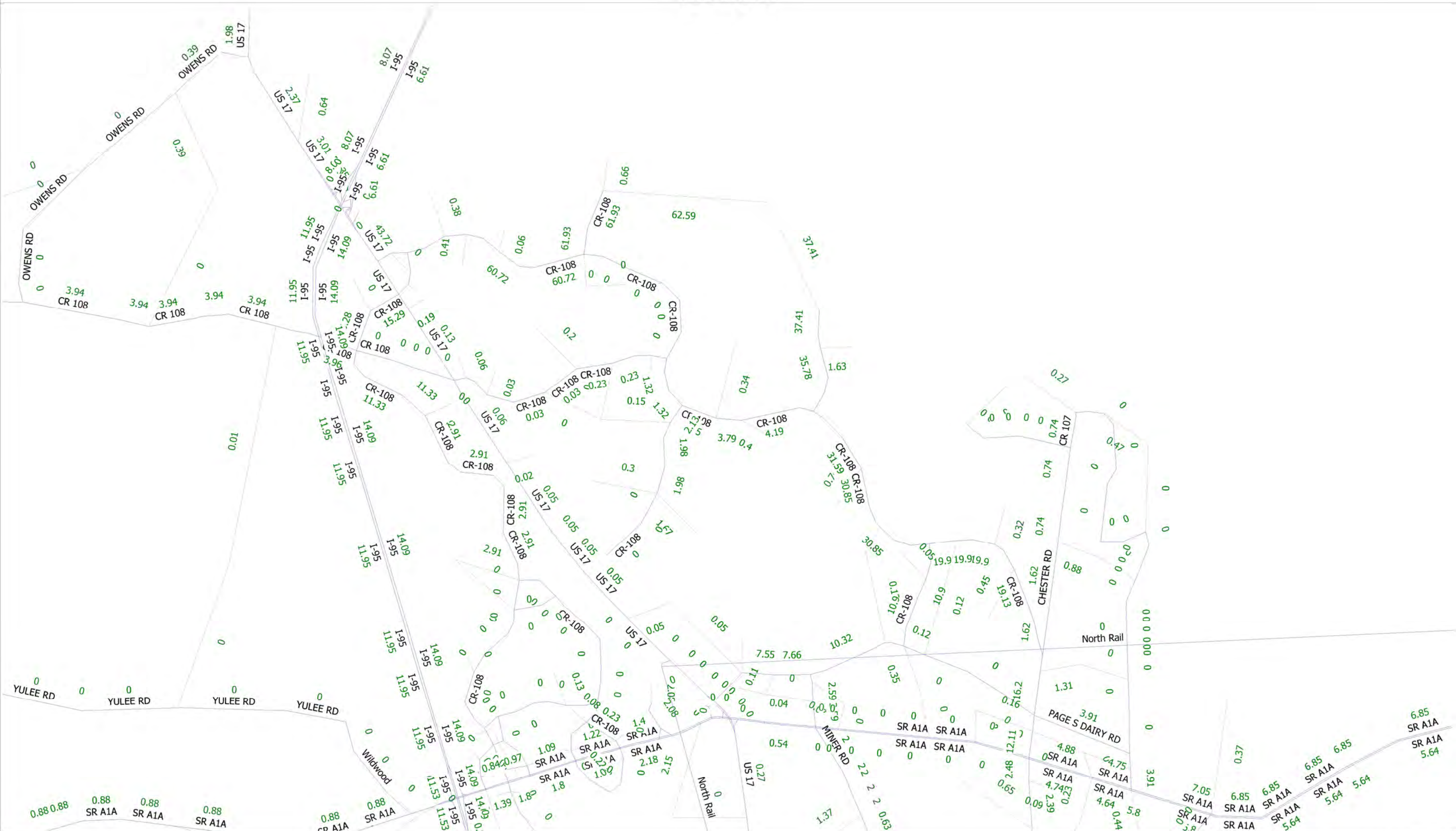


East Nassau Community Planning Area

CPA 21-09

2052 Daily Distribution - TAZ 90

NERPMAB 1v3



NERPMAB 1v3



NERPMAB 1v3

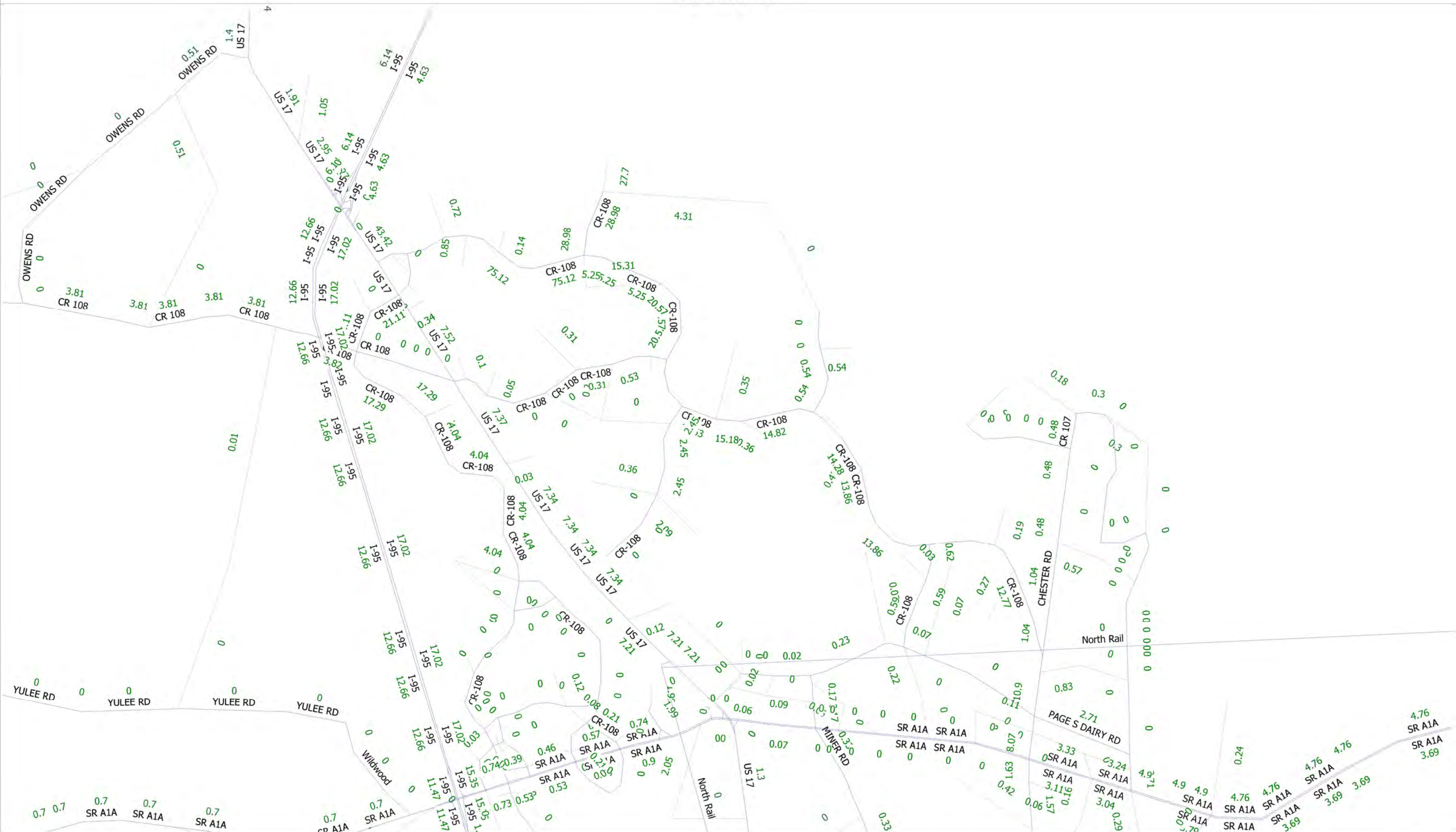


East Nassau Community Planning Area

CPA 21-09

2052 Daily Distribution - TAZ 94&97

NERPMAB 1v3



NERPMAB 1v3



NERPMAB 1v3

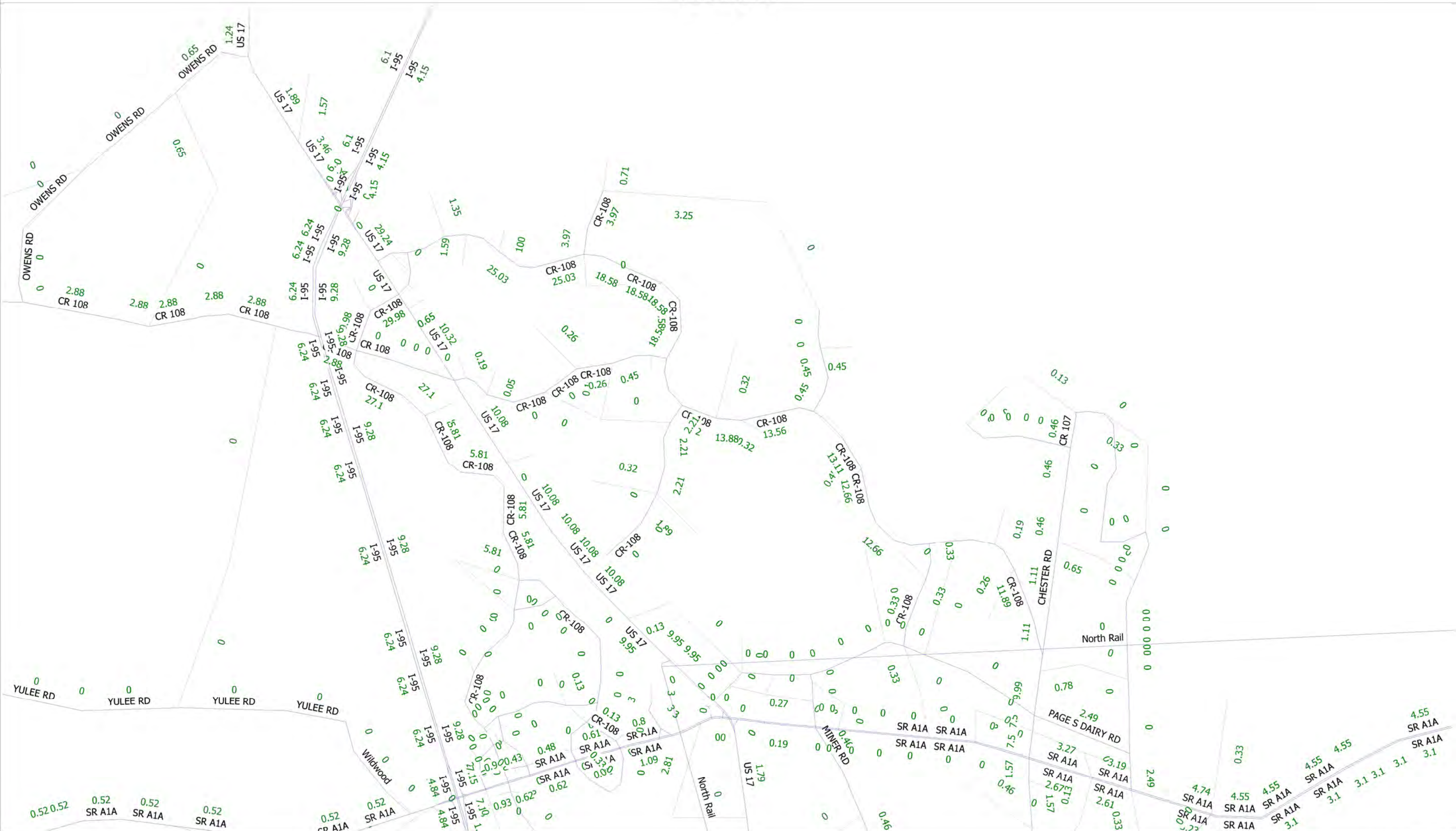


East Nassau Community Planning Area

CPA 21-09

2052 Daily Distribution - TAZ 98

NERPMAB 1v3

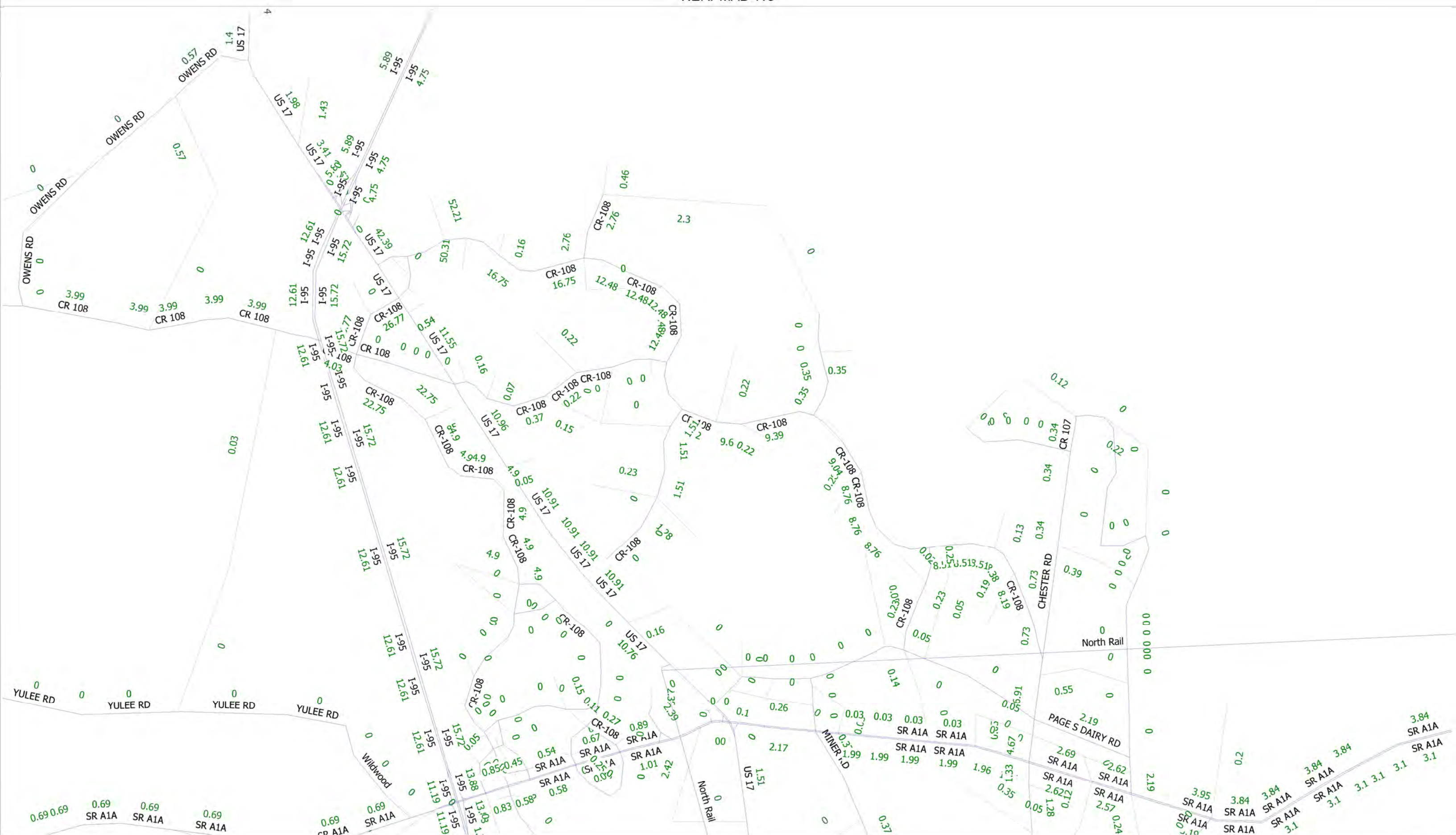


East Nassau Community Planning Area

CPA 21-09

2052 Daily Distribution - TAZ 128&129

NERPMAB 1v3



NERPMAB 1v3

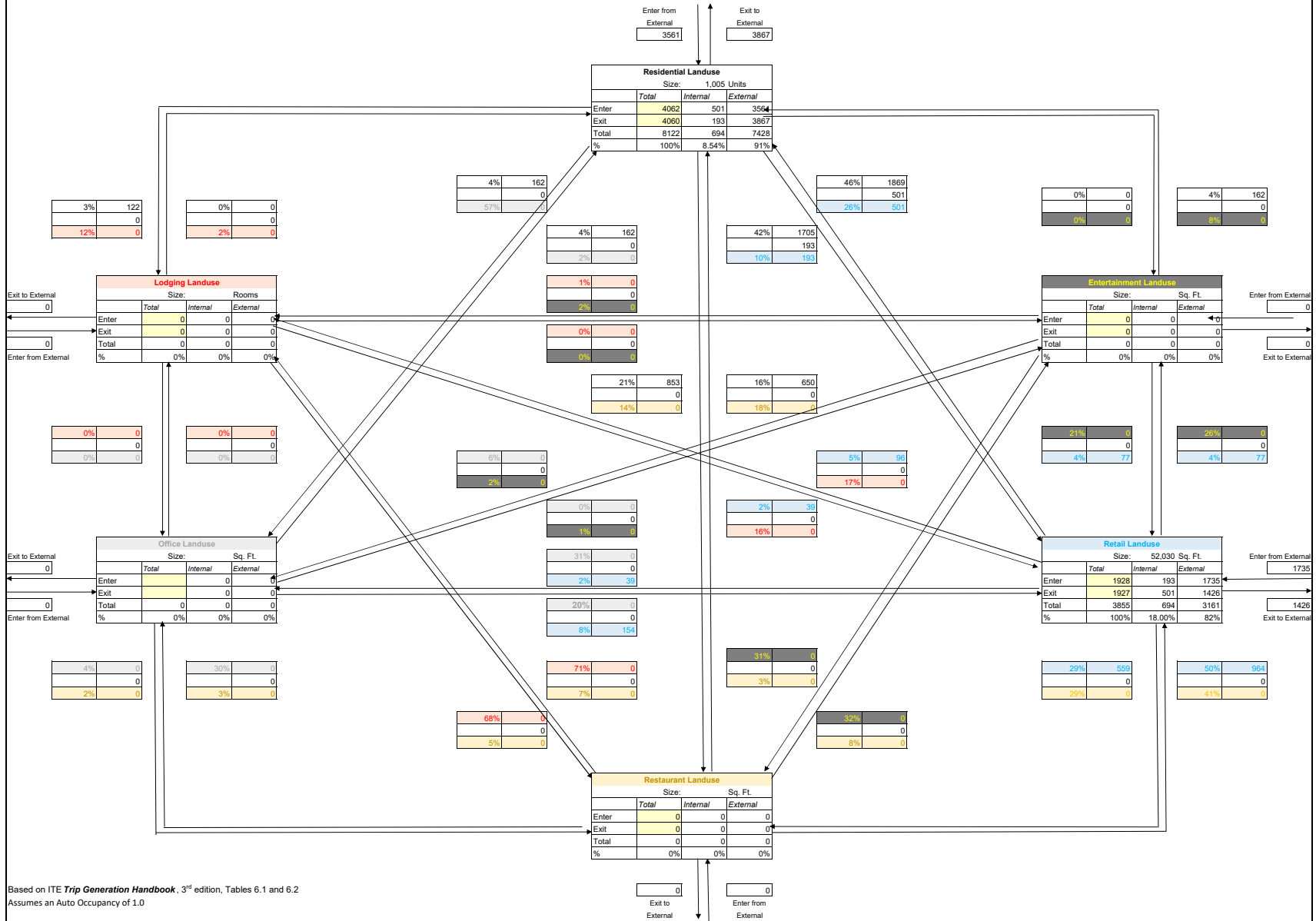


Appendix F3

(Internal Capture Matrixes)

TAZ 27

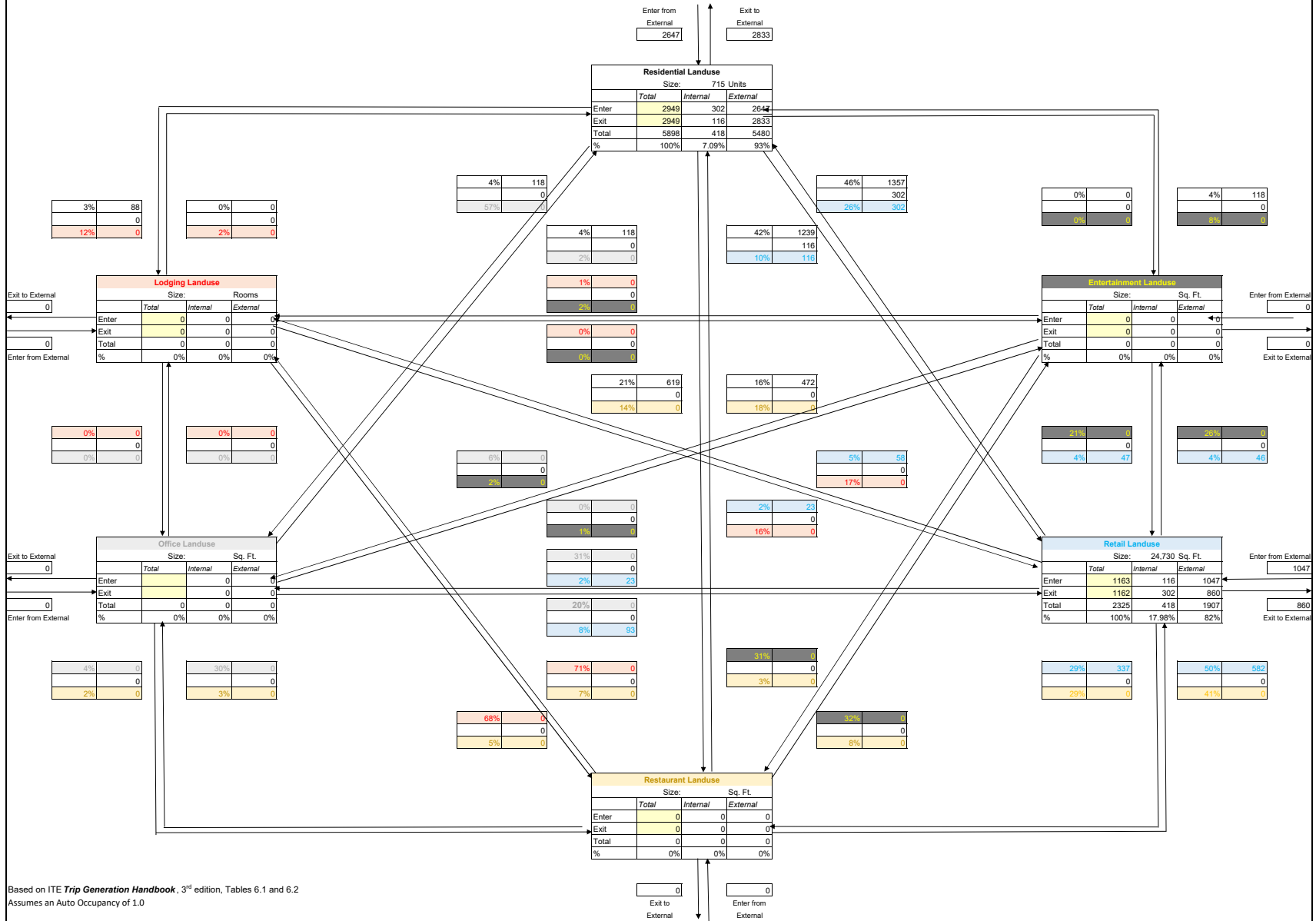
Daily - 2052
Internal Capture Matrix



Based on ITE *Trip Generation Handbook*, 3rd edition, Tables 6.1 and 6.2
Assumes an Auto Occupancy of 1.0

TAZ 28

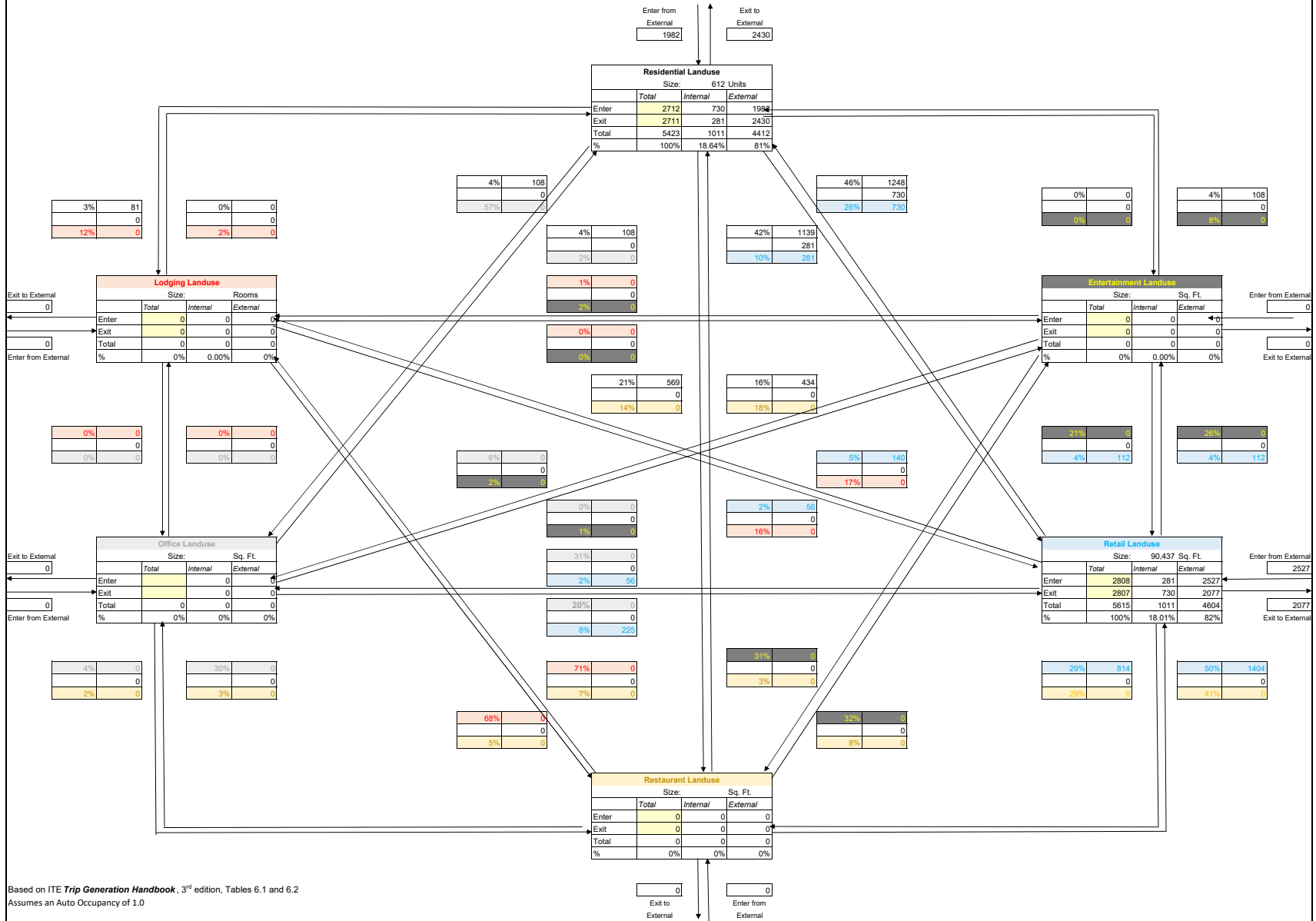
Daily - 2052
Internal Capture Matrix



Based on ITE *Trip Generation Handbook*, 3rd edition, Tables 6.1 and 6.2
Assumes an Auto Occupancy of 1.0

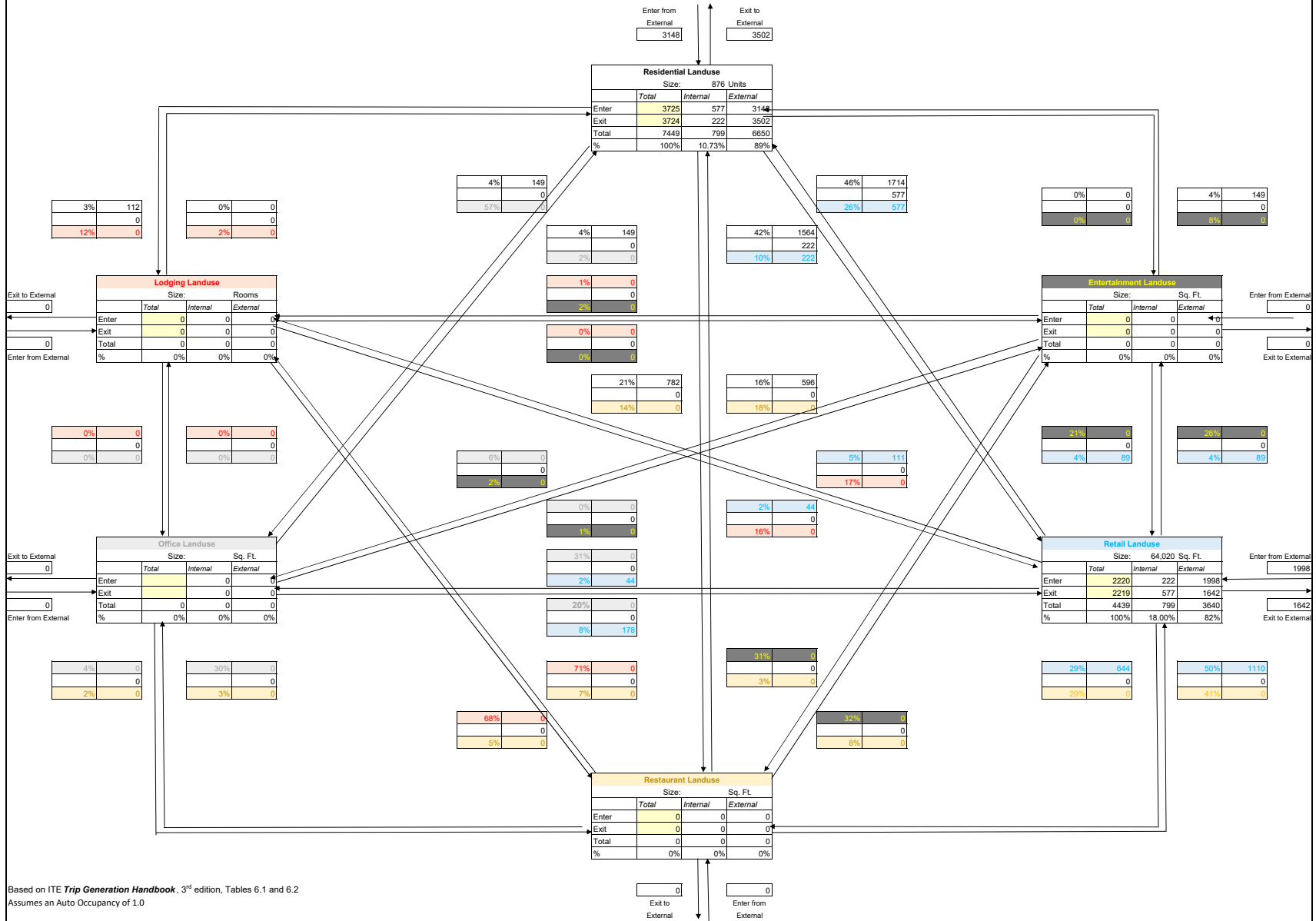
TAZ 31

Daily - 2052
Internal Capture Matrix



TAZ 33

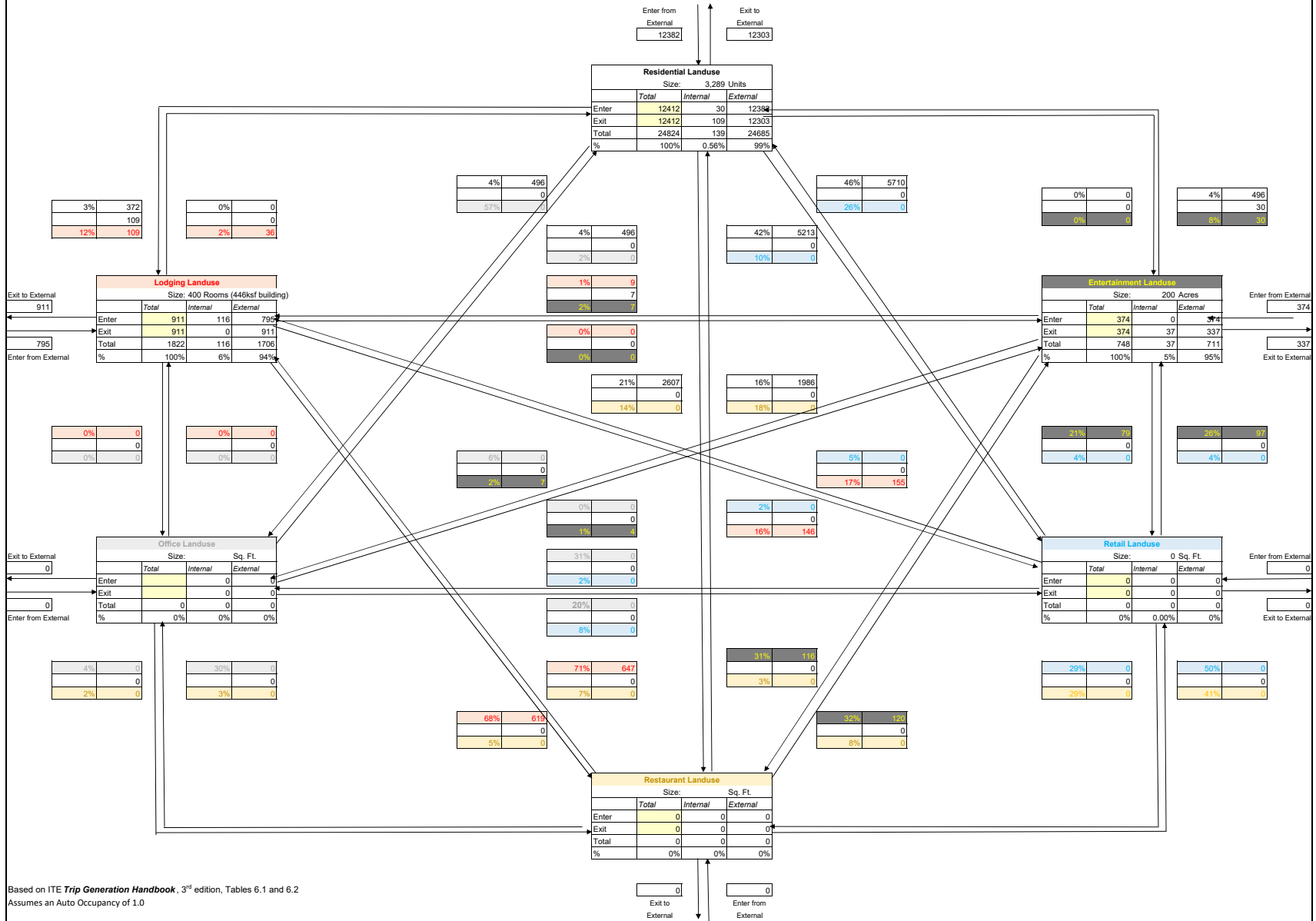
Daily - 2052
Internal Capture Matrix



Based on ITE Trip Generation Handbook, 3rd edition, Tables 6.1 and 6.2
Assumes an Auto Occupancy of 1.0

TAZ 90

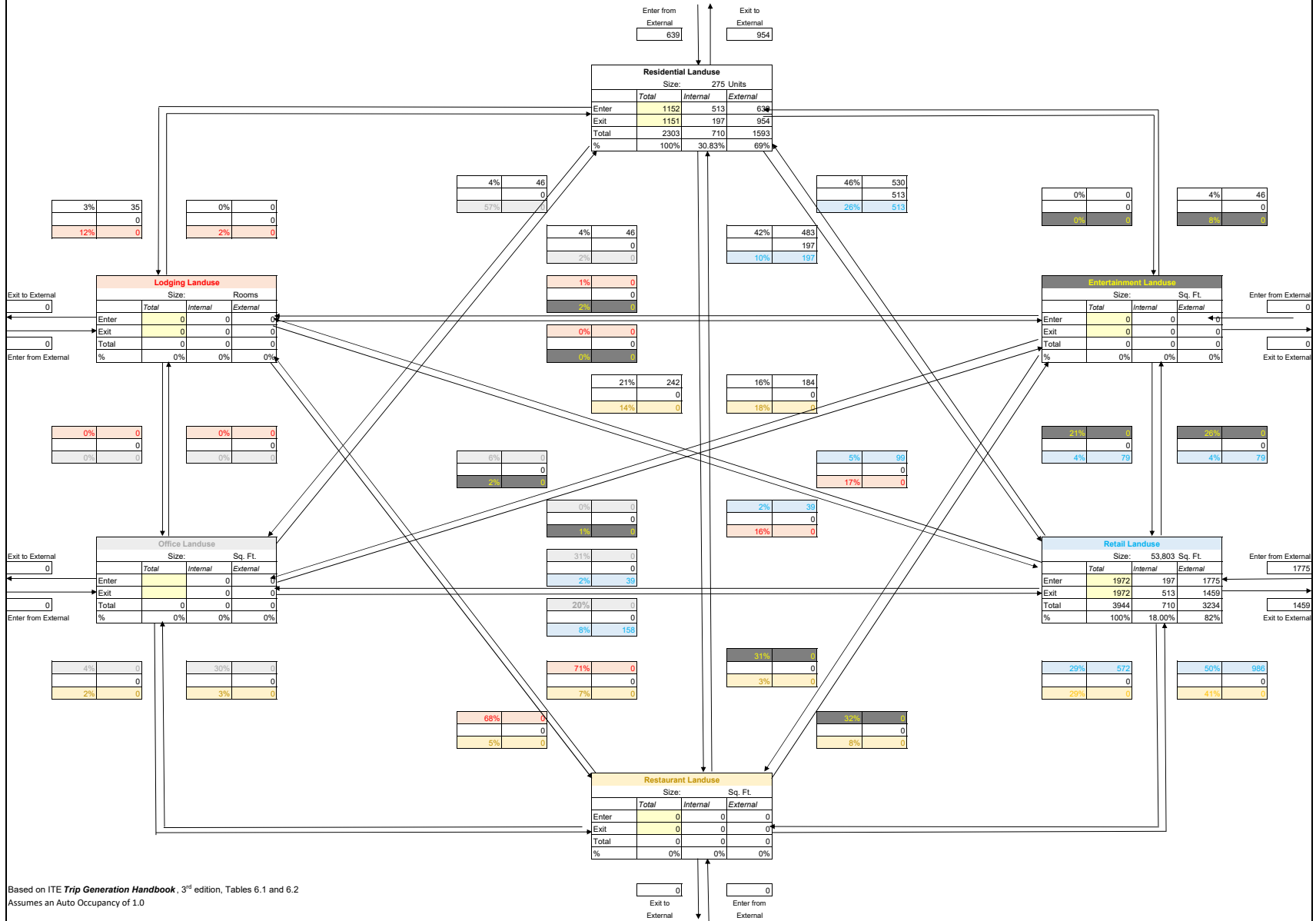
Daily - 2052
Internal Capture Matrix



Based on ITE *Trip Generation Handbook*, 3rd edition, Tables 6.1 and 6.2
Assumes an Auto Occupancy of 1.0

TAZ 91

Daily - 2052
Internal Capture Matrix



TAZ 93

Daily - 2052
Internal Capture Matrix

Enter from External	Exit to External
1567	2369

Residential Landuse			
Size: 1,054 Units			
	Total	Internal	External
Enter	2872	1305	1567
Exit	2871	502	2369
Total	5743	1807	3936
%	100%	31.46%	68.54%

Lodging Landuse			
Size: Rooms			
	Total	Internal	External
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
%	0%	0%	0%

Entertainment Landuse			
Size: Sq. Ft.			
	Total	Internal	External
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
%	0%	0%	0%

Office Landuse			
Size: Sq. Ft.			
	Total	Internal	External
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
%	0%	0%	0%

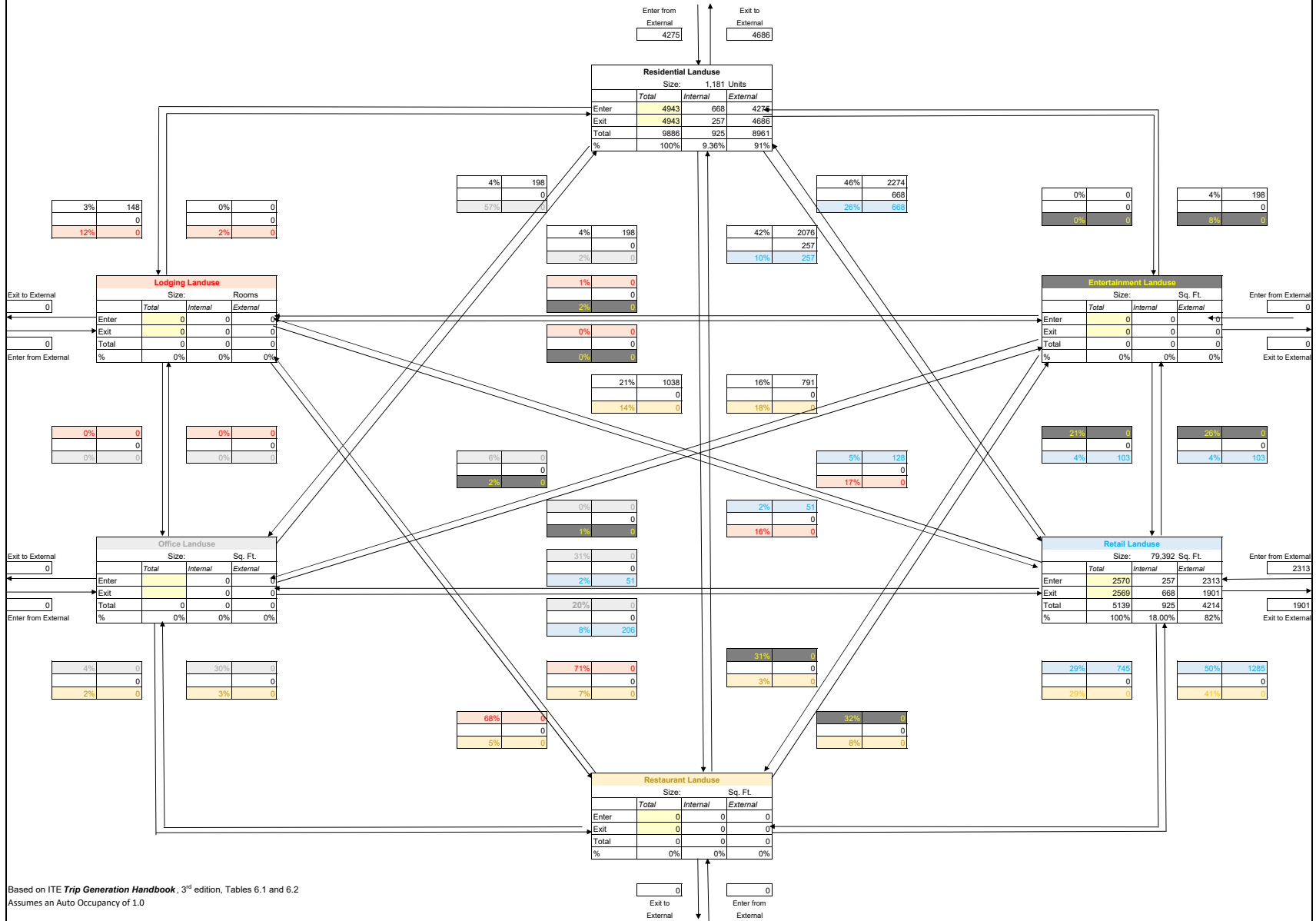
Retail Landuse			
Size: 212,592 Sq. Ft.			
	Total	Internal	External
Enter	5020	502	4518
Exit	5020	1305	3715
Total	10040	1807	8233
%	100%	18.00%	82.00%

Restaurant Landuse			
Size: Sq. Ft.			
	Total	Internal	External
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
%	0%	0%	0%

Based on ITE *Trip Generation Handbook*, 3rd edition, Tables 6.1 and 6.2
Assumes an Auto Occupancy of 1.0

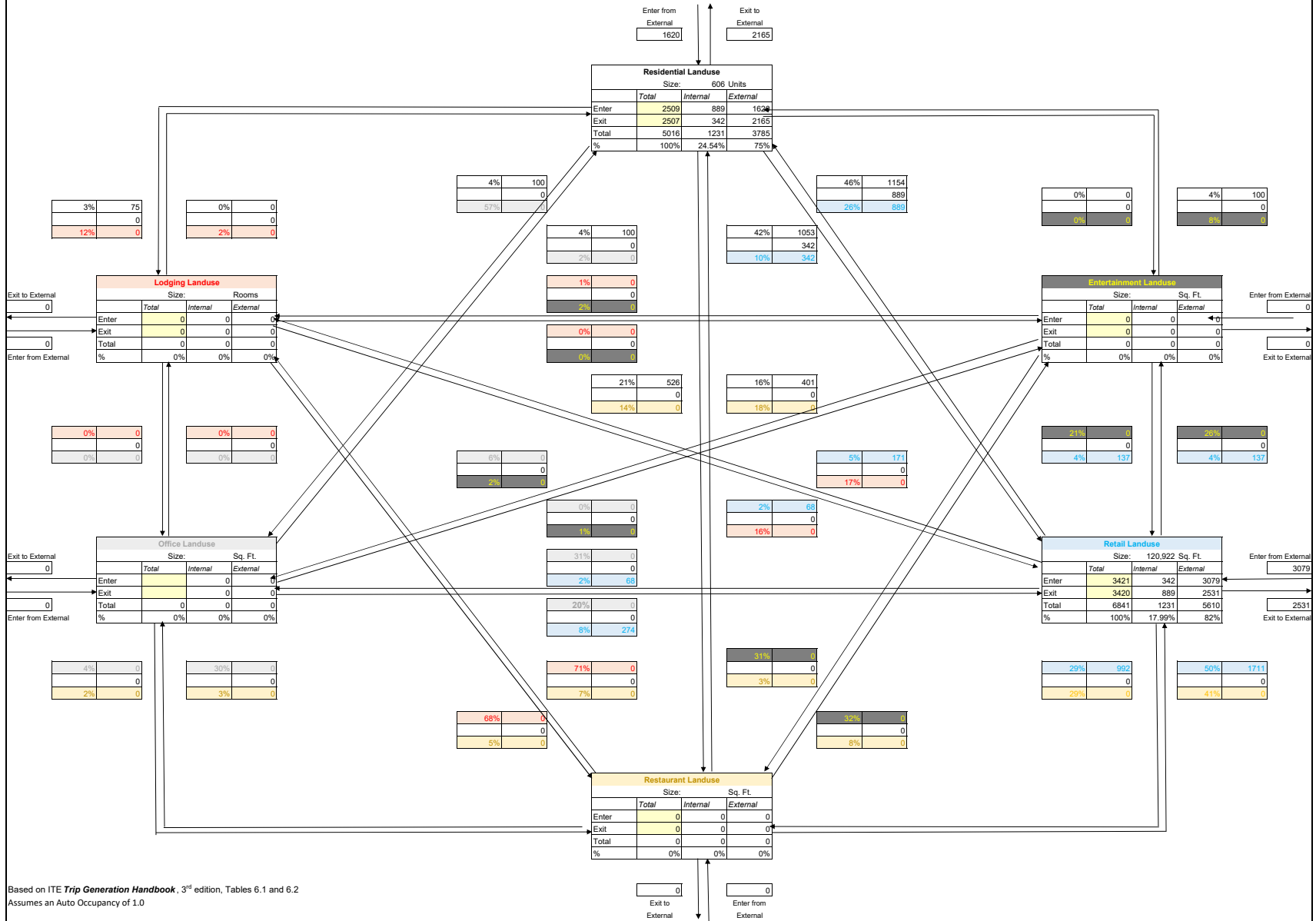
TAZ 94

Daily - 2052
Internal Capture Matrix



TAZ 97

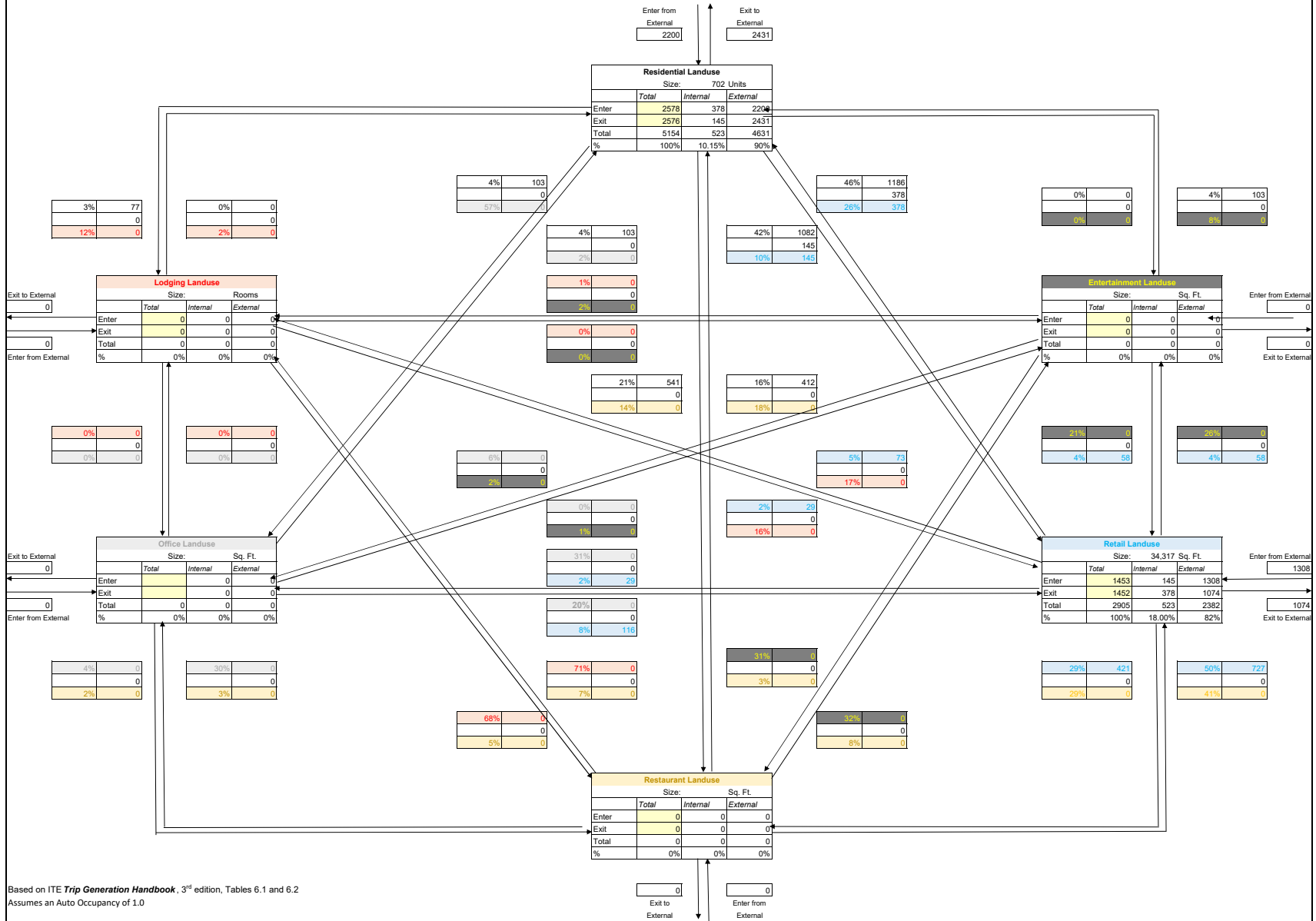
Daily - 2052
Internal Capture Matrix



Based on ITE *Trip Generation Handbook*, 3rd edition, Tables 6.1 and 6.2
Assumes an Auto Occupancy of 1.0

TAZ 128

Daily - 2052
Internal Capture Matrix



Based on ITE Trip Generation Handbook, 3rd edition, Tables 6.1 and 6.2
Assumes an Auto Occupancy of 1.0

TAZ 129

Daily - 2052
Internal Capture Matrix

Enter from External	Exit to External
2196	2324

Residential Landuse			
Size: 681 Units			
	Total	Internal	External
Enter	2404	206	2196
Exit	2403	79	2324
Total	4807	285	4522
%	100%	5.93%	94%

Lodging Landuse			
Size: Rooms			
	Total	Internal	External
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
%	0%	0%	0%

Entertainment Landuse			
Size: Sq. Ft.			
	Total	Internal	External
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
%	0%	0%	0%

Office Landuse			
Size: Sq. Ft.			
	Total	Internal	External
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
%	0%	0%	0%

Retail Landuse			
Size: 14,112 Sq. Ft.			
	Total	Internal	External
Enter	794	79	715
Exit	794	206	588
Total	1588	285	1303
%	100%	17.95%	82%

Restaurant Landuse			
Size: Sq. Ft.			
	Total	Internal	External
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
%	0%	0%	0%

Based on ITE *Trip Generation Handbook*, 3rd edition, Tables 6.1 and 6.2
Assumes an Auto Occupancy of 1.0

TAZ 130

Daily - 2052
Internal Capture Matrix

Enter from External	334	Exit to External	358
---------------------	-----	------------------	-----

Residential Landuse			
Size: 227 Units			
	Total	Internal	External
Enter	618	284	334
Exit	617	259	358
Total	1235	543	692
%	100%	43.97%	56%

Lodging Landuse			
Size: Rooms			
	Total	Internal	External
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
%	0%	0%	0%

Entertainment Landuse			
Size: Sq. Ft.			
	Total	Internal	External
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
%	0%	0%	0%

Office Landuse			
Size: Sq. Ft.			
	Total	Internal	External
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
%	0%	0%	0%

Retail Landuse			
Size: 179,083 Sq. Ft.			
	Total	Internal	External
Enter	4468	259	4209
Exit	4467	284	4183
Total	8935	543	8392
%	100%	6.08%	94%

Restaurant Landuse			
Size: Sq. Ft.			
	Total	Internal	External
Enter	0	0	0
Exit	0	0	0
Total	0	0	0
%	0%	0%	0%

Based on ITE *Trip Generation Handbook*, 3rd edition, Tables 6.1 and 6.2
Assumes an Auto Occupancy of 1.0

Appendix G
(Total Traffic Conditions – Synchro Printouts)

HCM 6th Signalized Intersection Capacity Analysis

1: US-17 & SR-200

03/17/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	1037	37	329	817	309	36	107	382	390	106	33
Future Volume (veh/h)	82	1037	37	329	817	309	36	107	382	390	106	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	1127	40	358	888	336	39	116	0	424	115	0
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	186	1231	44	438	1614	501	65	929		497	1311	
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
Prop Arrive On Green	0.05	0.24	0.24	0.13	0.32	0.32	0.04	0.26	0.00	0.14	0.37	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	38.7	44.1	52.9	44.9	23.1	27.2	46.8	22.8	0.0	46.9	16.6	0.0
Ln Grp LOS	D	D	D	D	C	C	D	C		D	B	
Approach Vol, veh/h	1256			1582			155			539		
Approach Delay, s/veh	46.6			28.9			28.9			40.5		
Approach LOS	D			C			C			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	16.0	25.4	14.6	24.0	7.4	34.0	8.8	29.8				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	11.5	20.5	10.5	19.5	6.0	26.0	5.4	24.6				
Max Allow Headway (MAH), s	3.7	4.9	3.7	4.9	3.7	4.9	3.7	4.6				
Max Q Clear (g_c+I1), s	11.6	4.0	10.1	19.3	3.7	3.7	4.0	16.7				
Green Ext Time (g_e), s	0.0	0.5	0.1	0.1	0.0	0.5	0.0	4.1				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	0.58	1.00	0.86	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	1.00	1.00	0.00	1.00	0.67				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	3456	3456	1781	3456								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	5062	3554	5106								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	180	1585	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

1: US-17 & SR-200

03/17/2022

Lanes in Grp	2	0	2	0	1	0	2	0
Grp Vol (v), veh/h	424	0	358	0	39	0	89	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1781	0	1728	0
Q Serve Time (g_s), s	9.6	0.0	8.1	0.0	1.7	0.0	2.0	0.0
Cycle Q Clear Time (g_c), s	9.6	0.0	8.1	0.0	1.7	0.0	2.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	497	0	438	0	65	0	186	0
V/C Ratio (X)	0.85	0.00	0.82	0.00	0.60	0.00	0.48	0.00
Avail Cap (c_a), veh/h	497	0	454	0	134	0	233	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	33.4	0.0	34.0	0.0	38.0	0.0	36.8	0.0
Incr Delay (d2), s/veh	13.5	0.0	10.9	0.0	8.8	0.0	1.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	46.9	0.0	44.9	0.0	46.8	0.0	38.7	0.0
1st-Term Q (Q1), veh/ln	3.7	0.0	3.2	0.0	0.7	0.0	0.8	0.0
2nd-Term Q (Q2), veh/ln	0.9	0.0	0.7	0.0	0.2	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.7	0.0	3.8	0.0	0.9	0.0	0.8	0.0
%ile Storage Ratio (RQ%)	0.23	0.00	0.22	0.00	0.08	0.00	0.05	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	2	0	3
Grp Vol (v), veh/h	0	116	0	758	0	115	0	888
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	2.0	0.0	17.3	0.0	1.7	0.0	11.5
Cycle Q Clear Time (g_c), s	0.0	2.0	0.0	17.3	0.0	1.7	0.0	11.5
Lane Grp Cap (c), veh/h	0	929	0	828	0	1311	0	1614
V/C Ratio (X)	0.00	0.12	0.00	0.92	0.00	0.09	0.00	0.55
Avail Cap (c_a), veh/h	0	929	0	830	0	1311	0	1614
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.6	0.0	29.5	0.0	16.5	0.0	22.7
Incr Delay (d2), s/veh	0.0	0.3	0.0	14.7	0.0	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
Control Delay (d), s/veh	0.0	22.8	0.0	44.1	0.0	16.6	0.0	23.1
1st-Term Q (Q1), veh/ln	0.0	0.8	0.0	6.5	0.0	0.6	0.0	4.2
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	1.7	0.0	0.0	0.0	0.1

HCM 6th Signalized Intersection Capacity Analysis

1: US-17 & SR-200

03/17/2022

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.8	0.0	8.1	0.0	0.6	0.0	4.2
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.18	0.00	0.03	0.00	0.09
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	409	0	0	0	336
Grp Sat Flow (s), veh/h/ln	0	1585	0	1838	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	17.3	0.0	0.0	0.0	14.7
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	17.3	0.0	0.0	0.0	14.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.10	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	414	0	447	0	585	0	501
V/C Ratio (X)	0.00	0.00	0.00	0.92	0.00	0.00	0.00	0.67
Avail Cap (c_a), veh/h	0	414	0	448	0	585	0	501
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	29.5	0.0	0.0	0.0	23.7
Incr Delay (d2), s/veh	0.0	0.0	0.0	23.4	0.0	0.0	0.0	3.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	52.9	0.0	0.0	0.0	27.2
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	7.0	0.0	0.0	0.0	5.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	9.9	0.0	0.0	0.0	5.4
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.75
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	37.0
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis

3: SR-200 & Felmor Rd

03/17/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (veh/h)	18	1956	131	286	1704	82	63	27	267	175	54	85
Future Volume (veh/h)	18	1956	131	286	1704	82	63	27	267	175	54	85
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	2126	142	311	1852	89	68	29	290	190	59	92
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	96	2078	645	315	2706	840	292	346	293	345	122	191
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
Prop Arrive On Green	0.05	0.41	0.41	0.18	0.53	0.53	0.05	0.19	0.19	0.05	0.19	0.19
Unsig. Movement Delay												
Ln Grp Delay, s/veh	50.1	55.5	20.1	88.4	18.8	12.0	32.6	34.2	90.5	39.9	0.0	41.6
Ln Grp LOS	D	F	C	F	B	B	C	C	F	D	A	D
Approach Vol, veh/h	2288			2252			387			341		
Approach Delay, s/veh	53.2			28.1			76.1			40.7		
Approach LOS	D			C			E			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	1.1	3.0	2.0	3.0	1.1	4.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	9.6	23.0	22.2	45.2	9.5	23.1	9.9	57.5				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.1	18.5	17.7	40.7	5.0	18.6	5.4	53.0				
Max Allow Headway (MAH), s	3.8	4.2	3.8	5.2	3.8	5.4	3.8	5.2				
Max Q Clear (g_c+I1), s	7.1	20.3	19.4	42.7	5.0	10.0	3.1	28.7				
Green Ext Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.5	0.0	16.2				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	1781	1781	1781	1781								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	1870	5106	659	5106								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	1027	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Pr/Pm)	L (Prot)	L (Pr/Pm)	L (Prot)								

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Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	190	0	311	0	68	0	20	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	5.1	0.0	17.4	0.0	3.0	0.0	1.1	0.0
Cycle Q Clear Time (g_c), s	5.1	0.0	17.4	0.0	3.0	0.0	1.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1061	0	0	0	1236	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.5	0.0	0.0	0.0	18.5	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	17.2	0.0	0.0	0.0	10.6	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	7.6	0.0	0.0	0.0	0.5	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	345	0	315	0	292	0	96	0
V/C Ratio (X)	0.55	0.00	0.99	0.00	0.23	0.00	0.21	0.00
Avail Cap (c_a), veh/h	345	0	315	0	292	0	96	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	33.8	0.0	41.0	0.0	30.8	0.0	45.3	0.0
Incr Delay (d2), s/veh	6.2	0.0	47.4	0.0	1.9	0.0	4.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	39.9	0.0	88.4	0.0	32.6	0.0	50.1	0.0
1st-Term Q (Q1), veh/ln	1.6	0.0	7.5	0.0	1.3	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.6	0.0	4.1	0.0	0.2	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	2.2	0.0	11.7	0.0	1.4	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.07	0.00	0.29	0.00	0.07	0.00	0.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T				T	
Lanes in Grp	0	1	0	3	0	0	0	3
Grp Vol (v), veh/h	0	29	0	2126	0	0	0	1852
Grp Sat Flow (s), veh/h/ln	0	1870	0	1702	0	0	0	1702
Q Serve Time (g_s), s	0.0	1.3	0.0	40.7	0.0	0.0	0.0	26.7
Cycle Q Clear Time (g_c), s	0.0	1.3	0.0	40.7	0.0	0.0	0.0	26.7
Lane Grp Cap (c), veh/h	0	346	0	2078	0	0	0	2706
V/C Ratio (X)	0.00	0.08	0.00	1.02	0.00	0.00	0.00	0.68
Avail Cap (c_a), veh/h	0	346	0	2078	0	0	0	2706
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	33.7	0.0	29.6	0.0	0.0	0.0	17.3
Incr Delay (d2), s/veh	0.0	0.5	0.0	25.8	0.0	0.0	0.0	1.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	34.2	0.0	55.5	0.0	0.0	0.0	18.8
1st-Term Q (Q1), veh/ln	0.0	0.6	0.0	15.9	0.0	0.0	0.0	9.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.4

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.6	0.0	20.8	0.0	0.0	0.0	10.2
%ile Storage Ratio (RQ%)	0.00	0.03	0.00	0.57	0.00	0.00	0.00	0.26
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	12.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	290	0	142	0	151	0	89
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1686	0	1585
Q Serve Time (g_s), s	0.0	18.3	0.0	5.8	0.0	8.0	0.0	2.8
Cycle Q Clear Time (g_c), s	0.0	18.3	0.0	5.8	0.0	8.0	0.0	2.8
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.61	0.00	1.00
Lane Grp Cap (c), veh/h	0	293	0	645	0	314	0	840
V/C Ratio (X)	0.00	0.99	0.00	0.22	0.00	0.48	0.00	0.11
Avail Cap (c_a), veh/h	0	293	0	645	0	314	0	840
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	40.6	0.0	19.3	0.0	36.4	0.0	11.7
Incr Delay (d2), s/veh	0.0	49.8	0.0	0.8	0.0	5.2	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	90.5	0.0	20.1	0.0	41.6	0.0	12.0
1st-Term Q (Q1), veh/ln	0.0	7.0	0.0	2.1	0.0	3.3	0.0	1.0
2nd-Term Q (Q2), veh/ln	0.0	4.1	0.0	0.1	0.0	0.5	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	11.1	0.0	2.3	0.0	3.7	0.0	1.0
%ile Storage Ratio (RQ%)	0.00	0.56	0.00	0.06	0.00	0.12	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	43.4
HCM 6th LOS	D

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	433	1130	245	81	776	125	398	140	118	381	140	343
Future Volume (veh/h)	433	1130	245	81	776	125	398	140	118	381	140	343
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	471	1228	266	88	843	136	433	152	128	414	152	373
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	540	1569	487	185	1045	324	514	960	428	498	943	421
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.16	0.31	0.31	0.07	0.27	0.27	0.15	0.27	0.27	0.14	0.27	0.27
Unsig. Movement Delay												
Ln Grp Delay, s/veh	47.5	27.8	24.2	37.9	31.7	26.1	44.3	22.6	25.0	43.3	22.9	51.3
Ln Grp LOS	D	C	C	D	C	C	D	C	C	D	C	D
Approach Vol, veh/h	1965			1067			713			939		
Approach Delay, s/veh	32.0			31.5			36.2			43.2		
Approach LOS	C			C			D			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	16.0	26.1	8.8	29.1	16.4	25.7	17.0	20.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	12.5	19.0	5.0	25.5	12.5	19.0	12.5	18.0				
Max Allow Headway (MAH), s	3.8	4.7	3.8	5.0	3.8	4.4	3.8	5.1				
Max Q Clear (g_c+I1), s	11.3	7.1	4.0	19.6	11.8	20.1	12.7	14.3				
Green Ext Time (g_e), s	0.2	1.0	0.0	4.2	0.1	0.0	0.0	2.0				
Prob of Phs Call (p_c)	1.00	1.00	0.86	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	0.94	1.00	0.00	1.00	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	3456	3456	3456	3456								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	5106	3554	5106								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	1585	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)				

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	414	0	88	0	433	0	471	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	9.3	0.0	2.0	0.0	9.8	0.0	10.7	0.0
Cycle Q Clear Time (g_c), s	9.3	0.0	2.0	0.0	9.8	0.0	10.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	498	0	185	0	514	0	540	0
V/C Ratio (X)	0.83	0.00	0.47	0.00	0.84	0.00	0.87	0.00
Avail Cap (c_a), veh/h	540	0	216	0	540	0	540	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	33.3	0.0	36.1	0.0	33.1	0.0	33.0	0.0
Incr Delay (d2), s/veh	10.0	0.0	1.9	0.0	11.2	0.0	14.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	43.3	0.0	37.9	0.0	44.3	0.0	47.5	0.0
1st-Term Q (Q1), veh/ln	3.8	0.0	0.8	0.0	4.0	0.0	4.3	0.0
2nd-Term Q (Q2), veh/ln	0.7	0.0	0.0	0.0	0.8	0.0	1.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	4.5	0.0	0.9	0.0	4.8	0.0	5.4	0.0
%ile Storage Ratio (RQ%)	0.33	0.00	0.04	0.00	0.20	0.00	0.23	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	3	0	2	0	3
Grp Vol (v), veh/h	0	152	0	1228	0	152	0	843
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	2.6	0.0	17.6	0.0	2.6	0.0	12.3
Cycle Q Clear Time (g_c), s	0.0	2.6	0.0	17.6	0.0	2.6	0.0	12.3
Lane Grp Cap (c), veh/h	0	960	0	1569	0	943	0	1045
V/C Ratio (X)	0.00	0.16	0.00	0.78	0.00	0.16	0.00	0.81
Avail Cap (c_a), veh/h	0	960	0	1628	0	943	0	1149
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	22.3	0.0	25.3	0.0	22.5	0.0	27.6
Incr Delay (d2), s/veh	0.0	0.4	0.0	2.5	0.0	0.4	0.0	4.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	22.6	0.0	27.8	0.0	22.9	0.0	31.7
1st-Term Q (Q1), veh/ln	0.0	1.1	0.0	6.7	0.0	1.1	0.0	4.5
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.4

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.1	0.0	7.1	0.0	1.1	0.0	4.9
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.14	0.00	0.04	0.00	0.05
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	128	0	266	0	373	0	136
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	5.1	0.0	11.2	0.0	18.1	0.0	5.6
Cycle Q Clear Time (g_c), s	0.0	5.1	0.0	11.2	0.0	18.1	0.0	5.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	428	0	487	0	421	0	324
V/C Ratio (X)	0.00	0.30	0.00	0.55	0.00	0.89	0.00	0.42
Avail Cap (c_a), veh/h	0	428	0	505	0	421	0	357
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	23.2	0.0	23.1	0.0	28.2	0.0	25.2
Incr Delay (d2), s/veh	0.0	1.8	0.0	1.1	0.0	23.1	0.0	0.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	25.0	0.0	24.2	0.0	51.3	0.0	26.1
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	4.0	0.0	6.5	0.0	2.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.2	0.0	2.7	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.1	0.0	4.1	0.0	9.2	0.0	2.1
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.18	0.00	0.67	0.00	0.09
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	34.8
HCM 6th LOS	C

HCM 6th Signalized Intersection Capacity Analysis

6: Chester Rd & Pages Dairy Rd

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Movement	EBL	EBR	NBL	NBT	SBT	SBR			
Lane Configurations									
Traffic Volume (veh/h)	57	275	48	620	924	606			
Future Volume (veh/h)	57	275	48	620	924	606			
Number	7	14	5	2	6	16			
Initial Q, veh	0	0	0	0	0	0			
Ped-Bike Adj (A_pbT)	1.00	1.00	1.00			1.00			
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach	No			No	No				
Lanes Open During Work Zone									
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870			
Adj Flow Rate, veh/h	62	299	52	674	1004	659			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	2	2	2	2			
Opposing Right Turn Influence	Yes		Yes						
Cap, veh/h	398	354	298	2227	1789	798			
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00			
Prop Arrive On Green	0.22	0.22	0.05	0.63	0.50	0.50			
Unsig. Movement Delay									
Ln Grp Delay, s/veh	18.9	32.4	7.5	5.5	11.6	22.2			
Ln Grp LOS	B	C	A	A	B	C			
Approach Vol, veh/h	361			726	1663				
Approach Delay, s/veh	30.1			5.7	15.8				
Approach LOS	C			A	B				
Timer:		1	2	3	4	5	6	7	8
Assigned Phs			2		4	5	6		
Case No			4.0		9.0	1.2	7.0		
Phs Duration (G+Y+Rc), s			42.1		17.9	7.4	34.7		
Change Period (Y+Rc), s			4.5		4.5	4.5	4.5		
Max Green (Gmax), s			33.0		18.0	5.0	23.5		
Max Allow Headway (MAH), s			5.2		4.0	3.8	4.7		
Max Q Clear (g_c+I1), s			7.2		12.8	2.7	23.2		
Green Ext Time (g_e), s			5.0		0.6	0.0	0.2		
Prob of Phs Call (p_c)			1.00		1.00	0.58	1.00		
Prob of Max Out (p_x)			0.00		0.55	1.00	0.00		
Left-Turn Movement Data									
Assigned Mvmt					7	5	1		
Mvmt Sat Flow, veh/h					1781	1781	0		
Through Movement Data									
Assigned Mvmt			2		4		6		
Mvmt Sat Flow, veh/h			3647		0		3647		
Right-Turn Movement Data									
Assigned Mvmt			12		14		16		
Mvmt Sat Flow, veh/h			0		1585		1585		
Left Lane Group Data									
Assigned Mvmt		0	0	0	7	5	1	0	0
Lane Assignment					LL (Pr/Pm)				

HCM 6th Signalized Intersection Capacity Analysis

6: Chester Rd & Pages Dairy Rd

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Lanes in Grp	0	0	0	1	1	0	0	0
Grp Vol (v), veh/h	0	0	0	62	52	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1781	1781	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	1.7	0.7	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	1.7	0.7	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	299	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	32.2	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	18.5	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	30.2	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	398	298	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.16	0.17	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	534	361	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	18.8	7.2	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.3	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	18.9	7.5	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.6	0.2	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.7	0.2	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.05	0.01	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment	T			T				
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	674	0	0	0	1004	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	5.2	0.0	0.0	0.0	11.7	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	5.2	0.0	0.0	0.0	11.7	0.0	0.0
Lane Grp Cap (c), veh/h	0	2227	0	0	0	1789	0	0
V/C Ratio (X)	0.00	0.30	0.00	0.00	0.00	0.56	0.00	0.00
Avail Cap (c_a), veh/h	0	2227	0	0	0	1789	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	5.2	0.0	0.0	0.0	10.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.0	0.0	1.3	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	5.5	0.0	0.0	0.0	11.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.4	0.0	0.0	0.0	3.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.3	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

6: Chester Rd & Pages Dairy Rd

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	1.5	0.0	0.0	0.0	4.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.00	0.00	0.00	0.07	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment			R		R			
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	299	0	659	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	10.8	0.0	21.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	10.8	0.0	21.2	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	354	0	798	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.85	0.00	0.83	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	476	0	798	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	22.3	0.0	12.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	10.1	0.0	9.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	32.4	0.0	22.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	8.8	0.0	6.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	1.0	0.0	2.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	9.8	0.0	8.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.18	0.00	0.52	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	15.0
HCM 6th LOS	B

HCM 6th Signalized Intersection Capacity Analysis

8: SR 200 & Blackrock Rd

03/17/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	1749	30	15	1006	48	9	2	7	201	3	48
Future Volume (veh/h)	50	1749	30	15	1006	48	9	2	7	201	3	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	54	1901	33	16	1093	52	10	2	8	218	3	52
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
Opposing Right Turn Influence	No			No			No			No		
Cap, veh/h	157	1974	613	119	1865	579	502	120	480	433	21	363
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
Prop Arrive On Green	0.09	0.39	0.39	0.07	0.37	0.37	0.07	0.37	0.37	0.24	0.24	0.24
Unsig. Movement Delay												
Ln Grp Delay, s/veh	38.1	35.7	14.6	35.3	20.6	15.9	16.9	0.0	15.2	29.8	0.0	23.2
Ln Grp LOS	D	D	B	D	C	B	B	A	B	C	A	C
Approach Vol, veh/h	1988			1161			20			273		
Approach Delay, s/veh	35.4			20.6			16.1			28.5		
Approach LOS	D			C			B			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	5	6	7	8				
Case No	4.0		2.0	3.0	1.2	6.3	2.0	3.0				
Phs Duration (G+Y+Rc), s	32.0		9.5	33.5	9.5	22.5	11.1	31.9				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	27.5		5.0	29.0	5.0	18.0	6.6	27.4				
Max Allow Headway (MAH), s	5.5		3.8	5.2	3.8	4.1	3.8	5.2				
Max Q Clear (g_c+I1), s	2.3		2.6	29.3	2.3	12.5	4.1	15.0				
Green Ext Time (g_e), s	0.0		0.0	0.0	0.0	0.5	0.0	6.2				
Prob of Phs Call (p_c)	1.00		1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00		0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt				3		5	1	7				
Mvmt Sat Flow, veh/h				1781		1781	1405	1781				
Through Movement Data												
Assigned Mvmt	2			4		6		8				
Mvmt Sat Flow, veh/h	327			5106		87		5106				
Right-Turn Movement Data												
Assigned Mvmt	12			14		16		18				
Mvmt Sat Flow, veh/h	1308			1585		1511		1585				
Left Lane Group Data												
Assigned Mvmt	0	0	3	0	5	1	7	0				
Lane Assignment	L (Prot)			L (Pr/Pm)			L L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis

8: SR 200 & Blackrock Rd

03/17/2022

Lanes in Grp	0	0	1	0	1	1	1	0
Grp Vol (v), veh/h	0	0	16	0	10	218	54	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	1781	1405	1781	0
Q Serve Time (g_s), s	0.0	0.0	0.6	0.0	0.3	10.5	2.1	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.6	0.0	0.3	10.5	2.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	1349	1405	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	20.0	18.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	16.0	18.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	10.5	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	0	119	0	502	433	157	0
V/C Ratio (X)	0.00	0.00	0.13	0.00	0.02	0.50	0.34	0.00
Avail Cap (c_a), veh/h	0	0	119	0	502	433	157	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	33.0	0.0	16.9	25.6	32.2	0.0
Incr Delay (d2), s/veh	0.0	0.0	2.3	0.0	0.1	4.1	5.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	35.3	0.0	16.9	29.8	38.1	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.3	0.0	0.1	3.3	0.9	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.5	0.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.3	0.0	0.1	3.8	1.2	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.02	0.00	0.01	0.21	0.06	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	3	0	0	0	3
Grp Vol (v), veh/h	0	0	0	1901	0	0	0	1093
Grp Sat Flow (s), veh/h/ln	0	0	0	1702	0	0	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	27.3	0.0	0.0	0.0	13.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	27.3	0.0	0.0	0.0	13.0
Lane Grp Cap (c), veh/h	0	0	0	1974	0	0	0	1865
V/C Ratio (X)	0.00	0.00	0.00	0.96	0.00	0.00	0.00	0.59
Avail Cap (c_a), veh/h	0	0	0	1974	0	0	0	1865
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	22.5	0.0	0.0	0.0	19.2
Incr Delay (d2), s/veh	0.0	0.0	0.0	13.2	0.0	0.0	0.0	1.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	35.7	0.0	0.0	0.0	20.6
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	10.0	0.0	0.0	0.0	4.8
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.2

HCM 6th Signalized Intersection Capacity Analysis

8: SR 200 & Blackrock Rd

03/17/2022

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	12.4	0.0	0.0	0.0	5.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.28	0.00	0.00	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	10	0	33	0	55	0	52
Grp Sat Flow (s), veh/h/ln	0	1635	0	1585	0	1598	0	1585
Q Serve Time (g_s), s	0.0	0.3	0.0	1.0	0.0	2.0	0.0	1.6
Cycle Q Clear Time (g_c), s	0.0	0.3	0.0	1.0	0.0	2.0	0.0	1.6
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.80	0.00	1.00	0.00	0.95	0.00	1.00
Lane Grp Cap (c), veh/h	0	599	0	613	0	384	0	579
V/C Ratio (X)	0.00	0.02	0.00	0.05	0.00	0.14	0.00	0.09
Avail Cap (c_a), veh/h	0	599	0	613	0	384	0	579
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	15.1	0.0	14.4	0.0	22.4	0.0	15.6
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.2	0.0	0.8	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.2	0.0	14.6	0.0	23.2	0.0	15.9
1st-Term Q (Q1), veh/ln	0.0	0.1	0.0	0.3	0.0	0.7	0.0	0.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.1	0.0	0.4	0.0	0.8	0.0	0.6
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.02	0.00	0.05	0.00	0.03
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	29.7
HCM 6th LOS	C

Lanes, Volumes, Timings
4: Felmor Rd & Pages Dairy Rd

03/17/2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↰	↰	
Traffic Volume (vph)	269	150	114	727	20	24
Future Volume (vph)	269	150	114	727	20	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.952				0.927	
Flt Protected				0.993	0.978	
Satd. Flow (prot)	1773	0	0	1850	1689	0
Flt Permitted				0.993	0.978	
Satd. Flow (perm)	1773	0	0	1850	1689	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	555			651	534	
Travel Time (s)	12.6			14.8	12.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	292	163	124	790	22	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	455	0	0	914	48	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					
Intersection Capacity Utilization	81.2%			ICU Level of Service D		
Analysis Period (min)	15					

Lanes, Volumes, Timings
2: US-17 & Pages Dairy Rd

03/17/2022

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	141	443	29	8	376	92	5	19	14	50	347	276
Future Volume (vph)	141	443	29	8	376	92	5	19	14	50	347	276
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	95		0	185		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.991			0.971			0.951			0.945	
Flt Protected	0.950			0.950				0.994			0.996	
Satd. Flow (prot)	1770	3507	0	1770	3437	0	0	1761	0	0	1753	0
Flt Permitted	0.950			0.950				0.994			0.996	
Satd. Flow (perm)	1770	3507	0	1770	3437	0	0	1761	0	0	1753	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1062			523			462			718	
Travel Time (s)		24.1			11.9			10.5			16.3	
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
Adj. Flow (vph)	153	482	32	9	409	100	5	21	15	54	377	300
Shared Lane Traffic (%)												
Lane Group Flow (vph)	153	514	0	9	509	0	0	41	0	0	731	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	75.6%						ICU Level of Service D					
Analysis Period (min)	15											

HCS7 Roundabouts Report

General Information

Site Information

Analyst	Thomas Hatcher, P.E.		Intersection	
Agency or Co.	ETM, Inc.		E/W Street Name	Wildlight Pkwy
Date Performed	3/18/22		N/S Street Name	Chester Rd
Analysis Year	2027		Analysis Time Period (hrs)	0.25
Time Analyzed			Peak Hour Factor	0.92
Project Description	DSAP 2		Jurisdiction	Nassau County, Florida

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0
Lane Assignment	LTR				LTR				L				LTR			
Volume (V), veh/h	0	88	0	1123	0	136	0	1	0	563	123	50	0	8	284	68
Percent Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (V_{PCE}), pc/h	0	99	0	1257	0	152	0	1	0	630	138	56	0	9	318	76
Right-Turn Bypass	Non-Yielding				None				None				None			
Conflicting Lanes	1				2				1				2			
Pedestrians Crossing, p/h	0				0				0				0			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)		4.9763			4.3276		4.5436	4.5436			4.3276	
Follow-Up Headway (s)		2.6087			2.5352		2.5352	2.5352			2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h		99	1257		153		437	387			403	
Entry Volume, veh/h		96	1220		149		424	376			391	
Circulating Flow (v_c), pc/h	479			867			108			782		
Exiting Flow (v_{ex}), pc/h	65			706			238			470		
Capacity (C_{PCE}), pc/h		847			680		1287	1287			730	
Capacity (c), veh/h		822			660		1250	1250			709	
v/c Ratio (x)		0.12			0.23		0.34	0.30			0.55	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		5.5			8.2		6.0	5.6			13.9	
Lane LOS		A	A		A		A	A			B	
95% Queue, veh		0.4			0.9		1.5	1.3			3.4	
Approach Delay, s/veh	0.4			8.2			5.8			13.9		
Approach LOS	A			A			A			B		
Intersection Delay, s/veh LOS	4.5						A					

HCM 6th Signalized Intersection Capacity Analysis

1: US-17 & SR-200

03/17/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	124	1028	41	446	1206	451	83	160	463	379	152	35
Future Volume (veh/h)	124	1028	41	446	1206	451	83	160	463	379	152	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	135	1117	45	485	1311	490	90	174	0	412	165	0
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	225	1208	49	540	1691	525	214	871		462	920	
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
Prop Arrive On Green	0.06	0.24	0.24	0.16	0.33	0.33	0.12	0.25	0.00	0.13	0.26	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	47.7	47.4	57.4	53.5	27.6	51.7	38.6	24.5	0.0	56.1	23.5	0.0
Ln Grp LOS	D	D	E	D	C	D	D	C		E	C	
Approach Vol, veh/h	1297			2286			264			577		
Approach Delay, s/veh	50.5			38.3			29.3			46.8		
Approach LOS	D			D			C			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	4.0	2.0	3.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	15.2	24.1	17.0	23.7	14.1	25.2	9.7	31.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	10.7	19.6	12.5	19.2	9.6	20.7	5.2	26.5				
Max Allow Headway (MAH), s	3.7	4.9	3.7	4.9	3.7	4.9	3.7	4.6				
Max Q Clear (g_c+I1), s	11.4	5.1	13.0	19.3	5.7	4.9	5.0	25.9				
Green Ext Time (g_e), s	0.0	0.7	0.0	0.0	0.1	0.7	0.0	0.5				
Prob of Phs Call (p_c)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	3456	3456	1781	3456								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	5035	3554	5106								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	203	1585	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)				

HCM 6th Signalized Intersection Capacity Analysis

1: US-17 & SR-200

03/17/2022

Lanes in Grp	2	0	2	0	1	0	2	0
Grp Vol (v), veh/h	412	0	485	0	90	0	135	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1781	0	1728	0
Q Serve Time (g_s), s	9.4	0.0	11.0	0.0	3.7	0.0	3.0	0.0
Cycle Q Clear Time (g_c), s	9.4	0.0	11.0	0.0	3.7	0.0	3.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	462	0	540	0	214	0	225	0
V/C Ratio (X)	0.89	0.00	0.90	0.00	0.42	0.00	0.60	0.00
Avail Cap (c_a), veh/h	462	0	540	0	214	0	225	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	34.1	0.0	33.1	0.0	32.6	0.0	36.4	0.0
Incr Delay (d2), s/veh	22.0	0.0	20.4	0.0	6.0	0.0	11.4	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	56.1	0.0	53.5	0.0	38.6	0.0	47.7	0.0
1st-Term Q (Q1), veh/ln	3.7	0.0	4.3	0.0	1.5	0.0	1.2	0.0
2nd-Term Q (Q2), veh/ln	1.4	0.0	1.5	0.0	0.4	0.0	0.4	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	5.1	0.0	5.8	0.0	1.9	0.0	1.6	0.0
%ile Storage Ratio (RQ%)	0.25	0.00	0.34	0.00	0.18	0.00	0.09	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	2	0	2	0	3
Grp Vol (v), veh/h	0	174	0	755	0	165	0	1311
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	3.1	0.0	17.3	0.0	2.9	0.0	18.5
Cycle Q Clear Time (g_c), s	0.0	3.1	0.0	17.3	0.0	2.9	0.0	18.5
Lane Grp Cap (c), veh/h	0	871	0	817	0	920	0	1691
V/C Ratio (X)	0.00	0.20	0.00	0.92	0.00	0.18	0.00	0.78
Avail Cap (c_a), veh/h	0	871	0	817	0	920	0	1691
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	24.0	0.0	29.7	0.0	23.0	0.0	24.1
Incr Delay (d2), s/veh	0.0	0.5	0.0	17.7	0.0	0.4	0.0	3.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	24.5	0.0	47.4	0.0	23.5	0.0	27.6
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	6.5	0.0	1.1	0.0	6.6
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	2.0	0.0	0.1	0.0	0.6

HCM 6th Signalized Intersection Capacity Analysis

1: US-17 & SR-200

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	1.3	0.0	8.5	0.0	1.2	0.0	7.2
%ile Storage Ratio (RQ%)	0.00	0.05	0.00	0.19	0.00	0.06	0.00	0.16
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		T+R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	0	0	407	0	0	0	490
Grp Sat Flow (s), veh/h/ln	0	1585	0	1834	0	1585	0	1585
Q Serve Time (g_s), s	0.0	0.0	0.0	17.3	0.0	0.0	0.0	23.9
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	17.3	0.0	0.0	0.0	23.9
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	0.11	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	388	0	440	0	410	0	525
V/C Ratio (X)	0.00	0.00	0.00	0.92	0.00	0.00	0.00	0.93
Avail Cap (c_a), veh/h	0	388	0	440	0	410	0	525
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	29.7	0.0	0.0	0.0	25.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	27.7	0.0	0.0	0.0	25.8
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	57.4	0.0	0.0	0.0	51.7
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	7.0	0.0	0.0	0.0	8.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	3.4	0.0	0.0	0.0	3.8
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	10.3	0.0	0.0	0.0	11.8
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.23	0.00	0.00	0.00	1.62
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	42.4
HCM 6th LOS	D

Notes

Unsignalized Delay for [NBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HCM 6th Signalized Intersection Capacity Analysis

3: SR-200 & Felmor Rd

03/17/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (veh/h)	16	2000	103	436	2368	46	108	25	292	41	26	43
Future Volume (veh/h)	16	2000	103	436	2368	46	108	25	292	41	26	43
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	17	2174	112	474	2574	50	117	27	317	45	28	47
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	145	2170	674	477	3122	969	252	279	236	246	89	150
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
Prop Arrive On Green	0.08	0.43	0.43	0.27	0.61	0.61	0.04	0.15	0.15	0.03	0.14	0.14
Unsig. Movement Delay												
Ln Grp Delay, s/veh	60.0	60.0	25.0	90.5	23.0	6.3	54.1	52.1	239.1	49.6	0.0	57.3
Ln Grp LOS	E	F	C	F	C	A	D	D	F	D	A	E
Approach Vol, veh/h	2303			3098			461			120		
Approach Delay, s/veh	58.3			33.1			181.2			54.4		
Approach LOS	E			C			F			D		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	8	7				
Case No	1.1	3.0	2.0	3.0	1.1	4.0	3.0	2.0				
Phs Duration (G+Y+Rc), s	8.6	25.4	42.0	64.0	9.6	24.4	90.1	15.9				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	5.0	20.0	37.5	59.5	5.1	19.9	91.4	5.6				
Max Allow Headway (MAH), s	3.8	4.1	3.8	5.2	3.8	5.5	5.2	3.8				
Max Q Clear (g_c+I1), s	5.0	22.9	39.2	61.5	7.1	7.6	57.3	3.2				
Green Ext Time (g_e), s	0.0	0.0	0.0	0.0	0.0	0.2	28.3	0.0				
Prob of Phs Call (p_c)	0.83	1.00	1.00	1.00	0.99	1.00	1.00	0.48				
Prob of Max Out (p_x)	1.00	0.00	1.00	1.00	1.00	0.00	0.74	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3		5		7						
Mvmt Sat Flow, veh/h	1781	1781		1781		1781						
Through Movement Data												
Assigned Mvmt	2		4		6		8					
Mvmt Sat Flow, veh/h	1870		5106		627		5106					
Right-Turn Movement Data												
Assigned Mvmt	12		14		16		18					
Mvmt Sat Flow, veh/h	1585		1585		1053		1585					
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	0	7				
Lane Assignment	L (Pr/Pm)		L (Prot)		L (Pr/Pm)		L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis

3: SR-200 & Felmor Rd

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Lanes in Grp	1	0	1	0	1	0	0	1
Grp Vol (v), veh/h	45	0	474	0	117	0	0	17
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	0	1781
Q Serve Time (g_s), s	3.0	0.0	37.2	0.0	5.1	0.0	0.0	1.2
Cycle Q Clear Time (g_c), s	3.0	0.0	37.2	0.0	5.1	0.0	0.0	1.2
Perm LT Sat Flow (s_l), veh/h/ln	1037	0	0	0	1325	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	19.9	0.0	0.0	0.0	19.9	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	19.1	0.0	0.0	0.0	14.3	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	4.7	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Lane Grp Cap (c), veh/h	246	0	477	0	252	0	0	145
V/C Ratio (X)	0.18	0.00	0.99	0.00	0.47	0.00	0.00	0.12
Avail Cap (c_a), veh/h	257	0	477	0	252	0	0	145
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	49.3	0.0	51.1	0.0	52.7	0.0	0.0	59.6
Incr Delay (d2), s/veh	0.4	0.0	39.4	0.0	1.3	0.0	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
Control Delay (d), s/veh	49.6	0.0	90.5	0.0	54.1	0.0	0.0	60.0
1st-Term Q (Q1), veh/ln	1.4	0.0	16.5	0.0	1.3	0.0	0.0	0.6
2nd-Term Q (Q2), veh/ln	0.0	0.0	5.2	0.0	0.1	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	0.00	1.00
%ile Back of Q (50%), veh/ln	1.4	0.0	21.7	0.0	1.4	0.0	0.0	0.6
%ile Storage Ratio (RQ%)	0.04	0.00	0.55	0.00	0.07	0.00	0.00	0.02
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	8	0
Lane Assignment	T		T		T			
Lanes in Grp	0	1	0	3	0	0	3	0
Grp Vol (v), veh/h	0	27	0	2174	0	0	2574	0
Grp Sat Flow (s), veh/h/ln	0	1870	0	1702	0	0	1702	0
Q Serve Time (g_s), s	0.0	1.7	0.0	59.5	0.0	0.0	55.3	0.0
Cycle Q Clear Time (g_c), s	0.0	1.7	0.0	59.5	0.0	0.0	55.3	0.0
Lane Grp Cap (c), veh/h	0	279	0	2170	0	0	3122	0
V/C Ratio (X)	0.00	0.10	0.00	1.00	0.00	0.00	0.82	0.00
Avail Cap (c_a), veh/h	0	279	0	2170	0	0	3334	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	51.4	0.0	40.3	0.0	0.0	21.3	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.0	19.7	0.0	0.0	1.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	52.1	0.0	60.0	0.0	0.0	23.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.8	0.0	24.5	0.0	0.0	21.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	4.0	0.0	0.0	0.5	0.0

HCM 6th Signalized Intersection Capacity Analysis

3: SR-200 & Felmor Rd

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.9	0.0	28.5	0.0	0.0	21.6	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.00	0.79	0.00	0.00	0.54	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	18	0
Lane Assignment	R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	1	0
Grp Vol (v), veh/h	0	317	0	112	0	75	50	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1681	1585	0
Q Serve Time (g_s), s	0.0	20.9	0.0	6.1	0.0	5.6	1.3	0.0
Cycle Q Clear Time (g_c), s	0.0	20.9	0.0	6.1	0.0	5.6	1.3	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	0.63	1.00	0.00
Lane Grp Cap (c), veh/h	0	236	0	674	0	239	969	0
V/C Ratio (X)	0.00	1.34	0.00	0.17	0.00	0.31	0.05	0.00
Avail Cap (c_a), veh/h	0	236	0	674	0	239	1035	0
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	59.6	0.0	24.9	0.0	53.9	6.3	0.0
Incr Delay (d2), s/veh	0.0	179.5	0.0	0.1	0.0	3.4	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	239.1	0.0	25.0	0.0	57.3	6.3	0.0
1st-Term Q (Q1), veh/ln	0.0	8.4	0.0	2.3	0.0	2.4	0.6	0.0
2nd-Term Q (Q2), veh/ln	0.0	11.8	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	20.2	0.0	2.4	0.0	2.6	0.6	0.0
%ile Storage Ratio (RQ%)	0.00	1.01	0.00	0.07	0.00	0.08	0.02	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	20.2	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	54.6
HCM 6th LOS	D

HCM 6th Signalized Intersection Capacity Analysis

5: SR-200 & Chester Rd

03/17/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	422	1032	396	174	1432	312	356	252	101	264	241	408
Future Volume (veh/h)	422	1032	396	174	1432	312	356	252	101	264	241	408
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	459	1122	430	189	1557	339	387	274	110	287	262	443
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
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	499	1968	611	265	1623	504	426	826	368	364	762	340
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Prop Arrive On Green	0.14	0.39	0.39	0.08	0.32	0.32	0.12	0.23	0.23	0.03	0.07	0.07
Unsig. Movement Delay												
Ln Grp Delay, s/veh	60.3	22.2	27.0	44.3	44.1	30.1	61.9	29.8	30.6	52.3	37.0	198.2
Ln Grp LOS	E	C	C	D	D	C	E	C	C	D	D	F
Approach Vol, veh/h	2011			2085			771			992		
Approach Delay, s/veh	31.9			41.8			46.0			113.4		
Approach LOS	C			D			D			F		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Case No	2.0	3.0	2.0	3.0	2.0	3.0	2.0	3.0				
Phs Duration (G+Y+Rc), s	14.0	25.4	11.4	39.2	15.6	23.8	17.5	33.1				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green (Gmax), s	10.1	20.3	9.7	31.9	11.1	19.3	13.0	28.6				
Max Allow Headway (MAH), s	3.8	4.9	3.8	4.9	3.8	4.5	3.8	5.0				
Max Q Clear (g_c+I1), s	9.4	7.8	6.8	22.6	12.0	21.3	13.8	28.9				
Green Ext Time (g_e), s	0.1	1.7	0.2	6.0	0.0	0.0	0.0	0.0				
Prob of Phs Call (p_c)	1.00	1.00	0.99	1.00	1.00	1.00	1.00	1.00				
Prob of Max Out (p_x)	1.00	0.00	1.00	0.74	1.00	0.00	1.00	1.00				
Left-Turn Movement Data												
Assigned Mvmt	1	3	5	7								
Mvmt Sat Flow, veh/h	3456	3456	3456	3456								
Through Movement Data												
Assigned Mvmt	2	4	6	8								
Mvmt Sat Flow, veh/h	3554	5106	3554	5106								
Right-Turn Movement Data												
Assigned Mvmt	12	14	16	18								
Mvmt Sat Flow, veh/h	1585	1585	1585	1585								
Left Lane Group Data												
Assigned Mvmt	1	0	3	0	5	0	7	0				
Lane Assignment	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)	L (Prot)				

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Lanes in Grp	2	0	2	0	2	0	2	0
Grp Vol (v), veh/h	287	0	189	0	387	0	459	0
Grp Sat Flow (s), veh/h/ln	1728	0	1728	0	1728	0	1728	0
Q Serve Time (g_s), s	7.4	0.0	4.8	0.0	10.0	0.0	11.8	0.0
Cycle Q Clear Time (g_c), s	7.4	0.0	4.8	0.0	10.0	0.0	11.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	0	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	364	0	265	0	426	0	499	0
V/C Ratio (X)	0.79	0.00	0.71	0.00	0.91	0.00	0.92	0.00
Avail Cap (c_a), veh/h	388	0	372	0	426	0	499	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	42.4	0.0	40.6	0.0	38.9	0.0	38.0	0.0
Incr Delay (d2), s/veh	9.9	0.0	3.7	0.0	23.0	0.0	22.3	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	52.3	0.0	44.3	0.0	61.9	0.0	60.3	0.0
1st-Term Q (Q1), veh/ln	3.3	0.0	2.0	0.0	4.1	0.0	4.9	0.0
2nd-Term Q (Q2), veh/ln	0.5	0.0	0.1	0.0	1.4	0.0	1.5	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
%ile Back of Q (50%), veh/ln	3.8	0.0	2.2	0.0	5.5	0.0	6.4	0.0
%ile Storage Ratio (RQ%)	0.28	0.00	0.09	0.00	0.23	0.00	0.27	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T		T		T		T	
Lanes in Grp	0	2	0	3	0	2	0	3
Grp Vol (v), veh/h	0	274	0	1122	0	262	0	1557
Grp Sat Flow (s), veh/h/ln	0	1777	0	1702	0	1777	0	1702
Q Serve Time (g_s), s	0.0	5.8	0.0	15.6	0.0	6.3	0.0	26.9
Cycle Q Clear Time (g_c), s	0.0	5.8	0.0	15.6	0.0	6.3	0.0	26.9
Lane Grp Cap (c), veh/h	0	826	0	1968	0	762	0	1623
V/C Ratio (X)	0.00	0.33	0.00	0.57	0.00	0.34	0.00	0.96
Avail Cap (c_a), veh/h	0	826	0	1968	0	762	0	1623
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	28.7	0.0	21.8	0.0	35.8	0.0	30.1
Incr Delay (d2), s/veh	0.0	1.1	0.0	0.4	0.0	1.2	0.0	14.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	29.8	0.0	22.2	0.0	37.0	0.0	44.1
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	6.0	0.0	2.8	0.0	10.6
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.1	0.0	0.1	0.0	2.1

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3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.5	0.0	6.1	0.0	3.0	0.0	12.7
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.12	0.00	0.09	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	R		R		R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	110	0	430	0	443	0	339
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	5.2	0.0	20.6	0.0	19.3	0.0	16.7
Cycle Q Clear Time (g_c), s	0.0	5.2	0.0	20.6	0.0	19.3	0.0	16.7
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	368	0	611	0	340	0	504
V/C Ratio (X)	0.00	0.30	0.00	0.70	0.00	1.30	0.00	0.67
Avail Cap (c_a), veh/h	0	368	0	611	0	340	0	504
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	28.5	0.0	23.3	0.0	41.8	0.0	26.6
Incr Delay (d2), s/veh	0.0	2.1	0.0	3.6	0.0	156.4	0.0	3.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	30.6	0.0	27.0	0.0	198.2	0.0	30.1
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	7.4	0.0	8.1	0.0	6.1
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.6	0.0	14.8	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	2.1	0.0	8.0	0.0	22.9	0.0	6.6
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.34	0.00	1.66	0.00	0.28
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	25.8	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	51.1
HCM 6th LOS	D

HCM 6th Signalized Intersection Capacity Analysis

6: Chester Rd & Pages Dairy Rd

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Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	600	250	206	975	775	174		
Future Volume (veh/h)	600	250	206	975	775	174		
Number	7	14	5	2	6	16		
Initial Q, veh	0	0	0	0	0	0		
Ped-Bike Adj (A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Work Zone On Approach	No			No	No			
Lanes Open During Work Zone								
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870		
Adj Flow Rate, veh/h	652	272	224	1060	842	189		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Opposing Right Turn Influence	Yes		Yes					
Cap, veh/h	699	622	318	1667	1120	500		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Prop Arrive On Green	0.39	0.39	0.08	0.47	0.32	0.32		
Unsig. Movement Delay								
Ln Grp Delay, s/veh	37.5	15.0	22.0	14.9	24.6	19.5		
Ln Grp LOS	D	B	C	B	C	B		
Approach Vol, veh/h	924			1284	1031			
Approach Delay, s/veh	30.9			16.2	23.7			
Approach LOS	C			B	C			
Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Case No		4.0		9.0	1.2	7.0		
Phs Duration (G+Y+Rc), s		35.0		30.0	10.0	25.0		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green (Gmax), s		29.5		26.5	5.5	19.5		
Max Allow Headway (MAH), s		5.2		3.9	3.8	5.0		
Max Q Clear (g_c+I1), s		16.7		24.8	7.3	15.8		
Green Ext Time (g_e), s		6.1		0.7	0.0	2.1		
Prob of Phs Call (p_c)		1.00		1.00	0.98	1.00		
Prob of Max Out (p_x)		0.00		1.00	1.00	0.00		
Left-Turn Movement Data								
Assigned Mvmt				7	5	1		
Mvmt Sat Flow, veh/h				1781	1781	0		
Through Movement Data								
Assigned Mvmt		2		4		6		
Mvmt Sat Flow, veh/h		3647		0		3647		
Right-Turn Movement Data								
Assigned Mvmt		12		14		16		
Mvmt Sat Flow, veh/h		0		1585		1585		
Left Lane Group Data								
Assigned Mvmt	0	0	0	7	5	1	0	0
Lane Assignment	LL (Pr/Pm)							

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Lanes in Grp	0	0	0	1	1	0	0	0
Grp Vol (v), veh/h	0	0	0	652	224	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1781	1781	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	22.8	5.3	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	22.8	5.3	0.0	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	1781	547	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	22.5	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	6.7	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	6.7	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	20.5	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	699	318	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.93	0.71	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	726	318	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	1.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	18.9	15.1	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	18.6	6.9	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	37.5	22.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	8.3	1.9	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	3.6	0.6	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	0.00	1.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	11.9	2.5	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.82	0.12	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	0
Lane Assignment	T			T				
Lanes in Grp	0	2	0	0	0	2	0	0
Grp Vol (v), veh/h	0	1060	0	0	0	842	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	0	0	0	1777	0	0
Q Serve Time (g_s), s	0.0	14.7	0.0	0.0	0.0	13.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	14.7	0.0	0.0	0.0	13.8	0.0	0.0
Lane Grp Cap (c), veh/h	0	1667	0	0	0	1120	0	0
V/C Ratio (X)	0.00	0.64	0.00	0.00	0.00	0.75	0.00	0.00
Avail Cap (c_a), veh/h	0	1667	0	0	0	1120	0	0
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	13.1	0.0	0.0	0.0	20.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.9	0.0	0.0	0.0	4.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.9	0.0	0.0	0.0	24.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	5.1	0.0	0.0	0.0	5.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.7	0.0	0.0

HCM 6th Signalized Intersection Capacity Analysis

6: Chester Rd & Pages Dairy Rd

03/17/2022

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	5.5	0.0	0.0	0.0	6.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.22	0.00	0.00	0.00	0.11	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	0
Lane Assignment			R		R			
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	272	0	189	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1585	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	8.2	0.0	6.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	8.2	0.0	6.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	622	0	500	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.44	0.00	0.38	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	646	0	500	0	0
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	14.5	0.0	17.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.5	0.0	2.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	15.0	0.0	19.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	7.9	0.0	2.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	8.0	0.0	2.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.15	0.00	0.15	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	22.8
HCM 6th LOS	C

HCM 6th Signalized Intersection Capacity Analysis

8: SR 200 & Blackrock Rd

03/17/2022

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  							
Traffic Volume (veh/h)	82	1475	16	9	1940	172	39	2	15	112	3	78
Future Volume (veh/h)	82	1475	16	9	1940	172	39	2	15	112	3	78
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, 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		
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	1603	17	10	2109	187	42	2	16	122	3	85
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
Opposing Right Turn Influence	No			No			No			No		
Cap, veh/h	111	2138	664	111	2138	664	445	63	502	413	13	356
HCM Platoon Ratio	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.13	0.84	0.84	0.06	0.42	0.42	0.06	0.35	0.35	0.23	0.23	0.23
Unsig. Movement Delay												
Ln Grp Delay, s/veh	78.0	7.1	3.9	36.9	39.5	16.4	19.6	0.0	17.2	27.7	0.0	26.5
Ln Grp LOS	E	A	A	D	D	B	B	A	B	C	A	C
Approach Vol, veh/h	1709			2306			60			210		
Approach Delay, s/veh	10.8			37.6			18.9			27.2		
Approach LOS	B			D			B			C		
Timer:	1	2	3	4	5	6	7	8				
Assigned Phs	2			3	4	5	6	7	8			
Case No	4.0			2.0	3.0	1.2	6.3	2.0	3.0			
Phs Duration (G+Y+Rc), s	32.5			9.5	38.0	9.5	23.0	9.5	38.0			
Change Period (Y+Rc), s	4.5			4.5	4.5	4.5	4.5	4.5	4.5			
Max Green (Gmax), s	28.0			5.0	33.5	5.0	18.5	5.0	33.5			
Max Allow Headway (MAH), s	5.5			3.8	5.2	3.8	4.5	3.8	5.2			
Max Q Clear (g_c+I1), s	2.6			2.4	13.0	3.3	7.9	5.9	34.7			
Green Ext Time (g_e), s	0.0			0.0	12.3	0.0	0.6	0.0	0.0			
Prob of Phs Call (p_c)	1.00			1.00	1.00	1.00	1.00	1.00	1.00			
Prob of Max Out (p_x)	0.00			0.00	0.00	0.00	0.00	0.00	0.00			
Left-Turn Movement Data												
Assigned Mvmt				3		5	1	7				
Mvmt Sat Flow, veh/h				1781		1781	1395	1781				
Through Movement Data												
Assigned Mvmt	2				4		6		8			
Mvmt Sat Flow, veh/h	179				5106		54		5106			
Right-Turn Movement Data												
Assigned Mvmt	12				14		16		18			
Mvmt Sat Flow, veh/h	1433				1585		1539		1585			
Left Lane Group Data												
Assigned Mvmt	0	0	3	0	5	1	7	0				
Lane Assignment	L (Prot)			L (Pr/Pm)			L L (Prot)					

HCM 6th Signalized Intersection Capacity Analysis

8: SR 200 & Blackrock Rd

03/17/2022

Lanes in Grp	0	0	1	0	1	1	1	0
Grp Vol (v), veh/h	0	0	10	0	42	122	89	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	0	1781	1395	1781	0
Q Serve Time (g_s), s	0.0	0.0	0.4	0.0	1.3	5.9	3.9	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.4	0.0	1.3	5.9	3.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	0	0	1309	1395	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	20.5	18.5	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	14.9	18.5	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.2	5.9	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Lane Grp Cap (c), veh/h	0	0	111	0	445	413	111	0
V/C Ratio (X)	0.00	0.00	0.09	0.00	0.09	0.30	0.80	0.00
Avail Cap (c_a), veh/h	0	0	111	0	445	413	111	0
Upstream Filter (I)	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	35.4	0.0	19.2	25.9	34.5	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.6	0.0	0.4	1.8	43.5	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	36.9	0.0	19.6	27.7	78.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.2	0.0	0.5	1.9	1.6	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.1	0.2	1.3	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.2	0.0	0.6	2.1	2.9	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.01	0.00	0.03	0.12	0.15	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data

Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment	T				T			
Lanes in Grp	0	0	0	3	0	0	0	3
Grp Vol (v), veh/h	0	0	0	1603	0	0	0	2109
Grp Sat Flow (s), veh/h/ln	0	0	0	1702	0	0	0	1702
Q Serve Time (g_s), s	0.0	0.0	0.0	11.0	0.0	0.0	0.0	32.7
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	11.0	0.0	0.0	0.0	32.7
Lane Grp Cap (c), veh/h	0	0	0	2138	0	0	0	2138
V/C Ratio (X)	0.00	0.00	0.00	0.75	0.00	0.00	0.00	0.99
Avail Cap (c_a), veh/h	0	0	0	2138	0	0	0	2138
Upstream Filter (I)	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	4.7	0.0	0.0	0.0	23.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	2.5	0.0	0.0	0.0	16.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	7.1	0.0	0.0	0.0	39.5
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	1.6	0.0	0.0	0.0	12.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.5	0.0	0.0	0.0	3.3

HCM 6th Signalized Intersection Capacity Analysis

8: SR 200 & Blackrock Rd

03/17/2022

3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	2.1	0.0	0.0	0.0	15.3
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.41
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data

Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment	T+R		R		T+R		R	
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	18	0	17	0	88	0	187
Grp Sat Flow (s), veh/h/ln	0	1612	0	1585	0	1593	0	1585
Q Serve Time (g_s), s	0.0	0.6	0.0	0.1	0.0	3.6	0.0	6.2
Cycle Q Clear Time (g_c), s	0.0	0.6	0.0	0.1	0.0	3.6	0.0	6.2
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.89	0.00	1.00	0.00	0.97	0.00	1.00
Lane Grp Cap (c), veh/h	0	564	0	664	0	368	0	664
V/C Ratio (X)	0.00	0.03	0.00	0.03	0.00	0.24	0.00	0.28
Avail Cap (c_a), veh/h	0	564	0	664	0	368	0	664
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.1	0.0	3.8	0.0	25.0	0.0	15.3
Incr Delay (d2), s/veh	0.0	0.1	0.0	0.1	0.0	1.5	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
Control Delay (d), s/veh	0.0	17.2	0.0	3.9	0.0	26.5	0.0	16.4
1st-Term Q (Q1), veh/ln	0.0	0.2	0.0	0.0	0.0	1.3	0.0	2.1
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.2
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (50%), veh/ln	0.0	0.2	0.0	0.1	0.0	1.5	0.0	2.3
%ile Storage Ratio (RQ%)	0.00	0.01	0.00	0.00	0.00	0.08	0.00	0.12
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary

HCM 6th Ctrl Delay	26.2
HCM 6th LOS	C

Lanes, Volumes, Timings
4: Felmor Rd & Pages Dairy Rd

03/17/2022

	→	↘	↙	←	↖	↗
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↰			↱	↗	↘
Traffic Volume (vph)	689	48	44	263	43	33
Future Volume (vph)	689	48	44	263	43	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.991				0.941	
Flt Protected				0.993	0.972	
Satd. Flow (prot)	1846	0	0	1850	1704	0
Flt Permitted				0.993	0.972	
Satd. Flow (perm)	1846	0	0	1850	1704	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	555			651	534	
Travel Time (s)	12.6			14.8	12.1	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	749	52	48	286	47	36
Shared Lane Traffic (%)						
Lane Group Flow (vph)	801	0	0	334	83	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	0			0	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	
Intersection Summary						
Area Type:	Other					
Control Type: Unsignalized						
Intersection Capacity Utilization 62.3%						
ICU Level of Service B						
Analysis Period (min) 15						

Lanes, Volumes, Timings
2: US-17 & Pages Dairy Rd

03/17/2022

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	298	453	24	12	549	151	9	314	22	62	41	206
Future Volume (vph)	298	453	24	12	549	151	9	314	22	62	41	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	95		0	185		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.992			0.968			0.991			0.910	
Flt Protected	0.950			0.950				0.999			0.990	
Satd. Flow (prot)	1770	3511	0	1770	3426	0	0	1844	0	0	1678	0
Flt Permitted	0.950			0.950				0.999			0.990	
Satd. Flow (perm)	1770	3511	0	1770	3426	0	0	1844	0	0	1678	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1062			523			462			718	
Travel Time (s)		24.1			11.9			10.5			16.3	
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
Adj. Flow (vph)	324	492	26	13	597	164	10	341	24	67	45	224
Shared Lane Traffic (%)												
Lane Group Flow (vph)	324	518	0	13	761	0	0	375	0	0	336	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											
Intersection Capacity Utilization	86.5%						ICU Level of Service E					
Analysis Period (min)	15											

HCS7 Roundabouts Report

General Information

Site Information

Analyst	Thomas Hatcher, P.E.		Intersection	
Agency or Co.	ETM, Inc.		E/W Street Name	Wildlight Pkwy
Date Performed	3/18/22		N/S Street Name	Chester Rd
Analysis Year	2027		Analysis Time Period (hrs)	0.25
Time Analyzed			Peak Hour Factor	0.92
Project Description	DSAP 2		Jurisdiction	Nassau County, Florida

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	0	0	1	1	0	0	0	1	0
Lane Assignment	LTR				LTR				L				LTR			
Volume (V), veh/h	0	47	0	611	0	137	0	9	0	1007	317	251	0	7	202	47
Percent Heavy Vehicles, %	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Flow Rate (V_{PCE}), pc/h	0	53	0	684	0	153	0	10	0	1127	355	281	0	8	226	53
Right-Turn Bypass	Non-Yielding				None				None				None			
Conflicting Lanes	1				2				1				2			
Pedestrians Crossing, p/h	0				0				0				0			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)		4.9763			4.3276		4.5436	4.5436			4.3276	
Follow-Up Headway (s)		2.6087			2.5352		2.5352	2.5352			2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h		53	684		163		934	829			287	
Entry Volume, veh/h		51	664		158		907	804			279	
Circulating Flow (v_c), pc/h	387			1535			61			1280		
Exiting Flow (v_{ex}), pc/h	289			1180			418			379		
Capacity (C_{PCE}), pc/h		930			385		1343	1343			478	
Capacity (c), veh/h		903			374		1304	1304			464	
v/c Ratio (x)		0.06			0.42		0.70	0.62			0.60	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		4.5			18.6		12.3	10.2			21.7	
Lane LOS		A	A		C		B	B			C	
95% Queue, veh		0.2			2.0		6.1	4.5			3.9	
Approach Delay, s/veh	0.3			18.6			11.3			21.7		
Approach LOS	A			C			B			C		
Intersection Delay, s/veh LOS	10.0						A					

Appendix H
(Exhibit H – Proposed ENCPA Mobility Network
Improvements)

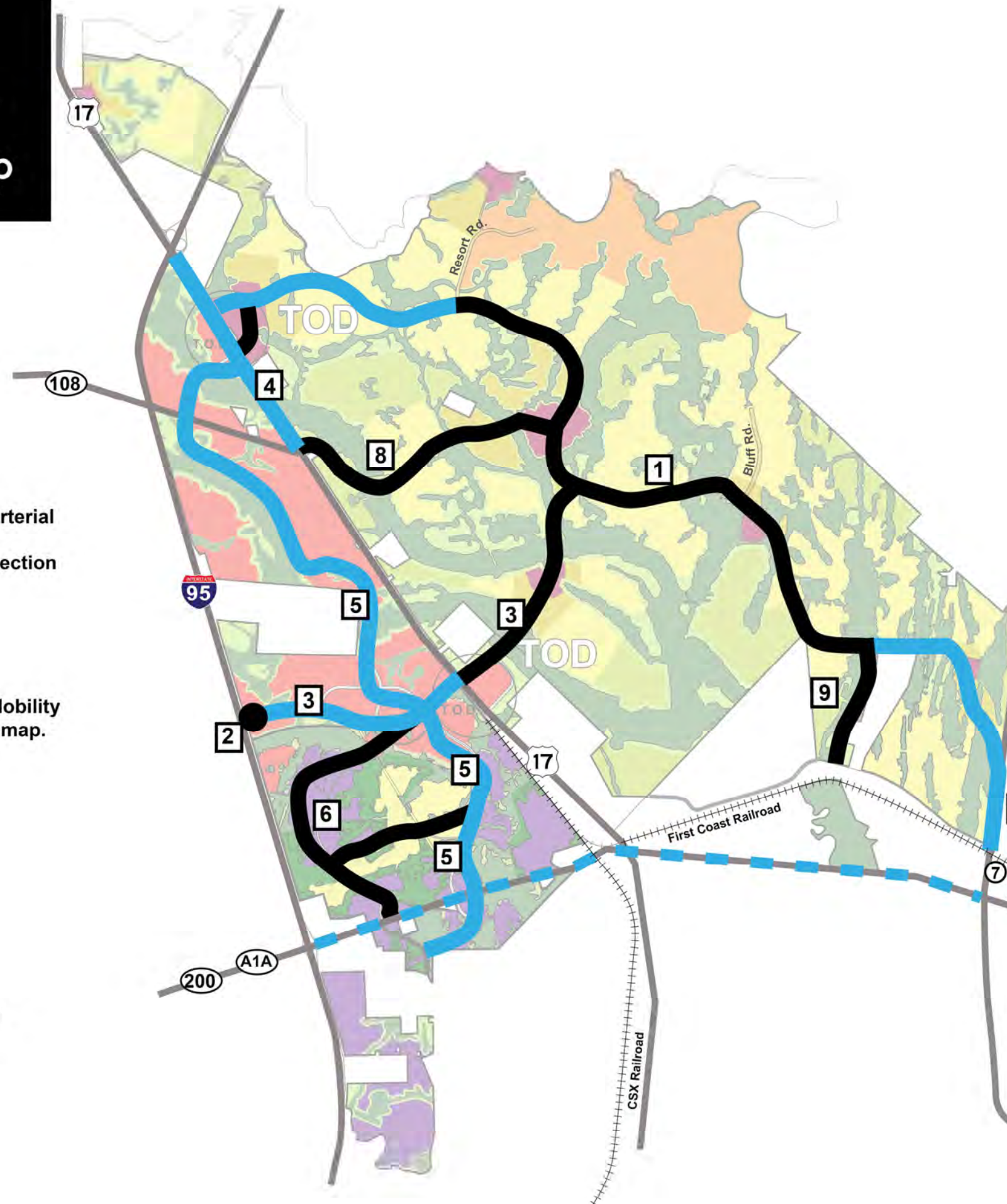
Proposed ENCPA Mobility Improvement Map

Mobility Network Cost Components (on map)

- 1 Wildlight Parkway
- 2 New I-95 Interchange
- 3 Interchange Road
- 4 US 17 Widening
- 5 North-South Regional Center Arterial
- 6 DSAP Western Loop Collector
- 7 SR A1A at Blackrock Rd. intersection
left turn lane improvements
- 8 CR 108 Extension
- 9 Blount's Branch Connection
- 10 Chester Road

Internal trails are included in the Mobility Network but are not shown on the map.

DRAFT



Improvements

- 4- Lanes
- 2-Lanes w/Turn Lanes at Major Intersections
- - - Committed Funding Roadway
- Interchange

Notes

1. All 4-lane roadways are assumed to be implemented in phases, with 2 lanes constructed internally.
2. The cross-sections for all the Mobility Network roadways also include 10' multi-use trails.
3. In addition to the roadways shown, the Mobility Network includes 50 miles of separate multi-use trails.
4. Roadways shown in dashed lines have committed funding through FDOT for additional lanes. These roadways are not included in the cost for the recommended mobility plan.
5. In addition to the roadways shown, the Mobility Network includes traffic signals at major intersections.

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